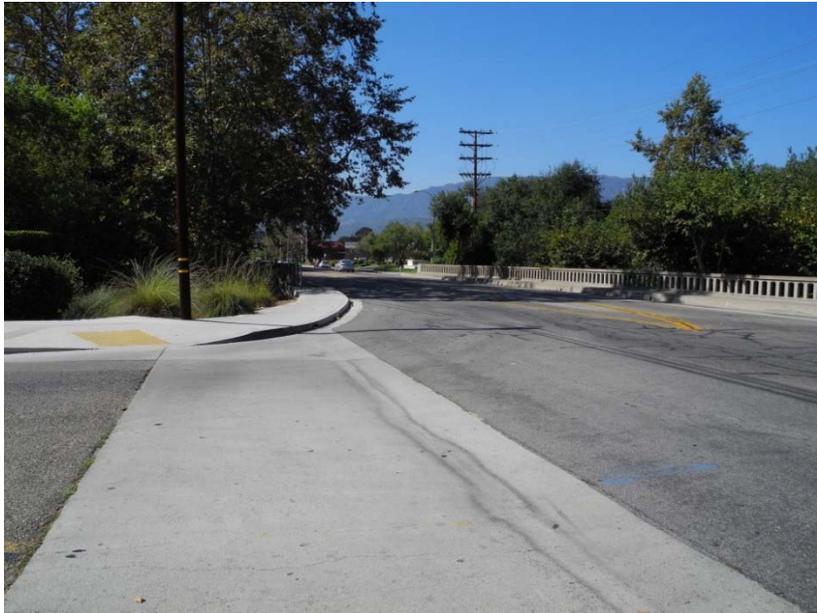


DRAFT
ENVIRONMENTAL IMPACT REPORT
FOR THE
CARPINTERIA AVENUE BRIDGE (51C-172)
REPLACEMENT PROJECT

City Project no. 14-1719-CUP/CDP
Federal Project no. BRLS-5397(010)
SCH NO. 2014071007



Lead Agency:



March 2016

DRAFT
ENVIRONMENTAL IMPACT REPORT
FOR THE
CARPINTERIA AVENUE BRIDGE (51C-172)
REPLACEMENT PROJECT
City Project no. 14-1719-CUP/CDP
Federal Project no. BRLS-5397(010)
SCH NO. 2014071007

Prepared by:

City of Carpinteria
5775 Carpinteria Avenue
Carpinteria, California 93013

With assistance from:

Padre Associates, Inc.
1861 Knoll Drive
Ventura, California 93003
805/644-2220, 805/644-2050 (fax)

March 2016

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION.....	1-1
1.1 DOCUMENT PURPOSE AND LEGAL AUTHORITY	1-1
1.2 PROJECT PROPONENT AND LEAD AGENCY	1-1
1.3 PROJECT PURPOSE AND NEED.....	1-1
1.4 PROJECT BENEFITS	1-2
1.5 PROJECT OBJECTIVES	1-2
1.6 SCOPE AND CONTENT	1-2
1.7 RESPONSIBLE AND TRUSTEE AGENCIES	1-5
1.8 PROJECT APPROVALS AND PERMITS	1-6
1.9 MITIGATION MONITORING PLAN.....	1-6
1.10 CERTIFICATION OF THE FINAL EIR.....	1-7
2.0 SUMMARY	2-1
2.1 PROJECT SYNOPSIS	2-1
2.2 ALTERNATIVES	2-3
2.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	2-5
2.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE	2-5
3.0 PROJECT DESCRIPTION.....	3-1
3.1 PROJECT LOCATION	3-1
3.2 PROJECT COMPONENTS.....	3-1
3.3 CONSTRUCTION.....	3-3
3.4 CUMULATIVE PROJECTS	3-6

TABLE OF CONTENTS
(Continued)

	Page
4.0 ENVIRONMENTAL IMPACT ANALYSIS	4.1-1
4.1 AESTHETICS	4.1-1
4.2 AGRICULTURAL AND FORESTRY RESOURCES	4.2-1
4.3 AIR QUALITY	4.3-1
4.4 BIOLOGICAL RESOURCES	4.4-1
4.5 CULTURAL RESOURCES	4.5-1
4.6 GREENHOUSE GAS EMISSIONS	4.6-1
4.7 GEOLOGY AND SOILS	4.7-1
4.8 HAZARDS AND HAZARDOUS MATERIALS	4.8-1
4.9 WATER RESOURCES	4.9-1
4.10 LAND USE AND PLANNING	4.10-1
4.11 NOISE AND VIBRATION	4.11-1
4.12 TRANSPORTATION/CIRCULATION	4.12-1
4.13 OTHER IMPACTS NOT CONSIDERED SIGNIFICANT	4.13-1
5.0 ALTERNATIVES TO THE PROPOSED PROJECT	5-1
5.1 NO PROJECT ALTERNATIVE	5-2
5.2 ALTERNATIVES CONSIDERED	5-2
5.3 IMPACTS OF THE ALTERNATIVES	5-4
5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE	5-12
6.0 GROWTH INDUCEMENT	6-1
6.1 INTRODUCTION	6-1
6.2 URBANIZATION OF LAND IN ISOLATED LOCALITIES	6-1
6.3 REMOVAL OF AN IMPEDIMENT TO GROWTH	6-1
6.4 ECONOMIC GROWTH	6-2
6.5 PRECEDENT SETTING ACTION	6-2
6.6 CONCLUSIONS	6-2

TABLE OF CONTENTS

(Continued)

		Page
7.0	LIST OF PREPARERS	7-1
	7.1 CITY OF CARPINTERIA	7-1
	7.2 PADRE ASSOCIATES, INC.	7-1
	7.3 CONEJO ARCHEOLOGICAL CONSULTANTS.....	7-1
	7.4 DRAKE HAGLAN & ASSOCIATES.....	7-1
8.0	REFERENCES.....	8-1

APPENDICES

- A Notice of Preparation
- B Environmental Scoping Document
- C Responses to the Notice of Preparation
- D Mitigation Monitoring and Reporting Program
- E Biological Inventory
- F Tree Removal Data and Map

LIST OF FIGURES

		Page
Figure 3-1	Project Location Map	3-9
Figure 3-2	Views of the Project Site from Carpinteria Avenue.....	3-11
Figure 3-3	Bridge Replacement Plan.....	3-13
Figure 3-4	Project Plan View – Western Portion.....	3-15
Figure 3-5	Project Plan View – Eastern Portion.....	3-17
Figure 3-6	Construction Staging Plan	3-19
Figure 4.1-1	View of the Project Site – Existing Conditions.....	4.1-9
Figure 4.1-2	View of the Project Site – Proposed Conditions.....	4.1-11
Figure 4.4-1	Biological Study Area Map	4.4-3
Figure 4.4-2	Photographs of Carpinteria Creek at the Project Site.....	4.4-5

TABLE OF CONTENTS
(Continued)

LIST OF TABLES

	Page
Table 2-1 Summary of Project-Specific Significant but Mitigable (Class II) Environmental Impacts and Mitigation Measures.....	2-7
Table 2-2 Summary of Project-Specific Less than Significant (Class III) Environmental Impacts.....	2-22
Table 4.3-1 Air Quality Summary from the Carpinteria Monitoring Station.....	4.3-2
Table 4.3-2 Construction Air Pollutant Emissions Summary	4.3-7
Table 4.4-1 Definitions of Special-Status Plant Species.....	4.4-11
Table 4.4-2 Special-Status Plant Species of the Project Area.....	4.4-11
Table 4.4-3 Definitions of Special-Status Wildlife Species	4.4-12
Table 4.4-4 Special-Status Wildlife Species of the Project Area	4.4-13
Table 4.4-5 Tree Removal Summary	4.4-22
Table 4.6-1 Peak 12-Month Period Construction GHG Emissions Summary.....	4.6-6
Table 4.7-1 Project Site Seismic Parameters.....	4.7-2
Table 4.8-1 Aerially-Deposited Lead Contaminated Soil Management.....	4.8-9
Table 4.9-1 100-Year Flood Elevation Data	4.9-13
Table 4.10-1 Affected Parcel Summary.....	4.10-1
Table 4.11-1 Typical A-Weighted Noise Levels.....	4.11-2
Table 4.11-2 Land Use Compatibility for Community Noise Environments	4.11-6
Table 4.11-3 Current (2014) Noise Levels adjacent to the Bridge Replacement Work Area (dBA Leq)	4.11-7
Table 4.11-4 Comparison of City Thresholds to the Roadway Construction Noise Model Results	4.11-9
Table 4.12-1 Existing and Future LOS at Affected Intersections.....	4.12-1
Table 4.12-2 City Traffic Thresholds of Significance	4.12-3
Table 5-1 Comparison of the Impacts of the Alternatives.....	5-14

1.0 INTRODUCTION

1.1 DOCUMENT PURPOSE AND LEGAL AUTHORITY

The California Environmental Quality Act (CEQA) requires that local, regional, and State agencies and special purpose districts prepare an Environmental Impact Report (EIR) for any discretionary action that may have the potential to significantly affect the quality of the environment. The City of Carpinteria (City) has prepared this EIR for the proposed Carpinteria Avenue Bridge Replacement Project to comply with the provisions of CEQA.

In accordance with Section 15121 of the State CEQA Guidelines, the purpose of this EIR is to serve as an informational document that:

"...will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project..."

1.2 PROJECT PROPONENT AND LEAD AGENCY

City of Carpinteria Public Works Department
5775 Carpinteria Avenue
Carpinteria, California 93013

Contact: Charlie Ebeling (805/684-5405 ext. 402)

1.3 PROJECT PURPOSE AND NEED

The Carpinteria Avenue Bridge was built in 1937 as part of the coastal highway. U.S. 101 was constructed through Carpinteria in 1953-1954, at which time Carpinteria Avenue and its associated bridge became a local arterial. The existing bridge is a 192 foot-long, five-span continuous reinforced concrete haunched tee beam with cantilevered end spans. The existing bridge deck is approximately 54 feet wide, and comprised of two 12 foot-wide traffic lanes, a 12 foot-wide center lane, 3.5 foot-wide shoulder/bike lanes on each side, and 4.5 foot-wide sidewalks with one foot-wide railings on each side. The existing bridge has "open window" type concrete railings (see Figure 3-2.c).

The Carpinteria Avenue Bridge is founded on reinforced concrete pile extensions with unknown pile lengths and unknown abutment foundation types. In 1969, the end spans on each side were backfilled and blocked off with concrete walls resulting in a three-span waterway opening.

Based on a bridge inspection conducted by Caltrans on February 8, 2012, the Carpinteria Avenue Bridge was assigned a sufficiency rating of 58.9 and was determined to be structurally deficient. In addition, there is currently inadequate hydraulic capacity under the bridge to accommodate flood flows. Therefore, the City plans to replace the bridge. The project has been programmed for funding through the Federal Highway Bridge Program as Project no. BRLS-5397(010).

1.4 PROJECT BENEFITS

Implementation of the project would provide the following benefits to the City and adjacent communities:

- Ensure long-term access (>50 years) through the City and across Carpinteria Creek (Carpinteria Avenue is the only City arterial that crosses Carpinteria Creek) for City residents, visitors and motorists using Carpinteria Avenue as an alternate to U.S. 101; and
- Provide adequate hydraulic capacity to accommodate 100-year storm flows under current and future conditions.

1.5 PROJECT OBJECTIVES

The project objectives have been developed by the City to facilitate development and evaluation of alternatives, including basic bridge configurations, bridge deck widths and related improvements. Pursuant to CEQA Guidelines Section 15124(b) the underlying purpose of the project is to remedy a structurally deficient bridge on the City's primary arterial roadway. The objectives of the proposed project are:

1. Improve public safety associated with the primary roadway crossing of Carpinteria Creek;
2. Improve flood water conveyance in Carpinteria Creek;
3. Avoid adverse changes in traffic circulation;
4. Minimize right-of-way take;
5. Avoid in-stream structures that may adversely affect steelhead migration;
6. Offset the majority of project costs through Federal transportation funding;
7. Minimize the Federal funding match required by the City;
8. Facilitate or incorporate a bike path connection to the south side of Carpinteria Avenue;
9. Improve pedestrian and bicycle facilities at the creek crossing; and
10. Provide for future utility under-grounding.

1.6 SCOPE AND CONTENT

1.6.1 Notice of Preparation

A Notice of Preparation (NOP) was prepared for the project (see Appendix A) and distributed to responsible and trustee agencies and interested members of the public on July 1, 2014. To facilitate meaningful input from affected agencies and the public, the City prepared an Environmental Scoping Document (see Appendix B) which was distributed with the NOP. An EIR scoping meeting was held at Carpinteria City Hall on July 22, 2014 to solicit comments from the public and agencies. The following oral and written comments were received in response to the NOP (attached as Appendix C), and are summarized below.

- **Nancy Enlow, 5538 Canalino Drive.** Requested a stop sign on Carpinteria Avenue at Arbol Verde Street and restricting parking on Arbol Verde Street at Carpinteria Avenue. Expressed concerns about right-of-way take and affects to Carpinteria Creek.
- **Dick Weinberg, 5529 Calle Arena.** Concerned about sight distance when turning left from Arbol Verde Street onto Carpinteria Avenue, pedestrian use of the crosswalk at Arbol Verde Street, reducing traffic speed on Carpinteria Avenue, timing of the project with planned replacement of the U.S. 101 bridges, and cumulative traffic impacts.
- **Lou Panizzon, 5573 Canalino Drive.** Suggested moving the Arbol Verde Street stop line to improve sight distance when turning left from Arbol Verde Street onto Carpinteria Avenue. Concerned about local flooding near the Arbol Verde Street intersection. Generally concerned about high traffic volumes and speeds on Carpinteria Avenue resulting from through traffic trying to avoid congestion on U.S. 101.
- **Ken Owen, Channel Islands Restoration.** Expressed interest in any City contracts involving creek restoration following project construction. Requested that locally sourced plant materials be used for post-project restoration.
- **Pat Kistler, Carpinteria Valley Chamber of Commerce.** Questioned the class of bike lanes to be included in the bridge design.
- **Carmen Robitaille, 5533 Callejon Drive.** Concerned about the project resulting in closure of Arbol Verde Street at Carpinteria Avenue.
- **Kay Regester, member Ventura Audubon.** Requested that project-related vegetation removal avoid the bird breeding season, and habitat in Carpinteria Creek be preserved.
- **Brian King, Carpinteria Valley Water District.** Noted that the District has a 12-inch water pipeline attached to the existing bridge, an eight-inch water main near Arbol Verde Street, and valves on each side of the bridge. Stated that the District will review and approve project plans related to relocation of these facilities and requested space for a future reclaimed water pipeline to be accommodated by the bridge design.

- **Gayle Totton, Native American Heritage Commission (NAHC).** Requested that a certified archeologist and culturally affiliated Native American monitor all ground disturbances in areas of identified archeological sensitivity. Recommended that a cultural resources report be prepared, but sensitive site information not be provided to the public. The NAHC also recommended contacting local Native Americans, and provided a list of contacts. The NAHC requested that mitigation measures be included in the EIR to address accidentally discovered archeological resources, including disposition of discovered artifacts in consultation with culturally affiliated Native Americans.
- **Kenneth Harris, Central Coast Regional Water Quality Control Board (CCRWQCB).** The Regional Board requested the EIR include information concerning channel modifications, quantitative summary of the impacts of each alternative, post-construction stormwater management, analysis of cumulative impacts (including the Linden Avenue-Casitas Pass Road Interchanges project), and mitigation measures to address impacts to streambeds, stream banks, wetlands, riparian vegetation and riparian habitat.
- **Bret Stewart, Santa Barbara County Public Works Department.** Noted that the City is responsible for floodplain management within the project area, and the City should coordinate the bridge replacement project with the Linden Avenue-Casitas Pass Road Interchanges project.
- **Molly Pearson, Santa Barbara County Air Pollution Control District (SBCAPCD).** Requested that the EIR address attainment status and consistency with the Clean Air Plan, construction impacts, asbestos reporting requirements and global climate change (greenhouse gas emissions).

1.6.2 EIR Content

Based on the findings of the Environmental Scoping Document and concerns identified in response to the NOP, the EIR is focused on the following issue areas:

- Aesthetics;
- Agricultural and forestry resources;
- Air quality;
- Biological resources;
- Cultural resources;
- Greenhouse gas emissions;
- Geology and soils;
- Hazards and hazardous materials;
- Water resources;
- Land use and planning;

- Noise; and
- Transportation/circulation.

The Alternatives section of the EIR is prepared in accordance with Section 15126.6 of the State CEQA Guidelines. The Alternatives section examines the relative impacts of the proposed project, the No Project Alternative, and two other basic bridge designs (Clear Span and Two-Span). In addition, three additional bridge deck widths/configurations were considered in the alternatives analysis. This section also discusses alternatives considered but determined to be infeasible, and identifies the "environmentally superior" alternative.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and recent court decisions. The State CEQA Guidelines provide the standard by which the adequacy of this EIR is based.

The Guidelines state:

"An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." [emphasis added] (Section 15151).

1.7 RESPONSIBLE AND TRUSTEE AGENCIES

The State CEQA Guidelines define "lead", "responsible", and "trustee" agencies. The City, as a public agency, has the principal responsibility for carrying out and approving the proposed project. Therefore, the City is the lead agency. Responsible agencies are State and local public agencies which have discretionary approval power over the project. Responsible agencies for the proposed project may include the California Department of Fish & Wildlife and the Regional Water Quality Control Board (Central Coast Region). Note that the project would be Federally-funded (in part) by the Federal Highway Administration, with funds administered by the California Department of Transportation (Caltrans). However, the project would not require any discretionary approvals from Caltrans, such that Caltrans is not a responsible agency.

Trustee agencies refer to agencies having jurisdiction by law over the natural resources affected by a project. Based upon this definition, the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service and U.S. Army Corps of Engineers, which have jurisdiction over biological and aquatic resources that may be impacted by the proposed project, are trustee agencies.

1.8 PROJECT APPROVALS AND PERMITS

Project implementation may require the City to obtain permits and/or other forms of approval from Federal, State and local agencies. These agencies may include, but are not limited to the following:

1.8.1 Federal Agencies:

- U.S. Army Corps of Engineers – Clean Water Act Section 404 discharge permit.
- National Marine Fisheries Service - Section 7 Consultation under the Endangered Species Act (required for Federal funding).
- U.S. Fish and Wildlife Service - Section 7 Consultation under the Endangered Species Act (required for Federal funding).

1.8.2 State Agencies

- Department of Fish and Wildlife – CEQA review, Streambed Alteration Agreement.
- Regional Water Quality Control Board – Clean Water Act Section 401 water quality certification, National Pollution Discharge Elimination System (NPDES) groundwater dewatering permit, General Construction Activity Stormwater Permit and approval of post-construction stormwater management requirements.
- California Coastal Commission – potential review of the City's Conditional Use Permit and Coastal Development Permit.

1.8.3 Local Agencies

- City of Carpinteria – Coastal Development Permit, Conditional Use Permit.

1.9 MITIGATION MONITORING PLAN

Pursuant to California Resources Code Section 21081.6, a Mitigation Monitoring Plan has been developed and is provided as Appendix D of this EIR to ensure the implementation of mitigation measures necessary to reduce or eliminate identified significant impacts. The Plan will be adopted by the City Planning Commission in conjunction with the findings required under CEQA, when the City Planning Commission certifies the EIR and approves the project.

1.10 CERTIFICATION OF THE FINAL EIR

The Draft EIR will be circulated for review by public agencies and interested members of the public for a minimum 45-day period. A public hearing will be held before the City's Environmental Review Committee during the 45 day review period to receive comments regarding the adequacy of the EIR. The City will prepare responses to all comments on the adequacy of the Draft EIR received during the review period. Following the end of the review period, a Final EIR will be prepared. The Final EIR will be comprised of the Draft EIR, comments and responses to comments received during circulation of the Draft, and technical appendices. At the time the project is approved, the mandated CEQA Findings and a Mitigation Monitoring and Reporting Program will be adopted. The City is the lead agency for the EIR and has the responsibility of determining the adequacy of the EIR pursuant to CEQA.

Note that Caltrans (acting on behalf of the Federal Highway Administration) will be responsible for preparation of the Finding of No Significant Impact (FONSI, as appropriate), posting a notice in the Federal Register and other Federal actions required to complete the National Environmental Policy Act (NEPA) process. These actions are entirely separate from CEQA compliance addressed in the EIR.

2.0 SUMMARY

This section has been prepared in accordance with the Section 15123 of the State CEQA Guidelines, and is divided into three components. The first summarizes the characteristics of the proposed project, the second identifies potential environmental impacts, mitigation measures and residual impacts and the third component is a summary and comparison of the alternatives considered.

2.1 PROJECT SYNOPSIS

2.1.1 Project Proponent and Lead Agency

City of Carpinteria Public Works Department
5775 Carpinteria Avenue
Carpinteria, California 93013

Contact: Charlie Ebeling (805/684-5405 ext. 402)

2.1.2 Location

The project consists of the replacement of the Carpinteria Avenue Bridge, including associated roadway and bike path improvements. The Carpinteria Avenue Bridge (No. 51C-172) spans Carpinteria Creek within the City of Carpinteria, approximately 600 feet downstream of the U.S. Highway 101 bridges, in Township 4 north, Range 25 west, Santa Barbara County, California.

2.1.3 Project Description

The proposed project consists of a three span replacement bridge with an updated bridge width. The bridge superstructure would be approximately 2.67 feet-deep, which would raise the bridge deck approximately two feet above the existing bridge deck elevation. The proposed project would utilize pile foundations at the abutments and at the two sets of intermediate piers. Approximately 230 to 270 feet of roadway work on each side of the bridge would be required for the roadway approaches as well as modifications to the existing cross streets and driveways to conform to the new roadway profile. Minor roadway re-striping would occur outside of these limits. The proposed bridge piers would be located outside the low flow channel of the creek. A more detailed project description is provided in Section 3.0. A bridge replacement plan is provided as Figure 3-3. Plan views of proposed roadway and bike path improvements are provided as Figures 3-4 and 3-5.

The proposed bridge would utilize the same traffic configuration as the existing bridge, except the sidewalk and shoulder/bike lanes would be widened, and a center turn lane would be provided. The proposed bridge deck would be 67.5 feet-wide (about 14 feet wider than existing), comprised of eight-foot-wide sidewalks, five-foot-wide shoulder/bike lanes, two 12-foot-wide traffic lanes, and a 14-foot-wide center turn lane (see Figure 3-3).

The current project design does not include any specific aesthetic features such as decorative bridge barriers (rails) or concrete textures. However, it is anticipated that some type of see-through barrier and aesthetic concrete finishing (texturing, staining) would be incorporated into the project following recommendations for approval by the City's Architectural Review Board. Note that the project (with possible aesthetic treatments) was presented to the Architectural Review Board at a conceptual level on February 12, 2015.

Currently, a Class I bike path extends from the western terminus of Via Real, crosses to the west side of Carpinteria Creek, pass under U.S. 101 and terminates at Carpinteria Avenue immediately west of the bridge deck. The proposed project includes reconstructing approximately 330 linear feet of this bike path north of the existing bridge, to conform to the proposed slightly higher bridge deck (and roadway approach) elevation.

A new 525-foot-long bike path is proposed that would extend south from the existing bike path, pass under the new bridge near the western abutment, then turn right to parallel Carpinteria Avenue and terminate at the eastbound bike lane on the south side of Carpinteria Avenue. The new bike path would be paved with asphalt concrete, approximately 10 feet wide, and provided with a retaining wall on the stream side of the bike path (see Figures 3-3 and 3-4). Although the new bike path is included as part of the proposed project, it is uncertain if this project component would be implemented.

Construction of the proposed project is anticipated to take two construction seasons to complete. The approximately 24-month construction period is planned to begin in spring 2017. It is anticipated that work in the streambed of Carpinteria Creek would be limited to the dry season, with temporary diversion of the low flow channel to accommodate bridge construction.

The selected construction contractor would prepare and submit for approval a bridge demolition plan, including creek diversions/bypass details, in conformance with environmental permits. The existing bridge would be entirely demolished using heavy equipment to remove the existing concrete structure, stockpile recovered materials and transport debris off-site. Tarps (or equivalent methods) would be used to prevent demolition-related debris from entering the streambed. All concrete and other debris resulting from the demolition of the existing bridge would be removed from the project site and properly disposed of by the contractor, including recycling as appropriate.

During construction, Carpinteria Avenue would remain open to traffic. Bridge construction would be conducted in stages to maintain access; the first stage of construction would be to shift all traffic to the south side of the existing bridge while the northern portion is demolished/removed and the northern portion of the new bridge is constructed. The second stage of construction would be to switch traffic to the newly constructed portion of the bridge and demolish/remove the remaining portion of the existing bridge on the southern side and construct the southern portion of the new bridge. The final stage of construction would be to make a closure pour to tie the northern and southern portions of the new bridge together. The center lane would also be striped at this time.

The preliminary construction staging plan is provided as Figure 3-6. During the entire construction period, two traffic lanes and one sidewalk would remain open. The existing bike path north of the bridge would be closed during the first construction stage to allow for its reconstruction to conform to the new raised bridge deck (and roadway approach) elevation.

Diversion of the low flow channel of Carpinteria Creek would be required during the construction period to minimize adverse effects on water quality and aquatic species. Stream diversion methods may include the use of water bladders, sandbags, sheet piling, pipes, coffer dams, or other structural methods approved by the project engineer, City of Carpinteria, California Department of Fish and Wildlife, and U.S. Army Corps of Engineers. All stream diversion activities would be contained within the permitted area of disturbance. The operational timeline for the stream diversion would be defined in the project permits from the resource agencies.

2.2 ALTERNATIVES

The alternatives considered in this EIR represent a range of feasible alternatives that could meet most of the basic project objectives. Some of the alternatives would reduce certain impacts, while others may result in greater impacts in certain issue areas. Alternatives that would involve changing the alignment of the existing bridge or roadway were not considered as they would result in greater land use, air quality, noise and biological impacts. Section 5.0 provides a more detailed discussion of the project alternatives considered, including Table 5-1 which is a summary of the relative impacts of the alternatives.

2.2.1 Modified Three-Span Alternative

This Alternative would be the same as the proposed project, except three other bridge deck options would be considered for the three span bridge design:

- **Widened Bridge.** This option would match the bridge width to the adjacent approach roadway width. The widened bridge deck would be 73 feet-wide, with eight-foot-wide sidewalks, nine-foot-wide parking area (north side), five-foot-wide shoulder/bike lanes, 12-foot-wide traffic lanes, and a 14-foot-wide center turn lane. This option makes the shoulders/bike lanes approximately 1.5 feet wider than existing and the sidewalks approximately 3.5 feet wider than existing.
- **No Median on Bridge.** This option is the narrowest of the deck options considered. The proposed bridge deck would be 56 feet-wide, with eight-foot-wide sidewalks, five-foot-wide shoulder/bike lanes, and 12-foot-wide traffic lanes. The no median bridge option would be approximately 3.5 feet narrower than the existing bridge roadway width and eliminate the center lane on the bridge. This option would also remove the turn pocket for left turns onto Arbol Verde Street.

- **Open/Planted Median on Bridge.** This option is the widest overall of the bridge deck options considered. The open/planted median option includes two separate bridge sections each with a roadway width of 22 feet, including a 12-foot-wide traffic lane, eight-foot-wide bike lane and eight-foot-wide sidewalk. The 16.5-foot-wide area between the two bridge sections would either be open to the creek below or closed and landscaped. This option would eliminate all left turn traffic movements at Arbol Verde Street and the driveway serving 5464 Carpinteria Avenue, restricting traffic movements to right turns in and out.

2.2.2 Clear Span Alternative

Under this Alternative, the bridge superstructure would be approximately nine feet deep, which would raise the bridge deck approximately eight feet above the existing bridge deck elevation. This Alternative would utilize pile foundations at the abutments and there would be no intermediate supports in the streambed. The Clear Span Alternative would require approximately 390 feet to 410 feet of roadway work on each side of the bridge for the roadway approaches as well as modifications to the existing cross streets and driveways to conform to the new roadway profile. Minor roadway re-striping would occur outside of these limits. In order to accommodate the raised profile, this Alternative would require closing Arbol Verde Street permanently. Additionally, the Clear Span Alternative would require the most earthwork and has the greatest roadway and traffic impacts of the alternatives considered.

Bridge deck options considered under the Clear Span Alternative include that described for the proposed project (67.5 feet-wide) and the three bridge deck options described under the Modified Three-Span Alternative. The Clear Span Alternative also includes a new bike path and rock slope protection as described for the proposed project, and reconstructing the existing bike path north of the bridge. However, the length of bike path reconstruction would be greater to conform to the much higher bridge deck (and roadway approach) elevation.

2.2.3 Two-Span Alternative

Under this Alternative, the bridge superstructure would be approximately five feet deep, which would raise the bridge deck approximately four feet above the existing bridge deck elevation. The Two-Span Alternative would utilize pile foundations at the abutments and at the intermediate pier supports. This Alternative would require approximately 320 to 340 feet of roadway work on each side of the bridge for the roadway approaches as well as modifications to existing cross streets and driveways to conform to the new roadway profile. Minor roadway re-striping would occur outside of these limits. The Two-Span Alternative would require the intermediate bridge supports to be located in the low flow channel of the creek.

Bridge deck options considered under the Two-Span Alternative include that described for the proposed project (67.5 feet-wide) and the three bridge deck options described under the Modified Three-Span Alternative.

The Two-Span Alternative also includes a new bike path and rock slope protection as described for the proposed project, and reconstructing the existing bike path north of the bridge. However, the length of bike path reconstruction would be greater to conform to the higher bridge deck (and roadway approach) elevation.

2.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Tables 2-1 and 2-2 summarize the identified Class II and Class III environmental impacts for each resource/issue area analyzed in the EIR, recommended mitigation measures and the residual level of significance after mitigation is implemented. The proposed project is not anticipated to result in any significant and unavoidable (Class I) impacts. Environmental impacts are classified as follows:

- Class I Impacts: Significant unavoidable adverse impacts for which the decision-maker must adopt a Statement of Overriding Considerations.
- Class II Impacts: Significant environmental impacts that can be feasibly mitigated or avoided for which the decision-maker must adopt Findings and recommended mitigation measures.
- Class III Impacts: Adverse impacts found not to be significant for which the decision-maker does not have to adopt findings under CEQA.
- Class IV Impacts: Impacts beneficial to the environment.

2.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Each of the alternatives analyzed (Modified Three-Span, Clear Span, Two-Span) are considered technically feasible and would meet most of the basic project objectives (listed in Section 1.5).

The Modified Three-span Alternative would not meet the following objective:

3. **Avoid Adverse Changes in Traffic Circulation.** The more narrow bridge option (no median on bridge) may prevent implementation of sight distance improvements that would be provided by the proposed project, and would remove the left turn pocket on Carpinteria Avenue for Arbol Verde Street and the existing median used to make left turns into a medical office building (5565 Carpinteria Avenue). The open/planted median option would result in the loss of left turn movements from Carpinteria Avenue to Arbol Verde Street, 5565 Carpinteria Avenue and 5464 Carpinteria Avenue.

The Clear Span Alternative would not meet the following objectives:

1. **Improve Public Safety at the Creek Crossing.** The elevated bridge deck would result in poor sight distance across the bridge, and reduce traffic safety.
3. **Avoid Adverse Changes in Traffic Circulation.** The elevated bridge deck would require permanently closing the Arbol Verde intersection.

The Two-span Alternative would not meet the following objectives:

1. **Improve Public Safety at the Creek Crossing.** The elevated bridge deck would result in poor sight distance across the bridge, and reduce traffic safety.

3. Avoid Adverse Changes in Traffic Circulation. The more narrow bridge option (no median on bridge) may prevent implementation of sight distance improvements that would be provided by the proposed project, and would remove the left turn pocket on Carpinteria Avenue for Arbol Verde Street and the existing median used to make left turns into a medical office building (5565 Carpinteria Avenue). The open/planted median option would result in the loss of left turn movements from Carpinteria Avenue to Arbol Verde Street, 5565 Carpinteria Avenue and 5464 Carpinteria Avenue.

5. Avoid Instream Structures that may Affect Steelhead Migration. The Two-span Alternative includes bridge supports in the low flow channel.

The No Project Alternative would avoid direct impacts, but is anticipated to ultimately involve impacts associated with structural repairs or flood damage repair to the existing bridge. Overall, the No Project Alternative would likely have lesser environmental impacts than the proposed project, and may be considered the environmentally superior alternative. However, it would not achieve any of the project objectives. If the No Project Alternative is considered environmentally superior, Section 15126.6(e)(2) of the State CEQA Guidelines requires identification of the environmentally superior alternative among the other alternatives. Table 5-1 provides a summary of the relative impacts of each of the alternatives analyzed, and indicates the Modified Three-span Alternative would have lesser impacts overall than the other alternatives analyzed and is considered the environmentally superior alternative. As listed in Table 5-1, for each issue area, environmental impacts associated with the proposed project would be the same or lower in magnitude than any of the alternatives analyzed. Therefore, the proposed project is considered the environmentally superior project.

Table 2-1. Summary of Project-Specific Significant but Mitigable (Class II) Environmental Impacts and Mitigation Measures

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact AES-2: The larger mass of the proposed bridge and proposed tree removal would degrade public views from the Carpinteria Avenue corridor – Class II, significant but mitigable.</p> <p>The proposed replacement bridge deck would be approximately 14 feet wider and approximately 2.7 feet higher than the existing bridge deck. In addition, the roadway approaches on both sides of the bridge would be wider and higher to match the new bridge elevation. View impacts associated with a larger bridge are considered adverse but less than significant because blockage of public views would not occur, the visual character of the Carpinteria Avenue corridor would not be substantially impaired (as changes in scenic quality would be minor), and no height or bulk restrictions would be exceeded. The removal of approximately 95 trees and adjacent vegetation would substantially reduce the scenic quality of Carpinteria Creek as viewed by motorists and pedestrians on Carpinteria Avenue, and users of the Carpinteria Creek bike path. Although natural colonization of riparian vegetation would occur, this process would require several decades to restore the scenic quality and visual character of the project site. Additionally, the proposed rock slope protection on the banks near the bridge would permanently displace areas that could be planted or colonized by riparian vegetation.</p> <p>The existing riparian canopy immediately upstream and downstream of the bridge partially screens and obscures existing overhead utility lines that cross Carpinteria Creek and associated utility poles placed in, or near, the creek corridor. However, some of these trees are periodically topped or pruned by the utility providers to avoid conflicts with overhead utility lines, which somewhat detracts from the visual quality of the trees and results in loss of canopy. Removal of the riparian vegetation would result in any remaining overhead utility lines that cross the creek becoming more visually prominent. This is considered a temporary aesthetic impact because restoration tree plantings in the project area would screen and obscure utilities once they are mature. Therefore, the aesthetic impact associated with vegetation removal required for project construction is considered potentially significant.</p>	<p>See measures below for Impacts BIO-1 and BIO-2.</p> <p><u>Residual Impacts.</u> Successful implementation of these measures would reduce aesthetic impacts to a level of less than significant.</p> <p>Recommended Optional Mitigation Measure: While it is not required to mitigate the Impact AES-2, this optional recommended mitigation measure, if implemented, would further enhance the visual character of the project area.</p> <ul style="list-style-type: none"> • Overhead utility lines within and adjacent to the project impact area should be placed underground or within the bridge structure and above-ground poles and lines should be removed, as feasible. Priority should be given to overhead utilities that cross the Carpinteria Creek corridor and the associated utility poles located closest to the creek. <p><u>Plan Requirements and Timing.</u> The City shall consult and coordinate utility relocation and possible undergrounding with the utility service providers. If undergrounding of utilities is found to be feasible, a utility undergrounding plan shall be developed and approved prior to initiation of construction. The plan shall be implemented as part of utility relocation conducted by utility service providers during construction.</p> <p><u>Monitoring.</u> Relocation of overhead utilities shall be monitored by the City-appointed construction inspector.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact AES-3: The larger mass of the proposed bridge and architectural treatments would contrast with the surrounding neighborhood character – Class II, significant but mitigable.</p>	<p>See measures below for Impacts BIO-1 and BIO-2. <u>Residual Impacts.</u> Successful implementation of these measures would reduce aesthetics impacts to a level of less than significant.</p>
<p>As discussed under Impact AES-2, the replacement bridge would be larger than the existing bridge. The increased mass and scale of the bridge may be noticeable and considered more urban by some residents. While the architectural treatment of the bridge barriers (rails), concrete colors and textures and other features would be developed in coordination with the City’s Architectural Review Board to be consistent with the neighborhood character, the proposed increase in bridge width and height and removal of vegetation from around the bridge to accommodate construction would significantly degrade the visual character of the area.</p>	
<p>Carpinteria Creek and its riparian corridor are considered important visual resources in the City’s General Plan/Coastal Land Use Plan. The existing bridge is surrounded by mature riparian vegetation, including several large specimen trees. Some of the trees overhang the bridge and help obscure existing overhead utilities. The project-related removal of these trees would increase the visibility of overhead utilities, and result in a more urban visual character, which would exacerbate degradation of the visual character of the area associated with the larger bridge structure.</p>	
<p>Impact AES-4: Project-related lighting may result in nighttime glare, degrade nighttime views and impart an urban element to the local community – Class II, significant but mitigable.</p>	<p>Sidewalk and bike path lighting shall be designed and installed to minimize nighttime glare, degradation of nighttime views and comply with Policy CD-13 of the City’s General Plan/Local Coastal Land Use Plan to the extent feasible, while meeting public safety requirements. Lighting designs shall consider low intensity fixtures, full cut-off dark sky fixtures, shielding to focus lighting and fixture placement to avoid significant lighting impacts.</p>
<p>Proposed sidewalk lighting may increase nighttime illumination levels. However, this lighting would be directed downwards, use the minimum necessary illumination (lumens), would be consistent with other City streetscape renovation efforts and is unlikely to substantially alter the semi-rural qualities of the project area. Only one residence is located in proximity to proposed sidewalk lighting (at the Carpinteria Avenue/Arbol Verde Street intersection), but would be shielded by existing trees and proposed landscaping. Bike path lighting would be low intensity and focused on the bike path, and is unlikely to substantially affect adjacent land uses. Since a lighting plan has not been completed for the project, lighting-related impacts are not fully known and considered potentially significant.</p>	<p><u>Plan Requirements and Timing.</u> A lighting plan shall be developed and approved prior to the initiation of construction. The plan shall be fully implemented during construction. <u>Monitoring.</u> Installation of lighting shall be monitored by the City-appointed construction inspector. <u>Residual Impacts.</u> Successful implementation of these measures would reduce lighting-related aesthetics impacts to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-1: Project construction activities would result in the loss of riparian forest and City-designated ESHA – Class II, significant but mitigable.</p> <p>Approximately 0.95 acres of arroyo willow riparian forest occurs within the project construction footprint and would be temporarily removed during bridge replacement. ESHA includes the unvegetated streambed under the existing bridge, such that temporary impacts to ESHA would be larger (1.20 acres). Permanent impacts to arroyo willow riparian forest and ESHA would be limited to the bridge piers and portions of the proposed within the streambed or approximately 0.10 acres. It is anticipated that the fill slope required to reconstruct the existing bike path could be revegetated such that no permanent loss of arroyo willow riparian forest and ESHA would occur in this area.</p>	<p>The limits of construction shall be clearly delineated to avoid inadvertent loss of riparian habitat and ESHA. Riparian habitats shall be replaced within temporary impact areas and adjacent portions of Carpinteria Creek. In addition, the buried rock slope protection shall be planted with riparian species. Native plant materials used for riparian restoration shall originate from the Carpinteria Creek watershed to the extent feasible, which may include nursery propagation of seeds and cuttings obtained from the project area. Unaffected riparian forest along Carpinteria Creek shall be restored/enhanced by the removal of invasive species, primarily giant reed, Cape ivy and English ivy, with the goal of restoring and/or enhancing at least 3 times larger than the ESHA impact area (1.20 acres). Re-planting native species in areas where invasive plants are removed shall be included, where natural colonization by native plants may not be adequate. This approach is consistent with Implementation Measure 2.4.4 of the City’s Creeks Preservation Program.</p> <p><u>Plan Requirements and Timing.</u> A mitigation and monitoring plan shall be prepared and approved by the California Department of Fish & Wildlife prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.</p> <p><u>Monitoring.</u> A qualified biologist shall monitor the success of riparian habitat restoration as required by the Streambed Alteration Agreement. Monitoring reports shall be reviewed by City staff.</p> <p><u>Residual Impacts.</u> Successful implementation of the mitigation and monitoring plan would reduce impacts to riparian habitat and ESHA to a level of less than significant.</p>
<p>Impact BIO-2: Project construction activities would result in the loss of native trees and non-native specimen trees, considered biologically valuable – Class II, significant but mitigable.</p> <p>Approximately 91 native trees and four non-native ornamental trees are located within the project construction footprint and would be removed (see Table 4.4-5). The non-native trees may be considered biologically valuable as they provide habitat value within the riparian corridor.</p>	<p>A qualified biologist or arborist shall re-evaluate the limits of the construction work area with the selected construction contractor to minimize removal of native trees, and identify trees that may be cut down with the root crown left in place. Trees removed shall be replaced at ratios consistent with anticipated conditions of regulatory permits (primarily the California Department of Fish & Wildlife Streambed Alteration Agreement) and City of Carpinteria Conditional Use Permit and Coastal Development Permit (see Table 4.4-5). Replacement trees shall originate from southern Santa Barbara County, if available. Replacement trees shall be planted within the rock slope protection to the extent feasible. Temporary fencing shall be placed around the canopy of native trees adjacent to construction work areas during the construction period to prevent inadvertent damage or removal of native trees. Replacement trees shall be maintained and monitored for a period of five years, with periodic monitoring reports prepared and submitted to regulatory agencies. Total mortality of replacement trees over five years shall not exceed 50 percent. A tree replacement plan shall be developed to identify planting areas and methods, and included within a mitigation and monitoring plan to be submitted to regulatory agencies.</p> <p><u>Plan Requirements and Timing.</u> A tree replacement plan shall be prepared and approved by the California Department of Fish & Wildlife prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.</p> <p><u>Monitoring.</u> A qualified biologist shall monitor the success of tree replacement activities. Monitoring reports shall be reviewed by City staff.</p> <p><u>Residual Impacts.</u> Successful implementation of the tree replacement plan would reduce impacts to native and specimen trees to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-3: Project construction activities may adversely affect the endangered tidewater goby – Class II, significant but mitigable.</p> <p>Tidewater goby was found in the BSA (lower Carpinteria Creek) during surveys conducted in 2008/2009 during construction of the Eighth Street Pedestrian Bridge. Although tidewater goby primarily inhabits the lower reach of Carpinteria Creek and construction work in the streambed would be limited to the dry season, the potential exists that tidewater goby would be adversely affected by project-related stream diversion and water quality impacts. Impacts may include stranding during stream diversion, impingement on pump intake screens, increased turbidity and sedimentation caused by demolition and/or construction work in the streambed.</p> <p>Incidental take of tidewater goby in the form of harassment, harm or mortality may occur. Caltrans entered into formal consultation with USFWS, which issued a Biological Opinion (2015-F-0385) dated December 29, 2015. The Biological Opinion authorizes incidental take of up to 100 tidewater gobies captured and up to 10 tidewater gobies found dead or injured.</p>	<p>The following measures shall be implemented to address potential construction-related impacts to tidewater goby:</p> <ul style="list-style-type: none"> • To avoid conflicts with fish, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry. • If instream construction must be conducted when surface water is present, stream diversion shall be implemented such that surface flow at least 100 feet upstream and downstream of work areas is diverted and returned to Carpinteria Creek immediately downstream of the project site. • A USFWS-approved biologist shall provide construction worker awareness training prior to the start of construction. • A USFWS-approved biologist shall monitor installation of the stream diversion, initial dewatering activities and other construction work conducted in the streambed. • Only qualified biologists authorized by USFWS under the Biological Opinion shall be involved in surveying, capture, handling and relocation of tidewater gobies. • A pre-construction survey shall be completed by a USFWS-approved biologist within 10 days of the initiation of instream construction work to verify presence/absence of this species within the construction work area. • If tidewater goby is present in the construction work area at the time construction is initiated, the work area shall be isolated from adjacent surface waters and gobies relocated to suitable habitat near the estuary. • The time period tidewater gobies are held in captivity shall be minimized, and environmental conditions in captivity shall be maintained to avoid injury and minimize stress. • The number of tidewater gobies captured, site of capture, site of relocation, habitat conditions at capture site and habitat conditions at the relocation site shall be recorded. • If pumping is required to dewater the construction work area and tidewater goby is present, pump intakes shall be fitted with a wire mesh screen with a 5 mm mesh or smaller. • Flow to downstream reaches shall be maintained during dewatering or flow diversion. • Appropriate sediment collection devices (silt fence, straw wattles, hay bales, or equivalent) shall be installed downstream of the construction work area to prevent siltation of downstream reaches. • The streambed (and substrate) affected by construction shall be returned to pre-construction conditions (excluding areas displaced by the bike path and RSP). • Herbicide shall not be used or applied within 25 feet of the streambed, during the wet season or during winds exceeding 5 miles per hour. <p><u>Plan Requirements and Timing.</u> A tidewater goby monitoring plan, stream diversion plan and frac-out contingency and spill prevention plan shall be prepared and approved by the USFWS prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.</p> <p><u>Monitoring.</u> A qualified biologist shall monitor project construction activities to ensure tidewater goby protection measures are fully implemented. Monitoring reports shall be reviewed by City staff.</p> <p><u>Residual Impacts.</u> Successful implementation of the tidewater goby protection measures would reduce impacts to this endangered species to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-4: Project construction activities may adversely affect the endangered southern California steelhead – Class II, significant but mitigable.</p>	<p>The following measures shall be fully implemented to prevent impacts to steelhead:</p> <ul style="list-style-type: none"> • To avoid conflicts with fish, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry. • A NMFS-approved biologist shall provide construction worker awareness training prior to the start of construction. • A NMFS-approved biologist shall monitor installation of the stream diversion, initial dewatering activities and sediment control devices to identify and rectify any conditions that may adversely affect steelhead or their habitat. • A NMFS-approved biologist shall identify steelhead relocation sites with adequate water quality, cover and living space. • Within 10 days of the initiation of any work within surface water, a qualified fisheries biologist shall complete a survey for steelhead. • If pumping is required to dewater the construction work area and juvenile steelhead are present, pump intakes shall be fitted with a wire mesh screen with a 5 mm mesh or smaller. • Any steelhead found in the work area shall be recaptured and relocated by a NMFS-approved biologist to suitable relocation sites. • If instream construction must be conducted when surface water is present, stream diversion shall be implemented such that diverted surface flow is returned to Carpinteria Creek immediately downstream of the project site. • The diversion berm and pipeline shall be in place prior to beginning diversion of surface flow. • Non-erosive materials (e.g., sandbags, sheet pile, rubber/plastic tubes) shall be used to construct the diversion berm. • An energy dissipater and sediment trap (straw bales, or equivalent) shall be used at the diversion pipeline outlet. • Excavated material shall be stored away from the low-flow channel to prevent incidental discharge. • Any streambed access points shall be stabilized using a pad of coarse aggregate underlain by filter cloth, crane mats or equivalent materials to reduce erosion and tracking of sediment. • Disturbed areas of the stream channel shall be re-compacted to pre-construction conditions prior to restoring flow to the active channel. • Silty or turbid water produced from dewatering or other activities shall not be discharged into Carpinteria Creek until filtered or allowed to settle prior to discharge. • Use of heavy equipment in flowing water shall be prohibited. • The bed and banks of Carpinteria Creek shall be restored immediately following the completion of instream construction work (excluding areas displaced by the bike path and RSP). • Riparian habitat removed by the project shall be restored and/or enhanced to improve fish habitat.
<p>The lower portion of Carpinteria Creek, including the BSA, is designated critical habitat for southern California steelhead (National Oceanic and Atmospheric Administration, 2005). An adult female steelhead and juvenile steelhead were reported from the BSA in 2000 (Stoecker et al., 2002).</p>	<p><u>Plan Requirements and Timing.</u> A water diversion and drilling fluid discharge contingency plan shall be prepared and approved by the NMFS prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit. <u>Monitoring.</u> A qualified biologist shall monitor project construction activities to ensure steelhead protection measures are fully implemented. A steelhead relocation report and the mitigation and monitoring plan (see mitigation for Impact BIO-1) shall be provided to NMFS within 30 days of project completion. Monitoring reports shall be reviewed by City staff. <u>Residual Impacts.</u> Successful implementation of the steelhead protection measures would reduce impacts to this endangered species to a level of less than significant.</p>
<p>The proposed project would result in temporary impacts to approximately 300 linear feet of critical habitat, associated with bridge construction and RSP. These activities may substantially or permanently degrade the condition of the primary constituent elements.</p>	
<p>Sufficient surface water to support this species is unlikely to be present, as construction work in the streambed would be limited to the dry season. However, the potential exists that steelhead may be adversely affected by project-related stream diversion and water quality impacts. Impacts may include stranding during stream diversion, impingement on pump intake screens, increased turbidity and sedimentation caused by demolition and/or construction work in the streambed.</p>	
<p>The proposed bike path and bridge piers would permanently displace approximately 0.10 acres of streambed, potentially used by steelhead to reach upstream spawning areas. However, the project would increase the channel width at the bridge site through the removal of the concrete walls and fill in the end spans of the existing bridge (see Section 1.3), which would improve storm flow (reduce water velocity and obstructions) through the project site and benefit steelhead migration. In contrast to existing conditions, the bridge piers would be located outside the low flow channel which would also benefit steelhead migration.</p>	
<p>The proposed bike path and RSP would not substantially alter the flow path and water velocity during storm flows when steelhead may migrate through the bridge site. The proposed bridge piers would be small in diameter (about 30 inches) and located outside the primary flow channel and also would not substantially alter the flow path and water velocity during storm flows. Therefore, adverse impacts to steelhead migration are not anticipated.</p>	
<p>Incidental take of southern California steelhead in the form of harassment, harm or mortality may occur. Caltrans entered into formal consultation with NMFS, which issued a Biological Opinion (WCR-2015-3759) dated December 1, 2015. The Biological Opinion authorizes incidental take of up to 10 juvenile steelhead injured or killed as a result of project-related dewatering over two construction seasons.</p>	

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-5: Project construction activities may adversely affect the western pond turtle and two-striped garter snake – Class II, significant but mitigable.</p> <p>Western pond turtle was not observed during field surveys of the BSA conducted for this project. Based on a conversation with long-time campers at Carpinteria State Beach, turtles have been observed in Carpinteria Creek near the Fourth Street Bridge. It is unclear if turtles observed are native; however, suitable habitat for western pond turtle occurs just upstream of this area. Suitable pond habitat occurs in the downstream portion of the BSA, but this species has not been reported from the Carpinteria Creek watershed.</p> <p>Two-striped garter snake was not observed during field surveys of the BSA conducted for this project. The two-striped garter snake has not been reported from Carpinteria Creek, but has been found in the Santa Monica Creek watershed. Suitable habitat for this species occurs within the BSA.</p> <p>Construction within the streambed would be limited to the dry season, when suitable habitat for western pond turtle and two-striped garter snake is typically located at least 1,000 feet downstream of the project site. If present during construction, direct mortality of these species and habitat degradation could occur.</p>	<p>The following measures would be implemented to reduce the potential for adverse impacts to western pond turtle and two-striped garter snake:</p> <ul style="list-style-type: none"> • Instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry. • Disturbance of suitable habitat (stream pools) shall be avoided. • A pre-construction biological survey shall be conducted within 10 days of initiation of instream work to identify western pond turtle, two-striped garter snake and other wildlife within the construction work area. • A qualified biologist shall relocate any wildlife found during the pre-construction survey to suitable habitat at least 500 feet from the work area. • A qualified biologist shall periodically monitor construction activities to ensure these species are identified and relocated as needed. <p><u>Plan Requirements and Timing.</u> These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented during the entire construction period.</p> <p><u>Monitoring.</u> A qualified biologist shall monitor project construction activities to ensure these measures are fully implemented. Monitoring reports shall be reviewed by City staff.</p> <p><u>Residual Impacts.</u> Successful implementation of these mitigation measures would reduce impacts to western pond turtle and two-striped garter snake to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-7: Project construction activities may adversely affect Cooper's hawk, yellow warbler, yellow-breasted chat and migratory birds – Class II, significant but mitigable.</p>	<p>The following measures would be implemented to reduce the potential for adverse impacts to breeding birds including Cooper's hawk, yellow warbler and yellow-breasted chat:</p>
<p>Cooper's hawk, yellow warbler and yellow-breasted chat were not observed during field surveys of the BSA conducted for this project, but have been reported from the Carpinteria Creek watershed. Cooper's hawk is considered uncommon, yellow warbler is considered a fairly common summer resident, and yellow-breasted chat is considered a very rare transient (Cachuma RCD et al., 2005). Approximately 0.95 acres of suitable foraging and nesting habitat (arroyo willow riparian forest) occurs within the project construction footprint and would be temporarily removed during bridge replacement. Construction-related disturbance (noise, dust, human activity) may also prevent foraging in the vicinity of the work area. Permanent impacts to suitable habitat would be approximately 0.10 acres.</p>	<ul style="list-style-type: none"> • If feasible, vegetation within the construction work area shall be removed during the fall or winter (September 1 to February 15) prior to construction, to minimize the potential for nesting within the project site. In addition, any unoccupied nests found within the construction work area shall be removed to discourage nesting. • A breeding bird survey shall be conducted within one week of initiation of vegetation removal and all active nests shall be identified. Caltrans, CDFW and USFWS shall be contacted if any active nests are found within 300 feet of current or planned construction activities. Construction activity would be modified based on input from Caltrans, CDFW and USFWS to prevent adverse effects to nesting birds. Such modifications may include postponing construction within 200 feet (300 feet for raptors) of active nests until young have fledged and/or reducing the magnitude and duration of activity near nests. Nest monitoring may be conducted to verify project-related adverse effects have been minimized. • A breeding bird survey would be conducted prior to implementation of mitigation and all active nests would be identified. Caltrans, CDFW and USFWS would be contacted if any active nests are found within 200 feet of planned mitigation activities. Mitigation activity would be modified based on input from Caltrans, CDFW and USFWS to prevent adverse effects to nesting birds. Such modifications may include postponing mitigation activities near active nests until young have fledged and/or reducing the magnitude and duration of activity near nests. Nest monitoring may be conducted to verify project-related adverse effects have been minimized.
<p>Mitigation activities may include revegetation and application of herbicides which could disturb any Cooper's hawk, yellow warbler and yellow-breasted chat nesting within or adjacent to affected areas. Herbicide application is a short-term process (a few minutes at any one site) which would target invasive plant species unsuitable for nesting and is not anticipated to substantially affect breeding activities. However, revegetation planting may require several weeks and could result in nest abandonment.</p>	<p><u>Plan Requirements and Timing.</u> These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented prior to the initiation of construction.</p>
<p>Other relatively common bird species and special-status species would also be adversely affected including:</p>	<p><u>Monitoring.</u> City staff shall ensure vegetation is removed prior to the breeding season (if feasible), review breeding bird survey reports, and ensure active nests are monitored (as necessary) and avoided.</p>
<ul style="list-style-type: none"> • Migratory birds protected under the Federal Migratory Bird Treaty Act. • Migratory birds protected under Sections 3513 and 3700 of the California Fish and Game Code. • Birds of prey protected under Section 3503.5 of the California Fish and Game Code. • Fully protected birds under Section 3511 of the California Fish and Game Code. 	<p><u>Residual Impacts.</u> Successful implementation of these mitigation measures would reduce impacts to breeding birds including Cooper's hawk, yellow warbler and yellow-breasted chat to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-9: Project construction activities may adversely affect Yuma myotis – Class II, significant but mitigable.</p> <p>Suitable crevice habitat was not found within the BSA during field surveys conducted for this project. Based on direct observation of roosting behavior and guano piles, Yuma myotis (a bat species) uses the Carpinteria Avenue Bridge as a night roost (rest area between nighttime foraging bouts), clinging to the underside of the bridge where beams intersect, seeming to prefer acute corners.</p> <p>Bridge replacement activities would be staged to allow at least one lane of Carpinteria Avenue to remain open during the construction period. This means at least a portion of the existing bridge would remain in place while the new bridge is constructed. Therefore, at least a portion of the existing bridge would be present and available as a night roost during about one-half of the construction period.</p> <p>Construction-related disturbance would reduce foraging opportunities for Yuma myotis along Carpinteria Creek during the construction period. However, foraging occurs at night, when construction work would be very rare. In addition, the affected area would a very small portion of the available foraging habitat along Carpinteria Creek. The existing bridge does not provide crevice habitat, and cannot support a day roost or maternity colony. Therefore, bridge replacement would not directly affect Yuma myotis reproduction or result in loss of a breeding site.</p> <p>The proposed bridge design involves a concrete slab bridge deck which would not provide structures for bat roosting under the deck, likely resulting in the long-term loss of a night roost. Bat studies in the region appear to indicate Yuma myotis populations use multiple night roosts (Pierson et al., 2002), such that the importance of the Carpinteria Avenue Bridge to the local Yuma myotis population is unclear. The loss of a bat night roost is considered a potentially significant impact.</p>	<p>Crevice habitat suitable for Yuma myotis shall be provided under the closure pour (see Figure 3-3, note E) where the two construction stages would connect. This approach would avoid any hydraulic problems with under-deck structures, while providing suitable night roosting habitat. In addition, the project-related introduction of crevice habitat in the bridge may encourage day roosting by Yuma myotis and other bat species.</p> <p><u>Plan Requirements and Timing.</u> The bat habitat design shall be included in the final construction drawings and specifications, and implemented following the closure pour.</p> <p><u>Monitoring.</u> City staff shall ensure bat habitat is constructed as per the plans and specifications.</p> <p><u>Residual Impacts.</u> This mitigation measure would provide replacement bat roosting habitat and may result in daytime use of the bridge structure, and reduce impacts to Yuma myotis to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact BIO-10: Project construction activities may adversely affect and displace Federally jurisdictional wetlands – Class II, significant but mitigable.</p> <p>Based on the preliminary wetland delineation, approximately 0.09 acres of wetland waters (stream banks below the OHW mark vegetated with hydrophytic vegetation) occurs within the project construction footprint, and would be temporarily impacted by vegetation removal and stream diversion activities. Permanent loss of Federally-protected wetlands associated with the proposed project would be limited to the bridge piers and toe of the proposed rock slope protection, or up to 0.02 acres. However, it is anticipated that loss of wetlands would be substantially less as bridge piers and rock slope protection would be designed to avoid wetlands to the extent feasible.</p>	<p>The following measures shall be implemented to reduce impacts to wetlands such as vegetation removal and water quality degradation:</p> <ul style="list-style-type: none"> • To minimize erosion-related impacts to wetlands, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the streambed is dry. • Non-erosive materials (e.g., sandbags, sheet pile, rubber/plastic tubes) shall be used to construct the diversion berm, if required. • An energy dissipater and sediment trap (hay bales, or equivalent) shall be used at the diversion pipeline outlet; • Excavated material shall be stored away from the low-flow channel to prevent incidental discharge. • Any streambed access points shall be stabilized using a pad of coarse aggregate underlain by filter cloth to reduce erosion and tracking of sediment. • Disturbed areas of the stream channel shall be re-compacted to original conditions prior to restoring flow to the original channel. • Silty or turbid water produced from dewatering or other activities shall not be discharged into Carpinteria Creek until filtered or allowed to settle prior to discharge. • Use of heavy equipment in flowing water shall be prohibited. • The bed and banks of Carpinteria Creek shall be returned to their original configuration immediately following the completion of instream construction work (excluding areas displaced by the bike path and RSP). • Riparian and wetland vegetation removed by the project would be restored and/or enhanced (see mitigation measures for Impact BIO-1). <p><u>Plan Requirements and Timing.</u> These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented during and following construction activities. A comprehensive mitigation and monitoring plan would be developed as part of obtaining permits from the CDFW and Corps of Engineers and incorporated within the mitigation and monitoring plan required for riparian habitat restoration (see Impact BIO-1).</p> <p><u>Monitoring.</u> A qualified biologist shall monitor the success of wetlands restoration as required by the Streambed Alteration Agreement. Monitoring reports shall be reviewed by City staff.</p> <p><u>Residual Impacts.</u> Successful implementation of the mitigation and monitoring plan would reduce impacts to wetlands to a level of less than significant.</p>
<p>Impact BIO-11: Project construction activities may adversely affect and displace California Coastal Commission-defined wetlands – Class II, significant but mitigable.</p> <p>Based on a jurisdictional determination, CCC-defined wetlands and CDFW jurisdictional areas occur within the project site. The width of CCC-defined wetlands is based on the riparian corridor width (hydrophytic vegetation and unvegetated streambed), which also corresponds to the permit jurisdiction of the CDFW under Section 1602 of the Fish & Game Code. Approximately 1.20 acres of CCC-defined wetlands and CDFW jurisdictional area occurs within the project construction footprint and would be adversely affected during bridge replacement activities.</p>	<p>see measures for Impact BIO-10</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact CR-1: Project-related ground disturbance may significantly impact buried archeological resources, potentially including materials associated with the village site <i>Mishopshnow</i> – Class II, significant but mitigable.</p> <p>The boundaries of a significant archaeological site (CA-SBa-7) may extend into the project impact area. Site CA-SBa-7 represents the remnants of the major Chumash village <i>Mishopshnow</i> and is a California State Historic Landmark, No. 535. This large site originally covered approximately 60 acres and archaeological investigations at Carpinteria State Beach and within the Union Pacific Railroad right-of-way revealed locations where the CA-SBa-7 midden deposits extended down to 6 to 6.5 feet below ground surface (Woodward 1983; Gilbert & Hunt 2004). Site CA-SBa-7 is considered significant under National Register Criteria A and D as listed in Public Resources Code Section 5024.1.</p> <p>Conejo Archaeological Consultants field survey noted only three fragments of widely scattered marine shell within the project impact area and the origin of these shells could not be determined. No evidence of middens, lithic debris or aboriginal artifacts was observed. Unfortunately, ground surface visibility was so poor across the majority of the project impact area that the results of the field survey are inconclusive as to the absence of archaeological resources.</p> <p>Although the Extended Phase I subsurface testing program did not identify any intact prehistoric archeological resources, Native American consultation indicates the project area is considered highly sensitive to the Chumash and they expressed concerns that buried resources, including human burials, could potentially occur within the project impact area. Given the high cultural sensitivity of the general project area and the proximity and importance of archaeological site CA-SBa-7, it is possible that project-related excavation could result in the loss of important artifacts and/or significant disruption of buried intact cultural resources.</p>	<p>The following measures shall be implemented to address cultural resources (if any) found during project construction:</p> <ul style="list-style-type: none"> • All construction activities involving ground disturbance shall be monitored by a qualified archeologist and culturally affiliated Native American. Monitoring may be limited to initial excavations to maximum depth, including boring. • In the event that potentially significant archaeological resources are observed during monitoring, all earth disturbing work within the vicinity of the find shall be temporarily suspended until a qualified archeologist has evaluated the nature and significance of the find. The City shall be notified of any such find. An archeological testing program shall be developed, approved by the City and fully implemented. A culturally affiliated Native American shall monitor any archaeological field work associated with evaluation of Native American materials. The City shall review and approve the recommendations of the archeological testing program prior to the removal of any cultural materials from the site. • If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission. The City shall be notified of any such find. <p><u>Plan Requirements and Timing.</u> These measures shall be included in the conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented during construction.</p> <p><u>Monitoring.</u> The City project manager shall ensure construction monitoring is conducted, and ensure these measures are fully implemented as needed.</p> <p><u>Residual Impacts.</u> Full implementation of the above mitigation measures would result in the recovery of important information regarding any cultural resources found, and reduce project-specific and cumulative impacts to cultural resources to a level of less than significant.</p>
<p>Impact G-2: Soil erosion may occur as a result of storm run-off during the construction period – Class II, significant but mitigable.</p> <p>Construction-related vegetation removal and soil disturbance within the streambed, stream banks and adjacent areas may result in short-term soil erosion caused by stream flows and storm run-off during the construction period.</p>	<p>See measures for Impact WR-1.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact HAZ-2: Project-related demolition activities may result in exposure of the public to elevated lead concentrations – Class II, significant but mitigable.</p> <p>Based on lead paint testing conducted at a nearby bridge (Fernald Point Lane, Montecito), paint from metal guard-rails and pavement striping may contain lead. Removal of the existing bridge has the potential to expose local residents to lead-containing particulate matter.</p>	<p>All bridge guard rail and striping paint shall be stabilized prior to demolition activities. Loose and flaking paint shall be removed within containment and containerized for subsequent disposal, prior to demolition activities. A lead-based paint encapsulant (L-B-C Industrial Lead Encapsulant by Fiberlock Technologies, or equivalent) shall be applied to all painted surfaces prior to demolition activities. During demolition activities, containment shall be maintained at all times to prohibit the release of lead-based paint to the environment. The demolition and/or abatement contractor shall comply with all components of California Code of Regulations (CCR) Title 8, Section 1532.1, as well as the accreditation, licensing, training and work practices in 17 CCR Division 1, Chapter 8. Additionally, the demolition and/or abatement contractor will comply with Santa Barbara County Air Pollution Control District regulations, including no visible dust emissions.</p> <p><u>Plan Requirements/Timing.</u> These conditions shall be included in the project plans and specifications.</p> <p><u>Monitoring.</u> The City-appointed construction inspector shall ensure these measures are fully implemented.</p> <p><u>Residual Impacts.</u> Full implementation of the above mitigation measures would reduce project-specific and cumulative impacts associated with hazardous materials to a level of less than significant.</p>
<p>Impact HAZ-3: Project-related excavation along Carpinteria Avenue may expose soils contaminated by aerially-deposited lead (ADL) and result in public exposure to this hazard – Class II, significant but mitigable.</p> <p>Prior to 1987, combustion of gasoline with lead additives resulted in the deposition of exhaust particulate matter containing lead along Carpinteria Avenue, a former State highway. Testing of soils along nearby U.S. 101 conducted for the Linden Avenue-Casitas Pass Road Interchanges Project determined that 55 of 60 soil samples had soluble lead concentrations exceeding 5.0 mg/l which is considered a hazardous waste by DTSC (Geocon, 2001). However, pre-1987 traffic volumes along Carpinteria Avenue are likely to be much less than U.S. 101, such that ADL concentrations in soil along the roadway are expected to be much lower. In the absence of any data to the contrary, public exposure to ADL is considered a potentially significant impact.</p>	<p>A preliminary site investigation shall be conducted to identify ADL-affected soils within the project construction footprint. The investigation shall include preparation of a technical work plan, health and safety plan and traffic control plan for City approval. Soil samples shall be obtained from multiple depths as needed to characterize all planned excavations in roadside areas, and analyzed for soluble lead (soluble threshold limit concentration), total lead (total threshold limit concentration) and extractable lead (using deionized water). ADL-affected soils found (if any) shall be managed according to Caltrans and DTSC requirements as listed in Table 4.8-1.</p> <p><u>Plan Requirements and Timing.</u> The above measures shall be documented in the project conditions of approval, and the preliminary site investigation developed and completed prior to demolition. If needed based on the findings of the preliminary site investigation, an ADL soil management plan shall be developed and implemented during construction.</p> <p><u>Monitoring.</u> City staff or a City-appointed inspector shall review the preliminary site investigation technical work plan, health and safety plan and traffic control plan, and monitor implementation of these plans. If action levels of lead are found, the City shall review the ADL soil management plan and monitor its implementation.</p> <p><u>Residual Impacts.</u> Successful implementation of these measures would reduce public exposure to ADL to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact WR-1: Project-related construction activities and storm runoff from construction areas would reduce surface water quality – Class II, significant but mitigable.</p> <p>Excavation of new bridge footings and abutments and other use of heavy equipment within and adjacent to the Creek may result in streambed and stream bank erosion and siltation of surface water. The beneficial uses that may be adversely affected by the proposed project include endangered species habitat, freshwater habitat, and estuarine habitat, which are primarily represented by fisheries. Fisheries include the endangered tidewater goby and southern steelhead, as well as the native partially-armored three-spined stickleback. Construction activities may degrade water quality, primarily through increased turbidity and suspended sediment, potentially resulting in significant impacts to these endangered species and other native fish species.</p> <p>Fine organic materials may have accumulated in the sediments, and biological oxygen demand (BOD) increases and associated decreases in dissolved oxygen may occur when sediments are disturbed by construction.</p> <p>Metals bound to stream sediments may be released to the water column during project-related construction in the streambed. Chromium, copper, and zinc were found in storm water in Carpinteria Creek. Disturbance of metal-containing sediments may result in exceedances of water quality objectives in surface water, and possible transport to coastal ocean waters.</p> <p>Pesticides (glyphosate, chlorpyrifos, diazinon and malathion) have been found in Carpinteria Creek, and project construction may release these pesticides, if they have accumulated in the sediments. Disturbance of pesticide-containing sediments may result in exceedances of water quality objectives or aquatic toxicity standards in surface water, and possible transport to coastal ocean waters.</p> <p>Reductions in primary productivity associated with increased turbidity and siltation may occur due to construction-related disturbance of the banks or streambed of Carpinteria Creek and/or run-off from disturbed areas.</p> <p>Heavy equipment used within or adjacent to Carpinteria Creek or storm drains may develop leaks and discharge small amounts of lubricants, hydraulic fluid or fuel. Discharge into surface waters may reduce water quality resulting in toxic effects to fish and amphibians. Heavy equipment is expected to be fueled from a fuel truck and not from an on-site storage tank. However, fueling spillage may occur and result in inadvertent discharge to local surface waters. Water quality objectives for oil, grease, and related organic chemicals may be exceeded. In addition, any hydrocarbons deposited or contained in soils placed in/near Carpinteria Creek during construction would enter the water column during storm events and result in discharge of these pollutants to surface waters.</p>	<p>As part of compliance with the Construction General Permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared. The template provided in the Caltrans SWPPP and Water Pollution Control Program Preparation Manual shall be utilized. Best Management Practices (BMP) shall be included to address temporary sediment control, temporary soil stabilization, scheduling to avoid storms when feasible, preservation of existing vegetation, clear water stream diversion, wind erosion, sediment tracking, waste management, materials handling, vehicle and equipment operations, paving operations, stockpile management, dewatering operations and stabilized construction entrance. Project-specific BMP development shall utilize the Caltrans Construction Site BMP Manual. Work in the streambed shall be performed during the dry season to minimize disturbance of surface waters.</p> <p><u>Plan Requirements and Timing.</u> These measures shall be included in the project conditions of approval. Coverage under the Construction General Permit shall be obtained prior to the initiation of ground disturbance.</p> <p><u>Monitoring.</u> The City project manager shall conduct monitoring and reporting as required by the Construction General Permit.</p> <p><u>Residual Impacts.</u> Full implementation of the above mitigation measures would reduce project-specific impacts to surface water quality to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact WR-2: Discharge of groundwater and/or drilling fluids during installation of the CIDH piles would adversely affect surface water quality – Class II, significant but mitigable.</p>	<p>Coverage under Order R3-2011-0223 shall be obtained as required by the Regional Water Quality Control Board for construction dewatering (low threat discharge). In addition, the following measures shall be implemented:</p>
<p>Drilling for foundation piles is likely to encounter groundwater, which would be pumped from the drill-hole and may be discharged to Carpinteria Creek. This groundwater may contain suspended sediments and possibly drilling fluids, which would result in water quality degradation. In addition, the cobble substrate of the streambed would make it difficult to fully contain drilling fluids and unintentional discharge to the Carpinteria Creek streambed may occur. These drilling fluids would contaminate surface water through direct contact or through indirect contact of residual solids with storm flows.</p>	<ul style="list-style-type: none"> • Groundwater discharged to Carpinteria Creek shall be allowed to settle in a temporary tank (or equivalent) prior to discharge and provided with erosion protection at the pipe outlet. • Surface flow (if present) shall be diverted around the work area during drilling in the streambed. • Drilling for the CIDH piles shall utilize temporary steel casing installed to the full depth of the drill-hole, if feasible. • If full length temporary casing is not feasible, steel casing shall be installed to at least three feet below the ground surface. • Drilling shall be monitored to detect any discharge of drilling fluid from the casing, streambed or adjacent areas. • Containment (hay bales wrapped in plastic sheeting, or equivalent) shall be used at the drill-hole to collect and contain any drilling fluid leakage and prevent any discharges to the streambed. • Absorbent material and disposal bags (or equivalent cleanup materials) shall be maintained on-site to cleanup any drilling fluid spillage. • All spillage of drilling fluids (including residual solids) shall be removed from the streambed and adjacent areas using cleanup materials. • Any discharge of drilling fluids to the streambed shall be reported to Regional Water Quality Control Board and California Department of Fish & Wildlife within 24 hours of discharge.
	<p><u>Plan Requirements and Timing.</u> These measures shall be included in the project conditions of approval. Coverage under the Order R3-2011-0223 shall be obtained prior to the initiation of drilling.</p>
	<p><u>Monitoring.</u> The City-appointed construction inspector shall ensure these measures are fully implemented.</p>
	<p><u>Residual Impacts.</u> Full implementation of the above mitigation measures would reduce impacts to surface water quality to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact N-1: Demolition and construction activities would generate noise levels exceeding City thresholds – Class II, significant but mitigable.</p> <p>The FHWA Roadway Construction Noise Model was used to estimate construction noise at residential and commercial noise receivers for comparison to City of Carpinteria construction noise thresholds. Construction of the proposed project would cause noise increases above the City thresholds, including 17.1 dBA Leq at the closest residence (899 Concha Loma Drive). A 12 hour CNEL value was calculated for comparison to the City’s 75 dBA threshold, based on modeled peak noise levels occurring from 7:00 a.m. to 4:00 p.m., and no activity (estimated ambient noise levels only) during the balance of the 12-hour period. The 75 dBA CNEL threshold would be exceeded at the closest residence and the planned assisted living facility. Note that the CNEL threshold only applies to residences, including the planned assisted living facility.</p>	<p>The following construction noise minimization measures shall be fully implemented:</p> <ul style="list-style-type: none"> • At least twenty (20) days prior to commencement of construction, the contractor shall provide written notice to all property owners, businesses, and residents within 300 feet of the work area. The notice shall contain a description of the project, the construction schedule, including days and hours of construction, the name and phone number of the project environmental coordinator and contractor(s), site rules and conditions of approval pertaining to construction activities. • Construction (including preparation for construction work) shall only be permitted Monday through Friday between the hours of 7:00 a.m. and 5:00 p.m., and Saturdays between the hours of 9:00 a.m. and 4:00 p.m. Construction shall not occur on Federal holidays. Work hours may be extended for short periods to accommodate time-sensitive discrete activities if first approved by the City Community Development Department. • Hotel accommodations shall be offered to the closest resident (899 Concha Loma Drive) during periods when approved time-sensitive discrete activities would occur between 7:00 p.m. and 7:00 a.m. • All construction equipment, including trucks, shall be professionally maintained and fitted with standard manufacturers’ muffler and silencing devices. • Temporary construction noise barriers shall be installed and maintained between work areas and affected noise sensitive land uses to the south, east and northwest for the duration of the construction period and shall result in noise attenuation of at least 10 dBA at the property lines. Noise levels shall be monitored for compliance.
<p>Impact N-2: Demolition and construction activities would generate vibration that may cause human annoyance – Class II, significant but mitigable.</p> <p>Vibration at the nearest residence (899 Arbol Verde Street) was estimated using Equation 12 from Caltrans’ Transportation and Construction Vibration Guidance Manual, based on use of a large bulldozer or caisson drilling adjacent to the residence. The estimated vibration value (PPV) is 0.048 inch/seconds. This amount of vibration is considered distinctly perceptible, and may be considered annoying and a potentially significant impact. However, this vibration value is well below the levels required to cause vibration damage to structures. Note that the distinctly perceptible threshold would only be exceeded at this one residence.</p>	<p><u>Plan Requirements and Timing.</u> The above measures shall be documented in the project conditions of approval, and implemented during the entire construction period. As indicated, written notices to affected residences shall be provided at least 20 days in advance of planned construction work.</p> <p><u>Monitoring.</u> A City-appointed inspector shall inspect work in progress and ensure measures are implemented.</p> <p><u>Residual Impacts.</u> Successful implementation of these noise minimization measures would reduce noise impacts to a level of less than significant.</p> <p>Noticing of construction shall be conducted as described under Impact N-1, but also include information regarding potential vibration impacts.</p> <p><u>Plan Requirements and Timing.</u> Written notices to affected residences shall be provided at least 20 days in advance of planned construction work.</p> <p><u>Monitoring.</u> City staff shall ensure noticing is completed.</p> <p><u>Residual Impacts.</u> It is anticipated that providing notice of construction activities would minimize annoyance of affected persons and reduce vibration impacts to a level of less than significant.</p>

Table 2-1. Continued

DESCRIPTION OF IMPACT	MITIGATION MEASURES and RESIDUAL IMPACTS
<p>Impact T-3: The proposed project would adversely affect the usage and safety of the existing Class I bike path along Carpinteria Creek – Class II, significant but mitigable.</p> <p>Currently, a Class I bike path extends from the western terminus of Via Real, crosses to the west side of Carpinteria Creek, passes under U.S. 101 and terminates at Carpinteria Avenue immediately northwest of the bridge deck. Project-related demolition and construction activities would temporarily conflict with the use of this bike path, and require closure during Stage 1 construction (see Section 3.3.4). An alternate existing pedestrian and bicyclist route avoiding the project-related closure requires an approximately 1.75-mile detour (Via Real to Bailard Avenue to Carpinteria Avenue) using sidewalks and Class II bike lanes.</p> <p>The project construction schedule would be coordinated with the Linden Avenue-Casitas Pass Road Interchanges project to allow simultaneous construction if feasible. However, the two projects would not fully overlap and total bike path closure may be longer than Stage 1 project construction.</p>	<p>The following measures shall be implemented to address bike path user safety and minimize loss of use of the bike path during the construction period:</p> <ul style="list-style-type: none"> • Written notification (including hand delivery to residents of affected mobile home parks) of bike path closures shall be provided to affected residents (primarily northeast of the bridge) at least two weeks prior to planned closures, and include information regarding bus routes and detour routes for pedestrians and bicyclists. • Signage warning approaching bike path users about project-related closures and recommended detours shall be placed at the western terminus of Via Real, along the eastbound and westbound bike lanes on Carpinteria Avenue approximately 300 feet from the project work area, and at the Via Real/Bailard Avenue intersection at least 10 days in advance of any bike path closure. • Construction staging shall minimize bike path closure during the school year, to the extent feasible. • Bike path closure shall be coordinated with the Linden Avenue-Casitas Pass Road Interchanges project to the extent feasible to reduce the total duration of bike path closure associated with both projects. • To minimize detour distances, the provision of temporary alternate pedestrian routes through or adjacent to the bridge construction work area shall be explored and accommodated to the extent feasible. <p><u>Plan Requirements and Timing.</u> The above measures shall be documented in the project conditions of approval and implemented prior to bike path closure as applicable during the entire construction period.</p> <p><u>Monitoring.</u> A City-appointed inspector shall inspect work in progress and ensure measures are implemented.</p> <p><u>Residual Impacts.</u> Successful implementation of these measures would reduce bike path impacts to a level of less than significant.</p>

**Table 2-2. Summary of Project-Specific Less than Significant (Class III)
Environmental Impacts**

DESCRIPTION OF IMPACT

Impact AES-1: Project construction activities would temporarily degrade public views from the Carpinteria Avenue corridor – Class III, less than significant.

Bridge demolition and construction would involve vegetation removal, the use and storage of heavy equipment and materials (soil, demolition debris, steel, etc.) which would temporarily degrade views from the Carpinteria Avenue corridor. Most areas affected by vegetation removal are located below the bridge elevation and not readily visible to motorists using Carpinteria Avenue and other public roads. However, heavy equipment activity and construction staging and storage areas would be visible to motorists using Carpinteria Avenue for much of the construction period.

Mitigation measures proposed to reduce construction noise (see Section 4.11.2.2) include temporary noise barriers which could block views. These barriers are anticipated to be approximately 10 feet high and located along the southern boundary of the construction area, beginning at Arbol Verde Street and extending west to the top of the western stream bank. In addition, a noise barrier would be required along the northwestern construction boundary to reduce construction noise at the recently approved Steadfast Assisted Living facility. The noise barriers would be visible to the public using Carpinteria Avenue; as intervening vegetation would be removed as part of bridge construction. Views of the noise barriers from Concha Loma Drive would be mostly obscured by intervening vegetation.

These construction-related impacts are considered adverse but less than significant because permanent blockage of public views would not occur, the visual character of the Carpinteria Avenue corridor would not be substantially impaired (as changes in scenic quality would be minor), and impacts would be temporary. In addition, views of the project site from Concha Loma Drive and nearby private land uses (Motel 6, office building, nearest residence) would be obscured by intervening vegetation.

Impact AQ-1: Demolition and construction activities would generate air pollutant emissions – Class III, less than significant.

Air pollutant emissions generated by construction activities would include exhaust emissions and wind-blown (fugitive) dust. Construction activities would involve clearing and grubbing, bridge demolition, stream diversion, installation of the new bridge foundations, construction of the new bridge, construction of the bike path and rock slope protection, and road improvements.

A summary of estimated peak day and annual (peak 12-month period) construction emissions is provided in Table 4.3-2. Although the SBCAPCD has not established thresholds of significance for construction emissions, 25 tons per year ROC or NO_x is used as a guideline. Note that project construction ROC or NO_x emissions would not exceed 25 pounds per day (motor vehicles only) or 25 tons per peak 12-month period (see Table 4.3-2).

Construction-related PM₁₀ emissions may cause or substantially contribute to local exceedances of the State PM₁₀ standard or cumulatively hinder progress towards attainment of the State PM₁₀ standard. In addition, dust generated by construction activities immediately adjacent to residences may be considered a nuisance and violates SBCAPCD Rule 303. Rule 303 prohibits the discharge of air contaminants which “cause injury, detriment, nuisance or annoyance to any considerable number of persons...” However, standard dust control measures required by the SBCAPCD will be included in the project’s construction specifications to ensure compliance with Rule 303.

Impact AQ-2: Construction-related emissions may contribute to violations of air quality standards – Class III, less than significant.

Although significance thresholds have not been established for construction emissions, project emissions have the potential to cause or substantially contribute to local exceedances of the State ozone standard or cumulatively hinder progress towards attainment of the State ozone standard. Therefore, standard ozone precursor emissions reduction measures provided by the SBCAPCD will be included in the project’s construction specifications.

Impact AQ-3: Construction-related diesel particulate emissions may increase health risk – Class III, less than significant.

The proposed project would generate short-term diesel exhaust emissions associated with heavy equipment usage, and truck transportation of construction materials. These emissions include diesel particulate matter, considered a toxic air contaminant. The amount of heavy equipment usage and number of diesel truck trips associated with project construction would be short-term and minimal in a regional context, such that the proposed project would have a less than significant contribution to public health risk. In a local context, the proposed project would represent a short-term contribution (2-year maximum) to public health risk associated with exposure to toxic air contaminants, as compared to a 70-year residential exposure assumed in health risk assessments. Therefore, diesel exhaust emissions and associated toxic air contaminants would not significantly increase health risk in the local community.

Table 2-2. Continued

DESCRIPTION OF IMPACT

Impact BIO-6: Project construction activities may adversely affect sharp-shinned hawk – Class III, less than significant.

This special-status species was not observed during field surveys of the BSA conducted for this project, but has been reported from the area as an uncommon winter visitor (Cachuma RCD et al., 2005). Sharp-shinned hawk is a winter visitor to the project area, and does not breed here. Approximately 0.95 acres of suitable foraging habitat (arroyo willow riparian forest) occurs within the project construction footprint and would be temporarily removed during bridge replacement. Construction-related disturbance (noise, dust, human activity) may also prevent foraging in the vicinity of the work area. Permanent impacts to sharp-shinned hawk foraging habitat would be approximately 0.10 acres. The small loss of foraging habitat as compared to that available in the region is not anticipated to adversely affect the population of sharp-shinned hawk.

Impact BIO-8: Project construction activities may adversely affect ringtail – Class III, less than significant.

This species has not been reported from the immediate project area and was not observed during field surveys of the BSA. Ringtail is known from the region, but is very secretive and could frequent the Carpinteria/Gobernador Creek riparian corridor. The proposed project would result in the temporary loss of 0.95 acres of arroyo willow riparian forest, which is considered suitable habitat for ringtail. Permanent impacts to ringtail habitat would be approximately 0.10 acres. Due to the small area affected as compared to the typical home range (100-1,300 acres), loss of this habitat is not anticipated to adversely affect the local ringtail population.

Impact BIO-12: Project construction activities may adversely affect wildlife movement along the Carpinteria Creek corridor – Class III, less than significant.

Carpinteria Creek appears to be used as a corridor by wildlife moving through the area as it provides habitat and cover in a suburban area. Habitat removal and construction-related disturbance may affect local wildlife movements. However, no barriers to wildlife would be involved and little work would occur at night when most wildlife movement occurs. Lighting may be required for short periods during the construction period to support critical tasks, and may adversely affect nighttime wildlife movement along Carpinteria Creek. However, such lighting would be shielded, directed on the work area and would be temporary (a few hours per night) and infrequent (only a few nights during the construction period). Therefore, impacts to wildlife movement are considered less than significant.

Impact BIO-13: Proposed lighting may adversely affect wildlife movement along the Carpinteria Creek corridor – Class III, less than significant.

Carpinteria Creek appears to be used as a corridor by wildlife moving through the area as it provides habitat and cover in a suburban area. The project may include street and sidewalk lighting along Carpinteria Avenue and lighting along the existing and proposed bike path under the bridge. Street and sidewalk lighting would be composed of fully shielded, downward focused low intensity fixtures. Although the project may result in an increase in lighting levels along Carpinteria Avenue, intervening vegetation would obstruct most of this light from reaching the streambed where wildlife movement generally occurs. Bike path lighting would be low intensity and focused on the bike path, while meeting minimum public safety requirements. The project site supports an existing bridge and major roadway such that wildlife is likely to have become accustomed to lighting, including existing street lights, headlights and exterior lighting of adjacent land uses. Overall, light-related impacts to wildlife movement would be less than significant.

Impact GHG-1: Demolition and construction activities would generate greenhouse gas emissions – Class III, less than significant.

Bridge demolition and construction of the new bridge and associated improvements would result in greenhouse gas emissions, primarily in the form of CO₂ exhaust emissions from the use of off-road construction equipment and on-road vehicles. Emissions of greenhouse gases from construction-related sources were estimated using CARB's EMFAC2007 Model and emission factors provided in the California Climate Action Registry General Reporting Protocol. Estimated peak 12-month period GHG emissions associated with demolition and construction activities is 459.0 metric tons of CO₂ equivalent (MTCO₂E) and are presented below in Table 4.6-1. GHG construction emissions amortized over the 50-year life of the project would be 9.2 MTCO₂E. Note that a small amount of indirect GHG emissions would result from decomposition of vegetation removed during bridge construction, and have not been quantified. These GHG emissions would be temporary because this vegetation would be replaced as part of the project and sequester GHG (CO₂) in the long-term. Construction GHG emissions would be less than the 10,000 MTCO₂E annual GHG threshold adopted for the project and are considered a less than significant impact to global climate change.

Table 2-2. Continued

DESCRIPTION OF IMPACT

Impact G-1: Liquefaction-related adverse effects may damage the proposed bridge and result in a geologic hazard to the public – Class III, less than significant.

Based on existing subsurface information and potential strong ground motions, alluvial soils present at the site are likely vulnerable to liquefaction, with adverse effects including liquefaction-related settlement, lateral movement, and moderate strength loss (Fugro, 2013). Deep foundations would be provided for the bridge abutments and piers to provide support from denser soils at depths below liquefiable zones, based on the recommendations of the project-specific Preliminary Geotechnical Report. Based on the proposed bridge design, these deep foundations would consist of large diameter cast-in-drill-hole piles to support the bridge abutments and piers. Use of these piles would provide adequate strength and stability and would avoid significant liquefaction-related impacts.

Impact HAZ-1: Demolition of the existing bridge may encounter asbestos-containing materials and result in public exposure to this hazard – Class III, less than significant.

Based on past testing of bridges in the area for the South Coast 101 HOV lanes project (Geocon, 2010), asbestos has been found in metal guard rail shim packing and drain pipe inserts. The existing Carpinteria Avenue Bridge does not include any metal guard rails or drain pipe inserts. Therefore, the potential for public exposure to asbestos is considered unlikely and a less than significant impact.

Impact WR-3: The project may cause increases in storm run-off – Class III, less than significant.

The project would include a wider bridge deck and roadway approaches, which would increase the area of impervious surfaces and may increase storm run-off. However, the project-related increase in run-off and flood water elevations would be negligible because the affected watershed area would be very small. In addition, storm water from Carpinteria Avenue near the bridge would be detained and treated prior to discharge to Carpinteria Creek (see Section 3.2.6). No increase in erosion and siltation would occur in Carpinteria Creek.

Impact LU-1: The project could result in land use conflicts with adjacent and nearby residential and commercial uses – Class III, less than significant.

The proposed project is a direct replacement of the existing bridge, at the same location and the same number of traffic lanes, using the same materials (concrete). Although the width and depth of the proposed bridge deck would be slightly greater than existing, no significant conflicts with allowed uses of adjacent parcels would occur. In addition, environmental impacts that may affect adjacent land uses such as aesthetics, air pollutant emissions, geology/soils, hazardous materials, water resources, noise and transportation would be less than significant or mitigation would be provided to reduce impacts to a level of less than significant (see Sections 4.1, 4.3, 4.7, 4.8, 4.9, 4.11 and 4.12).

Impact T-1: Project construction activities would generate vehicle trips that may cause traffic congestion – Class III, less than significant.

Construction activities may generate up to 50 one-way trips per day (light and heavy-duty vehicles), over the estimated 24-month construction period. Most of these trips would be associated with construction workers that would occur prior to a.m. and p.m. peak hour. It is estimated that up to five of these trips may occur during a.m. or p.m. peak hour. Based on 2006 traffic counts at the affected intersections, five peak hour trips represent less than 0.7 percent of the volume at these intersections. The proposed project would not cause an increase in volume/capacity ratios at affected intersections of 0.10 (10 percent), or contribute 10 peak hour trips at intersections forecast to operate at LOS E (Baillard Avenue/U.S. 101 southbound ramps) at the time project impacts would occur. Therefore, construction-related traffic impacts would be less than significant.

Impact T-2: The proposed project would result in the loss of seven parking spaces on Carpinteria Avenue – Class III, less than significant.

A total of 79 on-street parking spaces are located between City Hall and Casitas Pass Road, with 14 spaces in the immediate vicinity of the project site. Project-related roadway widening would result in the loss of seven of these 14 parking spaces, including six along the westbound lane (four to the east, and two to the west of the bridge) and one parking space along the eastbound lane (east of Arbol Verde Street). Space provided by removal of four on-street parking spaces east of the bridge would accommodate a proposed bus pull-out (see Figure 3-5). City staff collected data regarding the occupancy of these 14 parking spaces three times a day (generally 10 a.m., 2 p.m., 6 p.m.) for one week (March 2 through 8, 2015). Based on these data, the parking spaces along the westbound lane are rarely used, and an average of 1.6 of the three parking spaces along the eastbound lane are occupied. Therefore, the project-related loss of one of the parking spaces along the eastbound lane (leaving two) would allow the average demand to be met.

Land uses in the vicinity of these parking spaces to be removed are provided with off-street parking, including Motel 6 and office buildings at 5464 and 5565 Carpinteria Avenue. The project would improve traffic safety as proposed improvements would increase sight distance at the Carpinteria Avenue/Arbol Verde Street intersection and wider sidewalks and bike lanes would reduce conflicts with pedestrians and bicyclists. Since the on-street parking spaces are not critical to serving adjacent land uses and the project would provide a bus pull-out and improve traffic safety overall, the loss of these parking spaces is considered a less than significant impact.

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The project consists of the replacement of the Carpinteria Avenue Bridge, including associated roadway and bike path improvements. The Carpinteria Avenue Bridge (No. 51C-172) spans Carpinteria Creek within the City of Carpinteria, approximately 600 feet downstream of the U.S. 101 bridges, in Township 4 north, Range 25 west, Santa Barbara County, California (latitude 34.39352°N, longitude 119.51193°W) (see Figures 3-1 and 3-2).

3.2 PROJECT COMPONENTS

3.2.1 Basic Design

The proposed project consists of a three-span replacement bridge with an updated bridge width. The bridge superstructure would be approximately 2.67 feet-deep which would raise the bridge deck approximately two feet above the existing bridge deck elevation. The proposed project would utilize pile foundations at the abutments and at the two sets of intermediate piers. Approximately 230 to 270 feet of roadway work on each side of the bridge would be required for the roadway approaches as well as modifications to the existing cross streets and driveways to conform to the new roadway profile. Minor roadway re-striping would occur outside of these limits. The proposed bridge piers would be located outside the low flow channel of the creek. A bridge replacement plan is provided as Figure 3-3. Plan views of proposed roadway and bike path improvements are provided as Figures 3-4 and 3-5.

3.2.2 Bridge Deck

The proposed bridge would utilize the same traffic configuration as the existing bridge, except the sidewalk and shoulder/bike lanes would be widened, and a center turn lane would be provided. The proposed bridge deck would be 67.5 feet-wide (about 14 feet wider than existing), comprised of eight-foot-wide sidewalks, five-foot-wide shoulder/bike lanes, two 12-foot-wide traffic lanes, and a 14-foot-wide center turn lane (see Figure 3-3).

The current project design does not include any specific aesthetic features such as decorative bridge barriers (rails) or concrete colors or textures. However, it is anticipated that some type of see-through barrier and aesthetic concrete finishing (texturing, staining) would be incorporated into the project following recommendations for approval by the City's Architectural Review Board. Note that the project (with possible aesthetic treatments) was presented to the Architectural Review Board at a conceptual level on February 12, 2015.

3.2.3 Bike Path Improvements

Currently, a Class I bike path extends from the western terminus of Via Real, crosses to the west side of Carpinteria Creek, passes under U.S. 101 and terminates at Carpinteria Avenue immediately northwest of the bridge deck. The proposed project includes reconstructing approximately 330 linear feet of this bike path north of the existing bridge, to conform to the proposed slightly higher bridge deck (and roadway approach) elevation.

A new 525-foot-long bike path is proposed that would extend south from the existing bike path, pass under the new bridge near the western abutment, then turn right to parallel Carpinteria Avenue and terminate at the eastbound bike lane on the south side of Carpinteria Avenue. The new bike path would be paved with asphalt concrete, approximately 10 feet wide and provided with a retaining wall on the stream side of the bike path (see Figures 3-3 and 3-4). Although the new bike path is included as part of the proposed project, it is uncertain if this project component would be implemented.

3.2.4 Bridge Scour Protection

Rock slope protection would be provided immediately upstream and downstream of the new bridge abutments as scour protection from storm flows. The design of the scour protection has not been completed, but a conservative estimate of 100 linear feet on the east and west bank, both upstream and downstream of the bridge has been used for the purpose of impact analysis. Up to 3,000 cubic yards of 200 pound (light) rock would be used to construct the rock slope protection with a thickness of two feet six inches and slope length of up to 80 feet. The rock slope protection would extend up to the 100-year water surface elevation (38 feet above mean sea level [msl]), and extend below the streambed elevation to minimize undermining during storm flows. The rock slope protection would be covered with approximately two feet of soil to facilitate planting native vegetation as part of habitat restoration.

3.2.5 Lighting and Landscaping

A lighting plan would be developed as part of final engineering design and has not been completed to date. Based on a preliminary concept plan, lighting may be provided along the proposed sidewalk, along the existing, reconstructed bike path and along the proposed bike path extension under the bridge. Sidewalk lighting would be composed of fully shielded, downward-focused low intensity fixtures consistent with ongoing City streetscape renovation efforts. Bike path lighting would be provided to meet minimum public safety standards and consist of low intensity fixtures focused on the bike path.

A schematic landscaping plan has been prepared for the project, which addresses proposed planting along the sidewalk on the bridge approaches and integration with riparian habitat replacement within Carpinteria Creek. Trees and shrubs to be planted along the roadway may include golden-rain tree, canyon sparkles manzanita and Cedros Island verbena, and would complement prior streetscape renovation efforts along Carpinteria Avenue.

3.2.6 Storm Water Management

The proposed project would include facilities to address storm water run-off reduction, storm water treatment, run-off retention and management of peak run-off flows as required by the RWQCB under Resolution no. R3-2013-0032. At this time, the design of these facilities has not been completed. However, storm drain outlets into Carpinteria Creek from Carpinteria Avenue near the bridge would be provided with bio-swales/vegetated basins to detain and treat storm water run-off.

Preliminary locations of these bio-swales/vegetated basins include the upper stream bank near the southeastern and northeastern corners of the bridge, the area between the existing and proposed bike paths and the area immediately adjacent to the proposed bike path. The total area of these bio-swales/vegetated basins would be approximately 2,000 square feet.

3.3 CONSTRUCTION

3.3.1 Schedule and Timing

Construction of the proposed project is anticipated to take two construction seasons to complete. The approximately 24-month construction period is planned to begin in spring 2017. It is anticipated that work in the streambed of Carpinteria Creek would be limited to the dry season (May through November), with temporary diversion of the low flow channel to accommodate bridge construction. The Project Impact Area (PIA) is identified in Figure 3-1, and includes the construction disturbance area for the proposed project.

3.3.2 Clearing and Grubbing

All vegetation conflicting with bridge demolition and construction within the PIA would be removed, including tree trimming as necessary for vertical clearance. In addition, any fencing and other obstructions at the corners of the bridge would be removed. All work would be within the permitted limits of disturbance.

3.3.3 Bridge Demolition

The selected construction contractor would prepare and submit for approval a bridge demolition plan, including creek diversions/bypass details in conformance with environmental permits. The existing bridge would be entirely demolished using heavy equipment to remove the existing concrete structure, stockpile recovered materials and transport debris off-site. Tarps (or equivalent methods) would be used to prevent demolition-related debris from entering the streambed. All concrete and other debris resulting from the demolition of the existing bridge would be removed from the project site and properly disposed of by the contractor, including recycling as appropriate. The existing bike path would be closed as needed to allow demolition activities to proceed.

3.3.4 Staged Construction

During construction, Carpinteria Avenue would remain open to traffic. Bridge construction would be conducted in phases to maintain access, with Stage 1 generally representing the first year of construction and Stage 2 representing the second year. Five generalized construction phases are proposed:

- Stage 1A: Divert all traffic to the south side of the bridge deck, demolish the northern portion of the existing bridge.
- Stage 1B: Construct the northern portion of the new bridge.
- Stage 2A: Divert all traffic to the new north side of the bridge deck, demolish the southern portion of the existing bridge.
- Stage 2B: Construct the southern portion of the new bridge.

- **Final Stage:** Construct the closure pour to tie the two new bridge sections together.

The first stage of construction would be to shift all traffic to the south side of the existing bridge while the northern portion is demolished and the new portion constructed. The second stage of construction would be to switch traffic to the newly constructed northern portion of the bridge and demolish the remaining portion of the existing bridge on the southern side and construct the new southern portion. The final stage of construction involves a closure pour to tie the northern and southern portions of the new bridge together, and completion of the new bike path. The center lane would also be striped at this time. The preliminary construction staging plan is provided as Figure 3-6. During the entire construction period, two traffic lanes and one sidewalk would remain open.

The existing bike path along the west side of Carpinteria Creek north of the bridge would be closed when bridge demolition is initiated and re-opened following the completion of Stage 1B. Therefore, bike path closure would be limited to the first year of construction and mostly occur during the dry season, as Stage 1 requires instream work.

3.3.5 Stream Diversion

Diversion of the low flow channel of Carpinteria Creek would be required during the construction period to minimize adverse effects on water quality and aquatic species. Stream diversion methods may include the use of water bladders, sandbags, sheet piling, pipes, coffer dams, or other structural methods approved by the project engineer, City of Carpinteria, California Department of Fish and Wildlife and U.S. Army Corps of Engineers. All stream diversion activities would be contained within the permitted area of disturbance. The operational timeline for the stream diversion would be defined in the project permits from the resource agencies.

3.3.6 New Bridge Foundations

The replacement bridge foundations would be supported by cast-in-drilled-hole (CIDH) concrete piles. Excavation for the abutments and piers would be approximately eight to 10 feet deep. The CIDH pile construction may require the use of high density drilling slurry and/or temporary casings. If drilling slurry is used, the contractor would be required to have a contingency plan in place before drilling operations begin, in the event there is a blow out during drilling and drilling fluid is spilled into the creek. While drilling operations are underway, the creek would be dewatered near the drilling operations with a stream diversion in place. Prior to construction, a drilling plan will be prepared and submitted by the contractor for approval in conformance with applicable permits and environmental measures and conditions. Any drilling slurry from the CIDH pile construction would be contained and properly disposed of offsite.

3.3.7 New Bridge Construction

The new bridge would require false-work to be erected on temporary steel and timber supports within the streambed. Forms would be constructed on the false-work, and then concrete and reinforcement placed for the new bridge. False-work would then be removed from the streambed and concrete surfaces finished. The stream diversion would not be removed until all the concrete has been sufficiently cured and finished and the false-work has been removed.

The bridge sidewalks, barriers, roadway approaches, rock slope protection and bike path would then be completed. Backfill behind abutments and roadway base materials would be placed and the roadway prepared for final surfacing. Potential contractor site access and lay down areas are included in the PIA shown in Figure 3-1.

3.3.8 Utilities

Both existing underground and overhead utilities are present at the project site. Underground utilities include communication, water, gas, and electrical lines. A sewer line is also present at the site and was bored under the creek in 2012 under the existing bridge piles, and would be protected in place during construction of the new bridge. The other underground utilities are in conflict with the bridge demolition and construction and would need to be cleared from the work site by the utility owners prior to construction. The new bridge would accommodate as many underground utilities as practical within the bridge for those utility companies that request accommodation. The overhead electrical lines on the northern side of the bridge would need to be cleared from the site prior to construction as they conflict with construction activities. These overhead electrical lines can be accommodated within the existing City right-of-way north of the bridge if requested by the utility company. The overhead telecommunication lines on the south side of the bridge also conflict with construction activities and would be cleared from the site prior to construction. These communication lines potentially can be accommodated within the new bridge or accommodated overhead within the City right-of-way if requested by the service providers. In general, the City would encourage utility companies/service providers to place utility lines underground when replacing lines that were re-located to accommodate project construction.

3.3.9 Right-of-Way

No permanent right-of-way acquisitions are anticipated for this project. Temporary right-of-way impacts to adjacent parcels may include temporary construction easements for parcels:

- APN 001-070-065
- APN 001-070-066
- APN 001-070-055
- APN 001-070-039
- APN 001-070-008
- APN 001-070-031
- APN 001-070-029
- APN 003-280-006
- APN 003-280-017

APN 001-070-065 may be used as a potential temporary construction staging area. Either a temporary construction easement or a right to enter and construct would be secured at each driveway location for work outside the City right-of-way, depending on the extent of construction work. Temporary construction staging areas would be restored to pre-construction conditions.

3.4 CUMULATIVE PROJECTS

Section 15130 of the State CEQA Guidelines requires a discussion of cumulative impacts, and determination of the project's contribution to identified cumulative impacts. The project's contribution must be viewed when added to the effects of past projects, the effects of other current projects and the effects of reasonably foreseeable future projects.

The discussion of cumulative impacts must reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great of detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary for an adequate discussion of significant cumulative impacts:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency.

The cumulative impacts discussion of this EIR is based on a list of other projects that may generate impacts to which the proposed project may also incrementally contribute. The following is a list of other projects in the Carpinteria area that may be implemented at about the same time as the proposed project.

3.4.1 City of Carpinteria

The following projects were recently (as of January 2016) approved by the City:

- Carpinteria Valley Arts Center: New 7,911 square foot center.
- Lagunitas Mixed Use: 85,000 square foot office building.
- Dorrance Way Group SFD: One new single-family dwelling unit.
- Gonzales Condominiums: Demolish one unit, construct 4 new condominium units.

- M3 Mixed Use Building: New 6,488 square foot commercial building and two apartment units.
- Olverd SFD: One new single-family dwelling.
- MTI Capital, Inc. SFD I: One new single-family dwelling.
- MTI Capital, Inc. SFD II: One new single-family dwelling.
- Steadfast Assisted Living: Convert existing office building into a 76-bed assisted living facility.
- Island Brewing Company Expansion: Convert warehouse to brewery/tasting room and expand patio.
- Sanctuary Beach Condominiums: 4 new condominium units.
- Ellinwood/Green Heron Spring: demolish one unit, construct 30 new condominiums.
- Gobbell second unit: construct one new residential unit.
- 699 Linden Avenue Restaurant: remodel, 136 square feet addition.

The following projects are currently (as of January 2016) under review by the City:

- Venoco Paredon Project: Drilling and production of up to 35 oil & gas wells at the existing Carpinteria Oil & Gas Processing Facility.
- Schildnecht SFD: One new single-family dwelling.
- Wood Residence: One new single-family dwelling.
- Cruz Mixed Use: Two one-bedroom apartments and 500 square feet of commercial space.
- Punto de Vista Mixed Use: demolish 46,044 square feet, construct 76,000 square feet of commercial uses and 49 residential units.
- Habitat for Humanity triplex: construct three new condominiums.
- Hawkins SFD: construct one new single-family residential unit.

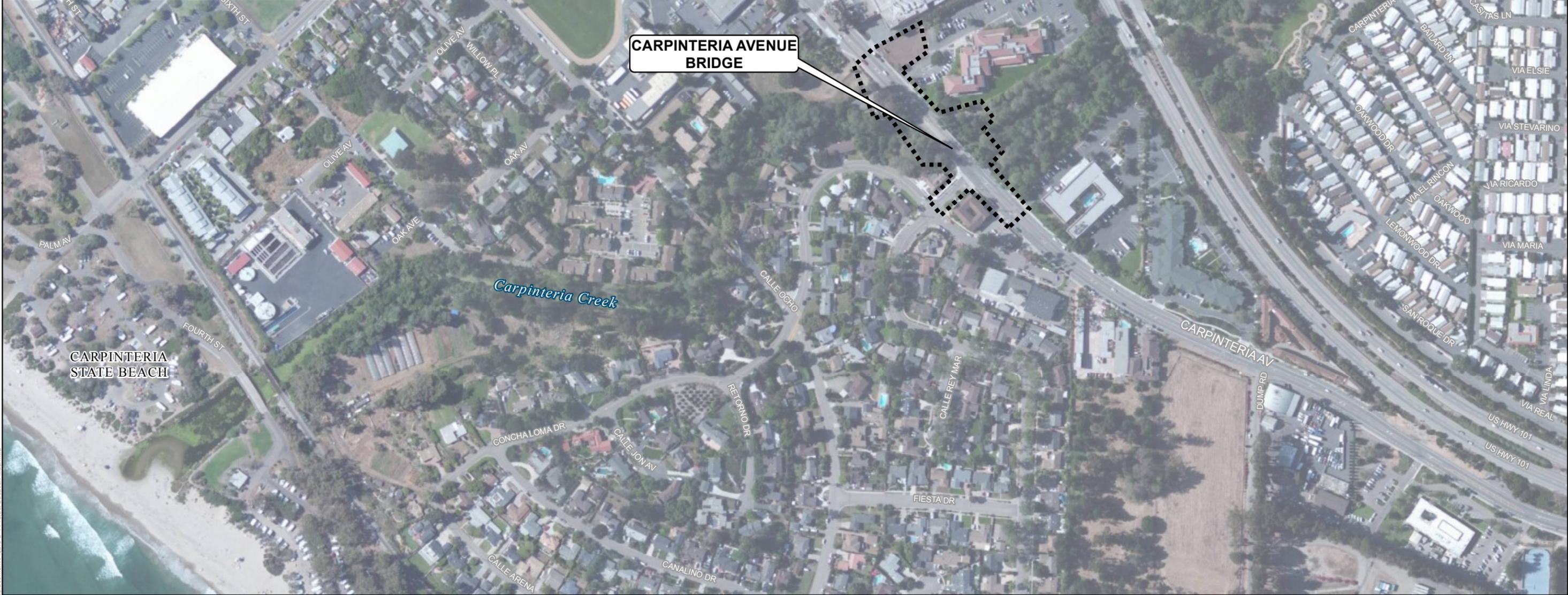
3.4.2 Santa Barbara County

The following projects are under review by the Santa Barbara County Planning & Development Department:

- Cate School Master Plan: Six faculty residences, student dormitories, classrooms, student center, squash pavilion and multi-purpose building at 1970 Lillingston Canyon Road, Carpinteria.
- Adizes Graduate Institute: 5,073 square foot graduate school within an existing structure at 1202 Mark Avenue, Carpinteria.

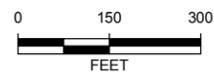
3.4.3 California Department of Transportation

Linden Avenue-Casitas Pass Road Interchanges Project: Operational improvements to U.S. 101 including reconstructing the Linden Avenue and Casitas Pass Road interchanges, reconfiguring on-ramps and off-ramps, replacing the bridges over Carpinteria Creek, extending the Via Real frontage road and adding a new bridge over Carpinteria Creek at Via Real. This project is anticipated to begin construction in 2017, which would be ongoing during construction of the proposed project.



LEGEND:

 Project Impact Area



Source: ESRI Online Basemap, Aerial Imagery, County of Santa Barbara
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only



PROJECT NAME: CARPINTERIA AVENUE BRIDGE REPLACEMENT CARPINTERIA, CA	
PROJECT NUMBER: 1302-1391	DATE: March 2015

PROJECT LOCATION MAP

**FIGURE
3-1**

E:\mst\GIS\Mapas\Mapa_Projeto\Carp_Ave_Bridge_Replacement\Figure_3-1_Project_Location_Map.mxd

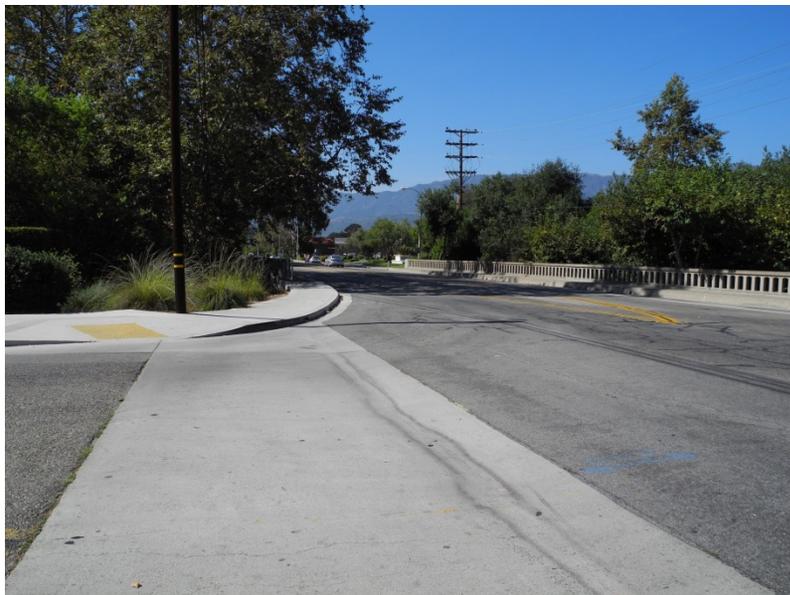
Back of Figure 3-1



a. Medical office building and residence southeast of existing bridge



b. Motel 6 northeast of the existing bridge



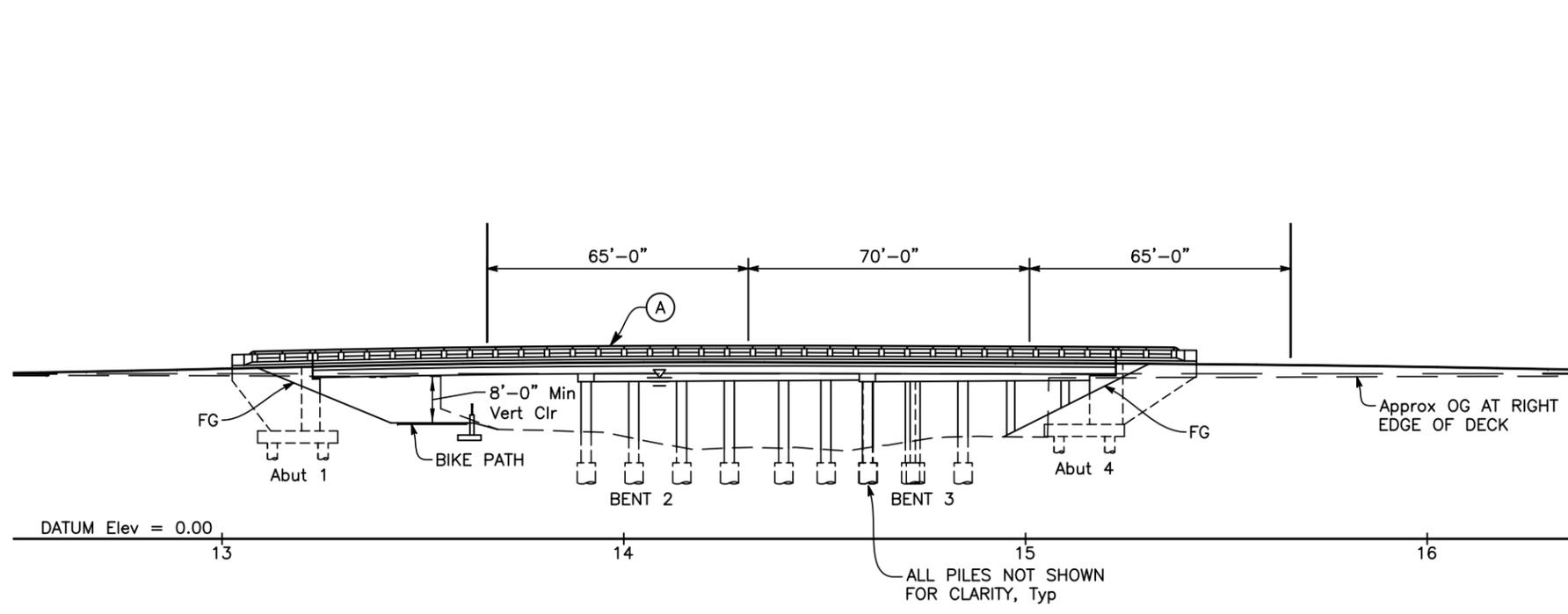
c. East of existing bridge, looking west, note bridge rail



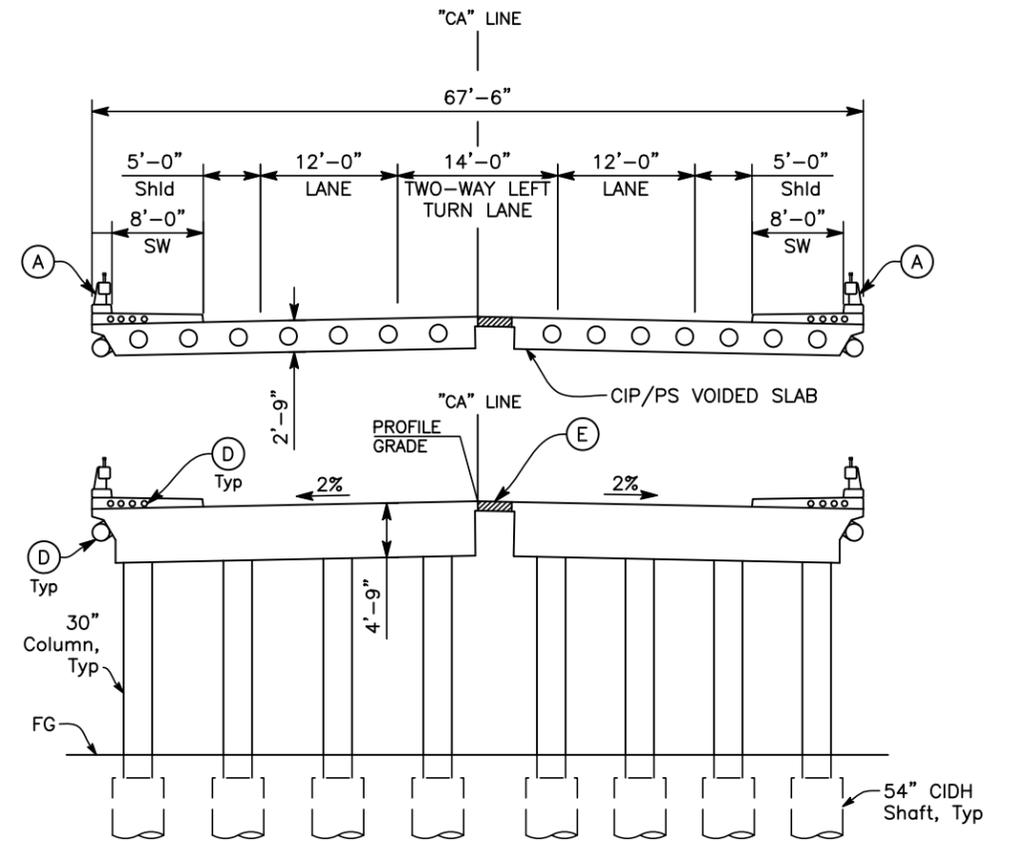
d. West of existing bridge, looking east, note office building to left

**VIEWS OF THE PROJECT SITE FROM CARPINTERIA AVENUE
FIGURE 3-2**

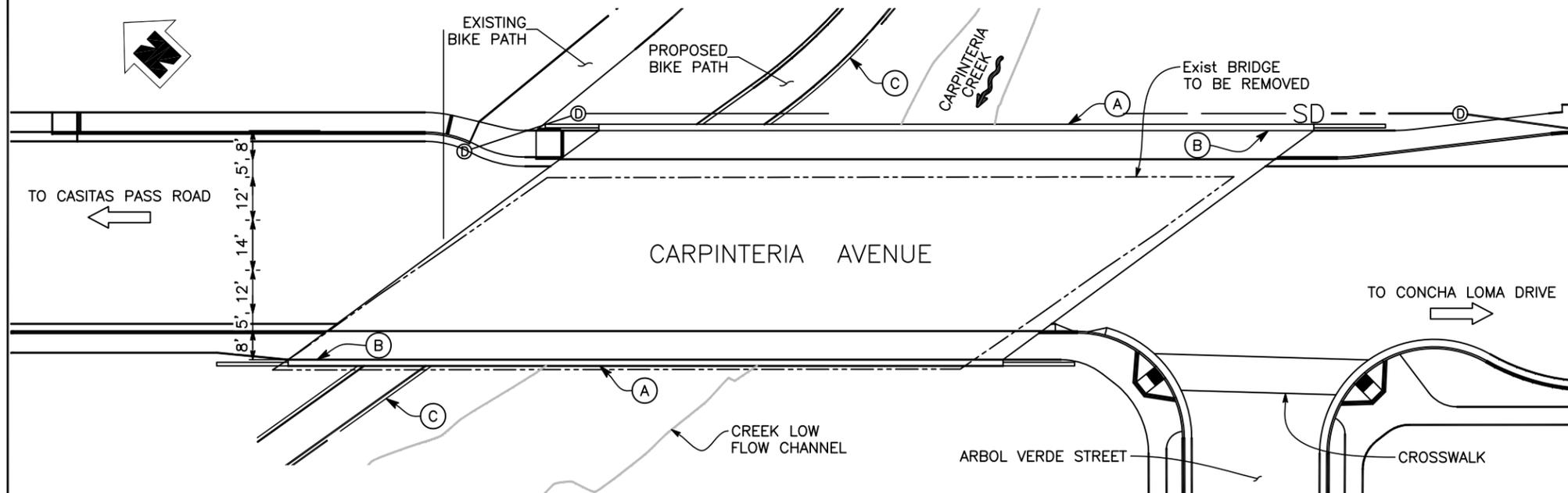
Back of Figure 3-2



ELEVATION
1" = 40'



TYPICAL SECTION
1/8" = 2'-0"



PLAN
1" = 40'

LEGEND:

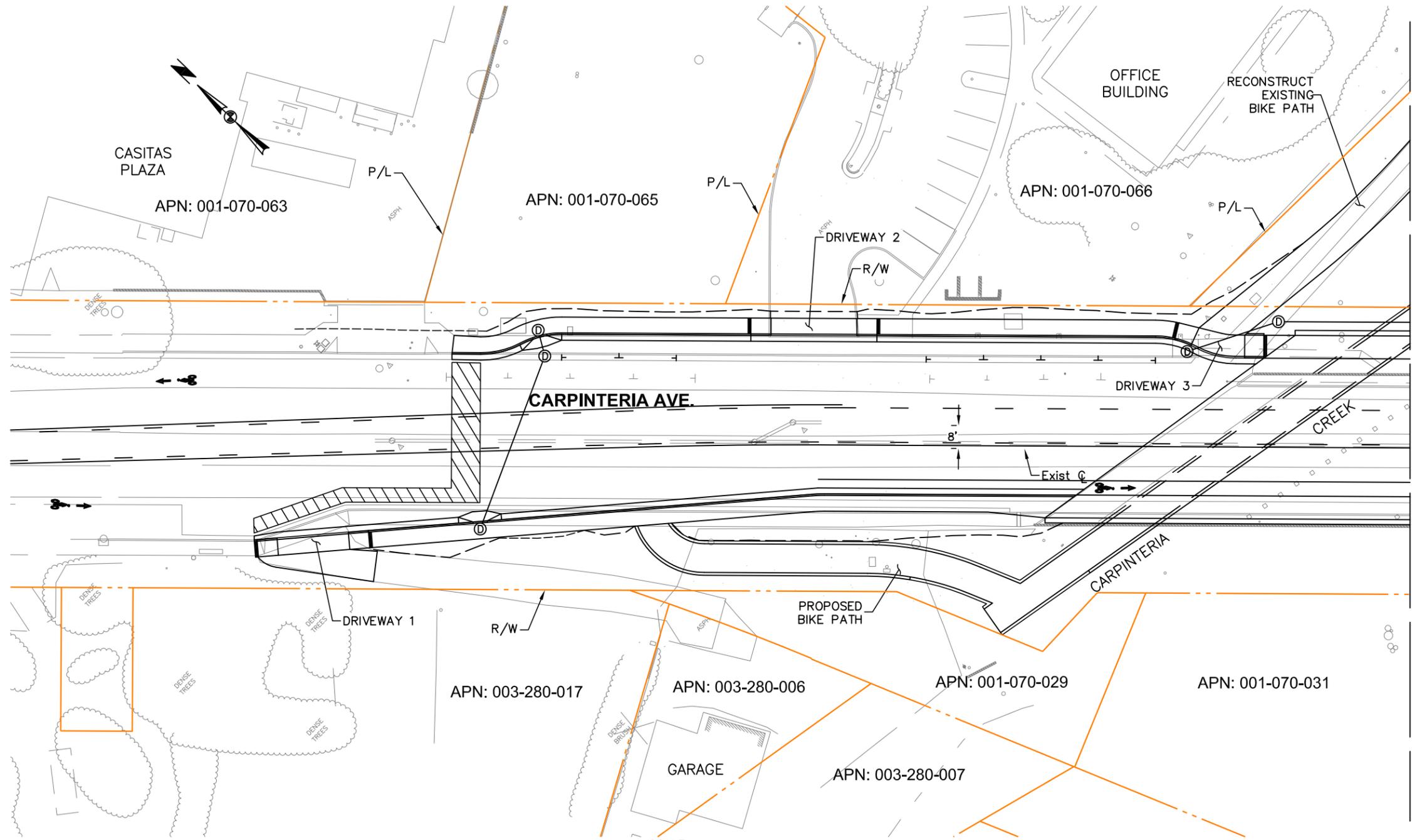
- Indicates Direction of Water Flow
- Indicates Direction of Traffic
- Indicates Existing Bridge
- 100 Yr Water Surface Elevation (40.00)

NOTES:

- (A) Aesthetic Concrete Barrier
- (B) Paint Bridge Number, Year Completed, and "Carpinteria Creek Bridge"
- (C) Retaining Wall
- (D) Relocated/Future Utilities (TBD)
- (E) Closure Pour

Source: Drake Haglan and Associates

Back of Figure 3-3



MATCH LINE, FIGURE 3-5

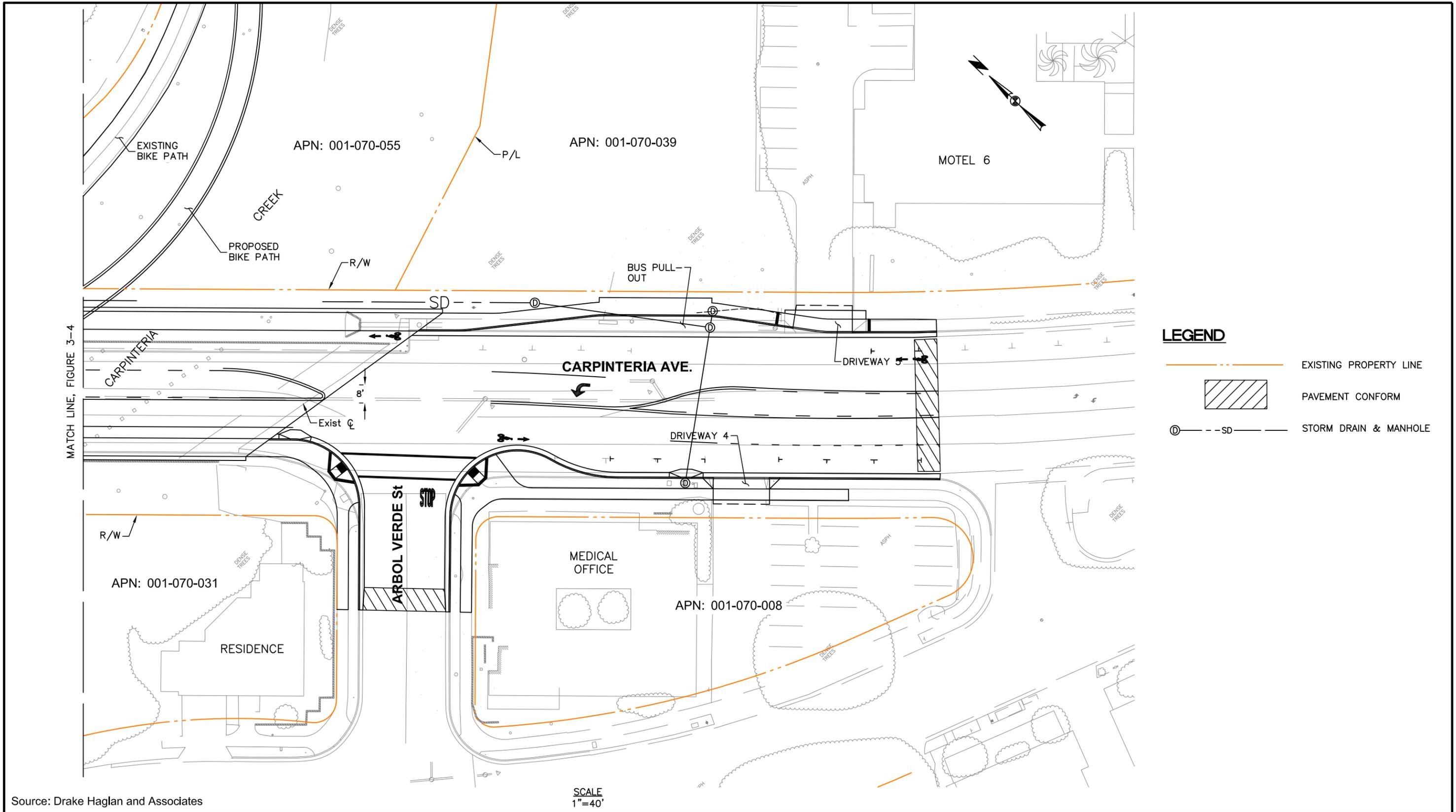
LEGEND

- | | | | |
|--|------------------------|--|-----------------------|
| | CUT | | PAVEMENT CONFORM |
| | FILL | | STORM DRAIN & MANHOLE |
| | EXISTING PROPERTY LINE | | |

SCALE
1"=40'

Source: Drake Haglan and Associates

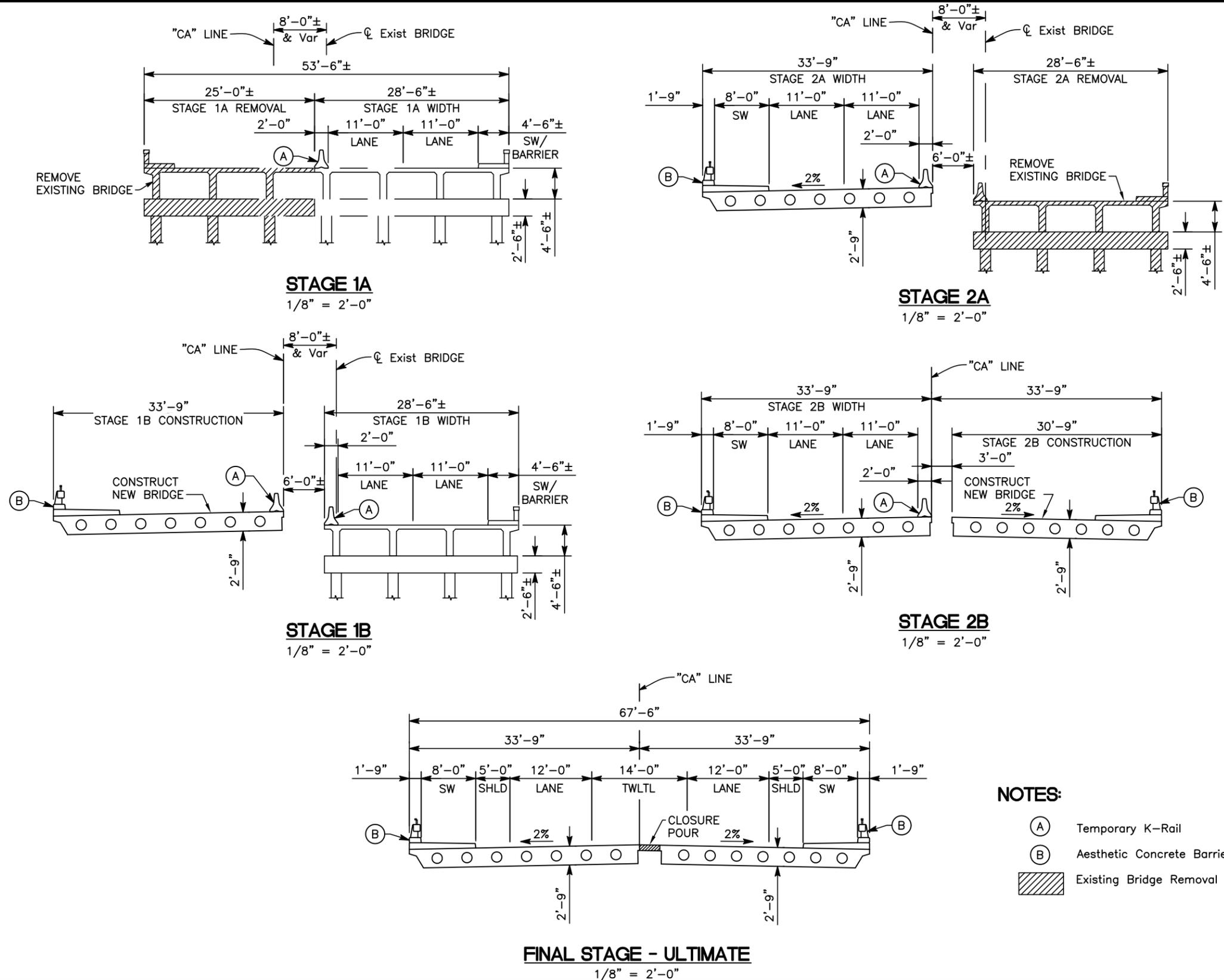
Back of Figure 3-4



Source: Drake Haglan and Associates

SCALE
 1"=40'

Back of Figure 3-5



Source: Drake Haglan and Associates

Back of Figure 3-6

4.1 AESTHETICS

4.1.1 Setting

4.1.1.1 City Overview

As described in the City's General Plan/Coastal Land Use Plan, the City of Carpinteria is afforded views of the Santa Barbara Channel and Santa Ynez Mountains, including outstanding panoramic views of the Channel Islands. Other features contributing to the City's visual environment include marshes, creeks, bluffs, beaches, parks and agriculture. The Carpinteria Bluffs are considered an important viewing area, including trails along the bluffs. Preservation of these views is important to the City to establish community identity and provide visual access to landforms, urban forms and environments that are familiar to local residents and unique to the City.

Significant visual resources as noted in the City's General Plan which have aesthetic value include:

- Views of coastal bluffs, creeks, estuaries and mountains;
- Parks and recreation areas;
- The El Estero Marshlands (Carpinteria Salt Marsh);
- The Carpinteria Bluffs area;
- All of the shoreline areas;
- Vacant parcels throughout the City; and
- Agricultural lands.

4.1.1.2 Local Visual Environment

Figure 3-2 provides photographs of the project site from Carpinteria Avenue, the primary public area with views of the bridge site. Carpinteria Avenue extends through most of the City, and is generally lined with buildings, which mostly obstructs views of the ocean. However, the ocean can be seen from portions of Carpinteria Avenue east of Dump Road and at the southbound Carpinteria Avenue U.S. 101 off-ramp near the Carpinteria Salt Marsh. A very brief view of the Carpinteria Salt Marsh is also available from this off-ramp. Generally, the visual setting along Carpinteria Avenue can be described as semi-rural, small town, with older smaller buildings and mature landscaping. Carpinteria Creek is the primary creek corridor in the City, as Santa Monica Creek and Franklin Creek are both channelized. Existing overhead utility lines cross Carpinteria Creek immediately upstream and downstream of the Carpinteria Avenue bridge. Several utility poles are located in close proximity to the bridge and are sometimes partially obscured by riparian trees. The mature riparian vegetation of Carpinteria Creek imparts a park-like setting to adjacent residential areas (see Figure 4.1-1), including the Concha Loma neighborhood. Some of the riparian trees closest to the bridge; however, require regular topping or pruning to minimize conflicts with overhead utility lines.

There are no State, County or City-designated scenic resource areas with views of the project site. However, City creeks (including Carpinteria Creek) and the Santa Ynez Mountains are considered visual resources, and potential subjects for scenic views. Views of the project site are not available from any eligible or designated scenic highways, including nearby U.S. 101 (eligible scenic highway). Preservation of views of the ocean from Carpinteria Avenue is a policy of the City's General Plan/Coastal Land Use Plan. However, ocean views are not available from the subject bridge site.

Based on concerns expressed on other projects (Eighth Street Bridge, Linden Avenue-Casitas Pass Road Interchanges Project), the local community has a high degree of sensitivity to alteration of the aesthetic qualities of the project area.

4.1.1.3 Applicable Standards

City objectives and policies related to visual resources and aesthetics are provided in the Open Space, Recreation & Conservation Element of the General Plan/Coastal Land Use Plan. Applicable objectives and policies are discussed in Section 4.10.2.3, Land Use.

4.1.2 Impacts and Mitigation Measures

4.1.2.1 Significance Thresholds

The City has developed an Environmental Thresholds Manual which includes the following guidance to determine the significance of an impact to aesthetics.

Views. Projects that would impair public views from designated open space (public easements and right-of-way), roads, or parks to significant visual landmarks or scenic vistas (Pacific Ocean, downtown skyline, mountains, waterways) are considered to have a significant aesthetics impact. To meet this significance threshold, one or more of the following conditions must apply:

- The project would substantially impair a view through a designated public view corridor as shown in an adopted community plan, the General Plan or the Coastal Plan. Minor view blockages would not be considered to meet this condition. In order to determine whether this condition has been met, consider the level of effort required by the viewer to retain the view.
- The project would cause "substantial" view impairment of a public resource (such as the ocean) that is considered significant by the applicable community plan.
- The project exceeds the allowed height or bulk regulations, and this excess caused unnecessary view impairment.
- The project would have a cumulative effect by opening up a new area for development, which will ultimately cause "extensive" view impairment. View impairment would be considered "extensive" when the overall scenic quality of a resource is changed; for example, from an essentially natural view to a largely man-made appearance.

Neighborhood Character/Architecture. Projects that severely contrast with the surrounding neighborhood character are considered to have a significant aesthetics impact. To meet this significance threshold, one or more of the following conditions must apply:

- The project exceeds the allowed height or bulk regulations and existing patterns of development in the surrounding area by a significant margin.
- The project would have an architectural style or use building materials in stark contrast to adjacent development, where the adjacent development follows a single or common architectural theme.
- The project would result in the physical loss or degradation of a community identification symbol or landmark (e.g., a stand of trees, coastal bluff, historic landmark) which is identified in the General Plan, applicable community plan or Local Coastal Program.
- The project is located in a highly visible area (e.g., adjacent to an interstate highway) and would strongly contrast with the surrounding environment through excessive bulk, signage or architectural projections.
- The project would have a cumulative effect by opening up a new area for development or changing the overall character of the area (e.g., rural to urban, single-family to multi-family).

4.1.2.2 Project-Specific Impacts

Impact AES-1: Project construction activities would temporarily degrade public views from the Carpinteria Avenue corridor – Class III, less than significant.

Bridge demolition and construction would involve the use and storage of heavy equipment and materials (soil, demolition debris, steel, etc.) which would temporarily degrade views from the Carpinteria Avenue corridor. Construction activities would alter the visual character and reduce the scenic quality of views of motorists and pedestrians using Carpinteria Avenue for much of the construction period.

Mitigation measures proposed to reduce construction noise (see Section 4.11.2.2) include temporary noise barriers which could block views. These barriers are anticipated to be approximately 10 feet high and located along the southern boundary of the construction area, beginning at Arbol Verde Street and extending west to the top of the western stream bank. In addition, a noise barrier would be required along the northwestern construction boundary to reduce construction noise at the recently approved Steadfast Assisted Living facility. The noise barriers would be visible to the public using Carpinteria Avenue, as intervening vegetation would be removed as part of bridge construction. Views of the noise barriers from Concha Loma Drive would be mostly obscured by intervening vegetation.

These construction-related impacts are considered adverse but less than significant because permanent blockage of public views would not occur, the visual character of the Carpinteria Avenue corridor would not be substantially impaired (as changes in scenic quality would be minor), and impacts would be temporary. In addition, views of the project site from Concha Loma Drive and nearby private land uses (Motel 6, office building, nearest residence) would be obscured by intervening vegetation.

Mitigation Measures: None required.

Impact AES-2: The larger mass of the proposed bridge and proposed tree removal would degrade public views from the Carpinteria Avenue corridor – Class II, significant but mitigable.

The proposed replacement bridge deck would be approximately 14 feet wider and approximately 2.7 feet higher than the existing bridge deck. In addition, the roadway approaches on both sides of the bridge would be wider and higher to match the new bridge elevation. Figures 4.1-1 and 4.1-2 provide a visual simulation of the proposed wider and elevated bridge deck, as compared to existing conditions. As shown in Figure 4.1-2, the elevated bridge deck would slightly obstruct views along Carpinteria Avenue. However, this effect would be limited to the immediate vicinity of the bridge.

View impacts associated with a larger bridge are considered adverse but less than significant because blockage of public views would not occur, the visual character of the Carpinteria Avenue corridor would not be substantially impaired (as changes in scenic quality would be minor), and no height or bulk restrictions would be exceeded. In addition, views of the new bridge from adjacent private land uses (Motel 6, office building, nearest residence) would be obscured by intervening vegetation.

The removal of approximately 95 trees (see Table 4.4-5) and adjacent vegetation would substantially reduce the scenic quality of Carpinteria Creek as viewed by motorists and pedestrians on Carpinteria Avenue, and users of the Carpinteria Creek bike path. Although natural colonization of riparian vegetation would occur, this process would require several decades to restore the scenic quality and visual character of the project site. Additionally, the proposed rock slope protection on the banks near the bridge would permanently displace areas that could be planted or colonized by riparian vegetation.

The existing riparian canopy immediately upstream and downstream of the bridge partially screens and obscures existing overhead utility lines that cross Carpinteria Creek and associated utility poles placed in, or near, the creek corridor. However, some of these trees are periodically topped or pruned by the utility providers to avoid conflicts with overhead utility lines, which somewhat detracts from the visual quality of the trees and results in loss of canopy.

Removal of the riparian vegetation would result in any remaining overhead utility lines that cross the creek becoming more visually prominent. This is considered a temporary aesthetic impact because restoration tree plantings in the project area would screen and obscure utilities once they are mature.

Therefore, the aesthetic impact associated with vegetation removal required for project construction is considered potentially significant.

Mitigation Measures: See mitigation measures provided for impacts to riparian habitat (Impact BIO-1) and tree removal (Impact BIO-2) in Section 4.4.

Residual Impacts. Successful implementation of these measures would reduce aesthetic impacts to a level of less than significant.

Recommended Optional Mitigation Measure: While it is not required to mitigate the Impact AES-2, this optional recommended mitigation measure, if implemented, would further enhance the visual character of the project area.

Overhead utility lines within and adjacent to the project impact area should be placed underground or within the bridge structure and above-ground poles and lines should be removed, as feasible. Priority should be given to overhead utilities that cross the Carpinteria Creek corridor and the associated utility poles located closest to the creek.

Plan Requirements and Timing. The City shall consult and coordinate utility relocation and possible undergrounding with the utility service providers. If undergrounding of utilities is found to be feasible, a utility undergrounding plan shall be developed and approved prior to initiation of construction. The plan shall be implemented as part of utility relocation conducted by utility service providers during construction.

Monitoring. Relocation of overhead utilities shall be monitored by the City-appointed construction inspector.

Impact AES-3: The larger mass of the proposed bridge and architectural treatments would contrast with the surrounding neighborhood character – Class II, significant but mitigable.

As discussed under Impact AES-2, the replacement bridge would be larger than the existing bridge. The increased mass and scale of the bridge may be noticeable and considered more urban by some residents. While the architectural treatment of the bridge barriers (rails), concrete colors and textures and other features would be developed in coordination with the City's Architectural Review Board to be consistent with the neighborhood character, the proposed increase in bridge width and height and removal of vegetation from around the bridge to accommodate construction would significantly degrade the visual character of the area.

Carpinteria Creek and its riparian corridor are considered important visual resources in the City's General Plan/Coastal Land Use Plan. The existing bridge is surrounded by mature riparian vegetation, including several large specimen trees. The project-related removal of these trees would result in a more urban visual character, which would exacerbate degradation of the visual character of the area associated with the larger bridge structure.

Mitigation Measures: See mitigation measures provided for impacts to riparian habitat (Impact BIO-1) and tree removal (Impact BIO-2) in Section 4.4, which would help obscure the larger bridge structure and restore the visual character associated with mature riparian vegetation along the bridge.

Residual Impacts. Successful implementation of these measures would reduce aesthetics impacts to a level of less than significant.

Impact AES-4: Project-related lighting may result in nighttime glare, degrade nighttime views and impart an urban element to the local community – Class II, significant but mitigable.

Lighting may be required for short periods during the construction period to support critical tasks. However, such lighting would be shielded, directed on the work area and would be temporary (a few hours per night) and infrequent (only a few nights during the construction period). Construction lighting is not anticipated to cause glare or substantially degrade nighttime views, or alter the semi-rural qualities of the project area. Therefore, construction lighting would have a less than significant aesthetics impact.

Proposed sidewalk lighting may increase nighttime illumination levels. However, this lighting would be directed downwards, use the minimum necessary illumination (lumens), would be consistent with other City streetscape renovation efforts and is unlikely to substantially alter the semi-rural qualities of the project area. Only one residence is located in proximity to proposed sidewalk lighting (at the Carpinteria Avenue/Arbol Verde Street intersection), but would be shielded by existing trees and proposed landscaping. Bike path lighting would be low intensity and focused on the bike path, and is unlikely to substantially affect adjacent land uses. Since a lighting plan has not been completed for the project, lighting-related impacts are not fully known and considered potentially significant.

Mitigation Measures: Sidewalk and bike path lighting shall be designed and installed to minimize nighttime glare, degradation of nighttime views and comply with Policy CD-13 of the City's General Plan/Coastal Land Use Plan to the extent feasible, while meeting public safety requirements. Lighting designs shall consider low intensity fixtures, full cut-off dark sky fixtures, shielding to focus lighting and fixture placement to avoid significant lighting impacts.

Plan Requirements and Timing. A lighting plan shall be developed and approved prior to the initiation of construction. The plan shall be fully implemented during construction.

Monitoring. Installation of lighting shall be monitored by the City-appointed construction inspector.

Residual Impacts. Successful implementation of these measures would reduce lighting-related aesthetics impacts to a level of less than significant.

4.1.2.3 Cumulative Impacts

Other proposed projects located on Carpinteria Avenue (M3 Mixed Use, Steadfast Assisted Living, Venoco Paredon, Sanctuary Beach Condominiums, Cruz Mixed Use, Punto de Vista Mixed Use, Linden Avenue-Casitas Pass Road Interchanges) may be implemented at about the same time as the proposed project. The proposed project would incrementally contribute to cumulative aesthetics impacts which are anticipated to be significant and unavoidable (Class I) as the proposed Venoco Paredon project alone could result in Class I impacts. However, the incremental contribution (with incorporation of mitigation) of project-related impacts (vegetation removal, larger bridge mass, lighting) would not be cumulatively considerable.

Blank page before Figure 4.1-1



Source: Drake Haglan & Associates

**VIEW OF THE PROJECT SITE – EXISTING CONDITIONS
FIGURE 4.1-1**

Back of Figure 4.1-1



Source: Drake Haglan & Associates

**VIEW OF THE PROJECT SITE – PROPOSED CONDITIONS
FIGURE 4.1-2**

Back of Figure 4.1-2

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Setting

Santa Barbara County agriculture gross dollar sales in 2014 were estimated at \$1.5 billion. Primary products include vegetables, fruits and nuts, nursery products, field crops, seed crops, livestock and poultry, dairy and apiary products. Vegetable crops were the highest earning product category at \$493.6 million in 2014. Strawberries were the high earning crop at \$464.7 million in 2014.

Important crops in the Carpinteria area include lemons, avocados and floral products (greenhouses). The City of Carpinteria has concerns about the use of greenhouses as they block views of open space and often occupy areas of prime soils that could be used for food crops. Objective OSC-9 of the City's General Plan/Local Coastal Land Use Plan is to encourage use of open-field agriculture to meet the City's needs and preserve the City's rural, open space character.

4.2.1.1 Soils

Based on the Soil Survey of Santa Barbara County, California, South Coastal Part (Shipman, 1981), the most common soils of the Carpinteria area include Camarillo variant, Elder sandy loam, Goleta fine sandy loam, Goleta loam, and Milpitas-Positas fine sandy loam. The project site (proposed project and alternatives) supports Goleta fine sandy loam (0 to 2 percent slopes) and Metz loamy sand.

4.2.1.2 Important Farmland

The Farmland Mapping and Monitoring Program operated by the California Department of Conservation has classified farmland as "Prime," "Statewide Importance," "Unique" and "Local Importance". The basis for this classification is primarily the Soil Survey of Santa Barbara County, California, South Coastal Part (Shipman, 1981). "Prime" farmlands are defined as farmland with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the four years prior to the most recent mapping date (2010). Most areas north of the City have been mapped as Prime farmland and Unique farmland, with small areas of Statewide Importance farmland. The nearest important farmland is located approximately 750 feet northeast of the project site, consisting of orchards designated as Prime farmland.

4.2.1.3 Land Conservation Act Contracts

A primary tool to preserve farmlands is the California Land Conservation Act (LCA) or Williamson Act contract program. Under the Act, landowners may voluntarily enter into a long-term contract (10 year minimum) to maintain their property in agriculture or open space in exchange for reduced property tax assessment. The term of an LCA contract is generally nine years, and automatically renews itself for another 10-year-period unless a Notice of Non-Renewal is filed. Since its inception in 1962, the program has been the backbone of agricultural preservation efforts statewide. The project site and adjacent parcels are not involved in any LCA contracts.

4.2.1.4 Forest Land

The nearest forest land is the Los Padres National Forest, located approximately two miles north of the project site. Note that this National Forest does not include sufficient tree stands to support logging.

4.2.2 Impacts and Mitigation Measures

4.2.2.1 Significance Thresholds

As documented in the City's Environmental Thresholds Manual, the following general thresholds may apply to agricultural lands within City boundaries:

- Development proposed on any property five acres or greater in size with a Prime Agricultural Soils designation may represent a significant environmental impact.
- Development proposed on any property in an Agricultural Preserve would represent a significant environmental impact.
- Development proposed on any property which in the past five years has been in agricultural production and which is agriculturally zoned may represent a significant environmental impact.
- Development of 10 or more acre non-prime parcels may be significant due to historical use or surroundings (conversion may make adjacent agricultural land ripe for conversion).

CEQA Appendix G states that a project will have a significant impact on the environment if it will:

- (a) Conflict with adopted environmental plans and goals of the community where it is located.
- (b) Convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land.

4.2.2.2 Project-Specific Impacts

Conversion of Important Farmland. The project site does not support important farmland (including Prime farmland) and implementation of the proposed project would not result in the conversion of farmland to non-agricultural use.

Agricultural Zoning Conflicts. The project site is not zoned for agriculture and is not located adjacent to parcels zoned or used for agriculture, and implementation of the proposed project would not conflict with existing agricultural uses, zoning or Williamson Act contracts.

Forest Land Conflicts. The proposed project would not conflict with or cause re-zoning of forest land.

Loss or Conversion of Forest Land. No loss or conversion of forest land would occur.

Indirect Conversion of Farmland or Forest Land. The proposed project does not involve any components or approvals that would result in population growth, change in land use or other factors that may cause indirect conversion of farmland or forest land.

Conflict with Adopted Environmental Plans and Goals. The proposed project would not affect agricultural or forestry resources and would not conflict with any City plans, goals or policies related to these resources.

4.2.2.3 Cumulative Impacts

The Lagunitas Mixed Use project would result in the conversion of agricultural lands, which would contribute to a significant cumulative impact to agricultural resources. The proposed project would not adversely affect agricultural resources and would not incrementally contribute to cumulative impacts.

4.3 AIR QUALITY

4.3.1 Setting

4.3.1.1 Climatological Setting

Southern California lies in a semi-permanent, high pressure zone of the eastern Pacific region. The coastal strip is characterized by limited rainfall (i.e., approximately 17.6 inches per year), most of which occurs in the winter season and warm, dry summers tempered by cooling sea breezes. In spring, summer and fall, the climate is dominated by marine air. Light synoptic-scale winds in the region allow marine air influence to dominate temperatures and air flow. In winter, low pressure weather systems originating in the northern Pacific Ocean bring clouds, rain and strong winds into Santa Barbara County.

The City of Carpinteria is located on a coastal terrace, with predominately onshore winds. Occasionally, meteorological conditions create offshore or southeasterly winds. In general, onshore winds and unobstructed circulation (lack of major valleys) prevent accumulation of pollutants and result in good air quality.

4.3.1.2 Ambient Air Quality

Air quality in the County is directly related to emissions and regional topographic and meteorological factors. The California Air Resources Board (CARB) has divided the state into regional air basins according to topographic air drainage features. The City is situated in the South Central Coast Air Basin (SCCAB), which encompasses the counties of Ventura, Santa Barbara and San Luis Obispo. The U.S. Environmental Protection Agency (USEPA), CARB and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available or non-compliance with the ambient air quality standards, respectively. Locally, air quality of the project area is managed by the Santa Barbara County Air Pollution Control District (SBCAPCD).

The air quality of Santa Barbara County is monitored by a network of 18 stations. Stations fall into two primary categories: State and Local Air Monitoring Stations (SLAMS) and Prevention of Significant Deterioration (PSD) stations. Six SLAMS measure urban and regional air quality. Two SLAMS stations are operated by the CARB (Santa Barbara and Santa Maria) and four by the Santa Barbara County Air Pollution Control District (SBCAPCD); Lompoc, Santa Ynez, El Capitan, and Goleta. Five of these stations measure ambient concentrations of carbon monoxide, ozone, nitrogen oxides, PM₁₀ and sulfur dioxide.

An air quality monitoring station is located in the project area (Carpinteria station), approximately 3.1 miles to the east-northeast. Table 4.3-1 lists the monitored maximum concentrations and number of exceedances of air quality standards at this station for the years 2012 through 2014. As shown in Table 4.3-1, ozone concentrations monitored at the Carpinteria station occasionally exceed the State and Federal ozone standards. The concentrations of nitrogen dioxide monitored at the Carpinteria station did not approach or exceed the State or Federal standards during 2012 to 2014.

Table 4.3-1. Air Quality Summary from the Carpinteria Monitoring Station

Parameter	Standard	Year		
		2012	2013	2014
Ozone – parts per million (ppm)				
Maximum 1-hour concentration monitored		0.094	0.081	0.112
Number of days exceeding State standard	0.095	0	0	3
Maximum 8-hour concentration monitored		0.074	0.072	0.089
Number of days exceeding 8-hour National standard	0.075	0	0	4
Number of days exceeding 8-hour State standard	0.07	1	1	7
Nitrogen Dioxide (ppm)				
Maximum 1-hour concentration		0.029	0.037	0.017
Number of days exceeding 1-hour National standard	0.10	0	0	0
Number of days exceeding 1-hour State standard	0.18	0	0	0

4.3.1.3 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to population groups and/or activities involved. Sensitive population groups include children, the elderly, the acutely ill and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

Recreational land uses may be considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Potentially sensitive receptors located in proximity to the project site include residential areas to the south of Carpinteria Avenue, the recently approved Steadfast Assisted Living project located immediately to the northwest, Carpinteria Middle School to the west and Carpinteria State Beach to the southwest.

4.3.1.4 Attainment Planning

Federal. The Federal government first adopted the Clean Air Act (CAA) in 1963 to improve air quality and protect citizens' health and welfare, which required implementation of the National air quality standards. The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments of 1990 added requirements for states with non-attainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies.

The USEPA has been charged with implementing Federal air quality programs, which includes the review and approval of all SIPs to determine conformation to the mandates of the CAA and its amendments and to determine whether implementation of the SIPs will achieve air quality goals. If the USEPA determines that a SIP is inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the non-attainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in application of sanctions to transportation funding and stationary air pollution sources within the air basin.

Pursuant to the CAA, State and local agencies are responsible for planning for attainment and maintenance of National air quality standards. The USEPA classifies air basins (i.e., distinct geographic regions) as either "attainment" or "non-attainment" for each criteria pollutant, based on whether or not the National air quality standards have been achieved. Some air basins have not received sufficient analysis for certain criteria air pollutants and are designated as "unclassified" for those pollutants. The SBCAPCD and the CARB are the responsible agencies for providing attainment plans and for demonstrating attainment of these standards within the project area.

State. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas to achieve and maintain attainment with the State air quality standards by the earliest possible date. The CCAA, enforced by CARB, requires that each area exceeding the State air quality standards develop a plan aimed at achieving those standards. To satisfy this requirement, the local air districts are required to develop and implement air pollution reduction measures, which are described in their clean air plans, incorporated into the SIP and outline strategies for achieving the State ambient air quality standards for criteria pollutants for which the region is classified as non-attainment.

The CCAA mandates that every three years areas update their clean air plans to attain the State ozone standard. The SBCAPCD Board adopted the 2010 Clean Air Plan on January 20, 2011. The 2010 Plan provides the three-year update to the SBCAPCD's 2007 Clean Air Plan. The SBCAPCD prepared the 2010 Clean Air Plan in partnership with Santa Barbara County Association of Governments (SBCAG) and the CARB. A 2013 Clean Air Plan was adopted on March 19, 2015 as a triennial update to the 2010 Clean Air Plan and indicates air quality is improving and strategies for further air pollutant emissions reductions are focused on mobile sources, particularly marine shipping.

Local Authority. The SBCAPCD is the local agency that has primary responsibility for regulating stationary sources of air pollution located within its jurisdictional boundaries. To this end, the SBCAPCD implements air quality programs required by State and Federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The SBCAPCD is also responsible for managing and permitting existing, new and modified sources of air emissions within the County. The proposed project would not include any long-term sources of air pollutants, and would not require a permit from the SBCAPCD.

4.3.1.5 Attainment Status

Santa Barbara County was designated unclassifiable/attainment for the 2008 Federal 8-hour ozone standard on April 30, 2012 (the 1-hour Federal ozone standard was revoked for Santa Barbara County). The County is also considered in attainment for the State 1-hour standard for ozone as of June, 2007. Ambient air quality monitoring indicates the County routinely exceeds the California 8-hour ozone standard and the California standard for PM₁₀. The County is unclassifiable/attainment for the Federal PM_{2.5} standard and unclassified for the California PM_{2.5} standard (based on monitored data from 2007 to 2009).

According to Santa Barbara County's 2010 Clean Air Plan, the largest human-generated contributors to locally generated air pollution in Santa Barbara County are on-road mobile sources (cars and trucks). Other mobile sources (planes, trains, boats, off-road equipment, farm equipment), the evaporation of solvents, combustion of fossil fuels, surface cleaning and coating, prescribed burning, and petroleum production and marketing combine to make up the remainder (SBCAPCD and SBCAG 2011). The primary sources of PM₁₀ and PM_{2.5} include mineral quarries, grading, demolition, agricultural tilling, road dust and vehicle exhaust. A 2013 Clean Air Plan was adopted on March 19, 2015 as a triennial update to the 2010 Clean Air Plan and indicates air quality is improving and strategies for further air pollutant emissions reductions are focused on mobile sources, particularly marine shipping.

4.3.1.6 Toxic Air Contaminants

Federal Authority. The USEPA administers several programs that regulate emissions of hazardous air pollutants (HAPs) from stationary and mobile sources. The USEPA identified 189 HAPs that may present a threat to human health or the environment and are regulated under control technology programs. Also, the USEPA has identified 33 urban HAPs that pose the greatest threats to public health in urban areas and are regulated under the Urban Air Toxics Strategy. The USEPA regulates HAP emissions primarily by setting emissions standards for vehicles and technology standards for industrial source categories. The primary regulations controlling HAP emissions are USEPA's National Emission Standards for Hazardous Air Pollutants.

State Authority. Similar to the federal HAPs, toxic air contaminants (TACs) are defined in California as air pollutants (primarily specific chemical compounds) which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. A primary health concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is of particular public health concern because it is currently believed by many scientists that there is no “safe” level of exposure to carcinogens; that is, any exposure to a carcinogen poses some risk of causing cancer.

Unlike carcinogens, most non-carcinogens have a threshold level of exposure below which the compound will not pose a health risk. The California Environmental Protection Agency (CalEPA) and California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (RELs) for non-carcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index.

CARB reviews scientific research on exposure and health effects to identify the TACs that pose the greatest threat to public health. CARB maintains a 20-station toxic monitoring network within major urban areas. Data from these monitoring stations is used to determine the average annual concentrations of TACs and to assess the effectiveness of controls.

The California Air Toxics Program, developed by CARB, established the process for identification and control of TAC emissions and includes provisions to make the public aware of significant toxic exposures and to reduce risk. The CalEPA and the OEHHA have developed guidelines for evaluating risk. The primary TAC that would be associated with the proposed project is diesel particulate matter (DPM), formed from the combustion of diesel fuels consisting of very small carbon particles, or “soot,” which absorb diesel-related cancer-causing substances. DPM has the potential to contribute to cancer, premature death and other health impacts, and currently contributes over 70 percent of the currently known risks from TACs.

Local Authority. The SBCAPCD oversees implementation of the Air Toxics "Hot Spots" Program, which requires affected businesses, with assistance from the SBCAPCD, to identify air toxic emissions. Businesses that release considerable amounts of toxic air pollutants are required to estimate public health risks associated with these emissions by performing a risk assessment. The SBCAPCD then oversees public notification and risk reduction programs required for businesses that pose a significant risk.

4.3.2 Impacts and Mitigation Measures

4.3.2.1 Significance Thresholds

The City uses significance thresholds developed by the SBCAPCD, as documented in “Scope and Content of Air Quality Sections in Environmental Documents” (updated 2014) including:

- Emits (from all sources, both stationary and mobile) greater than the daily trigger for offsets in the SBCAPCD New Source Review Rule (240 pounds per day for NO_x or ROC; 80 pounds per day for PM₁₀);
- Emits greater than 25 pounds per day of NO_x or ROC (motor vehicle trips only);
- Causes or contributes to a violation of a State or Federal air quality standard (except ozone);
- Exceeds the health risk public notification thresholds (10 excess cancer cases in a million, hazard index of 1.0 for non-cancer risk);
- Is inconsistent with adopted State and Federal Air Quality Plans (2010 Clean Air Plan); and
- Construction emissions associated with a stationary source requiring a permit from SBCAPCD exceeding 25 tons of any pollutant (except carbon monoxide) in a 12 month period.

4.3.2.2 Project-Specific Impacts

Impact AQ-1: Demolition and construction activities would generate air pollutant emissions – Class III, less than significant.

Air pollutant emissions generated by construction activities would include exhaust emissions and wind-blown (fugitive) dust. Construction activities would involve clearing and grubbing, bridge demolition, stream diversion, installation of the new bridge foundations, construction of the new bridge, construction of the bike path and rock slope protection, and road improvements.

A peak day during construction was used to estimate construction emissions and is defined as site preparation, which would require a dozer, wheeled loader and excavator. Construction exhaust emissions were calculated using activity assumptions, load factors and emission factors from *Nonroad Engine and Vehicle Emissions Study* (USEPA, 1991). Transportation emissions were estimated using the EMFAC2007 model developed by the CARB and assuming that site preparation activities would occur in 2017. The construction trip distance was assumed to be 15 miles. The total number of one-way vehicle trips on a peak day was assumed to be 50, with the following vehicle types: 30 percent automobiles, 45 percent light-duty trucks, five percent medium-duty trucks and 20 percent heavy-duty (diesel) trucks.

A summary of estimated peak day and annual (peak 12 month period) construction emissions is provided in Table 4.3-2. Although the SBCAPCD has not established thresholds of significance for construction emissions, 25 tons per year ROC or NO_x is used as a guideline. Note that project construction ROC or NO_x emissions would not exceed 25 pounds per day (motor vehicles only) or 25 tons per peak 12 month period (see Table 4.3-2).

Table 4.3-2. Construction Air Pollutant Emissions Summary

Source	ROC	CO	NO _x	PM ₁₀
Peak Day (pounds)				
Heavy equipment	6.9	47.0	100.0	5.7
On-road motor vehicles	0.3	3.9	2.2	0.1
Total	7.2	50.9	102.2	5.8
Peak 12 Month Period (tons)				
Heavy equipment	0.58	3.45	7.24	0.41
On-road motor vehicles	0.03	0.50	0.28	0.02
Total	0.61	3.95	7.52	0.43

Construction-related PM₁₀ emissions may cause or substantially contribute to local exceedances of the State PM₁₀ standard or cumulatively hinder progress towards attainment of the State PM₁₀ standard. In addition, dust generated by construction activities immediately adjacent to residences may be considered a nuisance and violates SBCAPCD Rule 303. Rule 303 prohibits the discharge of air contaminants which “cause injury, detriment, nuisance or annoyance to any considerable number of persons...” However, the following dust control measures provided by the SBCAPCD will be included in the project’s construction specifications to ensure compliance with Rule 303:

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on-site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.

- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District and the City's Community Development Department prior to the initiation of construction.
- Prior to the initiation of construction, these dust control requirements shall be shown on the final grading and building plans.

Mitigation Measures: None required

Impact AQ-2: Construction-related emissions may contribute to violations of air quality standards – Class III, less than significant.

Although significance thresholds have not been established for construction emissions, project emissions have the potential to cause or substantially contribute to local exceedances of the State ozone standard or cumulatively hinder progress towards attainment of the State ozone standard. Therefore, the following measures provided by the SBCAPCD will be included in the project's construction specifications:

- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.
- Equipment meeting CARB Tier 2 or higher emission standards should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by USEPA or CARB.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.

- The engine size of construction equipment shall be the minimum practical size, when available.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite, when feasible.

State 1-hour ambient standards for CO are sometimes exceeded at roadway intersections during times of peak traffic congestion. These localized areas are sometimes called CO “hotspots”. Due to the relatively low ambient CO levels and the lack of major intersections in the region, CO hotspots are not expected. The proposed project would generate only small amounts of traffic and only during the construction period. Considering the above, the proposed project would not be expected to create or contribute substantially to the violation of CO standards.

Mitigation Measures: None required

Impact AQ-3: Construction-related diesel particulate emissions may increase health risk – Class III, less than significant.

The proposed project would generate short-term diesel exhaust emissions associated with heavy equipment usage and truck transportation of construction materials. These emissions include diesel particulate matter, considered a toxic air contaminant. The amount of heavy equipment usage and number of diesel truck trips associated with project construction would be short-term and minimal in a regional context, such that the proposed project would have a less than significant contribution to public health risk. In a local context, the proposed project would represent a short-term contribution (two year maximum) to public health risk associated with exposure to toxic air contaminants, as compared to a 70 year residential exposure assumed in health risk assessments. Therefore, diesel exhaust emissions and associated toxic air contaminants would not significantly increase health risk in the local community.

Mitigation Measures: None required

Operation Emissions. The proposed project would not generate traffic or otherwise result in air pollutant emissions. No increase in roadway or bridge capacity would occur, such that no change in traffic volumes on Carpinteria Avenue is expected. Infrequent bridge inspection and maintenance activities would occur, similar to the existing bridge and would not generate any new vehicle trips or associated emissions.

Air Quality Management Plan Consistency. Projects that cause local populations to exceed population forecasts in the Clean Air Plan are considered inconsistent, as exceeding population forecasts can result in the generation of emissions beyond those which have been projected in the Clean Air Plan. As discussed in Section 6.0, the proposed project does not have the potential to be growth-inducing. As such, the proposed project would be consistent with the Clean Air Plan.

4.3.2.3 Cumulative Impacts

Each cumulative project listed in Section 3.4 would generate short-term construction emissions. In particular, the proposed Venoco Paredon and Linden Avenue-Casitas Pass Road Interchanges projects would substantially contribute to significant cumulative construction-related air quality impacts, which may include increased vehicle emissions associated with construction-related congestion on Carpinteria Avenue. In addition, projects listed in Section 3.4 would result in long-term stationary and mobile source air pollutant emissions. Overall, cumulative air pollutant emissions are anticipated to result in significant impacts to regional air quality. However, the proposed project has incorporated emissions reduction measures and the incremental contribution of the proposed project to cumulative air quality impacts would not be cumulatively considerable.

4.4 BIOLOGICAL RESOURCES

4.4.1 Setting

A Biological Study Area (BSA) was established for the project to facilitate development of the setting discussion and impact assessment. The BSA is approximately 20 acres in area and includes the project site (construction footprint) and the Carpinteria Creek corridor from the estuary to approximately 1,000 feet upstream of U.S. 101 (see Figure 4.4-1). Photographs of Carpinteria Creek at the project site are provided as Figure 4.4-2.

4.4.1.1 Physical Conditions

The BSA is located along Carpinteria Creek in southern Santa Barbara County. The Carpinteria Creek watershed is approximately 15 square miles and extends from sea level to approximately 4,690 feet elevation. The watershed includes one major tributary, Gobernador Creek. Headwater tributaries drain steep hillsides and canyons of the Santa Ynez Mountains. In the foothills and coastal plain, Carpinteria Creek passes through agricultural and suburban areas. Two debris basins were constructed in the watershed in 1971 by the Corps of Engineers (Cachuma RCD et al., 2005), one on upper Carpinteria Creek (Lillingston) and another on Gobernador Creek. In 2008, the Gobernador debris basin was removed and replaced with a naturalized channel and instream debris catchment system. The Lillingston debris basin dam and culvert were recently demolished, but the resulting earth materials and debris have not been removed. A debris rack was installed downstream of the basin to capture materials from the Lillingston basin as they are moved downstream by storm events.

The reach of Carpinteria Creek from the estuary to the confluence with Gobernador Creek is included in the Santa Barbara County Flood Control and Water Conservation District's channel maintenance program. However, maintenance work within the project area is restricted by the presence of endangered species (tidewater goby and steelhead).

U.S. Geologic Survey gaging station (No. 11119500) is located on Carpinteria Creek approximately 500 feet upstream of the State Route 192 crossing. The most recent extreme storm flow recorded at this station was 4,500 cubic feet per second on January 10, 2005. Data from this stream gage indicates surface flow is typically absent from June through September, but flow is perennial in high rainfall years (1973, 1983, 1993, 1995, 1998 and 2005). The lower half-mile of the creek typically supports year-round surface water, due to tidal influence, urban and agricultural irrigation run-off and discharge from shallow unconfined aquifers.

A fish habitat inventory conducted in 2003 in Carpinteria Creek (including the project site) indicated the average wetted stream width was 16 feet in April and nine feet in September, with a maximum pool depth of three feet in April and two feet in September (Cachuma RCD et al., 2005). At the time of the June 21, 2013 field survey, surface water was present within the BSA from approximately 500 feet upstream of U.S. 101 to the confluence with the Pacific Ocean. Surface water within the BSA was generally limited to small shallow pools with very low flow between pools. However, the lower 1,200 feet of the Creek supported a deep low gradient run/pool (about two to four feet deep), about 20 to 30 feet wide.

4.4.1.2 Vegetation

A total of 101 vascular plant species were identified during the field surveys of the BSA (see Appendix E for scientific names based on Baldwin et al., 2012). Plants observed within the BSA consisted of 48 (48 percent) native taxa and 53 (52 percent) non-native, naturalized or ornamental taxa. Note that no attempt was made to identify all landscaping and ornamental species planted in developed areas within the BSA.

The vegetation of the BSA can be divided into four plant communities: arroyo willow riparian forest, freshwater marsh, California sagebrush scrub and saltgrass flats. The vegetation of the BSA is mapped in Figure 4.4-1.

Arroyo Willow Riparian Forest. This term is used to describe the highly variable riparian vegetation along Carpinteria Creek within the BSA. The most consistent species in this community is arroyo willow (*Salix lasiolepis*). However, patches of other riparian trees are present, including black cottonwood (*Populus trichocarpa*) and white alder (*Alnus rhombifolia*), which mostly occur in the central portion of the BSA. In addition, western sycamore (*Platanus racemosa*) is scattered along the creek, with several large specimens near Carpinteria Avenue. Blue gum eucalyptus (*Eucalyptus globulus*) is located near the east bank in the downstream portion of the BSA and extends into the riparian vegetation in some areas. The invasive Cape ivy (*Delairea odorata*) is common in the northern portion of the BSA and appears to be reducing the vigor of some riparian trees.

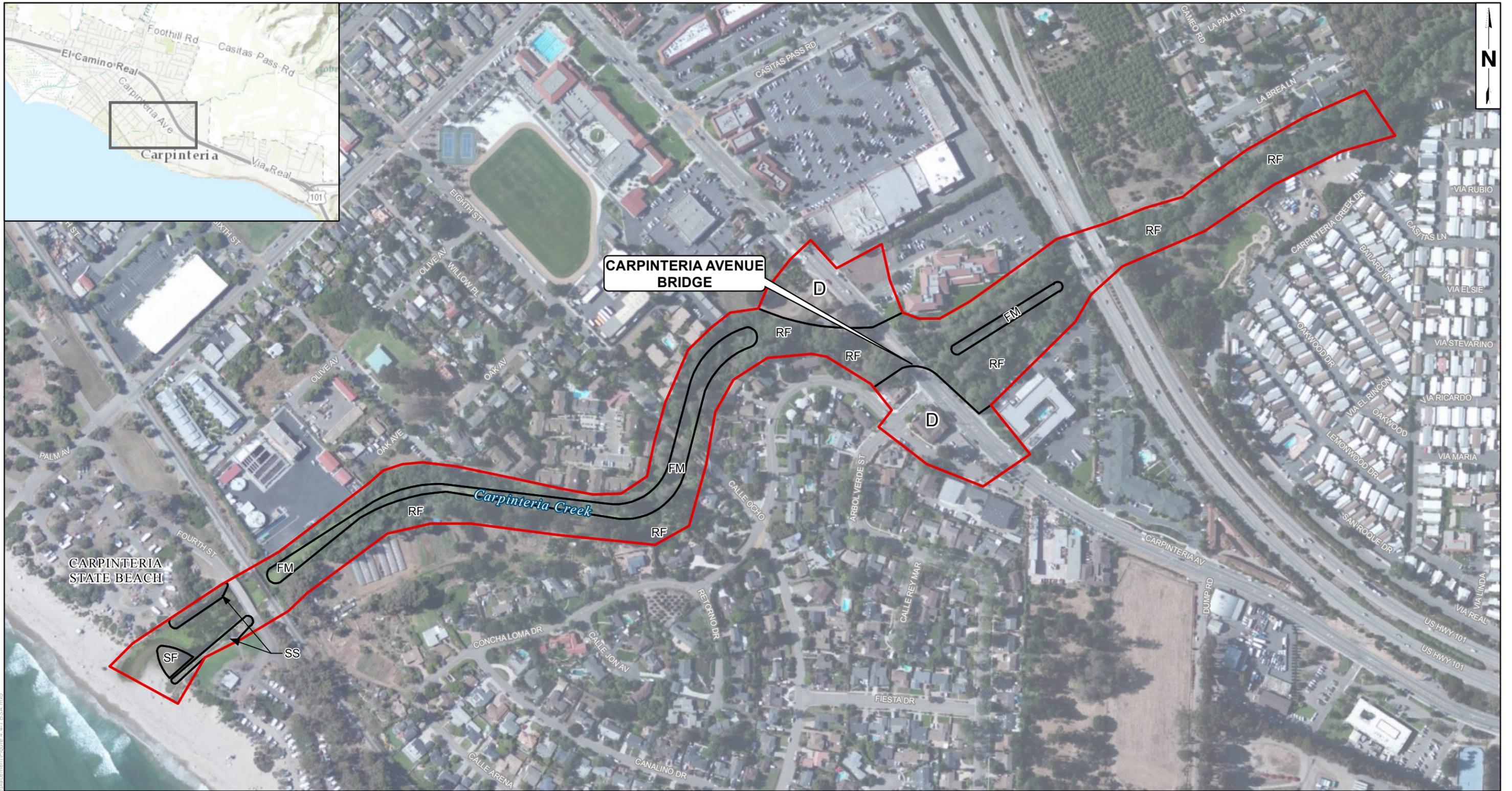
Freshwater Marsh. This term is used to describe the highly variable streambed vegetation along Carpinteria Creek within the BSA. Common species in the community include watercress (*Nasturtium officinale*), broadleaf cattail (*Typha latifolia*), small-seed bulrush (*Scirpus microcarpus*), nut-sedge (*Cyperus involucratus*), giant horsetail (*Equisetum telmateia*) and hairy willow herb (*Epilobium ciliatum*).

California Sagebrush Scrub. This term is used to describe the vegetation planted along the banks at the estuary, downstream of the Fourth Street Bridge in Carpinteria Beach State Park. Dominant species include California sagebrush (*Artemisia californica*), coastal goldenbush (*Isocoma menziesii*), California goldenbush (*Encelia californica*), and seacliff buckwheat (*Eriogonum parvifolium*).

Saltgrass Flats. This term is used to describe the highly variable vegetation on the sandy flats at the mouth of the estuary. Dominant species include saltgrass (*Distichlis spicata*), beach-bur (*Ambrosia chamissonis*) and marsh baccharis (*Baccharis glutinosa*).

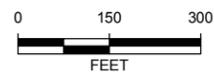
4.4.1.3 Environmentally Sensitive Habitat Areas

All of Carpinteria Creek within the City of Carpinteria has been designated as an Environmentally Sensitive Habitat Area (ESHA) under the California Coastal Act. Policies OSC-1a through OSC-1e of the City's General Plan/Coastal Land Use Plan includes protection and restoration of ESHAs. Policies OSC-6a through OSC-6f of the City's General Plan/Coastal Land Use Plan also address protection and restoration of creekways and riparian habitats, including Carpinteria Creek.



LEGEND:

- Biological Study Area
- Vegetation Type
- D - Developed
- RF - Riparian Forest
- FM - Freshwater Marsh
- SF - Saltgrass Flats
- SS - Sagebrush Scrub



Source: ESRI Online Basemap, Aerial Imagery, County of Santa Barbara
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only



PROJECT NAME: CARPINTERIA AVENUE BRIDGE REPLACEMENT CARPINTERIA, CA	
PROJECT NUMBER: 1302-1391	DATE: March 2015

BIOLOGICAL STUDY AREA MAP	FIGURE 4.4-1
--------------------------------------	-------------------------

Back of Figure 4.4-1



a. View upstream towards Carpinteria Avenue bridge



b. Stream channel downstream of Carpinteria Avenue bridge



c. View downstream towards Carpinteria Avenue bridge



d. Stream channel upstream of Carpinteria Avenue bridge

**PHOTOGRAPHS OF CARPINTERIA CREEK AT THE PROJECT SITE
FIGURE 4.4-2**

Back of Figure 4.4-2

4.4.1.4 Aquatic Invertebrates

Santa Barbara County (Project Clean Water) in coordination with the City's Creeks Preservation Program has conducted a creek bio-assessment program since 2000, and includes three sampling sites on Carpinteria Creek, designated as C-1, C-2 and C-3. Sampling site C-1 is closest to the project site, located approximately 800 feet downstream of Carpinteria Avenue (within the BSA). Over the period of 2000 through 2010, the index of biological integrity at the C-1 sampling site has varied from very poor to poor, based on sampling of benthic macroinvertebrates. Biological integrity is defined as "the ability to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region". The most recent available data was collected in April and May 2010, and indicates a "very poor" index of biological integrity, primarily due to the low insect family diversity, and low percentage of invertebrates from the orders ephemeroptera, plecoptera and trichoptera, and low number of pollution-sensitive invertebrates (Ecology Consultants, 2010).

4.4.1.5 Wildlife

The riparian corridor within the BSA is continuous, but relatively narrow, mostly 100 to 150 feet wide. In addition, the east bank downstream of the Eighth Street Pedestrian Bridge supports mostly blue gum trees (*Eucalyptus globulus*). The wildlife habitat value of the BSA is relatively high due to the importance of the riparian corridor in maintaining continuity with habitats of the Santa Ynez Mountains to the north and the coastal terrace to the south. Observed vertebrate species include those seen or detected by track, scat, burrows or vocalizations (calls, songs, etc.). Vertebrate taxa expected for the area are based on sight records from other environmental documents (Cachuma RCD et al., 2005; Padre Associates, 2005; Ecology Consultants, 2004); range maps (Zeiner et al., 1988, 1990a, 1990b); and bird species reported from the coastal district in southern Santa Barbara County (Lehman, 1994). A list of observed and expected fauna, with scientific names, for the BSA is provided in Appendix E.

Fish observed within the BSA during field surveys were limited to three-spined stickleback (*Gasterosteus aculeatus*) and appeared to be restricted to the lower 2,000 feet of the creek. However, Carpinteria Creek is designated critical habitat for southern California steelhead and is known to support this species. An adult female steelhead and juvenile steelhead were reported from the BSA in 2000 (Stoecker et al., 2002). Other fish species known to occur in Carpinteria Creek (mostly the estuary) include prickly sculpin (*Cottus asper*), pacific lamprey (*Lampetra tridentata*), tidewater goby (*Eucyclogobius newberryi*), staghorn sculpin (*Leptocottus armatus*), California killifish (*Fundulus parvipinnis*), arrow goby (*Clevelandia ios*) and topsmelt (*Atherinops affinis*).

Amphibians observed during field surveys of the BSA conducted for the project were limited to tadpoles and adults of the Baja California tree frog (*Pseudacris hypochondriaca*). Other species reported from the watershed include California tree frog (*Pseudacris cadaverina*), California newt (*Taricha torosa*) (Padre Associates, 2005) and bullfrog (*Rana catesbiana*) (Caltrans, 2010a).

The only reptile species observed during field surveys was western fence lizard (*Sceloporus occidentalis*). Based on a conversation with long-time campers at Carpinteria State Beach, turtles have been observed in Carpinteria Creek near the Fourth Street Bridge. It is unclear if turtles observed are native; however, suitable habitat for western pond turtle (*Emys marmorata*) occurs just upstream of this area. Other common reptile species, such as side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis melanoleucus*), terrestrial and aquatic garter snakes (*Thamnophis* spp.) and kingsnake (*Lampropeltis getulus*) likely occur in the vicinity of the BSA.

Birds observed during field surveys of the BSA included western gull (*Larus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), killdeer (*Charadrius vociferus*), turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), crow (*Corvus brachyrhynchos*), northern rough-winged swallow (*Stelgidopteryx serripennis*), cliff swallow (*Petrochelidon pyrrhonota*), barn swallow (*Hirundo rustica*), Cooper's hawk (*Accipiter cooperi*), pacific slope flycatcher (*Empidonax difficilis*), common yellowthroat (*Geothlypis trichas*), house wren (*Troglodytes aedon*), bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), California towhee (*Pipilo crissalis*), northern mockingbird (*Mimus polyglottos*), acorn woodpecker (*Melanerpes formicivorus*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), western scrub-jay (*Aphelocoma californica*), song sparrow (*Melospiza melodia*), brewer's blackbird (*Euphagus cyanocephalus*), and spotted towhee (*Pipilo maculatus*).

Cliff swallows were observed nesting under the Fourth Street Bridge over Carpinteria Creek. Swallows were not observed nesting on/within the Carpinteria Avenue Bridge. Based on a bird list developed by the Carpinteria Creek Watershed Coalition, 103 bird species are regularly observed in the vicinity of Carpinteria Creek, including 29 species listed as common, 33 species listed as fairly common and 41 species listed as uncommon (Cachuma RCD et al., 2005). The most common bird species observed within the BSA during the field surveys were common yellowthroat, song sparrow and spotted towhee.

Mammals observed within the BSA during field surveys include pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), California ground squirrel (*Spermophilus beecheyi*), opossum (*Didelphis virginiana*), coyote (*Canis latrans*), black-tailed deer (*Odocoileus hemionus*) and western gray squirrel (*Sciurus griseus*). Other mammals reported from the watershed include bobcat (*Lynx rufus*) and broad-footed mole (*Scapanus latimanus*) (Ecology Consultants, 2004).

Urine stains and small amounts of bat guano were observed under the subject bridge during field surveys of the BSA. Approximately 15 Yuma myotis (*Myotis yumanensis*) were observed using the Carpinteria Avenue Bridge as a night roost during the bat surveys. In addition, Brazilian free-tailed bats (*Tadarida brasiliensis*) and big brown bats (*Eptesicus fuscus*) were detected during the acoustic analysis of bat calls recorded at the bridge site. However, neither the Carpinteria Avenue nor the U.S. 101 bridges provide suitable crevice habitat for use by bats as a day roost or maternity roost.

4.4.1.6 Wildlife Corridors

Highly mobile species such as larger mammals and birds are expected to move between coastal areas and the Santa Ynez Mountains. Carpinteria Creek provides a means to traverse developed areas, dense vegetation and steep slopes. Therefore, Carpinteria Creek may be an important wildlife movement corridor in the area. Two raccoons and abundant small mammal tracks (mostly raccoon, few opossum, few deer) were observed in the streambed of Carpinteria Creek during the field survey, indicating wildlife may be using Carpinteria Creek as a movement corridor. A small game trail along the stream bank was observed downstream of the Eighth Street Pedestrian Bridge, indicating frequent movement by small mammals occurs from the estuary to upstream areas.

4.4.1.7 Invasive Species and Level of Disturbance

The California Invasive Plant Council has developed an Invasive Plant Inventory which rates weedy non-native plant species based on their potential to have severe ecological effects (high, moderate, limited). Seven plant species rated as “high” for invasiveness were found within the BSA; freeway iceplant (*Carpobrotus edulis*), sweet fennel (*Foeniculum vulgare*), English ivy (*Hedera helix*), Cape ivy (*Delairea odorata*), Himalayan blackberry (*Rubus armeniacus*), giant reed (*Arundo donax*) and red brome (*Bromus madritensis* ssp. *rubens*). In addition, 11 plant species rated as “moderate” and 10 species rated as “limited” for invasiveness were found within the BSA. Species appearing to be having the greatest ecological impact are Cape ivy, English ivy and greater periwinkle, as these species are displacing native riparian species. Invasive plant species found within the BSA are identified in Appendix E. Bullfrog is the only reported invasive animal species in the BSA.

The BSA has been disturbed in the past primarily by the construction and operation of the Union Pacific Railroad, and construction and maintenance of bridges (Fourth Street, Eighth Street, Carpinteria Avenue, U.S. 101). In addition, vegetation and channel maintenance within the BSA has been conducted in the past by the SBCFCWCD. Additionally, because of the proximity of the Carpinteria State Beach campground and creek-side residential uses, human and pet intrusion into wildlife habitat along the creek and estuary within the BSA likely occurs on a regular basis.

4.4.1.8 Habitats of Concern

Carpinteria Creek (and its tributaries) within the BSA has been designated “critical habitat” for the southern California steelhead (NMFS, 2005). Approximately 4,700 linear feet of critical habitat occurs within the BSA. Primary constituent elements used to identify critical habitat include:

1. Freshwater spawning sites with water quantity and quality conditions and substrate suitable to support spawning, incubation and larval development;
2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions to support juvenile growth and mobility;

3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover to support juvenile and adult mobility and survival;
4. Estuarine areas with water quality, water quantity and salinity conditions to support physiological transitions between freshwater and saltwater;
5. Nearshore marine areas supporting the transition from natal streams to offshore marine areas; and
6. Offshore marine areas supporting growth and maturation.

Primary constituent elements 1, 2 and 3 have the potential to occur in the BSA. However, the BSA does not provide suitable water quantity and duration for spawning and rearing. Migration may occur through the BSA during high flow periods. Further discussion of steelhead is provided in Section 4.4.2.2.

4.4.1.9 Special-Status Plant Species

Special-status plant species are either listed as endangered or threatened under the Federal or California Endangered Species Acts, or rare under the California Native Plant Protection Act, or considered to be rare or of scientific interest (but not formally listed) by resource agencies, professional organizations (e.g., Audubon Society, California Native Plant Society [CNPS], The Wildlife Society) and the scientific community.

The City of Carpinteria's Environmental Thresholds Manual indicates that all native trees should be considered biologically valuable, and removal of 10 percent or more of the trees of biological value on a site is considered a potentially significant impact. Native trees observed within the BSA include white alder, coast live oak, velvet ash, western sycamore, black cottonwood, arroyo willow and red willow.

For the purposes of this project, special-status plant species are defined in Table 4.4-1. The literature search conducted for this impact analysis indicates 13 special-status plant species have the potential to occur within the region (Santa Barbara/Carpinteria foothills). Table 4.4-2 lists these species, their current status and the nearest known location relative to the project site.

4.4.1.10 Special-Status Wildlife Species

Special-status wildlife species are defined in Table 4.4-3. The potential for these species to occur in the vicinity of the BSA was determined by habitat characterization within the BSA, review of sight records from other environmental documents and range maps described above. Table 4.4-4 lists special-status wildlife species that have the potential to occur within the BSA for at least a portion of their life cycle.

Table 4.4-1. Definitions of Special-Status Plant Species

- Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register, December 24, 2015).
- Plants that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380).
- Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS, 2001).
- Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4 in CNPS 2001).
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5).
- Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
- Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), State and local agencies or jurisdictions.
- Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range (*State CEQA Guidelines*).
- Native trees

Table 4.4-2. Special-Status Plant Species of the Project Area

Common Name	Status	Habitat Description	Nearest Known Location	Discussion
Gambel's watercress (<i>Nasturtium gambellii</i>)	FE, ST, List 1B	Saltmarsh, freshwater marsh	Santa Barbara (historic, now extirpated), 12 miles to the west- northwest (CNDDDB, 2016)	Habitat present, species not observed during botanical surveys
Marsh sandwort (<i>Arenaria paludicola</i>)	FE, SE, List 1B	Freshwater marsh	Pismo Beach, 75 miles to the northwest (CNDDDB, 2016)	Habitat present, species not observed during botanical surveys
Ventura marsh milk-vetch (<i>Astragalus pycnostachys</i> var. <i>lanosissimus</i>)	FE, SE, List 1B	Saltmarsh	Carpinteria Saltmarsh, 1.4 miles to the west-northwest (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys
Coulter's saltbush (<i>Atriplex coulteri</i>)	List 1B	Coastal scrub, coastal dunes, grassland	Carpinteria bluffs, non-specific	Habitat absent, species not observed during botanical surveys
Late-flowered mariposa lily (<i>Calochortus fimbriatus</i>)	List 1B	Chaparral, open woodland	Franklin Canyon Trail, 2.2 miles to the north-northeast (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys
Salt marsh bird's-beak (<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>)	FE, SE, List 1B	Salt marsh	Carpinteria Saltmarsh, 1.3 miles to the west-northwest (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys
Coulter's gold-fields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	List 1B	Salt marsh, freshwater wetlands	Carpinteria Saltmarsh, 1.3 miles to the west-northwest (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys
Santa Barbara honeysuckle (<i>Lonicera subspicata</i> var. <i>subspicata</i>)	List 1B	Chaparral	Santa Monica Creek, 2.5 miles to the north-northwest (Ingamells, pers. obs., 2012)	Habitat absent, species not observed during botanical surveys
California scrub oak (<i>Quercus dumosa</i>)	List 1B	Chaparral	Santa Monica Canyon; 3.2 miles to the north-northwest (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys

Table 4.4-2. Continued

Common Name	Status	Habitat Description	Nearest Known Location	Discussion
Sonoran maiden fern (<i>Thelypteris puberula</i> var. <i>sonorensis</i>)	List 2	Seeps and streams, above 150 feet elevation	Lower Romero Canyon; 5.8 miles to the northwest (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys
White-veined monardella (<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>)	List 1B	Chaparral, woodland	Lillingston Canyon (historic); 1.5 miles to the north-northeast (CNDDDB, 2016)	Habitat absent, species not observed during botanical surveys
Dunedelion (<i>Malacothrix incana</i>)	List 4	Coastal dunes	Carpinteria Beach, 0.1 miles to the west	Habitat absent, species not observed during botanical surveys
Hoffman's bitter gooseberry (<i>Ribes amarum</i> var. <i>hoffmannii</i>)	List 3	Chaparral	Franklin Grove; 1.8 miles to the north	Habitat absent, species not observed during botanical surveys

Status Codes:

- FE Federal Endangered (USFWS)
- SE State Endangered (CDFW)
- ST State Threatened (CDFW)
- List 1B Plants rare, threatened, or endangered in California and elsewhere (CNPS)
- List 2 Plants rare, threatened, or endangered in California, but more common elsewhere (CNPS)
- List 3 Plants about which we need more information, a review list (CNPS)
- List 4 Plants of limited distribution (CNPS)

Table 4.4-3. Definitions of Special-Status Wildlife Species

<ul style="list-style-type: none"> ➤ Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species). ➤ Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register December 24, 2015). ➤ Animals that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380). ➤ Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5). ➤ Animal species of special concern to the CDFG (Shuford & Gardali, 2008 for birds; Williams, 1986 for mammals; Moyle et al., 1989 for fish; and Jennings and Hayes, 1994 for amphibians and reptiles). ➤ Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Table 4.4-4. Special-Status Wildlife Species of the Project Area

Common Name	Habitat	Status	Nearest Known Location Relative to the BSA	Discussion
Invertebrates				
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	Vernal pools	FT	Lockwood Valley, 25 miles to the north-northeast (CNDDDB, 2016)	Suitable habitat not present in BSA
Wandering skipper (<i>Panoquina errans</i>)	Saltmarsh	SA	Carpinteria Saltmarsh, 0.7 miles to the northwest (CNDDDB, 2016)	Suitable habitat not present in BSA
Monarch butterfly (<i>Danaus plexippus</i>)	Eucalyptus groves and parks	SA	East side of Carpinteria Creek downstream of Eighth Street (Meade, 1999)	Winter aggregation site within BSA
Fish				
Tidewater goby (<i>Eucyclogobius newberryi</i>)	Coastal lagoons and adjacent stream reaches	FE, CSC	Carpinteria Creek, Pacific ocean to 1 mile upstream (CNDDDB, 2016)	Reported from BSA
Southern steelhead (<i>Oncorhynchus mykiss gairdneri</i>)	Coastal streams	FE, CSC	Carpinteria Creek below Route 192 (Stoecker et al., 2002)	Reported from BSA
Amphibians				
California newt (<i>Taricha torosa torosa</i>)	Coastal streams in foothills	CSC	Gobernador Creek, 2.7 miles east-northeast of the BSA (Padre Associates, 2005)	Surface water duration insufficient
California red-legged frog (<i>Rana aurora draytonii</i>)	Ponds, stream pools	FT, CSC	Santa Monica Creek, 2.2 miles north-northwest of the BSA (M. Ingamells, pers. obs, 2011)	Not found during protocol surveys
Reptiles				
Arroyo toad (<i>Anaxyrus californicus</i>)	Sandy streambeds	FE, CSC	Santa Ynez River, 10.1 miles to the northwest (CNDDDB, 2016)	Suitable habitat not present in BSA
Southwestern pond turtle (<i>Emys marmorata</i>)	Vegetated ponds, stream pools	CSC	Rincon Creek, 3.7 miles east of the BSA (Padre Associates, 2001)	Suitable habitat present in BSA
Two-striped garter snake (<i>Thamnophis hammondi</i>)	Streams	CSC	Santa Monica Creek, 2.5 miles north-northwest of the BSA (M. Ingamells, pers. obs, 2011)	Suitable habitat present in BSA
Birds				
California condor (<i>Gymnogys californianus</i>)	Grassland, shrubland, woodland	FE, SE	Los Padres National Forest (foraging range), 2 miles to the north (USFWS, 2013)	Suitable habitat not present in BSA
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	Beaches, foredunes	FT	San Buenaventura State Beach, 13 miles to the southeast (CNDDDB, 2016)	No breeding records in area
California least tern (<i>Sterna antillarum browni</i>)	Estuaries, coastal wetlands	FE, SE	McGrath State Beach, 16 miles to the southeast (CNDDDB, 2016)	Estuary within BSA not suitable, no breeding records in area
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	Redwood forests	FT, SE	Santa Cruz area, 220 miles to the northwest (CNDDDB, 2016)	Suitable habitat not present in BSA

Table 4.4-4. Continued

Common Name	Habitat	Status	Nearest Known Location Relative to the BSA	Discussion
Light-footed clapper rail (<i>Rallus longirostris levipes</i>)	Saltmarsh	FE, SE	Carpinteria Saltmarsh (historic), 0.7 miles to the northwest (CNDDDB, 2016)	Suitable habitat not present in BSA
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	Wide, contiguous riparian corridors	FE, SE	Santa Ynez River near Jameson Lake, 6.5 miles to the north (CNDDDB, 2016)	No breeding records in the region
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Riparian corridors with permanent surface water	FE, SE	Santa Ynez River east of Gibraltar Reservoir, 11.0 miles to the northwest (CNDDDB, 2016)	No breeding records in the region
White-tailed kite (<i>Elanus caeruleus</i>)	Grasslands, farmlands, open shrublands	FP	Carpinteria Creek corridor, considered uncommon (Cachuma RCD et al., 2005)	Suitable habitat not present in BSA
Cooper's hawk (<i>Accipiter cooperi</i>)	Riparian forest	WL (nest)	Carpinteria Creek (Padre Associates, 2005), considered uncommon (Cachuma RCD et al., 2005)	Suitable habitat present in BSA
Sharp-shinned hawk (<i>Accipiter striatus</i>)	Chaparral and woodland	WL (nest)	Carpinteria Creek corridor, considered uncommon (Cachuma RCD et al., 2005)	Suitable habitat present in BSA
Yellow warbler (<i>Dendroica petechia brewsteri</i>)	Riparian forest, riparian scrub	CSC	Carpinteria Creek corridor, considered fairly common (Cachuma RCD et al., 2005)	Suitable habitat present in BSA
Yellow-breasted chat (<i>Icteria virens</i>)	Riparian forest, riparian scrub	CSC	Carpinteria Creek corridor, considered very rare (Cachuma RCD et al., 2005)	Suitable habitat present in BSA
Belding's savannah sparrow (<i>Passerculus sandwichensis beldingi</i>)	Saltmarsh	SE	Carpinteria Saltmarsh, 0.7 miles to the northwest (CNDDDB, 2016)	Suitable habitat not present in BSA
Mammals				
Ringtail (<i>Bassariscus astutus</i>)	Forest, and near riparian habitats	FP	Santa Monica Canyon, 2.5 miles to the north-northwest (1979 specimen at Santa Barbara Natural History Museum)	Suitable habitat present in BSA
Yuma myotis (<i>Myotis yumanensis</i>)	Woodlands, scrub, near water	SA	Found night roosting under Carpinteria Avenue Bridge during surveys conducted for this project	Present

Status Codes: CSC California Species of Special Concern (CDFW) Habitat Codes: A Habitat absent
 FP Fully protected under Section 4700 of the Fish and Game Code HP Habitat present
 FE Federal Endangered (USFWS) P Species present
 FT Federal Threatened (USFWS)
 SA Special Animal (CDFW)
 SE State Endangered (CDFW)
 WL Watch List (CDFW)

4.4.1.11 Discussion of Species Considered Absent

Special-Status Plants. Table 4.4-2 lists special-status plant species that may occur within the BSA based on the presence of suitable habitat and does not include the results of botanical surveys conducted for the project. Several botanical surveys were conducted within the BSA in June and July 2013 and May 2014 (project construction footprint only). Excluding native trees, no special-status plant species were detected and are considered absent, based on the findings of project-specific botanical surveys. Impacts to native trees are addressed in Section 4.4.2.2.

Vernal Pool Fairy Shrimp. This species has not been reported from the region, and the BSA does not provide any vernal pool habitat. Therefore, this species is considered absent from the BSA.

Wandering Skipper, Light-footed Clapper Rail and Belding's Savannah Sparrow. The BSA does not provide any saltmarsh habitat; therefore, these species are considered absent from the BSA.

California Newt. This species has been reported from the upper watershed, primarily Gobernador Creek. However, stream pool habitat suitable for breeding (adequate flow, depth and duration) does not occur within lower Carpinteria Creek. Therefore, this species is considered absent from the BSA.

California Red-legged Frog. This species is a Federally-listed threatened species and a California species of special concern. The BSA is located outside of the Critical Habitat Unit No. STB-7 designated by USFWS (2010). California red-legged frog has not been reported from the Carpinteria Creek watershed, was not observed during field surveys conducted for the project, and was not found during protocol surveys completed in lower Carpinteria Creek in 2007 (Caltrans, 2010a). Therefore, this species is considered absent from the BSA.

Arroyo Toad. This species is a Federally-listed endangered species and a California species of special concern. The BSA is located outside of the nearest critical habitat (Unit No. 3, Upper Santa Ynez River basin) designated by USFWS (2011). Arroyo toad has not been reported from the Carpinteria Creek watershed, and suitable habitat was not observed during field surveys conducted for the project. Therefore, this species is considered absent from the BSA.

Western Snowy Plover. This species occasionally forages on less frequented beaches near the BSA, but no breeding sites have been recorded in the Carpinteria area. Therefore, western snowy plover is considered absent from the BSA.

Least Tern. This species may forage in offshore areas near the BSA; however, breeding has not been recorded in the Carpinteria area. Although least tern may forage in harbors, lagoons and estuaries, the Carpinteria Creek estuary is not suitable due to insufficient area and depth, and disturbance associated with human and pet activity at the State Beach. Therefore, least tern is considered absent from the BSA.

Least Bell's Vireo. This endangered subspecies typically inhabits dense stratified riparian habitats with a canopy of willows, cottonwood, sycamore, and/or oak and an understory comprised of mule fat, wild rose and other riparian species. This species typically is associated with southern willow scrub, cottonwood forest, mulefat scrub, sycamore alluvial woodland, coast live oak riparian forest, and arroyo willow riparian forest along perennial and intermittent streams. The birds forage in riparian and adjoining chaparral habitat. The most critical structural component to least Bell's vireo breeding habitat is a dense shrub layer at two to 10 feet above the ground. Nests are typically built within three feet of the ground in the fork of willows, wild rose, mulefat or other understory vegetation.

Least Bell's vireo is considered a very rare migrant in the project area with only one record (1987) from Carpinteria Creek (Lehman, 1994). The nearest reported breeding areas are along the Santa Ynez River, about 6.5 miles north of the BSA. Due the lack of records in the region, this species is considered absent from the BSA.

Southwestern Willow Flycatcher. Willow flycatchers breed in dense riparian habitats in southern North America and in the extreme northwestern Mexico between May 1 and August 31. They migrate south in the winter to southern Mexico, Central America, and northern South America. Southwestern willow flycatcher nests in dense riparian forests interspersed with small openings for open water, or shorter/sparser vegetation, creating a mosaic that is not uniformly dense. Willow flycatcher breeding sites almost always occur near slow-moving or still surface water and/or saturated soil.

Southwestern willow flycatcher is considered a rare migrant in the project area (Lehman, 1994; Cachuma RCD et al., 2005), with the nearest reported breeding areas along the Santa Ynez River, about 11 miles northwest of the BSA. Due the lack of records in the region, this species is considered absent from the BSA.

White-tailed Kite. This species forages for rodents in grasslands, farmlands and similar open areas. White-tailed kite forages at the Carpinteria Bluffs (City of Carpinteria, 2003) and is considered uncommon in the Carpinteria Creek watershed (Cachuma RCD et al., 2005). Due to the lack of suitable foraging areas, this species is considered absent from the BSA.

4.4.1.12 Wetlands and Waters of the U.S.

The U.S. Army Corps of Engineers (Corps) is responsible for the issuance of permits for the placement of dredged or fill material into waters of the United States (waters) pursuant to Section 404 of the Clean Water Act (33 USC 1344). As defined by the Corps at 33 CFR 328.3(a)(3), waters are those that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; all interstate waters including interstate wetlands; and territorial seas.

Wetlands are a special class of waters of the United States. Under Corps and U.S. Environmental Protection Agency (EPA) regulations, wetlands are defined as:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The definition of waters of the U.S. (and Corps jurisdiction) used in this analysis is based on the Corps' recently adopted Clean Water Rule (Federal Register, June 29, 2015). However, on October 9, 2015, the Federal Sixth Circuit Court issued a nationwide stay blocking enforcement of the Clean Water Rule. In any case, the results of this preliminary jurisdictional determination are valid under both the Clean Water Rule and previous Corps guidance.

A preliminary wetland delineation was conducted to determine the area of jurisdiction of the Corps under Section 404 of the Clean Water Act. The delineation was performed in accordance with the routine procedures for areas greater than five acres detailed in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and *Arid West Supplement* (Environmental Laboratory, 2008). Jurisdictional wetlands were determined to be present if evidence of all three Federal parameters were observed (hydrophytic vegetation, hydric soils, and wetland hydrology).

The limit of Corps jurisdiction in non-tidal waters extends to the ordinary high water mark and includes adjacent wetlands. The ordinary high water (OHW) mark was established along the banks of Carpinteria Creek using drift lines and bank shelving patterns. Drift lines (organic materials deposited along the banks) are direct evidence of the highest water elevation of the most recent rain year, and are useful in determining wetland hydrologic characteristics. Bank shelving patterns (eroded benches) indicate long-term patterns in the ordinary high water elevation. The width of jurisdictional waters (distance between OHW marks) was measured along the creek within the project construction footprint at two locations (transects), one upstream and one downstream of the bridge site.

Hydrophytic Vegetation. The predominance of hydrophytic (water-loving) vegetation was established by identifying dominant species within a sample plot and determining the hydrophytic class of the species (e.g., facultative, facultative-wetland or obligate wetland species), as listed in Lichvar et al. (2014). Hydrophytic vegetation, including arroyo willow, western sycamore, white alder and watercress was observed along the banks of Carpinteria Creek within the project construction footprint.

Hydric Soils. In most instances, a soil pit is excavated to a depth of 18 inches below ground surface (bgs) to determine the extent of saturation and to examine the soil for evidence of wetland hydrology (oxidized rhizospheres). Once the pit is excavated, a soil sample is obtained from 10 inches bgs, which is examined for evidence of hydric characteristics, such as organic streaking, dark color (low matrix chroma), or gleying and/or mottling resulting from anaerobic conditions.

According to the *Soil Survey of Santa Barbara County, California, Coastal Part* (Shipman, 1981), the project construction footprint supports Goleta fine sandy loam (0 to 2 percent slopes) and Metz loamy sand. According to Field Office Official List of Hydric Soil Map Units for Santa Barbara County, California, South Coastal Part (U.S. Department of Agriculture, Soil Conservation Service, 1992), Goleta fine sandy loam is not a hydric soil. However, floodplain channel inclusions of Metz loamy sand are listed as hydric in the Field Office Official List.

Field observations did not confirm the presence of Goleta fine sandy loam or Metz loamy sand. However, soils mapping is conducted on a regional scale and does not generally account for alluvium deposited by streams. Earth material within the Carpinteria Creek streambed (low flow channel) of the project construction footprint was composed of black (Munsell color chart 10YR 2/1) loamy sand and cobble. A portion of the streambed within the project construction footprint supported sandy mucky mineral soil, which is considered a primary hydric soil indicator.

Wetland Hydrology. Observations were conducted at each sample point to identify evidence of inundation or soil saturation, such as drift lines, sediment deposits and drainage patterns. Surface water and saturated soils were present along Carpinteria Creek within the project construction footprint during the preliminary wetland delineation. Primary indicators of wetland hydrology were observed at both transects. These indicators were surface water and soil saturation. Secondary indicators of wetland hydrology were also observed, including water marks, drift deposits and drainage patterns.

Wetland Determination. The area between OHW marks met the requirement of waters of the U.S. Further, based on flow records and other indirect factors, Carpinteria Creek is inundated with sufficient frequency to meet the wetland hydrology criterion of the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). However, these areas must also possess positive indicators for the other wetland criteria to qualify as a jurisdictional wetland. A total of 0.22 acres of waters of the U.S. occurs within the project construction footprint. Based on the area where hydrophytic vegetation, wetland hydrology and hydric soils overlap, the project construction footprint supports approximately 0.09 acres of Federally jurisdictional wetlands.

4.4.1.13 California Coastal Commission Wetland Determination

The project site is located within the Coastal Zone and subject to permit appeal by and/or to the California Coastal Commission (CCC), which defines wetlands as:

“Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.” (14 CCR § 13577)

The determination of the extent of CCC-defined wetlands is based on a “one parameter definition” meaning areas exhibiting any one of the three parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) are considered wetlands. For the purposes of this project, hydrophytic vegetation covered the greatest area and was used to determine the extent of CCC-defined wetlands. In addition, the unvegetated streambed of Carpinteria Creek was considered CCC-defined wetlands. Approximately 1.20 acres of CCC-defined wetlands occur within the project construction footprint.

For the purposes of coastal zone policy consistency, riparian vegetation and the unvegetated streambed of Carpinteria Creek are treated as riparian resources and environmentally sensitive habitat and not wetlands as defined under Section 30121 of the Coastal Act (saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats and fens).

4.4.2 Impacts and Mitigation Measures

4.4.2.1 Significance Thresholds

The City has developed an Environmental Thresholds Manual which includes the following guidance to determine the significance of an impact to biological resources.

Tree Removal Guidelines. Specimen trees are defined in the City's Municipal Code as "any tree, shrub or other planting which has been so designated by resolution of the City council as having a high degree of value due to its type, age, size, conformation or location." Specimen trees are defined as those with a diameter of at least six inches measured four feet above the ground with a minimum height of at least six feet (definition is applicable to entire County). For trees such as willows, which do not have a single trunk, the diameter of all upright woody stems should be combined for the measurement of the diameter.

For standard Subdivision, Development Plans or Conditional Use Permits, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant. All native tree species, regardless of size, should be considered to be biologically valuable. Non-native trees which may be valuable include windrow and individual eucalyptus and other horticultural species. Eucalyptus trees can be significant resources where trees in general are rare, where they provide roosting habitat, and where they provide some wildlife habitat, their inherent biological value is generally limited due to the high level of disturbance of such areas. The loss of any specimen tree of particularly remarkable size or quality or the loss of any tree with historic value may be considered potentially significant even if the above criteria are not met.

Listed Species or Species Eligible for Listing. All State or Federally-listed species or species meeting the criteria for listing are considered significant resources sensitive to development. Any impact to the habitat of such a species, or any direct taking or harassment of such a species would be considered a significant biological impact.

Sensitive Species. Sensitive species are rare or declining species that have been identified by any one of a number of private groups and public agencies. In determining whether an impact to the habitat of a sensitive species is significant the following factors should be considered:

- a) Sensitivity of the species (is the species very uncommon, or has there been a serious decline in the abundance of the species?);
- b) Biological value (significance) of the habitat (i.e., does it support native wildlife, does it provide a wildlife corridor, etc.?);
- c) Sensitivity of the site to the proposed development (would the proposed development retain all or most of the biological value of the site?);
- d) Extent and degree of the proposed impact.

Wildlife Corridors. Development may sever connections between habitat areas that may be used by wildlife for migration or dispersal. To be considered biologically important, the area with habitat value to which the site is connected must be at least 10 acres in size. The loss of a connection between two habitat areas is usually considered a significant impact. Factors to consider when making the determination of whether or not the impact is significant include:

- a) Importance of the corridor to wildlife (does the corridor provide a valuable, and well used connection?);
- b) Size of the habitat areas joined by the corridor (are the areas that are connected big enough to be of biological valued as long as there is a connection, or even if the connection were to be severed?);
- c) Availability of an alternative corridor; and
- d) The nature of the impact (Would it be temporary? Would the barrier prevent all movement, or just the movement of some species?).

Coastal Wetlands. These lands include salt marsh habitats, surfgrass, mudflats intertidal zones and other wetlands occurring within the coastal zone. Coastal wetlands are extremely rich biological resources and are also very sensitive to development. Direct impacts to coastal wetlands, or to the wildlife occurring within coastal wetlands are always considered significant.

Riparian Woodlands. Riparian woodlands support a large number of bird species and are considered significant biological resources because of the richness. The extent of riparian woodlands has declined dramatically in the last few years. Thus, this community is considered sensitive to development. Where riparian woodlands occur within wetlands, impacts to the community, or to wildlife supported by the community, are considered significant. Where riparian species are not associated with wetland soil or hydrology, a determination of the significance of impacts to the community depends on the following factors:

- a) Extent and value of the riparian community (i.e., diversity of plant and animal life, connection to other areas with habitat value, etc.);
- b) Presence or utilization by sensitive species;
- c) Importance of the riparian community to the surrounding community;
- d) Function as a stop-over place for native bird species; and

e) Extent and degree of the impact.

Marshes. This community occurs where the water table is at or just above the ground surface and usually support a number of sensitive amphibian, reptile and bird species. Natural freshwater marshes are considered significant biological resources. Freshwater marsh habitat has declined dramatically over the past few years. It is considered a sensitive habitat type. Direct impacts to naturally occurring freshwater marshes, or to wildlife occurring within the marshes, are considered significant. Human activities have resulted in the creation of marshes. Impacts to these marshes may be considered significant when the man-made marshes display biologically valuable functions, such as providing habitat to a diversity of native wildlife.

Urban Drainages. Runoff from urban areas can result in the degradation of natural drainages and the creation of waterways where none naturally occurred. These drainages are frequently channelized or partially channelized. These drainages are only considered significant biological resources when they support native species or act as wildlife movement corridors.

4.4.2.2 Project-Specific Impacts

Impact BIO-1: Project construction activities would result in the loss of riparian forest and City-designated ESHA – Class II, significant but mitigable.

Approximately 0.95 acres of arroyo willow riparian forest occurs within the project construction footprint and would be temporarily removed during bridge replacement. ESHA includes the unvegetated streambed under the existing bridge, such that construction-related impacts to ESHA would be larger (1.20 acres). Permanent impacts to arroyo willow riparian forest and ESHA would be limited to the bridge piers and portions of the proposed bike path in the streambed or approximately 0.10 acres. The rock slope protection (RSP) would be covered with soil and planted with native riparian species and is considered a temporary impact. It is anticipated that the fill slope required to reconstruct the existing bike path could be revegetated such that no permanent loss of arroyo willow riparian forest and ESHA would occur in this area.

Mitigation Measures: The limits of construction shall be clearly delineated to avoid inadvertent loss of riparian habitat and ESHA. Riparian habitats shall be replaced within temporary impact areas and adjacent portions of Carpinteria Creek. In addition, the buried RSP shall be planted with riparian species including replacement trees if feasible (see BIO-2). Native plant materials used for riparian restoration shall originate from the Carpinteria Creek watershed to the extent feasible, which may include nursery propagation of seeds and cuttings obtained from the project area. Unaffected riparian forest along Carpinteria Creek shall be restored/enhanced by the removal of invasive species, primarily giant reed, Cape ivy and English ivy, with the goal of restoring and/or enhancing an area at least three times larger than the ESHA impact area (1.20 acres). Re-planting native species in areas where invasive plants are removed shall be included, where natural colonization by native plants may not be adequate. This approach is consistent with Implementation Measure 2.4.4 of the City's Creeks Preservation Program.

Plan Requirements and Timing. A mitigation and monitoring plan shall be prepared and approved by the California Department of Fish & Wildlife prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.

Monitoring. A qualified biologist shall monitor the success of riparian habitat restoration as required by the Streambed Alteration Agreement. Monitoring reports shall be reviewed by City staff.

Residual Impacts. Successful implementation of the mitigation and monitoring plan would reduce impacts to riparian habitat and ESHA to a less than significant level.

Impact BIO-2: Project construction activities would result in the loss of native trees and non-native specimen trees, considered biologically valuable – Class II, significant but mitigable.

Tree surveys were conducted on July 18, 2013, July 30, 2014 and January 28, 2015 to identify all native trees greater than three inches in diameter at breast height and specimen ornamental trees that would require removal during project construction activities. Approximately 91 native trees and four non-native ornamental trees are located within the project construction footprint and would be removed (see Table 4.4-5). Appendix F identifies the species and trunk diameter of each tree to be removed, and includes a Tree Location Map. The non-native trees may be considered biologically valuable as they provide habitat value within the riparian corridor.

Table 4.4-5. Tree Removal Summary

Tree Species	Trees to be Removed	Specimen ¹ Trees to be Removed	Average Diameter (“, breast height)	Status	Proposed Replacement Ratio
Western sycamore (<i>Platanus racemosa</i>)	29	26	14	Native riparian tree	3:1
Arroyo willow (<i>Salix lasiolepis</i>)	47	47	9	Native riparian tree	3:1
Red willow (<i>Salix laevigata</i>)	2	2	13	Native riparian tree	3:1
White alder (<i>Alnus rhombifolia</i>)	5	2	7	Native riparian tree	3:1
Coast live oak (<i>Quercus agrifolia</i>)	5	3	9	Native tree	10:1
Black cottonwood (<i>Populus trichocarpa</i>)	2	2	16	Native riparian tree	3:1
Velvet ash (<i>Fraxinus velutina</i>)	1	0	5	Native riparian tree	3:1
Silver dollar gum (<i>Eucalyptus polyanthemos</i>)	4	4	26	Non-native specimen tree ²	1:1
Total	95				

¹ Specimen trees are defined as a tree with a single trunk at least 6” in diameter, except willows where multiple stems are added

² To be replaced with native riparian trees

Mitigation Measures: A qualified biologist or arborist shall re-evaluate the limits of the construction work area with the selected construction contractor to minimize removal of native trees, and identify trees that may be cut down with the root crown left in place. Trees removed shall be replaced at ratios consistent with anticipated conditions of regulatory permits (primarily the California Department of Fish & Wildlife Streambed Alteration Agreement) and City of Carpinteria Conditional Use Permit and Coastal Development Permit (see Table 4.4-5). Replacement trees shall originate from southern Santa Barbara County, if available. Replacement trees shall be planted within the RSP to the extent feasible, including pole cuttings placed between rocks. Planting pockets (tree wells or equivalent) shall be included within the RSP to the extent that structural integrity is not compromised.

Temporary fencing shall be placed around the canopy of native trees adjacent to construction work areas during the construction period to prevent inadvertent damage or removal of native trees. Replacement trees shall be maintained and monitored for a period of five years, with periodic monitoring reports prepared and submitted to regulatory agencies. Total mortality of replacement trees over five years shall not exceed 50 percent. A tree replacement plan shall be developed to identify planting areas and methods, and included within a mitigation and monitoring plan to be submitted to regulatory agencies.

Plan Requirements and Timing. A tree replacement plan shall be prepared and approved by the California Department of Fish & Wildlife prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.

Monitoring. A qualified biologist shall monitor the success of tree replacement activities. Monitoring reports shall be reviewed by City staff.

Residual Impacts. Successful implementation of the tree replacement plan would reduce impacts to native and specimen trees to a level of less than significant.

Monarch Butterfly

Surveys for Monarch butterfly were not conducted for this project, due to lack of access to a known roost on private property. This species winters in dense roosts, typically in tree stands in protected coastal areas. These winter roosts begin forming in October and persist into February, while autumnal roosts are abandoned early in November or December by individuals seeking more favorable conditions. A County-wide survey conducted between 1998 and 1999 reported a large (up to 7,325 individuals) autumnal roost along Carpinteria Creek downstream of the Eighth Street Pedestrian Bridge and north of Concha Loma Drive (Site 99) in a grove of blue gum and sycamore trees (Meade, 1999). This site is located within the BSA. Based on review of aerial photographs and the June 21, 2013 field survey, it was observed that some of the larger blue gum trees at this location fell or had been cut down prior to 2010. The project construction footprint is located approximately 1,000 feet northeast of the known autumnal roost site. Therefore, impacts to Monarch butterfly are not anticipated.

Impact BIO-3: Project construction activities may adversely affect the endangered tidewater goby – Class II, significant but mitigable.

Tidewater goby was found in the project area (lower Carpinteria Creek) during surveys conducted in 2008/2009 during construction of the Eighth Street Pedestrian Bridge. Tidewater goby is a Federally-listed endangered fish and California species of special concern that inhabits brackish water habitats along the California coast. It is a small fish rarely exceeding two inches in length, and all life stages occur in coastal estuaries and adjacent stream reaches, typically with salinities ranging from five to 20 parts per thousand (ppt).

Although tidewater goby primarily inhabits the lower reach of Carpinteria Creek and construction work in the streambed would be limited to the dry season, the potential exists that tidewater goby would be adversely affected by project-related stream diversion and water quality impacts. Impacts may include stranding during stream diversion, impingement on pump intake screens, increased turbidity and sedimentation caused by demolition and/or construction work in the streambed.

Incidental take of tidewater goby in the form of harassment, harm or mortality may occur. Caltrans entered into formal consultation with USFWS, which issued a Biological Opinion (2015-F-0385) dated December 29, 2015. The Biological Opinion authorizes incidental take of up to 100 tidewater gobies captured and up to 10 tidewater gobies found dead or injured. Conditions of the Biological Opinion have been incorporated into the proposed mitigation measures listed below.

Mitigation Measures: The following measures shall be implemented to address potential construction-related impacts to tidewater goby:

- To avoid conflicts with fish, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry.
- If instream construction must be conducted when surface water is present, stream diversion shall be implemented such that surface flow at least 100 feet upstream and downstream of work areas is diverted and returned to Carpinteria Creek immediately downstream of the project site.
- A USFWS-approved biologist shall provide construction worker awareness training prior to the start of construction.
- A USFWS-approved biologist shall monitor installation of the stream diversion, initial dewatering activities and other construction work conducted in the streambed.
- Only qualified biologists authorized by USFWS under the Biological Opinion shall be involved in surveying, capture, handling and relocation of tidewater gobies.

- A pre-construction survey shall be completed by a USFWS-approved biologist within 10 days of the initiation of instream construction work to verify presence/absence of this species within the construction work area.
- If tidewater goby is present in the construction work area at the time construction is initiated, the work area shall be isolated from adjacent surface waters and gobies relocated to suitable habitat near the estuary.
- The time period tidewater gobies are held in captivity shall be minimized, and environmental conditions in captivity shall be maintained to avoid injury and minimize stress.
- The number of tidewater gobies captured, site of capture, site of relocation, habitat conditions at capture site and habitat conditions at the relocation site shall be recorded.
- If pumping is required to dewater the construction work area and tidewater goby is present, pump intakes shall be fitted with a wire mesh screen with a 5 mm mesh or smaller.
- Flow to downstream reaches shall be maintained during dewatering or flow diversion.
- Appropriate sediment collection devices (silt fence, straw wattles, hay bales, or equivalent) shall be installed downstream of the construction work area to prevent siltation of downstream reaches.
- The streambed (and substrate) affected by construction shall be returned to pre-construction conditions (excluding areas displaced by the bike path and RSP).
- Herbicide shall not be used or applied within 25 feet of the streambed, during the wet season or during winds exceeding 5 miles per hour.

Plan Requirements and Timing. A tidewater goby monitoring plan, stream diversion plan and frac-out contingency and spill prevention plan shall be prepared and approved by the USFWS prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.

Monitoring. A qualified biologist shall monitor project construction activities to ensure tidewater goby protection measures are fully implemented. Monitoring reports shall be reviewed by City staff.

Residual Impacts. Successful implementation of the tidewater goby protection measures would reduce impacts to this endangered species to a level of less than significant.

Impact BIO-4: Project construction activities may adversely affect the endangered southern California steelhead – Class II, significant but mitigable.

Steelhead were not observed during field surveys of the BSA. Steelhead is an anadromous form of rainbow trout, which reproduces in freshwater but spends much of its life cycle in the ocean where greater prey availability and mass provides a greater growth rate and size. Steelhead have been divided into evolutionary significant units (ESU) based on similarity in life history, location and genetic markers. The southern California ESU was listed as endangered by the National Marine Fisheries Service (NMFS) on October 17, 1997. The lower portion of Carpinteria Creek, including the BSA, is designated critical habitat for southern California steelhead (National Oceanic and Atmospheric Administration, 2005). An adult female steelhead and juvenile steelhead were reported from the BSA in 2000 (Stoecker et al., 2002).

The proposed project would result in temporary impacts to approximately 300 linear feet of critical habitat, associated with bridge construction and RSP. These activities may substantially or permanently degrade the condition of the primary constituent elements.

Sufficient surface water to support this species is unlikely to be present, as construction work in the streambed would be limited to the dry season. However, the potential exists that steelhead may be adversely affected by project-related stream diversion and water quality impacts. Impacts may include stranding during stream diversion, impingement on pump intake screens, increased turbidity and sedimentation caused by demolition and/or construction work in the streambed. Incidental take of steelhead in the form of harassment, harm or mortality may occur.

The proposed bike path and bridge piers would permanently displace approximately 0.10 acres of streambed, potentially used by steelhead to reach upstream spawning areas. However, the project would increase the channel width at the bridge site through the removal of the concrete walls and fill in the end spans of the existing bridge (see Section 1.3), which would improve storm flow (reduce water velocity and obstructions) through the project site and benefit steelhead migration. In contrast to existing conditions, the bridge piers would be located outside the low flow channel which would also benefit steelhead migration.

The proposed bike path and RSP would not substantially alter the flow path and water velocity during storm flows when steelhead may migrate through the bridge site. The proposed bridge piers would be small in diameter (about 30 inches) and located outside the primary flow channel and also would not substantially alter the flow path and water velocity during storm flows. Therefore, adverse impacts to steelhead migration are not anticipated.

Incidental take of southern California steelhead in the form of harassment, harm or mortality may occur. Caltrans entered into formal consultation with NMFS, which issued a Biological Opinion (WCR-2015-3759) dated December 1, 2015. The Biological Opinion authorizes incidental take of up to 10 juvenile steelhead injured or killed as a result of project-related dewatering over two construction seasons. Conditions of the Biological Opinion have been incorporated into the proposed mitigation measures listed below.

Mitigation Measures: The following measures shall be fully implemented to prevent impacts to steelhead:

- To avoid conflicts with fish, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry.
- A NMFS-approved biologist shall provide construction worker awareness training prior to the start of construction.
- A NMFS-approved biologist shall monitor installation of the stream diversion, initial dewatering activities and sediment control devices to identify and rectify any conditions that may adversely affect steelhead or their habitat.
- A NMFS-approved biologist shall identify steelhead relocation sites with adequate water quality, cover and living space.
- Within 10 days of the initiation of any work within surface water, a qualified fisheries biologist shall complete a survey for steelhead.
- If pumping is required to dewater the construction work area and juvenile steelhead are present, pump intakes shall be fitted with a wire mesh screen with a 5 mm mesh or smaller.
- Any steelhead found in the work area shall be recaptured and relocated by a NMFS-approved biologist to suitable relocation sites.
- If instream construction must be conducted when surface water is present, stream diversion shall be implemented such that diverted surface flow is returned to Carpinteria Creek immediately downstream of the project site.
- The diversion berm and pipeline shall be in place prior to beginning diversion of surface flow.
- Non-erosive materials (e.g., sandbags, sheet pile, rubber/plastic tubes) shall be used to construct the diversion berm.
- An energy dissipater and sediment trap (straw bales, or equivalent) shall be used at the diversion pipeline outlet.
- Excavated material shall be stored away from the low-flow channel to prevent incidental discharge.

- Any streambed access points shall be stabilized using a pad of coarse aggregate underlain by filter cloth, crane mats or equivalent materials to reduce erosion and tracking of sediment.
- Disturbed areas of the stream channel shall be re-compacted to pre-construction conditions prior to restoring flow to the active channel.
- Silty or turbid water produced from dewatering or other activities shall not be discharged into Carpinteria Creek until filtered or allowed to settle prior to discharge.
- Use of heavy equipment in flowing water shall be prohibited.
- The bed and banks of Carpinteria Creek shall be restored immediately following the completion of instream construction work (excluding areas displaced by the bike path and RSP).
- Riparian habitat removed by the project shall be restored and/or enhanced to improve fish habitat.

Plan Requirements and Timing. A water diversion and drilling fluid discharge contingency plan shall be prepared and approved by the NMFS prior to the initiation of construction. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit.

Monitoring. A qualified biologist shall monitor project construction activities to ensure steelhead protection measures are fully implemented. A steelhead relocation report and the mitigation and monitoring plan (see mitigation for Impact BIO-1) shall be provided to NMFS within 30 days of project completion. Monitoring reports shall be reviewed by City staff.

Residual Impacts. Successful implementation of the steelhead protection measures would reduce impacts to this endangered species to a level of less than significant.

Impact BIO-5: Project construction activities may adversely affect the western pond turtle and two-striped garter snake – Class II, significant but mitigable.

Western pond turtle was not observed during field surveys of the BSA conducted for this project. Based on a conversation with long-time campers at Carpinteria State Beach, turtles have been observed in Carpinteria Creek near the Fourth Street Bridge. It is unclear if turtles observed are native; however, suitable habitat for western pond turtle occurs just upstream of this area. The western pond turtle is a California species of special concern. It is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities, but requires upland sites for nesting and over-wintering. Suitable pond habitat occurs in the downstream portion of the BSA, but this species has not been reported from the Carpinteria Creek watershed.

Two-striped garter snake was not observed during field surveys of the BSA conducted for this project. This species is a California species of special concern that occurs along the central and southern California coastal drainages from Monterey County to northern Baja California (Fitch, 1941). It is a highly aquatic species and is dependent on freshwater streams, ponds, and reservoirs with permanent water and ample emergent vegetation for breeding and foraging. The two-striped garter snake has not been reported from Carpinteria Creek, but has been found in the Santa Monica Creek watershed. Suitable habitat for this species occurs within the BSA.

Construction within the streambed would be limited to the dry season, when suitable habitat for western pond turtle and two-striped garter snake is typically located at least 1,000 feet downstream of the project site. If present during construction, direct mortality of these species and habitat degradation could occur.

Mitigation Measures: The following measures would be implemented to reduce the potential for adverse impacts to western pond turtle and two-striped garter snake:

- Instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry.
- Disturbance of suitable habitat (stream pools) shall be avoided.
- A pre-construction biological survey shall be conducted within 10 days of initiation of instream work to identify western pond turtle, two-striped garter snake and other wildlife within the construction work area.
- A qualified biologist shall relocate any wildlife found during the pre-construction survey to suitable habitat at least 500 feet from the work area.
- A qualified biologist shall periodically monitor construction activities to ensure these species are identified and relocated as needed.

Plan Requirements and Timing. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented during the entire construction period.

Monitoring. A qualified biologist shall monitor project construction activities to ensure these measures are fully implemented. Monitoring reports shall be reviewed by City staff.

Residual Impacts. Successful implementation of these mitigation measures would reduce impacts to western pond turtle and two-striped garter snake to a level of less than significant.

Impact BIO-6: Project construction activities may adversely affect sharp-shinned hawk – Class III, less than significant.

This special-status species was not observed during field surveys of the BSA conducted for this project, but has been reported from the area as an uncommon winter visitor (Cachuma RCD et al., 2005). Sharp-shinned hawk is a winter visitor to the project area, and does not breed here. Approximately 0.95 acres of suitable foraging habitat (arroyo willow riparian forest) occurs within the project construction footprint and would be temporarily removed during bridge replacement. Construction-related disturbance (noise, dust, human activity) may also prevent foraging in the vicinity of the work area. Permanent impacts to sharp-shinned hawk foraging habitat would be approximately 0.10 acres. The small loss of foraging habitat as compared to that available in the region is not anticipated to adversely affect the population of sharp-shinned hawk.

Mitigation Measures: Not required.

Impact BIO-7: Project construction activities may adversely affect Cooper's hawk, yellow warbler, yellow-breasted chat and migratory birds – Class II, significant but mitigable.

Cooper's hawk, yellow warbler and yellow-breasted chat were not observed during field surveys of the BSA conducted for this project, but have been reported from the Carpinteria Creek watershed. Cooper's hawk is considered uncommon, yellow warbler is considered a fairly common summer resident, and yellow-breasted chat is considered a very rare transient (Cachuma RCD et al., 2005). Approximately 0.95 acres of suitable foraging and nesting habitat (arroyo willow riparian forest) occurs within the project construction footprint and would be temporarily removed during bridge replacement. Construction-related disturbance (noise, dust, human activity) may also prevent foraging in the vicinity of the work area. Permanent impacts to suitable habitat would be approximately 0.10 acres.

Mitigation activities may include revegetation and application of herbicides which could disturb any Cooper's hawk, yellow warbler and yellow-breasted chat nesting within or adjacent to affected areas. Herbicide application is a short-term process (a few minutes at any one site) which would target invasive plant species unsuitable for nesting and is not anticipated to substantially affect breeding activities. However, revegetation planting may require several weeks and could result in nest abandonment.

Other relatively common bird species and special-status species would also be adversely affected including:

- Migratory birds protected under the Federal Migratory Bird Treaty Act.
- Migratory birds protected under Sections 3513 and 3700 of the California Fish and Game Code.

- Birds of prey protected under Section 3503.5 of the California Fish and Game Code.
- Fully protected birds under Section 3511 of the California Fish and Game Code.

Mitigation Measures: The following measures would be implemented to reduce the potential for adverse impacts to breeding birds including Cooper's hawk, yellow warbler and yellow-breasted chat:

- If feasible, vegetation within the construction work area shall be removed during the fall or winter (September 1 to February 15) prior to construction, to minimize the potential for nesting within the project site. In addition, any unoccupied nests (excluding raptor nests) found within the construction work area shall be removed to discourage nesting.
- A breeding bird survey shall be conducted within one week of the initiation of vegetation removal and all active nests shall be identified. Caltrans, CDFW and USFWS shall be contacted if any active nests are found within 300 feet of current or planned construction activities. Construction activity would be modified based on input from Caltrans, CDFW and USFWS to prevent adverse effects to nesting birds. Such modifications may include postponing construction within 200 feet (300 feet for raptors) of active nests until young have fledged and/or reducing the magnitude and duration of activity near nests. Nest monitoring may be conducted to verify project-related adverse effects have been minimized.
- A breeding bird survey would be conducted prior to implementation of mitigation and all active nests would be identified. Caltrans, CDFW and USFWS would be contacted if any active nests are found within 200 feet of planned mitigation activities. Mitigation activity would be modified based on input from Caltrans, CDFW and USFWS to prevent adverse effects to nesting birds. Such modifications may include postponing mitigation activities near active nests until young have fledged and/or reducing the magnitude and duration of activity near nests. Nest monitoring may be conducted to verify project-related adverse effects have been minimized.

Plan Requirements and Timing. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented prior to the initiation of construction.

Monitoring. City staff shall ensure vegetation is removed prior to the breeding season (if feasible), review breeding bird survey reports, and ensure active nests are monitored (as necessary) and avoided.

Residual Impacts. Successful implementation of these mitigation measures would reduce impacts to breeding birds including Cooper's hawk, yellow warbler and yellow-breasted chat to a level of less than significant.

Impact BIO-8: Project construction activities may adversely affect ringtail – Class III, less than significant.

This species has not been reported from the immediate project area and was not observed during field surveys of the BSA. Ringtail is known from the region, but is very secretive and could frequent the Carpinteria/Gobernador Creek riparian corridor. The proposed project would result in the temporary loss of 0.95 acres of arroyo willow riparian forest, which is considered suitable habitat for ringtail. Permanent impacts to ringtail habitat would be approximately 0.10 acres. Due to the small area affected as compared to the typical home range (100 to 1,300 acres), loss of this habitat is not anticipated to adversely affect the local ringtail population.

Mitigation Measures: Not required.

Impact BIO-9: Project construction activities may adversely affect Yuma myotis – Class II, significant but mitigable.

This species was observed using the underside of the Carpinteria Avenue Bridge as a night roost during field surveys of the BSA conducted for this project. Yuma myotis is a bat species found in a variety of habitats, but is highly associated with water and human structures. It is a crevice roosting species, typically found in high numbers within expansion joints of bridges over surface water. Suitable crevice habitat was not found within the BSA during field surveys conducted for this project. Based on direct observation of roosting behavior and guano piles, Yuma myotis uses the Carpinteria Avenue Bridge as a night roost (rest area between nighttime foraging bouts), clinging to the underside of the bridge where beams intersect, seeming to prefer acute corners.

Virtually all bat populations in California are considered sensitive to disturbance. However, the Western Bat Working Group considers Yuma myotis to be a low priority for conservation, as populations in coastal California appear to be stable and secure.

Bridge replacement activities would be staged to allow at least one lane of Carpinteria Avenue to remain open during the construction period. This means at least a portion of the existing bridge would remain in place while the new bridge is constructed. Therefore, at least a portion of the existing bridge would be present and available as a night roost during about one-half of the construction period.

Construction-related disturbance would reduce foraging opportunities for Yuma myotis along Carpinteria Creek during the construction period. However, foraging occurs at night, when construction work would be very rare. In addition, the affected area would represent a very small portion of the available foraging habitat along Carpinteria Creek. The existing bridge does not provide crevice habitat, and cannot support a day roost or maternity colony. Therefore, bridge replacement would not directly affect Yuma myotis reproduction or result in loss of a breeding site.

The proposed bridge design involves a concrete slab bridge deck which would not provide structures for bat roosting under the deck, likely resulting in the long-term loss of a night roost. Bat studies in the region appear to indicate Yuma myotis populations use multiple night roosts (Pierson et al., 2002), such that the importance of the Carpinteria Avenue Bridge to the local Yuma myotis population is unclear. The loss of a bat night roost is considered a potentially significant impact.

Mitigation Measures: Crevice habitat suitable for Yuma myotis shall be provided under the closure pour (see Figure 3-3, note E) where the two construction stages would connect. This approach would avoid any hydraulic problems with under-deck structures, while providing suitable night roosting habitat. In addition, the project-related introduction of crevice habitat in the bridge may encourage day roosting by Yuma myotis and other bat species.

Plan Requirements and Timing. The bat habitat design shall be included in the final construction drawings and specifications and implemented following the closure pour.

Monitoring. City staff shall ensure bat habitat is constructed per the plans and specifications.

Residual Impacts. This mitigation measure would provide replacement bat roosting habitat and may result in daytime use of the bridge structure, and reduce impacts to Yuma myotis to a level of less than significant.

Impact BIO-10: Project construction activities may adversely affect and displace Federally jurisdictional wetlands – Class II, significant but mitigable.

Based on the preliminary wetland delineation, approximately 0.09 acres of wetland waters (stream banks below the OHW mark vegetated with hydrophytic vegetation) occurs within the project construction footprint, and would be temporarily impacted by vegetation removal and stream diversion activities. Permanent loss of Federally-protected wetlands associated with the proposed project would be limited to the bridge piers and toe of the proposed RSP, or up to 0.02 acres. However, it is anticipated that loss of wetlands would be substantially less as bridge piers and RSP would be designed to avoid wetlands to the extent feasible.

Mitigation Measures: The following measures shall be implemented to reduce impacts to wetlands such as vegetation removal and water quality degradation:

- To minimize erosion-related impacts to wetlands, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the streambed is dry.
- Non-erosive materials (e.g., sandbags, sheet pile, rubber/plastic tubes) shall be used to construct the diversion berm, if required.
- An energy dissipater and sediment trap (hay bales, or equivalent) shall be used at the diversion pipeline outlet;

- Excavated material shall be stored away from the low-flow channel to prevent incidental discharge.
- Any streambed access points shall be stabilized using a pad of coarse aggregate underlain by filter cloth to reduce erosion and tracking of sediment.
- Disturbed areas of the stream channel shall be re-compacted to original conditions prior to restoring flow to the original channel.
- Silty or turbid water produced from dewatering or other activities shall not be discharged into Carpinteria Creek until filtered or allowed to settle prior to discharge.
- Use of heavy equipment in flowing water shall be prohibited.
- The bed and banks of Carpinteria Creek shall be returned to their original configuration immediately following the completion of instream construction work (excluding areas displaced by the bike path and RSP).
- Riparian and wetland vegetation removed by the project would be restored and/or enhanced (see mitigation measures for Impact BIO-1).

Plan Requirements and Timing. These measures shall be included as conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented during and following construction activities. A comprehensive mitigation and monitoring plan would be developed as part of obtaining permits from the CDFW and Corps of Engineers and incorporated within the mitigation and monitoring plan required for riparian habitat restoration (see Impact BIO-1).

Monitoring. A qualified biologist shall monitor the success of wetlands restoration as required by the Streambed Alteration Agreement. Monitoring reports shall be reviewed by City staff.

Residual Impacts. Successful implementation of the mitigation and monitoring plan would reduce impacts to wetlands to a level of less than significant.

Impact BIO-11: Project construction activities may adversely affect and displace California Coastal Commission-defined wetlands – Class II, significant but mitigable.

Based on a jurisdictional determination, CCC-defined wetlands and CDFW jurisdictional areas occur within the project site. The width of CCC-defined wetlands is based on the riparian corridor width (hydrophytic vegetation and unvegetated streambed), which also corresponds to the permit jurisdiction of the CDFW under Section 1602 of the Fish & Game Code. Approximately 1.20 acres of CCC-defined wetlands and CDFW jurisdictional area occurs within the project construction footprint and would be adversely affected during bridge replacement activities.

Mitigation Measures: See Impact BIO-10.

Impact BIO-12: Project construction activities may adversely affect wildlife movement along the Carpinteria Creek corridor – Class III, less than significant.

Carpinteria Creek appears to be used as a corridor by wildlife moving through the area as it provides habitat and cover in a suburban area. Habitat removal and construction-related disturbance may affect local wildlife movements. However, no barriers to wildlife would be involved and little work would occur at night when most wildlife movement occurs. Lighting may be required for short periods during nighttime construction work to support critical tasks, and may adversely affect nighttime wildlife movement along Carpinteria Creek. However, such lighting would be shielded, directed on the work area and would be temporary (a few hours per night) and infrequent (only a few nights during the construction period). Therefore, impacts to wildlife movement are considered less than significant.

Mitigation Measures: Not required.

Impact BIO-13: Proposed lighting may adversely affect wildlife movement along the Carpinteria Creek corridor – Class III, less than significant.

Carpinteria Creek appears to be used as a corridor by wildlife moving through the area as it provides habitat and cover in a suburban area. The project may include street and sidewalk lighting along Carpinteria Avenue and lighting along the existing and proposed bike path under the bridge. Street and sidewalk lighting would be composed of fully shielded, downward focused low intensity fixtures. Although the project may result in an increase in lighting levels along Carpinteria Avenue, intervening vegetation would obstruct most of this light from reaching the streambed where wildlife movement generally occurs. Bike path lighting would be low intensity and focused on the bike path, while meeting minimum public safety requirements.

The project site supports an existing bridge and major roadway such that wildlife is likely to have become accustomed to lighting, including existing street lights, headlights and exterior lighting of adjacent land uses. Overall, light-related impacts to wildlife movement would be less than significant.

Mitigation Measures: Not required.

4.4.2.3 Cumulative Impacts

Most other projects listed in Section 3.4 are located in developed areas and are unlikely to result in substantial impacts to biological resources. However, the Linden Avenue-Casitas Pass Road Interchanges project would result in adverse impacts to the biological resources of Carpinteria Creek and Franklin Creek, and the Cate School Master Plan project may result in adverse impacts to adjacent wildlife habitat. In particular, the proposed project would contribute to biological impacts to Carpinteria Creek associated with the Linden Avenue-Casitas Pass Road Interchanges project including temporary and permanent loss of riparian habitat, ESHA and wetlands, and construction-related disturbance to wildlife including steelhead, tidewater goby and breeding birds. The incremental contribution of the proposed project to cumulative biological impacts would be cumulatively considerable. However, the incremental contribution to cumulative biological impacts would be reduced by project-specific mitigation measures to a level of less than significant.

4.5 CULTURAL RESOURCES

This section of the EIR is based on an Archeological Survey Report prepared for the project by Conejo Archeological Consultants (December 2014) and an Extended Phase I Subsurface Archeological Testing Program conducted by Compass Rose Archeological (May 2015).

4.5.1 Setting

4.5.1.1 Prehistory

The project area lies within the historic territory of the Native American group known as the Chumash. The Chumash occupied the region from San Luis Obispo County to Malibu Canyon on the coast, and inland as far as the western edge of the San Joaquin Valley, and the four northern Channel Islands (Grant, 1978). The Chumash are subdivided into factions based on distinct dialects. The Barbareño Chumash occupied the coastal plain from Point Conception to Punta Gorda in Ventura County. The name Barbareño is derived from the mission with local jurisdiction, Santa Barbara.

Chumash society developed over the course of some 9,000 years and achieved a level of social, political and economic complexity not ordinarily associated with hunting and gathering groups (Morrato, 1984). The prehistoric Chumash are believed to have maintained one of the most elaborate bead money systems in the world, as well as one of the most complex non-agricultural societies (King, 1990). Several chronological frameworks have been developed for the Chumash region. One of the most definitive works on Chumash chronology is that of King (1990). King postulates three major periods; Early, Middle and Late. Based on artifact typologies from a great number of sites, he was able to discern numerous style changes within each of the major periods.

The Early Period (8,000 to 3,350 years Before Present [B.P.]) is characterized by a primarily seed processing subsistence economy. The Middle Period (3,350 to 800 years B.P.) is marked by a shift in the economic/subsistence focus from plant gathering and the use of hard seeds, to a more generalized hunting-maritime-gathering adaptation, with an increased focus on acorns. The full development of the Chumash culture, one of the most socially and economically complex hunting and gathering groups in North America, occurred during the Late Period (800 to 150 years B.P.).

The Chumash aboriginal way of life ended with Spanish colonization. As neophytes brought into the mission system, they were transformed from hunters and gatherers into agricultural laborers and exposed to diseases to which they had no resistance. By the end of the Mission Period in 1834, the Chumash population had been decimated by disease and declining birthrates. Population loss as a result of disease and economic deprivation continued into the next century.

Today, many people claim their Chumash heritage in Santa Barbara County. In general, they place high value on objects and places associated with their past history, especially burials, grave goods and archaeological sites.

4.5.1.2 History of the Project Area

In 1769, Gaspar de Portola and Father Junipero Serra departed the newly established San Diego settlement and marched northward toward Monterey, with the objective to secure that port and establish five missions along the route. The Gaspar de Portola Expedition landed along Carpinteria Beach on August 17, 1769, near the village of *Mishopshnow* (Bolton, 1927). The combined sea and land 1769-1770 Portola expedition, which passed through Santa Barbara County on its way to Monterey, was the prelude to systematic Spanish colonization of Alta California. Mission Santa Barbara was founded by Padre Fermin Lasuen in 1786. The Carpinteria Valley was granted to the Mission by the Spanish Government as part of the Pueblo Lands of Santa Barbara. Agricultural development of the Pueblo Lands was initiated during Spanish control, although livestock was the primary economic mainstay of the Spanish Period. Mexico gained its independence from Spain in 1822 and twelve years later the Missions were secularized and their lands granted as rewards for loyal service or in response to an individual's petition. The Mexican Ranchos also were heavily vested in the raising of cattle, sheep and horses.

Carpinteria Creek served as the boundary between the Pueblo Lands and Rancho El Rincon, which was granted in 1835 to Teodoro Arellanes (Cowan, 1977). The Mexican Period ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, which transferred control of California, New Mexico, Texas and other western properties to the United States. During the early American Period, the Pueblo Lands were sectioned and sold off. Dry farming expanded within the Carpinteria Valley and by 1869 much of the Carpinteria Valley was in agricultural production (Condor Environmental Planning Services, 1996).

A small community, which would eventually develop into the City of Carpinteria, sprang up along the northern margin of the estuary in the vicinity of Santa Monica Creek and Carpinteria Avenue. In 1868, a post office was established in Carpinteria. By 1870, an estimated 87 houses and about 400 people apparently existed in the general region. The initial growth of the community was limited by geographic constraints.

The first road through Carpinteria Valley was constructed in part through wetlands to provide a route for stage coach travel between Santa Barbara and Los Angeles. Similarly, construction of the Southern Pacific Railroad (1884-87), now known as the Union Pacific Railroad, was achieved by placing it on a berm in wetlands along the northern margin of the estuary. As a result of the construction of a train station at the eastern end of the developing town, the expansion of Carpinteria moved east and southward from the area of "Old Town", resulting in the fragmentation and filling of the eastern portion of the estuary. By 1888, Carpinteria Valley had a population of about 800 (Caldwell, 1979).

The Carpinteria Avenue Bridge over Carpinteria Creek was built in 1937 as part of the coastal highway. However, remnants of abutments from a previous bridge have been reported at the project site, apparently associated with a bridge depicted on the 1903 U.S. Geologic Survey 15' Santa Barbara quadrangle topographic map (Compass Rose, 2015). Following World War II, southern Santa Barbara County experienced significant population growth and housing development. U.S. 101 was constructed through Carpinteria in 1953-1954, at which time Carpinteria Avenue became a local arterial.

The City of Carpinteria was incorporated in 1965. Over the past century, much of the original Carpinteria Salt Marsh has been filled and developed west of Carpinteria Creek. The estimated 2014 population of Carpinteria is 13,442 (California Department of Finance, 2014).

4.5.1.3 Record Search

A records search was conducted at the South Central Coast Information Center (SCCIC) on July 24, 2014. The records search included a review of all archaeological site records and investigative reports within a 0.5-mile radius of the project site.

Archaeological Sites. Eight archaeological sites are recorded within a 0.5-mile radius of the project site; CA-SBa-6, -7, -1722, 3734, -3735, -3736, -3942, & -4018. The closest of these archaeological sites is site CA-SBa-7, which is a large habitation site with burials. It represents the large village of *Mishopshnow*, which was first historically noted by Crespi during the 1769 Portola Expedition and was also referenced in the Font Manuscript in 1776 (Bolton, 1927). In 1877, the Reverend Steven Bowers excavated a "burying place" at *Mishopshnow* (Benson, 1977).

In 1925, David Bank Rogers described the archaeological site's boundaries and excavated extensively within the archaeological site and noted that cemeteries associated with Oak Grove, Hunting and Canalino burials were present. An archaeological team from Berkeley, led by J.A. Bennyhoff, excavated within site CA-SBa-7 in 1949 and 1950. Ryan (1999) notes:

"According to field notes and a map obtained by Kirkish and Smith (1997), the Berkeley team worked in the northeastern part of the site and recovered 25 human burials and an extensive collection of projectile points, milling equipment, fishing implements, beads and other ornaments, and various other artifacts. The deposits were deeply stratified, and according to Bennyhoff's informal interpretation, represented two distinct cultures. The results of this work have never been published."

Gilbert & Hunt (2004) explain how site CA-SBa-7 was evaluated as eligible for the National Register of Historic Places.

"The site once encompassed a much greater area and covered much of the original town site of Carpinteria, but is now limited to a 1.5-acre area in the southeast corner of Carpinteria State Beach as well as some isolated pockets in the railroad right-of-way. The site, CA-SBA-07, is considered significant under Criteria A and D according to the Criteria listed in PRC 5024.1. The site is considered significant under Criterion A since it is associated with Spanish exploration and it represents an archaeological site where major aspects of regional and state prehistory was defined. The site is considered significant under Criterion D since it has contributed important information about the prehistory of the region and state."

Previous Archaeological Investigation. Sixty-one archaeological investigations have been conducted within a 0.5-mile radius of the project site, only two of which included portions of the project impact area. These two surveys (Spanne's in 1979 and Ryan's' in 1999) covered approximately 80 percent of the project site. Larry Spanne surveyed a portion of Carpinteria Creek for a bridge widening project along U.S. 101 in 1979. Spanne's survey included the current project site that lies within and adjacent to Carpinteria Creek. He did not record any cultural resources.

Ryan (1999) conducted a survey for a residential duplex at the intersection of Carpinteria Avenue and Arbol Verde Street in 1999, which includes a portion of the current project site. The survey results indicate the entire 0.45-acre parcel appeared to be covered by non-native surface soils, and borehole logs from the property did not mention shells in the soil description. Ryan (1999) concluded that cultural deposits do not exist below the ground surface on this parcel.

Sacred Lands. A sacred lands file search conducted by the Native American Heritage Commission (NAHC) on July 1, 2014 failed to indicate the presence of Native American sacred places/sites in the project area.

Historic Properties – Federal Evaluation. Eight historic properties have been recorded within a 0.5-mile radius of the project site; P-42-040779, 040780, -040781, -040-782, -040783, -040784, -040875, & -040876. None of these properties are located within or immediately adjacent to the project site. All six properties were evaluated as ineligible for the National Register of Historic Places by consensus, but were not evaluated for local listing.

Historic Properties – State. In 1955, California Historic Landmark No. 535 was established recognizing the village of *Mishopshnow* as well as the Spanish discovery of Carpinteria. The monument for the landmark is located southeast of the project site.

California Point of Historical Interest No. 106 (Wardholme Torrey Pine) is located along Carpinteria Avenue approximately 0.3 miles northwest of the project site. This tree is considered the largest known Torrey pine in the world.

California State Historic Resources Inventory (Office of Historic Preservation 2014) lists 10 properties within a 0.5-mile radius of the project site. The nearest property (5606 Carpinteria Avenue) was evaluated as ineligible for listing on the National Register of Historic Places. The property is now developed with a Holiday Express Hotel, which was constructed sometime in the 1980's.

The Carpinteria Avenue Bridge (51C-172) was constructed in 1937 and evaluated by the California Department of Transportation (Caltrans) in 1986 (and again in 2005). Caltrans determined the bridge was ineligible for listing on the National Register of Historic Places.

Historic Properties – County. The City of Carpinteria works with the Santa Barbara County Historic Landmarks Advisory Commission to evaluate historic properties within its municipal boundaries. The County of Santa Barbara, Planning & Development Department lists two landmarks in Carpinteria: No. 13, Sunday School Oak (4510 Foothill Road) and No. 28, Casa Blanca Pool House (851 Sand Point Road). Both landmarks are located over a mile from the project site.

Historic Properties – City. The City of Carpinteria’s General Plan/Local Coastal Land Use Plan identifies five City Landmarks. Two additional City Landmarks have been designated (Tar Pits Park and the Carpinteria Valley Baptist Church) since the City’s General Plan/Local Coastal Land Use Plan was adopted in 2003. The nearest City Landmark to the project site is the Portola Sycamore Tree, located approximately 1,500 feet to the west.

4.5.1.4 Phase I Archeological Field Survey

Conejo Archeological Consultants (Mary Maki) conducted an archaeological field survey of the project site on August 5, 2014. The survey encompassed all areas where ground disturbance may occur (Area of Potential Effect) and covered approximately 4.05 acres. The objective of the survey was the visual detection of cultural resources, including lithic debris and aboriginal artifacts, middens (mound or deposit containing shells, animal bones and other refuse that indicates the site of a human settlement), archaeological features, historical-era foundations or refuse, and other evidence of past land use. In particular, the field survey focused on identifying evidence that would suggest that site CA-SBa-7 extends into the project site. For ease of description, the project site is divided into two sections; the Carpinteria Creek corridor and the portions of the project site up on the banks outside of the riparian area.

Within the Carpinteria Creek corridor, which includes the riparian vegetation along the banks and the existing bike path, survey methodology was mostly opportunistic, because of the dense understory of vegetation and leaf detritus. The only area of good visibility was the bare streambed under the Carpinteria Avenue Bridge. Linear transects spaced 10 feet apart were walked where feasible to search for any areas of visible ground surface areas. Modern trash was observed scattered throughout the Carpinteria Creek corridor. One marine shell fragment was observed adjacent to the bike path about 15 feet from Carpinteria Avenue. No evidence of middens, lithic debris or aboriginal artifacts was noted within the creek corridor.

The project site along both sides and outside of the Carpinteria Creek corridor is developed. Roads and sidewalks obscured ground surface visibility throughout much of the project site, with most of the remaining area landscaped. Given the development and landscaping, archaeological survey methodology outside of the Carpinteria Creek corridor was mostly opportunistic and consisted of close inspection of any visible ground surface. The one exception was the proposed staging area, which is currently landscaped with a grass lawn, four trees and ornamental shrubs along the outer edge. Within the staging area, survey methodology consisted of walking linear transects spaced 5 feet apart. Outside of the Carpinteria Creek corridor, two marine shell fragments (unidentified clam), on opposite sides of Carpinteria Avenue, were noted. Both fragments were found in a disturbed context. No evidence of middens, lithic debris or aboriginal artifacts was noted. Ground surface visibility ranged from good to poor in the landscaped areas, but overall was less than 10 percent.

The ground surface throughout the entire project site has been disturbed by various factors including road grading, landscaping, bridge construction, trenching for various buried utilities and pipelines, and debris and silt removal from the Carpinteria Creek channel. No evidence of prehistoric or historic archaeological resources was noted within the project site. However, given the poor to non-existent ground surface visibility throughout most of the survey area, the results of the archeological field survey are inconclusive as to the absence of archaeological resources within the project impact area. It is possible that buried intact cultural resource deposits associated with site CA-SBa-7 may occur within the project impact area.

4.5.1.5 Extended Phase I Subsurface Archeological Testing

An Extended Phase I subsurface testing program was completed by Compass Rose Archeological in May 2015 to determine if intact cultural resource deposits associated with site CA-SBa-7 occur within the project impact area. Six shovel test pits (50 cm in diameter, 60-80 cm deep) and four auger test pits (bottom of shovel test pits to 150 cm deep) were established along the banks of Carpinteria Creek immediately south of the existing Carpinteria Avenue Bridge. Soil profiles were developed and removed earth material was dry screened using 1/8" mesh and any recovered material transported to a laboratory for further analysis.

Recovered material consisted of 407 items, including 308 fragments of marine shell and 99 items of recent debris (glass, plastic, etc.). These materials were generally found in the upper 40 cm of the soil profile and fragmented shellfish remains were found in direct association with historical debris (plastic, bottle glass, architectural refuse and can metal) of modern manufacture. These were also highly fragmented and reflect the generalized disturbance incurred in the project area. Much of this disturbance may have occurred when the former alignment of Carpinteria Avenue, as depicted on the 1903 U.S. Geologic Survey topographic map, was abandoned and the bridge replaced with the current bridge. The project area, then, appears to have suffered extensive mechanical disturbance in the form of cut and fill operations aimed toward leveling the surrounding landform for residential, road, and bridge construction and access.

In the course of surface examinations conducted prior to beginning subsurface testing, two formed and poured concrete abutments were encountered in the general project area. Located on opposite sides of Carpinteria Creek, these appear to represent remnant abutments of a former bridge depicted on the 1903 U.S. Geologic Survey topographic map. The northern of the two abutments, as exposed, is approximately four feet in height and 16 feet in length. The southern is approximately two feet in height, 1.25 feet in width, and eight to 10 feet in length. These features were recorded on standard Department of Parks and Recreation site record and Primary Resource forms. The northern (westerly) abutment appears to be within the project area of potential effect but not within the construction impact area, while the southern (easterly) abutment falls outside the area of potential effect.

Based on the data recovered, it appears that the items of possible aboriginal use (marine shell) encountered are the result of the re-deposition or broadcast of materials across the area examined. This interpretation is further bolstered by the complete lack of apparent artifacts or features in the vicinity and by the relative frequency, and fragmented nature, of both the observed shellfish remains and the items of modern manufacture recovered from subsurface contexts.

In conclusion, no evidence of intact subsurface cultural deposits, features or potential historic properties associated with aboriginal occupations at archaeological site CA-SBA-7 were observed at or near the project site.

4.5.1.6 Native American Consultation

The following NAHC list of recommended Chumash contacts were e-mailed or mailed a project description letter on July 8, 2014, and asked to respond with any comments or concerns regarding the project:

- Ala-Padilla, Adelina, Chairwoman, Santa Ynez Tribal Elders Council
- Armenta, Vincent, Chairperson, Santa Ynez Band of Mission Indians
- Arredondo, Frank
- Baker, Crystal, Coastal Band of the Chumash Nation
- Banuelos, Raudel Joe, Jr., Barbareño/Ventureño Band of Mission Indians
- Cohen, Sam, Tribal Administrator/Counsel, Santa Ynez Band of Mission Indians
- Cordero, Michael, Chairperson, Coastal Band of the Chumash Nation
- DeSoto, Ernestine, Tribal Elder
- Folkes, Beverly Salazar
- Garcia, Janet Darlene, Coastal Band of the Chumash Nation
- Guzman-Folkes, Randy
- Miller, Stephen
- Pappo, Kathleen, Barbareño/Ventureño Band of Mission Indians
- Parra, Charles
- Para-Hernandez, Melissa
- Perez, PeuYoKo
- Pulido, Carol
- Romero, Freddie, Cultural Preservation Consultant, Santa Ynez Tribal Elders Council
- Ruiz, John

- Santa Ynez Band of Mission Indians, Tribal Administrator
- Shup, Qun-tan, Owl Clan
- Tumamait, Julie, Chairperson, Barbareño/Ventureño Band of Mission Indians
- Tumamait, Patrick
- Unzueta, Gilbert, Jr.
- Unzueta, Regina, Barbareño Chumash
- Vigil, Mark, Chief, San Luis Obispo County Chumash Council.

As of September 8, 2015, the following Native American consultation has occurred:

- In an e-mail, Freddy Romero responded that the Elders Council would not comment on this Project as it was outside of their area. Mr. Romero also requested confirmation that other local tribes had been notified.
- Frank Arredondo also responded via email on July 20, 24 and August 11, 2014. Mr. Arredondo indicated that he had concerns regarding the project and requested additional information. Mr. Arredondo later indicated that he would provide additional comments after reviewing the SCCIC records search results and survey results provided by Conejo. As of March 20, 2015, additional comments from Mr. Arredondo have not been received.
- In telephone conversations on August 11, 2014, Beverly Folkes, Pat Tumamait and Julie Tumamait indicated that the project impact area was located within a highly sensitive area, as noted by the presence of the Chumash village of *Mishopshnow*. The numerous burials that have been found at site CA-SBa-7 further increases the area's sensitivity. All three Chumash strongly recommended/requested that all project-related earth disturbances be monitored by a Chumash monitor and an archaeologist. Julie Tumamait further emphasized that Native American archaeological resources have value to the Chumash community whether found in an intact or disturbed context.

Any other Native American responses received as part of public review of the Draft EIR will be included in the Final EIR.

4.5.1.7 Paleontological Resources

Based on the Geological Map of the Carpinteria Quadrangle, the project site is underlain by alluvial floodplain deposits. Due to the lack of intact geologic formations, paleontological resources are not anticipated to be present. In addition, the Paleontology Identification Report prepared for replacement of the U.S. 101 bridges over Carpinteria Creek (Linden Avenue & Casitas Pass Road Interchanges Project) located 600 feet upstream of the project site indicated there is a low potential for encountering sensitive paleontological resources. The University of California Museum of Paleontology data-base includes fossils of nine contemporary bird species from the Carpinteria area.

4.5.2 Impacts and Mitigation Measures

4.5.2.1 Significance Thresholds

State. Section 15064.5 of the State CEQA Guidelines states that a substantial adverse change in the significance of a historical resource may have a significant effect on the environment. Adverse changes may include demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. For the purposes of this document, a substantial adverse change to a historically significant resource is considered a significant impact. Material impairment occurs when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources;
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

A cultural resource shall be considered to be "historically significant" if the resource meets the criteria for listing on the California Register of Historic Resources (Public Resources Code Section 5024.1) including the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

City of Carpinteria. Archaeological sites containing only a surface component are generally considered not significant, unless demonstrated otherwise. Such sites may include: isolates, sparse lithic scatters, bedrock milling stations and shellfish processing stations. All other archaeological sites are considered potentially significant. The determination of significance is based on a number of factors including, but not limited to, the following: site type, artifact/ecofact density, site size, assemblage complexity (artifact/ecofact classes), subsurface deposit, cultural affiliation(s), stratigraphy, associations(s) with an important person or event, features, integrity, diagnostics, ethnic importance or datable material.

The determination of significance for historic buildings, structures and objects is based on such criteria as: age, uniqueness, location, integrity, context, or association(s) with an important person or event.

A site will be considered to possess ethnic significance if it is associated with burial(s)/cemetery, religious, social or traditional activities of a discrete ethnic population, an important person or event as defined by a discrete ethnic population.

4.5.2.2 Project-Specific Impacts

Impact CR-1: Project-related ground disturbance may significantly impact buried archeological resources, potentially including materials associated with the village site *Mishopshnow* – Class II, significant but mitigable.

The boundaries of a significant archaeological site (CA-SBa-7) may extend into the project impact area. Site CA-SBa-7 represents the remnants of the major Chumash village *Mishopshnow* and is a California State Historic Landmark, No. 535. This large site originally covered approximately 60 acres and archaeological investigations at Carpinteria State Beach and within the Union Pacific Railroad right-of-way revealed locations where the CA-SBa-7 midden deposits extended down to six to six-and-one-half feet below ground surface (Woodward 1983; Gilbert & Hunt 2004). Site CA-SBa-7 is considered significant under National Register Criteria A and D as listed in Public Resources Code Section 5024.1.

Conejo Archaeological Consultants' field survey noted only three fragments of widely scattered marine shell within the project impact area and the origin of these shells could not be determined. No evidence of middens, lithic debris or aboriginal artifacts was observed. Unfortunately, ground surface visibility was so poor across the majority of the project impact area that the results of the field survey are inconclusive as to the absence of archaeological resources.

Although the Extended Phase I subsurface testing program did not identify any intact prehistoric archeological resources, Native American consultation indicates the project area is considered highly sensitive to the Chumash and they expressed concerns that buried resources, including human burials, could potentially occur within the project impact area. Given the high cultural sensitivity of the general project area and the proximity and importance of archaeological site CA-SBa-7, it is possible that project-related excavation could result in the loss of important artifacts and/or significant disruption of buried intact cultural resources.

Mitigation Measures: The following measures shall be implemented to address cultural resources (if any) found during project construction:

- All construction activities involving ground disturbance shall be monitored by a qualified archeologist and culturally affiliated Native American. Monitoring may be limited to initial excavations to maximum depth, including boring.
- In the event that potentially significant archaeological resources are observed during monitoring, all earth disturbing work within the vicinity of the find shall be temporarily suspended until a qualified archaeologist has evaluated the nature and significance of the find. The City shall be notified of any such find. An archeological testing program shall be developed, approved by the City and fully implemented. A culturally affiliated Native American shall monitor any archaeological field work associated with evaluation of Native American materials. The City shall review and approve the recommendations of the archeological testing program prior to the removal of any cultural materials from the site.
- If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission. The City shall be notified of any such find.

Plan Requirements and Timing. These measures shall be included in the conditions of approval of the Conditional Use Permit and Coastal Development Permit, and implemented during construction.

Monitoring. The City project manager shall ensure construction monitoring is conducted and ensure these measures are fully implemented as needed.

Residual Impacts. Full implementation of the above mitigation measures would result in the recovery of important information regarding any cultural resources found, and reduce project-specific and cumulative impacts to cultural resources to a level of less than significant.

Historical Resources. No historic properties (including landmarks and points of historical interest) are located in proximity to the project impact area and adverse effects would not occur. Caltrans has determined that the existing Carpinteria Avenue Bridge (51C-172) is ineligible for listing on the National Register of Historic Places. Therefore, the bridge is not considered a historical resource under Section 15064.5 of the State CEQA Guidelines. The remnant abutments from the pre-1903 bridge have been properly documented and recorded, and would not be adversely affected by the project. Overall, no impacts to historic resources would occur.

Paleontological Resources. The project site is underlain by recent alluvial deposits and artificial fill. Due to the lack of intact geologic formations, paleontological resources are not expected to be present within the project impact area. Therefore, impacts to paleontological resources are not anticipated.

4.5.2.3 Cumulative Impacts

Most of the projects listed in Section 3.4 are located in previously disturbed areas and significant impacts to cultural resources are unlikely. However, the proposed Venoco Paredon project could adversely affect archeological site CA-SBA-6. The proposed project has the potential to adversely affect a known Native American village site (archeological site CA-SBA-7) and/or other buried cultural resources, which would incrementally contribute to cumulative impacts to cultural resources. However, the incremental contribution to cumulative cultural resources impacts would be reduced by project-specific mitigation measures to a level of less than significant.

4.6 GREENHOUSE GAS EMISSIONS

4.6.1 Setting

4.6.1.1 Introduction

Greenhouse gases (GHGs) are defined as any gas that absorbs infrared radiation in the atmosphere. These gases lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the Greenhouse Effect. There is increasing evidence that the Greenhouse Effect is leading to global climate change. The heat trapping potential of a GHG is referred to as the "Global Warming Potential" (GWP). Each GHG has a GWP value based on the heat trapping properties of the GHG relative to carbon dioxide (CO₂). This is commonly referred to as CO₂ equivalent (CO₂E).

4.6.1.2 Greenhouse Gases of Concern

Unlike criteria air pollutants, which are of regional and local concern, GHGs emissions are a global issue, as climate change is not a localized phenomenon. Eight recognized GHGs are described below. The first six are commonly analyzed for projects, while the last two are often excluded for reasons described below.

- Carbon Dioxide (CO₂): Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic degassing; anthropogenic sources of CO₂ include burning fuels such as coal, oil, natural gas, and wood.
- Methane (CH₄): Natural sources include wetlands, permafrost, oceans and wildfires; anthropogenic sources include fossil fuel production, rice cultivation, biomass burning, animal husbandry (fermentation during manure management), and landfills.
- Nitrous Oxide (N₂O): Natural sources include microbial processes in soil and water, including those reactions which occur in nitrogen-rich fertilizers; anthropogenic sources include industrial processes, fuel combustion, aerosol spray propellant, and use of racing fuels.
- Chlorofluorocarbons (CFCs): No natural sources, synthesized for use as refrigerants, aerosol propellants, and cleaning solvents.
- Hydrofluorocarbons (HFCs): No natural sources, synthesized for use in refrigeration, air conditioning, foam blowing, aerosols, and fire extinguishing.
- Sulfur Hexafluoride (SF₆): No natural sources, synthesized for use as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF₆ has a long lifespan and high GWP potency.
- Ozone: Unlike the other GHGs, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Due to the nature of ozone, and because this project is not anticipated to contribute a significant level of ozone, it is excluded from consideration in this analysis.

- **Water Vapor:** The most abundant and variable GHG in the atmosphere. It is not considered a pollutant and maintains a climate necessary for life. Because this project is not anticipated to contribute significant levels of water vapor to the environment, it is excluded from consideration in this analysis.

The primary GHGs that would be emitted during construction of the proposed project are CO₂, CH₄ and N₂O. The project is not expected to have any associated use or release of HFCs, CFCs or SF₆. The GWP of the three primary GHGs associated with the project are defined by the EPA and were recently revised (effective January 1, 2014): CO₂ – GWP of 1, CH₄ – GWP of 25, and N₂O – GWP of 298.

4.6.1.3 Regulatory Framework

California Global Warming Solutions Act (Assembly Bill [AB] 32). AB 32 focuses on reducing GHG emissions in California. GHG as defined under AB 32 include water vapor, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. AB 32 requires the California Air Resources Board (CARB) to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. In addition, two State-level Executive Orders have been enacted by the Governor (Executive Order S-3-05, signed June 1, 2005, and Executive Order S-01-07, signed January 18, 2007) that mandate reductions in GHG emissions.

In June 2008, CARB developed a Draft Scoping Plan for Climate Change, pursuant to AB-32. The Scoping Plan was approved at the Board hearing on December 12, 2008. The Scoping Plan proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, and enhance public health while creating new jobs and enhancing growth in California's economy. Key elements of the Scoping Plan for reducing California's greenhouse gas emissions to 1990 levels by 2020 include:

- Expansion and strengthening of existing energy efficiency programs and building and appliance standards;
- Expansion of the Renewables Portfolio Standard to 33 percent;
- Development of a California cap-and-trade program that links with other Western Climate Initiative Partner programs to create a regional market system;
- Implementation of existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Targeted fees to fund the State's long-term commitment to AB 32 administration.

The First Update to the Scoping Plan was approved by the CARB on May 22, 2014, and builds upon the initial Scoping Plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB's climate change priorities for the next five years, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation and land use.

GHG and CEQA. Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that greenhouse gas emissions and the effects of GHG emissions are appropriate for CEQA analysis. It directs the California Office of Planning and Research (OPR) to develop guidelines *"for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division."* (Pub. Res. Code § 21083.05(a)).

In December of 2009, the California Natural Resources Agency adopted amendments to the CEQA Guidelines (Title 14, Cal. Code of Regulations, §15000 et seq.) to comply with the mandate set forth in Public Resources Code §21083.05. These revisions became effective March 18, 2010. According to Section 15064.4 of the State CEQA Guidelines, each public agency that is a CEQA lead agency must quantify greenhouse gas emissions resulting from a project and/or rely on a qualitative analysis or performance-based standards.

Climate Change Local Planning. Santa Barbara County completed the first phase (Climate Action Study) of its climate action strategy in September 2011. The Climate Action Study provides a County-wide GHG inventory and an evaluation of potential emission reduction measures. The second phase of the County's climate action strategy is an Energy and Climate Action Plan (ECAP), which would:

- Reduce the County's greenhouse gas emissions.
- Increase the community's resilience to the effects of climate change.
- Allow for programmatic mitigation of GHG emissions as required under California Environmental Quality Act.
- Identify energy efficiency goals and targets.
- Create an energy efficiency strategy to meet the County's energy reduction goals.
- Implement programs to comply with the state of California's GHG reduction and long-term energy efficiency goals.

The ECAP was adopted by the Santa Barbara County Board of Supervisors on June 2, 2015. Note that this Plan addresses unincorporated areas of the County and not the City of Carpinteria, where the proposed project is located.

The ECAP includes a base year (2007) GHG inventory for unincorporated areas of the County, which identifies total GHG emissions of 1,192,970 metric tons CO₂e and 28,560 metric tons CO₂e for construction and mining equipment (primary project-related GHG source). Note that the base year inventory does not include stationary sources and energy use (natural gas combustion and electricity generation). The focus of the ECAP is to establish a 15 percent GHG reduction target from baseline (by 2020), and develop source-based and land use-based strategies to meet this target.

Upon the recommendation of the Santa Barbara County Air Pollution Control District (SBCAPCD) Community Advisory Council and with direction from the Board of Directors, the SBCAPCD included a discussion of GHG emissions and climate protection in the 2010 Clean Air Plan. However, the discussion of GHG emissions and climate change in the 2010 Clean Air Plan is informational and not regulatory in nature; its inclusion is not mandated by state planning requirements.

4.6.2 Impacts and Mitigation Measures

4.6.2.1 Significance Thresholds

The City of Carpinteria has not adopted thresholds of significance for GHG emissions and therefore must make a determination on a case-by-case basis. The SBCAPCD (2015a) recommends thresholds utilized by the SBCAPCD as lead agency (see SBCAPCD, 2015b) be adopted by lead agencies in the absence of any locally-adopted thresholds. The SBCAPCD (2015b) Environmental Review Guidelines include the following GHG significance thresholds for proposed stationary source projects:

- Emit less than 10,000 metric tons per year CO₂e (MTCO₂E); or
- Comply with an approved GHG emissions reduction plan; or
- Reduce project emissions by 15.3 percent below Business-as-Usual.

The proposed project is not a stationary source of air pollutant emissions. However, due to the lack of any applicable GHG thresholds, the above thresholds have been adopted by the City for use in this EIR.

For the purposes of this EIR, the County's recently adopted ECAP is considered an approved GHG emissions reduction plan although it does not apply to the City of Carpinteria. ECAP strategies that apply to the proposed project include BE-10 (construction equipment operations) and WR-3 (construction and demolition waste recycling).

4.6.2.2 Project-Specific Impacts

Impact GHG-1: Demolition and construction activities would generate greenhouse gas emissions – Class III, less than significant.

Bridge demolition and construction of the new bridge and associated improvements would result in greenhouse gas emissions, primarily in the form of CO₂ exhaust emissions from the use of off-road construction equipment and on-road vehicles. Emissions of greenhouse gases from construction-related sources were estimated using CARB's EMFAC2007 Model and emission factors provided in the California Climate Action Registry General Reporting Protocol.

Estimated peak 12-month period GHG emissions associated with demolition and construction activities is 459.0 MTCO₂E and are presented below in Table 4.6-1. GHG construction emissions amortized over the 50-year life of the project would be 9.2 MTCO₂E. Note that a small amount of indirect GHG emissions would result from decomposition of vegetation removed during bridge construction, and have not been quantified. These GHG emissions would be temporary because this vegetation would be replaced as part of the project and sequester GHG (CO₂) in the long-term. Construction GHG emissions are less than the 10,000 MTCO₂E threshold adopted for this project and are considered a less than significant impact to global climate change.

Operation Emissions. The proposed project would not generate traffic or otherwise result in GHG emissions. No increase in roadway or bridge capacity would occur, such that no change in traffic volumes on Carpinteria Avenue is expected. Infrequent bridge inspection and maintenance activities would occur, similar to the existing bridge, and would not generate any new vehicle trips or associated GHG emissions.

Consistency with Applicable Greenhouse Gas Reduction Plans. The proposed project would not involve any sources of greenhouse gases that are regulated under the State cap and trade program, or other plans or policies regulating these emissions. Although the County's ECAP does not apply to the proposed project, compliance with its GHG reduction strategies may be used to determine the significance of project GHG emissions. Strategy BE-10 involves the development and implementation of best management practices for construction equipment operation, such as reduced idling, use of alternative fuels, electrification of equipment and equipment maintenance. The identification of feasible best management practices has not been completed to date and construction equipment operating on alternative fuels or electricity are not readily available. Strategy WR-3 involves recycling of construction waste, which would be implemented by the proposed project (see Section 4.13.5), primarily concrete debris generated by demolition of the existing bridge.

Table 4.6-1. Peak 12-Month Period Construction GHG Emissions Summary

Source	CO ₂ Emissions (tons)	N ₂ O Emissions (tons)	CH ₄ Emissions (tons)	Total CO ₂ e (metric tons)
Heavy equipment	364.51	0.004	0.050	
Motor vehicles	135.36	0.011	0.011	
Total (tons)	499.87	0.015	0.061	
Total (metric tons)	453.48	0.014	0.055	
CO₂e (metric tons)	453.48	4.17	1.38	459.0
Amortized CO₂e (metric tons)				9.2

4.6.2.3 Cumulative Impacts

Other projects discussed in Section 3.4 would generate both short-term construction GHG emissions and long-term GHG stationary source and/or vehicle emissions. However, GHG emissions and their potential effect on global climate change is a cumulative phenomenon. Therefore, project impacts of GHG emissions also represent cumulative impacts, and considered less than significant.

4.7 GEOLOGY AND SOILS

4.7.1 Setting

4.7.1.1 Regional Geology

The project site located within the Transverse Ranges geomorphic province of southern California. The Transverse Ranges province is oriented generally east-west, which is oblique to the general north-northwest structural trend of California mountain ranges. The Transverse Ranges province extends from the Los Angeles Basin westward to Point Arguello, and is composed of Cenozoic-to Mesozoic-age sedimentary, igneous, and metamorphic rocks. Near the project site, the Santa Ynez Mountains and adjacent lowlands are comprised of sedimentary rocks and soil materials ranging in age from Cretaceous to Holocene.

Structural geology in the Carpinteria area consists of mountain, foothill, and low-lying coastal plain areas of generally south-dipping (and locally overturned north-dipping) bedrock units. Bedrock in the coastal plain and foothill areas are generally overlain by younger and older alluvium. The Carpinteria area generally contains a series of subparallel, east-west trending faults and folds that are the result of north-south compressional tectonics. The faults and folds roughly parallel the Santa Ynez Mountains and are present inland and offshore in the Santa Barbara Channel. Geology in the project area consists of a low-lying coastal plain of Quaternary-age alluvium overlying a thick sequence of early Pleistocene-age to Tertiary-age sedimentary rocks.

4.7.1.2 Local Geology

Geologic materials at the project site as mapped by Minor et al. (2009) consist of alluvium and colluvium. Dibblee (1986) maps the geology of the project area as alluvium: unconsolidated floodplain deposits of silt, sand and gravel. Within the Carpinteria Creek channel, soils likely consist of poorly consolidated alluvial deposits of sand and silt with gravel and local interbedded layers of lean clay (Fugro, 2013). Marine terrace deposits, consisting of variably stratified gravel, sand and silt that are more consolidated compared to the alluvium and colluvium, are mapped south and southwest of the project site. Shale bedrock of the Monterey Formation is mapped in the ocean bluff south and southeast of the site.

4.7.1.3 Subsurface Conditions

2008 Borehole Data. Data (borehole logs) concerning subsurface conditions at the project site were collected as part of a Geotechnical Engineering Report (Fugro, 2008) prepared for the Carpinteria Bluffs Sanitary Sewer creek crossing. The two borings performed for the Fugro (2008) study were located on either side of the existing Carpinteria Avenue Bridge. Borehole DH-1 was located on the west side of the bridge and extended to a depth of 70 feet and borehole DH-2 was located on the east side and extended to a depth of 50 feet. The ground surface elevation at both drill holes was estimated to be at about 35 feet above mean sea level. Recent topography suggests the ground surface at the two Fugro (2008) borehole locations is closer to 40 feet above mean sea level.

Subsurface conditions, based on the two Fugro (2008) boreholes, appear to consist of the following:

- Asphalt concrete pavement consisting of about 2-1/2 to 5 inches of asphalt concrete underlain by 2 to 6 inches of aggregate base.
- About 2 feet of surficial artificial fill consisting of silty sand with some clay.
- Interbedded alluvial soils consisting of medium dense silty sand, medium stiff to stiff silty clay, and lean clay to a depth of about 11 feet (DH-1) to 17 feet (DH-2).
- Below 11 feet (17 feet for DH-2) and to the maximum depth explored of about 70 feet, the alluvial soils generally consist of medium dense silty sand and silt with lenses of lean clay.

Groundwater was encountered at a depth of 16 feet at borehole DH-1 and 15 feet at borehole DH-2.

2014 Borehole Data. Project-specific borings were conducted by Fugro Consultants in February 2014, to a depth of 61 feet below sea level (up 101.5 feet below ground surface). Three boreholes were advanced at the project site within Carpinteria Avenue, one located on either side of the bridge, and the third located in the streambed. The streambed borehole encountered alluvium (sand and gravel) down to a depth of about 10 feet, with lean clay and sand, poorly graded sand with silt, and sandy silt below. Groundwater was not encountered in any of the boreholes.

4.7.1.4 Regional Faulting and Seismicity

The project site may be affected by moderate to major earthquakes centered on known active faults. Faults likely to affect the site include the Mesa-Rincon Creek Fault (concealed but passes very close to the site), the Red Mountain Fault (2.5 miles to the south-southeast), and the Ventura-Pitas Point Fault (6.4 miles to the south-southeast) (Fugro, 2013). Table 4.7-1 provides a summary of peak ground acceleration (Pga) and maximum earthquake magnitude estimated for the project site, taken from the Preliminary Geotechnical Report prepared for the project by Fugro Consultants (2013).

Table 4.7-1. Project Site Seismic Parameters

Source	Pga (g)	Maximum Magnitude
Mesa-Rincon Creek Fault	0.51	6.6
Red Mountain Fault	0.57	7.4
Ventura-Pitas Point Fault	0.43	7.2
Probabilistic	0.64	6.9-7.3

4.7.1.5 Tsunami/Seiches

Tsunamis and seiches are two types of water waves that are generated by earthquake events. Tsunamis are broad-wavelength ocean waves and seiches are standing waves within confined bodies of water, typically reservoirs. The project site is not located within a tsunami inundation hazard zone as designated by the California Emergency Management Agency. In addition, no waterbodies are located in the project area that could produce a seiche.

4.7.1.6 Liquefaction Potential

In the context of soil mechanics, liquefaction is the process that occurs when the dynamic loading of a soil mass causes the shear strength of the soil mass to rapidly decrease. Liquefaction can occur in saturated cohesion-less soils. The most typical liquefaction-induced failures include consolidation of liquefied soils, surface sand boils, lateral spreading of the ground surface, bearing capacity failures of structural foundations, flotation of buried structures, and differential settlement of above-ground structures.

The presence of loose, poorly graded, fine sand material that is saturated by groundwater within an area that is known to be subjected to high intensity earthquakes and long-duration ground motion are the key factors that indicate potentially liquefiable areas and conditions that lead to liquefaction. Fugro (2013) indicates a significant liquefaction potential exists at the project site in medium sandy soils below the groundwater elevation.

4.7.1.7 Subsidence

Land subsidence can occur when groundwater pumping causes groundwater elevations to drop sufficiently to dewater sediments in the basin or to create pressure gradients where water flows out of the sediments. It is the fine-grained sediments (e.g., mudstone) which may be present both within the aquifers and as low-permeability layers between the aquifers that cause land subsidence, water lost from these sediments is permanent and causes compaction of the material. Land subsidence may also occur when petroleum products (oil, gas, produced water) are pumped from geologic units.

4.7.1.8 Expansive Soils

Expansive soils are primarily clay-rich soils subject to changes in volume with changes in moisture content. The resultant shrinking and swelling of soils can influence fixed structures, utilities and roadways. In addition, as expansive soils on sloping ground expands and contracts, it tends to move downslope in response to gravity. According to the *Soil Survey of Santa Barbara County, California, Coastal Part* (Shipman, 1981), the project site supports Goleta fine sandy loam (0 to 2 percent slopes) and Metz loamy sand. Shipman (1981) indicates these soils have a low shrink-swell potential. Therefore, the project site does not include expansive soils.

4.7.2 Impact Analysis and Mitigation Measures

4.7.2.1 Significance Thresholds

The assessment of geologic impacts is based on guidance and thresholds from the State CEQA Guidelines (Appendix G, Initial Study Checklist). A potential geologic impact would occur if the project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground-shaking, seismic-related ground failure, including liquefaction and landslides.
- Result in substantial soil erosion or the loss of topsoil.
- 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.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (2010), creating substantial risks to life or property.
- 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.

4.7.2.2 Project-Specific Impacts

Impact G-1: Liquefaction-related adverse effects may damage the proposed bridge and result in a geologic hazard to the public – Class III, less than significant.

Based on existing subsurface information and potential strong ground motions, alluvial soils present at the site are likely vulnerable to liquefaction, with adverse effects including liquefaction-related settlement, lateral movement, and moderate strength loss (Fugro, 2013). Deep foundations would be provided for the bridge abutments and piers to provide support from denser soils at depths below liquefiable zones, based on the recommendations of the project-specific Preliminary Geotechnical Report. Based on the proposed bridge design, these deep foundations would consist of large diameter cast-in-drill-hole piles to support the bridge abutments and piers. Use of these piles would provide adequate strength and stability and would avoid significant liquefaction-related impacts.

Mitigation Measures: Not required.

Impact G-2: Soil erosion may occur as a result of storm run-off during the construction period – Class II, significant but mitigable.

Construction-related vegetation removal and soil disturbance within the streambed, stream banks and adjacent areas may result in short-term soil erosion caused by stream flows and storm run-off during the construction period.

Mitigation Measures: See Impact WR-1.

Fault Rupture and Groundshaking. Although the Mesa-Rincon Creek Fault passes very close to the project site, the area has not been designated as an Alquist-Priolo Earthquake Fault Zone, as defined by the State of California. The proposed project consists of a direct bridge replacement and would not increase the number of persons potentially affected by fault rupture or seismic groundshaking. As discussed under Impact G-1, seismic impacts would be limited to liquefaction.

Landslides. The project site is located on a coastal terrace, with no adjacent steep slopes. Therefore, the proposed project would not cause or be adversely affected by landslides.

Subsidence. The project does not involve groundwater or petroleum pumping, such that the proposed project and the public would not be adversely affected by geologic subsidence.

Expansive Soils. These soils do not occur at the project site; therefore, the proposed project and the public would not be adversely affected.

4.7.2.3 Cumulative Impacts

Other projects in the region (see Section 3.4) may generate or be exposed to local and regional geologic hazards, including landslides, fault rupture, ground-shaking, liquefaction, expansive soils and subsidence. However, geologic impacts, by their nature, primarily involve site specific effects related to the particular geologic conditions and geologic hazards present in the immediate vicinity of the project site and their effect on project facilities (e.g., damage to structures due to expansive soils or differential settlement) or directly affected by project activities (e.g., grading that would impact slope stability). Except for regional seismicity, which would impact cumulative projects throughout the South Coast region, only the Steadfast Assisted Living project is proposed in the immediate project area that would impact or be impacted by the same geologic conditions as the proposed project. The Steadfast Assisted Living project involves redevelopment of the site immediately west of the project site, which could be exposed to liquefaction hazards. The proposed project would be designed to accommodate potential liquefaction (see Impact G-1) and would not incrementally contribute to cumulative geologic impacts that may adversely affect the Steadfast Assisted Living project.

4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8.1 Setting

4.8.1.1 Regulatory Setting

The management of hazards, hazardous materials, hazardous waste, and public safety is subject to numerous laws and regulations at all levels of government. Regulations applicable to the proposed project are designed to regulate hazardous materials and hazardous wastes, as well as to manage sites contaminated by hazardous waste. These regulations are designed to limit the risk of upset during the use, transport, handling storage and disposal of hazardous materials. Summaries of Federal and state laws and regulations related to hazards and hazardous materials management are presented in this section.

Regulatory Definitions. The following hazardous materials and hazardous waste definitions provide a simplified overview of a very complicated subject; they are not legal definitions.

Hazardous Material. Any material that because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering regulatory agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. A number of properties may cause a substance to be considered hazardous, including toxicity, ignitability, corrosivity or reactivity.

Hazardous Waste. A waste or combination of waste which because of its quantity, concentration, or physical, chemical or infection characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitation-reversible illness; or pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bio-accumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of or otherwise managed.

Federal Regulations. The U.S. Environmental Protection Agency (EPA) is the principal regulatory agency responsible for the safe use and handling of hazardous materials.

National Emission Standard for Hazardous Air Pollutants (NESHAP). In 1971, EPA listed asbestos as a hazardous air pollutant under the NESHAP provision of Section 112 of the Clean Air Act (CAA). The asbestos NESHAP has been amended several times, most recently in 1990. The NESHAP regulates (1) asbestos mills, (2) asbestos product manufacturing, (3) building demolition and renovation (excluding residential buildings that have four or fewer dwelling units), (4) fabricating, (5) insulating materials, (6) waste disposal and (7) the conversion of asbestos into nonhazardous materials (vitrification). The rule establishes work practice standards and sets the emission limit at “no visible emissions.”

Superfund Amendments and Reauthorization Act (SARA) Public Law 99-499 (100 Stats. 1613). SARA amended the Comprehensive Environmental Response, Compensation and Liability Act (*CERCLA*, 42 U.S.C. § 9601 et seq.) on October 17, 1986. SARA specifically addresses the management of hazardous materials by requiring public disclosure of information relating to the types and quantities of hazardous materials used at various types of facilities. SARA Title III (42 U.S.C. § 11001 et seq.) is referred to as the Emergency Planning and Community Right to Know Act. The Act addresses community emergency planning, emergency release notification and hazardous materials chemical inventory reporting.

Resource Conservation and Recovery Act (RCRA) 42 U.S.C. §6901 et seq. RCRA gave the EPA the authority to control hazardous waste from the “cradle-to-grave”. This includes the generation, transportation, treatment, storage and disposal of hazardous waste. RCRA regulates disposal of solid and hazardous waste, adopted by Congress on October 21, 1976. Subtitle D of RCRA established the solid waste program, which encourages states to develop comprehensive plans to manage nonhazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste. RCRA encourages environmentally sound solid waste management practices that maximize the reuse of recoverable material and foster resource recovery.

Clean Air Act of 1990, 42 U.S.C. 7401-7671. The CAA as amended in 1990 also requires states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. It establishes a nationwide emergency planning and response program and imposes reporting requirements for business that store, handle or produce significant quantities of extremely hazardous materials. The CAA also requires the development and attainment of national ambient air quality standards, which includes lead.

Clean Air Act Risk Management Plan, 42 USC § 112(r). This section of the CAA determines that facilities storing or handling significant amounts of acutely hazardous materials are required to prepare and submit a Risk Management Plan (RMP), codified under 40 CFR 68.

National Fire Protection Association. The National Fire Protection Association (NFPA) sets forth minimum standards to establish a reasonable level of fire safety and property protection from the hazards created by fire and explosion. The standards apply to the manufacture, testing and maintenance of fire protection equipment. The NFPA also provides guidance on safe selection and design, installation, maintenance, and construction of electrical systems.

U.S. Department of Transportation. The U.S. Department of Transportation (DOT) has the regulatory responsibility for the safe transportation of hazardous materials.

State of California Regulations

California Emergency Management Agency. The California Emergency Management Agency Hazardous Materials (HazMat) Section coordinates statewide implementation of hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats.

California Health and Safety Code § 25500. The California Health and Safety Code (CHSC), Section 25500, requires companies that handle hazardous materials in sufficient quantities to develop a Hazardous Materials Business Plan (HMBP). The HMBP includes basic information on the location, type, quantity, and health risks of hazardous materials handled, stored, used, or disposed of that could be accidentally released into the environment. Each plan includes training for new personnel and annual training of all personnel in safety procedures to follow in the event of a release of hazardous materials. It also includes an emergency response plan and identifies the business representative able to assist emergency personnel in the event of a release.

California Department of Toxic Substance Control. The objective of the DTSC is to protect human health and the environment from exposure to hazardous material and waste. The DTSC has the authority to respond to and enforce the cleanup of hazardous substance releases. Waste streams at oil production sites are generally considered waste, not substances, and are thus regulated by the DTSC when hazardous. Certain waste streams can be considered as recyclable material, not waste, provided that their ultimate disposal to land does not release contaminants to the environment.

Central Coast Regional Water Quality Control Board (CCRWQCB). The CCRWQCB protects ground and surface water quality in Santa Barbara County by the development and enforcement of water quality objectives and implementation of the Water Quality Control Plan for Santa Barbara County. The CCRWQCB governs requirements; issues waste discharge permits, takes enforcement action against violators, and monitors water quality.

Aboveground Petroleum Storage Act. The Act is intended to ensure compliance with the Federal Clean Water Act (CWA). The law applies if a facility has an aboveground storage tank (AST) with a capacity greater than 660 gallons or a combined AST capacity greater than 1,320 gallons and if there is a reasonable possibility that the tank(s) may discharge oil in "harmful quantities" into navigable waters or adjoining shore lands. If a facility falls under these criteria, it must prepare a Spill Prevention, Control and Countermeasures Plan. The law does not cover AST design, engineering, construction, or other technical requirements, which are usually determined by local fire departments.

Safe Drinking Water and Toxics Enforcement Act (Proposition 65). Proposition 65 requires the state to identify chemicals that cause cancer and reproductive toxicity, contains requirements for informing the public of the presence of these chemicals, and prohibits discharge of the chemicals into sources of drinking water. Lists of the chemicals of concern are published and updated periodically by California Office of Environmental Health Hazard Assessment (OEHHA).

California Fire Code, Article 80. This article includes provisions for storage and handling of hazardous materials. Considerable overlap exists between this Code and the California Health and Safety Code. However, the Fire Code contains independent provisions regarding fire protection and neutralization systems for emergency venting.

Local Authorities and Administering Agencies

Certified Unified Program Agency (CUPA). The CUPA is an agency certified by the DTSC to conduct the Unified Program, which consists of hazardous waste generator and onsite treatment programs; aboveground and underground storage tank programs; Hazardous Materials Management, Business Plans, and Inventory Statements; and the Risk Management and Prevention Program. In the project area, the CUPA is the Santa Barbara County, Public Health Department Environmental Health Services Division (EHS). The EHS supervises the remediation of contaminated soil sites in Santa Barbara County. The EHS will grant closure of an impacted site when confirmatory samples of soil and groundwater taken demonstrate that levels of contaminants are below the standards set by DTSC and CCRWQCB.

4.8.1.2 Project Site Environmental Records Review

The following discussion is based on the Initial Site Assessment prepared for the project by Drake Haglan & Associates (2015a). County, State and Federal listings were compiled and searched by a nationwide regulatory agency database search company, Environmental Data Resources, Inc. The primary databases with findings that may indicate nearby hazardous materials issues are the underground storage tank databases (LUST, HIS UST, CA FID UST, SWEEPS UST); the RWQCB Spills, Leaks and Investigation Cleanup cost recovery listing (SLIC); the aboveground storage tank database (AST); Resource Conservation and Recovery Act Non-Generators listing (RCRA NonGen/NLR) and Small Quantity Generator (SQG) violation record; the Solid Waste Facilities/Landfill Site records (SWF/LF); and Hazardous Waste & Substance Sites (CORTESE, HIST CORTESE).

Leaking Underground Storage Tank (LUST) Cases. Fifteen (15) LUST cases were identified within a one-mile radius of the project site. Based on review of the available data posted on the SWRCB GeoTracker website for the LUST facilities, all case-closed LUST sites do not have the potential to impact the soils or groundwater of the project site. One open LUST case was identified. The former Exxon/Hondo (currently McDonald's) facility located 1,100 feet north of the project site was identified to have gasoline contamination in an aquifer used for drinking water supply. Remediation actions include free product removal, pumping and treating groundwater, and ongoing in situ physical/chemical treatment (H₂O₂ injection to monitoring wells 10 and 11). The current cleanup status of the site is classified as "Open – Assessment & Interim Remediation Action".

According to the *First Half 2013 Semi-Annual Groundwater Monitoring & Sampling & ISCO Pilot Test Progress Report* submitted to Santa Barbara County Environmental Health Services on July 24, 2013, high concentrations of contaminants are only detected in groundwater monitoring wells immediately adjacent to the source of contamination. Among the two tested wells located on the south of the LUST facility, Well 7 contains only low levels of total petroleum hydrocarbons as gasoline, benzene, gasoline oxygenates (methyl tert-butyl ether), and some recalcitrant; no hydrocarbon analytes were detected in Monitoring Well 5. This result indicates that plume migration down-gradient from the contamination source area has been controlled, and the potential for possible soil or groundwater contamination from this site is very low.

Spills, Leaks, Investigation and Cleanup (SLIC) Facility. One SLIC facility was identified within a one mile radius of the project site. The Carpinteria Oil & Gas (formally Chevron) Facility located 1235 feet southeast of the project site was identified to have pesticides/herbicides contamination in other groundwater (uses other than drinking). The Cleanup Plan submitted by Chevron in 2008 includes cleanup actions such as pesticides removal, sediments and soil excavation, and sediment filter installation. The CCRWQCB rescinded the clean-up and abatement order in December 2013, and final closure documentation is in preparation. Groundwater flow of the region is generally from northeast to southwest, and this SLIC site is located down-gradient of the project site; therefore, the potential for possible soil or groundwater contamination from this facility is very low.

Historical Underground Storage Tanks (UST), Active USTs, and Active ASTs. Eleven (11) storage tanks within a one mile radius of the project site have been identified. Although historical UST closures and/or removals are generally undocumented, there is no evidence to suggest that possible soil or groundwater contamination from the UST/AST locations could impact the project site.

Solid Waste Facilities/Landfill Sites (SWF/LF). One SWF/LF was identified within a one mile radius of the project site. The Carpinteria City Dump facility is a former solid waste disposal site and is currently closed. No violations or areas of concern were reported to date at this site and annual inspection revealed no new dumping. Based on the available information, the SWF/LF facility does not have the potential to impact the soils or groundwater of the project site.

Large Quantity Generator (LQG) Sites. One LQG within a one mile radius of the project site is recorded in the RCRA database of Treatment, Storage and Disposal Facilities. No violations or areas of concern were reported to date at this site. Based on the available information, local LQG facilities do not have the potential to impact the soils or groundwater of the project site.

Small Quantity Generator (SQG) Sites. Five SQGs within a one mile radius of the project site are recorded in the RCRA database of Treatment, Storage and Disposal Facilities. No violations or areas of concern were reported to date at these sites. Based on the available information, local SQG facilities do not have the potential to impact the soils or groundwater of the project site.

Non-Generator Records. One non-generator within a one mile radius of the project site is recorded in the RCRA database of Treatment, Storage and Disposal Facilities. Non-generators do not presently generate hazardous waste. The former Chevron Carpinteria facility is a non-generator site and has no recorded violation or reported areas of concern to date. Based on the available information, the former Chevron Carpinteria Oil & Gas facility does not have the potential to impact the soils or groundwater of the project site.

Hazardous Waste & Substance Sites (CORTESE and HIST CORTESE). One Hazardous Waste & Substance Sites (CORTESE) and six Historical Hazardous Waste & Substance Sites (HIST CORTESE) were identified within a one mile radius of the project site. Based on review of the available data posted on the SWRCB GeoTracker website and information provided by the EDR record search regarding these facilities, there is no evidence to suggest that possible soil or groundwater contamination from the CORTESE and HIST CORTESE sites could impact the project site.

4.8.2 Impacts and Mitigation Measures

4.8.2.1 Significance Thresholds

The criteria for determining significant impacts related to hazards and hazardous materials were developed in accordance with Section 15065(a) and Appendix G of the State CEQA Guidelines and the City of Carpinteria Environmental Thresholds Manual.

CEQA Guidelines Appendix G. Implementation of the proposed project may have potentially significant adverse impacts if it would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- 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, create a significant hazard to the public or environment.
- 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, result in safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- 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.

City of Carpinteria Environmental Thresholds Manual. The City's Environmental Thresholds Manual provides a framework to classify the potential magnitude and frequency of events that may pose an involuntary public exposure to a safety hazard. For example, a "negligible" safety hazard is described as having "no significant risk to the public, with no minor injuries."

4.8.2.2 Project-Specific Impacts

Impact HAZ-1: Demolition of the existing bridge may encounter asbestos-containing materials and result in public exposure to this hazard – Class III, less than significant.

Based on past testing of bridges in the area for the South Coast 101 HOV lanes project (Geocon, 2010), asbestos has been found in metal guard rail shim packing and drain pipe inserts. The existing Carpinteria Avenue Bridge does not include any metal guard rails or drain pipe inserts. Therefore, the potential for public exposure to asbestos is considered unlikely and a less than significant impact.

Mitigation Measures: Not required.

Impact HAZ-2: Project-related demolition activities may result in exposure of the public to elevated lead concentrations – Class II, significant but mitigable.

Based on lead paint testing conducted at a nearby bridge (Fernald Point Lane, Montecito), paint from metal guard-rails and pavement striping may contain lead. Removal of the existing bridge has the potential to expose local residents to lead-containing particulate matter.

Mitigation Measures. All bridge guard rail and striping paint shall be stabilized prior to demolition activities. Loose and flaking paint shall be removed within containment and containerized for subsequent disposal, prior to demolition activities. A lead-based paint encapsulant (L-B-C Industrial Lead Encapsulant by Fiberlock Technologies, or equivalent) shall be applied to all painted surfaces prior to demolition activities. During demolition activities, containment shall be maintained at all times to prohibit the release of lead-based paint to the environment. The demolition and/or abatement contractor shall comply with all components of California Code of Regulations (CCR) Title 8, Section 1532.1, as well as the accreditation, licensing, training and work practices in 17 CCR Division 1, Chapter 8. Additionally, the demolition and/or abatement contractor will comply with Santa Barbara County Air Pollution Control District regulations, including no visible dust emissions.

Plan Requirements/Timing. These conditions shall be included in the project plans and specifications.

Monitoring. The City-appointed construction inspector shall ensure these measures are fully implemented.

Residual Impacts. Full implementation of the above mitigation measures would reduce project-specific and cumulative impacts associated with hazardous materials to a level of less than significant.

Impact HAZ-3: Project-related excavation along Carpinteria Avenue may expose soils contaminated by aerially-deposited lead (ADL) and result in public exposure to this hazard – Class II, significant but mitigable.

Prior to 1987, combustion of gasoline with lead additives resulted in the deposition of exhaust particulate matter containing lead along Carpinteria Avenue, a former State highway. Testing of soils along nearby U.S. 101 conducted for the Linden Avenue-Casitas Pass Road Interchanges Project determined that 55 of 60 soil samples had soluble lead concentrations exceeding 5.0 mg/l, which is considered a hazardous waste by DTSC (Geocon, 2001). However, pre-1987 traffic volumes along Carpinteria Avenue are likely to be much less than U.S. 101, such that ADL concentrations in soil along the roadway are expected to be much lower. In the absence of any data to the contrary, public exposure to ADL is considered a potentially significant impact.

Mitigation Measures: A preliminary site investigation shall be conducted to identify ADL-affected soils within the project construction footprint. The investigation shall include preparation of a technical work plan, health and safety plan and traffic control plan for City approval. Soil samples shall be obtained from multiple depths as needed to characterize all planned excavations in roadside areas, and analyzed for soluble lead (soluble threshold limit concentration), total lead (total threshold limit concentration) and extractable lead (using deionized water). ADL-affected soils found (if any) shall be managed according to Caltrans and DTSC requirements as listed in Table 4.8-1.

Plan Requirements and Timing. The above measures shall be documented in the project conditions of approval, and the preliminary site investigation developed and completed prior to demolition. If needed based on the findings of the preliminary site investigation, an ADL soil management plan shall be developed and implemented during construction.

Monitoring. City staff or a City-appointed inspector shall review the preliminary site investigation technical work plan, health and safety plan and traffic control plan, and monitor implementation of these plans. If action levels of lead are found, the City shall review the ADL soil management plan and monitor its implementation.

Residual Impacts. Successful implementation of these measures would reduce public exposure to ADL to a level of less than significant.

Table 4.8-1. Aerially-Deposited Lead Contaminated Soil Management

Soluble Lead Concentration (mg/l)	Total Lead Concentration (mg/kg)	Soil Management
<5.0	<1,000	Non-hazardous, no restrictions, consider worker safety
	1,000-1,411 and extractable lead <1.5 mg/l	Hazardous waste, cover with a minimum of one foot clean soil under Caltrans Variance with DTSC
	1,411-3,397 and extractable lead <150 mg/l	Hazardous waste, cover with pavement structure under Caltrans Variance with DTSC
	1,000-3,397 (surplus)	Dispose at Class I disposal site
	>3,397 or 1,000-3,397 and extractable lead >150 mg/l	Dispose at Class I disposal site
>5.0	<1,411 and extractable lead <1.5 mg/l	Hazardous waste, cover with a minimum of one foot clean soil under Caltrans Variance with DTSC
	1,411-3,397 and extractable lead <150 mg/l	Hazardous waste, cover with pavement structure under Caltrans Variance with DTSC
	<3,397 and extractable lead <150 mg/l (surplus)	Dispose at Class I disposal site
	>3,397 or extractable lead >150 mg/l	Dispose at Class I disposal site

Hazardous Materials Transport, Use or Disposal. Excluding construction-related vehicle fuels, the proposed project would not involve the transport, use or disposal of hazardous materials. Vehicle fuels would be transported and dispensed using State-approved equipment and procedures, such that a hazard associated with exposure to the public or the environment is not anticipated.

Hazardous Emissions near Schools. The project site is located within one-quarter mile of the Carpinteria Middle School; however, the project would not involve hazardous emissions or handling acutely hazardous materials or waste.

Listed Hazardous Materials Sites. The project site is not included on the list of hazardous materials sites compiled pursuant to Government Code §65962.5.

Emergency Response. The City has developed an Emergency Operations Plan to assess and respond to natural disasters, technological incidents and national security emergencies. Closure of Carpinteria Avenue during bridge replacement may impair implementation of this Plan. However, the project includes staged construction to keep both traffic lanes open on Carpinteria Avenue across Carpinteria Creek. Construction would also be coordinated to maintain vehicular access to and from the Concha Loma neighborhood, and other affected properties in the project area. Therefore, impacts to emergency response are not anticipated.

Wildland Fire Hazards. The project site is located in a suburban area, with the nearest wildlands located approximately two miles to the north. Riparian vegetation along Carpinteria Creek is not highly flammable due to nearly perennial surface flow, which maintains a high moisture content in the foliage. The proposed project would not increase the number of persons exposed to wildland fires, and the replacement bridge would not be susceptible to significant risk of loss from fire.

4.8.2.3 Cumulative Impacts

Other projects discussed in Section 3.4 may encounter contaminated soils or other potentially hazardous materials associated with past land use, which could result in public exposure to these materials. The proposed Venoco Paredon project may encounter contaminated soils during construction and emit hydrogen sulfide and other hazardous materials during drilling and production. The Linden Avenue-Casitas Pass Road Interchanges project would encounter aerially-deposited lead and possibly lead-based paint during the construction phase. The proposed project would incrementally contribute to potential public exposure to lead during construction. However, the incremental contribution to cumulative hazardous materials impacts would be reduced by project-specific mitigation measures to a level of less than significant.

4.9 WATER RESOURCES

4.9.1 Setting

4.9.1.1 Description of Surface Waters

The project site is located within Carpinteria Creek in southern Santa Barbara County. The Carpinteria Creek watershed is approximately 15 square miles and extends from sea level to approximately 4,690 feet elevation. The watershed includes one major tributary, Gobernador Creek. Headwater tributaries drain steep hillsides and canyons of the Santa Ynez Mountains. In the foothills and coastal plain, Carpinteria Creek passes through agricultural and suburban areas. Two debris basins were constructed in the watershed in 1971 by the Corps of Engineers (Cachuma RCD et al., 2005), one on upper Carpinteria Creek (Lillingston) and another on Gobernador Creek. In 2008, the Gobernador debris basin was removed and replaced with a naturalized channel and instream debris catchment system. The Lillingston debris basin dam and culvert were recently demolished, but the resulting earth materials and debris have not been removed. A debris rack was installed downstream of the basin to capture materials from the Lillingston basin as they are moved downstream by storm events.

The reach of Carpinteria Creek from the estuary to the confluence with Gobernador Creek is included in the Santa Barbara County Flood Control and Water Conservation District's channel maintenance program. However, maintenance work within the study area is restricted by the presence of endangered species (tidewater goby and steelhead).

U.S. Geologic Survey gauging station (No. 11119500) is located on Carpinteria Creek approximately 500 feet upstream of the State Route 192 crossing. The most recent extreme storm flow recorded at this station was 4,500 cubic feet per second on January 10, 2005. Data from this stream gauge indicates surface flow is typically absent from June through September, but flow is perennial in high rainfall years (1973, 1983, 1993, 1995, 1998 and 2005). The lower half-mile of the Creek typically supports year-round surface water, due to tidal influence, urban and agricultural irrigation run-off and discharge from shallow, unconfined aquifers.

A fish habitat inventory conducted in 2003 within the study area indicated the average wetted stream width was 16 feet in April and nine feet in September, with a maximum pool depth of three feet in April and two feet in September (Cachuma RCD et al., 2005). At the time of the June 21, 2013 biological field survey, surface water was present within the study area from approximately 500 feet upstream of U.S. 101 to the confluence with the Pacific Ocean. Surface water within the study area was generally limited to small shallow pools with very low flow between pools. However, the lower 1,200 feet of the Creek supported a deep pool (about two to four feet deep), about 20 to 30 feet wide.

4.9.1.2 Surface Water Quality Monitoring

Four sets of water quality data are available for Carpinteria Creek; storm water sampling by Santa Barbara County (Project Clean Water), surface water ambient monitoring (SWAMP) by the California Water Boards and Santa Barbara Channelkeepers, and sampling conducted for the City of Carpinteria Creeks Preservation Program.

Project Clean Water. In 1998, Santa Barbara County initiated “Project Clean Water” in coordination with adjacent cities and other interested groups as a method to comply with Phase II Storm Water National Pollution Discharge Elimination System (NPDES) requirements, and to determine the status and trends of local water quality. Project Clean Water includes low flow (pre-storm) water sampling and wet weather (storm water) sampling. The most recent data available for Carpinteria Creek was collected during the 2001/2002 rainy season. These data indicate the following water quality standards were exceeded during one or more storm sampling events:

- Bacteria (total coliform, E. coli, enterococcus) - ocean water quality standard;
- Diazinon – EPA aquatic toxicity standard;
- Malathion – EPA aquatic toxicity standard; and
- Zinc – water quality objective for aquatic habitat.

Surface Water Ambient Monitoring Program (SWAMP). As part of the State-wide SWAMP, the Central Coast Ambient Monitoring Program collected water quality data at 31 sites within the South Coast Hydrologic Unit in 2001/2002, including three locations within Carpinteria Creek (State Route 192, below Carpinteria Avenue and at the estuary). The results of this sampling effort indicate the reach of Carpinteria Creek below Carpinteria Avenue is:

- Unsafe to swim due to high fecal coliform levels;
- Aquatic life beneficial uses are not supported due to unacceptable dissolved oxygen, elevated aquatic toxicity, bio-stimulatory risk and low index of biological integrity; and
- Agricultural beneficial uses are not supported due to high sodium levels.

More recent water quality monitoring (through 2013) within Carpinteria Creek (at the Eighth Street Pedestrian Bridge) identify fecal coliform levels ranging from 17 to 11,000 MPN/100 ml and sodium levels ranging from 25 to 140 mg/l. The water quality objectives of the Water Quality Control Plan for water contact recreation require that not more than 10 percent of fecal coliform samples during any 30-day period exceed 400 MPN/100 ml. The guidelines for irrigation water quality for streams assigned agricultural water supply as a beneficial use is less than 69 mg/l sodium. In addition, measured chloride concentrations occasionally exceed the irrigation water quality guidelines in the Water Quality Control Plan. These data indicate that fecal coliform, sodium and chloride levels in Carpinteria Creek may adversely affect beneficial uses.

Creeks Preservation Program. In May 2000, water quality data were collected at three reaches (CC-1, CC-2, CC-3) in Carpinteria Creek as part the City’s Creeks Preservation Program. Reach CC-1 is located within the project study area. Water quality sampling included temperature, pH, conductivity, dissolved oxygen, suspended solids, phosphate, nitrate, nitrite and ammonia. Sampling results indicate water quality objectives were not exceeded for these constituents.

Santa Barbara Channelkeepers. Water quality monitoring is also conducted by Channelkeepers, including a sample site in Carpinteria Creek at the Eighth Street Pedestrian Bridge. Data collected by Channelkeepers also indicates high levels of fecal coliform occur in Carpinteria Creek. In addition, measured levels of dissolved oxygen were occasionally below the 7.0 mg/l water quality objective for cold freshwater habitat, especially in the early morning when nighttime respiration of aquatic plants and microorganisms lowers dissolved oxygen concentrations.

4.9.1.3 Groundwater Supplies

The project site lies within the Carpinteria Valley sub-area of the South Coast Area, which includes the City of Carpinteria and the coastal plain from Toro Canyon on the west to Rincon Creek on the east. The Carpinteria Valley is served by the Carpinteria Valley Water District (CVWD), which develops water supplies from Cachuma Lake, State Water Project and the Carpinteria Groundwater Basin. Not all users take delivery from CVWD, as a significant number of agricultural users rely on their own wells.

The Carpinteria Groundwater Basin underlies approximately 12 square miles of the Carpinteria Valley. The Carpinteria Basin comprises two aquifers that extend from beyond the Ventura County line on the east, to Toro Canyon on the west. Total storage in the aquifer is estimated to be approximately 700,000 acre-feet. The two aquifers are separated by the Rincon Creek Fault and are called Storage Unit 1 and Storage Unit 2. Storage Unit No. 1 exhibits both higher water quality and storage capacity. Estimated total storage capacity of Unit No. 1 is 170,000 acre-feet. Overall, pumping from the basin has not approached the estimated perennial yield since the drought in the early 1990s, as reflected by the recovery of generally high water levels.

Under the authority of State Assembly Bill 3030, the CVWD adopted a Management Plan in order to establish its role as manager for the Carpinteria Basin. This Plan provides direction for the CVWD as the managing entity for the Carpinteria Basin. Elements of the plan include; water level and quality monitoring, sanitary seal retrofit program, abandoned well destruction program, educational goals and a well inventory database.

The CVWD has prepared, with the assistance of its consulting hydrogeologists, a water budget calculation covering the past 80 years. This water budget, calculated using commonly accepted hydrogeologic practices, shows long-term recharge (inflow) and discharge (outflow) in the Basin are essentially in balance at approximately 4,000 acre-feet per year. While this is true over the long-term, the Basin does experience short-term periods of depletion (during dry periods) or accumulation (during wet periods) of water in storage. These short periods of depletion are not considered overdraft.

The CVWD conducted a multiple dry water year assessment of groundwater and Cachuma surface water as part of its 2010 Urban Water Management Plan Update. This assessment indicates that the CVWD would have an estimated net surplus of approximately 312 acre-feet in 2015, and a net surplus of approximately 798 acre-feet through 2035. Thus, no deficit was observed during this multiple dry water year assessment of supplies and demands. Overall, the Carpinteria area has current and future water supplies sufficient to meet current and expected future demand.

4.9.1.4 Groundwater Monitoring

The CVWD monitors the hydrologic health of the Carpinteria Basin by measuring approximately 35 wells for static water level every two months. These data are compared to mean sea level and plotted against time, which allows the staff and consulting hydrogeologists to assess the accretion or depletion of water stored in the Basin. Along with other information such as rainfall, stream flows and water extraction estimates, the CVWD makes estimates on changes to the water in storage annually. The CVWD also monitors the quality of the water in the Basin using most of the same wells used to measure water levels. Two samples are collected every year from about 30 wells, and the samples are analyzed for 15 inorganic constituents including nitrates, chlorides, sodium and five physical properties such as pH, TDS and alkalinity.

These data allow the staff and consulting hydrogeologists to assess potential issues such as seawater contamination or pollution from surface activities. In addition to the 30 private wells, the CVWD analyzes water quality from four CVWD-owned wells regularly. Constituents including volatile organic compounds (VOCs), synthetic organic compounds (SOC) and radionuclides are measured in addition to many inorganic constituents.

4.9.1.5 Flooding

Based on the Federal Emergency Management Agency Flood Insurance Rate Map (FIRM panel 06083C1420G, effective 2012), the project site is located within the floodway (Zone AE) of Carpinteria Creek. The projected floodwater elevation for a one percent annual chance flood at the site is 39 feet above mean sea level. Based on the FIRM map, about 600 linear feet of Carpinteria Avenue (including the bridge) would be inundated during a one percent annual chance flood.

A Technical Memorandum regarding hydrology, hydraulics and scour was prepared for the project by Avila and Associates (2015). This Memo indicates the 100-year flood event would generate a peak flow of 12,000 cfs at the project site. However, a FEMA Flood Insurance Study prepared for Carpinteria Creek indicates the U.S. 101 bridges upstream of the project site constrict the channel and result in diverting 3,000 cfs to Franklin Creek during the 100-year flood event. Therefore, under current conditions, peak flows during a 100-year flood event would not approach 12,000 cfs at the Carpinteria Avenue Bridge. However, Avila and Associates (2015) indicates that failure of the roadway embankments at the U.S. 101 bridges may occur during a large storm event and prevent diversion of flows to Franklin Creek. This occurred during an extreme storm event in 1969. In any case, the U.S. 101 bridges are planned for replacement prior to implementation of the proposed project, which would allow the entire 12,000 cfs to reach the Carpinteria Avenue Bridge during the 100-year flood event.

4.9.1.6 Regulatory Background

Clean Water Act. In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the Clean Water Act, Congress has amended it several times. The objective of the Clean Water Act is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important Clean Water Act sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act.
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S., administered by the U.S. Army Corps of Engineers.

Porter-Cologne Water Quality Control Act. California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the Clean Water Act and regulates discharges to waters of the State. Waters of the State include more than just waters of the U.S., such as groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined and this definition is broader than the Clean Water Act definition of “pollutant”. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

Water Quality Control Plan, Central Coast Region. The California Porter-Cologne Act assigns the State Water Resources Control Board and Regional Water Quality Control Boards with the responsibility of protecting surface water and ground water quality in California. The project site is within the jurisdiction of the Central Coast Regional Water Quality Control Board (CCRWQCB).

Per the requirements of the Clean Water Act and the California Porter-Cologne Act, CCRWQCB has prepared a Water Quality Control Plan for the watersheds under its jurisdiction, last updated in June 2011. The Water Quality Control Plan has been designed to support the intentions of the Clean Water Act and the Porter-Cologne Act by (1) characterizing watersheds within the Central Coast Region; (2) identifying beneficial uses that exist or have the potential to exist in each water body; (3) establishing water quality objectives for each water body to protect beneficial uses or allow their restoration, and; (4) providing an implementation program that achieves water quality objectives. Implementation program measures include monitoring, permitting and enforcement activities.

Beneficial uses established by CCRWQCB in the Water Quality Control Plan for Carpinteria Creek are:

- Municipal and domestic water supply;
- Agricultural water supply;
- Ground water recharge;
- Water contact recreation;
- Non-contact water recreation;
- Terrestrial wildlife habitat;
- Warm freshwater habitat;
- Cold freshwater habitat;
- Aquatic migratory habitat;
- Aquatic spawning habitat;
- Biological habitats of special significance;
- Rare, threatened or endangered species habitat;
- Estuarine habitat;
- Freshwater replenishment to another water body; and
- Commercial and/or recreational fishing or shellfish harvesting.

The Water Quality Control Plan establishes general qualitative and/or quantitative water objectives that apply to all inland surface waters, estuaries and enclosed bays in the Central Coast Region. The general objectives pertain to the following water quality parameters: color, taste and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances (e.g., nutrients), sediment, turbidity, pH, dissolved oxygen, temperature, toxicity pesticides, chemical constituents, other organics and radioactivity.

The Water Quality Control Plan also provides water quality objectives for specific beneficial uses such as municipal water supply, agriculture, cold freshwater aquatic life habitat, fish spawning habitat, recreation, etc. Water quality parameters of concern and numeric objectives vary considerably depending on the nature of the beneficial use. For example, objectives for municipal water supply and fish spawning habitat are much more stringent and apply to a greater number of parameters than those for agricultural or industrial water supply. Depending on the type of beneficial use, objectives can apply to parameters such as specific organic chemicals, heavy metals, inorganic ions, nutrients, pH, bacteria levels, temperature, dissolved oxygen, etc. In cases where multiple beneficial uses are designated for a given water body (as is the case for local water bodies), a combination of objectives apply, some of which are for the same parameters. In these cases, the most stringent objective for each water quality parameter applies to the water body.

Impaired Waters. Consistent with the requirements of Clean Water Act Section 303(d) (approved 2012 list), the State Water Resources Control Board has identified Carpinteria Creek as an impaired water due to chlorpyrifos, E. coli, fecal coliform, low dissolved oxygen, sodium, nutrients (estuary only), organic enrichment (estuary only) and priority organic compounds (estuary only). The CCRWQCB must develop Total Maximum Daily Load (TDML) restrictions to address these impairments.

Storm Water. Construction of the project would be regulated under the Construction General Permit (Order No. 2009-009-DWQ, as amended by 2012-0006-DWQ), which became effective on July 17, 2012. The permit regulates storm water discharges from construction sites which result in a disturbed soil area of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. For all projects subject to the Construction General Permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan. In accordance with Caltrans Standard Specifications, a Water Pollution Control Plan is necessary for projects with disturbed soil area of less than one acre.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and pre- and post-construction aquatic biological assessments during specified seasonal windows.

Storm run-off from transportation facilities (such as the proposed replacement bridge) contains pollutants and may degrade water quality in receiving waters. The Caltrans Statewide Storm Water Management Plan indicates run-off from highways may result in exceedances of water quality objectives for chromium, copper, lead, nickel, zinc, ammonia and coliform bacteria.

The CCRWQCB re-issued the Phase II Municipal Storm Water General Permit on February 5, 2013, and requires the City to implement Post-Construction Storm Water Management Requirements for Development Projects under Resolution no. R3-2013-0032. The proposed project is subject to these requirements, which include run-off reduction, storm water treatment, run-off retention and management of peak run-off flows.

4.9.2 Impacts and Mitigation Measures

4.9.2.1 Significance Thresholds

State CEQA Guidelines - Water Quality

- Violate any water quality standards or waste discharge requirements.
- 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).
- 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.
- 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 run-off in a manner which would result in flooding on- or off-site.
- Create or contribute run-off water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted run-off.
- Otherwise substantially degrade water quality.

State CEQA Guidelines - Drainage and Flooding

- 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.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- 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.
- Inundation by seiche, tsunami or mudflow.

City of Carpinteria – Flooding and Water Supply

- Significant impacts would result if the project would impose flood hazards on other properties. The Municipal Code prohibits development within areas of special flood hazard except under certain circumstances. The policy requires approval by the Floodplain Administrator before construction, development or alteration begins within any area of special flood hazard.

- Increased storm run-off may be considered significant if the area available for aquifer recharge is reduced. Impacts from moderate to large scale projects where grading would occur during the rainy season, or projects proximate to bodies of water or drainageways would be significant.
- Increased storm run-off may be significant if uncontrolled run-off results in erosion and subsequent sedimentation of downstream water bodies. Impacts from moderate to large scale projects where grading would occur during the rainy season, or projects proximate to bodies of water or drainageways would be significant.
- Modifications to existing drainage patterns may be significant impacts on biological communities if drainage patterns are changed. Significant impacts may be associated with projects where drainage patterns are influenced such that existing vegetation would decline because long-term or short-term soil-plant-water relationships would no longer meet habitat requirements, and projects which would result in substantial changes to streamflow velocities.
- Extraction of water from aquifer would be significant if there would be a net deficit in the aquifer volume or reduction in the local groundwater table level (e.g., installation of wells for golf course irrigation).

City of Carpinteria – Water Quality

- Significant impacts on water quality may result from projects which would generate any amount of highly noxious substance, projects which would generate large amounts of substances which in small amounts are insignificant but are cumulatively hazardous and projects that would result in the deterioration of the quality of a drinking water source.
- Significant impacts on water quality may result from projects which would generate, or result in the accumulation of substances which affect health, or cause genetic defects of wildlife either by direct physical contact with contaminated water, or by water quality changes which cause decline in riparian or lacustrine vegetation which provide wildlife habitat.
- Significant impacts on water quality may result from erosion and subsequent sedimentation of water bodies caused by moderate to large-scale grading projects (>2,000 cubic yards per graded acre), and projects that result in loss of vegetation on slopes (e.g., brush management measures).

4.9.2.2 Project-Specific Impacts

Impact WR-1: Project-related construction activities and storm run-off from construction areas would reduce surface water quality – Class II, significant but mitigable.

Excavation of new bridge footings and abutments and other use of heavy equipment within and adjacent to the Creek may result in streambed and stream bank erosion and siltation of surface water. The beneficial uses that may be adversely affected by the proposed project include endangered species habitat, freshwater habitat, and estuarine habitat, which are primarily represented by fisheries. Fisheries include the endangered tidewater goby and southern steelhead, as well as the native partially-armored three-spined stickleback. Construction activities may degrade water quality, primarily through increased turbidity and suspended sediment, potentially resulting in significant impacts to these endangered species and other native fish species.

Fine organic materials may have accumulated in the sediments, and biological oxygen demand (BOD) increases and associated decreases in dissolved oxygen may occur when sediments are disturbed by construction. The primary nutrient that could be released to the water column during construction is ammonia/ammonium. Elevated ammonium levels were not found during water sampling conducted by Project Clean Water or the City's Creeks Preservation Program. However, sediments may store excess nitrogen in the form of ammonium. Due to relatively high nitrogen concentrations in the water column, nitrogen is not limiting biological growth. Therefore, disturbance of sediment associated with construction activities is not expected to cause the ammonia water quality objective to be exceeded or result in the proliferation of aquatic vegetation or algae.

Metals bound to stream sediments may be released to the water column during project-related construction in the streambed. Chromium, copper and zinc were found in storm water in Carpinteria Creek. Disturbance of metal-containing sediments may result in exceedances of water quality objectives in surface water and possible transport to coastal ocean waters.

Nonpolar, nonionic compounds such as pesticides within sediments partition between pore spaces and particles based on thermodynamic equilibrium. When disturbed by excavation, pesticides contained within water trapped in pore spaces are released to the water column (State Water Resources Control Board, 1991). Pesticides (glyphosate, chlorpyrifos, diazinon and malathion) have been found in Carpinteria Creek, and project construction may release these pesticides, if they have accumulated in the sediments. Disturbance of pesticide-containing sediments may result in exceedances of water quality objectives or aquatic toxicity standards in surface water, and possible transport to coastal ocean waters.

Reductions in primary productivity associated with increased turbidity and siltation may occur due to construction-related disturbance of the banks or streambed of Carpinteria Creek and/or run-off from disturbed areas.

Heavy equipment used within or adjacent to Carpinteria Creek or storm drains may develop leaks and discharge small amounts of lubricants, hydraulic fluid or fuel. Discharge into surface waters may reduce water quality resulting in toxic effects to fish and amphibians. Heavy equipment is expected to be fueled from a fuel truck and not from an on-site storage tank. However, fueling spillage may occur and result in inadvertent discharge to local surface waters. Water quality objectives for oil, grease, and related organic chemicals may be exceeded. In addition, any hydrocarbons deposited or contained in soils placed in/near Carpinteria Creek during construction would enter the water column during storm events and result in discharge of these pollutants to surface waters.

Mitigation Measures: As part of compliance with the Construction General Permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared. The template provided in the Caltrans SWPPP and Water Pollution Control Program Preparation Manual shall be utilized. Best Management Practices (BMP) shall be included to address temporary sediment control, temporary soil stabilization, scheduling to avoid storms when feasible, preservation of existing vegetation, clear water stream diversion, wind erosion, sediment tracking, waste management, materials handling, vehicle and equipment operations, paving operations, stockpile management, dewatering operations and stabilized construction entrance(s). Project-specific BMP development shall utilize the Caltrans Construction Site BMP Manual. Work in the streambed shall be performed during the dry season to minimize disturbance of surface waters.

Plan Requirements and Timing. These measures shall be included in the project conditions of approval. Coverage under the Construction General Permit shall be obtained prior to the initiation of ground disturbance.

Monitoring. The City project manager shall conduct monitoring and reporting as required by the Construction General Permit.

Residual Impacts. Full implementation of the above mitigation measures would reduce project-specific impacts to surface water quality to a level of less than significant.

Impact WR-2: Discharge of groundwater and/or drilling fluids during installation of the CIDH piles would adversely affect surface water quality – Class II, significant but mitigable.

Drilling for foundation piles is likely to encounter groundwater, which would be pumped from the drill-hole and may be discharged to Carpinteria Creek. This groundwater may contain suspended sediments and possibly drilling fluids, which would result in water quality degradation. In addition, the cobble substrate of the streambed would make it difficult to fully contain drilling fluids and unintentional discharge to the Carpinteria Creek streambed may occur. These drilling fluids would contaminate surface water through direct contact or through indirect contact of residual solids with storm flows.

Mitigation Measures: Coverage under Order R3-2011-0223 shall be obtained as required by the Regional Water Quality Control Board for construction dewatering (low threat discharge). In addition, the following measures shall be implemented:

- Groundwater discharged to Carpinteria Creek shall be allowed to settle in a temporary tank (or equivalent) prior to discharge and provided with erosion protection at the pipe outlet.
- Surface flow (if present) shall be diverted around the work area during drilling in the streambed.
- Drilling for the CIDH piles shall utilize temporary steel casing installed to the full depth of the drill-hole, if feasible.
- If full length temporary casing is not feasible, steel casing shall be installed to at least three feet below the ground surface.
- Drilling shall be monitored to detect any discharge of drilling fluid from the casing, streambed or adjacent areas.
- Containment (hay bales wrapped in plastic sheeting, or equivalent) shall be used at the drill-hole to collect and contain any drilling fluid leakage and prevent any discharges to the streambed.
- Absorbent material and disposal bags (or equivalent cleanup materials) shall be maintained on-site to cleanup any drilling fluid spillage.
- All spillage of drilling fluids (including residual solids) shall be removed from the streambed and adjacent areas using cleanup materials.
- Any discharge of drilling fluids to the streambed shall be reported to Regional Water Quality Control Board and California Department of Fish & Wildlife within 24 hours of discharge.

Plan Requirements and Timing. These measures shall be included in the project conditions of approval. Coverage under the Order R3-2011-0223 shall be obtained prior to the initiation of drilling.

Monitoring. The City-appointed construction inspector shall ensure these measures are fully implemented.

Residual Impacts. Full implementation of the above mitigation measures would reduce impacts to surface water quality to a level of less than significant.

Impact WR-3: The project may cause increases in storm run-off – Class III, less than significant.

The project would include a wider bridge deck and roadway approaches, which would increase the area of impervious surfaces and may increase storm run-off. However, the project-related increase in run-off and flood water elevations would be negligible because the affected watershed area would be very small. In addition, storm water from Carpinteria Avenue near the bridge would be detained and treated prior to discharge to Carpinteria Creek as part of the project design (see Section 3.2.6). No increase in erosion and siltation would occur in Carpinteria Creek.

Mitigation Measures: None required.

Groundwater Supplies or Recharge. The project would not generate a long-term demand for potable water. Water would be used during the construction period to facilitate soil compaction, dust control and possibly for short-term irrigation of mitigation plantings. This water would be provided by local fire hydrants supplied by the CVWD. CVWD’s 2010 Urban Water Management Plan indicates that surplus water would be available even during a multiple dry year period. Therefore, the project would not deplete groundwater supplies. The proposed project would not affect groundwater recharge in Carpinteria Creek or adversely affect groundwater production wells.

Storm Drain Capacity and Storm Water Pollution. The project-related increase in run-off is unlikely to affect the capacity of local storm water drainage systems. Storm run-off from the project site during the construction period may be contaminated by fuels, lubricants, coolant and construction materials and considered a potential source of polluted run-off (see Impact WR-1 above).

Housing within 100-year Flood Hazard Area. The project does not include any housing.

Impede or Redirect Flood Flows. One of the primary objectives of the project is to improve flood water conveyance; therefore, the bridge would be designed to reduce the 100-year floodplain area and avoid impeding or redirecting flood flows. Table 4.9-1 provides flood elevation data which indicates the existing bridge would constrict storm flows and result in a 100-year water surface elevation above the bridge deck (negative freeboard value). The proposed project is designed to provide 2.0 feet of freeboard during a 100-year flood event, which would reduce flooding and is considered a beneficial impact.

Table 4.9-1. 100-Year Flood Elevation Data

Parameter	Existing Bridge	Proposed Bridge
Soffit elevation (bottom of bridge deck, feet above msl)	35.4	40.0
100-year water surface elevation (feet above msl)	41.7	38.0
100-year freeboard (feet above water surface elevation)	-5.4	2.0

Expose People or Structures to Flood Hazards. The proposed replacement bridge would be resistant to flood damage, and the project would not expose people or structures to flood hazards. The Carpinteria Creek watershed does not include any levees or dams that could fail and cause flooding. Overall, the proposed project would not increase the potential for flood damage.

Seiche, Tsunami and Mudflows. There are no waterbodies in close proximity that may generate a seiche during a seismic event. The project site is not located within a designated tsunami inundation area. Due to the lack of steep slopes in the immediate project area, mudflows are not anticipated.

Facilitate Disease Vectors and Pesticide Use. The proposed project would not increase the standing water in Carpinteria Creek or otherwise create habitat for mosquitos or other disease vectors.

4.9.2.3 Cumulative Impacts

Virtually all of the projects listed in Section 3.4 would result in some increase in impervious surfaces and associated increase in storm water run-off. Although some of the cumulative projects would be designed to retain peak storm water flows on-site, some increase in storm water run-off to local creeks and storm drains would occur. In addition, storm water run-off from the cumulative project sites may transport sediment and pollutants during construction and during operation to local creeks and the Pacific Ocean. The proposed Venoco Paredon project may result in discharges of crude oil (inadvertent oil spill), hydrocarbons, concrete-contaminated run-off and other pollutants to the Pacific Ocean. The Linden Avenue-Casitas Pass Road Interchanges project may result in the discharge of pollutants into Carpinteria Creek during the construction period, and increases in impervious surfaces would increase storm water run-off volumes. The proposed project would incrementally contribute to increased storm water run-off and water quality degradation in Carpinteria Creek and potentially the Pacific Ocean. However, the incremental contribution to cumulative water resources impacts would be reduced by project-specific mitigation measures to a level of less than significant.

4.10 LAND USE

4.10.1 Setting

4.10.1.1 Existing and Adjacent Land Uses

Land uses in the immediate project area include single-family residences along Concha Loma Drive and Arbol Verde Street, multi-family residences near the terminus of Eighth Street and commercial land uses along Carpinteria Avenue, including medical office, general office, motel and general commercial (Casitas Plaza shopping center). A summary of existing land uses on the affected parcels is provided in Table 4.10-1.

4.10.1.2 Affected Parcels

Table 4.10-1 provides the area, land use designation, zoning and existing land use of each parcel that would be affected by construction of the proposed project. Note that the proposed replacement bridge would be located within the existing Carpinteria Avenue right-of-way. The entire City of Carpinteria, including the project site is located in the Coastal Zone and subject to the City's General Plan/Coastal Land Use Plan.

Table 4.10-1. Affected Parcel Summary

Parcel no.	Parcel size (acres)	Land Use Designation	Zoning Designation	Existing Land Use
001-070-008	0.39	General Commercial	Commercial Planned Development	Medical offices
001-070-029	0.11	General Commercial	Planned Residential Development, 15 units/ac	Vacant
001-070-031	0.53	Medium Density Residential	Planned Residential Development, 15 units/ac	Single residence
001-070-039	4.01	Visitor Serving Commercial	Commercial Planned Development	Motel 6
001-070-055	2.75	Open Space/Recreation	Commercial Planned Development	Vacant (creek corridor)
001-070-065	0.32	General Commercial	Commercial Planned Development	Vacant, landscaped
001-070-066	3.76	General Commercial	Commercial Planned Development	Office building (approved for assisted living facility)
003-280-006	0.05	General Commercial	Planned Residential Development, 15 units/ac	Vehicle storage structure
003-280-017	1.06	General Commercial	Commercial Planned Development	Multi-family residential apartments

4.10.2 Impact Analysis and Mitigation Measures

4.10.2.1 Thresholds of Significance

The State CEQA Guidelines (14 CCR Chapter 3, Appendix G) suggest that a project may have a significant impact with respect to land use if it would do any of the following:

- Physically divide an established community;
- 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; and
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.2.2 Project-Specific Impacts

Impact LU-1: The project could result in land use conflicts with adjacent and nearby residential and commercial uses – Class III, less than significant.

The proposed project is a direct replacement of the existing bridge, at the same location and the same number of traffic lanes, using the same materials (concrete). Although the width and depth of the proposed bridge deck would be slightly greater than existing, no significant conflicts with allowed uses of adjacent parcels would occur, and no taking of private property would be required. However, temporary construction easements would be required. In addition, environmental impacts that may affect adjacent land uses such as aesthetics, air pollutant emissions, geology/soils, hazardous materials, water resources, noise and transportation would be less than significant or mitigation would be provided to reduce impacts to a less than significant level (see Sections 4.1, 4.3, 4.7, 4.8, 4.9, 4.11 and 4.12).

Mitigation Measures: None required.

4.10.2.3 Consistency with the General Plan/Local Coastal Land Use Plan

Land Use Element. Applicable objectives and policies include:

Objective LU-1: Establish the basis for orderly, well planned urban development while protecting coastal resources and providing for greater access and recreational opportunities for the public.

Potentially Consistent: The proposed project is not an new urban development, but would ensure continued community access across Carpinteria Creek. Wider sidewalks would be provided to allow pedestrians (including bird watchers) more space to stop and enjoy the passive recreational opportunities of Carpinteria Creek. In addition, a bike path connection to the south side of Carpinteria Avenue would be provided to expand bike riding opportunities. The proposed bridge has been designed to minimize impacts to coastal resources, including the Carpinteria Creek corridor.

Objective LU-2: Protect the natural environment within and surrounding Carpinteria.

Policy LU-2b: Regulate all development, including agriculture, to avoid adverse impacts on habitat resources. Standards for habitat protection are established in the Open Space, Recreation & Conservation Element policies.

Potentially Consistent: The proposed bridge design (three-span) would minimize impacts to the habitat resources and the natural environment of the Carpinteria Creek corridor. Consistency with the policies of the Open Space, Recreation & Conservation Element is addressed below.

Objective LU-3: Preserve the small beach town character of the built environment of Carpinteria, encouraging compatible revitalization and avoiding sprawl development at the city's edge.

Policy LU-3b: The Community Design Element shall guide the character of development, and represent a comprehensive statement of the community's visual objectives.

Potentially Consistent: The proposed replacement bridge would be constructed of the same materials, using the same basic design and similar scale as the existing bridge. This would preserve the small beach town character of the City and the character of the Concha Loma neighborhood. Four basic bridge designs and four bridge deck options were presented to the Planning Commission and City Council as part of project development, and the City Council selected the three span bridge design as the proposed project as it would meet project objectives while minimizing visual impacts.

The Architectural Review Board (ARB) reviewed the project design at their February 12, 2015 meeting and provided conceptual design input with regard to the bridge railings, lighting and landscaping. The ARB would review the bridge design for consistency with the Community Design Element of the General Plan and the local neighborhood architecture during the environmental review public comment period and any recommended design features would be incorporated into the project pending approval by the City Planning Commission.

Policy LU-3h: Develop land uses that encourage the thoughtful layout of transportation networks, minimize the impacts of vehicles in the community, and encourage alternative means of transportation.

Potentially Consistent: The proposed project would maintain the existing transportation network, provide wider sidewalks and bike lanes at the creek crossing, and expand the existing bike path along Carpinteria Creek, which would encourage alternative modes of transportation.

Community Design. Applicable objectives and policies include:

Objective CD-8: *To encourage and facilitate pedestrian and bicycle pathways.*

Policy CD-8b: To provide convenient pedestrian routes, the existing network of automobile lanes, trails and pedestrian ways in the Downtown District and adjacent neighborhoods should be preserved, reinforced, and extended into other neighborhoods.

Potentially Consistent: The proposed project would preserve the existing bike path along Carpinteria Creek and provide a bike path connection to the south side of Carpinteria Avenue, which would facilitate future bike path extensions and provide a safe connection for bicyclists continuing east along Carpinteria Avenue. In addition, the new bridge would provide wider sidewalks and bike lanes which would encourage pedestrian and bicycle use. The proposed project would provide a direct bridge replacement, preserving the existing network of traffic lanes.

Objective CD-9: *To ensure that streets enhance the established city framework and design.*

Potentially Consistent: The proposed bridge and associated roadway improvements would be consistent with the character of the neighborhood, and would not block views. Proposed street lighting and landscaping (see Section 3.2.5) would be consistent with other streetscape renovation efforts in the City and the bridge rails would incorporate recommendations by the ARB to ensure consistency with the Community Design Element.

Objective CD-11: *Existing public spaces should be maintained, and new public spaces should be incorporated into neighborhoods and districts as an important aspect of their design.*

Policy CD-11c: All public spaces and facilities should reflect quality design.

Potentially Consistent: The proposed bridge design was selected due to its ability to meet multiple design objectives. It has similar features as the existing bridge, would be compatible with the surrounding neighborhood and meets the intent of the various creek/habitat protection policies. The bridge materials were selected for their durability, cost-effectiveness and reduced footprint. The ARB is anticipated to review the bridge design for consistency with the Community Design Element of the General Plan and the local neighborhood architecture during the public comment period and any recommended design features would be incorporated into the project pending review by the City Planning Commission.

Objective CD-12: *Development should fit quietly into the area's natural and introduced landscape, deferring to open spaces, existing natural features and native and sensitive habitats.*

Policy CD-12a: Landscape planning shall be respectful of the natural character of the City and enhance existing native plant communities and environmentally sensitive habitat areas.

CD-12 Implementation Policy 1: Use of native, locally adapted species shall be encouraged and shall be required within and adjacent to ESHA.

Potentially Consistent: The proposed three-span bridge design would minimize intrusion into the natural features and sensitive habitat of the Carpinteria Creek corridor. Mitigation measures provided in this EIR include restoration of areas affected by construction, and enhancement of adjacent areas along Carpinteria Creek. All plantings within ESHA would be native and sourced from local plant stocks as available. Proposed landscape plantings along the roadway (see Section 3.2.5) would complement the Carpinteria Avenue streetscape and consist of native and/or non-invasive plant species to enhance adjacent ESHA. The landscape plan would be reviewed by the Architectural Review Board to ensure selected plant species are appropriate.

Objective CD-13: *Ensure that lighting of new development is sensitive to the character and natural resources of the City and minimizes photo-pollution to the maximum extent feasible.*

Policy CD-13a: Lighting for development adjacent to an ESHA shall be designed to further minimize potential impacts to habitat.

Policy CD-13b: Lighting shall be low intensity and located and designed so as to minimize direct view of light sources and diffusers and to minimize halo and spillover effects.

CD-13 Implementation Policy 4: Lighting along roads and in developed areas within or adjacent to ESHA shall not exceed 0.01 foot-candles five feet inside of any City-identified ESHA area.

CD-13 Implementation Policy 5: Spotlights or floodlights in or adjacent to ESHA shall not be permitted.

Potentially Inconsistent: Proposed street lighting along Carpinteria Avenue would be consistent with other streetscape renovation efforts in the City, and would not include any spotlights or floodlights. Although the project may result in an increase in lighting levels along Carpinteria Avenue, intervening vegetation would obstruct most of this light from reaching riparian habitat along Carpinteria Creek. Bike path lighting would be low intensity and focused on the bike path, while meeting minimum public safety requirements. However, post-project lighting levels within the Carpinteria Creek ESHA may exceed 0.01 foot-candles. This potential policy inconsistency would not result in any significant impacts as discussed in the Biological Resources section (Impact BIO-13).

Subarea 2 (The Downtown and Old Town) Objective CDS2-1: *Preserve and strengthen the visual and physical connections between the downtown, beach, the salt marsh, mountains, and the other neighborhoods and districts in the city.*

Policy CDS2-a: Ensure that new intensified land uses within the Downtown remain consistent with the city's "small beach town" image.

Policy CDS2-b: To enhance the pedestrian character of the downtown's streets, plazas, paseos, parks and lanes.

Subarea 5 (Concha Loma Neighborhood) Objective CDS5-1: Preserve and strengthen the visual and physical connections between the subarea, the beach, the downtown and other neighborhoods and districts in the city.

Subarea 5 Objective CDS5-2: Preserve the existing residential neighborhoods and their unique characteristics, and ensure that new development enhances the neighborhood character.

Subarea 5 Objective CDS5-3: Ensure that new development is sensitive to the scale and character of the existing neighborhoods, and consistent with the city's "small beach town" image.

Potentially Consistent: The proposed project is an in-kind bridge replacement, with no new development or intensified land uses. The replacement bridge would be slightly wider, but would be very similar in scale and design, and would preserve the neighborhood character and the City's "small beach town" image. The proposed wider sidewalks and bike lanes, and bike path extension to the south side of the bridge would enhance and preserve the existing physical connection between the Concha Loma and Downtown/Old Town neighborhoods.

Circulation Element. Applicable objectives and policies include:

Objective C-1: To improve the community's ability to access U.S. 101 and areas north of the freeway through improvement of interchanges.

Policy C-1b: The City shall strive to improve vehicular and pedestrian over crossings of the freeway and the various creeks while respecting their habitat value and sensitivity.

Potentially Consistent: The proposed project would ensure the long-term safety of the existing Carpinteria Avenue crossing of Carpinteria Creek, and provide wider sidewalks and bike lanes to improve pedestrian access. The project design would minimize habitat loss and disturbance within the Carpinteria Creek corridor, and include habitat restoration and enhancement.

Objective C-3: Provide a balanced transportation network with consistent designations and standards for roadways that will provide for the safe and efficient movement of goods and people through the community.

Policy C-3h: Require all new projects to demonstrate safe traffic flow integration with the Master Plan of Streets as well as street/drainage improvements function. This shall include construction traffic and the designation of construction routes.

Objective C-4: Improve the Carpinteria Avenue corridor to ensure adequate traffic flow, safe bicycle use and improved aesthetic qualities.

Policy C-4a: Regulations should be established which minimize traffic movement friction on Carpinteria Avenue. Such standards should include but not be limited to:

- *Elimination of problematic existing and proposed left hand turn movements,*
- *Eliminating where appropriate existing curb cuts, and*
- *Creating standards for when new driveways are allowed, spacing, and alignment. [5-year]*

Objective C-7: Build demand for alternative transportation use by increasing ease, effectiveness, and social acceptability, and through foresighted planning.

Policy C-7c: Provide safe mobility for the physically handicapped through the design of street improvements and public facilities.

Objective C-8: Support and develop safe, direct and well-maintained bicycle and pedestrian systems and recreational boating facilities that serve all segments of the public.

Policy C-8a: Integrate the development of bicycle routes and pedestrian pathways in additional areas of the city, and encourage the utilization of such routes for commuting as well as recreational purposes.

Policy C-8f: Encourage pedestrian movement by providing pedestrian facilities that are direct and convenient, particularly in the beach and downtown areas.

Policy C-8i: Inspect, provide, and maintain contiguous bike lanes for a one-half mile radius around each school site.

Potentially Consistent: The proposed project would provide a replacement bridge designed according to current roadway standards, and consistent with the City's Master Plan of Streets. Wider bike lanes and sidewalks would be provided to improve traffic flow, bicycle safety and pedestrian safety. The proposed project would improve sight distance at the Carpinteria Avenue/Arbol Verde Street intersection, which would allow motorists turning left onto Carpinteria Avenue a better view of approaching vehicles, pedestrians and bicyclists and reduce potential traffic hazards. Construction traffic routes would be specified as part of the Conditional Use Permit and Coastal Development Permit. A bike path connection to the south side of Carpinteria Avenue may be provided, and facilitate safe bicycle use for riders heading east on Carpinteria Avenue. Existing bike lanes serving the Carpinteria Middle School would be maintained.

Open Space, Recreation & Conservation. Applicable objectives and policies include:

Objective OSC-1: Protect, preserve and enhance local natural resources and habitats.

Policy OSC-1a. Protect Environmentally Sensitive Habitat Area(s) (ESHA) from development and maintain them as natural open space or passive recreational areas.

Policy OSC-1b: Prohibit activities, including development, that could damage or destroy ESHA.

Policy OSC-1c: Establish and support preservation and restoration programs for ESHA, including but not limited to Carpinteria Creek, Carpinteria Bluffs, Carpinteria Salt Marsh, seal rookery, Carpinteria reef, Pismo clam beds and the intertidal zones along the shoreline.

Policy OSC-1d: Property including ESHA should be designated with a zoning category that allows for the protection of, and access to, the resource area, such as Open Space/Recreation or Public Facility zoning. Any development on property including ESHA should be designed and conducted to protect the resources. Within environmentally sensitive habitat only uses dependent upon those resources shall be allowed and the resources shall be protected against any disruption.

Policy OSC-1f: Protect and restore degraded wetlands, butterfly habitat, native plant communities, and sensitive, rare, threatened or endangered species habitat on City-owned land to the maximum extent feasible.

Potentially Consistent: The proposed project would result in short-term and long-term impacts to ESHA. However, the impacts would be minimized through project design, and cannot be avoided as the bridge must cross Carpinteria Creek. Mitigation would be provided to restore and enhance ESHA, wetlands, native plant communities and sensitive species habitat along the creek corridor.

OSC-1 Implementation Policy 1: In addition to the policies and implementation policies herein, utilize the California Environmental Quality Act (CEQA) to identify and avoid or reduce potential impacts to air and water quality, environmentally sensitive habitats, riparian habitats, marine plants and animals, and other environmental resources.

Potentially Consistent: This EIR identifies potentially significant impacts related to aesthetics, biological resources, cultural resources, hazards and hazardous materials, noise, transportation/circulation, and water resources. Mitigation measures have been required to ensure that impacts have been avoided or mitigated to a level of less than significant.

OSC-1 Implementation Policy 11: Require City Biologist review and recommendation for all development projects that the Community Development Department has determined have the potential for impacts on ESHA or water quality.

Potentially Consistent: The City Biologist would review the Draft EIR as part of the Environmental Review Committee and provide recommendations to reduce impacts to ESHA and water quality.

Objective OSC-6: Preserve the natural environmental qualities of creekways and protect riparian habitat.

Policy OSC-6a: Support the preservation of creeks and their corridors as open space, and maintain and restore riparian habitat to protect the community's water quality, wildlife diversity, aesthetic values, and recreation opportunities.

Policy OSC-6b: Protect and restore degraded creeks on City-owned land where protection and restoration does not interfere with good flood control practices.

Policy OSC-6c: When alterations to creeks are permitted by the Coastal Act and policies herein, the creek shall be protected by only allowing creek bank and creek bed alterations where no practical alternative solution is available, where the best mitigation measures feasible have been incorporated, and where any necessary State and federal permits have been issued. Creek alterations should utilize natural creek alteration methods where possible (e.g. earthen channels, biotechnical stabilization). Nothing in this policy shall be construed to require the City to approve creek alterations not otherwise allowed herein and by the Coastal Act.

Policy OSC-6e: Natural drainage patterns and runoff rates and volumes shall be preserved to the greatest degree feasible by minimizing changes to natural topography, and minimizing the areas of impervious surfaces created by new development.

OSC-6 Implementation Policy 26: Prior to issuance of a development permit, all projects shall conform with the applicable habitat protection policies including but not limited to the General Plan/Local Coastal Plan, Open Space Bluffs Master Program, Creek Preservation Ordinance, and the Zoning Ordinance.

OSC-6 Implementation Policy 28: Prohibit all development within stream corridors except for the improvement of fish and wildlife habitat, development necessary for flood control purposes, (where no other method to protect existing structures in the floodplain is feasible and where protection is necessary for public safety), and bridges and trails (where no alternative route/location is feasible and, when supports are located within stream corridor setbacks, such locations minimize impacts on critical habitat). All development shall incorporate the best mitigation measures feasible to minimize impacts to the greatest extent.

OSC-6 Implementation Policy 29: Limit all development within stream corridors, including dredging, filling and grading, to activities necessary for the construction specified in Policy 28 and to public hiking/biking and equestrian trails. When such activities require removal of riparian plant species, revegetation with local native riparian plants shall be required. Minor clearing of vegetation may be permitted for hiking/biking and equestrian trails.

OSC-6 Implementation Policy 30: Prohibit further concrete channelization or other major alterations of streams in the city with the exception of natural habitat enhancement projects, or when the City finds that such action is necessary to protect existing structures and that there are no less environmentally damaging alternatives. Where alteration is permitted, best feasible mitigation shall be a condition of the project.

Potentially Consistent: The proposed project would result in short-term and long-term impacts to Carpinteria Creek and associated riparian habitat. However, the impacts would be minimized through project design, and no change in land use would occur. Bridges are allowed under OSC Implementation Policy 28, and there is no practical alternative to bridge replacement. Bridge abutments would be located outside the creek corridor to the extent feasible and support piers would be located outside the low flow channel. A clear span alternative was assessed that would avoid bridge supports in the streambed, but this alternative did not meet the project objectives as it would require the Carpinteria Avenue/Arbol Verde Street intersection to be closed and require extensive driveway modifications to conform to the elevated roadway approaches.

The proposed project includes bike path improvements allowed under OSC Implementation Policy 29. State and Federal regulatory permits would be obtained for construction work within the creek corridor. Mitigation would be provided to restore and enhance riparian habitat along the creek corridor. The project would not alter natural drainage patterns, or include concrete channelization or other major alterations of Carpinteria Creek. However, stream bank improvements are required to minimize scour of the bridge abutments during major storm events, which would include rock slope protection. The amount of rock and extent of the rock slope protection would be minimized to avoid riparian habitat loss to the extent feasible. Stream banks with rock slope protection would accommodate native vegetation plantings as part of required riparian habitat restoration (see mitigation measures for Impacts BIO-1 and BIO-2).

OSC-6 Implementation Policy 32: In order to protect watersheds in the City, all construction-related activities shall minimize water quality impacts, particularly due to sediments that are eroded from project sites and are conveyed to receiving waters, by implementing the following measures:

- a. *Proposed erosion and sediment prevention and control BMPs, both structural and non-structural, such as:*
 - *Stabilize disturbed areas with vegetation, mulch, geotextiles, or similar method*
 - *Trap sediment on site using fiber rolls, silt fencing, sediment basin, or similar method*
 - *Ensure vehicles on site are parked on areas free from mud; monitor site entrance for mud tracked off-site*
 - *Prevent blowing dust from exposed soils.*

- b. *Proposed BMPs to provide adequate sanitary and waste disposal facilities and prevent contamination of runoff by construction chemicals and materials, such as:*
- *Control the storage, application and disposal of pesticides, petroleum and other construction and chemical materials*
 - *Site washout areas more than fifty feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies*
 - *Provide sanitary facilities for construction workers*
 - *Provide adequate disposal facilities for solid waste produced during construction and recycle where possible.*

OSC-6 Implementation Policy 33: In order to protect watersheds in the City, all development shall minimize water quality impacts, particularly due to storm water discharges from existing, new and redeveloped sites by implementing the following measures:

- a. *Site design BMPs, including but not limited to reducing imperviousness, conserving natural areas, minimizing clearing and grading and maintaining predevelopment rainfall runoff characteristics, shall be considered at the outset of the project.*
- b. *Source control Best Management Practices (BMPs) shall be preferred over treatment control BMPs when considering ways to reduce polluted runoff from development sites. Local site and soil conditions and pollutants of concern shall be considered when selecting appropriate BMPs.*
- c. *Treatment control BMPs, such as bio-swales, vegetated retention/detention basins, constructed wetlands, storm water filters, or other areas designated to control erosion and filter storm water pollutants prior to reaching creeks and the ocean, shall be implemented where feasible.*
- d. *Structural BMPs (or suites of BMPs) shall be designed to treat, infiltrate or filter the amount of storm water runoff produced by all storms up to and including the 85th percentile, 24-hour runoff event for volume-based BMPs, and/or the 85th percentile, one-hour runoff event, with an appropriate safety factor (i.e., 2 or greater), for flow-based BMPs.*

- e. *Permits for new development shall be conditioned to require ongoing maintenance where maintenance is necessary for effective operation of required BMPs. Verification of maintenance shall include the permittee's signed statement accepting responsibility for all structural and treatment control BMP maintenance until such time as the property is transferred and another party takes responsibility. The City, property owners, or homeowners associations, as applicable, shall be required to maintain any drainage device to insure it functions as designed and intended. All structural BMPs shall be inspected, cleaned, and repaired when necessary prior to September 30th of each year. Owners of these devices will be responsible for insuring that they continue to function properly and additional inspections should occur after storms as needed throughout the rainy season. Repairs, modifications, or installation of additional BMPs, as needed, should be carried out prior to the next rainy season.*

Potentially Consistent: The EIR fully addresses water quality impacts of the project, including construction activities. Mitigation measures have been provided to address construction storm water impacts, including preparation and implementation of a storm water pollution prevention plan that would include BMPs similar to those listed above. In addition, the project would comply with Post-Construction Storm Water Management requirements as mandated by the CCRWQCB, including on-site detention and treatment (see Section 3.2.6).

Objective OSC-7: Conserve native plant communities.

Policy OSC-7b: When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. Structures shall be sited and designed to minimize the impact of grading, paving construction of roads, runoff and erosion on native vegetation. Sensitive resources that exhibit any level of disturbance shall be maintained, and if feasible, restored. New development shall include measures to restore any disturbed or degraded habitat on the project site. Cut and fill slopes and all areas disturbed by construction activities shall be landscaped or revegetated at the completion of grading. Plantings shall be of native, drought-tolerant plant species consistent with the existing native vegetation on the site. Invasive plant species that tend to supplant native species shall be prohibited.

Potentially Consistent: The proposed project would result in short-term and long-term impacts to Carpinteria Creek and associated native riparian plant communities. However, impacts would be minimized through project design. Mitigation would be provided to restore and enhance native riparian plant communities along the creek corridor. The project does not include any non-native landscaping, including invasive plant species.

Objective OSC-8: Protect and conserve Monarch butterfly tree habitat.

OSC-8 Implementation Policy 38: Preserve and restore habitat used by sensitive, rare, threatened, and endangered species.

OSC-8 Implementation Policy 39: Sensitive, rare, threatened, and endangered species' shall be defined as federal or state listed rare, endangered, threatened, or candidate plants or animals, including those listed as Species of Special Concern or Fully Protected Species, or plants or animals for which there is other compelling evidence of rarity, for example those designated 1b (rare or endangered) by the California Native Plant Society.

OSC-8 Implementation Policy 40: New development in or adjacent to habitat used by sensitive, rare, threatened, or endangered species shall be set back sufficiently far as to minimize impacts on the habitat area. For nesting and roosting trees used by sensitive, rare, threatened, or endangered raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek, this setback shall be a minimum of 300 feet. In addition, the maximum feasible area surrounding nesting and roosting sites shall be retained in grassland and to the extent feasible shall be sufficient to provide adequate forage for nesting success.

Additions or alterations to existing development on parcels adjacent to Carpinteria Creek may be located within the applicable setback in accordance with the following requirements:

- a. In accordance with established multi-week protocols, a pre-construction survey for nesting and roosting activity shall be performed by a qualified biologist for all improvements to existing development on parcels adjacent to Carpinteria Creek.*
- b. Only those improvements that, in the opinion of a qualified biologist, do not adversely affect the future use of the nesting or roosting trees shall be approved.*
- c. If nesting or roosting sensitive, rare, threatened, or endangered raptors are found within 300 feet of the proposed improvements, no construction activity shall occur within the nesting or roosting season, as applicable.*
- d. Nesting or roosting trees are considered significant vegetation and shall only be altered or removed if it is determined by a qualified arborist that alterations or removal are necessary for the protection of public safety or the maintenance of the health of the affected tree, and there are no other feasible means of limiting the public hazard posed by the tree (e.g., fencing around the tree, supportive cabling of weak limbs). Removal of nesting or roosting trees shall be mitigated. In no case shall nesting or roosting trees be removed or altered during the nesting or winter roosting season.*

Potentially Consistent: Biological field surveys of the project area were conducted as part of the preparation of this EIR. Sensitive, rare, threatened or endangered species that may be adversely affected by the project include tidewater goby, southern California steelhead, western pond turtle, two-striped garter snake, sharp-shinned hawk, Cooper's hawk, yellow warbler, yellow-breasted chat, ringtail and Yuma myotis. Raptor roosts or nest sites were not found near the project site. Mitigation measures have been provided to conduct pre-construction breeding bird surveys (including raptors) and avoid active nests during project construction activities. Removal of raptor roosts or nest trees is not anticipated. Mitigation measures to minimize or avoid impacts to special-status species listed above have been identified in the EIR and would be incorporated into the project Conditions of Approval.

Objective OSC-10: *Conserve all water resources, and protect the quality of water.*

OSC-10 Implementation Policy 52: *Ensure that soil erosion and the off-site deposition of soils is not exacerbated through development.*

OSC-10 Implementation Policy 53: *Provide storm drain stenciling and signage for new storm drain construction in order to discourage dumping into drains. Signs shall be provided at creek public access points to similarly discourage creek dumping.*

Potentially Consistent: The project involves temporary ground disturbance associated with the demolition of the existing bridge and the construction of the new bridge, bike path, rock slope protection, piers and associated roadway improvements. The mitigation measures identified in the EIR include standard Best Management Practices (BMPs) to address temporary sediment control, temporary soil stabilization, scheduling to avoid storms when feasible, preservation of existing vegetation, clear water stream diversion, wind erosion, sediment tracking, waste management, materials handling, vehicle and equipment operations, paving operations, stockpile management, dewatering operations and stabilized construction entrance. Any new storm drain inlets would be provided with signage (Do Not Dump: Drains to Directly to Creek/Ocean) or a City-approved equivalent message.

Objective OSC-11: *Carpinteria will conduct its planning and administrative activities so as to maintain the best possible air quality.*

Policy OSC-11a: *Carefully review development that will significantly impact air quality.*

Policy OSC-11b: *Promote the reduction of mobile source emissions related to vehicular traffic (e.g. promote alternative transportation, vanshare, buses).*

Potentially Consistent: Air quality impacts would be limited to the construction period, and are considered temporary and would not trigger significance thresholds. However, standard APCD emissions reduction measures have been adopted to reduce fugitive dust and exhaust emissions during construction. The proposed project would provide wider sidewalks and bike lanes, and extend the existing bike path along Carpinteria Creek to the south side of Carpinteria Avenue which would facilitate future bike path extensions. These improvements would promote bicycle use as alternative transportation.

Objective OSC-13: Preserve Carpinteria's visual resources.

Policy OSC-13a: Preserve broad unobstructed views from the nearest public street to the ocean, including but not limited to Linden Avenue, Bailard Avenue, Carpinteria Avenue and U.S. Highway 101. In addition, design and site new development on or adjacent to bluffs, beaches, streams, or the Salt Marsh to prevent adverse impacts on these visual resources. New development shall be subject to all of the following measures:

- a. Height and siting restrictions to avoid obstruction of existing views of visual resources from the nearest public areas.*
- b. In addition to the bluff setback required for safety, additional bluff setbacks may be required for oceanfront structures to minimize or avoid impacts on public views from the beach. Bluff-top structures shall be set back from the bluff edge sufficiently far to ensure that the structure does not infringe on views from the beach except in areas where existing structures already impact public views from the beach. In such cases, the new structure shall not be greater in height than adjacent structures and shall not encroach seaward beyond a plane created by extending a straight line ("stringline") between the nearest building corners of the existing buildings on either side of the proposed development. Patios, balconies, porches and similar appurtenances, shall not encroach beyond a plane created by extending a straight line between the nearest corners closest to the beach from the existing balconies, porches or similar appurtenances on either side of the proposed development. If the stringline is grossly inconsistent with the established line of seaward encroachment, the Planning Commission or City Council may act to establish an encroachment limit that is consistent with the dominant encroachment line while still limiting seaward encroachment as much as possible.*
- c. Special landscaping requirements to mitigate visual impacts.*

Policy OSC-13b: Require new development or redevelopment in the downtown section of Carpinteria to conform to the scale and character of the existing community and consistent with the City's theme of a small beach-oriented community.

Policy OSC-13d: Encourage the retention of those portions of creeks within the Planning Area that are unsuitable for active recreational use for use as open space that can provide passive recreational opportunities and protection of habitat.

Policy OSC-13g: Require new development to protect scenic resources by utilizing natural landforms and native vegetation for screening structures, access roads, building foundations, and cut and fill slopes in project design which otherwise complies with visual resources protection policies.

Policy OSC-13h: Plans for development shall minimize cut and fill operations. Plans that do not minimize cut and fill shall be denied.

Policy OSC-13i: Design all new development to fit the site topography, soils, geology, hydrology, and other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Preserve all natural landforms, natural drainage systems, and native vegetation. Require all areas on the site not suited to development, as evidenced by competent soils, geology and hydrology investigation and reports remain as open space.

Potentially Consistent: Ocean views are not available from the subject portion of Carpinteria Avenue. The proposed replacement bridge would be approximately two feet higher (at mid-span) than the existing bridge and would not affect ocean views. The proposed project would retain the Carpinteria Creek corridor for passive recreation and habitat protection. Bridge materials and overall scale would be virtually the same as existing, with the proposed bridge rail design, lighting and landscaping reviewed by the ARB. The proposed project would balance cut and fill to the extent feasible, and remove 700 cubic yards of artificial fill from under the outer bridge spans. The replacement bridge would be constructed at the same location as the existing bridge, and minimize grading, other site preparation activities and removal of native vegetation. Aesthetics impacts of the project would result from construction-related vegetation removal and construction equipment and materials, larger bridge mass and tree removals, potentially contrasting architectural treatments and construction lighting. Mitigation measures have been provided to avoid or offset significant aesthetics impacts (see Impacts AES-2 and AES-3).

Objective OSC-14: Provide for adequate park and recreation facilities to meet the needs of the community and visitors.

Policy OSC-14b: Provide for passive recreation uses of natural open space areas, such as along creeks and the Bluffs 1 areas, where such uses would not damage the resources being protected.

Potentially Consistent: The Carpinteria Avenue Bridge is a critical element of the primary arterial roadway in the City. However, the bridge also provides opportunities for passive recreational uses such as walking or bird-watching at Carpinteria Creek. The proposed project would provide wider sidewalks on the bridge, which would improve opportunities for these passive recreational uses by maintaining sufficient width for passing while individuals are stopped on the bridge viewing the creek or bird watching. The proposed project also involves rebuilding the Carpinteria Creek bike path along the creek's west bank, and potentially extending the bike path under the bridge. Both existing and proposed new sections of the bike path provide recreational opportunities (e.g., bicycling, walking, etc.).

Objective OSC-15: *Maintain the existing trail system and provide additional recreation and access opportunities by expanding the trail system.*

Policy OSC-15a: *The City's trail system shall be maintained and expanded upon based upon Figure C-3, the Trails Map, and, if approved by the Coastal Commission in an amendment to its Local Coastal Plan, the Trails Master Plan or similar implementing document.*

Policy OSC-15b: *Support enhancement of access trails along creekways designated as open space up to the foothills of the Santa Ynez mountain range. This should include exploring trail development for public use along the Edison easement behind Carpinteria High School, ending on the first ridge above the city. This should be linked to the old Franklin trail, leading to the ridge up to East Camino Cielo. Trail restoration and enhancement of easement areas should be pursued to restore the natural beauty along these trails by negotiating with property owners, the school district, and the National Forest, to redesign trails and adopt protective fencing methods.*

Policy OSC-15d: *Creek trails shall be designed and located to prevent any significant direct or indirect adverse impacts on the riparian habitat of the creeks or the Carpinteria Salt Marsh.*

Potentially Consistent: The proposed project would preserve the existing bike path along Carpinteria Creek. This path is extensively used by pedestrians and may be considered a trail. A bike path/trail connection to the south side of Carpinteria Avenue would be provided, which would facilitate future bike path/trail extension to the south along the Creek. The proposed bike path/trail connection would be located in disturbed areas to the extent feasible, but would displace approximately 0.10 acres of riparian habitat and bare streambed (under the bridge). Project-related impacts to riparian habitat would be fully mitigated by restoration of construction work areas and habitat enhancement along Carpinteria Creek.

Objective OSC-16: *Preserve Carpinteria's cultural resources.*

Policy OSC-16a: *Carefully review any development that may disturb important archaeological or historically valuable sites.*

OSC-16 Implementation Policy 74: Explore all available measures, including purchase, tax relief, purchase of development rights, etc. to avoid development on important archaeological sites. Where these measures are not feasible and development will adversely affect identified archaeological or paleontological resources, require adequate mitigation.

OSC-16 Implementation Policy 76: Review all proposals for development in or adjacent to cultural resources areas for their potential to impact the resources. Give special consideration to development of facilities that enhance the cooperation, enjoyment or maintenance of these areas.

OSC-16 Implementation Policy 78: A qualified archeologist and Native American observer (acceptable to the City) shall be retained to monitor grading activities on identified archeological sites and in the vicinity of identified archeological resources. If cultural artifacts or similar material of potential cultural or paleontological importance, are uncovered during grading or other excavation the following shall occur:

- a. The monitor or archeologist shall halt the grading or excavation and notify the City.*
- b. A qualified archeologist shall prepare a report assessing the significance of the find and recommending any actions to be taken by the applicant(s) prior to the city granting permission for grading to resume.*
- c. The removal of cultural artifacts or other materials shall only occur after preparation of the report and in conformance with the recommendations of the report as approved by the City.*

Potentially Consistent: A Native American village site occurs in the project area, and could extend into the project site. An Archeological Study Report was completed for the project, including a records search and field survey. In addition, an Extended Phase I Investigation was completed, including limited subsurface testing. Recommendations from these studies have been incorporated as mitigation measures in this EIR, including monitoring of ground disturbance during construction by an archeologist and Native American. If cultural resources are found, work would be halted and an archeological testing program would be developed, approved by the City and implemented to determine the significance of the found resources. The City would review and approve the recommendations of the archeological testing program prior to the removal of any cultural materials from the site.

Safety Element. Applicable objectives and policies include:

Objective S-1: Minimize the potential risks and reduce the loss of life, property and the economic and social dislocations resulting from fault surface rupture in the planning area, from ground shaking due to an earthquake along a fault in the planning area or in the region, from seismically -induced liquefaction in the planning area, and from seismically-induced tsunamis.

Policy S-1c: Development in areas identified as having high seismically induced liquefaction potential shall follow structural engineering foundation design parameters outlined in the Uniform Building Code or obtained through an independent structural engineering study.

Objective S-4: Minimize the potential risks and reduce the loss of life, property and the economic and social dislocations resulting from flooding.

Policy S-4a: All new development proposed in the 100-year floodplain must adhere to the County of Santa Barbara Floodplain Management Ordinance, Chapter 15-A of the County Code.

S-4 Implementation Policy 10: Compliance with the City's Floodplain Management Measures will be required prior to issuance of building permits for any type of individual development project proposed in the 100-year floodplain.

Potentially Consistent: The project site is located within a liquefaction hazard area; however, the proposed bridge foundations would be designed to withstand potential liquefaction and other seismic hazards. The replacement bridge would be designed to safely pass flows generated by a 100-year storm event, and would not change drainage patterns or increase floodwater elevations. The proposed project would not involve any floodplain development or otherwise increase the number of persons exposed to flood hazards. The City Public Works Director is the floodplain administrator for the City and has determined that the proposed bridge elevation would comply with the minimum freeboard requirements.

Noise Element. Applicable objectives and policies include:

Objective N-3: The City will minimize the adverse effects of traffic-generated noise from City streets on residential and other sensitive land uses.

Policy N-3b: The City will provide for the development of alternative transportation modes such as bicycle paths and pedestrian walkways to minimize automobile traffic in the city.

Potentially Consistent: The project would not involve any changes in roadway alignment or new land uses that may increase traffic noise and adversely affect sensitive land uses. The proposed project would widen the sidewalks and bike lanes on the Carpinteria Avenue Bridge and potentially provide a bike path connection to the south side of Carpinteria Avenue, which would facilitate future bike path extension to the south along the creek. These improvements would facilitate alternative modes of transportation.

Objective N-5: The City will minimize the effects of nuisance noise on sensitive land uses.

Policy N-5b: The City will require that construction activities adjacent to sensitive noise receptors be limited as necessary to prevent adverse noise impacts.

Policy N-5c: The City will require that construction activities employ techniques that minimize the noise impacts on adjacent uses.

Potentially Consistent: Due their close proximity, project-related construction activities would generate significant noise at the nearest residences. Mitigation has been provided in this EIR to minimize construction noise, including pre-construction notification, limitations on construction hours and use of temporary noise barriers.

Public Facilities and Services Element. Applicable objectives and policies include:

Objective PF-5: To provide a high quality and broad range of public services, facilities and utilities to meet the needs of all present and future residents of the Carpinteria Planning Area.

Policy PF-5c: The City will ensure that new development will not adversely impact services and facilities provided to existing development.

Policy PF-5e: The City will improve and extend services and facilities to the extent possible, within the limits of available funding.

Objective PF-6: To ensure that new development is adequately served by utilities and does not impact existing service areas in the community.

Potentially Consistent: Numerous existing utilities including gas, water and sewer pipelines, and overhead electrical, cable and telephone utility lines pass through the project area. Removal and replacement of the bridge would require the rerouting or relocation of some of these utilities. The City would coordinate with affected utility providers to ensure all customers are adequately served during the construction phase of the project with a minimum of interruption of service. The new replacement bridge has been designed with conduits to accommodate utilities within the bridge structure, should the City and/or utility providers decide to place utilities underground rather than permanently relocate any affected overhead utility lines. Placing overhead utilities underground is encouraged by the California Utilities Commission.

4.10.2.4 Consistency with the City's Creeks Preservation Program

Objective 2: Preserve and restore aquatic, riparian and upland habitats occurring within and adjacent to local creeks, including sensitive communities and species. Sensitive communities and species are defined as those designated as endemic, rare, threatened, endangered, or of concern by the federal, state and/or local governments.

Policy 2.1: The City will not permit projects (whether public or private) that would result in the significant fragmentation of biological habitat within creek ESHA and/or creek setback areas established by the General Plan/Local Coastal Plan and Zoning Ordinance-ESHA Overlay District. Likewise, the City will not permit projects that would create significant barriers to the movement or migration of fish and wildlife through creeks and adjacent habitats (i.e., wildlife corridors will be maintained). Significant fragmentation or barriers are considered to be manmade features, structures, or activity that would block or greatly reduce the movement of wildlife between recognized natural habitat areas or that would significantly reduce the biological value or diversity of the habitat.

Implementation Measure 2.1.1: The City will work with the Santa Barbara County Flood Control District and others to facilitate and improve fish passage where feasible along Carpinteria Creek. For example, the design of detention basins, bridges, bike crossings, etc. will be approved only if they do not, by their design, inhibit fish passage.

Potentially Consistent: The proposed project would not result in significant fragmentation of biological habitat within creek ESHA. Temporary impacts to ESHA would be approximately 1.20 acres, while permanent impacts to ESHA would be limited to the bridge piers and portions of the proposed bike path within the streambed (approximately 0.10 acres). Mitigation has been provided in this EIR, including restoration of construction work areas and enhancement of riparian habitat/ESHA along Carpinteria Creek. The proposed bridge would be an in-kind replacement and would not further fragment habitat within the Carpinteria Creek corridor. The proposed project would include bridge piers in the streambed, similar but less than the existing bridge, the bridge piers would avoid the low flow channel and the channel width would be expanded with the removal of the existing filled-in end spans. Therefore, the proposed project would not significantly affect fish passage.

Implementation Measure 2.1.3: Development within stream corridors is prohibited with the exception of the following:

- *Fish and wildlife habitat enhancement projects.*
- *Bridges, public trails, and public park improvements including interpretive signs, kiosks, benches, raised viewing platforms, or similar sized structures immediately adjacent to public trails, where no alternative route or location is feasible and where located to minimize impacts on ESHA. New stream crossings shall be accomplished by bridging wherever possible. Trail and park improvements construction shall be allowed only in accordance with Implementation Measure 2.7.2 of this program.*
- *Repair and replacement of existing stream crossings where such repair and replacement is the least environmentally damaging alternative.*
- *Vegetation removal in accordance with the following standards:*
 - *Vegetation removal, including weeding and brush clearance, tree trimming for safety purposes, and removal of dead or dying plant materials shall be allowed only if it can be shown that such development shall not adversely impact the adjacent riparian species and meets all other provisions of this Program and the certified LCP. Such activity shall require approval from the City Biologist or a determination by the City that the proposed activity is consistent with the provisions of this Program and the certified LCP.*

- *Reconstruction or structural additions or improvements to lawfully constructed, buildings, structures or primary residences within creek setback areas.*

All permitted development shall incorporate the best mitigation measures feasible to minimize impacts to the greatest extent. When development results in the loss of habitat, mitigation shall be provided in accordance with Implementation Measure 2.4.4 of this Program.

Creek bank and creek bed alterations shall be allowed only where no practical alternative solution is available. Development, including any structure, feature, or activity, that would significantly fragment habitat or create barriers to the movement of fish and wildlife is prohibited in creek ESHA areas and/or creek setback areas. Development, including any structure, feature, or activity proposed to be undertaken within a creek or below the top of bank must be approved by the State Department of Fish and Wildlife prior to City permitting.

Potentially Consistent: The implementation measure states that repair and replacement of an existing bridge is allowed only when such repair and replacement is the least environmentally damaging alternative. The proposed bridge replacement project fits these narrow criteria. There is no other alternative location along Carpinteria Creek within the City right-of-way or City-owned property that would allow for the replacement of the Carpinteria Avenue Bridge. The proposed three-span bridge is the least environmentally damaging alternative of the alternatives considered because it would have the smallest footprint in the creek, and result in the least disturbance of riparian habitat and ESHA while meeting all project objectives.

Implementation Measure 2.1.5: New development in or adjacent to habitat used by sensitive, rare, threatened, or endangered species, as defined by the certified City of Carpinteria Land Use Plan, shall be set back sufficiently far as to minimize impacts on the habitat area. For nesting and roosting trees used by sensitive, rare, threatened, or endangered raptors on parcels adjacent to Carpinteria Creek, this setback shall be a minimum of 300 feet. In addition, the maximum feasible area surrounding nesting and roosting sites shall be retained in grassland and to the extent feasible shall be sufficient to provide adequate forage for nesting success. Additions or alterations to existing development on parcels adjacent to Carpinteria Creek may be located within the applicable setback in accordance with the following requirements:

- *In accordance with established multi-week protocols, a pre-construction survey for nesting and roosting activity shall be performed by a qualified biologist for all improvements to existing development on parcels adjacent to Carpinteria Creek.*
- *Only those improvements that, in the opinion of a qualified biologist, do not adversely affect the future use of the nesting or roosting trees shall be approved.*

- *If nesting or roosting sensitive, rare, threatened, or endangered raptors are found within 300 feet of the proposed improvements, no construction activity shall occur within the nesting or roosting season, as applicable.*
- *Nesting or roosting trees are considered significant vegetation and shall only be altered or removed if it is determined by a qualified arborist that alterations or removal are necessary for the protection of public safety or the maintenance of the health of the affected tree, and there are no other feasible means of limiting the public hazard posed by the tree (e.g., fencing around the tree, supportive cabling of weak limbs). Removal of nesting or roosting trees shall be mitigated. In no case shall nesting or roosting trees be removed or altered during the nesting or winter roosting season.*

Potentially Consistent: Biological field surveys of the project area were conducted as part of preparation of this EIR. Sensitive, rare, threatened or endangered species that may be adversely affected by the project include tidewater goby, southern California steelhead, western pond turtle, two-striped garter snake, sharp-shinned hawk, Cooper's hawk, yellow warbler, yellow-breasted chat, ringtail and Yuma myotis. Raptor roosts or nest sites were not found near the project site. Mitigation measures have been provided to conduct pre-construction breeding bird surveys (including raptors) and avoid active nests during project construction activities. Removal of raptor roosts or nest trees is not anticipated. Mitigation measures to minimize or avoid impacts to special-status species listed above have been identified in the EIR and would be incorporated into the project Conditions of Approval.

Policy 2.2: *The City will consult and work with the appropriate resource agencies in the assessment of proposed projects that may impact creek, wetland, riparian, and adjacent upland habitats, and sensitive species including but not limited to steelhead trout, tidewater goby, Monarch butterfly, southwestern pond turtle, two-striped garter snake, and Cooper's hawk. Depending on the nature of resources that could be impacted by specific projects, resource agencies that may be consulted include the California Department of Fish and Wildlife, Central Coast Regional Water Quality Control Board, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and National Marine Fisheries Service. All conditions recommended or required by the resource agencies to protect creeks, wetlands, riparian habitats, and sensitive species will be attached as conditions of the Development Permit for the project issued by the City. In addition, the City shall consider the recommendations of resource agencies when approving Conditions of Approval associated with a development permit.*

Potentially Consistent: City staff and the consultant team would submit permit applications to affected regulatory agencies prior to the end of the EIR public comment period. All appropriate permit conditions would be incorporated into the Conditions of Approval of the Conditional Use Permit and Coastal Development Permit.

Policy 2.4: The City will impose additional development standards to protect biological resources within creek ESHA and/or creek setback areas.

Implementation Measure 2.4.2: Development Permit applications for project sites on parcels adjacent to creeks and/or within a creek ESHA overlay area will provide the City with a Construction Mitigation Plan. The Construction Mitigation Plan will describe protective measures that will be implemented to minimize the impacts of project construction activities on biological habitat. This includes impacts from direct ground disturbance, clearing, noise, dust generation, increased runoff, erosion, water pollution, application of herbicides, pesticides, and other harmful substances, and any other construction activities that may harm biological resources. Measures that will be required (where applicable) to minimize construction impacts include the following:

- The limits of the construction area will be clearly delineated (flagged, fenced etc.), and construction activities will stay within these limits.*
- Protective fencing shall be placed around the outermost limits of the protected zones of native trees within and adjacent to the construction area prior to the commencement of construction activities, and shall be maintained in place for the duration of all construction. The protected zone of a native tree shall extend five feet from the dripline or 15 feet from the trunk of the tree, whichever is greater. No construction, grading, staging, or materials storage shall be allowed within the fenced exclusion areas, or within the protected zones of any on-site native trees. Any development approved pursuant to Implementation Measure 2.1.6, including grading or excavation, that encroaches into the protected zone of a native tree shall be constructed using only hand-held tools.*
- Important resources (e.g., native vegetation) located within the construction area that are to be preserved will be clearly marked to avoid the accidental removal of such resources.*
- Appropriate buffer and/or setback areas, as defined by the provisions of this Program and the General Plan/Local Coastal Plan, or in the absence of applicable provisions, by a qualified biologist, will be clearly delineated and maintained between construction activities and the breeding, roosting and foraging habitat of sensitive species and communities, as defined by the certified LCP.*
- Construction activities will be scheduled to avoid the breeding seasons of sensitive wildlife species. If nesting or roosting sensitive, rare, threatened, or endangered raptors are found within 300 feet of the proposed improvements, no construction activity shall occur within the nesting or roosting season, as applicable.*

- *Construction Phase Requirements from the City's Water Quality Protection Regulations will be implemented to minimize impacts related to runoff, erosion and water quality.*
- *The use of herbicides will be minimized by using manual removal methods to eliminate undesired vegetation whenever possible.*

The Construction Mitigation Plan will be prepared by a professional biologist, arborist or landscape architect whom the City approves as qualified to complete the work. The Construction Mitigation Plan will be reviewed and approved by the City prior to issuance of the Development Permit.

Potentially Consistent: The applicable elements of the Construction Mitigation Plan have been incorporated into mitigation measures, including biological resources and water resources (see Impacts BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-7, BIO-9, BIO-10 and WR-1).

Implementation Measure 2.4.3: A qualified biological monitor approved by or working directly for the City will be provided during construction activities for projects on parcels within a creek ESHA overlay area to ensure that protective measures provided in the Construction Mitigation Plan are fully implemented. The biological monitor will be responsible for conducting orientations for the work crew upon project commencement and subsequent orientations upon significant crew changes to educate work crews about the sensitivity of biological resources at the site, and to inform them of protective measures that must be complied with.

The monitor will also be responsible for observing construction activities and directing construction crews as needed to ensure that protective measures are implemented. If any breach in protective fencing occurs, the monitor shall order all work suspended until the fence is repaired or replaced. The biological monitoring must be supervised by a professional biologist approved by or working directly for the City and who is qualified to complete the specific nature of the work.

Potentially Consistent: Mitigation measures in this EIR require biological monitoring during construction to minimize the potential for mortality of special-status species and inadvertent damage to ESHA and native trees (see Impacts BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-7).

Implementation Measure 2.4.4: If, after project review and consideration of all ESHA protection measures, a project is approved that will result in any destruction or degradation of natural habitat within a creek ESHA overlay area, a Habitat Restoration Plan will be required. The plan will be prepared by a professional biologist whom the City approves as qualified to complete the work. The plan will incorporate the following minimum conditions and elements:

- *A clear statement of the restoration project goals will be provided. Some restoration goals may be broad, but the plan must also provide qualitative and quantitative standards by which the progress of the restoration effort can be measured. Examples of specific restoration standards may relate to the re-establishment of a diverse benthic macroinvertebrate community, use of the site by a particular wildlife species, or the establishment of native vegetation over a specified percentage of the site. The goals of the restoration project are to be based on the stream restoration principles identified in Implementation Measure 2.10.7.*
- *The Habitat Restoration Plan will delineate all habitat areas that will be destroyed or degraded by the project, and those that will be restored. A minimum habitat area replacement ratio of 3:1 will be required for habitat that is destroyed or degraded. Such restoration plans shall be approved by the City prior to implementation.*
- *On-site restoration (i.e., on the parcel or parcels the project is located on) will be conducted wherever possible. If on-site restoration is not feasible, restoration will occur at a suitable off-site location along the affected creek(s).*
- *To consolidate off-site restoration areas, the area to be restored will be permanently protected in a conservation easement and/or open space designation, by acquisition of the property by the applicant or by other means.*
- *Restored habitat will be in-kind with the habitat lost or degraded, will realize equal or greater biological value proportionate to the 3:1 replacement ratio provided above, and will be self-sustaining and viable in the long-term. Restoration efforts will address physical features such as topography, soils, and creek bed and bank features (e.g., riffles, pools, large woody debris, boulders, etc.), vegetation and wildlife.*
- *A Grading and Site Preparation Plan will be provided that identifies finished topographic contours, and rock, soil and mulching materials that will be used. As part of site preparation, all debris and undesired non-native vegetation will be removed from restoration areas. The Grading and Site Preparation Plan will be prepared with the assistance and approval of a certified professional engineer.*
- *A Planting Plan shall be provided that lists the plant species that will be replanted, the source of plant material, planting methods, and locations. An appropriate palette of plant species native to the restored habitat will be used for revegetation. Plant material used in restoration projects will be collected and propagated from local, naturally occurring plant stocks, preferably from the same watershed and habitat type.*

- *A Maintenance, Monitoring, and Corrective Action Plan will be provided that identifies measures that will be implemented to ensure that restored habitat becomes properly established. Maintenance measures that may be employed include erosion control, watering vegetation until it becomes established, weeding, and replacing plants and trees that do not survive. Monitoring of the restoration area will be conducted at regular intervals. A performance bond must be filed with the City to ensure compliance with the performance standards established in the Habitat Restoration Plan. This bond shall remain in effect for five years or until the City biologist has determined the restoration has been successfully completed. Monitoring reports will be submitted to the City on an annual basis at a minimum, and more frequently if deemed necessary. Monitoring reports must assess the progress of the restoration effort in relation to the project goals. If restoration project goals are not met, corrective measures will be devised and implemented to achieve the goals. The City must consent that the subject property has been properly restored before the project proponent is released from maintenance, monitoring, and corrective action requirements. Monitoring must be conducted for a minimum of five years.*

Potentially Consistent: A mitigation and monitoring plan is required as part of the mitigation measures of this EIR, to address impacts to riparian forest, ESHA, native trees and wetlands (see Impacts BIO-1, BIO-2, BIO-10). The plan would be reviewed by trustee agencies and comply with applicable criteria listed above.

Implementation Measure 2.4.5: Development Permit applicants for parcels adjacent to creeks and/or within a creek ESHA overlay area shall provide the City with a Post-Construction Mitigation Plan. The Post-Construction Mitigation Plan shall describe protective measures that will be implemented to minimize impacts to biological resources due to effects including but not limited to noise, lighting, vehicular and pedestrian traffic, domestic pets, water pollution, erosion, and landscape plantings. At a minimum, measures that will be required (as applicable) to minimize post-construction impacts include the following:

- *Mechanisms to provide for the permanent protection of areas identified and approved on the Development Permit (or other project approvals) as natural areas will be included in property exchange documents, deeds, lease agreements, CC&Rs, etc.*
- *Permanent landscaping will be provided to developed area (e.g., parking lots, buildings, backyards, etc.). Landscaping will be planted with appropriate native plant species selected by a qualified landscape architect and/or biologist.*

- *Project permittees and any and all successors will provide informational materials (e.g., in lease agreements, CC&Rs, deed restrictions) to future occupants that ensure protective standards/Conditions of Approval are recognized and complied with throughout the life of the project. Educational materials including interpretive signs will be installed near creeks and natural habitat areas. These educational materials and signs will discuss the importance and sensitivity of creek habitats, regulations that have been established to protect them, those standards/Conditions of Approval that affect the project, and penalties that may be imposed on violators of such regulations.*
- *The planting of any landscape plants that are on the California Exotic Pest Plant Council's Lists of Exotic Pest Plants of Greatest Ecological Concern in California is prohibited in any ESHA or creek setback area.*
- *Loud, stationary equipment (e.g., air conditioners, etc.) shall be located away from or provided with enclosures to minimize potential impacts to wildlife.*
- *Post-Construction Requirements from the City's Water Quality Protection Regulations will be implemented to minimize impacts related to runoff, erosion, and water quality.*
- *All fencing shall be wildlife permeable.*
- *Exterior lighting (except traffic lights, navigational lights, and other similar safety lighting) shall be minimized, restricted to low intensity features, shielded, and directed away from creek ESHA to minimize impacts to wildlife. Permitted lighting shall conform to the following standards:*
 - *The minimum necessary to light walkways used for entry and exit to the structure, including parking areas on the site. This lighting shall be limited to fixtures that do not exceed 60 watts, or the equivalent, unless a higher wattage is authorized by the Community Development Director.*
 - *Security lighting attached to the residence that is controlled by motion detectors and is limited to 60 watts, or the equivalent.*
 - *The minimum lighting necessary for safe vehicular use of the driveway. The lighting shall be limited to 60 watts, or the equivalent.*
 - *A light, not to exceed 60 watts or the equivalent, at the entrance to any non-residential accessory structures.*
 - *No lighting around the perimeter of the site, no lighting for sports courts or other private recreational facilities and no lighting for aesthetic purposes is allowed.*

The Post-Construction Mitigation Plan shall be prepared by a professional biologist whom the City agrees is qualified to complete the work. The Mitigation Plan shall be reviewed and approved by the City prior to issuance of the Development Permit.

Potentially Consistent: Aspects of the Post Construction Mitigation Plan that are applicable to the subject project have been incorporated into the project description or as mitigation. Since the project is an in-kind replacement bridge and not new development, post-construction mitigation planning would be focused on implementation and monitoring of habitat restoration and enhancement efforts required as mitigation in this EIR. Proposed lighting would be consistent with this Implementation Measure.

Implementation Measure 2.10.2: *The City will specifically promote, through both public and private efforts, the aquatic and riparian habitats of Carpinteria Creek for restoration. Restoration actions that will be pursued by the City include the following:*

- *Implementing the Water Quality Protection Regulations to address watershed-scale issues related to water quality, erosion and sedimentation.*
- *Removing riprap, pipe and wire revetment, concrete bank revetments, and other artificial elements in the creek. This includes features such as road crossing culverts and detention basins that hinder the movement and migration of aquatic organisms such as steelhead trout.*
- *Removing trash and debris from the creek.*
- *Stabilizing eroded and cleared creek banks and floodplains. Natural materials such as native soils, rocks and heavy timber will be used to reconstruct eroded areas. Native vegetation will be replanted to bind soil.*
- *Eradicating highly invasive, non-native vegetation such as giant reed, German ivy, periwinkle and ice plant from the creek and adjacent riparian/upland areas, and replacing it with native vegetation.*
- *Improving habitat quality and complexity for aquatic invertebrates, fish, amphibians and reptiles by re-introducing large woody debris and overhanging riparian vegetation to the creek bed and banks in a manner that does not create flooding hazards.*
- *Widening the band of riparian and upland habitat along the creek by purchasing adjacent land, restoring it with native biological communities and preserving it. Notable opportunities for this include agricultural areas near the northern city limits and at Salzgeber Meadow.*

Potentially Consistent: As part of mitigation for impacts to riparian forest and ESHA, invasive plants would be removed from the Carpinteria Creek corridor, focusing on giant reed, Cape (German) ivy and English ivy. Therefore, the proposed project would help to achieve the long-term goal of restoring Carpinteria Creek.

4.10.2.5 Cumulative Impacts

The proposed project (as mitigated) would not result in any significant land use incompatibility or policy inconsistency impacts. Therefore, the incremental contribution of the proposed project to cumulative land use impacts would not be considerable. See the discussion of cumulative impacts for each of the environmental issue areas (aesthetics, air quality, biology, cultural resources, hazards, noise, etc.) for a determination of the significance of cumulative impacts.

4.11 NOISE AND VIBRATION

4.11.1 Setting

4.11.1.1 Sound, Noise and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected or annoying sound. In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

4.11.1.2 Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

4.11.1.3 Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

4.11.1.4 Addition of Decibels

Because decibels are logarithmic units, sound pressure level cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

4.11.1.5 A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear. Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in noise impact assessments. Noise levels for impact assessments are typically reported in terms of A-weighted decibels or dBA. Table 1 describes typical A-weighted noise levels for various noise sources.

Table 4.11-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 mph	— 80 —	Food blender at 3 feet Garbage disposal at 3 feet
Noisy urban area, daytime	— 70 —	Vacuum cleaner at 10 feet Normal speech at 3 feet
Gas lawn mower, 100 feet Commercial area	— 60 —	
Heavy traffic at 300 feet	— 50 —	Large business office Dishwasher next room
Quiet urban daytime	— 40 —	Theater, large conference room (background)
Quiet urban nighttime	— 30 —	Library
Quiet suburban nighttime	— 20 —	Bedroom at night, concert
Quiet rural nighttime	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2009.

4.11.1.6 Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a three dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern one dB changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the midfrequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of one to two dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of three dB in typical noisy environments. Further, a five dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a three dB increase in sound, would generally be perceived as barely detectable.

4.11.1.7 Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in traffic noise analysis.

Equivalent Sound Level (L_{eq}): L_{eq} represents an average of the sound energy occurring over a specified period. The one-hour A-weighted equivalent sound level ($L_{eq[h]}$) is the energy average of A-weighted sound levels occurring during a one-hour period, and is the basis for noise abatement criteria (NAC) used by Caltrans and FHWA.

Percentile-Exceeded Sound Level (L_{xx}): L_{xx} represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10% of the time, and L_{90} is the sound level exceeded 90% of the time).

Maximum Sound Level (L_{max}): L_{max} is the highest instantaneous sound level measured during a specified period.

Day-Night Level (L_{dn}): L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m.

Community Noise Equivalent Level (CNEL): Similar to L_{dn} , CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m., and a five dB penalty applied to the A-weighted sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m.

4.11.1.8 Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

Geometric Spreading. Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of six decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of three decibels for each doubling of distance from a line source.

Ground Absorption. The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water,), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 decibels per doubling of distance.

Atmospheric Effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from the highway due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity and turbulence can also have significant effects.

Shielding by Natural or Human-Made Features. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least five dB of noise reduction. Taller barriers provide increased noise reduction. Vegetation between the roadway and receiver is rarely effective in reducing noise because it does not create a solid barrier.

4.11.1.9 Regulatory Framework

Federal Regulations. Under 23 CFR 772.13, noise abatement must be considered for Type I transportation projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR 772 requires that the project sponsor “consider” noise abatement before adoption of the final NEPA document. This process involves identification of noise abatement measures that are reasonable, feasible and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

The proposed project is not a Type I or Type II project as defined in 23 CFR 772.5, as it would not increase the number of lanes or substantially change the vertical or horizontal alignment, or involve noise abatement on an existing highway. As a Type III project, noise analysis is not required under 23 CFR 772.

State Policies. The California Department of Health has established noise guidelines to facilitate land use planning, which are summarized in Table 4.11-2. The City of Carpinteria has included these guidelines in their Environmental Thresholds Manual.

4.11.1.10 Characteristics of Ground-borne Vibration and Noise

In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

The effects of ground-borne vibration include detectable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance would be well below the damage threshold for normal buildings.

Vibration is an oscillatory motion which can be described in terms of the displacement, velocity or acceleration. Because the motion is oscillatory, there is no net movement of the vibration element and the average of any of the motion descriptors is zero. Displacement is the easiest descriptor to understand. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static position. The velocity represents the instantaneous speed of the floor movement and acceleration is the rate of change of the speed. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is often used in monitoring of blasting vibration since it is related to the stresses that are experienced by buildings.

Table 4.11-2. Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure Ldn or CNEL, dBA					
	55	60	65	70	75	80
Residential: Low-density Single Family, Duplex, Mobile Homes						
Residential: Multiple Family						
Transient Lodging: Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

Source: California Department of Health, Office of Noise Control

INTERPRETATION:

	<u>Normally Acceptable</u> : specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction without any special noise insulation requirements.
	<u>Conditionally Acceptable</u> : New construction or development should only be undertaken after a detailed analysis of the noise reduction requirements is made and the needed insulation features included in the design.
	<u>Normally Unacceptable</u> : New construction or development should generally be discouraged. If new development is to proceed, a detailed analysis of the noise reduction requirements is made and the needed insulation features included in the design.
	<u>Clearly Unacceptable</u> : New development or construction should not be undertaken.

4.11.1.11 Existing Noise Environment

The noise environment of the project area is dominated by vehicle traffic on U.S. 101 (500 feet north of the work area), rail traffic on the Union Pacific Railroad tracks (2,000 feet southwest of the work area), and local traffic (including Carpinteria Avenue). Other noise sources include outdoor activities at the Carpinteria Middle School and the Carpinteria State Beach campground.

Noise levels were measured at two locations near the project site; the residence located on the northwest corner of Arbol Verde Street and Concha Loma Drive (899 Concha Loma Drive), and the office building at 5464 Carpinteria Avenue. It should be noted that this office building has been approved to be converted to a 76-bed assisted living facility, which is considered a noise sensitive land use by the City. For the purposes of this analysis, the assisted living facility is assumed to be in operation during project-related construction.

Measurements were conducted on August 7, 2014 using a Larson-Davis LXT Type 1 Precision Integrating Sound Level Meter. The Meter was calibrated using a Larson-Davis CAL200 Calibrator at 114 dBA. Measurements were conducted for 20 minutes during the typical morning commute hour. Table 4.11-3 presents noise monitoring data collected adjacent to nearby residential and commercial noise receivers on August 7, 2014.

Table 4.11-3. Current (2014) Noise Levels adjacent to the Bridge Replacement Work Area (dBA Leq)

Location	Time	Distance to Primary Noise Source (feet) ¹	Distance to Work Area (feet) ²	dBA Leq
Residence (899 Arbol Verde Drive)	723-743	70	40	63.3
Planned assisted living facility (5464 Carpinteria Avenue)	744-804	125	50	58.5

¹ Carpinteria Avenue (centerline)

² Distance to areas where peak noise levels would be generated (earthwork and/or pile installation)

4.11.2 Impacts and Mitigation Measures

4.11.2.1 Significance Thresholds

Noise. The City’s Guidelines for Implementation of the California Environmental Quality Act includes the following land use-related noise thresholds:

- A proposed development that would generate noise levels in excess of 65 dB CNEL and could affect sensitive receptors would be considered to have a significant impact.
- Outdoor living areas of noise sensitive uses subjected to noise levels in excess of 65 dB CNEL would be considered to be significantly impacted.
- Interior noise levels of noise sensitive uses that cannot be reduced below 45 dB CNEL would be considered significantly impacted.

Temporary construction noise in excess of 75 dBA CNEL for 12 hours within a 24-hour period at residences is considered significant. In addition, temporary construction activities that result in the following noise increases for an extended period of time would be considered significant:

- Increase in noise levels associated of 10 dBA, if existing noise levels are below 55 dBA;
- Increase in noise levels that exceeds noise level standards, if existing noise levels are between 55 and 60 dbA; and
- Increase in noise levels of five dBA, if existing noise levels are above 60 dBA.

The City considers noise sensitive land uses as residences, transient lodging, hospitals, nursing homes, schools, libraries, churches and places of public assembly.

Vibration. The City's Environmental Thresholds Manual does not address ground-borne vibration. Caltrans has published a Transportation and Construction Vibration Guidance Manual, which provides criteria for allowable vibration in terms of potential annoyance to people, as well as potential damage to buildings. The following thresholds for continuous/frequent intermittent sources such as construction equipment are provided by Caltrans (2013), expressed as the peak particle velocity (PPV, inch/seconds):

- Human effects: Distinctly perceptible – 0.04; strongly perceptible – 0.10.
- Damage to structures: Older residential – 0.3; new residential and commercial – 0.5.

4.11.2.2 Project-Specific Impacts

Impact N-1: Demolition and construction activities would generate noise levels exceeding City thresholds – Class II, significant but mitigable.

The FHWA Roadway Construction Noise Model was used to estimate construction noise at residential and commercial noise receivers for comparison to City of Carpinteria construction noise thresholds. A peak day scenario during rough grading was used to estimate construction noise levels. Equipment assumed to be operating included a dozer, excavator and wheeled loader.

Land uses adjacent to the construction impact area were selected as receivers, including residences and commercial land uses. Receivers included:

1. 897 Concha Loma Drive, residence located to the southwest;
2. 899 Concha Loma Drive, residence located on the northwest corner of Arbol Verde Street and Concha Loma Drive;
3. 5464 Carpinteria Avenue, office building (planned assisted living) located to the northwest; and
4. 5550 Carpinteria Avenue, Motel 6 located to the east.

The results of construction noise modeling as compared to allowable construction noise increases are provided in Table 4.11-4. Construction of the proposed project would cause noise increases above the City thresholds, including 17.1 dBA Leq at the closest residence (899 Concha Loma Drive). A 12 hour CNEL value was calculated for comparison to the City’s 75 dBA threshold, based on modeled peak noise levels occurring from 7:00 a.m. to 4:00 p.m., and no activity (estimated ambient noise levels only) during the balance of the 12-hour period. The 75 dBA CNEL threshold would be exceeded at the closest residence and the planned assisted living facility. Note that the CNEL threshold only applies to residences, including the planned assisted living facility.

Table 4.11-4. Comparison of City Thresholds to the Roadway Construction Noise Model Results

Receiver	Existing Noise Level (dBA Leq)	Modeled Construction Peak Noise Levels (dBA Leq)	Modeled Increase	Allowable Increase	Modeled Construction Noise Levels (dBA CNEL) ¹
1: 897 Concha Loma Drive (residence)	63.3	75.1	11.8	5	74.0
2: 899 Concha Loma Drive (residence)	63.3	80.4	17.1	5	79.3
3: 5464 Carpinteria Avenue (planned assisted living)	58.5	78.7	20.2	5	77.5
4: 5550 Carpinteria Avenue (Motel 6)	58.5	70.9	12.4	NA	70.6

¹ 12 hour CNEL including proposed 7 am to 4 pm work period

Mitigation Measures: The following construction noise minimization measures shall be fully implemented:

- At least twenty (20) days prior to commencement of construction, the contractor shall provide written notice to all property owners, businesses, and residents within 300 feet of the work area. The notice shall contain a description of the project, the construction schedule, including days and hours of construction, the name and phone number of the project environmental coordinator and contractor(s), site rules and conditions of approval pertaining to construction activities.
- Construction (including preparation for construction work) shall only be permitted Monday through Friday between the hours of 7:00 a.m. and 5:00 p.m., and Saturdays between the hours of 9:00 a.m. and 4:00 p.m. Construction shall not occur on Federal holidays. Work hours may be extended for short periods to accommodate time-sensitive discrete activities if first approved by the City Community Development Department.

- Hotel accommodations shall be offered to the closest resident (899 Concha Loma Drive) during periods when approved time-sensitive discrete activities would occur between 7:00 p.m. and 7:00 a.m.
- All construction equipment, including trucks, shall be professionally maintained and fitted with standard manufacturers' muffler and silencing devices.
- Temporary construction noise barriers shall be installed and maintained between work areas and affected noise sensitive land uses to the south, east and northwest for the duration of the construction period and shall result in noise attenuation of at least 10 dBA at the property lines. Noise levels shall be monitored for compliance.

Plan Requirements and Timing. The above measures shall be documented in the project conditions of approval and implemented during the entire construction period. As indicated, written notices to affected residences shall be provided at least 20 days in advance of planned construction work.

Monitoring. A City-appointed inspector shall inspect work in progress and ensure measures are implemented.

Residual Impacts. Successful implementation of these noise minimization measures would reduce noise impacts to a level of less than significant.

Impact N-2: Demolition and construction activities would generate vibration that may cause human annoyance – Class II, significant but mitigable.

Vibration at the nearest residence (899 Arbol Verde Street) was estimated using Equation 12 from Caltrans' Transportation and Construction Vibration Guidance Manual, based on use of a large bulldozer or caisson drilling adjacent to the residence. The estimated vibration value (PPV) is 0.048 inch/seconds. This amount of vibration is considered distinctly perceptible, and may be considered annoying and a potentially significant impact. However, this vibration value is well below the levels required to cause vibration damage to structures. Note that the distinctly perceptible threshold would only be exceeded at this one residence.

Mitigation Measures: Noticing of construction shall be conducted and hotel accommodations offered as described under Impact N-1, but noticing shall also include information regarding potential vibration impacts.

Plan Requirements and Timing. Written notices to affected residences shall be provided at least 20 days in advance of planned construction work.

Monitoring. City staff shall ensure noticing is completed.

Residual Impacts. It is anticipated that providing notice of construction activities would minimize annoyance of affected persons and reduce vibration impacts to a level of less than significant.

Operational Noise and Vibration. The proposed project would not generate traffic or otherwise result in long-term noise or vibration. No increase in roadway or bridge capacity would occur, such that no change in traffic volumes on Carpinteria Avenue is expected. Infrequent bridge inspection and maintenance activities would occur, similar to the existing bridge, and would not generate any new vehicle trips or associated traffic noise.

4.11.2.3 Cumulative Impacts

Twelve of the cumulative projects listed in Section 3.4 would be located within one-half mile of the project site and could potentially result in cumulative noise impacts to a common population. These projects include the Carpinteria Valley Arts Center, Island Brewing Company Expansion, Venoco Paredon, Olverd SFD, Sanctuary Beach Condominiums, Steadfast Assisted Living, Wood Residence, Gobell second unit, 699 Linden Avenue Restaurant, Habitat for Humanity triplex, Hawkins SFD and Linden Avenue-Casitas Pass Road Interchanges project. Assuming one or more of these cumulative projects were implemented at the same time as the proposed project, it is possible that construction noise impacts associated within the proposed project would affect the same noise receivers and incrementally contribute to cumulative noise impacts. However, only three projects (Steadfast Assisted Living, Wood Residence, Linden Avenue-Casitas Pass Road Interchanges) are close enough to the project site that project construction noise could result in detectable cumulative noise impacts. The Steadfast Assisted Living and Wood Residence projects are anticipated to be completed by the time project-related construction is initiated. In any case, the incremental contribution to cumulative noise impacts would be reduced by project-specific mitigation measures to a level of less than significant.

4.12 TRANSPORTATION/CIRCULATION

4.12.1 Setting

The quality of traffic service provided by a roadway system can be described through the Level of Service (LOS) concept. LOS is a standardized means of describing traffic conditions by comparing traffic volumes in a roadway system with the system's capacity. An LOS rating of A, B or C indicates that the roadway is operating efficiently. Minor delays are possible on an arterial with a LOS of D. Level E represents traffic volumes at or near the capacity of the roadway, resulting in possible delays and unstable flow.

Regional access to the project site is provided by U.S. 101, with freeway interchanges located north (Casitas Pass Road) and south (Bailard Avenue) of the site. Year 2013 traffic volumes provided by the California Department of Transportation (Caltrans) indicate 60,600 average annual daily trips occur on U.S. 101 north of the Casitas Pass Road interchange, with 66,500 to the south.

The project site includes a portion of Carpinteria Avenue, which is the primary arterial roadway in the City of Carpinteria, extending from the southbound U.S. 101 Carpinteria Avenue off-ramp near Cravens Lane to just past the State Route 150 interchange, a distance of approximately 3.6 miles. The posted speed limit on Carpinteria Avenue near the bridge is 30 mph.

Table 4.12-1 provides a summary of existing and future LOS for intersections in the vicinity of the project site from the Traffic Analysis Report for the Linden Avenue and Casitas Pass Road Interchanges Project. Note that the "No Improvements" column in Table 4.12-1 represents future conditions without implementation of the interchanges improvement project. It is unlikely that all of these improvements would be completed prior to construction of the proposed project. Intersections of greatest concern are the Bailard Avenue/Carpinteria Avenue and Bailard Avenue/U.S. 101 southbound ramps as a.m. peak LOS would be D or E even after planned interchange improvements are completed.

Table 4.12-1. Existing and Future LOS at Affected Intersections

Affected Intersection	Existing (2006)		No Improvements		With Improvements	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Casitas Pass Road/Carpinteria Avenue	B	B	C	C	C	C
Casitas Pass Road/U.S. 101 southbound ramps	B	C	D	F	B	B
Casitas Pass Road/U.S. 101 northbound off-ramp	E	C	F	F	C	C
Bailard Avenue/Carpinteria Avenue	B	B	F	C	E	C
Bailard Avenue/U.S. 101 southbound ramps	C	E	F	F	D	C
Bailard Avenue/U.S. 101 northbound ramps	F	C	F	C	C	C

Table 4.12-1 provides the most recent traffic data available; however, the existing traffic data presented is up to nine years old. Based on the City's 2014 General Plan Annual Progress Report, only 245 residential units have been added (based on certificates of occupancy) during this period, which represents a 4 percent increase. Therefore, population increase in the City has been moderate, such that large increases in traffic volumes as compared to that presented in Table 4.12-1 is not expected.

4.12.2 Impacts and Mitigation Measures

4.12.2.1 Significance Thresholds

State CEQA Guidelines Appendix G. The following transportation and circulation issues are required to be addressed in CEQA documents:

- 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.
- 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.
- 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.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

City of Carpinteria Environmental Thresholds. The impacts of project-generated traffic are assessed against the following City thresholds which are also utilized by Santa Barbara County. A significant traffic impact occurs when:

- a. The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by values provided in Table 4.12-2 or contributes at least 5, 10 or 15 trips to an intersection operating at Level of Service (LOS) F, E or D, respectively.
- b. Project access to a major road or arterial road would require a driveway that would create an unsafe situation, or a new traffic signal or major revisions to an existing traffic signal.

- c. Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for intersections which would operate from 0.86 to 0.90 and 0.01 for intersections operating at anything lower.

Table 4.12-2. City Traffic Thresholds of Significance

Intersection Level of Service	Significance Threshold
A	Volume/Capacity increase >0.20
B	Volume/Capacity increase >0.15
C	Volume/Capacity increase >0.10
D	Addition of 15 trips
E	Addition of 10 trips
F	Addition of 5 trips

If the above thresholds would be exceeded, construction of improvements or project modification to reduce the levels of significance to insignificance would be required.

4.12.2.2 Project-specific Impacts

Impact T-1: Project construction activities would generate vehicle trips that may cause traffic congestion – Class III, less than significant.

Construction activities may generate up to 50 one-way trips per day (light and heavy-duty vehicles), over the estimated 24-month construction period. The City would review and approve construction work hours to minimize peak hour trips. Most of these trips would be associated with construction workers that would occur prior to a.m. and p.m. peak hour. It is estimated that up to five of these trips may occur during a.m. or p.m. peak hour. Based on 2006 traffic counts at the affected intersections, five peak hour trips represents less than 0.7 percent of the volume at these intersections. The proposed project would not cause an increase in volume/capacity ratios at affected intersections of 0.10 (10 percent), or contribute 10 peak hour trips at intersections forecast to operate at LOS E (Bailard Avenue/U.S. 101 southbound ramps) at the time project impacts would occur. Therefore, construction-related traffic impacts would be less than significant.

Mitigation Measures: Not required.

Impact T-2: The proposed project would result in the loss of seven parking spaces on Carpinteria Avenue – Class III, less than significant.

A total of 79 on-street parking spaces are provided along Carpinteria Avenue between City Hall and Casitas Pass Road, with 14 spaces in the immediate vicinity of the project site. Project-related roadway widening would result in the loss of seven of these 14 parking spaces, including six along the westbound lane (four to the east, and two to the west of the bridge) and one parking space along the eastbound lane (east of Arbol Verde Street). Space provided by removal of four on-street parking spaces east of the bridge would accommodate a proposed bus pull-out (see Figure 3-5). City staff collected data regarding the occupancy of these 14 parking spaces three times a day (generally 10 a.m., 2 p.m., 6 p.m.) for one week (March 2 through 8, 2015). Based on these data, the parking spaces along the westbound lane are rarely used, and an average of 1.6 of the three parking spaces along the eastbound lane are occupied. Therefore, the project-related loss of one of the parking spaces along the eastbound lane (leaving two) would allow the average demand to be met.

Land uses in the vicinity of these parking spaces to be removed are provided with off-street parking, including Motel 6 and office buildings at 5464 and 5565 Carpinteria Avenue. The project would improve traffic safety as proposed improvements would increase sight distance at the Carpinteria Avenue/Arbol Verde Street intersection and wider sidewalks and bike lanes would reduce conflicts with pedestrians and bicyclists. Since the on-street parking spaces are not critical to serving adjacent land uses and the project would provide a bus pull-out and improve traffic safety overall, the loss of these parking spaces is considered a less than significant impact.

Mitigation Measures: Not required.

Impact T-3: Construction of the proposed project would require temporary closure of the existing Class I bike path along Carpinteria Creek – Class II, significant but mitigable.

Currently, a Class I bike path extends from the western terminus of Via Real, crosses to the west side of Carpinteria Creek, passes under U.S. 101 and terminates at Carpinteria Avenue immediately northwest of the bridge deck. Project-related demolition and construction activities would temporarily conflict with the use of this bike path, and require closure during Stage 1 construction (see Section 3.3.4). An alternate existing pedestrian and bicyclist route avoiding the project-related closure requires an approximately 1.75-mile detour (Via Real to Bailard Avenue to Carpinteria Avenue) using sidewalks and Class II bike lanes.

The project construction schedule would be coordinated with the Linden Avenue-Casitas Pass Road Interchanges project to allow simultaneous construction if feasible. However, the two projects would not fully overlap and total bike path closure may be longer than Stage 1 project construction.

Mitigation Measures. The following measures shall be implemented to address bike path user safety and minimize loss of use of the bike path during the construction period:

- Written notification (including hand delivery to residents of affected mobile home parks) of bike path closures shall be provided to affected residents (primarily northeast of the bridge) at least two weeks prior to planned closures, and include information regarding bus routes and detour routes for pedestrians and bicyclists.
- Signage warning approaching bike path users about project-related closures and recommended detours shall be placed at the western terminus of Via Real, along the eastbound and westbound bike lanes on Carpinteria Avenue approximately 300 feet from the project work area, and at the Via Real/Bailard Avenue intersection at least 10 days in advance of any bike path closure.
- Construction staging shall minimize bike path closure during the school year, to the extent feasible.
- Bike path closure shall be coordinated with the Linden Avenue-Casitas Pass Road Interchanges project to the extent feasible to reduce the total duration of bike path closure associated with both projects.
- To minimize detour distances, the provision of temporary alternate pedestrian routes through or adjacent to the bridge construction work area shall be explored and accommodated to the extent feasible.

Plan Requirements and Timing. The above measures shall be documented in the project conditions of approval and implemented prior to bike path closure as applicable during the entire construction period.

Monitoring. A City-appointed inspector shall inspect work in progress and ensure measures are implemented.

Residual Impacts. Successful implementation of these measures would reduce bike path impacts to a level of less than significant.

Long-Term Traffic Congestion. The proposed project would not result in any change in land use that may generate vehicle trips, and would not increase the number of traffic lanes or otherwise increase the capacity of Carpinteria Avenue. Therefore, no project-related change in LOS or traffic congestion would occur.

Traffic Safety. The proposed replacement bridge would be designed to State and local standards to avoid features that may pose traffic hazards. The proposed wider bridge deck would increase sight distance (to the left) from approximately 260 to 445 feet for motorists waiting at Arbol Verde Street to make a left turn onto westbound Carpinteria Avenue. The proposed sight distance meets American Association of State Highway and Transportation Officials (AASHTO) standards and would provide more time to allow left-turning motorists to avoid any oncoming vehicle, bicycle or pedestrian traffic. Therefore, the proposed project would improve traffic safety.

Circulation Policy Conflicts. The proposed project is consistent with the Circulation Element policies of the City's General Plan/Local Coastal Land Use Plan (see policy consistency analysis in Section 4.10.2.3).

Congestion Management Plan. The proposed project is consistent with the 2009 Congestion Management Plan developed by the Santa Barbara County Association of Governments in that it does not affect the design or performance of existing and planned roadways.

Air Traffic. The proposed project would not cause any increase in population or otherwise result in an increase in air traffic demand or change in flight paths. Therefore, no increase in safety risk would occur.

Emergency Access. Two traffic lanes (one in each direction) on Carpinteria Avenue would remain open during the project construction period; therefore, project-related construction would not hamper emergency access over Carpinteria Creek. Although the Arbol Verde Street/Carpinteria Avenue intersection may be closed for short periods during the construction period, the Concha Loma Drive/Carpinteria Avenue intersection would remain open to residents of the Concha Loma neighborhood and maintain emergency access.

Alternative Transportation Policy Conflicts. The proposed project is consistent with the City's Bicycle Master Plan, and the Circulation Element policies of the City's General Plan/Coastal Land Use Plan regarding public transit, bicycle and pedestrian facilities. The project would widen the bike lanes on the bridge and may provide a bike path connection to the south side of Carpinteria Avenue, which would facilitate bike path extension to the south along the creek for cyclists heading east on Carpinteria Avenue. Therefore, the proposed project would promote alternative modes of transportation. However, the performance and safety of the existing Carpinteria Creek bike path may be temporarily affected during the demolition and construction of the replacement bridge (see Impact T-3).

4.12.2.3 Cumulative Impacts

Generally, the cumulative projects listed in Section 3.4 are relatively small and dispersed, such that substantial traffic volume increases on regional roadways are not anticipated. However, larger projects (Lagunitas Mixed Use, Steadfast Assisted Living, Ellinwood/Green Heron Spring, Punto de Vista) would contribute several hundred average daily trips (each) to the City's road network and could result in traffic congestion. The Steadfast Assisted Living project would generate about 200 average daily trips on Carpinteria Avenue adjacent to the project site. In addition, construction of the Linden Avenue-Casitas Pass Road Interchanges project may be ongoing at the same time as project construction, and result in motorists using Carpinteria Avenue as an alternative route to avoid construction-related congestion on U.S. 101. Overall, cumulative traffic impacts are anticipated to be significant during construction of the Linden Avenue-Casitas Pass Road Interchanges project. The proposed project would incrementally contribute to cumulative traffic impacts; however, the proposed project would maintain two lanes of through traffic on Carpinteria Avenue during the construction period and provide traffic controls to minimize congestion. Due to the very small amount of peak hour trips generated (approximately five), the incremental contribution of the proposed project to cumulative traffic impacts would not be considerable.

4.13 OTHER IMPACTS NOT CONSIDERED SIGNIFICANT

This section of the EIR provides a discussion of environmental impacts of the proposed project not addressed in Sections 4.1 through 4.12. The issues included in this section are primarily those without any potential for significant impacts as discussed in the project's Environmental Scoping Document (see Appendix B).

4.13.1 Mineral Resources

Existing Environmental Setting. Petroleum (oil) is the only mineral resource in the project area. The Casitas Pier and associated oil storage, processing and support facilities have been designated as mineral extraction facilities in the City's General Plan/Local Coastal Land Use Plan.

Project Specific Impacts. Availability of Known Mineral Resources. The proposed project would not affect oil exploration or production activities, or otherwise reduce the availability of petroleum resources.

Known Mineral Resource Recovery Sites. The proposed project would not affect mineral resource recovery at the Casitas Pier and associated oil storage, processing and support facilities.

4.13.2 Population and Housing

Existing Environmental Setting. Based on the 2010 Census, the population of the City of Carpinteria was 13,044 in 2010, and estimated as 13,532 in 2013. The number of housing units was 5,429 in 2010.

Project Specific Impacts. Substantial Population Growth. The proposed project would not provide new residential, commercial or industrial land uses that could induce population growth. The proposed bridge would be a direct replacement, with no extension of infrastructure.

Displace Housing. The proposed project would not require right-of-way take, but would require temporary construction easements on approximately 11 parcels (see Section 3.3.9). The proposed project would not require the removal of any structures (excluding the existing bridge) and would not remove, displace or adversely affect access to any housing.

Displace Persons. The proposed project would not displace any persons.

4.13.3 Public Services

Project Specific Impacts. The proposed project would not result in any land development or population increase that could generate increased demand for public services. Existing public services are adequate to serve the proposed project.

4.13.4 Recreation

Existing Environmental Setting. Recreational facilities in the immediate project area include Carpinteria State Beach to the west, Carpinteria Creek Park to the north and Tar Pits Park to the south. In addition, the Carpinteria Creek bike path terminates at the north side of the existing bridge.

Project Specific Impacts. Increased Use of Existing Facilities. The proposed project would not result in any land development or population increase that could increase demand for or use of existing parks and other recreational facilities.

New Facilities. The proposed project would not generate any demand for new recreational facilities. However, the proposed project includes improvements to an existing bike path along Carpinteria Creek, and a new bike path under the bridge to the south side of Carpinteria Avenue at the bridge site. These project components are considered transportation facilities and environmental impacts associated with the construction and operation of these facilities are fully addressed in Sections 4.1 through 4.12 of this EIR.

4.13.5 Utilities and Service Systems

Project Specific Impacts. Utilities. As discussed in Section 3.3.8, bridge replacement would require existing utilities located in the construction work area to be temporarily relocated during demolition and replaced within/on the new bridge deck. In addition, the project may include permanent relocation of overhead electrical and communications lines to underground conduits. Potential impacts associated with these activities would occur within the project impact area as shown in Figure 3-1, and are addressed in other sections of this EIR.

Wastewater Treatment Requirements. The proposed project would not generate wastewater requiring treatment.

New Water or Wastewater Treatment Facilities. As the project would not require a long-term potable water source or generate wastewater, construction of treatment facilities would not be required.

New Storm Drainage Facilities. Any new storm drain facilities (including retention and/or treatment of stormwater) needed to serve the replacement bridge and adjacent portions of Carpinteria Avenue have been included in the project. No new off-site facilities would be required.

New Water Supplies. No long-term source of water is needed for the project. Adequate supplies are available to meet the needs of the project during construction.

Solid Waste Disposal. Demolition of the existing bridge would generate large amounts of materials, primarily concrete which would be recycled at the MarBorg Industries facility in Santa Barbara or the Vulcan facility in Ventura. Materials that cannot be recycled would be disposed at the Tajiguas Landfill, which has adequate capacity to serve the south coast of Santa Barbara County until at least 2026. Alternatively, unrecyclable materials may be transported to the Toland Road Landfill in Ventura County, which maintains a minimum 15-year disposal capacity.

Solid Waste Regulations. The proposed project would comply with local, State and Federal regulations concerning solid waste, including recycling construction materials resulting from bridge demolition to the extent feasible.

Storm Drainage Facilities that May Increase Pesticide use to Control Disease Vectors.

Any storm drainage facilities constructed as part of the project (including retention and/or treatment of stormwater) would not retain water for a sufficient duration to attract disease vectors (e.g., mosquitos) or require pesticide use.

5.0 ALTERNATIVES ANALYSIS

This section of the EIR provides a comparative analysis of the merits of alternatives to the proposed project pursuant to Section 15126.6 of the State CEQA Guidelines. According to the Guidelines, the discussion of alternatives should focus on alternatives to a project or its location that would feasibly meet the basic objectives of the project while avoiding or substantially lessening the significant effects of the project. The CEQA Guidelines indicate that the range of alternatives included in this discussion should be sufficient to allow decision-makers a reasoned choice between alternatives and a proposed project. The alternatives discussion should provide decision-makers with an understanding of the environmental merits and disadvantages of various project alternatives.

The range of alternatives in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to make a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines Section 15126.6 [f]). Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making. When addressing feasibility, the CEQA Guidelines state that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).” The CEQA Guidelines also state that the alternatives discussion need not be presented in the same level of detail as the assessment of the proposed project.

Therefore, based on the CEQA Guidelines, several factors need to be considered in determining the range of alternatives to be analyzed in an EIR and the level of detail of analysis that should be provided. These factors include: (1) the nature of the significant impacts of the proposed project; (2) the ability of alternatives to avoid or substantially lessen impacts associated with the project; (3) the ability of the alternatives to meet most of the basic objectives of the project; and (4) the feasibility of the alternatives.

As required by the State CEQA Guidelines, this analysis focuses on alternatives that could avoid or substantially reduce significant effects of the project. Alternatives determined to be infeasible were rejected from further consideration and are described in Section 5.2. Impacts of the alternatives considered are summarized in Section 5.3. In addition, this section identifies the environmentally superior alternative as required by the State CEQA Guidelines.

5.1 NO PROJECT ALTERNATIVE

The No Project Alternative provides a baseline for comparing the impacts of the alternatives. Under this Alternative, the Carpinteria Avenue Bridge would remain in its existing state. The existing structural deficiencies and hydraulic inadequacies would remain, resulting in an unsafe condition for traffic and bicycle/pedestrian bridge users. The No Project Alternative does not meet the purpose and need of the project or any of the project objectives.

5.2 ALTERNATIVES CONSIDERED

The alternatives considered in this EIR represent a range of feasible alternatives that could meet most of the basic project objectives. Some of the alternatives would reduce certain impacts, while others may result in greater impacts in certain issue areas. Alternatives that would involve changing the alignment of the existing bridge or roadway were not considered as they would result in greater land use, air quality, noise and biological impacts.

5.2.1 Modified Three-Span Alternative

This Alternative would be the same as the proposed project, except three other bridge deck options would be considered for the three-span bridge design:

- **Widened Bridge.** This option would match the bridge width to the adjacent approach roadway width. The widened bridge deck would be 73 feet-wide, with eight-foot-wide sidewalks, nine-foot-wide parking area (north side), five-foot-wide shoulder/bike lanes, 12-foot-wide traffic lanes, and a 14-foot-wide center turn lane. This option makes the shoulders/bike lanes approximately 1.5 feet wider than existing and the sidewalks approximately 3.5 feet wider than existing.
- **No Median on Bridge.** This option is the narrowest of the deck options considered. The proposed bridge deck would be 56 feet-wide, with eight-foot-wide sidewalks, five-foot-wide shoulder/bike lanes, and 12-foot-wide traffic lanes. The no median bridge option would be approximately 3.5 feet narrower than the existing bridge roadway width and eliminate the center lane on the bridge. This option would also remove the turn pocket for left turns onto Arbol Verde Street.
- **Open/Planted Median on Bridge.** This option is the widest overall of the bridge deck options considered. The open/planted median option includes two separate bridge sections each with a roadway width of 22 feet, including a 12-foot-wide traffic lane, eight-foot-wide bike lane and eight-foot-wide sidewalk. The 16.5-foot-wide area between the two bridge sections would either be open to the creek below or closed and landscaped. This option would eliminate all left turn traffic movements at Arbol Verde Street and the driveway serving 5464 Carpinteria Avenue, restricting traffic movements to right turns in and out.

5.2.2 Clear Span Alternative

Under this Alternative, the bridge superstructure would be approximately nine feet deep, which would raise the bridge deck approximately 8 feet above the existing deck elevation. This Alternative would utilize pile foundations at the abutments and there would be no intermediate supports in the streambed. The Clear Span Alternative would require approximately 390 feet to 410 feet of roadway work on each side of the bridge for the roadway approaches as well as modifications to the existing cross streets and driveways to conform to the new roadway profile. Minor re-striping work would be required beyond these limits. The raised bridge profile would involve elevated roadway approaches which would require closing Arbol Verde Street permanently, and may result in steep transitions to private driveways near the bridge (Casitas Plaza, 5464 Carpinteria Avenue, 5550 Carpinteria Avenue). Additionally, the Clear Span Alternative would require the most earthwork and has the greatest roadway and traffic impacts of the alternatives considered.

Bridge deck options considered under the Clear Span Alternative include that described for the proposed project (67.5 feet-wide) and the three bridge deck options described under the Modified Three-span Alternative.

The Clear Span Alternative also includes a new bike path and rock slope protection as described for the proposed project, and reconstructing the existing bike path north of the bridge. However, the length of bike path reconstruction would be greater to conform to the much higher bridge deck (and roadway approach) elevation.

5.2.3 Two-span Alternative

Under this Alternative, the bridge superstructure would be approximately five feet deep, which would raise the bridge deck approximately four feet above the existing deck elevation. The Two-span Alternative would utilize pile foundations at the abutments and at the intermediate pier supports. This Alternative would require approximately 320 to 340 feet of roadway work on each side of the bridge for the roadway approaches as well as modifications to existing cross streets and driveways to conform to the new roadway profile. Minor re-striping work would be required beyond these limits. The Two-span Alternative would require the intermediate bridge supports to be located in the low flow channel of the creek.

Bridge deck options considered under the Two-span Alternative include that described for the proposed project (67.5 feet-wide) and the three bridge deck options described under the Modified Three-span Alternative.

The Two-span Alternative also includes a new bike path and rock slope protection as described for the proposed project, and reconstructing the existing bike path north of the bridge. However, the length of bike path reconstruction would be greater to conform to the higher bridge deck (and roadway approach) elevation.

5.3 IMPACTS OF THE ALTERNATIVES

5.3.1 No Project Alternative

This Alternative represents no action and would not have any direct impacts to the environment, including aesthetics, agriculture, air quality, biological resources, cultural resources, geology, greenhouse gas emissions, hazards, water resources, noise and transportation. However, as required by Section 15126.6(e) of the State CEQA Guidelines, the analysis of the no project alternative should identify the practical result of the project's non-approval. The Carpinteria Avenue Bridge would continue to deteriorate which would require action in the future, potentially including major repairs. Such repairs would involve environmental impacts, potentially including air emissions, greenhouse gas emissions, noise and removal of wildlife habitat and ESHA.

If the existing Carpinteria Avenue Bridge is not replaced prior to the next extreme storm event, accumulation of debris and overbank flows may occur and cause damage to the bridge, adjacent land uses, wildlife habitat, ESHA, and the stream banks. Repair of such damage would also involve environmental impacts, potentially including air emissions, greenhouse gas emissions, noise and removal of wildlife habitat and ESHA.

5.3.2 Modified Three-span Alternative

This alternative involves the same three-span bridge design of the proposed project, but includes three alternative bridge width options; a widened bridge (73 feet wide), no median on bridge (56 feet wide) and open/planted median on bridge (79.5 feet wide).

5.3.2.1 Aesthetics

It is assumed that any of the three bridge deck options would incorporate design features recommended for the project by the ARB. The aesthetics impacts associated with construction-related tree removal for the three bridge deck options would not be substantially different than the proposed project. The widened bridge option and open/planted median option would result in a much wider bridge deck than existing and may have greater impacts on the visual character of the site. However, the inclusion of landscaping in the median option (or riparian vegetation projecting through the opening) would break up the massing and impart a more natural character to the bridge deck. Lighting would be the same as for the proposed project, with no change in aesthetics impacts. Overall, aesthetics impacts would be virtually the same as the proposed project.

5.3.2.2 Agricultural and Forestry Resources

These resources do not occur in proximity to the bridge site; therefore, no impacts would occur (same as proposed project).

5.3.2.3 Air Quality

Air pollutant emissions and associated air quality impacts would be very similar to the proposed project under this alternative (less than significant, Class III). However, wider bridge designs (widened bridge, open/planted median on bridge) would result in slightly greater impacts, while the more narrow bridge design (no median on bridge) would result in slightly lesser impacts. No long-term air quality impacts would occur.

5.3.2.4 Biological Resources

Impacts to biological resources would be very similar to the proposed project under this alternative (no change in impact significance). Loss of riparian forest, ESHA and native trees (project Impacts BIO-1 and BIO-2) would be slightly greater for wider bridge designs (widened bridge, open/planted median on bridge), and slightly less for the more narrow bridge design (no median on bridge). All other biological impacts would be same as the proposed project (see Impact BIO-3 through BIO-13).

5.3.2.5 Cultural Resources

Remnants of pre-1903 bridge abutments were found during the Extended Phase I Subsurface Archeological Testing program, but would be avoided by construction of this alternative. No other cultural resources were found within the estimated ground disturbance footprint of the proposed project and alternatives. Since the area of ground disturbance associated with this alternative is virtually the same as the proposed project, the potential to discover unknown cultural resources and associated impacts would be the same.

5.3.2.6 Greenhouse Gas (GHG) Emissions

GHG emissions and potential climate change impacts would be very similar to the proposed project under this alternative (less than significant, Class III). However, wider bridge designs (widened bridge, open/planted median on bridge) would result in slightly greater GHG construction emissions, while the more narrow bridge design (no median on bridge) would result in slightly lesser GHG emissions. No long-term climate change impacts would occur.

5.3.2.7 Geology and Soils

This alternative would be implemented at the same site as the proposed project, using the same engineering design and subject to the same geologic hazards. Therefore, geology and soils impacts would be the same as the proposed project.

5.3.2.8 Hazards and Hazardous Materials

Identical to the proposed project, implementation of this alternative would involve demolition of the existing bridge (potentially including lead-based paint) and excavation of soils potentially affected by aerially-deposited lead. Therefore, hazardous materials impacts would be the same as the proposed project.

5.3.2.9 Water Resources

This alternative would be implemented at the same site as the proposed project, using the same engineering design and construction methods. Since the construction footprint and basic engineering design would be virtually the same as the proposed project, construction-related storm water impacts and pile drilling impacts would also be the same. Wider bridge designs may increase storm run-off rates from the bridge deck and approach roadways as compared to the proposed project (see Impact WR-3); however, this impact would remain less than significant (Class III). Consistent with the proposed project, this alternative would be designed to accommodate peak storm flow rates, and include post-construction storm water run-off detention and treatment.

5.3.2.10 Land Use and Planning

In general, changes in bridge width proposed under this alternative would not substantially affect potential land use conflicts and policy consistency as discussed for the proposed project in Section 4.10.2, as the bridge design would be very similar with the same architectural treatments. However, traffic flow restrictions associated with the no median option (loss of left turn pocket for Arbol Verde Street, loss of median for left turns into 5565 Carpinteria Avenue) and open/planted median option (loss of left turn movements at Arbol Verde Street and 5464 Carpinteria Avenue) would conflict with General Plan/Local Coastal Land Use Plan Objective C-4 (improve the Carpinteria Avenue corridor to ensure adequate traffic flow).

5.3.2.11 Noise and Vibration

This alternative would be implemented at the same site as the proposed project, using the same engineering design and construction methods. Since the construction footprint would be virtually the same as the proposed project, construction-related noise and vibration impacts (see Impacts N-1 and N-2) would also be virtually the same. Wider bridge designs may reduce the distance between construction activities and adjacent residential noise receivers (receivers 1, 2 and 3 in Table 4.11-4). However, resulting differences in noise levels would not be detectable and would not alter the significance of construction noise and vibration impacts (Class II, significant but mitigable).

5.3.2.12 Transportation and Circulation

Trip generation and traffic management during bridge construction would be the same as for the proposed project; therefore, construction-related impacts would be the same. Selection of the more narrow bridge option (no median on bridge), may prevent implementation of sight distance improvements that would be provided by the proposed project, would remove the left turn pocket on Carpinteria Avenue for Arbol Verde Street and the existing median used to make left turns into a medical office building (5565 Carpinteria Avenue). The no median and open/planted median options would restrict traffic flow (see Section 5.3.2.10) and result in a potentially significant impact.

5.3.3 Clear Span Alternative

The bridge deck would be substantially higher than the proposed project, requiring longer bridge approaches and extended bike path improvements. Therefore, the estimated construction impact footprint would be much larger (about 4.3 acres) as compared to the proposed project (about 3.6 acres). The Clear Span Alternative could be implemented with the proposed project bridge deck width (67.5 feet-wide) or any of the three bridge deck options discussed in Section 5.2.1.

5.3.3.1 Aesthetics

It is assumed that this alternative would incorporate aesthetic design features recommended for the project by the ARB. The larger construction footprint would result in greater vegetation and tree removal which would cause a greater degradation of public views from Carpinteria Avenue. However, construction-related aesthetics impacts associated with vegetation removal would remain significant but mitigable. Under the Clear Span Alternative, the bridge deck would be at a higher elevation with a deeper structural section as compared to the proposed project. The increased height, mass and scale of this alternative may be considered more urban by some residents, and considered a significant aesthetics impact, and possibly unmitigable (Class I). Lighting would be the same as for the proposed project, with no change in aesthetics impacts.

5.3.3.2 Agricultural and Forestry Resources

These resources do not occur in proximity to the bridge site; therefore, no impacts would occur (same as proposed project).

5.3.3.3 Air Quality

Due to the greater earthwork and construction requirements of the Clear Span Alternative, air pollutant emissions and associated air quality impacts would be greater than the proposed project, but would remain less than significant (Class III). No long-term air quality impacts would occur.

5.3.3.4 Biological Resources

Due to the larger construction footprint of the Clear Span Alternative, impacts to biological resources would be greater than the proposed project. The Clear Span Alternative would have larger temporary impacts to riparian vegetation (1.09 acres) and ESHA (1.34 acres), primarily due to the greater length of reconstruction of the existing bike path to conform to the higher bridge elevation. Permanent impacts to arroyo willow riparian forest and ESHA would be virtually the same as the proposed project (0.10 acres). Loss of native trees would be greater as compared to the proposed project. Although this alternative does not involve bridge supports in the streambed, construction activities within the streambed would be very similar to the proposed project, such that impacts to fish, aquatic reptiles, birds, bats, wetlands and wildlife movement would be very similar (see Impacts BIO-3 through BIO-13). However, steelhead migration may benefit from the lack of bridge supports in Carpinteria Creek.

5.3.3.5 Cultural Resources

Remnants of pre-1903 bridge abutments were found during the Extended Phase I Subsurface Archeological Testing program, but would be avoided by construction of this alternative. No other cultural resources were found within the estimated ground disturbance footprint of the proposed project and alternatives. Since the area of ground disturbance associated with this alternative would be substantially larger than the proposed project, the potential to discover unknown cultural resources and associated impacts would be greater (significant but mitigable, Class II).

5.3.3.6 Greenhouse Gas (GHG) Emissions

Due to the greater earthwork and construction requirements of the Clear Span Alternative, GHG emissions and associated climate change impacts would be greater than the proposed project, but would remain less than significant (Class III). No long-term climate change impacts would occur.

5.3.3.7 Geology and Soils

This alternative would be implemented at the same site as the proposed project, using the same engineering design, and subject to the same geologic hazards. Therefore, geology and soils impacts would be the same as the proposed project.

5.3.3.8 Hazards and Hazardous Materials

Identical to the proposed project, implementation of this alternative would involve demolition of the existing bridge (potentially including lead-based paint) and excavation of soils potentially affected by aerially-deposited lead. The length of roadway affected by construction would be greater which may increase the potential to encounter soils contaminated by aerially-deposited lead. However, this impact would be addressed by the same mitigation provided for the proposed project, and hazardous materials impacts would be virtually the same as the proposed project.

5.3.3.9 Water Resources

This alternative would be implemented at the same site as the proposed project, using the same engineering design and construction methods. Since the construction footprint would be substantially larger than the proposed project, construction-related storm water impacts would be greater, but mitigable. As the number of piles would be greatly reduced, potential pile drilling impacts would be less than the proposed project, but remain significant (Class II). Wider bridge designs may increase storm run-off rates from the bridge deck and approach roadways as compared to the proposed project (see Impact WR-3); however, this impact would remain less than significant (Class III). Consistent with the proposed project, this alternative would be designed to accommodate peak storm flow rates, and include post-construction storm water run-off detention and treatment.

5.3.3.10 Land Use and Planning

The larger and more elevated bridge deck (about eight feet above existing) would have greater aesthetics impacts, greater biological impacts and would impact traffic safety by reducing motorist sight distance across the bridge and would require permanently closing the Arbol Verde Street intersection. These actions may be considered inconsistent with community design objectives (CD-9, CD-11, CD-12), Subarea 5 Objectives (CDS5-2, CDS5-3), Circulation Element Objectives (C-3, C-4) and Open Space, Recreation and Conservation Objectives (OSC-1, OSC-6, OSC-7, OSC-13, and related policies). These policy inconsistencies may result in land use conflicts that may be significant and unavoidable.

5.3.3.11 Noise and Vibration

This alternative would be implemented at the same site as the proposed project, using the same engineering design and construction methods. However, the construction footprint would be substantially greater than the proposed project, and additional noise receivers may be significantly affected. However, construction noise and vibration mitigation provided for the proposed project would reduce noise and vibration impacts to a level of less than significant (Class II).

5.3.3.12 Transportation and Circulation

Trip generation and traffic management during bridge construction would be very similar as for the proposed project; therefore, construction-related impacts would be virtually the same (Class III, less than significant). The larger and more elevated bridge deck would impact traffic safety by reducing motorist sight distance across the bridge and would require permanently closing the Arbol Verde Street intersection. The reduction in traffic safety and traffic flow restrictions associated with this alternative are considered significant impacts and likely unmitigable (Class I).

5.3.4 Two-span Alternative

The bridge deck would be higher than the proposed project, requiring longer bridge approaches and extended bike path improvements. Therefore, the estimated construction impact footprint would be larger (about 3.7 acres) as compared to the proposed project (about 3.6 acres). The Two-span Alternative could be implemented with the proposed project bridge deck width (67.5 feet-wide) or any of the three bridge deck options discussed in Section 5.2.1.

5.3.4.1 Aesthetics

It is assumed that this alternative would incorporate aesthetic design features recommended for the project by the ARB. The larger construction footprint would result in greater vegetation and tree removal which would cause a greater degradation of public views from Carpinteria Avenue. However, aesthetics impacts associated with vegetation removal would remain less than significant with mitigation (Class II). Under the Two-span Alternative, the bridge deck would be at a slightly higher elevation with a deeper structural section as compared to the proposed project. The increased height, mass and scale of this alternative may be considered more urban by some residents, but is unlikely to be considered a significant aesthetics impact. Lighting would be the same as for the proposed project, with no change in aesthetics impacts.

5.3.4.2 Agricultural and Forestry Resources

These resources do not occur in proximity to the bridge site; therefore, no impacts would occur (same as proposed project).

5.3.4.3 Air Quality

Due to the greater earthwork and construction requirements of the Two-span Alternative, air pollutant emissions and associated air quality impacts would be greater than the proposed project, but would remain less than significant (Class III). No long-term air quality impacts would occur.

5.3.4.4 Biological Resources

Due to the larger construction footprint of the Two-span Alternative, impacts to biological resources would be greater than the proposed project. The Two-span Alternative would have larger temporary impacts to riparian vegetation (1.01 acres) and ESHA (1.26 acres), primarily due to the greater length of reconstruction of the existing bike path to conform to the higher bridge elevation. Permanent impacts to arroyo willow riparian forest and ESHA would be virtually the same as the proposed project (0.10 acres). Loss of native trees would be greater as compared to the proposed project. Although this alternative involves fewer bridge supports in the streambed, construction activities within the streambed would be very similar to the proposed project, such that construction-related impacts to fish, aquatic reptiles, birds, bats, wetlands and wildlife movement would be very similar (see Impacts BIO-3 through BIO-13).

The Two-span Alternative would involve placement of bridge supports in the low flow channel of Carpinteria Creek and could adversely affect steelhead migration (likely Class II, less than significant with mitigation).

5.3.4.5 Cultural Resources

Remnants of pre-1903 bridge abutments were found during the Extended Phase I Subsurface Archeological Testing program, but would be avoided by construction of this alternative. No other cultural resources were found within the estimated ground disturbance footprint of the proposed project and alternatives. Since the area of ground disturbance associated with this alternative would be larger than the proposed project, the potential to discover unknown cultural resources and associated impacts would be greater (significant but mitigable, Class II).

5.3.4.6 Greenhouse Gas (GHG) Emissions

Due to the greater earthwork and construction requirements of the Two-span Alternative, GHG emissions and associated climate change impacts would be greater than the proposed project, but would remain less than significant (Class III). No long-term climate change impacts would occur.

5.3.4.7 Geology and Soils

This alternative would be implemented at the same site as the proposed project, using the same engineering design, and subject to the same geologic hazards. Therefore, geology and soils impacts would be the same as the proposed project.

5.3.4.8 Hazards and Hazardous Materials

Identical to the proposed project, implementation of this alternative would involve demolition of the existing bridge (potentially including lead-based paint) and excavation of soils potentially affected by aerially-deposited lead. The length of roadway affected by construction would be greater which may increase the potential to encounter soils contaminated by aerially-deposited lead. However, this impact would be addressed by the same mitigation provided for the proposed project, and hazardous materials impacts would be virtually the same as the proposed project.

5.3.4.9 Water Resources

This alternative would be implemented at the same site as the proposed project, using the same engineering design and construction methods. Since the construction footprint would be larger than the proposed project, construction-related storm water impacts would be greater, but mitigable. As the number of piles would be reduced, potential pile drilling impacts would be less than the proposed project, but remain significant (Class II). Wider bridge designs may increase storm run-off rates from the bridge deck and approach roadways as compared to the proposed project (see Impact WR-3); however, this impact would remain less than significant (Class III). Consistent with the proposed project, this alternative would be designed to accommodate peak storm flow rates, and include post-construction storm water run-off detention and treatment. However, the Two-span Alternative involves placement of bridge piers in the low flow channel, which may cause accumulation of debris and associated reduction in channel capacity, and possible scouring (potentially significant).

5.3.4.10 Land Use and Planning

The larger and more elevated bridge deck (about four feet above existing) would have greater aesthetics impacts, greater biological impacts, would impact traffic safety by reducing motorist sight distance across the bridge and would eliminate left turns to and from Arbol Verde Street (depending on the bridge deck option selected). These actions may be considered inconsistent with community design objectives (CD-9, CD-11, CD-12), Subarea 5 Objectives (CDS5-2, CDS5-3), Circulation Element Objectives (C-3, C-4) and Open Space, Recreation and Conservation Objectives (OSC-1, OSC-6, OSC-7, OSC-13, and related policies). These policy inconsistencies may result in land use conflicts that may be significant and unavoidable.

5.3.4.11 Noise and Vibration

This alternative would be implemented at the same site as the proposed project, using the same engineering design and construction methods. However, the construction footprint would be greater than the proposed project, and additional noise receivers may be significantly affected. Construction noise and vibration mitigation provided for the proposed project would reduce noise impacts to a level of less than significant (Class II).

5.3.4.12 Transportation and Circulation

Trip generation and traffic management during bridge construction would be very similar as for the proposed project; therefore, construction-related impacts would be virtually the same (Class III, less than significant). The larger and more elevated bridge deck as compared to the proposed project would impact traffic safety by reducing motorist sight distance across the bridge. Selection of the more narrow bridge option (no median on bridge), may prevent implementation of sight distance improvements that would be provided by the proposed project, and would remove the left turn pocket on Carpinteria Avenue for Arbol Verde Street. The open/planted median option would eliminate all left turn traffic movements from Arbol Verde Street, restricting traffic movements to right turns in and out. The reduction in traffic safety and traffic flow restrictions associated with this alternative are considered significant impacts and likely unmitigable (Class I).

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Each of the alternatives analyzed (Modified Three-span, Clear Span, Two-span) are considered technically feasible and would meet most of the basic project objectives (listed in Section 1.5).

The Modified Three-span Alternative would not meet the following objective:

- 3. Avoid Adverse Changes in Traffic Circulation.** The more narrow bridge option (no median on bridge) may prevent implementation of sight distance improvements that would be provided by the proposed project, and would remove the left turn pocket on Carpinteria Avenue for Arbol Verde Street and the existing median used to make left turns into a medical office building (5565 Carpinteria Avenue). The open/planted median option would result in the loss of left turn movements from Carpinteria Avenue to Arbol Verde Street, 5565 Carpinteria Avenue and 5464 Carpinteria Avenue.

The Clear Span Alternative would not meet the following objectives:

- 1. Improve Public Safety at the Creek Crossing.** The elevated bridge deck would result in poor sight distance across the bridge, and reduce traffic safety.
- 3. Avoid Adverse Changes in Traffic Circulation.** The elevated bridge deck would require permanently closing the Arbol Verde intersection.

The Two-span Alternative would not meet the following objectives:

- 1. Improve Public Safety at the Creek Crossing.** The elevated bridge deck would result in poor sight distance across the bridge, and reduce traffic safety.
- 3. Avoid Adverse Changes in Traffic Circulation.** The more narrow bridge option (no median on bridge) may prevent implementation of sight distance improvements that would be provided by the proposed project, and would remove the left turn pocket on Carpinteria Avenue for Arbol Verde Street and the existing median used to make left turns into a medical office building (5565 Carpinteria Avenue). The open/planted median option would result in the loss of left turn movements from Carpinteria Avenue to Arbol Verde Street, 5565 Carpinteria Avenue and 5464 Carpinteria Avenue.
- 5. Avoid Instream Structures that may Affect Steelhead Migration.** The Two-span Alternative includes bridge supports in the low flow channel.

The No Project Alternative would avoid direct impacts, but is anticipated to ultimately involve impacts associated with structural repairs or flood damage repair. Overall, the No Project Alternative would likely have lesser environmental impacts than the proposed project, and may be considered the environmentally superior alternative. However, it would not achieve any of the project objectives. If the No Project Alternative is considered environmentally superior, Section 15126.6(e)(2) of the State CEQA Guidelines requires identification of the environmentally superior alternative among the other alternatives. Table 5-1 provides a summary of the relative impacts of each of the alternatives analyzed, and indicates the Modified Three-span Alternative would have lesser impacts overall than the other alternatives analyzed and is considered the environmentally superior alternative. As listed in Table 5-1, for each issue area, environmental impacts associated with the proposed project would be the same or lower in magnitude than any of the alternatives analyzed. Therefore, the proposed project is considered the environmentally superior project.

Table 5-1. Comparison of the Impacts of the Alternatives

Issue Area	Proposed Project	Modified Three-span Alternative	Clear Span Alternative	Two-span Alternative
Aesthetics	LSM	=	PS	+
Agriculture & forestry	N	N	N	N
Air quality	LS	=	++	+
Biological resources	LSM	=	++	+
Cultural resources	LSM	=	++	+
Greenhouse gas emissions	LS	=	++	+
Geology and soils	LSM	=	=	=
Hazards & hazardous materials	LSM	=	=	=
Water resources	LSM	=	++	+
Land use & planning	LS	+ ¹	PS	PS
Noise	LSM	=	++	+
Transportation	LSM	PS ¹	PS	PS

- LS Less than significant
- LSM Less than significant with mitigation
- PS Potentially significant and unmitigable
- + Greater than the proposed project
- ++ Substantially greater than the proposed project
- = Very similar to the proposed project
- N No impact
- ¹ No median, open/planted median options only

6.0 GROWTH INDUCEMENT

6.1 INTRODUCTION

This section discusses whether the proposed project would foster economic growth or population growth in the surrounding area. A project may foster economic or population growth in a geographic area if it would meet any of the following criteria:

- The project would result in the urbanization of land in a remote location, creating an intervening area of open space which then experiences pressure to be developed.
- The project removes an impediment to growth through the establishment of an essential public service or the provision of new access to an area.
- Economic expansion, population growth or the construction of additional housing occurs in the surrounding environment in response to economic characteristics of the project.
- The project establishes a precedent-setting action, such as a change in zoning or general plan amendment approval that makes it easier for future projects to gain approval.

Should the project meet any one of these criteria, it is to be considered growth-inducing. An increase in population may require construction of new facilities which could cause significant environmental impacts. Section 15126.2 of the State CEQA Guidelines states that growth in an area is not necessarily beneficial, detrimental or of little significance to the environment.

6.2 URBANIZATION OF LAND IN ISOLATED LOCALITIES

The proposed project would be implemented at the site of the existing Carpinteria Avenue Bridge and would not result in any urbanization, other land development or increased access to parcels that may be developed. The project would provide temporary employment opportunities during the construction period. However, it is anticipated that project-related construction work would be primarily conducted by existing employees of southern California construction companies, with little to no new jobs created. The project would not create a need for new housing or associated urbanization of land; therefore, the project would not be growth-inducing under this criterion.

6.3 REMOVAL OF AN IMPEDIMENT TO GROWTH

In the Carpinteria area, population growth is generally limited by available housing and employment opportunities. Replacing a structurally deficient bridge would not remove any impediments to growth by providing housing, long-term employment opportunities or extension of infrastructure (roads, water, sewer, etc.) to any new areas. Overall, the project would merely replace an essential public facility serving the existing population, and would not be considered growth-inducing under this criterion.

6.4 ECONOMIC GROWTH

The project would not directly result in the construction of any homes or facilities that would attract people to the area. Due to the relatively small number and temporary nature of employment opportunities provided, it is not expected that the project would facilitate economic expansion, population growth or the construction of additional housing.

6.5 PRECEDENT SETTING ACTION

The proposed project would not result in a precedent-setting action such as a General Plan Amendment or change in zoning. The project is located entirely within the existing roadway right-of-way and would not result in any change in land use. Therefore, the project would not be growth-inducing under this criterion.

6.6 CONCLUSIONS

As indicated in the above discussions, the proposed project is not growth-inducing under any of the criteria listed in the State CEQA Guidelines. Therefore, the project would not induce growth.

7.0 LIST OF PREPARERS

This document was prepared for the City of Carpinteria by Padre Associates, Inc. and Conejo Archeological Consultants, with support by Drake Haglan & Associates. Persons involved in its preparation include:

7.1 CITY OF CARPINTERIA

7.1.1 Public Works Department

Charlie Ebeling, City Engineer

Matt Maechler, Engineer

7.1.2 Community Development Department

Nick Bobroff, Associate Planner

7.2 PADRE ASSOCIATES, INC.

Matt Ingamells, Project Manager

Pat McClure, Drafter

7.3 CONEJO ARCHEOLOGICAL CONSULTANTS

Mary Maki, Archeologist

7.4 DRAKE HAGLAN & ASSOCIATES

Craig Drake, Principal

Matt Burgard, Project Engineer

David Melis, Project Engineer

8.0 REFERENCES

- Avila and Associates. 2015. Technical Memorandum: *Hydrology, Hydraulics and Scour for the Construction of the Carpinteria Avenue Bridge (CAB) over Carpinteria Creek in the City of Carpinteria, County of Santa Barbara*. Prepared for Drake Haglan & Associates.
- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti and D.H. Wilken. 2012. *The Jepson Manual, Vascular Plants of California*. University of California Press. Berkeley, CA.
- Benson, A. 1977. *The Noontide Sun: The Field Journals of the Reverend Stephen Bowers, Pioneer California Archaeologist*. Ballena Press Publication, Menlo Park, CA.
- Bolton, H. 1927. *Crespi, Missionary Explorer on the Pacific Coast, 1769-1774*. University of California Press.
- Cachuma Resource Conservation District & the Carpinteria Creek Watershed Coalition. 2005. *Carpinteria Creek Watershed Plan*. Prepared for the California Department of Fish & Game.
- Caldwell, J. 1979. *Carpinteria as It Was*. Papillion Press, Vol. 1.
- California Department of Transportation (Caltrans). 2003. *Construction Site Best Management Practices (BMPs) Manual*.
- California Department of Transportation (Caltrans). 2010a. *Linden Avenue and Casitas Pass Road Interchanges Project Natural Environment Study Report*.
- California Department of Transportation (Caltrans). 2010b. *Linden Avenue & Casitas Pass Road Interchanges Project Final Environmental Impact Report/Finding of No Significant Impact*.
- California Department of Transportation (Caltrans). 2011. *Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual*.
- California Department of Transportation (Caltrans). 2012. *Statewide Storm Water Management Plan*.
- California Department of Transportation (Caltrans). 2013. *Transportation and Construction Vibration Guidance Manual*.
- California Natural Diversity Data Base (CNDDDB). 2016. RAREFIND5 Query for the Carpinteria and White Ledge Peak 7.5 minute quadrangles. California Department of Fish and Wildlife. Sacramento, CA.
- California Regional Water Quality Control Board, Central Coast Region (RWQCB). 2011. *Water Quality Control Plan for the Central Coastal Basin*. San Luis Obispo, CA.
- California Water Boards. 2007. *Central Coast Ambient Monitoring Program Hydrologic Unit Report for the 2001-2002 South Coast Watershed Rotation Area*.
- City of Carpinteria. 1997. *Guidelines for the Implementation of the California Environmental Quality Act of 1970, as Amended*.

- City of Carpinteria. 2003. *General Plan/Local Coastal Land Use Plan & Environmental Impact Report*.
- Compass Rose Archeological, Inc. 2015. *Archeological Extended Phase I (XPI) Report (CA-SBA-7 (P-42-00007) for the Carpinteria Avenue Bridge (no. 51C-172) Replacement Project over Carpinteria Creek*. Prepared for Padre Associates, Inc.
- Conejo Archeological Consultants. 2014. *Archaeological Survey Report Carpinteria Bridge (no. 51C-172) Replacement Project Over Carpinteria Creek, City of Carpinteria, Santa Barbara County, California*. Prepared for Padre Associates, Inc.
- Condor Environmental Planning Services. 1996. *Carpinteria Bluffs Biological Resources and Environmentally Sensitive Habitats*.
- Cowan, Robert G. 1977. *Ranchos of California, A List of Spanish Concessions 1775-1822 and Mexican Grants 1822-1846*. Published for the Historical Society of Southern California, Los Angeles.
- Dibblee, T. 1986. *Geologic Map of the Carpinteria Quadrangle*.
- Drake Haglan & Associates. 2015a. *Carpinteria Avenue Bridge Replacement Project Initial Site Assessment*. Prepared for the City of Carpinteria.
- Drake Haglan & Associates. 2015b. *Technical Memorandum: Type Selection and Alternatives Analysis Carpinteria Avenue Bridge Project*. Prepared for the City of Carpinteria.
- Ecology Consultants, Inc. 2004. *Santa Barbara County Creeks Bioassessment Program 2003 Annual Report and Index of Biological Integrity*. Prepared for the County of Santa Barbara Project Clean Water and City of Santa Barbara.
- Ecology Consultants, Inc. 2010. *Southern Coastal Santa Barbara Creeks Bioassessment Program 2010 Report*. Prepared for the City of Santa Barbara & Santa Barbara County Project Clean Water.
- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. (Technical Report Y-87-1). Vicksburg, LA.
- Environmental Laboratory. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (ERDC/EL TR-08-28)*.
- Fehr & Peers. 2007. *U.S. 101/Linden Avenue and U.S. 101/Casitas Pass Road Interchange Improvements Project Final Traffic Analysis Report*.
- Fehr & Peers. 2013. *U.S. 101/Linden Avenue/Casitas Pass Road Interchange Improvements Project Supplemental Traffic Analysis Report*.
- Fitch. H.S. 1941. *The feeding habits of California garter snakes*. Calif. Fish and Game 27:1-32.
- Fugro Consultants, Inc. 2008. *Geotechnical Engineering Report, Carpinteria Bluffs Sanitary Sewer, Carpinteria Sanitary District, Carpinteria, California*. Prepared for Penfield & Smith Engineers.

- Fugro Consultants, Inc. 2013. *Preliminary Geotechnical Report Carpinteria Avenue Bridge replacement over Carpinteria Creek Carpinteria, California*. Prepared for Drake Haglan & Associates.
- Geocon Consultants. 2001. *Site Assessment Report Route 101 Casitas Pass Road/Linden Avenue Interchanges, Santa Barbara County, California*. Prepared for Caltrans.
- Geocon Consultants. 2010. *Asbestos and Lead-Containing Paint Survey South Coast HOV Lanes between 0.44 miles South of Carpinteria Creek, Carpinteria and Sycamore Creek in Santa Barbara, Santa Barbara County, California*. Prepared for Caltrans.
- Gilbert, S. and C. Hunt. 2004. *CA-SBa-7 Archaeological Site Record*. On file at the Central Coast Information Center, University California, Santa Barbara.
- Grant, Campbell. 1978. Chumash: Introduction. In *Handbook of North American Indians, California, Vol. 8*. Edited by Robert F. Heizer, Smithsonian Institution, Washington D.C.
- Hart, C.W. and Samuel L.H. Fuller. 1979. *Pollution Ecology of Estuarine Invertebrates*. Academic Press, N.Y., N.Y.
- King, Chester. 1990. *The Evolution of Chumash Society: A Comparative Study of Artifacts Used in the Social Maintenance of the Santa Barbara Channel Islands Region Before A.D. 1804*. Garland Publishing, Inc., New York.
- Lehman, P. 1994. *The Birds of Santa Barbara County, California*. Vertebrate Museum, University of California, Santa Barbara.
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *Arid West Regional Wetland Plant List: Update of Wetland Ratings*. Phytoneuron 2014:41:1-42.
- Jennings, M. and M. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. California Department of Fish and Game, Inland Fisheries Division. Sacramento, California.
- Meade, D. 1999. *Monarch Butterfly Overwintering Sites in Santa Barbara County, California*. Althouse and Meade Biological and Environmental Services. Paso Robles, CA.
- Minor, S. and K. Kellogg, R. Stanley, L. Gurrola, E. Keller, T. Brandt. 2009. *Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California: U.S. Geological Survey Scientific Investigations Map 3001*.
- Moratto, M. 1984. *California Archaeology*. Academic Press, San Diego, California. National Park Service 2008 National Register Information System. Ventura County, California.
- Moyle, P., J. Williams, and E. Wikramanayake. 1989. *Fish Species of Special Concern of California*. California Department of Fish and Game. Sacramento, CA.
- Marine Research Specialists. 2008. *Proposed Final Environmental Impact Report Veneco Paredon Project*. Prepared for the City of Carpinteria.
- National Oceanic and Atmospheric Administration. 1997. Magnuson-Stevens Act Provisions: Essential Fish Habitat (ESH). Interim Final Rule; Request for Comments. Federal Register 62(244): 66531-66559.

- National Marine Fisheries Service. 2005. Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California, Final Rule. Federal Register September 2, 2005.
- National Marine Fisheries Service. 2009. *Southern California Steelhead ESU Historic Stream Habitat Distribution*.
- Natural Resources Conservation Service. 1992. *Field Office Official List of Hydric Soil Map Units for Santa Barbara County, California, South Coastal Part*.
- Padre Associates, Inc. 2001. *Biological Evaluation for the Thompson Rincon Creek Surface Water Diversion Special Use Permit Application, Los Padres National Forest*.
- Padre Associates, Inc. 2005. *City of Carpinteria Creeks Preservation Program, Final Document*.
- Padre Associates, Inc. 2015. *Carpinteria Avenue Bridge (51C-172) Replacement Project Natural Environment Study*. Prepared for the City of Carpinteria.
- Pierson, E., P. Collins, W. Rainey, P. Heady and C. Corben. 2002. *Distribution, Status and Habitat Associations of Bat Species on Vandenberg Air Force Base, Santa Barbara County, California*. Prepared for Vandenberg Air Force Base. Santa Barbara Museum of Natural History Technical Reports – Number 1.
- Ryan, C. 1999. *Phase 1 Archaeological Study, Arbol Verde Duplex, Carpinteria, California*. On file at the Central Coast Information Center, University California, Santa Barbara.
- Santa Barbara County Agricultural Commissioner. 2014. Santa Barbara County Agricultural Production Report 2013.
- Santa Barbara County Air Pollution Control District. 2015a. *Scope and Content of Air Quality Sections in Environmental Documents*.
- Santa Barbara County Air Pollution Control District. 2015b. *Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District*.
- Santa Barbara County Air Pollution Control District. 2015. *2013 Clean Air Plan*. Prepared in association with the Santa Barbara County Association of Governments.
- Santa Barbara County Long Range Planning Division. 2015. *County of Santa Barbara Energy and Climate Action Plan*.
- Santa Barbara County Public Works and Public Health Departments. 2002. *Project Clean Water, Rain Year 2001/2002, Water Quality Analysis Report, County of Santa Barbara, California, September 2002*.
- Shipman, G.E. 1981. *Soil Survey of Santa Barbara County, California, South Coastal Part*. Prepared for the Soil Conservation Service.
- Shuford, W.D. and T. Gardali, editors. 2008. *California Bird Species of Special Concern*. Published by Western Field Ornithologists and California Department of Fish and Game.
- Smith, C.F. 1976. *A Flora of the Santa Barbara Region, California*. Santa Barbara Natural History Museum.

- Spanne, L. 1979. *Archaeological Survey for Bridge Widening on Highway 101 near Carpinteria*. On file at the Central Coast Information Center, University California, Santa Barbara.
- State Water Resources Control Board. 1991. *Workplan for the Development of Sediment Quality Objectives for Enclosed Bays and Estuaries of California, 91-14 WQ*. Sacramento, CA.
- Stoecker, M.W. and Conception Coast Project. 2002. *Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California*.
- Swift, C., T. Haglund, M. Ruiz and T. Fisher. 1993. *The Status and Distribution of the Freshwater Fishes of Southern California*. Bull. Southern California Acad. Sci. 92(3)-101.
- U.S. Environmental Protection Agency. 1991. *Nonroad Engine and Vehicle Emission Study*. EPA 460/3-91-02.
- U.S. Environmental Protection Agency. 1999. *National Recommended Water Quality Criteria – Correction*. EPA 822-Z-99-001.
- U.S. Fish & Wildlife Service. 2005. *Recovery Plan for the Tidewater Goby (Eucyclogobius newberryi)*.
- U.S. Fish & Wildlife Service. 2010. *Revised Designation of Critical Habitat for California Red-legged Frog*. Federal Register March 17, 2010, p. 12816.
- U.S. Fish & Wildlife Service. 2011. *Revised Critical Habitat for the Arroyo Toad*. Federal Register February 9, 2011, p. 7246.
- U.S. Fish & Wildlife Service. 2013. *California Condor (Gymnogyps californianus) 5-Year Review: Summary and Evaluation*.
- Wetzel, R.G. 1975. *Limnology*. W.B. Saunders, Philadelphia, PA.
- Wiskowski, T. 1988. *Sensitive Plants of Santa Barbara County*. Prepared for the Resource Management Department, County of Santa Barbara.
- Woodward, J. 1983. *CA-SBa-7 Archaeological Site Record*. On file at the Central Coast Information Center, University California, Santa Barbara.
- Zeiner, D., W. Laudenslayer, Jr. and K. Mayer. 1988. *California's Wildlife, Volume I, Amphibians and Reptiles*. California Department of Fish and Game. Sacramento, CA.
- Zeiner, D., W. Laudenslayer, Jr., K. Mayer, and M. White. 1990a. *California's Wildlife, Volume II, Birds*. California Department of Fish and Game. Sacramento, CA.
- Zeiner, D., W. Laudenslayer, Jr., K. Mayer, and M. White. 1990b. *California's Wildlife, Volume III, Mammals*. California Department of Fish and Game. Sacramento, CA.

APPENDIX A

NOTICE OF PREPARATION



City of Carpinteria

Notice of Preparation of an Environmental Impact Report

To: Interested Person, Group or Agency

From: City of Carpinteria
Community Development Department
5775 Carpinteria Avenue
Carpinteria, CA 93013

Subject: **Notice of Preparation of an Environmental Impact Report (EIR) pursuant to the Requirements of the California Environmental Quality Act (CEQA) for the proposed Carpinteria Avenue Bridge Replacement, Project No. 14-1719-CUP/CDP**

The City of Carpinteria will be the CEQA Lead Agency and will prepare an Environmental Impact Report (EIR) for the project identified below. We are interested in the views you or your agency have as to the scope and content of the environmental information which is germane to you or your agency's statutory responsibilities in connection with the proposed project.

Project Title: Carpinteria Avenue Bridge Replacement, Project No. 14-1719-CUP/CDP

Location: The project involves the replacement of the existing Carpinteria Avenue bridge over Carpinteria Creek. Depending on the project design selected, affected parcels may include APN 001-070-008, -029, -031, -039, -065, -066, 003-280-006, -017, 003-291-002, 003-292-017.

Project Description:

Introduction. Carpinteria Avenue is vital major arterial through the City, and the only street crossing of Carpinteria Creek between the Pacific Ocean and Hwy 101. The project would be funded primarily by the federal-aid Highway Bridge Program administered by the Federal Highway Administration through Caltrans District 5 Local Assistance. The City of Carpinteria will provide the local match to the federal funds.

Project Objectives. The existing bridge deck is severely deteriorated and has inadequate hydraulic capacity under the bridge for flood flows. The purpose of the project is to remove the structurally deficient bridge and replace it with a bridge designed to meet current structural, geometric and hydraulic standards. The project objectives are:

- Improve public safety associated with the primary roadway crossing of Carpinteria Creek
- Improve flood water conveyance in Carpinteria Creek
- Avoid adverse changes in traffic circulation
- Minimize right-of-way take
- Avoid in-stream structures that may adversely affect steelhead migration
- Offset the majority of project costs through Federal transportation funding
- Minimize the Federal funding match required by the City
- Facilitate or incorporate a bike path connection to the south side of Carpinteria Avenue
- Improve pedestrian and bicycle facilities at the creek crossing
- Provide for future utility under-grounding

Proposed Project and Alternatives. Three basic bridge designs will be assessed in the EIR, and the no project alternative. In addition, four bridge width options will be considered, each of them being compatible with any of the three bridge designs. The basic bridge designs considered consist of one, two, and three-span bridges. No additional lanes are proposed in the project; the existing two-lane bridge will be replaced with another two-lane bridge. The proposed project is the three-span bridge design with the updated bridge width.

Design 1: Clear Span Bridge. This design would utilize pile foundations at the abutments, with no intermediate supports in the streambed. The bridge deck would be approximately eight feet higher than existing, and requires Arbol Verde Street to be closed permanently at its intersection with Carpinteria Avenue.

Design 2: Two-Span Bridge. This design would utilize pile foundations at the abutments and at the intermediate pier support, with one bridge support structure located within the low flow channel of the creek. The bridge deck would be approximately four feet higher than existing and would not require closing the Arbol Verde Street intersection.

Design 3: Three-Span Bridge (Proposed Project Design). This design would utilize pile foundations at the abutments and at two intermediate pier supports, with two bridge support structures located in the streambed outside the low flow channel of the creek. The bridge deck would be approximately two feet higher than existing, and would not require closing the Arbol Verde Street intersection.

The following bridge width options will be considered in the EIR for each of the three bridge designs:

Updated Bridge Width (Proposed Project Width Option). This option would utilize the same traffic configuration as the existing bridge, but would have updated sidewalk and shoulder/bike lane widths. The roadway width of this option is approximately five feet wider than the existing bridge roadway width, with the shoulder/bike lanes being approximately 1.5 feet wider than existing and the sidewalks being approximately 3.5 feet wider than existing.

Widened Bridge Width. This option provides a much wider bridge by matching the bridge width to the adjacent approach roadway width. The widened bridge roadway width would be approximately 14 feet wider than the existing bridge width, which can be used for parking. This option would include shoulders approximately 1.5 feet wider than existing and the sidewalks approximately 3.5 feet wider than existing.

No Median Bridge Width. The no median bridge width is the narrowest of the width options considered. The bridge roadway width would be reduced by approximately 3.5 feet by eliminating the center lane on the bridge. This option would make the shoulder/bike lanes approximately 4.5 feet wider than existing and the sidewalks approximately 3.5 feet wider than existing. Removal of the center lane on the bridge would also eliminate the left hand turn pocket for Arbol Verde Street and an office complex south of the bridge.

Open/Planted Median Bridge Width. This option is the widest overall of the width options considered. The open/planted median option consists of two parallel bridge sections each with a roadway width of 22 feet, with a 16.5-foot wide area between the two bridge sections. This area could either be open to the creek below or closed and landscaped. This option would make the shoulder/bike lanes approximately 4.5 feet wider than existing and the sidewalks approximately 3.5 feet wider than existing. This option would eliminate all left turn traffic movements from Arbol Verde Street, restricting traffic movements to right turns in and out.

Construction Staging. During construction, Carpinteria Avenue would remain open to vehicle and pedestrian traffic. Bridge construction would be conducted in stages to maintain access. The first stage of construction would be to shift all traffic to the south (downstream) side of the existing bridge while the north (upstream) portion is demolished and removed. The second stage of construction would be to switch traffic to the newly constructed portion of the north bridge and demolish and remove the remaining portion of the existing bridge on the south side. The final stage of construction would be to make a closure pour tying the northern and southern portions together. During this stage, traffic would be shifted to its final configuration with one lane, a shoulder and a sidewalk on each side of the bridge. The center lane would also be striped at this time.

An Environmental Scoping Document has been prepared to provide a preliminary assessment of the probable environmental effects of the project, as required by the State CEQA Guidelines. Hard copies of the Environmental Scoping Document are available at City Hall; an electronic copy of the Scoping Document is available on the City website at: http://www.carpinteria.ca.us/public_works/Carp%20Ave%20Bridge.shtml. If you wish to provide comments on the scope and content of the EIR, please submit your comments by mail, fax or email to:

Nick Bobroff, Associate Planner
City of Carpinteria, Community Development Department
5775 Carpinteria Avenue, Carpinteria, CA 93013
Fax: (805) 684-5304
Email: nickb@ci.carpinteria.ca.us

Due to the time limits mandated by State law, written comments on the scope and content of the EIR must be sent no later than 30 days after receipt of this notice, or by August 4, 2014. Responsible agencies are requested to indicate their statutory responsibilities and a contact person with your agency in connection with this project when responding.

In addition to written comments, in order to provide ample opportunity for public input, the City will hold a public scoping meeting in the Council Chambers at Carpinteria City Hall, 5775 Carpinteria Avenue in Carpinteria, at **3:00 PM on July 22, 2014**. In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact Melissa Angeles at MelissaA@ci.carpinteria.ca.us or (805) 684-5405, extension 445. Notification 72 hours prior to the meeting will enable the City to make reasonable arrangements (28 CFR 35.102-35.104 ADA Title II).

Please contact Matt Maechler at (805) 684-5405 ext. 441 or via e-mail at MattM@ci.carpinteria.ca.us for further information.

Date: July 3, 2014

Signature 

Name and Title: Jackie Campbell
Community Development Director

APPENDIX B

ENVIRONMENTAL SCOPING DOCUMENT

**CITY OF CARPINTERIA
INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM**

1. **Project Title:** Carpinteria Avenue Bridge Replacement
2. **Lead Agency:** City of Carpinteria
3. **Contact Person and Phone:** Nick Bobroff 805/684-5405 ext. 407
4. **Project Location:** 5400 Carpinteria Avenue, Carpinteria Creek bridge
5. **Project Sponsor:** City of Carpinteria, 5775 Carpinteria Avenue, Carpinteria, CA 93013
6. **General Plan Designation:** Open Space/Recreation (creek corridor), Medium Density Residential (south of bridge), General Commercial (north of bridge)
7. **Zoning:** Commercial Planned Development, Planned Residential Development 18/acre
8. **Description of project:**

The existing bridge deck is severely deteriorated and has inadequate hydraulic capacity under the bridge for flood flows. The purpose of the project is to remove the structurally deficient bridge and replace it with a bridge designed to meet current structural, geometric, and hydraulic standards. The proposed project is a three span bridge design with an updated bridge width. This design would utilize pile foundations at the abutments and at two intermediate pier supports, with two bridge support structures located in the streambed but outside the low flow channel of the creek. The bridge deck would be approximately 2 feet higher than existing, with no change in traffic circulation. The proposed bridge would have the same traffic configuration as the existing bridge, but would have updated sidewalk and shoulder/bike lane widths. The roadway width would be approximately 5 feet wider than the existing bridge roadway width, with the shoulder/bike lanes being approximately 1.5 feet wider than existing and the sidewalks being approximately 3.5 feet wider than existing. A more detailed description of the proposed project and alternatives is attached.
9. **Surrounding Land Uses and Setting:** the existing bridge spans Carpinteria Creek, a designated Environmentally Sensitive Habitat Area supporting riparian vegetation and wildlife habitat. A commercial center is located to the northwest, with a Motel 6 located to the northeast of the bridge. A residential area along Concha Loma Drive is located to the south.
10. **Other Public Agencies Whose Approval is Required:**

U.S. Army Corps of Engineers – Clean Water Act Section 404 discharge permit

California Department of Fish & Wildlife – streambed alteration agreement

Regional Water Quality Control Board - Clean Water Act Section 401 water quality certification, construction storm water discharge general permit

California Department of Transportation – funding approval and Federal environmental compliance

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION

On the basis of this initial study:

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

 Jackie Campbell, Environmental Review Officer
 City of Carpinteria

 Date

EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) Negative Declaration: "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant" to "Less Than Significant." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures as described in (5) below may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA processes, an effect has been adequately analyzed in an earlier EIR or negative declaration (§15063(c)(3)(D)). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

1. AESTHETICS	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
Would the project:					
a. Have a substantial adverse effect on a scenic vista?			X		
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?				X	
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	X				
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	X				

Existing Environmental Setting:

The project site includes a portion of Carpinteria Avenue which has scenic value as indicated by General Plan objectives and policies, including Objective C-4 (Improve the Carpinteria Avenue corridor to ensure adequate traffic flow, safe bicycle use and improved aesthetic qualities) and Policy OSC-13a (Preserve broad unobstructed views from the nearest public street to the ocean, including ...Carpinteria Avenue...). The riparian corridor along Carpinteria Creek provides a natural park-like setting, which provides high visual quality and substantially contributes to the visual character of the immediate project area.

Project Specific Impacts:

- a. No designated scenic vistas are located in the project area. The proposed replacement bridge would be located at the same location as the existing bridge, and would not block views of the ocean from Carpinteria Avenue.
- b. No designated scenic resources or scenic highways are located in the project area.
- c. The project may degrade the visual character and/or quality of Carpinteria Creek and the surrounding community by the removal of trees, constructing a larger bridge with a higher bridge deck, constructing a bridge design contrary to the architectural character of the City, exposure of soils during construction, and views of equipment and materials during construction. In addition, the proposed higher bridge deck could partially block views of the Carpinteria Creek corridor from nearby public roads.
- d. Permanent nighttime lighting or glare-producing reflective surfaces are not proposed. However, nighttime construction lighting may be required and may adversely affect nighttime views of nearby residents.

Further Study:

Project-related and cumulative impacts to the visual character and visual quality of the project area, and nighttime lighting will be addressed in an EIR.

<p>2. AGRICULTURAL AND FORESTRY RESOURCES</p> <p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project</p>	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
<p>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?</p>				X	
<p>b. Conflict with existing zoning for agricultural use or a Williamson Act contract?</p>				X	
<p>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))?</p>				X	
<p>d. Result in the loss of forest land or conversation of forest land to non-forest use?</p>				X	
<p>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?</p>				X	

Existing Environmental Setting:

Based on the Important Farmland Maps developed by the California Department of Conservation, the nearest important farmland is located approximately 750 feet northeast of the project site, orchards designated as Prime farmland. The nearest forest land is the Los Padres National Forest, located approximately 2 miles north of the project site.

Project Specific Impacts:

- a. The proposed project would not result in the conversion of farmland to non-agricultural use.
- b. The proposed project would not conflict with existing agricultural uses, zoning or Williamson Act contracts.
- c. The proposed project would not conflict with or cause re-zoning of forest land.
- d. No loss or conversion of forest land would occur.
- e. The proposed project does not involve any components or approvals that would result in indirect conversion of farmland or forest land.

Further Study:

A more detailed discussion of farmland and forest land setting, and project-related and cumulative impacts will be provided in an EIR.

3. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Conflict with or obstruct implementation of the Clean Air Plan?				X	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X				
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)?	X				
d. Expose sensitive receptors to substantial pollutant concentrations?	X				
e. Create objectionable odors affecting a substantial number of people?	X				

Existing Environmental Setting:

The project site is located in Santa Barbara County within the South Central Coast Air Basin (SCCAB) which encompasses three counties: San Luis Obispo, Santa Barbara and Ventura. The Santa Barbara County portion of the SCCAB periodically fails to meet air quality standards and is a designated “non-attainment” area for the State 8-hour ozone standard and State particulate matter (PM₁₀) standard. The Santa Barbara County Air Pollution Control District has developed significance thresholds for CEQA analysis.

Project Specific Impacts:

- a. The proposed project would not result in population growth or otherwise conflict with the County’s Clean Air Plan.
- b. The replacement bridge would not result in any increase in pollutant emissions that could cause or contribute to a violation of an air quality standard. However, construction equipment would be operated near residences, and their exhaust emissions could cause or contribute to a violation of the State 1-hour NO₂ standard.
- c. Construction equipment would emit ozone precursors (hydrocarbons and NO_x), and could result in a cumulatively considerable net increase in these emissions.
- d. Construction equipment would be operated near residences, and engine exhaust could result in substantial pollutant concentrations.
- e. Diesel exhaust odors from construction equipment could be considered objectionable and affect a substantial number of people.

Further Study:

Project-related and cumulative air quality impacts associated with construction activities will be addressed in an EIR.

4. BIOLOGICAL RESOURCES	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
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?	X				
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?	X				

c. Have a substantial adverse effect on 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?	X				
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	X				
e. Conflict with any local policies or ordinances protecting biological resources, such as a creek preservation policy or tree protection ordinance?	X				
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X	

Existing Environmental Setting:

The project site is located along Carpinteria Creek in southern Santa Barbara County. The Carpinteria Creek watershed is approximately 15 square miles, and extends from sea level to approximately 4,690 feet elevation. The vegetation of the creek near the bridge site can be divided into four plant communities: arroyo willow riparian forest, freshwater marsh, California sagebrush scrub and saltgrass flats. The reach of Carpinteria Creek downstream of U.S. 101 has been designated as an Environmentally Sensitive Habitat Area (ESHA) under the California Coastal Act. Policies OSC-1a through OSC-1e of the City’s General Plan/Local Coastal Plan include protection and restoration of ESHAs. Policies OSC-6a through OSC-6f of the City’s General Plan/Local Coastal Plan also foster protection and restoration of creekways and riparian habitats, including Carpinteria Creek.

The Carpinteria Creek watershed is known to support 9 species of fish, 7 species of amphibians, 14 species of reptiles, over 103 species of birds and 32 species of mammals. Special-status species likely to occur in the vicinity of the bridge site include Monarch butterfly, southern steelhead, tidewater goby, western pond turtle, two-striped garter snake, Cooper’s hawk, sharp-shinned hawk, yellow warbler, yellow-breasted chat and ringtail.

Project Specific Impacts:

- a. Bridge replacement would require vegetation removal that may provide suitable habitat for special-status species listed above. Stream diversion would be required during the construction period, which may adversely affect fish and amphibian species. In addition, direct mortality of special-status species and migratory birds may occur during initial clearing and grubbing. Therefore, potentially significant impacts to special-status species are likely to occur.
- b. Bridge replacement would require permanent removal and temporary disturbance of riparian vegetation designated as ESHA, and potentially significant impacts are likely to occur.

- c. Wetlands as defined in the Clean Water Act likely occur within the bridge replacement construction area and would be adversely impacted. Impacts would be primarily temporary during the construction period; however, bridge piers and/or rock slope protection may permanently displace wetlands.
- d. Bridge demolition and construction activities (including temporary stream diversion) may adversely affect steelhead migration through the project site. In addition, proposed bridge piers could adversely impact steelhead migration in the long-term.
- e. The project may conflict with creek preservation policies including General Plan/Local Coastal Plan Policies OSC-1a, OSC-1b, OSC-1d, OSC-1f, OSC-6a, OSC-6b, OSC-6e, OSC-7b, OSC-13d and the objectives of the City’s Creeks Preservation Program.
- f. The project area is not subject to any adopted habitat conservation plan, natural community conservation plan or other habitat conservation plan.

Further Study:

Project-related and cumulative impacts associated with loss of habitat and mortality of special-status species, loss and disturbance of ESHA and wetlands, steelhead migration and creek preservation policies will be addressed in an EIR, including preparation of a natural environment study as part of Caltrans oversight.

5. CULTURAL RESOURCES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X	
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	X				
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X	
d. Disturb any human remains, including those interred outside of formal cemeteries?	X				

Existing Environmental Setting:

Based on the City’s General Plan/Local Coastal Plan, the nearest historic landmark is the Portola Sycamore Tree (Landmark no. 5) located 1,500 feet west of the project site. Carpinteria State Beach is located 2,300 feet to the southwest of the project site, and is the site of a former Chumash village named Mishopshnow. Generally, sources of water such as Carpinteria Creek are attractive to native American populations and artifacts are commonly found near streams. However, the Final EIR prepared for replacement of the U.S. 101 bridges over Carpinteria Creek (Linden Avenue & Casitas Pass Road Interchanges Project) located 600 feet upstream of the project site did not identify any archeological sites that would be affected.

Project Specific Impacts:

- a. No historic resources have been identified in the immediate vicinity of the project site. Therefore, project-related impacts to historic resources are not anticipated.
- b. An archeological survey and record search has not been conducted for the project, such that the potential for adverse impacts to archeological resources is not fully known. In addition, it is possible that unreported resources may be discovered during excavation associated with project construction.
- c. Based on the Geological Map of the Carpinteria Quadrangle, the project site is underlain by alluvial floodplain deposits. Due to the lack of intact geologic formations, paleontological resources are not anticipated to be present. In addition, the Paleontology Identification Report prepared for replacement of the U.S. 101 bridges over Carpinteria Creek (Linden Avenue & Casitas Pass Road Interchanges Project) located 600 feet upstream of the project site indicated there is a low potential for encountering sensitive paleontological resources.
- d. Due to the proximity of the Chumash village site, there is a potential for discovery of prehistoric human remains during project construction.

Further Study:

Project-related and cumulative impacts associated with disturbance of archeological sites and prehistoric human remains will be addressed in an EIR, including preparation of an archeological survey report and historic property survey report as part of Caltrans oversight.

6. GEOLOGY AND SOILS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X	

b. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: strong seismic ground shaking, seismic-related ground failure (including liquefaction) or landslides?		X			
c. Result in substantial soil erosion or the loss of topsoil?	X				
d. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading subsidence, liquefaction or collapse?				X	
e. 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?				X	
f. 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?				X	

Existing Environmental Setting:

The project site is not located within an Alquist-Priolo Earthquake Fault hazard area. The Arroyo Parida Fault is located approximately 2.2 miles north of the project site and has the potential to adversely affect the project site. Soils of the project site have been mapped as Metz sandy loam and Goleta fine sandy loam (0 to 2 percent slopes) by the Soil Survey of Santa Barbara County, California South Coastal Part. Soil borings have been completed at the project site, and a site-specific soils engineering report is in preparation.

Project Specific Impacts:

- a. The proposed project does not include any habitable structures and would not increase the number of persons potentially affected by fault rupture.
- b. The proposed replacement bridge would be exposed to seismic ground shaking and seismic-related ground failures (settlement, liquefaction) and users of the bridge could be adversely affected. However, the bridge deck and abutment foundations would be designed to withstand these forces, based on the findings of the soils engineering report.
- c. Substantial soil erosion could occur during the construction period, caused by storm run-off from the site and storm flows in Carpinteria Creek.
- d. The project site is not located on an unstable geologic formation, and is not anticipated to become unstable as a result of the project.

- e. Project soils (Metz sandy loam and Goleta fine sandy loam) are considered to have a low shrink-swell potential (not expansive) by the Soil Survey of Santa Barbara County, California South Coastal Part and could not create substantial risks to life or property.
- f. The project would not generate domestic wastewater. In any case, sewers are available for the disposal of wastewater. Septic tanks are not proposed.

Further Study:

Project-related and cumulative impacts associated with seismic hazards and soil erosion will be addressed in an EIR.

7. GREENHOUSE GAS EMISSIONS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X		
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X	

Existing Environmental Setting:

In efforts to reduce and mitigate climate change impacts, state and local governments are implementing policies and initiatives aimed at reducing greenhouse gas (GHG) emissions. California, one of the largest state contributors to the national GHG emission inventory, has adopted significant reduction targets and strategies. The primary legislation affecting GHG emissions in California is the California Global Warming Solutions Act (Assembly Bill [AB] 32). AB 32 focuses on reducing GHG emissions in California and encourages the preparation of local climate action strategies. Santa Barbara County completed the first phase (Climate Action Study) of its climate action strategy in September 2011. The Climate Action Study provides a County-wide GHG inventory and an evaluation of potential emission reduction measures. The second phase of the County’s climate action strategy is an Energy and Climate Action Plan, which is currently in draft form and undergoing CEQA review. The Energy and Climate Action Plan provides programmatic CEQA mitigation for impacts from GHG emissions from projects in Santa Barbara County. The City of Carpinteria has not developed a climate action strategy or a threshold of significance for GHG emissions.

Project Specific Impacts:

- a. Proposed bridge replacement would generate GHG emissions, primarily associated with exhaust of diesel construction equipment. However, these emissions would be temporary and are not anticipated to have a significant effect on the environment.
- b. The proposed project would not conflict with the County’s climate action strategy, or the State’s 2014 Update to the Climate Change Scoping Plan prepared pursuant to AB 32.

Further Study

Although significant impacts related to global climate change are not anticipated, a good faith effort will be made to estimate GHG emissions associated with the project as required by Section 15064.4 of the State CEQA Guidelines. This analysis will be included in an EIR.

8. HAZARDS AND HAZARDOUS MATERIALS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X		
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	X				
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?				X	
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X	
e. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X		
f. 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?			X		

Existing Environmental Setting:

The project area supports residential and commercial land uses. No croplands or industrial land uses that may utilize hazardous materials or generate hazardous waste are located in the immediate area. Based on review of the GeoTracker (State Water Resources Control Board) and ENVIROSTOR (California Department of Toxic Substances Control) data bases, three sites were identified in proximity to the project site; Casitas Plaza dry cleaners (perchloroethylene soil contamination, clean-up completed, closed 2002), ARCO service station (gasoline soil and groundwater contamination, clean-up completed, closed 2012) and Exxon/Hondo service station (gasoline groundwater contamination, clean-up completed, eligible for closure in 2014). Carpinteria Avenue was historically designated a State highway and historic deposition of vehicle exhaust particulates containing lead has occurred along the roadway shoulder. Although unlikely, it is possible lead contaminated soils exceeding action levels may be encountered during project construction.

Project Specific Impacts:

- a. Excluding construction-related vehicle fuels, the proposed project would not involve the transport, use or disposal of hazardous materials. Vehicle fuels would be transported and dispensed using State-approved equipment and procedures, such that a significant hazard associated with exposure to the public or the environment is not anticipated.
- b. Soils contaminated by aerially deposited lead associated with historic use of Carpinteria Avenue may be encountered and create a hazard to the public or the environment.
- c. The project site is located within one-quarter mile of the Carpinteria Middle School; however, the project would not involve hazardous emissions or handling acutely hazardous materials or waste.
- d. The project site is not included on the list of hazardous materials sites compiled pursuant to Government Code §65962.5.
- e. The City has developed an Emergency Operations Plan to assess and respond to natural disasters, technological incidents and national security emergencies. Closure of Carpinteria Avenue during bridge replacement may impair implementation of this Plan. However, the project includes staged construction to keep at least one traffic lane open on Carpinteria Avenue across Carpinteria Creek. Therefore, impacts to emergency response are considered less than significant.
- f. The project site is located in a suburban area, with the nearest wildlands located approximately two miles to the north. Riparian vegetation along Carpinteria Creek is not highly flammable due to nearly perennial surface flow, which maintains a high moisture content in the foliage. The proposed project would not increase the number of persons exposed to wildland fires, and the replacement bridge would not be susceptible to significant risk of loss from fire.

Further Study:

Project-related and cumulative impacts associated with hazardous waste and hazardous materials (including aerially deposited lead contamination) will be addressed in an EIR, including preparation of an initial site assessment as part of Caltrans oversight.

CITY OF CARPINTERIA INITIAL STUDY
 CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT 14-1719-CUP/CDP

9. HYDROLOGY AND WATER QUALITY Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Violate any water quality standards or waste discharge requirements?	X				
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 re-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X		
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	X				
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 the surface runoff in a manner which would result in flooding on- or off-site?			X		
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?	X				
f. Otherwise substantially degrade water quality?				X	
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?				X	
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X	
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?				X	

j. Inundation by seiche, tsunami, or mudflow?				X	
k. Substantially alter the existing drainage pattern of the site or area, or add water features that could increase habitat for mosquitoes and other vectors and a potential for increased pesticide use?				X	

Existing Environmental Setting:

The Carpinteria Creek watershed is approximately 15 square miles, and extends from sea level to approximately 4,690 feet elevation. Headwater tributaries drain steep hillsides and canyons of the Santa Ynez Mountains. In the foothills and coastal plain, Carpinteria Creek passes through agricultural and suburban areas. Two debris basins were constructed in the watershed in 1971 by the Corps of Engineers, one on upper Carpinteria Creek (Lillingston) and another on Gobernador Creek. U.S. Geologic Survey gaging station (No. 11119500) is located on Carpinteria Creek approximately 500 feet upstream of the State Route 192 crossing. The most recent extreme storm flow recorded at this station was 4,500 cubic feet per second on January 10, 2005. Data from this stream gage indicates surface flow is typically absent from June through September, but flow is perennial in high rainfall years (1973, 1983, 1993, 1995, 1998 and 2005). The lower half-mile of the Creek typically supports year-round surface water, due to tidal influence, urban and agricultural irrigation run-off and discharge from shallow unconfined aquifers.

The project site lies within the Carpinteria Valley sub-area of the South Coast Hydrologic Area, which includes the City of Carpinteria and the coastal plain from Toro Canyon on the west to Rincon Creek on the east. The Carpinteria Valley is served by the Carpinteria Valley Water District (CVWD), which develops water supplies from Cachuma Lake, State Water Project, and the Carpinteria Groundwater Basin. Not all users take delivery from CVWD, as a significant number of agricultural users rely on their own wells.

Project Specific Impacts:

- a. Surface water quality standards could be violated as result of storm water run-off from the project site during the construction period, and construction-related disturbance of the streambed.
- b. The project would not generate a long-term demand for potable water. Water would be used during the construction period to facilitate soil compaction, dust control and possibly for short-term irrigation of mitigation plantings. This water would be provided by local fire hydrants supplied by the CVWD. CVWD's 2010 Urban Water Management Plan indicates that surplus water would be available even during a multiple dry year period. Therefore, the project would not deplete groundwater supplies. The proposed project would not affect groundwater charge in Carpinteria Creek or adversely affect groundwater production wells.
- c. The low flow channel of Carpinteria Creek may be temporarily altered during the construction period. In addition, bridge support structures in the streambed and possibly rock slope protection may permanently alter the local flow pattern. These changes may result in erosion and siltation within Carpinteria Creek.
- d. The project would include a wider bridge deck and approaches, which would increase the area of impervious surfaces and may increase storm run-off. However, the project-related increase in run-off and flood water elevations would be negligible because the affected watershed area would be very small.

- e. The project-related increase in run-off is unlikely to affect the capacity of local storm water drainage systems. Storm run-off from the project site during the construction period may be contaminated by fuels, lubricants, coolant and construction materials and considered a potential source of polluted run-off.
- f. See items a. and e.
- g. The project does not include any housing.
- h. One of the primary objectives of the project is to improve flood water conveyance; therefore, the bridge would be designed to reduce the 100-year floodplain area and avoid impeding or redirecting flood flows.
- i. The proposed replacement bridge would be resistant to flood damage, and the project would not expose people or structures to flood hazards. The Carpinteria Creek watershed does not include any levees or dams, excluding the two debris basins. The proposed project would not increase the potential for failure of debris basin dams and resulting flood damage.
- j. There are no waterbodies in close proximity that may generate a seiche during a seismic event. The project site is not located within a designated tsunami inundation area. Due to the lack of steep slopes in the immediate project area, mudflows are not anticipated.
- k. The proposed project would not increase the standing water in Carpinteria Creek or otherwise create habitat for mosquitos or other vectors.

Further Study:

Project-related and cumulative impacts associated with surface water quality, storm run-off and streambed erosion and siltation will be addressed in an EIR.

10. LAND USE AND PLANNING Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Physically divide an established community?				X	
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X				
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X	

Existing Environmental Setting:

The project site is located (in part) within the riparian corridor (designated ESHA) of Carpinteria Creek with a General Plan/Local Coastal Plan land use designation of Open Space/Recreation (creek corridor), Medium Density Residential (south of bridge), General Commercial (north of bridge). A commercial center is located to the northwest, with a Motel 6 located to the northeast of the bridge. A residential area along Concha Loma Drive is located to the south.

Project Specific Impacts:

- a. The proposed project would merely replace an existing bridge in kind, and would not physically divide any community. Access would be provided over Carpinteria Creek during the entire construction period.
- b. The proposed project may conflict with open space, recreation and conservation policies of the City’s General Plan/Local Coastal Plan with regard to ESHAs and other natural resources.
- c. The project area is not subject to any adopted habitat conservation plan, natural community conservation plan or other habitat conservation plan.

Further Study:

A policy consistency analysis would be conducted as part of EIR preparation, and mitigation measures developed as appropriate.

11. MINERAL RESOURCES Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X	
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X	

Existing Environmental Setting:

Petroleum (oil) is the only mineral resource in the project area. The Carpinteria Pier and associated oil storage, processing and support facilities have been designated as mineral extraction facilities in the City’s General Plan/Local Coastal Plan.

Project Specific Impacts:

- a. The proposed project would not affect oil exploration or production activities, or otherwise reduce the availability of petroleum resources.
- b. The proposed project would not affect mineral resource recovery at the Carpinteria Pier and associated oil storage, processing and support facilities.

Further Study:

Additional supporting information will be provided as part of EIR preparation.

12. NOISE Would the project result in:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
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?	X				
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	X				
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	X				

Existing Environmental Setting:

The only sensitive receptor in the immediate project area is the Carpinteria Middle School, located approximately 500 feet northwest of the project site. In addition, residences are located along Concha Loma Drive to the south, and along 8th Street to the southwest of the project site.

Project Specific Impacts:

- a. Project-related bridge demolition and construction activities (including pile driving) may generate noise levels at residences that exceed the City’s 75 dBA CNEL temporary construction noise threshold. In addition, project-construction noise levels may adversely impact the Carpinteria Middle School.
- b. Project-related bridge demolition and construction activities may generate excessive groundborne noise and vibration levels at nearby residences and commercial structures.
- c. The proposed project would not result in any long-term noise increase, as noise associated with bridge operation would be the same as existing.
- d. Construction activities would result in temporary increases in ambient noise levels, see item a. above.

Further Study:

Project-related and cumulative impacts associated with construction noise and vibration will be addressed in an EIR.

13. POPULATION AND HOUSING	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
Would the project:					
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				X	
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X	
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X	

Existing Environmental Setting:

Based on the 2010 Census, the population of the City of Carpinteria was 13,044 in 2010, and estimated as 13,532 in 2013. The number of housing units was 5,429 in 2010.

Project Specific Impacts:

- a. The proposed project would not provide new residential, commercial or industrial land uses that could induce population growth. The proposed bridge would be a direct replacement, with no extension of infrastructure.
- b. The proposed project would require right-of-way take, but would not displace any housing.
- c. The proposed project would not displace any persons.

Further Study:

Additional supporting information will be provided as part of EIR preparation.

14. PUBLIC SERVICES	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a) Would the project result in substantial adverse physical impacts associated with the need or provision of 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?				X	
Police protection?				X	

CITY OF CARPINTERIA INITIAL STUDY
 CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT 14-1719-CUP/CDP

Schools?				X	
Parks?				X	
Other public facilities?				X	

Project Specific Impacts:

The proposed replacement bridge would not generate any demand for public services, existing services are adequate to serve the proposed project.

Further Study:

Additional supporting information will be provided as part of EIR preparation.

15. RECREATION	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
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?				X	
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X	

Existing Environmental Setting:

Recreational facilities in the immediate project area include Carpinteria State Beach to the west, and Tar Pits Park to the south.

Project Specific Impacts:

- a. The proposed project would not increase demand for or use of parks and other recreational facilities.
- b. The proposed project may include a bike path connection to the south side of Carpinteria Avenue at the bridge site. However, impacts of this project component will be included in the EIR impact analysis.

Further Study:

Additional supporting information will be provided as part of EIR preparation.

16. TRANSPORTATION AND TRAFFIC Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Conflict with any 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?				X	
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 road or highways?				X	
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?				X	
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X	
e. Result in inadequate emergency access?		X			
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?				X	

Existing Environmental Setting:

Carpinteria Avenue is the primary east-west arterial roadway in the City and extends the entire length of the City along U.S. Highway 101. The nearest freeway interchange is located at Casitas Pass, approximately 1,100 feet north of the project site. The northbound U.S. Highway 101 off-ramp at this interchange is congested during a.m. peak hour (level of service E).

Project Specific Impacts:

- a. The proposed project is consistent with the Circulation Element policies of the City's General Plan/Local Coastal Plan.

- b. The proposed project is consistent with the 2009 Congestion Management Plan developed by the Santa Barbara County Association of Governments, in that it does not affect the design or performance of existing and planned roadways.
- c. The proposed project would not cause an increase in air traffic or change in flight paths. Therefore, no increase in safety risk would occur.
- d. The proposed replacement bridge would be designed to State and local standards to avoid features that may pose traffic hazards.
- e. Although Carpinteria Avenue would remain open during the bridge construction period, it is possible that congestion could occur that may hamper emergency access. A construction traffic plan may be required to facilitate emergency access during the construction period.
- f. The proposed project is consistent with the City's Bicycle Master Plan, and the Circulation Element policies of the City's General Plan/Local Coastal Plan regarding public transit, bicycle and pedestrian facilities.

Further Study:

Project-related and cumulative impacts associated with construction traffic will be addressed in an EIR.

17. UTILITIES AND SERVICE SYSTEMS Would the project:	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
a. Exceed wastewater treatment requirements of the Regional Water Quality Control Board?				X	
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?				X	
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?				X	
d. Have sufficient water supplies available from existing entitlements and resources, or create the need for new or expanded entitlements?				X	
e. Result in a determination by the wastewater treatment provider that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X	

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X	
g. Comply with federal, state and local statutes and regulations related to solid waste?				X	
h. 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, including a potential increase in pesticide use to control mosquitoes and other vectors?				X	

Project Specific Impacts:

- a. The proposed project would not generate wastewater requiring treatment.
- b. As the project would not require a long-term potable water source or generate wastewater, construction of treatment facilities would not be required.
- c. Due to the minimal project-related increase in storm run-off, no new storm drain facilities would be required.
- d. No long-term source of water is needed for the project. Adequate supplies are available to meet the needs of the project during construction.
- e. See response to item a.
- f. Demolition of the existing bridge would generate large amounts of materials, primarily concrete which would be recycled at the MarBorg Industries facility in Santa Barbara. Unrecyclable materials would be disposed at the Tajiguas Landfill, which has adequate capacity to serve the south coast of Santa Barbara County until at least 2026.
- g. The proposed project would comply with County, State and Federal regulations concerning solid waste, including recycling construction materials resulting from bridge demolition to the extent feasible.
- h. The project would not require or result in the construction of new storm drainage facilities, as existing facilities are adequate to serve the replacement bridge.

Further Study:

Additional supporting information will be provided as part of EIR preparation.

18. MANDATORY FINDINGS OF SIGNIFICANCE	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT IMPACT UNLESS MITIGATION INCORPORATED	LESS THAN SIGNIFICANT IMPACT	NO IMPACT	REVIEWED UNDER PREVIOUS DOCUMENT
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, 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 pre-history?	X				
b. Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	X				
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X				

19. PROJECT ALTERNATIVES

In addition to the proposed project and the no project alternative, two other basic bridge designs will be assessed in the EIR (Clear Span and Two Span). In addition, four bridge width options will be considered, each of them being compatible with any of the bridge designs. The Clear Span design would utilize pile foundations at the abutments, with no intermediate supports in the streambed. The bridge deck would be approximately 8 feet higher than existing, and requires Arbol Verde Street to be closed permanently. The Two Span design would utilize pile foundations at the abutments and at the intermediate pier support, with one bridge support structure located within the low flow channel of the creek. The bridge deck would be approximately 4 feet higher than existing, but would not require closing Arbol Verde Street. Additional information concerning the project alternatives is attached.

20. RECOMMENDATION BY STAFF

On the basis of this Initial Study, the staff of the City of Carpinteria:

_____ Finds that the proposed project WILL NOT have a significant effect on the environment and, therefore, recommends that a Negative Declaration (ND) be prepared.

_____ Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures incorporated into the REVISED PROJECT DESCRIPTION would successfully mitigate the potentially significant impacts. Staff recommends the preparation of an ND. The ND finding is based on the assumption that mitigation measures will be acceptable to the applicant; if not acceptable a revised Initial study finding for the preparation of an EIR may result.

X Finds that the proposed project WILL have a significant effect on the environment and recommends that an EIR be prepared.

Potentially significant unavoidable adverse impact areas: aesthetics, air quality, biological resources, cultural resources, geology, hazardous materials, water quality, land use and noise

_____ Finds that from existing documents (previous EIRs, etc.) that a subsequent document (containing updated and site-specific information, etc.) pursuant to CEQA §15162/15163/15164 should be prepared.

_____ X With Public Hearing

_____ Without Public Hearing

21. ATTACHMENTS

1. Project Description (including alternatives)
2. Area of Direct Impact Map

Authority cited: Sections 21083 and 21087 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337 (1990); *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Carpinteria Avenue Bridge Replacement Project Description

Introduction

The City of Carpinteria is proposing to replace the existing Carpinteria Avenue Bridge over Carpinteria Creek (Br. No. 51C-0172) with a new bridge at the same location. The bridge site is located on the 5400 block of Carpinteria Avenue in the City of Carpinteria, between Arbol Verde Street and Casitas Pass Road.

Carpinteria Avenue is vital major arterial through the city. Indeed, Carpinteria Avenue is the only city street crossing Carpinteria Creek that is located between the pacific ocean and Hwy 101. To maintain traffic and pedestrian access across the creek, the proposed bridge replacement will be constructed in stages. The proposed project will improve hydraulic flow capacity under the bridge, improve vehicular, pedestrian and bicyclist safety, and will accommodate a bicycle/pedestrian path that will pass under the bridge on the west side of the creek,.

The general setting is urban with predominantly commercial and some residential uses. In addition to the bridge structure the proposed construction includes roadways, curbs, gutters, and sidewalks. Construction also includes relocation of the existing underground utilities from the existing bridge onto or through the replacement bridge. Overhead utilities will be either temporarily or permanently relocated to clear the site for construction.

The project is funded primarily by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through Caltrans District 5 Local Assistance. The City of Carpinteria will provide the local match to the federal funds. The replacement bridge will meet current applicable City, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans design standards. The bridge will be replaced at the same location to match the existing roadway alignment of Carpinteria Avenue.

Project Purpose and Need

The existing bridge deck is severely deteriorated and there currently is inadequate hydraulic capacity under the bridge for flood flows. These conditions make the existing bridge substandard and have caused it to be classified as structurally deficient, making it eligible to be replaced.

The purpose of the project is to remove the structurally deficient bridge and replace it with a bridge designed to meet current structural, geometric, and hydraulic standards. The replacement bridge will also conform to local, state, and federal environmental and planning policies using HBP funds.

The project objectives are defined as:

- Improve public safety associated with the primary roadway crossing of Carpinteria Creek
- Improve flood water conveyance in Carpinteria Creek
- Avoid adverse changes in traffic circulation

- Minimize right-of-way take
- Avoid in-stream structures that may adversely affect steelhead migration
- Offset the majority of project costs through Federal transportation funding
- Minimize the Federal funding match required by the City
- Facilitate or incorporate a bike path connection to the south side of Carpinteria Avenue
- Improve pedestrian and bicycle safety at the creek crossing
- Provide for future utility under-grounding
- Provide wider sidewalks on bridge

Project Description

Existing Bridge

Constructed in 1937, the existing bridge is a 192-ft long 5 span continuous reinforced concrete haunched tee beam with cantilevered end spans. The existing bridge is approximately 54-ft wide. It has two 12-ft-wide traffic lanes, a 12-ft-wide center lane, 3.5-ft-wide shoulder/bike lanes on each side, and 4.5-ft-wide sidewalks with 1-ft-wide railings on each side. The existing bridge has “open window” type concrete railings.

The existing bridge is founded on reinforced concrete pile extensions with unknown pile lengths and unknown abutment foundation types. In 1969 the end spans on each side were backfilled and blocked off with concrete walls resulting in a three span waterway opening. There are several utilities at the bridge, including a sewer siphon that was previously bored under the creek channel between the bridge piles.

Replacement Bridge

This section describes the proposed project and the alternatives that have been developed to meet the project purpose and need. The build alternatives are required to meet most of the project objectives, while avoiding and/or minimizing environmental impacts where feasible. The four alternatives studied include three Build Alternatives and a No-Build Alternative. In addition to the three Build Alternatives, four bridge width design options are considered, each of them being compatible with any of the three Build Alternatives. The Build Alternatives being considered consist of one, two, and three span bridge alternatives, while the design width options consist of an updated bridge width (same elements as the existing bridge but with updated design width requirements for shoulder/bike lanes and sidewalks), a widened bridge width, a no median bridge width, and an open/planted median bridge width. No additional lanes are proposed in the project; the existing two lane bridge will be replaced with another two lane bridge.

The proposed project is the three span bridge alignment alternative with the updated bridge width.

Build Alternatives

For all build alternatives, the abutments of the replacement bridge will be placed at the top of the creek banks, resulting in an overall bridge length of 200 ft compared to 192 ft for the existing bridge. All build alternatives considered have two 12-ft-wide traffic lanes, a minimum of 5-ft-wide shoulders/bike lanes on each side, and 8-ft-wide raised sidewalks with barrier railings on each side. Roadway work will extend approximately 230-ft to 260-ft from each end of the bridge to conform to the existing roadway, for the proposed project.

The replacement bridge soffit elevation will be raised relative to the existing bridge to provide clearance over the expected high water elevation. All build alternatives improve hydraulics under the bridge and reduce the amount of debris collected at the bridge during storm events compared to the existing bridge.

The replacement bridge will be designed to accommodate a bicycle path under the western end of the bridge, in conformance with the City of Carpinteria General Plan goals and policies. The bike trail will be approximately 10-ft wide, and a small retaining wall will be required under the bridge between the bikeway and the creek to support the bike path and protect the bridge abutment.

Alternatives Considered

Alternative 1: Clear Span Bridge

For the clear span alternative, the bridge superstructure will be approximately 9-ft deep, which will raise the bridge deck approximately 8-ft over the existing deck elevation. This alternative will utilize pile foundations at the abutments and there will be no intermediate supports in the creek. This alternative requires approximately 390-ft to 410-ft of roadway work on each side of the bridge for the roadway approaches as well as modifications for the existing cross streets and driveways to conform to the new roadway profile. In order to accommodate the raised profile this alternative requires Arbol Verde St to be closed permanently. Additionally this alternative requires the most earthwork and has the most significant roadway and traffic impacts of the alternatives considered.

Alternative 2: Two Span Bridge

For the two span alternative, the bridge superstructure will be approximately 5-ft deep, which will raise the bridge deck approximately 4-ft over the existing deck elevation. This alternative will utilize pile foundations at the abutments and at the intermediate pier supports. This alternative requires approximately 320-ft to 340-ft of roadway work on each side of the bridge for the roadway approaches as well as modifications for the existing cross streets and driveways to conform to the new roadway profile. This alternative requires the middle support to be located in the main low flow channel of the creek.

Alternative 3: Three Span Bridge (Proposed Project Alternative)

For the three span alternative, the bridge superstructure will be approximately 2.67-ft deep which will raise the bridge deck approximately 2-ft over the existing deck elevation. This alternative will utilize pile foundations at the abutments and at the two intermediate piers. This alternative requires approximately 250-ft to 270-ft of roadway work on each side of the bridge for the roadway approaches as well as modifications for the existing cross streets and driveways to conform to the new roadway profile. This alternative keeps both sets of supports outside the main low flow channel of the creek, has the least amount of roadway and traffic impacts, and requires the least amount earthwork of the alternatives considered.

Width Options Considered

Bridge Width Option 1: Updated Bridge Width (Proposed Project Width Option)

The updated bridge width utilizes the same traffic configuration as the existing bridge, however has updated sidewalk and shoulder/bike lane widths. The updated bridge width option has a 48-ft clear roadway deck width, with an 8-ft sidewalk, 5-ft shoulder/bike lane, 12-ft lane, 14-ft center lane, 12-ft lane, 5-ft shoulder/bike lane, 8-ft sidewalk deck section. The clear roadway width of this option is approximately 5-ft wider than the existing bridge clear roadway width, with the shoulder/bike lanes being approximately 1.5-ft wider than existing and the sidewalks being approximately 3.5-ft wider than existing.

Bridge Width Option 2: Widened Bridge Width

The widened bridge width provides a much wider bridge by matching the bridge width to the adjacent approach roadway width. The widened bridge roadway clear width is approximately 14-ft wider than the existing bridge clear width, and carries a 14-ft wide shoulder across the bridge which can be used for parking. This width option has a 57-ft roadway clear width, with an 8-ft sidewalk, 14-ft shoulder, 12-ft lane, 14-ft center lane, 12-ft lane, 5-ft shoulder/bike lane, 8-ft sidewalk deck section. This option also makes the shoulders approximately 1.5-ft wider than existing and the sidewalks approximately 3.5-ft wider than existing.

Bridge Width Option 3: No Median Bridge Width

The no median bridge width is the narrowest of the width options considered. The no median bridge roadway clear width is approximately 3.5-ft narrower than the existing bridge roadway clear width by eliminating the center lane on the bridge. This width option has a 40-ft roadway clear width, with an 8-ft sidewalk, 8-ft shoulder/bike lane, 12-ft lane, 12-ft lane, 8-ft shoulder/bike lane, 8-ft sidewalk deck section. This option makes the shoulder/bike lanes approximately 4.5-ft wider than existing and the sidewalks approximately 3.5-ft wider than existing. This option requires 8-ft shoulder/bike lanes instead of the 5-ft shoulder/bike lanes used in Width Options 1 and 2 as a result of bridge construction staging. This option removes the center lane on the bridge and the left hand turn pocket for Arbol Verde St and a business complex south of the bridge.

Bridge Width Option 4: Open/Planted Median Bridge Width

The open/planter median bridge width is the widest overall of the width options considered. The open/planted median option has two bridge sections each with a roadway clear width of 22-ft and has a 16.5-ft wide section between the two bridge sections. This area could either be open to the creek below or closed and landscaped. Each of the two bridge sections has an 8-ft sidewalk, 8-ft shoulder/bike lane, 12-ft lane, 2-ft shoulder deck section with the 16.5-ft wide section between them. This option makes the shoulder/bike lanes approximately 4.5-ft wider than existing and the sidewalks approximately 3.5-ft wider than existing. This option requires 8-ft shoulder/bike lanes instead of the 5-ft shoulder/bike lanes used in Width Options 1 and 2 as a result of bridge construction staging. This option removes all left turn traffic movements from Arbol Verde St restricting the Arbol Verde traffic movements to right turns in and out.

No-Build Alternative

Environmental review must consider the effects of not implementing the project through a discussion of the No-Build Alternative. The No-Build Alternative provides a baseline for comparing the impacts of all alternatives. Under the No-Build Alternative, Carpinteria Avenue would remain in its existing state. The existing structural deficiencies and hydraulic inadequacies would remain, resulting in an unsafe condition for traffic and pedestrian bridge users. This alternative does not meet the purpose and need of the project or the defined project objectives.

Utility Relocation

There are a number of utilities located overhead and underneath the existing bridge. Gas, water, fiber optic, and electrical lines are all supported on the existing bridge. These utilities will need to be temporarily shut off and/or relocated prior to construction. The overhead electrical lines on the northeastern side of the bridge as well as the overhead telecommunication lines on the southwestern side of the bridge will need to be relocated prior to construction. Additionally an underground sewer line is located under the creek beneath the existing pile foundations and will be protected in place and remain in service during construction.

Right-of-Way

Right-of-way impacts to adjacent parcels range from temporary construction easements, to permanent acquisition of additional right-of-way. Either a temporary construction easement or a right to enter and construct will be secured at each driveway location for work outside the City right-of-way, depending on the extent of construction work.

Detour Route/Construction Staging

During the proposed construction, Carpinteria Avenue will remain open to traffic. Bridge construction will be conducted in stages to maintain access. The first stage of construction will be to shift all traffic to the southwestern side of the existing bridge while the northeastern portion is demolished and removed. Immediately following the demolition work, the northeastern portion of the replacement bridge will be constructed. During this stage two traffic lanes, one in each direction, and the existing sidewalk on the southwestern side of the existing bridge will remain in service.

The second stage of construction will be to switch traffic to the newly constructed portion of the northeastern bridge and demolish and remove the remaining portion of the existing bridge on the southwestern side. Following the demolition work, the southwestern portion of the new bridge will be constructed. During this stage two traffic lanes, one in each direction, and one sidewalk will provide service to traffic.

The final stage of construction for the proposed project will be to make a closure pour tying the northeastern and southwestern portions together. During this stage traffic will be shifted to its final configuration with one lane, a shoulder, and a sidewalk on each side of the bridge. The center lane will also be striped at this time.

Demolition and Construction Staging

Demolition of the existing bridge will be performed in accordance with Caltrans Specifications modified to meet environmental permit requirements. Prior to construction the contractor is required to prepare and submit for approval a bridge demolition plan, including creek diversions/bypass details, that is in conformance with the environmental permits. All concrete and other debris resulting from the demolition of the existing bridge will be removed from the proposed project site and properly disposed of by the contractor.

Construction Activities

Construction will consist of the following activities in this general order:

Clearing and grubbing

Remove portions of trees, bushes, and landscaping in conflict with new construction. The areas around the corners of the new bridge would be cleared of vegetation and fencing to gain access for constructing the new bridge. The work will be within the approved project limits of disturbance.

Water Diversion

Water diversion methods are anticipated and may include the use of water bladders, sandbags, sheet piling, pipes, coffer dams, or other structural methods approved by the Engineer, City of Carpinteria, California Department of Fish and Wildlife, US Fish and Wildlife Service, and the National Marine Fisheries Service. All water divergence work will be contained within the approved project area of disturbance. The operational timeline for the stream diversion will be defined in the project permits from the resource agencies.

Bridge Demolition

The existing bridge will be demolished and properly disposed of offsite. Heavy equipment will be required to demolish and remove the existing concrete structure. The creek below will be protected from contamination and all debris generated by the demolition will be removed from the site. The existing bored sewer line beneath the creek will be protected in place.

New Bridge Foundations

The replacement bridge foundations will be supported by cast-in-drilled-hole (CIDH) concrete piles. Excavation for the abutments and piers will be approximately 8-ft to 10-ft deep. The CIDH pile construction may require the use of high density drilling slurry and/or temporary casings. If drilling slurry is used, the contractor will be required to have a contingency plan in place before drilling operations begin, in the event there is a blow out during drilling and drilling fluid is spilled into the creek. While drilling operations are underway the creek will be dewatered near the drilling operations with a creek diversion in place. Prior to construction a drilling plan will be prepared and submitted by the contractor for approval in conformance with applicable permits and environmental measures and conditions. Any drilling slurry from the CIDH pile construction will be contained and properly disposed of offsite.

New Bridge Construction

The new bridge will require falsework to be erected on temporary steel and timber supports inside the creek limits. Forms will be constructed on the falsework, and then concrete and reinforcement will be placed for the new bridge. Falsework will then be removed from the channel and concrete surfaces will be finished. Any creek diversion elements will be removed after all the concrete has been sufficiently cured and finished and the falsework has been removed.

The bridge sidewalks, barriers, and roadway approaches will then be completed. Backfill behind abutments and roadway base materials will be placed and the roadway will be prepared for final surfacing.

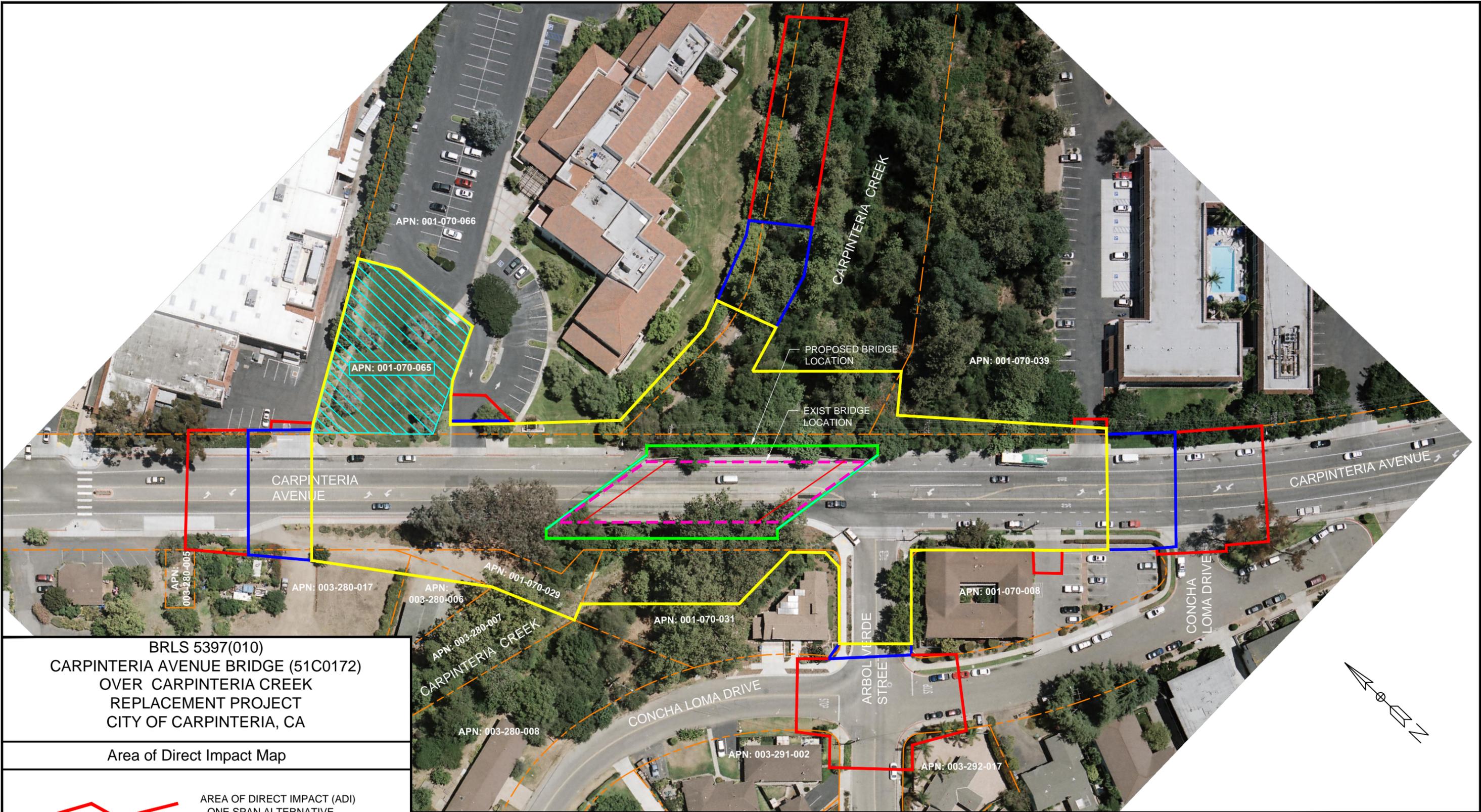
Contractor site access and lay down areas are identified in the project Area of Potential Effects map. Table 1 provides a description of the type of equipment likely to be used during the construction of the proposed project.

Table 1. Construction Equipment

Equipment	Construction Purpose
air compressor	bridge removal + finishing work
backhoe	soil manipulation + drainage work + bridge removal
bobcat	fill distribution
bulldozer / loader	earthwork construction + clearing and grubbing + bridge removal
compaction equipment	soil manipulation
concrete truck and pump	concrete placement
crane	placement of falsework + rebar cages + pile installation
debris bin	debris storage and containment
drill rig	pile installation
dump truck	fill material delivery + bridge removal
excavator	soil manipulation
flatbed truck	material handling and delivery
front-end loader	dirt or gravel manipulation
grader	ground leveling
haul truck	earthwork construction + clearing and grubbing
hoe ram	bridge removal
holding tanks	slurry storage for pile installation
hydraulic hammer	demolition/concrete removal
jackhammer	demolition/concrete removal
mixing tanks	slurry mixing for pile installation
paving equipment	approach roadway paving
recirculating pumps	slurry pumping for pile installation
roller / compactor	earthwork construction
truck with seed sprayer	landscaping
water truck	earthwork construction + dust control

Construction Schedule and Timing

Construction of the proposed project is anticipated to take 2 construction seasons to complete. The approximately 24 month construction period is scheduled to begin in Spring 2017.

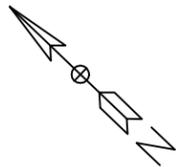
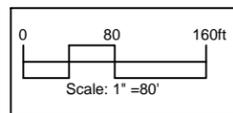


**BRLS 5397(010)
 CARPINTERIA AVENUE BRIDGE (51C0172)
 OVER CARPINTERIA CREEK
 REPLACEMENT PROJECT
 CITY OF CARPINTERIA, CA**

Area of Direct Impact Map

-  AREA OF DIRECT IMPACT (ADI)
ONE SPAN ALTERNATIVE
-  AREA OF DIRECT IMPACT (ADI)
TWO SPAN ALTERNATIVE
-  AREA OF DIRECT IMPACT (ADI)
THREE SPAN ALTERNATIVE

-  PARCEL BOUNDARIES
-  POTENTIAL CONSTRUCTION STAGING AREA



APPENDIX C

RESPONSES TO THE NOTICE OF PREPARATION

Carpinteria Avenue Bridge Replacement Project
NOP Scoping Meeting Minutes
July 22, 2014; 3:00 p.m.
City of Carpinteria Council Chambers

Approximately 9 individuals were in attendance.

Kirsten Ayars, Ayars and Associates, provided a project overview on behalf of the Project Design Team. She described the differences between the four bridge roadway options and the three span alternatives that are to be evaluated in the project Environmental Impact Report. She identified the "updated bridge width" roadway layout and the three-span support design as the City's preferred alternative. The project's regulatory setting, alternatives considered but dismissed and aesthetic treatments for the bridge were also described.

After concluding her presentation, the floor was opened up for questions about the project description and project alternatives.

Nancy Enlow, 5538 Canalino Drive, asked whether stop signs or similar traffic control devices were being considered for the Carpinteria Avenue/Arbol Verde intersection. She also asked about the extent of any right-of-way takings for the project and how the creek might be affected.

Dick Weinberg, 5529 Calle Arena, noted he preferred Option #1 (updated bridge width), but he wanted to know how much it actually improved sight lines for motorists stopped on Arbol Verde attempting to turn onto Carpinteria Avenue. He expressed concerns that any new bulb-outs around the intersection may worsen sight lines. Concern for pedestrians using the Arbol Verde crosswalk was also expressed. He also asked whether reduced speed limits could be looked at, either on a permanent basis or at least during construction periods. Mr. Weinberg also asked about the timing of the Carpinteria Avenue Bridge construction relative to the Linden Casitas project; he expressed concerns over traffic impacts to Carpinteria Avenue when both are under construction.

Lou Panizzon, 5573 Canalino Drive, asked whether the stop line on Arbol Verde would be moved as part of the project, such that it might help improve sight lines. He also asked that the stormdrain near the Arbol Verde intersection (on Carpinteria Avenue) be addressed as part of the project since the area tends to have drainage/flooding problems during heavy rains.

Ken Owen, Channel Islands Restoration, asked whether the creek restoration component could be broken out from bridge construction component for the purposes of awarding contracts (noting he was one of two local contracts specializing in habitat restoration projects). He also asked that plans specify the use of locally sourced seed stock/plants for any revegetation work.

Pat Kistler, Carpinteria Valley Chamber of Commerce, asked what class bike lanes will be installed on the new bridge.

Matt Ingamells, Padre Associates, provided a brief summary of the environmental review process and the purpose of the scoping meeting. He summarized some of the impact areas the City anticipates to address in the upcoming EIR.

Concluding his presentation, the floor was opened to members of the public to provide additional comments or questions that they would like to see addressed in the EIR.

Lou Pannizon, 5573 Canalino Drive, asked that traffic circulation at the Arbol Verde/Carpinteria Avenue (AV/CA) intersection be looked at. He noted there is no school bus service in the Concha Loma neighborhood and asked whether providing school bus service to Concha Loma could be considered as part of the project or as mitigation for traffic impacts. He suggested that providing school bus service to the neighborhood would reduce vehicle trips through the AV/CA intersection. He also noted that Carpinteria Avenue often is used by commuters trying to circumvent traffic on US 101. He asked whether traffic controls, signage or similar means could be used to discourage this traffic and/or persuade drivers on Carpinteria Avenue to slow down. He also asked that speed limits be looked at on Carpinteria Avenue through the project area and asked that the slower speed limit (to the west of the Carpinteria Avenue bridge) be extended to the Arbol Verde intersection.

That concludes the Scoping Meeting; approximate adjournment at 4:20 p.m.

CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
ENVIRONMENTAL SCOPING MEETING: July 22, 2014

Comment Form

The purpose of this scoping meeting is to solicit input on the issues to be addressed in the Environmental Impact Report to be prepared by the City to disclose potential environmental impacts associated with the project. You may provide verbal input by speaking at the meeting, provide written comments using this form, or submit comments by letter or e-mail to Nick Bobroff by August 4.

7/25/14

I understand now why we don't put a stop sign on Carp. Avenue at Arbol Verde. It would be helpful, though, if the 1st. parking space in front of the medical building on Carp. Avenue. could be designated "no parking". It is extremely difficult to see traffic coming on the left. Thank you.

I also feel the 1st. idea for the bridge is the preferable one - the one keeping Arbol Verde as is and just widening the existing one.

RECEIVED

JUL 28 2014

Name:

Nancy Embow

CITY OF CARPINTERIA

Contact Information:

(805) 566-9111

5538 Canalino Dr.

From: carmicandy@cox.net
Sent: Wednesday, July 02, 2014 12:24 PM
To: Nick Bobroff
Subject: Carpinteria Bridge

Received information regarding bridge reconstruction. In my opinion, no option should include the closing of Arbol Verde as that would eliminate one of two exits available to residents of this area. Those two exits are only one block apart as it is and in the event of evacuation it would be it would be a real disaster. When the foot bridge across the creek was built, it would have made sense to make it wide enough to allow one vehicle (emergency or private) to use that bridge in case of emergency but since that was not done, we are left with no alternatives.
Carmen Robitaille
5533 Callejon Drive

Matt Ingamells

From: Nick Bobroff <nickb@ci.carpinteria.ca.us>
Sent: Wednesday, July 23, 2014 4:11 PM
To: Matt Ingamells
Subject: FW: Carp Ave Bridge

Hi Matt,

See below for an additional public comment that came in recently concerning the Carp Ave Bridge project.

Thanks,

Nick Bobroff, Associate Planner
Community Development Department
(805) 684-5405 ext. 407

From: Matt Maechler
Sent: Wednesday, July 23, 2014 4:07 PM
To: Nick Bobroff
Cc: kayregister@gmail.com
Subject: FW: Carp Ave Bridge

Nick,

We are accepting comments from the public for the Carpinteria Ave Bridge Replacement project until Aug 4th. Below is a comment I've received from Kay Register to include for our public comment period. Thank you.

Matt Maechler, P.E.
Department of Public Works
City of Carpinteria
805.684.5405 Ext. 441
Mattm@ci.carpinteria.ca.us

From: Kay Register [mailto:]
Sent: Friday, July 04, 2014 1:00 PM
To: Matt Maechler
Subject: Carp Ave Bridge

Just so you know, a number of migratory birds nest in the creek area between May and July of each year. It would be helpful if destruction could take place in months other than nesting, or maybe start slightly before, even in the winter, to discourage the birds from nesting there. All existing plant tangles in the creek bed are important habitat. Let's try to preserve what is possible, especially downstream from the bridge. Thank you. Kay Register, birder, member of Ventura Audubon.



Carpinteria Valley Water District

1301 Santa Ynez Avenue • Carpinteria, CA 93013
Phone (805) 684-2816

BOARD OF DIRECTORS

Matthew Roberts
President
Alonzo Orozco
Vice President
Richard Forde
Polly Holcombe
June Van Wingerden

GENERAL MANAGER

Charles B. Hamilton

July 30, 2014,

City of Carpinteria
Community Development Dept.
Nick Bobroff, Associate Planner
5775 Carpinteria Ave.
Carpinteria, CA. 93013

SUBJECT: CARPINTERIA AVENUE BRIDGE REPLACEMENT, COMMENTS

Hello Nick

Thank you for the copy of the Notice of Preparation of an Environmental Impact Report for the replacement of the Carpinteria Avenue Bridge over Carpinteria Creek.

Listed are the Carpinteria Valley Water District comments for the project.

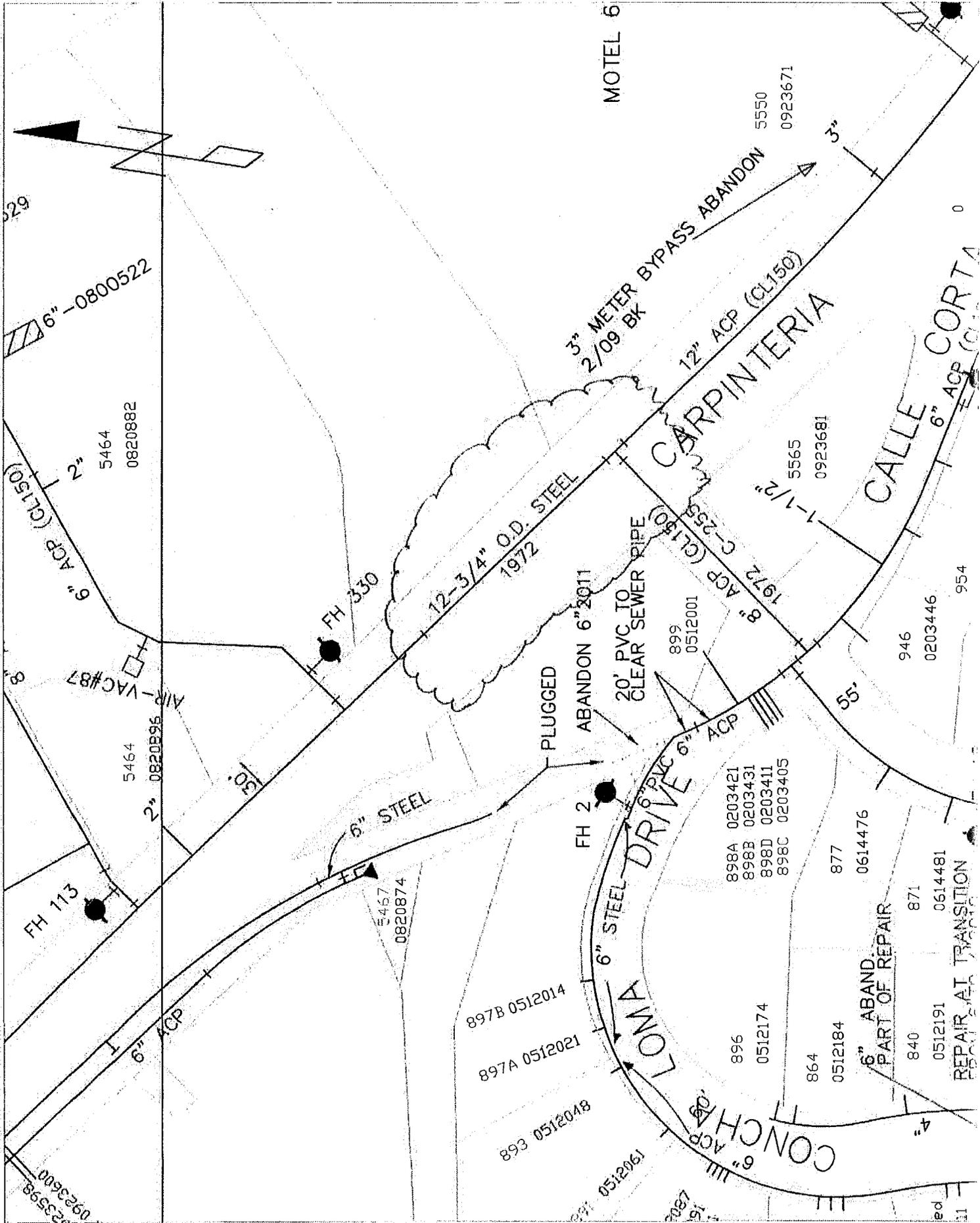
- CVWD has a 12 inch water main attached under the existing bridge on the North side. This line is a major supply line to Downtown Carpinteria. The design and layout of the new water main on the bridge will need to be reviewed and approved by the District.
- On the east end of the bridge the in the sidewalk the District has three main line water valves and one valve on the west end of the bridge. These valves may need to be relocated for the design of the new bridge. The location and type of valves will need to be approved by the District.
- A 8 inch water main from Arbol Verde street ties into the three valves at the east end of the bridge. This pipe may be in conflict with the design of the new bridge. It's location to the bridge will need to be reviewed and approved by the District.
- The District request that space for a reclamation water main be designed into the Bridge for any possible recycle water projects in the future.

Very truly yours,
Carpinteria Valley Water District

Brian King, P.E.
Associate Engineer

BVK/bvk

C: file copy



NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net
e-mail: ds_nahc@pacbell.net



RECEIVED

JUL 14 2014

July 9, 2014

CITY OF CARPINTERIA

Mr. Nick Bobroff

City of Carpinteria

5775 Carpinteria Avenue
Carpinteria, CA 93013

RE: SCH#2014071007 CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for the "**Carpinteria Avenue Bridge Replacement Project**" located in the City of Carpinteria, Santa Barbara County, California

Dear Mr. Bobroff:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

We suggest that this (additional archaeological activity) be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. Any information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.

**Native American Contacts
Santa Barbara County
July 9, 2014**

Ernestine DeSoto, Tribal Elder 1311 Salinas Place # 5 Santa Barbara CA 93103 (805) 636-3963 Chumash	John Ruiz 1826 Stanwood Drive Santa Barbara CA 93103 (805) 965-8983 Chumash
Santa Ynez Band of Mission Indians Vincent Armenta, Chairperson P.O. Box 517 Santa Ynez , CA 93460 varmenta@santaynezchumash. (805) 688-7997 (805) 686-9578 Fax Chumash	Gilbert M. Unzueta Jr. 571 Citation Way Thousand Oaks, CA 91320 uhuffle@aol.com (805) 375-7229 Chumash
Barbareno/Ventureno Band of Mission Indians Julie Lynn Tumamait-Stennslie, Chair 365 North Poli Ave Ojai , CA 93023 jtumamait@hotmail.com (805) 646-6214 Chumash	Owl Clan Qun-tan Shup 48825 Sapaque Road Bradley , CA 93426 mupaka@gmail.com (805) 472-9536 Voice/Fax (805) 835-2382 Cell Chumash
Patrick Tumamait 992 El Camino Corto Ojai , CA 93023 (805) 640-0481 (805) 216-1253 Cell Chumash	Stephen William Miller 189 Cartagena Camarillo , CA 93010 (805) 484-2439 Chumash

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Carpinteria Avenue Bridge Replacement Project project located in the city of Carpinteria, in Santa Barbara County, California for which a Native American Contacts list supplemental was requested.

**Native American Contacts
Santa Barbara County
July 9, 2014**

Barbareno/Ventureno Band of Mission Indians ·
Kathleen Pappo
2762 Vista Mesa Drive Chumash
Rancho Pales , CA 90275
(310) 831-5295

· Barbareño Chumash
Ms. Regina Unzueta
125 West Carrillo Street Chumash
Santa Barbara CA 93101
reginaUnzueta@gmail.com
(805) 570-9530

· Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.
331 Mira Flores Court Chumash
Camarillo , CA 93012
(805) 987-5314

· PeuYoKo Perez
11465 Nardo Street Chumash
Ventura , CA 93004
grndowl4U@yahoo.com
(805) 231-0229 Cell

Coastal Band of the Chumash Nation ·
Janet Darlene Garcia
P.O. Box 4464 Chumash
Santa Barbara CA 93140
(805) 689-9528

Coastal Band of the Chumash Nation ·
Crystal Baker
P.O. Box 723 Chumash
Atascadero , CA 93423
(805) 466-8406

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Carpinteria Avenue Bridge Replacement Project project located in the city of Carpinteria, in Santa Barbara County, California for which a Native American Contacts list supplemental was requested.

Central Coast Regional Water Quality Control Board

July 16, 2014

Nick Bobroff
City of Carpinteria
5775 Carpinteria Avenue
Carpinteria, CA 93013
Email: nickb@ci.carpinteria.ca.us

VIA ELECTRONIC MAIL

Dear Mr. Bobroff:

COMMENTS ON NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT, SANTA BARBARA COUNTY, FILE NO. 420714CQ06

Thank you for the opportunity to comment on the scope and content of the Draft Environmental Impact Report (DEIR) for the Carpinteria Bridge Replacement Project (Project). The Central Coast Regional Water Quality Control Board (Central Coast Water Board) is a responsible agency under the California Environmental Quality Act (CEQA). Central Coast Water Board staff understands that the Project involves replacing the Carpinteria Avenue bridge over Carpinteria Creek.

The Project has the potential to impact water quality and beneficial uses of waters of the State. Therefore Central Coast Water Board staff offers the following recommendations for improving the environmental value and environmental review of the Project.

1. **Channel Modifications.** One of the Project's stated purposes is to increase flow capacity in Carpinteria Creek. Please include in the DEIR a description of any modifications proposed to the Carpinteria Creek channel to increase flow capacity (e.g., widening, armoring, removing vegetation, etc.). Also describe any impacts these modifications may cause to the stability of the creek's bed and banks, as well any measures necessary to mitigate such impacts to less than significant levels.
2. **Alternatives Analysis.** According to the Notice of Preparation (NOP), the DEIR will evaluate twelve alternative bridge designs (i.e., four bridge widths and three span configurations). Please include in the DEIR sufficient information about the impacts of each design alternative to allow identification of the least environmentally damaging alternative. The impact analysis should include quantitative analysis of temporary and permanent impacts to streambed, stream banks, wetlands, riparian vegetation, and riparian habitat.
3. **Post-Construction Stormwater Management.** The project will be subject to City of Carpinteria requirements for post-construction stormwater treatment and infiltration. Stormwater treatment and infiltration features frequently increase right-of-way requirements and project footprint, and can increase the environmental impacts of projects. These factors must be considered during early stages of project design and environmental analysis. Therefore the DEIR should include, for each alternative evaluated, a description of how

post-construction stormwater will be managed and where post-construction treatment and infiltration features will be located.

4. Analysis of Cumulative Impacts. Please include in the DEIR an analysis of cumulative impacts to Carpinteria Creek resulting from the Project and the Linden Avenue-Casitas Pass Road Interchange Modification project.
5. Mitigation. Please include in the DEIR a description of mitigation measures proposed to compensate for unavoidable temporary and permanent impacts to streambed, stream banks, wetlands, riparian vegetation, and riparian habitat.

If we may clarify any of our comments or be of further assistance, please contact **Jon Rohrbough** at (805) 549-3458 or via email at Jon.Rohrbough@waterboards.ca.gov or Phil Hammer at (805) 549-3882.

Sincerely,



Digitally signed by Phillip Hammer
Date: 2014.07.16 13:16:43 -07'00'

for
Kenneth A. Harris, Jr.
Executive Officer

cc:

Jon Rohrbough, Central Coast Water Board (Jon.Rohrbough@waterboards.ca.gov)
James Pilkington, Central Coast Water Board (James.Pilkington@waterboards.ca.gov)

P:\CEQA\Comment Letters\Santa Barbara County\Carpinteria Avenue Bridge Replacement_420714CQ06_final.doc

County Of Santa Barbara

Mona Miyasato
County Executive Officer



105 East Anapamu Street, Room 406
Santa Barbara, California 93101
805-568-3400 • Fax 805-568-3414
www.countyofsb.org

Executive Office

July 29, 2014

Nick Bobroff, Associate Planner
City of Carpinteria
5755 Carpinteria Avenue
Carpinteria, CA 93013

E-Mail: nickb@ci.carpinteria.ca.us

Re: Notice of Preparation of an Environmental Impact Report (EIR) pursuant to the Requirements of the California Environmental Quality Act (CEQA) for the proposed Carpinteria Avenue Bridge Replacement, Project No. 14-1719-CUP/CDP

Dear Mr. Bobroff:

Thank you for the opportunity to comment on the Notice of Preparation for the City of Carpinteria's Carpinteria Avenue Bridge Replacement Project. At this time, the County is submitting the attached letters from the County Public Works Department and the County Fire Department.

The County has no further comments on this project at this time and looks forward to hearing more about the project's progress. If you should have any further questions, please do not hesitate to contact my office directly, or David Lackie, Interim Director in the Office of Long Range Planning at (805) 568-2023.

Sincerely,

Mona Miyasato
County Executive Officer

cc: Martin Johnson, Deputy Fire Marshal, Fire Department
Bret A. Stewart, P.E., Development Engineering Manager, Public Works Department
David Lackie, Interim Director, Long Range Planning Division, Planning & Development Department

Attachments: July 14th Letter, Fire Department
July 28th Letter, Public Works Department



Fire Department

"Serving the community since 1926"

HEADQUARTERS

4410 Cathedral Oaks Road
Santa Barbara, CA 93110-1042
(805) 681-5500 FAX: (805) 681-5563

Michael W. Dyer
Fire Chief
County Fire Warden

Eric Peterson
Deputy Fire Chief

July 14, 2014

Mr. Nick Bobroff
Associate Planner
City of Carpinteria

Dear Mr. Bobroff:

SUBJECT: Carpinteria Avenue Bridge Replacement Project

This project is located in the Carpinteria/Summerland Fire Jurisdiction. I have reviewed the above referenced project and have no comments on the project as presented at this time.

As always, if you have any questions or require further information, please call 681-5525 or 681-5523.

In the interest of life and fire safety,

Martin Johnson
Deputy Fire Marshal

MJ: mkb

**PUBLIC WORKS
MEMORANDUM**



To: Katie Hentrich, Long Range Planning

From: Bret A. Stewart, P.E., Development Engineering Manager 

Date: July 28, 2014

Subject: RAR - Carpinteria Avenue Bridge Replacement NOP, City of Carpinteria

Public Works has reviewed the referenced document and recommends the following comments be included in your comment letter:

1. The proposed bridge replacement project impacts areas both upstream and downstream of the project site which is located in the City of Carpinteria. Within these areas, the City is the floodplain administrator and assumes the responsibility for ensuring compliance with FEMA's floodplain management regulations.
2. As an advisory, the Santa Barbara County Flood Control District recommends that the City be cognizant of the Caltrans proposed improvements to the Highway 101 bridge crossing that is located just upstream of the project site and appropriately coordinate the proposed projects.



**Santa Barbara County
Air Pollution Control District**

July 14, 2014

Nick Bobroff, Associate Planner
City of Carpinteria, Community Development Department
5775 Carpinteria Avenue
Carpinteria, CA 93013

RECEIVED

JUL 15 2014

CITY OF CARPINTERIA

Re: APCD Response to Notice of Preparation of an Environmental Impact Report for Carpinteria Avenue Bridge Replacement, 14-1719-CUP/CDP

Dear Mr. Bobroff:

The Santa Barbara County Air Pollution Control District (APCD) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Carpinteria Avenue Bridge Replacement. The City of Carpinteria proposes to remove the structurally deficient bridge and replace it with a bridge designed to meet current structural, geometric and hydraulic standards. The project is located on Carpinteria Avenue at the Carpinteria Creek roadway crossing in the City of Carpinteria.

APCD staff reviewed the NOP of the Draft EIR, and concurs that air quality impacts should be addressed in the EIR. APCD's guidance document, entitled *Scope and Content of Air Quality Sections in Environmental Documents* (updated March, 2014), is available online at www.sbcapcd.org/apcd/landuse.htm. This document should be referenced for general guidance in assessing air quality impacts in the Draft EIR. The EIR should evaluate the following potential impacts related to the Carpinteria Avenue Bridge Replacement :

1. Attainment Status and Consistency with the APCD Clean Air Plan (CAP). The APCD has posted the most up-to-date attainment status for the County on the APCD website www.sbcapcd.org/sbc/attainment.htm and the most recent Clean Air Plan is available at www.sbcapcd.org/cap.htm. The website should be consulted for the most up-to-date air quality information prior to the release of the Public Draft EIR.

The 2010 CAP used the 2007 regional growth factors for land use and population projections provided by the Santa Barbara County Association of Governments (SBCAG), along with on-road emissions forecasts provided by the California Air Resources Board (ARB) as a basis for vehicle emissions forecasting. The EIR should examine whether the proposed project will be consistent with the growth assumptions in the 2010 CAP.

Many industrial and manufacturing sources, as well as buildings with large heating devices or generator engines, may be subject to APCD rules and permit requirements. Commercial or industrial projects will be considered consistent with the CAP if they are consistent with APCD rules and regulations.

2. Construction Impacts. The EIR should include a description and quantification of potential air quality impacts associated with construction activities for the proposed project. APCD's March, 2014 *Scope and Content* document, Section 6, presents recommended mitigation measures for fugitive dust

and equipment exhaust emissions associated with construction projects. Construction mitigation measures should be enforced as conditions of approval for the project. The EIR should include a Mitigation Monitoring and Reporting Plan that explicitly states the required mitigation and establishes a mechanism for enforcement.

3. Asbestos Reporting Requirements. If the project will involve any demolition or renovation of existing structures, the EIR should discuss notification and reporting requirements pursuant to APCD Rule 1001 – National Emission Standards for Hazardous Air Pollutants (NESHAP) – Asbestos.

4. Global Climate Change/Greenhouse Gas impacts. Greenhouse gas (GHG) emissions and global climate change impacts should be addressed in the CEQA document. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

CEQA documents should include a quantification of GHG emissions from all project sources, direct and indirect, as applicable. In addition, we recommend that climate change impacts be mitigated to the extent reasonably possible, whether or not they are determined to be significant. The discussion of climate change impacts can be included under cumulative air quality impacts or in its own section. At a minimum, the project should include any feasible greenhouse gas reduction measures as applicable from the following sector-based list:

- Transportation measures to reduce vehicle miles traveled by construction workers/project employees
- Project design to accommodate the safe use of active transportation modes (e.g., pedestrians, bicycles)
- Waste reduction (material re-use/recycling, composting, waste diversion, waste minimization)

For guidance regarding greenhouse gas analysis for CEQA environmental documents, please refer to the *CAPCOA CEQA & Climate Change* document. CAPCOA has also published *Quantifying Greenhouse Gas Mitigation Measures*, an extensive sector-by-sector compendium of project-specific mitigation measures, including quantification methods to calculate GHG reductions. Both of these documents are available online at www.capcoa.org.

We hope you find our comments useful. We look forward to reviewing the Draft EIR. Please contact me at 961-8838 or by e-mail at PearsonM@sbcapcd.org if you have questions.

Sincerely,



Molly Pearson

Planning and Grants Supervisor

Technology and Environmental Assessment Division

cc: TEA Chron File

APPENDIX D

MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Section 15097 of the State Guidelines for the Implementation of the California Environmental Quality Act and Section 21081.6 of the Public Resources Code requires the lead agency (City of Carpinteria) to adopt a monitoring program to ensure mitigation measures are complied with during implementation of the project. In compliance with these requirements, a Mitigation Monitoring Program Implementation Table is provided below. This Table identifies the timing, monitoring methods, responsibility and compliance verification method for all mitigation measures identified in this EIR. Monitoring would be conducted by the City-designated construction inspectors and qualified specialists under contract to the City.

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
AESTHETICS								
<p>AES-2: Degradation of Scenic Quality. See mitigation measures provided for impacts to riparian habitat (Impact BIO-1) and tree removal (Impact BIO-2) in Section 4.4.</p> <p>Recommended Optional Mitigation Measure: Overhead utility lines within and adjacent to the project impact area should be placed underground or within the bridge structure and above-ground poles and lines should be removed, as feasible. Priority should be given to overhead utilities that cross the Carpinteria Creek corridor and the associated utility poles located closest to the creek.</p>	Prior to construction during negotiation of construction-related utility relocation with providers	Review of utility undergrounding plan (as appropriate)	Initially prior to construction and during construction-related and permanent utility relocation	City project manager	City staff will review construction inspection reports			
<p>AES-3: Conflicts with Neighborhood Character. See mitigation measures provided for impacts to riparian habitat (Impact BIO-1) and tree removal (Impact BIO-2), which would help obscure the larger bridge structure and restore the visual character associated with mature riparian vegetation along the bridge.</p>	See Impact BIO-1 and BIO-2	See Impact BIO-1 and BIO-2	See Impact BIO-1 and BIO-2	See Impact BIO-1 and BIO-2	See Impact BIO-1 and BIO-2			
<p>AES-4: Nighttime Lighting. Sidewalk and bike path lighting shall be designed and installed to minimize nighttime glare, degradation of nighttime views and comply with Policy CD-13 of the City's General Plan/Coastal Land Use Plan to the extent feasible, while meeting public safety requirements. Lighting designs shall consider low intensity fixtures, full cut-off dark sky fixtures, shielding to focus lighting and fixture placement to avoid significant lighting impacts.</p>	During final design of project lighting	Review of lighting plan	Periodically during construction	City project manager	City staff will review construction inspection reports			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Signature	Signature
BIOLOGICAL RESOURCES								
<p>BIO-1: Riparian Forest and ESHA. The limits of construction shall be clearly delineated to avoid inadvertent loss of riparian habitat and ESHA. Riparian habitats shall be replaced within temporary impact areas and adjacent portions of Carpinteria Creek. In addition, the buried rock slope protection shall be planted with riparian species. Unaffected riparian forest along Carpinteria Creek shall be restored/enhanced by the removal of invasive species, primarily giant reed, Cape ivy and English ivy, with the goal of restoring and/or enhancing at least 3 times larger than the ESHA impact area (1.20 acres). Re-planting native species in areas where invasive plants are removed shall be included, where natural colonization by native plants may not be adequate. This approach is consistent with Implementation Measure 2.4.4 of the City's Creeks Preservation Program.</p>	<p>Monitoring to occur following construction, during restoration. Restoration activities to be initiated within 90 days of the completion of construction</p>	<p>As directed by the approved habitat mitigation and monitoring plan, the City project manager will ensure monitoring and habitat restoration is completed</p>	<p>Periodically during restoration activities as directed by the approved mitigation and monitoring plan</p>	<p>City project manager</p>	<p>City staff will review inspection reports and periodic monitoring reports required by the habitat mitigation and monitoring plan</p>			
<p>BIO-2: Native and Specimen Trees. A qualified biologist or arborist shall re-evaluate the limits of the construction work area with the selected construction contractor to minimize removal of native trees, and identify trees that may be cut down with the root crown left in place. Trees removed shall be replaced at ratios consistent with anticipated conditions of regulatory permits (see Table 4.4-5). A tree replacement plan shall be developed to identify planting areas and methods, and included within a mitigation and monitoring plan to be submitted to regulatory agencies. Replacement trees shall be planted within the rock slope protection to the extent feasible. Fencing shall be placed around the protected zone of native trees adjacent to construction work areas to prevent inadvertent damage or removal of native trees.</p>	<p>Tree replacement planting and maintenance will be initiated within 90 days of the completion of construction</p>	<p>As directed by the approved tree replacement plan, the City project manager will ensure tree replacement is completed</p>	<p>Periodically during restoration activities as directed by the approved tree replacement plan</p>	<p>City project manager</p>	<p>City staff will review inspection reports and periodic monitoring reports required by the tree replacement plan</p>			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-3: Tidewater Goby. The following measures shall be implemented to address potential construction-related impacts to tidewater goby:</p> <ul style="list-style-type: none"> • To avoid conflicts with fish, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry. • If instream construction must be conducted when surface water is present, stream diversion shall be implemented such that surface flow at least 100 feet upstream and downstream of work areas is diverted and returned to Carpinteria Creek immediately downstream of the project site. • A USFWS-approved biologist shall provide construction worker awareness training prior to the start of construction. • A USFWS-approved biologist shall monitor installation of the stream diversion, initial dewatering activities and other construction work conducted in the streambed. • Only qualified biologists authorized by USFWS under the Biological Opinion shall be involved in surveying, capture, handling and relocation of tidewater gobies. • A pre-construction survey shall be completed by a USFWS-approved biologist within 10 days of the initiation of instream construction work to verify presence/absence of this species within the construction work area. • If tidewater goby is present in the construction work area at the time construction is initiated, the work area shall be isolated from adjacent surface waters and gobies relocated to suitable habitat near the estuary. 	<p>Prior to and throughout the construction period when work may affect surface waters</p>	<p>As directed by the USFWS-approved tidewater goby monitoring plan, stream diversion plan and frac-out contingency plan the City-appointed inspector will ensure measures are implemented</p>	<p>Periodically during construction as directed by the approved tidewater goby monitoring plan, stream diversion plan and frac-out contingency plan</p>	<p>City project manager</p>	<p>City staff will review inspection reports and tidewater goby survey reports</p>			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-3: Tidewater Goby. Continued.</p> <ul style="list-style-type: none"> The time period tidewater gobies are held in captivity shall be minimized, and environmental conditions in captivity shall be maintained to avoid injury and minimize stress. The number of tidewater gobies captured, site of capture, site of relocation, habitat conditions at capture site and habitat conditions at the relocation site shall be recorded. If pumping is required to dewater the construction work area and tidewater goby is present, pump intakes shall be fitted with a wire mesh screen with a 5 mm mesh or smaller. Flow to downstream reaches shall be maintained during dewatering or flow diversion. Appropriate sediment collection devices (silt fence, straw wattles, hay bales, or equivalent) shall be installed downstream of the construction work area to prevent siltation of downstream reaches. The streambed (and substrate) affected by construction shall be returned to pre-construction conditions (excluding areas displaced by the bike path and RSP). Herbicide shall not be used or applied within 25 feet of the streambed, during the wet season or during winds exceeding 5 miles per hour. 	Prior to and throughout the construction period when work may affect surface waters	As directed by the USFWS-approved tidewater goby monitoring plan, stream diversion plan and frac-out contingency plan the City-appointed inspector will ensure measures are implemented	Periodically during construction as directed by the approved tidewater goby monitoring plan, stream diversion plan and frac-out contingency plan	City project manager	City staff will review inspection reports and tidewater goby survey reports			
<p>BIO-4: Steelhead. The following measures shall be fully implemented:</p> <ul style="list-style-type: none"> To avoid conflicts with fish, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry. A NMFS-approved biologist shall provide construction worker awareness training prior to the start of construction. 	Prior to and throughout the construction period when work may affect surface waters	As directed by the NMFS-approved water diversion plan and drilling fluid discharge contingency plan the City-appointed inspector will ensure measures are implemented	Periodically during construction as directed by the water diversion plan and drilling fluid discharge contingency plan	City project manager	City staff will review inspection reports and steelhead survey reports			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-4: Steelhead. Continued.</p> <ul style="list-style-type: none"> • A NMFS-approved biologist shall monitor installation of the stream diversion, initial dewatering activities and sediment control devices to identify and rectify any conditions that may adversely affect steelhead or their habitat. • A NMFS-approved biologist shall identify steelhead relocation sites with adequate water quality, cover and living space. • Within 10 days of the initiation of any work within surface water, a qualified fisheries biologist shall complete a survey for steelhead. • If pumping is required to dewater the construction work area and juvenile steelhead are present, pump intakes shall be fitted with a wire mesh screen with a 5 mm mesh or smaller. • Any steelhead found in the work area shall be recaptured and relocated by a NMFS-approved biologist to suitable relocation sites. • If instream construction must be conducted when surface water is present, stream diversion shall be implemented such that diverted surface flow is returned to Carpinteria Creek immediately downstream of the project site. • The diversion berm and pipeline shall be in place prior to beginning diversion of surface flow. • Non-erosive materials (e.g., sandbags, sheet pile, rubber/plastic tubes) shall be used to construct the diversion berm. • An energy dissipater and sediment trap (straw bales, or equivalent) shall be used at the diversion pipeline outlet. • Excavated material shall be stored away from the low-flow channel to prevent incidental discharge. 	<p>Prior to and throughout the construction period when work may affect surface waters</p>	<p>As directed by the NMFS-approved water diversion plan and drilling fluid discharge contingency plan the City-appointed inspector will ensure measures are implemented</p>	<p>Periodically during construction as directed by the water diversion plan and drilling fluid discharge contingency plan</p>	<p>City project manager</p>	<p>City staff will review inspection reports and steelhead survey reports</p>			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-4: Steelhead. Continued.</p> <ul style="list-style-type: none"> Any streambed access points shall be stabilized using a pad of coarse aggregate underlain by filter cloth, crane mats or equivalent materials to reduce erosion and tracking of sediment. Disturbed areas of the stream channel shall be re-compacted to pre-construction conditions prior to restoring flow to the active channel. Silty or turbid water produced from dewatering or other activities shall not be discharged into Carpinteria Creek until filtered or allowed to settle prior to discharge. Use of heavy equipment in flowing water shall be prohibited. The bed and banks of Carpinteria Creek shall be restored immediately following the completion of instream construction work (excluding areas displaced by the bike path and RSP). Riparian habitat removed by the project shall be restored and/or enhanced to improve fish habitat. 	Prior to and throughout the construction period when work may affect surface waters	As directed by the NMFS-approved water diversion plan and drilling fluid discharge contingency plan the City-appointed inspector will ensure measures are implemented	Periodically during construction as directed by the water diversion plan and drilling fluid discharge contingency plan	City project manager	City staff will review inspection reports and steelhead survey reports			
<p>BIO-5: Western Pond Turtle and Two-striped Garter Snake. The following measures shall be implemented:</p> <ul style="list-style-type: none"> Instream construction activities shall be planned for periods between June 1 and October 31, or periods when the work area is dry. Disturbance of suitable habitat (stream pools) shall be avoided, when feasible. A pre-construction biological survey shall be conducted to identify western pond turtle, two-striped garter snake and other wildlife within the construction work area. A qualified biologist shall relocate any wildlife found during the pre-construction survey to suitable habitat at least 500 feet from the work area. 	Prior to and throughout the construction period when work may affect the streambed	The City-appointed inspector will ensure measures are implemented	Periodically during construction	City project manager	City staff will review inspection reports and biological survey reports			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-5: Western Pond Turtle and Two-striped Garter Snake. Continued.</p> <ul style="list-style-type: none"> A qualified biologist shall periodically monitor construction activities to ensure these species are identified and relocated as needed. 	Prior to and throughout the construction period when work may affect the streambed	The City-appointed inspector will ensure measures are implemented	Periodically during construction	City project manager	City staff will review inspection reports and biological survey reports			
<p>BIO-7: Cooper’s Hawk, Yellow Warbler and Yellow-Breasted Chat. The following measures shall be implemented:</p> <ul style="list-style-type: none"> If feasible, vegetation within the construction work area shall be removed during the fall or winter (September 1 to February 15) prior to construction, to minimize the potential for nesting within the project site. In addition, any unoccupied nests found within the construction work area shall be removed to discourage nesting. A breeding bird survey shall be conducted prior to construction and all active nests shall be identified. Caltrans, CDFW and USFWS shall be contacted if any active nests are found within 300 feet of current or planned construction activities. Construction activity would be modified based on input from Caltrans, CDFW and USFWS to prevent adverse effects to nesting birds. Such modifications may include postponing construction within 200 feet (300 feet for raptors) of active nests until young have fledged and/or reducing the magnitude and duration of activity near nests. Nest monitoring may be conducted to verify project-related adverse effects have been minimized. 	Prior to construction and implementation of habitat restoration	City project manager to ensure measures are implemented	Each spring during construction and restoration	City project manager	City staff will review bird survey reports			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-7: Cooper’s Hawk, Yellow Warbler and Yellow-Breasted Chat. Continued.</p> <ul style="list-style-type: none"> A breeding bird survey would be conducted prior to implementation of mitigation and all active nests would be identified. Caltrans, CDFW and USFWS would be contacted if any active nests are found within 200 feet of planned mitigation activities. Mitigation activity would be modified based on input from Caltrans, CDFW and USFWS to prevent adverse effects to nesting birds. Such modifications may include postponing mitigation activities near active nests until young have fledged and/or reducing the magnitude and duration of activity near nests. Nest monitoring may be conducted to verify project-related adverse effects have been minimized. 	Prior to construction and implementation of habitat restoration	City project manager to ensure measures are implemented	Each spring during construction and restoration	City project manager	City staff will review bird survey reports			
<p>BIO-9: Yuma Myotis. Crevice habitat suitable for Yuma myotis shall be provided under the closure pour where the two construction stages would connect.</p>	During final design review, during construction	City project manager will review plans; City-appointed inspector will ensure implementation	Periodically during construction	City project manager				

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
BIOLOGICAL RESOURCES (Continued)								
<p>BIO-10: Federally Jurisdictional Wetlands. The following measures shall be implemented:</p> <ul style="list-style-type: none"> • To minimize erosion-related impacts to wetlands, instream construction activities shall be planned for periods between June 1 and October 31, or periods when the streambed is dry. • Non-erosive materials (e.g., sandbags, sheet pile, rubber/plastic tubes) shall be used to construct the diversion berm, if required. • An energy dissipater and sediment trap (hay bales, or equivalent) shall be used at the diversion pipeline outlet; • Excavated material shall be stored away from the low-flow channel to prevent incidental discharge. • Any streambed access points shall be stabilized using a pad of coarse aggregate underlain by filter cloth to reduce erosion and tracking of sediment. • Disturbed areas of the stream channel shall be re-compacted to original conditions prior to restoring flow to the original channel. • Silty or turbid water produced from dewatering or other activities shall not be discharged into Carpinteria Creek until filtered or allowed to settle prior to discharge. • Use of heavy equipment in flowing water shall be prohibited. • The bed and banks of Carpinteria Creek shall be returned to their original configuration immediately following the completion of instream construction work. • Riparian and wetland vegetation removed by the project would be restored and/or enhanced (see mitigation measures for Impact BIO-1). 	<p>Prior to and throughout the construction period when work may affect the streambed</p>	<p>The City-appointed inspector will ensure measures are implemented</p>	<p>Periodically during construction</p>	<p>City project manager</p>	<p>City staff will review inspection reports</p>			
<p>BIO-11: Coastal Commission-defined Wetlands. See measures listed under BIO-10.</p>								

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
CULTURAL RESOURCES								
<p>CR-1: Buried Archeological Resources. The following measures shall be implemented:</p> <ul style="list-style-type: none"> All construction activities involving ground disturbance shall be monitored by a qualified archeologist and culturally affiliated Native American. Monitoring may be limited to initial excavations to maximum depth, including boring. In the event that potentially significant archaeological resources are observed during monitoring, all earth disturbing work within the vicinity of the find shall be temporarily suspended until a qualified archeologist has evaluated the nature and significance of the find. The City shall be notified of any such find. An archeological testing program shall be developed, approved by the City and fully implemented. A culturally affiliated Native American shall monitor any archaeological field work associated with evaluation of Native American materials. The City shall review and approve the recommendations of the archeological testing program prior to the removal of any cultural materials from the site. If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission. The City shall be notified of any such find. 	Throughout the construction period	The City-appointed inspector will ensure archeological monitoring is conducted and construction is stopped if cultural resources are found	Daily during initial excavations, as needed thereafter	City project manager	City staff will review archeological monitoring reports			
GEOLOGY AND SOILS								
G-2: Storm-related Soil Erosion. See measures listed under WR-1.								

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
HAZARDS AND HAZARDOUS MATERIALS								
<p>HAZ-2: Demolition-related Lead-based Paint Exposure. All bridge guard rail and striping paint shall be stabilized prior to demolition activities. Loose and flaking paint shall be removed within containment and containerized for subsequent disposal, prior to demolition activities. A lead-based paint encapsulant (L-B-C Industrial Lead Encapsulant by Fiberlock Technologies, or equivalent) shall be applied to all painted surfaces prior to demolition activities. During demolition activities, containment shall be maintained at all times to prohibit the release of lead-based paint to the environment. The demolition and/or abatement contractor shall comply with all components of California Code of Regulations (CCR) Title 8, Section 1532.1, as well as the accreditation, licensing, training and work practices in 17 CCR Division 1, Chapter 8. Additionally, the demolition and/or abatement contractor will comply with Santa Barbara County Air Pollution Control District regulations, including no visible dust emissions.</p>	Prior to bridge and roadway demolition	City-appointed inspector will ensure implementation	Prior to demolition and periodically during paint removal	City project manager	City staff will review inspection reports			
<p>HAZ-3: Demolition-related Aerially-deposited Lead Exposure. A preliminary site investigation shall be conducted to identify ADL-affected soils within the project construction footprint. The investigation shall include preparation of a technical work plan, health and safety plan and traffic control plan for City approval. Soil samples shall be obtained from multiple depths as needed to characterize all planned excavations in roadside areas, and analyzed for soluble lead (soluble threshold limit concentration), total lead (total threshold limit concentration) and extractable lead (using deionized water). ADL-affected soils found (if any) shall be managed according to Caltrans and DTSC requirements as listed in Table 4.8-1.</p>	Prior to excavation along Carpinteria Avenue	City project manager to review technical work plan, health & safety plan and traffic control plan, City-appointed inspector will ensure lead-affected soils are managed according to the plan	Prior to excavation and periodically during excavation in roadside areas	City project manager	City staff will review test results and inspection reports			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
WATER RESOURCES								
<p>WR-1: Construction-related Storm Water Pollution. As part of compliance with the Construction General Permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared. Best Management Practices (BMP) shall be included to address temporary sediment control, temporary soil stabilization, scheduling to avoid storms when feasible, preservation of existing vegetation, clear water stream diversion, wind erosion, sediment tracking, waste management, materials handling, vehicle and equipment operations, paving operations, stockpile management, dewatering operations and stabilized construction entrance. Project-specific BMP development shall utilize the Caltrans Construction Site BMP Manual. Work in the streambed shall be performed during the dry season to minimize disturbance of surface waters.</p>	Throughout the construction period, focusing on the rainy season	City project manager will review the SWPPP, City-appointed inspector will ensure BMPs are implemented according to the SWPPP	Periodically during construction and prior to and following storm events as required by the SWPPP and the Construction General Permit	City project manager	City staff will review reports generated as required by the Construction General Permit			
<p>WR-2: Discharge of Drilling Fluids. Coverage under Order R3-2011-0223 shall be obtained as required by the Regional Water Quality Control Board for construction dewatering (low threat discharge). In addition, the following measures shall be implemented:</p> <ul style="list-style-type: none"> • Groundwater discharged to Carpinteria Creek shall be allowed to settle in a temporary tank (or equivalent) prior to discharge and provided with erosion protection at the pipe outlet. • Surface flow (if present) shall be diverted around the work area during drilling in the streambed. • Drilling for the CIDH piles shall utilize temporary steel casing installed to the full depth of the drill-hole, if feasible. • If full length temporary casing is not feasible, steel casing shall be installed to at least three feet below the ground surface. • Drilling shall be monitored to detect any discharge of drilling fluid from the casing, streambed or adjacent areas. 	Prior to and during drilling for CIDH piles	City-appointed inspector will ensure implementation	Periodically during drilling	City project manager	City staff will review inspection reports, and documentation of coverage under Order R3-2011-0223			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
WATER RESOURCES (Continued)								
<p>WR-2: Discharge of Drilling Fluids. Continued.</p> <ul style="list-style-type: none"> • Containment (hay bales wrapped in plastic sheeting, or equivalent) shall be used at the drill-hole to collect and contain any drilling fluid leakage and prevent any discharges to the streambed. • Absorbent material and disposal bags (or equivalent cleanup materials) shall be maintained on-site to cleanup any drilling fluid spillage. • All spillage of drilling fluids (including residual solids) shall be removed from the streambed and adjacent areas using cleanup materials. • Any discharge of drilling fluids to the streambed shall be reported to Regional Water Quality Control Board and California Department of Fish & Wildlife within 24 hours of discharge. 	During drilling for CIDH piles	City-appointed inspector will ensure implementation	Periodically during drilling	City project manager	City staff will review inspection reports			
NOISE AND VIBRATION								
<p>N-1: Construction Noise. The following construction noise minimization measures shall be fully implemented:</p> <ul style="list-style-type: none"> • At least twenty (20) days prior to commencement of construction, the contractor shall provide written notice to all property owners, businesses, and residents within 300 feet of the work area. The notice shall contain a description of the project, the construction schedule, including days and hours of construction, the name and phone number of the project environmental coordinator and contractor(s), site rules and conditions of approval pertaining to construction activities. 	At least 20 days prior to demolition and construction	City project manager will ensure notices are distributed, City staff will review notice and mailing list	Once, prior to demolition and construction	City project manager	City staff will review notice and mailing list			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
NOISE AND VIBRATION (Continued)								
<p>N-1: Construction Noise. Continued.</p> <ul style="list-style-type: none"> Construction (including preparation for construction work) shall only be permitted Monday through Friday between the hours of 7:00 a.m. and 5:00 p.m., and Saturdays between the hours of 9:00 a.m. and 4:00 p.m. Construction shall not occur on Federal holidays. Work hours may be extended for short periods to accommodate time-sensitive discrete activities if approved by the City Community Development Department. Hotel accommodations shall be offered to the closest resident (899 Concha Loma Drive) during periods when approved time-sensitive discrete activities would occur between 7 p.m. and 7 a.m. All construction equipment, including trucks, shall be professionally maintained and fitted with standard manufacturers' muffler and silencing devices. Temporary construction noise barriers shall be installed and maintained between work areas and affected noise sensitive land uses to the south, east and northwest for the duration of the construction period and shall result in noise attenuation of at least 10 dBA at the property lines. Noise levels shall be monitored for compliance. 	<p>During demolition and construction</p>	<p>City project manager will ensure work hour extensions are authorized and hotel accommodations are offered, City inspector to ensure silencing devices and noise barriers are installed and maintained</p>	<p>Periodically during demolition and construction</p>	<p>City project manager</p>	<p>City staff will review inspection reports and requests for work hours extension</p>			
<p>N-2: Construction Vibration. Noticing of construction shall be conducted and hotel accommodations offered as described under mitigation measures for Impact N-1, but noticing shall also include information regarding potential vibration impacts.</p>	<p>Prior to demolition and construction</p>	<p>City project manager will ensure notices are distributed, City staff will review notice and mailing list</p>	<p>Once, prior to demolition and construction</p>	<p>City project manager</p>	<p>City staff will review notice and mailing list</p>			

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM – IMPLEMENTATION TABLE**

Mitigation Measure	Implementation Timing	Monitoring Methods	Monitoring Frequency	Party Responsible for Monitoring	Method of Compliance Verification	Verification of Compliance		
						Signature	Date	Remarks
TRANSPORTATION/CIRCULATION								
<p>T-3: Bike Path Closures. The following measures shall be implemented to address bike path user safety and minimize loss of use of the bike path during the construction period:</p> <ul style="list-style-type: none"> • Written notification (including hand delivery to residents of affected mobile home parks) of bike path closures shall be provided to affected residents (primarily northeast of the bridge) at least two weeks prior to planned closures, and include information regarding bus routes and detour routes for pedestrians and bicyclists. • Signage warning approaching bike path users about project-related closures and recommended detours shall be placed at the western terminus of Via Real, along the eastbound and westbound bike lanes on Carpinteria Avenue approximately 300 feet from the project work area, and at the Via Real/Bailard Avenue intersection at least 10 days in advance of any bike path closure. • Construction staging shall minimize bike path closure during the school year, to the extent feasible. • Bike path closure shall be coordinated with the Linden Avenue-Casitas Pass Road Interchanges project to the extent feasible to reduce the total duration of bike path closure associated with both projects. • To minimize detour distances, the provision of temporary alternate pedestrian routes through or adjacent to the bridge construction work area shall be explored and accommodated to the extent feasible. 	At least 2 weeks prior to and during bike path closures	City project manager will ensure notices are provided and construction staging is evaluated to minimize bike path closure. City inspector will ensure signage is installed and maintained	Prior to and periodically during bike path closures	City project manager	City staff will review notice, mailing list, and inspection reports			

APPENDIX E

BIOLOGICAL INVENTORY

APPENDIX E-1

Vascular Flora Observed within the Biological Study Area
of the Carpinteria Creek Bridge Replacement Project

FAMILY NAME		Growth	Wetland	Native/Invasive
Common Name	Scientific Name	Form ¹	Indicator Status ²	Status ³
EQUISETACEAE (Horsetail Family)				
Giant horsetail	<i>Equisetum telmateia ssp. braunii</i>	H	FACW	N
ADOXACEAE (Muskroot Family)				
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FAC	N
AIZOACEAE (Iceplant Family)				
New Zealand spinach	<i>Tetragonia tetragonioides</i>	H	UPL	I
Freeway iceplant	<i>Carpobrotus edulis</i>	V	UPL	I/H
ANACARDIACEAE (Sumac or Cashew Family)				
Western poison-oak	<i>Toxicodendron diversilobum</i>	S	UPL	N
APIACEAE (Carrot Family)				
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I/M
Sweet fennel	<i>Foeniculum vulgare</i>	H	UPL	I/H
Tall sock-destroyer	<i>Torilis arvensis</i>	H	UPL	I/M
APOCYNACEAE (Dogbane Family)				
Greater periwinkle	<i>Vinca major</i>	V	UPL	I/M
ARALIACEAE (Ginseng Family)				
English ivy	<i>Hedera helix</i>	V	UPL	I/H
ASTERACEAE (Sunflower Family)				
Crofton weed	<i>Ageratina adenophora</i>	S	FACU	I/M
California golden-bush	<i>Encelia californica</i>	S	UPL	N
Western rag-weed	<i>Ambrosia psilostachya</i>	H	FACU	N
Beach bur-sage	<i>Ambrosia chamissonis</i>	S	UPL	N
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N
California sagebrush	<i>Artemisia californica</i>	S	UPL	N
Marsh baccharis	<i>Baccharis glutinosa</i>	H	FACW	N
Coyote brush	<i>Baccharis pilularis</i>	S	UPL	N
Mule fat	<i>Baccharis salicifolius</i>	S	FAC	N
Italian thistle	<i>Carduus pycnocephalus</i>	H	UPL	I/M
Cape ivy	<i>Delairea odorata</i>	V	UPL	I/H
Flax-leaved horse-weed	<i>Erigeron bonariensis</i>	H	UPL	I
Horse-weed	<i>Erigeron canadensis</i>	H	UPL	N
Coastal golden-bush	<i>Isocoma menziesii var. vernonoides</i>	S	UPL	N
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I
Telegraph weed	<i>Heterotheca grandiflora</i>	H	UPL	N
Prickly ox-tongue	<i>Helminthotheca echioides</i>	H	FACU	I/L
Sow thistle	<i>Sonchus olearaceus</i>	H	UPL	I
BETULACEAE (Birch Family)				
White alder	<i>Alnus rhombifolia</i>	T	FACW	N
BIGNONIACEAE (Trumpet-creeper Family)				
Trumpet vine	<i>Bignonia sp.</i>	V	UPL	I
BLECHNACEAE (Deer Fern Family)				
Giant chain fern	<i>Woodwardia fimbriata</i>	H	FACW	N
BORAGINACEAE (Borage Family)				
Pride of Madeira	<i>Echium candicans</i>	S	UPL	I/L
BRASSICACEAE (Mustard Family)				
Sea rocket	<i>Cakile maritima</i>	H	FAC	I/L
Eucrypta	<i>Eucrypta chrysanthemifolia</i>	H	UPL	N
Summer mustard	<i>Hirschfeldia incana</i>	H	UPL	I/M
Wild radish	<i>Raphanus sativus</i>	H	UPL	I/L

APPENDIX E-1

 Vascular Flora Observed within the Biological Study Area
 of the Carpinteria Creek Bridge Replacement Project

FAMILY NAME		Growth	Wetland	Native/Invasive
Common Name	Scientific Name	Form ¹	Indicator Status ²	Status ³
Watercress	<i>Nasturtium officinale</i>	H	OBL	I
CAPRIFOLIACEAE (Honeysuckle Family)				
Japanese honeysuckle	<i>Lonicera japonica</i>	V	UPL	I
CHENOPODIACEAE (Goosefoot Family)				
Big saltbush	<i>Atriplex lentiformis</i>	S	UPL	N
Fat-hen	<i>Atriplex prostrata</i>	H	FACW	I
CONVOLVULACEAE (Morning-Glory Family)				
Chaparral morning-glory	<i>Calystegia macrostegia</i>	V	UPL	N
EUPHORBIACEAE (Spurge Family)				
Petty spurge	<i>Euphorbia peplus</i>	H	UPL	I
Castor bean	<i>Ricinus communis</i>	S	FACU	I/L
FABACEAE (Legume Family)				
White sweet-clover	<i>Melilotus alba</i>	H	UPL	I
Black vetch	<i>Vicia sativa</i>	H	FACU	I
FAGACEAE (Oak Family)				
Coast live oak	<i>Quercus a. agrifolia</i>	T	UPL	N
GERANIACEAE (Geranium Family)				
Fish geranium?	<i>Pelargonium sp.</i>	H	UPL	I
LAURACEAE (Laurel Family)				
Avocado	<i>Persea americana</i>	T	UPL	I
MALVACEAE (Mallow Family)				
Bull mallow	<i>Malva nicaeensis</i>	H	UPL	I
MYRTACEAE (Eucalyptus Family)				
Blue gum	<i>Eucalyptus globulus</i>	T	UPL	I/M
Red-box	<i>Eucalyptus polyanthemus</i>	T	UPL	I
OLEACEAE (Olive Family)				
Olive	<i>Olea europaea</i>	T	UPL	I/L
Chinese privet	<i>Ligustrum lucidum</i>	T	UPL	I
Velvet ash	<i>Fraxinus velutina</i>	T	FAC	N
ONAGRACEAE (Evening Primrose Family)				
Hairy willow herb	<i>Epilobium ciliatum</i>	H	FACW	N
Wavy-leaved gaura	<i>Oenothera sinuosa</i>	H	UPL	I
PHRYMACEAE (Lopseed Family)				
Scarlet monkey-flower	<i>Mimulus cardinalis</i>	H	FACW	N
PLANTAGINACEAE (Plantain Family)				
Speedwell	<i>Veronica anagallis-aquatica</i>	H	OBL	I
PLATANACEAE (Sycamore Family)				
Western sycamore	<i>Platanus racemosa</i>	T	FAC	N
POLYGONACEAE (Buckwheat Family)				
Sea cliff wild buckwheat	<i>Eriogonum parvifolium</i>	S	UPL	N
Knot-weed	<i>Polygonum aviculare</i>	H	UPL	I
Willow dock	<i>Rumex salicifolius</i>	H	FACW	N
PORTULACAEAE (Purslane Family)				
Purslane	<i>Portulaca oleracea</i>	H	FACU	I

APPENDIX E-1

Vascular Flora Observed within the Biological Study Area
of the Carpinteria Creek Bridge Replacement Project

FAMILY NAME				
Common Name	Scientific Name	Growth Form ¹	Wetland Indicator Status ²	Native/Invasive Status ³
RANUNCULACEAE (Buttercup Family)				
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N
ROSACEAE (Rose Family)				
Toyon	<i>Heteromeles arbutifolia</i>	S	UPL	N
Rosa californica	<i>California wild rose</i>	S	FAC	N
Himalayan blackberry	<i>Rubus armeniacus</i>	S	FACU	I/H
California blackberry	<i>Rubus ursinus</i>	V	FACU	N
RUBIACEAE (Madder Family)				
Goose grass	<i>Galium aparine</i>	H	FACU	N
SALICACEAE (Willow Family)				
Black cottonwood	<i>Populus trichocarpa</i>	T	FAC	N
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N
Red willow	<i>Salix laevigata</i>	T	FACW	N
Narrow-leaf willow	<i>Salix exigua</i>	T	FACW	N
SAPINDACEAE (Soap-berry Family)				
California buckeye	<i>Aesculus californica</i>	T	UPL	Planted?
SCROPHULARIACEAE (Figwort Family)				
Myoporum	<i>Myoporum laetum</i>	T	FACU	I/M
Figwort	<i>Scrophularia californica</i>	H	FAC	N
SOLANACEAE (Nightshade Family)				
Douglas' nightshade	<i>Solanum douglasii</i>	H	FAC	N
TROPAEOLACEAE (Nasturtium Family)				
Garden nasturtium	<i>Tropaeolum majus</i>	V	UPL	I
URTICACEAE (Nettle Family)				
Hoary nettle	<i>Urtica dioica holosericea</i>	H	FAC	N
WOODSIACEAE (Cliff Fern Family)				
Lady fern	<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	H	FAC	N
ARECACEAE (Palm Family)				
Date palm	<i>Phoenix</i> sp.?	T	UPL	I/L
CYPERACEAE (Sedge Family)				
Flat-sedge	<i>Cyperus eragrostis</i>	H	FACW	N
Nut-sedge	<i>Cyperus involucratus</i>	H	FACW	I
Small-seed bulrush	<i>Scirpus microcarpus</i>	H	OBL	N
LILIACEAE (Lily Family)				
Dracena	<i>Cordyline</i> sp.	T	UPL	I
MUSACEAE (Banana Family)				
Banana	<i>Musa</i> sp.	T	UPL	I
POACEAE (Grass Family)				
Bent-grass	<i>Agrostis exarata</i>	G	FACW	N
Giant reed	<i>Arundo donax</i>	S	FACW	I/H
Wild oat	<i>Avena fatua</i>	G	UPL	I/M
Ripgut grass	<i>Bromus diandrus</i>	G	UPL	I/M
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I/H
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I/M
Saltgrass	<i>Distichlis spicata</i>	G	FAC	N
Giant wild-rye	<i>Elymus condensatus</i>	G	UPL	N
Beardless wild-rye	<i>Elymus triticoides</i>	G	UPL	N
Smilo grass	<i>Stipa millacea</i> var. <i>miliacea</i>	G	UPL	I/L
Kikuyu grass	<i>Pennisetum cladeinum</i>	G	UPL	I/L

APPENDIX E-1

**Vascular Flora Observed within the Biological Study Area
of the Carpinteria Creek Bridge Replacement Project**

FAMILY NAME		Growth	Wetland	Native/Invasive
Common Name	Scientific Name	Form ¹	Indicator Status ²	Status ³
Annual beard grass	<i>Polypogon monspeliensis</i>	G	FACW	I/L
TYPHACEAE (Cattail Family)				
Southern cattail	<i>Typha domingensis</i>	H	OBL	N
Broad-leaf cattail	<i>Typha latifolia</i>	H	OBL	N

Growth Form¹

H – Herbaceous
G – Grass
S – Shrub
T – Tree
V – Vine

Wetland Indicator Status²

OBL – Obligate wetland species, occurs almost always in wetlands (>99% probability)
FACW – Facultative wetland species, usually found in wetlands (67-99% probability)
FAC – Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)
FACU – Facultative upland species, not usually found in wetlands (1-33% probability)
UPL – Upland species, almost never found in wetlands (<1% probability)

Native Status³

N – Native
I – Introduced

Invasive Status³

L – Limited
M – Moderate
H – High

Plant Community⁴

AG – Annual grassland
CB – Coyote brush scrub
DV – Developed, disturbed areas
OW – Oak woodland
RF – Oak riparian forest
RS – Riparian scrub
PS – Purple sage scrub

APPENDIX E-2

 Vertebrate Animal Species Observed or Expected within the Carpinteria Avenue Bridge Replacement BSA, Santa Barbara County, California

Family Common Name	Scientific Name	Protected Status	Habitat Use
FISH			
Petromyzontidae			
Pacific lamprey	<i>Entosphenus tridentata</i>	SA	Migration
Gobiidae			
Arrow goby	<i>Clevelandia ios</i>	--	F
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE, CSC	B/F
Cyprinodontidae			
California killifish	<i>Fundulus parvipinnis</i>	--	B/F
Salmonidae			
Steelhead/rainbow trout	<i>Oncorhynchus mykiss</i>	FE, CSC	Migration
Gasterosteidae			
Partially armored 3-spined stickleback*	<i>Gasterosteus aculeatus</i>	--	B/F
Cottidae			
Prickly sculpin	<i>Cottus asper</i>	--	B/F
Staghorn sculpin	<i>Leptocottus armatus</i>	--	B/F
Atherinidae			
Topsmelt	<i>Atherinops affinis</i>	--	F
AMPHIBIANS			
Plethodontidae			
Ensatina	<i>Ensatina eschscholtzi</i>	--	B/F
Black-bellied slender salamander	<i>Batrachoseps nigriventris</i>	--	B/F
Pacific slender salamander	<i>Batrachoseps pacificus</i>	--	B/F
Arboreal salamander	<i>Aneides lugubris</i>	--	B/F
Bufo			
Western toad	<i>Bufo boreas</i>	--	B/F
Hylidae			
Baja California treefrog*	<i>Pseudacris hypochondriaca</i>	--	B/F
California treefrog	<i>Pseudacris cadaverina</i>	--	B/F
REPTILES			
Iguanidae			
Western fence lizard*	<i>Sceloporus occidentalis</i>	--	B/F
Side-blotched lizard	<i>Uta stansburiana</i>	--	B/F
Emydidae			
Pacific pond turtle	<i>Emys marmorata</i>	CSC	B/F
Scincidae			
Western skink	<i>Eumeces skiltonianus</i>	--	B/F
Anguidae			
Southern alligator lizard	<i>Elgaria multicarinata</i>	--	B/F
Colubridae			
Monterey ringneck snake	<i>Diadophis punctatus vandenburghi</i>	--	B/F
Racer	<i>Coluber constrictor</i>	--	B/F

APPENDIX E-2

 Vertebrate Animal Species Observed or Expected within the Carpinteria Avenue Bridge Replacement BSA, Santa Barbara County, California

Family Common Name	Scientific Name	Protected Status	Habitat Use
California whipsnake	<i>Masticophis lateralis</i>	--	B/F
Gopher snake	<i>Pituophis melanoleucus</i>	--	B/F
Common kingsnake	<i>Lampropeltis getulus</i>	--	B/F
Common garter snake	<i>Thamnophis sirtalis</i>	--	B/F
Terrestrial garter snake	<i>Thamnophis elegans</i>	--	B/F
Western aquatic garter snake	<i>Thamnophis couchi</i>	--	B/F
Viperidae			
Western rattlesnake	<i>Crotalus viridis</i>	--	B/F
BIRDS			
Ardeidae			
Green heron	<i>Butorides striatus</i>	M	F
Black-crowned night-heron	<i>Nycticorax nycticorax</i>	M, SA (nesting)	F
Phalacrocoracidae			
Double-crested cormorant*	<i>Phalacrocorax auritus</i>	M, WL (nesting)	F
Laridae			
Western gull*	<i>Larus occidentalis</i>	M	F
Ring-billed gull	<i>Larus delawarensis</i>	M	F
Mew gull	<i>Larus canus</i>	M	F
Heermann's gull	<i>Larus heermanni</i>	M	F
Glaucous-winged gull	<i>Larus hyperboreus</i>	M	F
Bonaparte's gull	<i>Chroicocephalus philadelphia</i>	M	F
Royal tern	<i>Thalasseus maximus</i>	M	F
Forster's tern	<i>Sterna forsteri</i>	M, SA (nesting)	F
Elegant tern	<i>Thalasseus elegans</i>	M	F
Anatidae			
Mallard*	<i>Anas platyrhynchos</i>	M	B/F
Alcedinidae			
Belted kingfisher	<i>Megasceryle alcyon</i>	M	F
Cathartidae			
Turkey vulture*	<i>Cathartes aura</i>	M	F
Scolopadidae			
Willet	<i>Tringa semipalmata</i>	M	F
Whimbrel	<i>Numenius phaeopus</i>	M	F
Sanderling	<i>Calidris alba</i>	M	F
Marbled godwit	<i>Limosa fedoa</i>	M	F
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>	M	F
Western sandpiper	<i>Calidris mauri</i>	M	F
Spotted sandpiper	<i>Actitis macularius</i>	M	F
Least sandpiper	<i>Calidris minutilla</i>	M	F
Charadriidae			
Killdeer*	<i>Charadrius vociferus</i>	M	B/F
Black-bellied plover	<i>Pluvialis squatarola</i>	M	F

APPENDIX E-2

Vertebrate Animal Species Observed or Expected within the Carpinteria Avenue Bridge Replacement BSA, Santa Barbara County, California

Family Common Name	Scientific Name	Protected Status	Habitat Use
Pandionidae			
Osprey	<i>Pandion haliaetus</i>	M	F
Accipitridae			
White-tailed kite	<i>Elanus leucurus</i>	M, FP	B/F
Sharp-shinned hawk	<i>Accipiter striatus</i>	M, WL (nesting)	F
Cooper's hawk*	<i>Accipiter cooperii</i>	M, WL (nesting)	F
Red-shouldered hawk*	<i>Buteo lineatus</i>	M	F
Red-tailed hawk	<i>Buteo jamaicensis</i>	M	F
Falconidae			
American kestrel	<i>Falco sparverius</i>	M	B/F
Rallidae			
American coot*	<i>Fulica americana</i>	M	B/F
Columbidae			
Band-tailed pigeon	<i>Patagioenas fasciata</i>	M	B/F
Rock dove*	<i>Columba livia</i>	--	B/F
Mourning dove*	<i>Zenaida macroura</i>	M	B/F
Trochilidae			
Anna's hummingbird*	<i>Calypte anna</i>	M	B/F
Allen's hummingbird*	<i>Selasphorus sasin</i>	M	F
Black-chinned hummingbird	<i>Archilochus alexandri</i>	M	F
Sittidae			
White-breasted nuthatch	<i>Sitta carolinensis</i>	M	F
Picidae			
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>	M	F
Nuttall's woodpecker	<i>Picooides nuttallii</i>	M, SA (nesting)	B/F
Acorn woodpecker*	<i>Melanerpes formicivorus</i>	M	B/F
Downy woodpecker*	<i>Picooides pubescens</i>	M	B/F
Hairy woodpecker*	<i>Picooides villosus</i>	M	B/F
Northern flicker	<i>Colaptes auratus</i>	M	B/F
Tyrannidae			
Western wood-pewee	<i>Contopus sordidulus</i>	M	B/F
Western kingbird	<i>Tyrannus verticalis</i>	M	F
Pacific-slope flycatcher*	<i>Empidonax difficilis</i>	M	B/F
Black phoebe*	<i>Sayornis nigricans</i>	M	B/F
Say's phoebe	<i>Sayornis saya</i>	M	F
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	M	B/F
Hirundinidae			
Northern rough-winged swallow*	<i>Stelgidopteryx serripennis</i>	M	B/F
Cliff swallow*	<i>Petrochelidon pyrrhonota</i>	M	B/F
Barn swallow*	<i>Hirundo rustica</i>	M	B/F
Thraupidae			
Western tanager	<i>Piranga ludoviciana</i>	M	T
Laniidae			
Loggerhead shrike	<i>Lanius ludovicianus</i>	M, CSC (nesting)	B/F

APPENDIX E-2

Vertebrate Animal Species Observed or Expected within the Carpinteria Avenue Bridge Replacement BSA, Santa Barbara County, California

Family Common Name	Scientific Name	Protected Status	Habitat Use
Corvidae			
Western scrub-jay*	<i>Aphelocoma californica</i>	M	B/F
American crow*	<i>Corvus brachyrhynchos</i>	M	B/F
Paridae			
Oak titmouse*	<i>Baeolophus inornatus</i>	M, SA (nesting)	B/F
Aegithalidae			
Bushtit*	<i>Psaltriparus minimus</i>	M	B/F
Troglodytidae			
Winter wren	<i>Troglodytes hiemalis</i>	M	F
Marsh wren	<i>Cistothorus palustris</i>	M	F
Bewick's wren	<i>Thryomanes bewickii</i>	M	B/F
House wren*	<i>Troglodytes aedon</i>	M	B/F
Muscicapidae			
Ruby-crowned kinglet	<i>Regulus calendula</i>	M	F
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	M	F
Swainson's thrush	<i>Catharus ustulatus</i>	M	B/F
Hermit thrush	<i>Catharus guttatus</i>	M	F
American robin*	<i>Turdus migratorius</i>	M	B/F
Timaliidae			
Wrentit	<i>Chamaea fasciata</i>	M	B/F
Mimidae			
Northern mockingbird*	<i>Mimus polyglottos</i>	M	B/F
Bombycillidae			
Cedar waxwing	<i>Bombycilla cedrorum</i>	M	F
Sturnidae			
European starling	<i>Sturnus vulgaris</i>	--	B/F
Vireonidae			
Hutton's vireo	<i>Vireo huttoni</i>	M	B/F
Warbling vireo	<i>Vireo gilvus</i>	M	F
Parulidae			
Yellow warbler	<i>Setophaga petechial brewsteri</i>	M, CSC (nesting)	B/F
Townsend's warbler	<i>Setophaga townsendi</i>	M	F
Orange-crowned warbler	<i>Vermivora celata</i>	M	B/F
Yellow-rumped warbler	<i>Dendroica coronata</i>	M	F
Common yellowthroat*	<i>Geothlypis trichas</i>	M	B/F
Black-throated gray warbler	<i>Setophaga nigrescens</i>	M	F
Wilson's warbler*	<i>Wilsonia pusilla</i>	M	B/F
Emberizidae			
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	M	B/F
Spotted towhee*	<i>Pipilo maculatus</i>	M	B/F
California towhee*	<i>Melospiza crissalis</i>	M	B/F
Fox sparrow	<i>Passerella iliaca</i>	M	F
Lincoln's sparrow	<i>Melospiza lincolnii</i>	M	F
Song sparrow*	<i>Melospiza melodia</i>	M	B/F

APPENDIX E-2

 Vertebrate Animal Species Observed or Expected within the Carpinteria Avenue Bridge Replacement BSA, Santa Barbara County, California

Family Common Name	Scientific Name	Protected Status	Habitat Use
Golden-crowned sparrow*	<i>Zonotrichia atricapilla</i>	M	F
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	M	F
Dark-eyed junco	<i>Junco hyemalis</i>	M	B/F
Icteridae			
Western meadowlark	<i>Sturnella neglecta</i>	M	F
Brewer's blackbird*	<i>Euphagus cyanocephalus</i>	M	B/F
Brown-headed cowbird	<i>Molothrus ater</i>	M	B/F
Red-winged blackbird	<i>Agelaius phoeniceus</i>	M	B/F
Bullock's oriole	<i>Icterus bullockii</i>	M	B/F
Hooded oriole	<i>Icterus cucullatus</i>	M	B/F
Fringillidae			
Purple finch	<i>Haemorhous purpureus</i>	M	B/F
House finch*	<i>Carpodacus mexicanus</i>	M	B/F
Lesser goldfinch	<i>Spinus psaltria</i>	M	B/F
American goldfinch	<i>Spinus tristis</i>	M	B/F
Passeridae			
House sparrow	<i>Passer domesticus</i>	--	B/F
MAMMALS			
Didelphidae			
Virginia opossum*	<i>Didelphis virginiana</i>		B/F
Soridae			
Ornate shrew	<i>Sorex ornatus</i>		B/F
Trowbridge's shrew	<i>Sorex trowbridgii</i>		B/F
Talpidae			
Broad-footed mole	<i>Scapanus latimanus</i>		B/F
Vespertilionidae			
Yuma myotis bat*	<i>Myotis yumanensis</i>	SA	F
Big brown bat*	<i>Eptesicus fuscus</i>		F
California myotis	<i>Myotis californicus</i>		F
Western pipistrelle	<i>Pipistrellus hesperus</i>		F
Molossidae			
Brazilian free-tailed bat*	<i>Tadarida brasiliensis</i>		B/F
Leporidae			
Desert cottontail	<i>Sylvilagus audubonii</i>		B/F
Sciuridae			
California ground squirrel*	<i>Spermophilus beecheyi</i>		B/F
Western gray squirrel*	<i>Sciurus griseus</i>		B/F
Geomyidae			
Botta's pocket gopher*	<i>Thomomys bottae</i>		B/F
Cricetidae			
Western harvest mouse	<i>Reithrodontomys megalotis</i>		B/F
California mouse	<i>Peromyscus californicus</i>		B/F
Deer mouse	<i>Peromyscus maniculatus</i>		B/F
Dusky-footed woodrat	<i>Neotoma fuscipes</i>		B/F

APPENDIX E-2

Vertebrate Animal Species Observed or Expected within the Carpinteria Avenue Bridge Replacement BSA, Santa Barbara County, California

Family Common Name	Scientific Name	Protected Status	Habitat Use
California vole	<i>Microtus californicus</i>		B/F
Muridae			
House mouse	<i>Mus musculus</i>		B/F
Black rat	<i>Rattus rattus</i>		B/F
Canidae			
Coyote*	<i>Canis latrans</i>		F
Gray fox	<i>Urocyon cinereoargenteus</i>		F
Domestic dog*	<i>Canis familiaris</i>		F
Procyonidae			
Ringtail	<i>Bassariscus astutus</i>		B/F
Raccoon*	<i>Procyon lotor</i>		B/F
Mustelidae			
Long-tailed weasel	<i>Mustela frenata</i>		B/F
Western spotted skunk	<i>Spilogale gracilis</i>		B/F
Striped skunk	<i>Mephitis mephitis</i>		B/F
Felidae			
Mountain lion	<i>Felis concolor</i>		F
Bobcat	<i>Lynx rufus</i>		F
Feral cat	<i>Felis catus</i>		B/F
Cervidae			
Black-tailed deer*	<i>Odocoileus hemionus</i>		F

*Observed during one or more field surveys conducted on June 21 and July 18 & 20, 2013, February 18 and May 29, 2014

¹Habitat Use

B – Breeding
F – Foraging

²Protected Status

FP – Protected under California Fish and Game Code
CSC – California Species of Special Concern
SA – California Special Animal
FE – Federal-listed Endangered Species
FT – Federal-listed Threatened Species
SE – State-listed Endangered Species
ST – State-listed Threatened Species
M – Migratory Bird Treaty Act Species

Fish nomenclature after Miller and Lea (1972); Moyle (1976); and Swift et al. (1993)
Amphibian and reptile nomenclature based on Jensen (1983)
Bird nomenclature after American Ornithologists Union (2009)
Mammal nomenclature after Hall (1981)

APPENDIX F

TREE REMOVAL DATA AND MAP

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
1	Western sycamore	<i>Platanus racemosa</i>	24	To be removed
2	Arroyo willow	<i>Salix lasiolepis</i>	8	To be removed
3	Arroyo willow	<i>Salix lasiolepis</i>	10	To be removed
4	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
5	Black cottonwood	<i>Populus trichocarpa</i>	18	To be removed
6	Western sycamore	<i>Platanus racemosa</i>	25,22,9	To be removed
7	Western sycamore	<i>Platanus racemosa</i>	18,24	To be removed
8	Western sycamore	<i>Platanus racemosa</i>	22	To be removed
9	Western sycamore	<i>Platanus racemosa</i>	36,40	Protect in place
10	Western sycamore	<i>Platanus racemosa</i>	21,22,12	To be removed
11	Western sycamore	<i>Platanus racemosa</i>	12,6	To be removed
12	Western sycamore	<i>Platanus racemosa</i>	12	To be removed
13	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
14	Arroyo willow	<i>Salix lasiolepis</i>	12	To be removed
15	Arroyo willow	<i>Salix lasiolepis</i>	12	To be removed
16	Arroyo willow	<i>Salix lasiolepis</i>	11,4	To be removed
17	Arroyo willow	<i>Salix lasiolepis</i>	8	To be removed
18	Western sycamore	<i>Platanus racemosa</i>	6	To be removed
19	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
20	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
21	White alder	<i>Alnus rhombifolia</i>	5,3	To be removed
22	Arroyo willow	<i>Salix lasiolepis</i>	4,4,3	To be removed
23	Arroyo willow	<i>Salix lasiolepis</i>	10,7,7,4	To be removed
24	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
25	Arroyo willow	<i>Salix lasiolepis</i>	~10	To be removed
26	Arroyo willow	<i>Salix lasiolepis</i>	~9	To be removed
27	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	28	To be removed

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

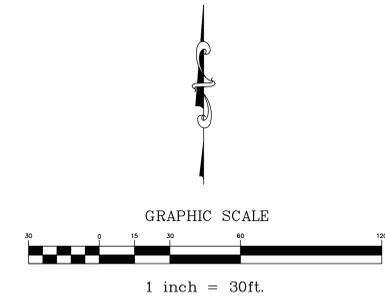
Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
28	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	~26	To be removed
29	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	~24	To be removed
30	Silver dollar gum	<i>Eucalyptus polyanthemos</i>	~25	To be removed
31	Coast live oak	<i>Quercus agrifolia</i>	13	To be removed
32	Western sycamore	<i>Platanus racemosa</i>	13,7,4	To be removed
33	Western sycamore	<i>Platanus racemosa</i>	13	To be removed
34	Western sycamore	<i>Platanus racemosa</i>	16	To be removed
35	Western sycamore	<i>Platanus racemosa</i>	14	Protect in place
36	Coast live oak	<i>Quercus agrifolia</i>	7	Protect in place
37	Arroyo willow	<i>Salix lasiolepis</i>	6	To be removed
38	Coast live oak	<i>Quercus agrifolia</i>	5	To be removed
39	Western sycamore	<i>Platanus racemosa</i>	16	To be removed
40	Arroyo willow	<i>Salix lasiolepis</i>	8,9	To be removed
41	Coast live oak	<i>Quercus agrifolia</i>	4	To be removed
42	Arroyo willow	<i>Salix lasiolepis</i>	11	To be removed
43	Arroyo willow	<i>Salix lasiolepis</i>	6	To be removed
44	Western sycamore	<i>Platanus racemosa</i>	17	To be removed
45	Arroyo willow	<i>Salix lasiolepis</i>	7,6	To be removed
46	Western sycamore	<i>Platanus racemosa</i>	19	To be removed
47	Arroyo willow	<i>Salix lasiolepis</i>	7	To be removed
48	Arroyo willow	<i>Salix lasiolepis</i>	9,4	To be removed
49	Arroyo willow	<i>Salix lasiolepis</i>	8,3,3	To be removed
50	Western sycamore	<i>Platanus racemosa</i>	14	To be removed
51	Arroyo willow	<i>Salix lasiolepis</i>	4	To be removed
52	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
53	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter ("") at Breast Height	Status
54	Western sycamore	<i>Platanus racemosa</i>	5	To be removed
55	Coast live oak	<i>Quercus agrifolia</i>	6	To be removed
56	Arroyo willow	<i>Salix lasiolepis</i>	27	To be removed
57	Arroyo willow	<i>Salix lasiolepis</i>	14	To be removed
58	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
59	Western sycamore	<i>Platanus racemosa</i>	19	To be removed
60	Arroyo willow	<i>Salix lasiolepis</i>	4,4	To be removed
61	Arroyo willow	<i>Salix lasiolepis</i>	4,4	To be removed
62	Coast live oak	<i>Quercus agrifolia</i>	15	To be removed
63	Arroyo willow	<i>Salix lasiolepis</i>	16,9	To be removed
64	Arroyo willow	<i>Salix lasiolepis</i>	13	To be removed
65	Arroyo willow	<i>Salix lasiolepis</i>	9	To be removed
66	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
67	Western sycamore	<i>Platanus racemosa</i>	4	To be removed
68	Western sycamore	<i>Platanus racemosa</i>	5	To be removed
69	Western sycamore	<i>Platanus racemosa</i>	5,6	To be removed
70	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
71	Western sycamore	<i>Platanus racemosa</i>	7	To be removed
72	White alder	<i>Alnus rhombifolia</i>	4	To be removed
73	White alder	<i>Alnus rhombifolia</i>	13	To be removed
74	Western sycamore	<i>Platanus racemosa</i>	7	To be removed
75	Velvet ash	<i>Fraxinus velutina</i>	5,5	To be removed
76	White alder	<i>Alnus rhombifolia</i>	10	To be removed
77	Western sycamore	<i>Platanus racemosa</i>	15	To be removed
78	Western sycamore	<i>Platanus racemosa</i>	11	To be removed
79	Western sycamore	<i>Platanus racemosa</i>	8	To be removed

**CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT
TREE IMPACT TABLE**

Tree Number	Common Name	Scientific Name	Diameter (" at Breast Height	Status
80	White alder	<i>Alnus rhombifolia</i>	5	To be removed
81	Red willow	<i>Salix laevigata</i>	21	To be removed
82	Arroyo willow	<i>Salix lasiolepis</i>	6,7	To be removed
83	Western sycamore	<i>Platanus racemosa</i>	25	To be removed
84	Arroyo willow	<i>Salix lasiolepis</i>	14,8	To be removed
85	Black cottonwood	<i>Populus trichocarpa</i>	14	To be removed
86	Arroyo willow	<i>Salix lasiolepis</i>	4,3	To be removed
87	Arroyo willow	<i>Salix lasiolepis</i>	6	To be removed
88	Arroyo willow	<i>Salix lasiolepis</i>	7	To be removed
89	Arroyo willow	<i>Salix lasiolepis</i>	5,4	To be removed
90	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
91	Red willow	<i>Salix laevigata</i>	4	To be removed
92	Arroyo willow	<i>Salix lasiolepis</i>	12	To be removed
93	Arroyo willow	<i>Salix lasiolepis</i>	4,3,3	To be removed
94	Arroyo willow	<i>Salix lasiolepis</i>	11	To be removed
95	Arroyo willow	<i>Salix lasiolepis</i>	5,6	To be removed
96	Arroyo willow	<i>Salix lasiolepis</i>	5	To be removed
97	Arroyo willow	<i>Salix lasiolepis</i>	7,8,9	To be removed
98	Arroyo willow	<i>Salix lasiolepis</i>	~9	To be removed



LEGEND

-  MAPPED TREE LOCATION
-  AREA OF DIRECT IMPACT

NOTE: ONLY TREES NOTED IN WHITE TEXT HAVE BEEN SURVEYED, ALL OTHER LOCATIONS ARE APPROXIMATE

REV	REVISIONS	DATE	REFERENCE DRAWINGS	ENGINEER	CHECKED	DRAWN	DATE
		07-19-2013	CARDENAS AND ASSOCIATES SURVEYING, INC.			PMC	01/15



TREE LOCATION MAP CARPINTERIA AVENUE BRIDGE REPLACEMENT PROJECT CARPINTERIA, CA		
PROJECT NO. 1302-1391	DATE JANUARY 2015	DWG. NO. EXHIBIT A
SCALE AS NOTED		