

RECLAMATION

Managing Water in the West

South Coast Conduit/Upper Reach Reliability Project

Final Environmental Impact Statement/Final Environmental Impact Report

State Clearinghouse # 2007041052



U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South Central California Area Office
Fresno, California



November 2010

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

South Coast Conduit/Upper Reach Reliability Project Final Environmental Impact Statement/Environmental Impact Report Santa Barbara County

State Clearinghouse #2007041052

Prepared for:

NEPA Lead Agency: U.S. Department of the Interior, Bureau of Reclamation
Mid-Pacific Region, South-Central California Area Office

CEQA Lead Agency: Cachuma Operation and Maintenance Board
Santa Barbara, California

The Bureau of Reclamation (Reclamation) and the Cachuma Operation and Maintenance Board (COMB) have prepared this Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to identify and evaluate the potential environmental impacts associated with implementation of the proposed South Coast Conduit/Upper Reach Reliability Project.

The Proposed Action involves construction of a second water supply pipeline with appurtenant facilities between the South Portal of the Tecolote Tunnel (SPTT) and the Corona Del Mar Water Treatment Plant (CDMWTP) in Santa Barbara County, California.

The Final EIS/EIR presents the No Action Alternative and No Project Alternative as well as three action alternatives including: the Preferred Alternative (parallel and non-parallel pipeline), Alternative A (parallel pipeline), and Alternative B (non-parallel pipeline).

This Final EIS/EIR is prepared in compliance with the National Environmental Policy Act (NEPA), Reclamation NEPA procedures and the California Environmental Quality Act (CEQA) and CEQA guidelines.

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List of Acronyms and Abbreviations

AIFRA	American Indian Religious Freedom Act
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CBC	California Building Code
CCR	California Code of Regulations
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CDMWTP	Corona Del Mar Water Treatment Plant
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO ₂	Carbon dioxide
COMB	Cachuma Operation and Maintenance Board
Corps	U.S. Army Corps of Engineers
Council	National Invasive Species Council
CRHR	California Register of Historic Places
CSC	California Species of Special Concern
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel (decibel logarithmic scale)
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
ESU	Evolutionary Significant Unit
FEIS	Final Environmental Impact Statement
FWCA	Fish & Wildlife Coordination Act
GHG	greenhouse gases
GWC	Goleta West Conduit
HGL	Hydraulic Grade Level
IBC	International Building Code
ITA	Indian Trust Asset
L _{DN}	Day-night average sound levels
L _{EQ}	Equivalent sound level

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LOS	Level of Service
M&I	Municipal and Industrial
MBTA	Migratory Bird Treaty Act
MGD	Million gallons per day
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O ₃	Ozone
O&M	Operations and maintenance
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PPM	Parts per million
PRC	Public Resources Code
Reclamation	Bureau of Reclamation
ROD	Record of Decision
ROG	Reactive organic gases
ROW	Rights of way
RWQCB	Regional Water Quality Control Board
SAA	Stream Alteration Agreement
SAIC	Science Applications International Corporation
SBCAG	Santa Barbara County Association of Governments
SBCAPCD	Santa Barbara County Air Pollution Control District
SCC	South Coast Conduit
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
SPTT	South Portal of the Tecolote Tunnel
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Program
SWRCB	State Water Resources Control Board
U.S. 101	United States Highway 101
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
V/C	Volume-to-capacity
VOC	Volatile organic compounds

Executive Summary

The South Coast Conduit/Upper Reach Reliability Project (Proposed Action) Final EIS/EIR addresses the alternatives, affected environment, and environmental consequences associated with construction of a second water supply pipeline with appurtenant facilities between the SPTT and the CDMWTP in Santa Barbara County, California. Reclamation is the federal lead agency for NEPA compliance and preparation of the EIS for the Proposed Action and COMB is the state lead agency for CEQA compliance and preparation of the EIR for the Proposed Action.

The purpose of this Final EIS/EIR is to inform decisionmakers and stakeholders about the potential adverse and beneficial impacts of the Proposed Action and associated alternatives. This Final EIS/EIR also provides responses to comments received on the Draft EIS/EIR and updates and corrects portions of the Draft EIS/EIR resulting from issues identified during the public review period and based on additional COMB-initiated design. Since circulation of the Draft EIS/EIR, COMB has decided to keep ownership of the new pipeline and has also requested an easement from Reclamation. Consequently, Reclamation's federal action has been changed to include issuing permits and easements for the construction of a secondary water supply pipeline. Additional changes have been made to the document in order to comply with Reclamation Visual Identity formatting and for clarity. The most important changes are also addressed in the following bulleted list along with the reason for the change in some cases.

Significance under NEPA (as listed in 40 Code of Federal Regulations [CFR] 1508.27) refers to a threshold level of adverse impact based on context (setting) in which the action takes place and the intensity (severity) of its effect. Significance under CEQA refers to "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance".

None of the changes described below meet the regulatory definition for significance in 40 CFR 1508.27(a) and (b). These regulations require an agency preparing a NEPA document to review new circumstances, conditions or information relevant to environmental concerns from the Proposed Action, using context and intensity as the trigger for environmental impact significance. Reclamation has reviewed each substantive change through this regulatory standard and has determined that none of the changes, individually or collectively, require re-circulation of the Draft EIS/EIR as none involve a substantial change in circumstances, conditions or determination of significant impacts from what was addressed in the Draft EIS/EIR.

- Global Climate Change was not analyzed. The Ninth Circuit Court of Appeals held in November, 2007 that federal agencies must assess carbon dioxide (CO₂) emissions and other climate change impacts in environmental review documents prepared under NEPA. The Draft EIS/EIR was in development at that time and policy for addressing Global Climate

Change had not yet been established. This Final EIS/EIR addresses the issue using current policy.

- The Biological Resources section, Alternatives section and Coordination and Consultation section did not include Reclamation's responses to consultation from the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) because consultation had not been completed at that time. This Final EIS/EIR addresses the consultation as it relates to those sections.
- Indian Sacred Sites were not analyzed. This Final EIS/EIR addresses Indian Sacred Sites.
- The analysis focused on the comparison between the three Action Alternatives as opposed to the No Action Alternative. This Final EIS/EIR focuses on the comparison of the Action Alternatives to the No Action Alternative.

Public Involvement

Reclamation and COMB conducted a joint public scoping meeting at the COMB office, 3301 Laurel Canyon Road, Santa Barbara, California on May 17, 2007. During this meeting information was presented on the Proposed Action and input was solicited from the public for topics to include in the draft EIA/EIR. No issues were raised by the public.

The Draft EIS/EIR for the Proposed Action was distributed for a 45-day public review and comment period beginning on August 20, 2008. The Draft EIS/EIR evaluated the potential environmental impacts for the same alternatives described in this Final EIS/EIR with only a slight difference in alignment for the Preferred Alternative. The difference in alignment falls within the same construction easement analyzed in the Draft EIS/EIR.

To provide the public with opportunities to submit verbal and written comments on the Draft EIS/EIR, a second public meeting was held at the COMB office on September 10, 2008. During the public review period, five comment letters were received, and no comments were made at the public meeting. The comment letters and responses to comments are located in Appendix E of the Final EIS/EIR.

On March 25, 2009, a Notice of Determination was submitted to the Santa Barbara County Clerk by COMB to finalize the joint document pursuant to the CEQA. Consequently, this Final EIS/EIR incorporates NEPA protocol and terminology in order to finalize the EIS portion of the document pursuant to NEPA.

ES-1 Intended Uses and Authorizing Agencies

Reclamation has prepared this joint EIS/EIR in accordance with the requirements of NEPA (42 United States Code [USC] 4341 *et seq.*) and Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500-1508), which require the evaluation of potential environmental impacts resulting from federal actions.

The primary federal action associated with the Proposed Action is the issuance of permits and easements authorizing pipeline construction within Reclamation rights-of-way (ROW) and modification of federal facilities. This action may result in significant effects on the

environment, thus constituting a major federal action requiring NEPA review (42 USC 4341 *et seq.*).

COMB has prepared this EIS/EIR to fulfill the requirements of CEQA (Public Resources Code [PRC], Section 21000 *et seq.*) and State CEQA Guidelines (14 California Code of Regulations [CCR], Section 15000 *et seq.*). According to CEQA Guidelines Section 15121(a) (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that:

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

By preparing a single document that complies with both statutes, the involved agencies have avoided duplication of effort. The statutes are similar in that they require federal and state agencies to consider a range of alternatives to meet the purpose of a particular proposed action, to evaluate the impacts of the alternatives, and to disclose the alternatives and impacts to the public prior to making a commitment of resources. The statutes differ in several ways; two of the more substantive are as follows:

- CEQA requires state agencies to implement feasible mitigation, whereas NEPA requires only that federal agencies consider mitigation
- CEQA requires that proposed actions be compared to existing conditions, whereas NEPA requires that they be compared to future conditions without the Proposed Action

This Final EIS/EIR evaluates the direct, indirect, and cumulative impacts of the Proposed Action in accordance with the provisions set forth in the NEPA and CEQA Guidelines and regulations. It will be used to address potentially significant environmental issues and to recommend adequate and feasible mitigation measures that, where possible, could reduce or eliminate significant environmental impacts.

Other state and local agencies that have jurisdiction or regulatory responsibility over components of the Proposed Action would also rely on this EIS/EIR for CEQA and NEPA compliance as part of their decision-making processes.

ES-2 Proposed Action Purpose and Need/Objectives

NEPA Purpose and Need

The South Coast Conduit (SCC) and the SPTT are over 50 years old and have deteriorated due to the presence of hydrogen sulfide gas within the water conveyed through this system. In addition, no redundant supply or pipeline exists to convey Cachuma Project water or California State Water Project (SWP) water to the South Coast (i.e., the communities of Goleta, Santa Barbara, Montecito, Summerland, and Carpinteria) if the Upper Reach of the SCC is out of service due to scheduled and/or unexpected repairs.

The purpose of the Proposed Action is to increase the operational flexibility, reliability, and the conveyance capacity of the SCC between the SPTT and the CDMWTP. As limitations and age of the original equipment, significant system modifications, and increased demands constrain the ability of the SCC to function at the system's original design capacity, COMB is forced to rely on water stored in Lauro, Ortega, and Carpinteria reservoirs to meet regional water needs. These reservoirs have limited storage capacity and cannot meet peak demands. Demand has previously been met through an agreement with the City of Santa Barbara for non-Cachuma Project water delivered from Gibraltar Reservoir to Lauro Reservoir. However, due to siltation issues in Gibraltar, water demands will not be able to be met long-term through this agreement. As the Upper Reach capacity of the SCC is insufficient to meet demands and is located upstream from the sources of demand, the proposed improvements would allow more water flow farther along the pipeline to improve its level of service and reliability.

The Proposed Action is needed to increase reliability and provide COMB the ability to perform regularly scheduled inspections and maintenance to one pipeline while the second pipeline is operational. The Proposed Action is also needed to increase operational flexibility by providing higher flow rates (up to the 65 million gallons per day [MGD] tunnel capacity) to CDMWTP and increased flow rates to facilities downstream of the CDMWTP during times of peak demand. However, total amount of water delivered per year would not increase.

CEQA Project Objectives

The EIS/EIR examines in detail those alternatives that COMB determines could "feasibly attain most of the project objectives" (CEQA Guidelines Section 15126.6[f]). The objectives of the Proposed Action are to:

- Replace deteriorated water infrastructure with adequate structures to accommodate regional water needs and improve the level of service and operability;
- Provide a second pipeline to convey Cachuma Project water or SWP water to the South Coast if the Upper Reach of the SCC is out of service due to scheduled and/or unexpected repairs; and
- Increase operational flexibility by providing higher flow rates to accommodate regional water needs during times of peak demand.

Project Location

The Proposed Action site is located in Glen Annie Canyon, north of the City of Goleta, in Santa Barbara County, California. The Proposed Action site encompasses the area surrounding the existing SCC between the SPTT and the CDMWTP.

ES-3 Description of the Project Alternatives

NEPA (40 CFR 1502.14[a]) and CEQA Guidelines (15126.6) require that an EIS and an EIR examine alternatives to a Proposed Action in order to explore a reasonable range of alternatives that meet most of the basic Proposed Action objectives, while reducing the severity of potentially significant environmental impacts. The EIS/EIR will compare merits of the alternatives and determine an environmentally superior alternative. The five alternatives that were selected to be

carried forward for detailed analysis in the EIS/EIR include the No Action Alternative, No Project Alternative and three action alternatives including the Preferred Alternative (parallel and non-parallel pipeline), Alternative A (parallel) pipeline, and Alternative B (non-parallel) pipeline.

No Action Alternative

Under the No Action Alternative, Reclamation would not issue permits or an easement to COMB for construction of a secondary water service pipeline. The Proposed Action would not be built nor would improvements be made to any of the existing facilities; however, annual maintenance and operational activities for the SCC would continue to occur as it has in the past. General maintenance activities include inspection of the air release valves and blowoff valves for operability, annual inspection of the ROW for encroachments, and maintenance of the Glen Anne turnout, Corona Del Mar turnout, and Glen Anne meter.

The damage to the concrete in the SPTT due to hydrogen sulfide gas within the water would continue, increasing the likelihood of structural failure. Failure of the SPTT would cause the entire SCC to be out of service (i.e., no water deliveries from Lake Cachuma to the South Coast) for the two to four weeks needed for repair. The Goleta Water District, City of Santa Barbara, Carpinteria Valley Water District, and Montecito Water District would be out of water within two weeks of structure failure, thereby disrupting water service to 200,000 residents of the South Coast. Potential consequences of structural failure may include an uncontrolled release of water at a rate of 40+ MGD for a minimum of 6 hours and possibly up to 10 hours. The water would flow down slope from the SPTT through an existing avocado orchard and into the West Fork of Glen Annie Creek causing severe erosion and damage or removal of vegetation and wildlife habitat. Two residential structures located between the SPTT and Glen Annie Reservoir could be damaged. The water and much of the eroded soil would be contained within Glen Annie Reservoir with the remainder of the eroded soil deposited between the SPTT and Glen Annie Reservoir where water velocity would slow enough for deposition.

Erosion of the creek bed or damage to the SCC and its coating caused by erosion and flooding from the SPTT failure could result in additional pipeline failure at either the West Fork of Glen Annie Creek or the main stem of Glen Annie Creek. Failure of the pipeline at the West Fork crossing would have effects similar to those described for failure of the SPTT. Failure of the pipeline at the main stem crossing would have the same type of effects as described previously with additional potential impacts to an existing citrus orchard and the release of water continuing downstream to Goleta Slough and the Pacific Ocean.

No Project Alternative

The No Project Alternative would include the continued annual maintenance and operational activities described under the No Action Alternative as well as construction of site improvements. Site improvements would include replacement of the SPTT, Glen Anne and Corona Del Mar turnout structures, and Glen Anne meter. Additionally, existing downstream degradation of all stream crossings would require substantial improvements to protect the existing pipeline and reduce the potential for damage. Site improvements under this alternative would include stream crossing work that would require a Section 404 permit from the U.S. Army Corps of Engineers (Corps). Reclamation approval would also be needed for construction of site

improvements (MP620 permit) as these would entail additions and alterations to federal facilities. Under this alternative, long shutdowns would be required to accommodate the reasonably foreseeable site improvements. Construction of site improvements required under the No Project Alternative would only occur in the event the Proposed Action is not approved and after evaluation under a separate environmental review process.

Preferred Alternative (Parallel and Non-Parallel Pipeline)

The Preferred Alternative alignment would be constructed adjacent (parallel) to the existing SCC pipeline along portions of existing easements, west of the existing SCC pipeline within an existing road from the intersection with the SPTT access road to the east end of Glen Annie Reservoir, and south of the existing SCC pipeline from east of Glen Annie Creek to the Corona Del Mar turnout. This alignment would require crossings at the West Fork and the main stem of Glen Annie Creek, which would require Section 404 permits from the Corps. Construction of the Preferred Alternative pipeline alignment would connect to SCC structures at the SPTT and CDMWTP. A new SPTT diversion/wasteway structure would be constructed to divert water into each pipeline. Magnetic flowmeters would be installed at the new SPTT and the CDMWTP to provide improved flowrate measurement accuracy. In order to shut down one of the pipelines for maintenance tasks, the structure would include the installation of slide gates (or butterfly valves). Modifications to the CDMWTP turnout structure would also be required for flow control. The existing vent structure would be demolished because the turnout structure functions as a hydraulic control structure; however, a vacuum release valve (or vent) would need to be provided downstream of the CDMWTP turnout. The Preferred Alternative alignment would include an intertie pipeline that could be connected to the Goleta West Conduit (GWC) south of the Glen Anne Turnout in the future.

Alternative A (Parallel Pipeline)

The Alternative A pipeline would be constructed adjacent (parallel) to the existing pipeline alignment for its entire length and would also require crossings at the West Fork and the main stem of Glen Annie Creek requiring Section 404 permits from the Corps. The West Fork crossing would be located approximately 50 feet south of the Preferred Alternative crossing, and the main stem crossing would be approximately 50 feet north. Construction of the Alternative A pipeline alignment would be similar to that previously described for the Preferred Alternative. In addition, the Alternative A pipeline would include construction of an intertie for possible future connection at the Glen Anne Turnout structure.

Alternative B (Non-Parallel Pipeline)

The Alternative B pipeline alignment would include portions along the existing pipeline easements; however, this alignment would generally be constructed southwest or north of the existing pipeline. Similar to the Preferred Alternative, Alternative B would require crossings at the West Fork and the main stem of Glen Annie Creek requiring Section 404 permits from the Corps. Construction of the Alternative B pipeline alignment would be similar to that previously described for the Preferred Alternative. Several options would be evaluated for connecting the Alternative B pipeline to the Glen Anne Turnout structure, including connecting the proposed Alternative B pipeline to the Glen Anne Turnout upstream of the weir that regulates the HGL to the GWC, constructing an intertie of the Alternative B pipeline to the GWC without constructing

a supplemental pipeline to the existing Glen Anne Structure, and transporting treated water from the CDMWTP to the GWC.

Comparison of Alternatives

In general, impacts of Alternatives A and B would be similar to those for the Preferred Alternative as the different pipeline routes are similar. The No Project Alternative would involve much less construction and would have fewer environmental impacts but would not meet the purpose and need of the Proposed Action. The No Action Alternative includes ongoing operations and maintenance (O&M) of the existing SCC; however, lack of site improvements could result in facility failures with greater environmental damage than implementation of the improvements. A comparison of impacts by alternative is presented in Table ES-1 below.

Table ES-1 Comparison of Alternatives

<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PROPOSED ACTION				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
AESTHETIC/VISUAL RESOURCES					
AES-1: Change existing scenic vistas during construction or operation.	III	III (=)	III (=)	III (-)	III (-)
AES-2: Degrade existing visual character or quality of the site and its surroundings through the processes of grading and vegetation clearing.	II	II (=)	II (=)	III (-)	III (-)
AES-3: Create substantial sources of light or glare.	IV	IV (=)	IV (=)	IV (-)	IV (-)
AIR QUALITY					
AQ-1: Conflict with or obstruct implementation of an applicable air quality plan.	III	III (=)	III (=)	III (-)	III (-)
AQ-2: Exceed any ambient air quality standard or contribute substantially to an existing or projected air quality standard violation.	III	III (+)	III (+)	III (-)	III (-)
AQ-3: Result in a net increase of any criteria pollutant for which the project region is in nonattainment.	III	III (+)	III (+)	III (-)	III (-)
AQ-4: Expose sensitive receptors to substantial pollutant concentrations.	III	III (-)	III (=)	III (-)	III (-)
AQ-5: Create objectionable odors that affect a substantial number of people.	III	III (-)	III (=)	III (-)	III (-)
BIOLOGICAL RESOURCES					
BIO-1: Result in the loss of individuals or habitat for special status plants and wildlife.	II	II (=)	II (-)	III (-)	I (+)
BIO-2: Result in a temporary loss of riparian woodland, oak woodland, and seasonal wetlands.	I	I (-)	I (+)	II (-)	I (+)
BIO-3: Adversely affect wildlife migration or breeding habitat for migratory birds and wildlife.	II	II (=)	II (=)	II (-)	I (+)
BIO-4a: Disrupt local plant or wildlife communities.	III	III (+)	III (-)	III (-)	I (+)
BIO-4b: Disrupt local plant communities through the introduction or spread of invasive species.	II	II (=)	II (=)	III (-)	I (+)

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<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PROPOSED ACTION				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
BIO-4c: Disrupt local aquatic communities through the introduction or spread of non-native species.	III	III (=)	III (=)	III (-)	III (-)
BIO-5: Removal of oak trees and oak woodland would conflict with local policies.	I	I (-)	I (+)	IV (-)	IV (-)
CULTURAL RESOURCES					
CR-1: Result in the disturbance of a resource listed in or eligible for listing in the NRHP, the CRHR, or otherwise considered a unique or important archaeological resource under CEQA.	III	III (=)	III (-)	III (=)	III (=)
GEOLOGY AND SOILS					
GEO-1: Potential to alter the topography beyond that resulting from natural erosion and depositional processes.	III	III (=)	I (+)	III (-)	I (+)
GEO-2: Potential to trigger or accelerate substantial erosion.	II	II (=)	II (+)	II (-)	I (+)
GEO-3: Potential to trigger or accelerate shallow landslides.	III	III (=)	III (=)	III (-)	III (-)
GEO-4: Result in the disturbance of paleontological resources of unusual scientific value.	II	II (=)	II (=)	III (-)	II (-)
GEO-5: Potential for ground rupture due to an earthquake to cause damage to structures during operations.	III	III (=)	III (=)	III (=)	III (=)
GEO-6: Damage resulting from earthquake-induced ground shaking during operations.	III	III (=)	III (=)	III (=)	III (=)
GEO-7: Exposure of people or property to a greater than average risk of tsunamis or seiches.	IV	IV (=)	IV (=)	IV (=)	IV (=)
HAZARDS AND HAZARDOUS MATERIALS					
HAZ-1: Create a hazard through the routine transport, use, or disposal of hazardous materials upset and accident involving the release of hazardous material into the environment.	II	II (=)	II (=)	II (-)	II (-)
HAZ-2: Create hazard through upset and accident conditions associated with operations and/or maintenance.	III	III (=)	III (=)	III (=)	III (=)
HAZ-3: Create a hazard due to the presence of soil or groundwater contamination.	III	III (=)	III (=)	III (=)	III (=)
HYDROLOGY AND WATER QUALITY					
HYDROWQ-1: Violate water quality standards.	II	II (=)	II (+)	II (-)	I (+)
HYDROWQ-2: Deplete groundwater supplies or interfere with groundwater recharge or flow.	IV	IV (=)	IV (=)	IV (=)	II (+)
HYDROWQ-3: Alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff resulting in flooding.	III	III (=)	III (=)	III (-)	II (+)
Loss of Water Supply	IV	IV (=)	IV (=)	IV (=)	I (+)

<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PROPOSED ACTION				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
LAND USE					
LU-1: Result in incompatibilities with existing land uses.	III	III (=)	III (+)	IV (-)	III (-)
LU-2: Disrupt or divide any established communities.	IV	IV (=)	IV (=)	IV (=)	IV (=)
LU-3: Result in inconsistencies with land use and conservation plans and Santa Barbara County Comprehensive Plan policies.	I	I (=)	I (=)	IV (-)	IV (-)
NOISE					
NOISE-1: Short-term increases in existing ambient noise levels during construction activities.	II	II (-)	II (=)	II (-)	II (-)
NOISE-2: Generate long-term exterior or interior noise levels that would affect sensitive receptors during operations.	III	III (-)	III (=)	IV (-)	IV (-)
NOISE-3: Increase ambient noise levels of adjacent areas during operations.	III	III (-)	III (=)	IV (-)	IV (-)
TRANSPORTATION/CIRCULATION					
TRANS-1.1: Increase intersection v/c ratios within the project vicinity during construction activities.	III	III (=)	III (=)	III (-)	III (-)
TRANS-1.2: Increase intersection v/c ratios within the project vicinity during operations.	III	III (=)	III (=)	III (-)	III (-)
TRANS-2: Generate additional vehicular trips that would adversely affect intersection capacities in the project vicinity.	III	III (=)	III (=)	III (-)	III (-)
TRANS-3: Increase traffic on a roadway that could result in a potential safety problem due to existing design features.	II	II (=)	II (=)	II (-)	II (-)
TRANS-4: Exceed a LOS established by the county congestion management agency for designated roads and highways.	III	III (=)	III (=)	III (-)	III (-)
Key: I Significant adverse impact that cannot be feasibly mitigated or avoided. II Significant adverse impacts that can be feasibly mitigated to a less than significant level. III Adverse impacts that are less than significant. IV No impacts. + More adverse impacts than Preferred Alternative. = Similar to Preferred Alternative. - Fewer adverse impacts than Preferred Alternative.					

ES-4 Summary of Potential Environmental Impacts and Mitigation Measures

While the Proposed Action alternatives are designed to provide benefits to water supply reliability and operational flexibility for the SCC, as described above, these alternatives also would result in some short-term and long-term impacts to the environment. Table ES-2, included at the end of this section, summarizes the environmental impacts associated with each

of the Proposed Action alternatives. For impacts determined to be significant, mitigation measures are listed and the impact significance after mitigation is shown (see Appendix D for the complete listing of mitigation measures). The environmental impacts associated with the Proposed Action alternatives can be generally categorized as follows: Project construction, Project Footprint, Global Climate Change, and Growth Inducement.

Project Construction

Most environmental impacts identified for the Proposed Action alternatives would be associated with Proposed Action construction; these impacts would occur for approximately 11 months and most would cease once construction is completed. Construction impacts include effects associated with transport of construction materials and equipment and carrying out construction activities such as excavation, grading, pipeline placement, and building of concrete structures. Construction activities generate impacts such as noise, dust, habitat disruption, temporary effects on agricultural activities, construction traffic and access disruption, increased erosion, spread of invasive species, temporary impacts to biological species or increased potential for spill of hazardous materials used in construction (such as fuel, or paint) and related water quality issues. In some cases, construction effects were found to be less than significant and in other cases they were determined to be significant. In most cases, feasible mitigation measures have been identified to reduce construction impacts to less than significant levels.

Proposed Action Footprint

Proposed Action footprint effects are the permanent or temporary effects that result from locating the Proposed Action on a specific site and removing or altering what was on the site previously. These types of impacts include effects on biological resources and habitats, cultural resources, visual resources, or other land uses as well as the potential for increased exposure to hazards. In some cases these types of impacts identified for the Proposed Action alternatives were considered to be significant and in most cases, feasible mitigation measures were identified to reduce these significant effects to less than significant levels.

Global Climate Change

This Final EIS/EIR examines the potential for the Proposed Action alternatives to increase greenhouse gas emissions (GHG), which in turn would contribute to global climate change effects. As a global concern, increases in GHG contribute to cumulative impacts, rather than constituting a direct impact associated with a single project. Calculated carbon dioxide (CO₂) emissions for the construction and operation of the Proposed Action alternatives are estimated to be well below the Environmental Protection Agency's (EPA) 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, the Proposed Action would result in below *de minimis* impacts with respect to global climate change. In addition, the Proposed Action alternatives would not conflict with any measures adopted by the state or other agencies to implement the California Global Warming Solutions Act of 2006 (AB 32), the state law that requires the California Air Resources Board (CARB) to design and implement measures to reduce GHG to 1990 levels by 2020.

Growth Inducement

None of the Proposed Action alternatives would have a growth-inducing impact on surrounding areas. Although the Proposed Action would construct a new water supply pipeline to serve the

CDMWTP, this would not stimulate significant economic or population growth, remove obstacles to population growth, or necessitate the construction of new community facilities that would lead to additional growth in the surrounding area.

Significant and Unavoidable Impacts

As shown in Table ES-2, all Proposed Action alternatives would result in significant and unavoidable impacts to oak trees and oak woodland habitat which would be inconsistent with native oak woodland protection policies within the Santa Barbara County Comprehensive Plan. Alternative B would also result in significant and unavoidable impacts to the topography of Glen Annie Creek due to trenching across the nearly vertical creek bank. The No Action Alternative, should structural failure occur, may result in significant and unavoidable impacts to special-status species and their habitat, riparian habitat, increased soil deposition, water quality and water supplies due to erosion and flooding. Mitigation has been included, where feasible, to reduce these direct, indirect, and cumulative impacts but would not be sufficient to reduce them to less than significant levels.

Significant Irreversible Impacts

The Proposed Action would require the use of non-renewable resources for the physical construction of the water supply pipeline. However, the Proposed Action does not represent an uncommon construction project that uses an extraordinary amount of raw materials in comparison to other infrastructure/maintenance projects of similar scope and magnitude. Resources committed to the Proposed Action include fossil fuels, capital, labor, and construction materials such as rock, concrete, steel, gravel, and soils. Fossil fuels and energy would be consumed in the form of diesel, oil, and gasoline used for equipment and vehicles during construction and operation activities. During operations, diesel, oil, and gasoline would be used during routine pipeline maintenance. Non-recoverable materials and energy would be used during construction and operations, but the amounts needed would be easily accommodated by existing supplies. The irretrievable commitment of resources required by the Proposed Action is justified by the purpose and need and objectives of the Proposed Action.

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Table ES-2 Summary of Impacts and Mitigation Measures

RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
SIGNIFICANT AND UNAVOIDABLE				
Biological Resources	No Action	BIO-1: Construction activities would result in the loss of individuals or habitat for special status plants and wildlife.	BIO-1.4, BIO-2.1	Significant and unavoidable
	Preferred Alternative Alternative A Alternative B	BIO-2: Construction would result in a long-term loss of oak woodland.	BIO-2.2	Significant and unavoidable
	Preferred Alternative Alternative A Alternative B	BIO-5: Removal of oak trees and oak woodlands during construction would conflict with local policies.	BIO-2.2, BIO-5	Significant and unavoidable (Oak woodlands)
Geology and Soils	Alternative B No Action	GEO-1: Construction would substantially alter the topography beyond that resulting from natural erosion and depositional processes.	No feasible mitigation measures available.	Significant and unavoidable
	No Action	GEO-2: Construction would potentially trigger or accelerate substantial erosion.	No mitigation is feasible for downstream soil erosion and deposition from a water release into either creek due to facility failure. However, the following would be implemented for repair work related to facility failure: GEO-2, BIO-1.2, BIO-4a, BIO-2.1, and BIO-2.2.	Significant and unavoidable
Hydrology and Water Quality	No Action	HYDRO/WQ-1: Construction and operation would potentially violate (or cause the violation of) water quality standards.	No mitigation is feasible for temporary impacts to water quality in West Fork or Glen Annie Creek from a water release due to facility failure.	Significant and unavoidable
	No Action	HYDRO/WQ-3: Alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff resulting in flooding.	No mitigation is feasible for flooding.	Significant and unavoidable
	No Action	Loss of water supply.	No mitigation is feasible for loss of water supply due to structural failure and during repair activities.	Significant and unavoidable
Land Use	Preferred Alternative Alternative A Alternative B	LU-3: Construction activities would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies.	See BIO-2.2 and BIO-5.	Significant and unavoidable (Oak woodlands)
Significant but Feasibly Mitigated				
Aesthetics/ Visual Resources	Preferred Alternative Alternative A Alternative B	AES-2: Construction activities would temporarily degrade the existing visual character of the Project site.	AES-2, BIO-1.2, BIO-2.1, BIO-2.2, and BIO-4a.	Less than significant
Biological Resources	Preferred Alternative Alternative A Alternative B	BIO-1: Construction activities would result in the loss of individuals or habitat for special status plants and wildlife.	BIO-1.1, BIO-1.3 See also BIO-1.2 and BIO-1.4	Less than significant

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RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
	No Project			
	Preferred Alternative Alternative A Alternative B No Project No Action	BIO-2: Construction would result in a temporary loss of riparian woodland and seasonal wetlands.	BIO-2.1	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	BIO-3: Construction activities could adversely affect wildlife migration or breeding habitat for migratory birds and wildlife.	BIO-3 See also BIO-1.2, BIO-1.3, BIO-2.1, and BIO-2-2.	Less than significant
	Preferred Alternative Alternative A Alternative B	BIO-4b: Construction and operations activities could disrupt local plant communities through the introduction or spread of invasive species.	BIO-4b.1, BIO-4b.2, BIO-4b.3, BIO-4b.4, BIO-4b.5, BIO-4b.6, BIO-4b.7	Less than significant
	Preferred Alternative Alternative A Alternative B	BIO-5: Removal of oak trees and oak woodlands during construction would conflict with local policies.	BIO-5	Less than significant (Oak trees)
Geology and Soils	Preferred Alternative Alternative A Alternative B No Project	GEO-2: Construction would potentially trigger or accelerate substantial erosion.	GEO-2	Less than significant
	Preferred Alternative Alternative A Alternative B No Action	GEO-4: Construction would potentially disturb or otherwise adversely affect paleontological resources of unusual scientific value.	GEO-4.1, GEO-4.2, GEO-4-3	Less than significant
Hazards and Hazardous Materials	Preferred Alternative Alternative A Alternative B No Project No Action	HAZ-1: Construction would potentially create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident involving the release of hazardous material into the environment.	HAZ-1	Less than significant
Hydrology and Water Quality	Preferred Alternative Alternative A Alternative B No Project No Action	HYDRO/WQ-1: Construction and operation would potentially violate (or cause the violation of) water quality standards.	See GEO-2 and HAZ-1.	Less than significant
	No Action	HYDRO/WQ-3: Alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff resulting in flooding.	See GEO-2 and HAZ-1.	Less than significant
Noise	Preferred Alternative Alternative A	NOISE-1: Construction activities would result in substantial, short-term increases in existing ambient	NOISE-1.1, NOISE-1.2, NOISE-1.3	Less than significant

RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
	Alternative B No Project No Action	noise levels over 65 dBA CNEL within the project vicinity.		
Transportation and Circulation	Preferred Alternative Alternative A Alternative B No Action	TRANS-3: Transport of construction equipment and materials on Glen Annie Road would increase traffic on a roadway that could result in a potential safety problem due to existing design features (i.e., inadequate pavement structure).	TRANS-3	Less than significant
Agricultural Resources	No Action	Adverse effects.	Replacement of topsoil within orchards.	Less than significant
Less Than Significant				
Aesthetics/ Visual Resources	Preferred Alternative Alternative A Alternative B No Project No Action	AES-1: Construction and operation would not substantially obstruct views of important visual resources including native vegetation and open space as experienced from public roadways.	None required.	Less than significant
	No Project No Action	AES-2: Construction activities would temporarily degrade the existing visual character of the project site.	None required.	Less than significant
Air Quality	Preferred Alternative Alternative A Alternative B No Project No Action	AQ-1: Construction and operation would not conflict with or obstruct implementation of an applicable air quality plan.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	AQ-2: Construction and operation would not exceed any ambient air quality standard or contribute substantially to an existing or projected air quality standard violation.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	AQ-3: Construction and operation would not result in a net increase of any criteria pollutant for which the project region is in nonattainment under an applicable national or state ambient air quality standard.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	AQ-4: Construction and operation would not expose sensitive receptors to substantial pollutant concentrations.	None required.	Less than significant
	Preferred Alternative Alternative A	AQ-5: Construction and operation would not create objectionable odors that affect a substantial number	None required.	Less than significant

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RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
Air Quality	Alternative B No Project No Action	of people.		
Biological Resources	Preferred Alternative Alternative A Alternative B No Project No Action	BIO-4a: Construction activities would not substantially disrupt local plant or wildlife communities.	See BIO-4a	Less than significant
	No Project No Action	BIO-4b: Construction and operations activities could disrupt local plant communities through the introduction or spread of invasive species.	BIO-4b.6 and BIO-4b.7 are recommended.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	BIO-4c: Pipeline construction and operations would not disrupt local aquatic communities through the introduction or spread of non-native species.	None required.	Less than significant
Cultural Resources	No Action No Project Preferred Alternative Alternative A Alternative B	CR-1: Construction could adversely affect a resource listed in or eligible for listing in the NRHP, the CRHR, or otherwise considered a unique or important archaeological resource under CEQA.	CR-1 and CR-2	Less than significant
Geology and Soils	Preferred Alternative Alternative A No Project No Action	GEO-1: Construction would not substantially alter the topography beyond that resulting from natural erosion and depositional processes.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	GEO-3: Construction could potentially trigger or accelerate shallow landslides.	None required.	Less than significant
	No Project No Action	GEO-4: Construction would potentially disturb or otherwise adversely affect paleontological resources of unusual scientific value.	None required	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	GEO-5: During operations, the proposed alignment would not be subject to ground rupture due to an earthquake and attendant damage to structures, limiting their use due to safety considerations or physical condition.	None required.	Less than significant
	Preferred Alternative Alternative A	GEO-6: The proposed pipeline would potentially be subject to earthquake-induced ground motion	None required.	Less than significant

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RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
Geology and Soils	Alternative B No Project No Action	(shaking) during operations with a low potential for differential settlement or surface cracks at the site and attendant damage to proposed structures that could result in a substantial loss of use for more than 60 days.		
Hazards and Hazardous Materials	Preferred Alternative Alternative A Alternative B No Project No Action	HAZ-2: Operations and/or maintenance would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	HAZ-3: Construction would not create a significant hazard to the public or the environment due to the presence of soil or groundwater contamination.	None required.	Less than significant
Hydrology and Water Quality	Preferred Alternative Alternative A Alternative B No Project No Action	HYDRO/WQ-2: Construction and operation would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge or flow to the extent that it would not support existing land uses that rely on groundwater or planned uses for which permits have been granted.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	HYDRO/WQ-3: Construction would not substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	None required.	Less than significant
Land Use	Preferred Alternative Alternative A Alternative B No Project No Action	LU-1: The proposed pipeline alignment would not result in incompatibilities with existing land uses.	None required.	Less than significant
	No Project No Action	LU-3: Construction activities would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies.	None required	Less than significant
Noise	Preferred Alternative Alternative A Alternative B No Project No Action	NOISE-2: Operation would not generate long-term exterior or interior noise levels that would affect sensitive receptors.	None required.	Less than significant
	Preferred Alternative	NOISE-3: Proposed pipeline operations would not	None required.	Less than significant

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RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
Noise	Alternative A Alternative B No Project No Action	substantially increase ambient noise levels of adjacent areas.		
Transportation and Circulation	Preferred Alternative Alternative A Alternative B No Project No Action	TRANS-1.1: Construction would not substantially increase intersection volume/capacity ratios within the project vicinity.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	TRANS-1.2: Operations would not substantially increase intersection volume/capacity ratios within the Project area.	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	TRANS-2: Construction and operation would not generate additional vehicular trips that would adversely affect intersection capacities in the project vicinity.	None required.	Less than significant
	No Project	TRANS-3: Transport of construction equipment and materials on Glen Annie Road would increase traffic on a roadway that could result in a potential safety problem due to existing design features (i.e., inadequate pavement structure).	None required.	Less than significant
	Preferred Alternative Alternative A Alternative B No Project No Action	TRANS-4: Level of service standards for CMP intersections in the project area would not be exceeded.	None required.	Less than significant
Mineral Resources, Public Services, Socio-economics	Preferred Alternative Alternative A Alternative B No Project No Action	Adverse effects.	None required.	Less than significant
Agricultural Resources	Preferred Alternative Alternative A Alternative B	Adverse effects.	None required.	Less than significant
Utilities/Service Systems	Preferred Alternative Alternative A Alternative B	Adverse effects.	None required.	Less than significant

RESOURCE	ALTERNATIVES	DESCRIPTION OF IMPACT	MITIGATION MEASURES	IMPACT SIGNIFICANCE AFTER MITIGATION
	No Project			
No Impact				
Aesthetics/ Visual Resources	Preferred Alternative Alternative A Alternative B No Project No Action	AES-3: The proposed pipeline alignment would not introduce new glare sources that would substantially degrade existing visual conditions.	None required.	No impact
Biological Resources	No Project No Action	BIO-5: Removal of oak trees and oak woodlands during construction would not occur and therefore would not conflict with local policies.	None required.	No impact
Geology and Soils	Preferred Alternative Alternative A Alternative B No Project No Action	GEO-7: Operation would not expose people or property to a greater than average risk of tsunamis or seiches.	None required.	No impact
Hydrology and Water Quality	No Action No Project	Loss of water supply.	None required.	No impact
Land Use	Preferred Alternative Alternative A Alternative B No Project No Action	LU-2: Construction would not disrupt or divide any established communities.	None required.	No impact
Recreation	Preferred Alternative Alternative A Alternative B No Project No Action	Adverse effects.	None required.	No impact
Agricultural Resources	No Project	Adverse effects.	None required.	No impact

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Section 1 Introduction

The Final EIS/EIR describes (1) the No Action Alternative and No Project Alternative as well as three Proposed Action alternatives including: the Preferred Alternative (parallel and non-parallel pipeline), Alternative A (parallel pipeline), and Alternative B (non-parallel pipeline); (2) revisions to the Preferred Alternative as a result of public comments received on the draft EIS/EIR; (3) any potential changes to the natural, physical, and social environments as a result of changes to the Preferred Alternative; and (4) responses to comments submitted on the draft EIS/EIR. Revisions resulting from issues identified during the public review period and based on additional COMB-initiated design analysis have been incorporated into the Final EIS/EIR. Changes have also been made to Reclamation's federal action as COMB has requested to maintain ownership of the new pipeline and has requested an easement. Additional changes have been made to the document in order to comply with Reclamation Visual Identity formatting and for clarity. As described previously, none of these changes involve a substantial change in circumstances, conditions or determination of significant impacts addressed in the Draft EIS/EIR and none meet the regulatory definition for significance in 40 CFR 1508.27(a) and (b).

1.1 Background

The SCC and the Tecolote Tunnel were constructed in the 1950s by Reclamation as part of the Cachuma Project. The Cachuma Project provides for the storage of surface water from the Santa Ynez River watershed and a terminal point for SWP water at Lake Cachuma for the following South Coast communities: Goleta, Santa Barbara, Montecito, Summerland, and Carpinteria.

The SCC water distribution system transports approximately 80 percent of the South Coast's water supply and provides municipal, industrial, and irrigation water to the Goleta Water District, City of Santa Barbara, Montecito Water District, and Carpinteria Valley Water District. Reclamation owns all SCC facilities; however, COMB manages these facilities under a Transfer of Operations and Maintenance Contract with Reclamation. COMB is a California Joint Powers Agency formed in 1956 pursuant to an agreement with Reclamation. The agreement transferred to the Cachuma Member Units the responsibility to operate, repair, and maintain all Cachuma Project facilities, except Bradbury Dam which Reclamation has continued to operate. The Cachuma Member Units include Carpinteria Valley Water District, Goleta Water District, City of Santa Barbara, Montecito Water District, and Santa Ynez River Water Conservation District-Improvement District No. 1.

COMB is responsible for diversion of water to the South Coast through the Tecolote Tunnel and O&M of the SCC pipeline, flow control valves, meters, and instrumentation at control stations and turnouts along the SCC and at four regulating reservoirs. COMB coordinates closely with Reclamation and Member Units' staff to ensure that water supplies meet daily demands.

The capacity of Tecolote Tunnel is approximately 65 MGD and the original design capacity of the SCC was approximately 50 MGD, but this capacity has been reduced to about 41 MGD by installation of a weir at both the Glen Anne turnout in the mid 1960s and at the CDMWTP in the early 1970s, as well as the installation of the South Coast Conduit pump station at the Cater Water Treatment Plant in 1980. Currently, the SCC operates at its current capacity for extended periods of time, and during peak demands it is not able to provide the amount of water needed.

1.2 NEPA Project Purpose and Need

The SCC and the SPTT are over 50 years old and have deteriorated due to the presence of hydrogen sulfide gas within the water conveyed through this system. In addition, no redundant supply or pipeline exists to convey Cachuma Project water or SWP water to the South Coast (i.e., the communities of Goleta, Santa Barbara, Montecito, Summerland, and Carpinteria) if the Upper Reach of the SCC is out of service due to scheduled and/or unexpected repairs.

The purpose of the Proposed Action is to increase the operational flexibility, reliability, and the conveyance capacity of the SCC between the SPTT and the CDMWTP. As limitations and age of the original equipment, significant system modifications, and increased demands constrain the ability of the SCC to function at the system's original design capacity, COMB is forced to rely on water stored in Lauro, Ortega, and Carpinteria reservoirs to meet regional water needs. These reservoirs have limited storage capacity and cannot meet peak demands. Demand has previously been met through an agreement with the City of Santa Barbara for non-Cachuma Project water delivered from Gibraltar Reservoir to Lauro Reservoir. However, due to siltation issues in Gibraltar, water demands will not be able to be met long-term through this agreement. As the Upper Reach capacity of the SCC is insufficient to meet demands and is located upstream from the sources of demand, the proposed improvements would allow more water flow farther along the pipeline to improve its level of service and reliability.

The Proposed Action is needed to increase reliability and provide COMB the ability to perform regularly scheduled inspections and maintenance to one pipeline while the second pipeline is operational. The Proposed Action is also needed to increase operational flexibility by providing higher flow rates (up to the 65 MGD tunnel capacity) to CDMWTP and increased flow rates to facilities downstream of the CDMWTP during times of peak demand. However, total amount of water delivered per year would not increase.

1.3 CEQA Project Objectives

The EIS/EIR examines in detail those alternatives that COMB determines could "feasibly attain most of the project objectives" (CEQA Guidelines Section 15126.6[f]). The objectives of the Proposed Action are to:

- Replace deteriorated water infrastructure with adequate structures to accommodate regional water needs and improve the level of service and operability;

- Provide a second pipeline to convey Cachuma Project water or SWP water to the South Coast if the Upper Reach of the SCC is out of service due to scheduled and/or unexpected repairs; and
- Increase operational flexibility by providing higher flow rates to accommodate regional water needs during times of peak demand.

1.4 Applicable Regulatory Requirements and Required Coordination

This joint EIS/EIR is intended to fulfill the requirements of CEQA (PRC 21000 *et seq.*) and NEPA (42 USC §§ 4321-4370d). This document has also been prepared to address requirements of the following statutes:

- National Historic Preservation Act (NHPA), 16 USC §§ 470-470x-6;
- Clean Water Act (CWA), 33 USC §§ 1251-1387;
- Clean Air Act (CAA), as amended, 42 USC §§ 7401-7671p, including 1990 General Conformity Rule;
- Executive Order (EO) 12898 – Environmental Justice;
- Endangered Species Act (ESA), 16 USC §§ 1531-1544;
- Migratory Bird Treaty Act (MBTA), 16 USC § 703 *et seq.*;
- EO 13186 – Migratory Birds;
- EO 11988 – Floodplain Management;
- EO 11990 – Protection of Wetlands;
- EO 13112 – Invasive Species; and
- EO 13007 – Indian Sacred Sites.

Reclamation is the federal lead agency for NEPA compliance and COMB is the state lead agency for CEQA compliance. Other state and local agencies that have jurisdiction or regulatory responsibility over components of the Proposed Action would also rely on this EIS/EIR for NEPA and CEQA compliance as part of their decision-making processes.

1.5 Public Involvement

A public scoping meeting was held at the COMB office, 3301 Laurel Canyon Road, Santa Barbara, California on May 17, 2007. The Draft EIS/EIR for the Proposed Action was distributed for a 45-day public review and comment period beginning on August 20, 2008. The Draft EIS/EIR evaluated the potential environmental impacts for the same alternatives described in this final EIS/EIR. A second public meeting was held at the COMB Office on September 10, 2008. During the public review period, five comment letters were received. No comments were made at either public meetings. The comment letters and responses to comments are located in Appendix E of the Final EIS/EIR.

On March 25, 2009, a Notice of Determination was submitted to the Santa Barbara County Clerk by COMB to finalize the joint document pursuant to CEQA. The purpose of this document is to finalize the joint document pursuant to the NEPA.

1.6 Regulatory Requirements

Permits and approvals would be required for the Proposed Action from a number of agencies as summarized in Table 1-1.

Table 1-1. Permits/Approvals Required

Agency	Permit/Approval
U.S. Army Corps of Engineers	Section 404 of the CWA permit
U.S. Fish and Wildlife Service	Section 7 of the ESA consultation
National Marine Fisheries Service	Section 7 of the ESA consultation
Bureau of Reclamation	MP620 permit for additions and alternations to federal facilities and easement for pipeline within Reclamation ROW
State Historic Preservation Office (SHPO)	Section 106 of the National Historic Preservation Act review
Regional Water Quality Control Board (RWQCB)	Section 401 of the CWA certification; General Permit for Storm Water Discharges Associated with Construction Activity (CWA Section 402)
California Department of Fish and Game (CDFG)	Streambed Alteration Agreement
Santa Barbara Air Pollution Control District (SBCAPCD)	Authority for enforcing dust control measures
Santa Barbara County	Finding of consistency with the General Plan under California Government Code 65402

Section 2 Alternatives Including the Proposed Action and Project Description

NEPA and CEQA require that environmental documents identify and analyze a reasonable range of feasible alternatives that could be implemented to meet the Proposed Action purpose and need and objectives to varying degrees. In addition, CEQA focuses on alternatives that would avoid or substantially lessen any of the significant effects of the Proposed Action. This Final EIS/EIR evaluates the No Action Alternative, No Project Alternative and three Proposed Action alternatives.

The Proposed Action site is located in Glen Annie Canyon, north of the City of Goleta, in Santa Barbara County, California. The Proposed Action site encompasses the area surrounding the existing SCC between the SPTT and the CDMWTP (see Figure 2-1).

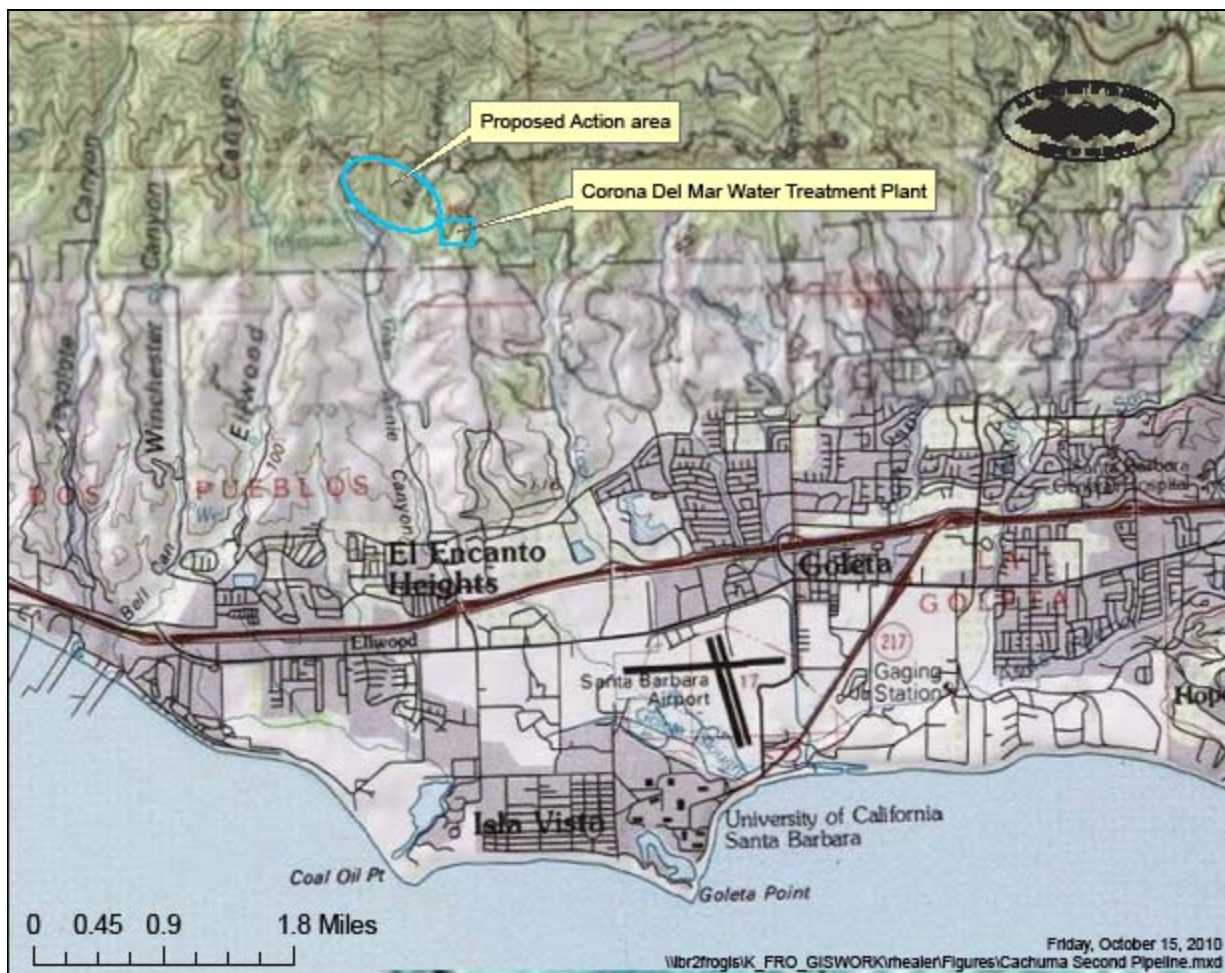


Figure 2-1 Regional Location Map

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not issue permits for construction or an easement to COMB for construction of a secondary water service pipeline. The Proposed Action would not be built nor would improvements be made to any of the existing facilities; however, annual O&M activities for the SCC would continue to occur as it has in the past. General maintenance activities include inspection of the air release valves and blowoff valves for operability, annual inspection of the ROW for encroachments, and maintenance of the Glen Anne turnout, Corona Del Mar turnout, and Glen Anne meter.

The damage to the concrete in the SPTT due to hydrogen sulfide gas within the water would continue, increasing the likelihood of structural failure. Failure of the SPTT would cause the entire SCC to be out of service (i.e., no water deliveries from Lake Cachuma to the South Coast) for the two to four weeks needed for repair. The Goleta Water District, Santa Barbara City, Carpinteria Valley Water District, and Montecito Water District would be out of water within two weeks of structure failure, thereby disrupting water service to 200,000 residents of the South Coast.

Potential consequences of structural failure may include an uncontrolled release of water at a rate of 40+ MGD for a minimum of 6 hours and possibly up to 10 hours. The water would flow down slope from the SPTT through an existing avocado orchard and into the West Fork of Glen Annie Creek causing severe erosion and damage or removal of vegetation and wildlife habitat. Two residential structures located between the SPTT and Glen Annie Reservoir could be damaged. The water and much of the eroded soil would be contained within Glen Annie Reservoir with the remainder of the eroded soil deposited between the SPTT and Glen Annie Reservoir where water velocity would slow enough for deposition.

Erosion of the creek bed or damage to the SCC and its coating caused by erosion from the SPTT failure could result in additional pipeline failure at either the West Fork of Glen Annie Creek or the main stem of Glen Annie Creek. Failure of the pipeline at the West Fork crossing would have effects similar to those described for failure of the SPTT. Failure of the pipeline at the main stem crossing would have the same type of effects as described previously with additional potential impacts to an existing citrus orchard and the release of water continuing downstream to Goleta Slough and the Pacific Ocean.

2.2 No Project Alternative

The No Project Alternative would include the continued annual maintenance and operational activities described under the No Action Alternative as well as construction of site improvements. Site improvements would include replacement of the SPTT, Glen Anne and Corona Del Mar turnout structures, and Glen Anne meter. Additionally, existing downstream degradation of all stream crossings would require substantial improvements to protect the existing pipeline and reduce the potential for damage. Site improvements under this alternative would include stream crossing work that would require a Section 404 permit from the Corps. Reclamation approval would be needed for construction of the site improvements (MP620 permit

for additions and alterations). Under this alternative, long shutdowns would be required to accommodate the reasonably foreseeable site improvements. Construction of site improvements required under the No Project Alternative would only occur in the event the Proposed Action is not approved and after evaluation under a separate environmental review process.

2.3 Proposed Action Alternatives

Reclamation proposes to issue an MP620 permit for modification to federal facilities and an easement authorizing pipeline construction within Reclamation ROW and continued O&M of the proposed pipeline by COMB. The Proposed Action would construct a second water supply pipeline with appurtenant facilities (see Figure 2-2 and 2-3). The existing SCC pipeline would remain operational and would be used in conjunction with the new pipeline.

Since publication of the Draft EIS/EIR, further design of the Preferred Alternative has resulted in several minor changes in the pipeline alignment. These are described below and analyzed in each of the resource sections in Section 3. Changes to the Preferred Alternative pipeline are included in Figure 2-3 and occur within the easements analyzed in the Draft EIS/EIR.

2.3.1 Project Components Common to all Alternatives

The three proposed pipeline alignment alternatives all have the same start and end points as well as varying amounts of common alignment (see Figure 2-3). The pipe size and appurtenant structures would be the same for each as would general construction methods.

Pipeline

The pipeline would be welded steel pipe with an inside diameter of 48 inches. The pipe would be buried under a minimum of five feet of cover except at the two stream crossings where cover would be approximately eight feet to avoid pipeline damage due to scour. On private lands, the pipe would be placed within a permanent easement. In addition, a temporary construction easement adjacent to the permanent easement that extends the width of the permanent easement would be used to accommodate the equipment, trench, and construction activities. COMB would enter into an easement with the adjacent landowners that would authorize the construction and operation of the proposed pipeline across their property, ensuring the conditional use of private lands. During this process, COMB would negotiate with the respective landowner regarding the payment of appropriate fees to offset the loss of existing avocado trees, ensuring sufficient funding to replant the orchard subsequent to construction. In addition, an easement would be issued to COMB by Reclamation for portions of the pipeline located on federal ROW. The width of the construction area (permanent plus temporary construction easements) would vary, depending on terrain and environmental constraints, and would generally be approximately 100 feet. In areas with topographic or other constraints, the width could be as narrow as 50 feet. Additional staging areas would be provided along the pipeline route within the temporary construction easements identified in Figure 2-3 for equipment, supplies (e.g., pipe), and vehicle parking.

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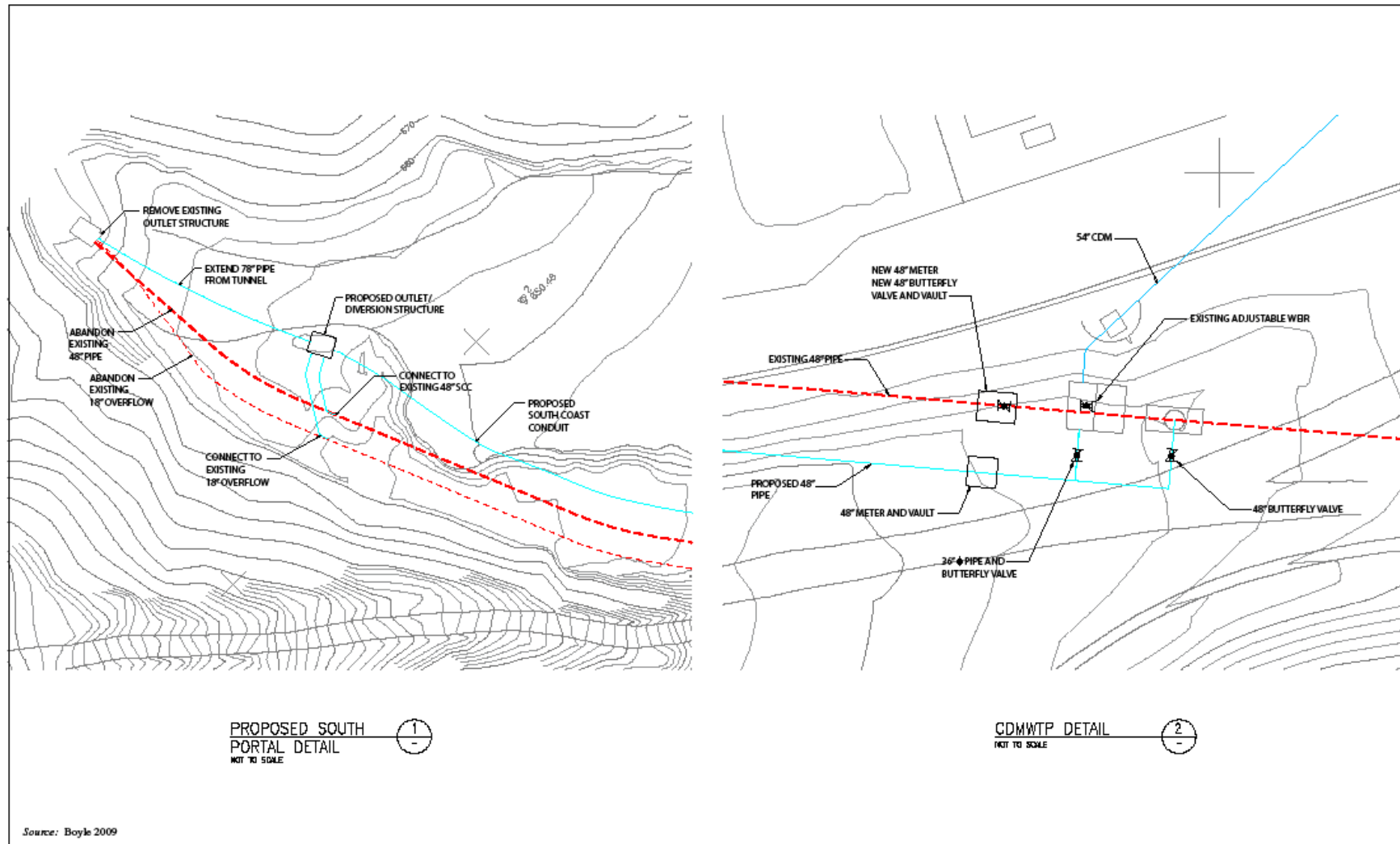


Figure 2-2 Conceptual Structural Tie-Ins

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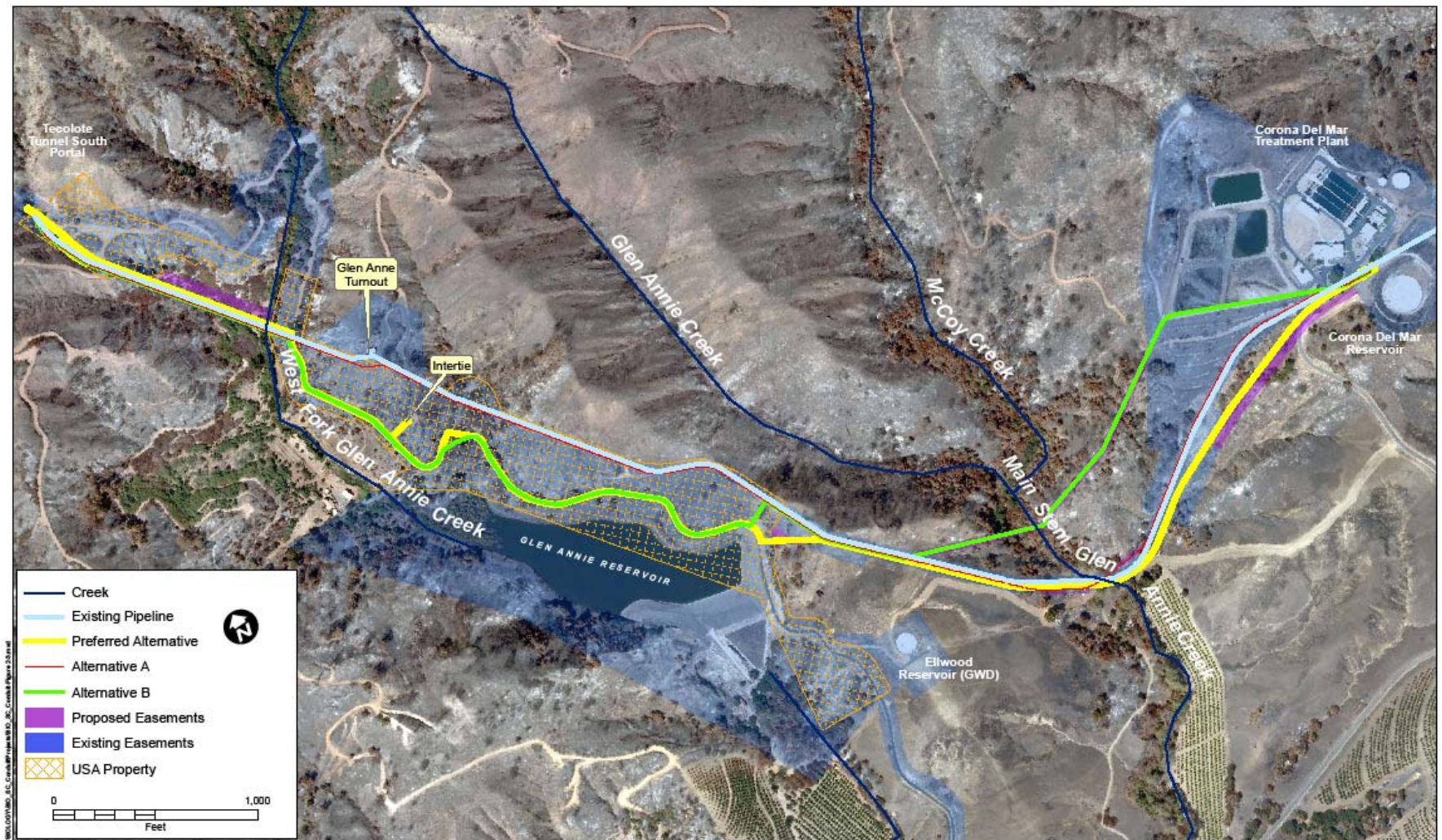


Figure 2-3 Proposed Pipeline Alternative Alignments

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Fiber-optic Cable

A conduit for fiber-optic cable would be installed within the pipeline trench allowing reliable pipeline monitoring.

Appurtenant Facilities

A number of appurtenant facilities would also be required for the proposed pipeline.

South Portal The existing SPTT would need to be replaced due to structural degradation and modifications necessary to divert the water into two pipelines (Figure 2-2). Because the SCC must remain operational, the new SPTT structure would be constructed and then connected to the tunnel and pipelines within a short period of time. The pad and wasteway overflow elevation for the new SPTT would be placed at the hydraulic grade line (HGL) for the tunnel in order to maintain tunnel capacity and operational characteristics (The HGL is a line whose plotted ordinate position represents the sum of pressure head plus elevation head for the various positions along a pipeline). Magnetic flowmeters would be installed at this location and at the CDMWTP, to provide improved flow measurement accuracy. Slide gates or butterfly valves would also be installed to allow one of the pipelines to be shut down for inspection and maintenance while the other remains operational.

Air Release and Blowoff Valves Air release valves are required at high points along the pipeline, and blowoff valves are required at low points. Approximately five air release valves and three blowoff valves would be necessary for the new pipeline. Air release valves would allow the pipeline to be drained for inspection and maintenance and to remove air in the pipeline when it is refilled. The valves are placed in vaults (manholes) for protection and access. Water released from the proposed pipeline blowoff adjacent to the West Fork would be released into the existing SPTT wasteway discharge structure for energy dissipation. Operation of the existing pipeline blowoff at that location would continue as in the past. For the other two blowoffs, water would be released into upland areas so that it would not flow into existing drainages (an unnamed tributary of Glen Annie Reservoir and the main stem of Glen Annie Creek). The release rate would be controlled to prevent scour and erosion at the release point.

Corona Del Mar Turnout The proposed pipeline would terminate at the existing CDMWTP weir structure (Figure 2-2). The CDMWTP turnout would be modified to increase capacity and reliability. A magnetic flowmeter would be constructed upstream of the connection to the existing 36-inch-diameter outlet in the weir structure. Isolation of the pipeline would be accomplished with a motorized butterfly valve placed in a vault adjacent to the weir structure. To protect the pipeline from surge, a 36-inch-diameter pipe would also connect to the structure, downstream from the weir and higher in elevation. A bypass would also be constructed, with 48-inch diameter modulating valve in a vault, which would allow downstream water delivery during necessary weir maintenance. The existing vent structure at Station 78+00 would be removed and a new vacuum release valve (or vent) would be installed downstream of the CDMWTP turnout.

2.3.2 Preferred Alternative (Parallel and Non-Parallel Pipeline)

The Preferred Alternative would be constructed adjacent (parallel) to the existing SCC pipeline for approximately 1,385 feet from the SPTT to an existing road, along that road to the east end of Glen Annie Reservoir, and then parallel to or near the existing SCC pipeline to the Corona Del

Mar turnout (see Figure 2-3). Minor changes in the alignment due to further design analysis include: (1) the new pipeline on the east side of the existing pipeline from SPTT to the existing road; (2) pipeline segment between two roads moved about 30 feet eastward at the southern end; (3) pipeline segment up steep slope at the Glen Annie Reservoir dam moved south approximately 80 feet where slope is not as steep; and (4) new pipeline moved to south side of existing pipeline in the Glen Annie Creek area. All of these changes are included on Figure 2-3 and occur within the easements analyzed in the Draft EIS/EIR.

Creek Crossings

The Preferred Alternative pipeline would require crossing at the West Fork of Glen Annie Creek and the main stem of Glen Annie Creek (see Figure 2-3). Both crossings would require Section 404 permits from the Corps.

Glen Anne Turnout

The Preferred Alternative alignment would include a new 18-inch diameter, 115-foot long intertie pipeline that could be used to connect the Glen Anne Turnout to the GWC in the future if needed. The intertie pipeline would be constructed eastward from the proposed Preferred Alternative pipeline, about 200 feet south of the access road to the existing Glen Anne Turnout; however, the pipeline would not be connected to the turnout at this time (Figure 2-3). Any future connections would require Reclamation approval and additional environmental analysis. This new alignment for the intertie was developed after publication of the Draft EIS/EIR in order to minimize potential environmental impacts associated with construction on the steep slopes to access the existing Goleta West turnout. The intertie pipeline would pass through a portion of an avocado orchard.

2.3.3 Alternative A (Parallel Pipeline)

The Alternative A pipeline would be constructed adjacent to the existing SCC for its entire length (see Figure 2-3).

Creek Crossings

The West Fork crossing would be located approximately 50 feet south of the Preferred Alternative crossing, and the main stem crossing would be approximately 50 feet north. Both crossings would also require Section 404 permits from the Corps.

Glen Anne Turnout

An intertie pipeline for possible future connection to the Glen Anne Turnout and the GWC would be constructed for Alternative A (parallel pipeline) similar to that proposed for the Preferred Alternative.

2.3.4 Alternative B (Non-Parallel Pipeline)

The Alternative B (non-parallel) pipeline alignment would follow essentially the same route as the Preferred Alternative from the SPTT to Ellwood Reservoir and then diverge to the north side of the existing pipeline to the Corona Del Mar turnout (see Figure 2-3).

Creek Crossings

The West Fork crossing would be similar to that of the Preferred Alternative; however, the main stem crossing would have been approximately 325 feet upstream of the Preferred Alternative crossing in an area with steep banks. Both crossings would also require Section 404 permits from the Corps.

Glen Anne Turnout

Four options, located within the Proposed Action area, have been evaluated for the Alternative B (non-parallel) pipeline for connecting the Glen Anne Turnout to the GWC (see Figure 2-4).

Option 1 – Pipeline In concept, this option would involve connecting the proposed Alternative B (non-parallel) pipeline into the Glen Anne Turnout upstream of the weir that regulates the HGL to the GWC. This option would utilize the existing chlorination facility at the turnout. A possible connection point would be the area of the existing venturi flowmeter. The venturi could be removed and replaced with a tee connection because of the new magnetic flowmeters installed at the new SPTT and CDMWTP would provide the flow measurements. Additional valves and vaults may be necessary for proper operations. Three methods may be utilized to match the HGL at the connection to the proposed pipeline:

- Build a low head Booster Pump Station capable of flow rates to meet the Goleta Water District demand. A relatively low total dynamic head pump system would be required;
- Install a control valve/pressure transmitter downstream of the GWC connection to maintain an HGL in the SCC and GWC equivalent to the Glen Anne weir; or
- Install a new weir/overflow structure located adjacent to the existing Corona Del Mar turnout.

Option 2 – Second Glen Anne Turnout Installation of a second turnout would allow the intertie of the Alternative B (non-parallel) pipeline to the GWC without the expense and effort of a supplemental pipeline to the existing Glen Anne Structure. A new chlorination facility would be constructed at the intertie. This option would also require matching the HGL at the connection to the second barrel of the SCC, as described above for Option 1.

Option 3 – New Transmission Pipe A new transmission pipe would allow for treated water from the CDMWTP to be transported in the GWC. A pumping station at Ellwood reservoir would be required as well as a new pipeline to the GWC, which would parallel the Alternative B (non-parallel) pipeline alignment as much as possible. An approximate pumping head of less than 250 feet would be typically required.

Option 4 – New Intertie from the Tecolote Tunnel A new intertie would transmit water directly from the Tecolote Tunnel to the GWC, parallel to the Alternative B (non-parallel) alignment. Under this option, a new chlorination facility at the tunnel portal and a new pipeline to the GWC would be required. Option 4 would not require any pumping; however, a method for facilitating pressure reduction to avoid backflow at the Glen Anne Turnout could be required.

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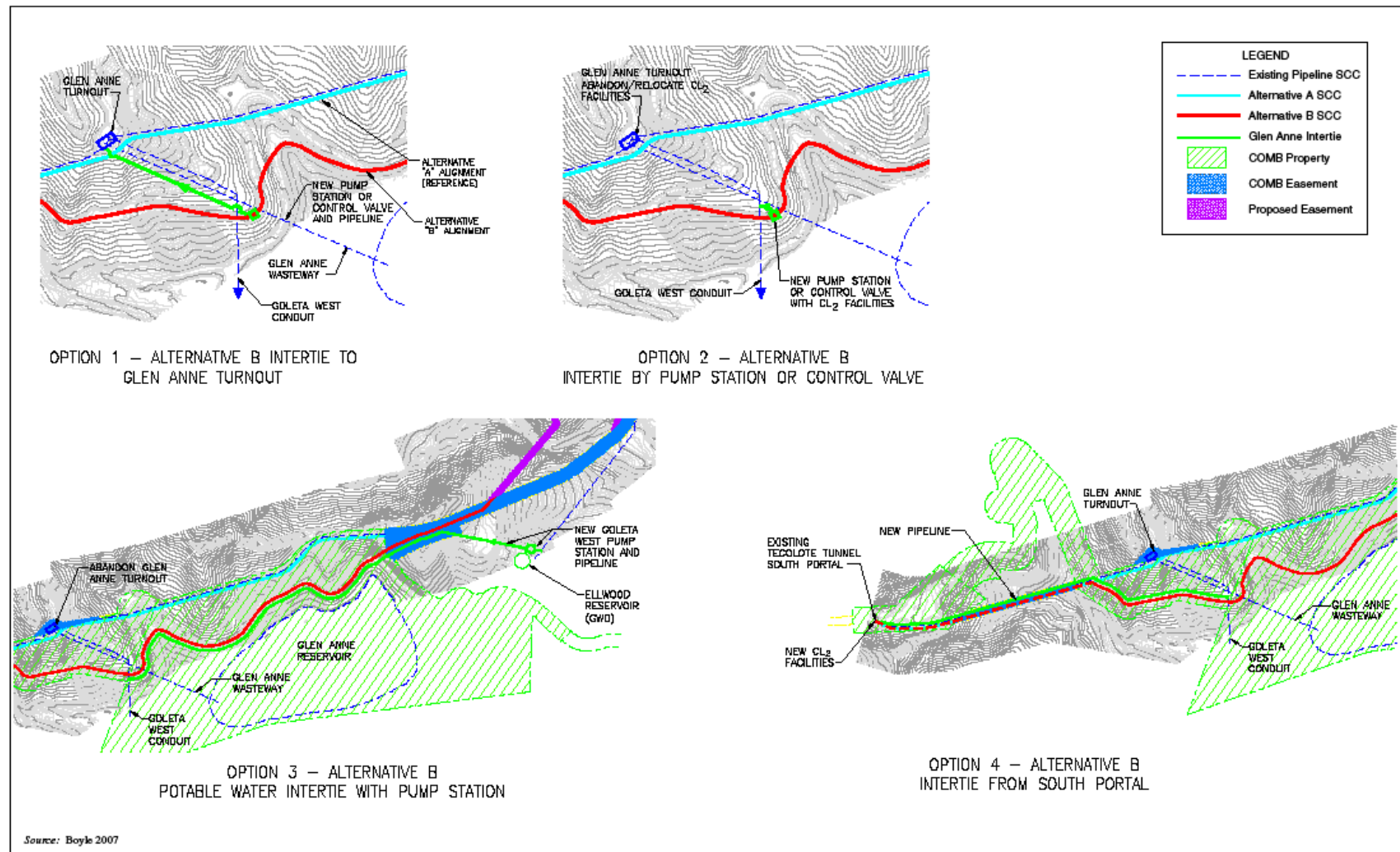


Figure 2-4 Proposed Glen Anne Alternative B Intertie Options

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2.3.5 Construction of Pipeline Alternatives

The proposed pipeline would be installed using an open trench construction method that consists of the following steps: (1) clearing, grubbing, and grading; (2) excavation of the trench; (3) delivery of pipe segments and bedding material; (4) placement of the pipe segments along the trench; (5) installing the pipe in the trench; (6) backfilling the trench and installing the fiber-optic cable; (7) testing the pipe for leaks; and (8) cleanup and restoration of the corridor. The area to be trenched as well as adjacent work areas would be cleared of vegetation and rocks, as needed, and then graded.

Vegetation Clearing

Vegetation would be cleared to ground level. Where possible, roots of woody vegetation would be removed only from within the area to be trenched and not from adjacent work areas. Woody vegetation would be removed by cutting at ground level rather than by grading where feasible. The amount of grading in adjacent areas would depend primarily on topography since the work space needs to be fairly level. Native vegetation removed would be stockpiled and spread over the corridor as mulch during restoration to provide a seed bank. Where present, topsoil would be salvaged from the area to be excavated, stockpiled separate from the remainder of the excavated material (so that it is not mixed with subsoils), and replaced over the backfill to aid in revegetation. Where excavated subsoil would be stockpiled on undisturbed topsoil within the construction easement, straw or another marker would be placed in a layer sufficiently thick to relocate when spoil piles are removed. Final grading would restore the original grade and drainage patterns to the extent feasible. On steep slopes, water bars or other measures would be installed for erosion control.

Pipe Installation

Pipe and bedding material (sand) would be delivered to the site by truck. For 48-inch pipe in 20- to 40-foot lengths, 52 tractor-trailer truck trips would be needed to deliver the pipe from outside the local area (probably San Bernardino). An estimated 8,100 cubic yards of bedding material would be required for placement under and around the pipe. This material would be delivered to the site in dump trucks from local sand and gravel pits. An estimated 1,100 truck trips would be needed if native excavated material is not suitable.

A tracked excavator would be used for trenching and lifting the pipe sections into the trench. The trench would be a minimum of 9.5 feet deep to allow at least 5 feet of cover over the top of the pipe. The sides of the trench would be sloped for safety where the work area is wide enough. In narrow work areas, the trench would have nearly vertical walls with temporary shoring for worker safety. A loader would be used to place the sand bedding in the trench. The pipe sections would be welded in the trench. Underground utility lines crossed by the proposed pipeline would be excavated with small equipment or by hand to maintain their integrity. The pipeline would pass under existing underground utilities with a minimum clearance of 12 inches wherever practicable. Advance notice of this activity would be given to utility owners.

At stream crossings, the pipeline would be buried with a minimum of eight feet of cover. The pipe would also be encased in concrete. Blowoff valves would be installed adjacent to the three drainage crossings (West Fork and main stem of Glen Annie creek and a small unnamed drainage

near the existing SCC). These would include valves to gradually release water to reduce the potential for erosion and runoff of soil or water to the stream. If it is necessary to dewater the pipe and blowoff valves, a portable suction pump and polyvinyl chloride piping would be used for energy dissipation. After dewatering, the piping and portable suction pump would be removed and transported off site for permanent storage by COMB. Any surface flow in the two creeks would be diverted during work through the use of temporary culverts, placed in the flow line and secured with sandbags. If any dewatering would be needed, Best Management Practices (BMPs) would be used to minimize downstream siltation.

During backfilling, bedding material would be placed around the pipe followed by replacement of the material excavated. The backfill would be compacted to prevent pipeline movement and erosion that could expose or damage the pipeline. Excess subsoil material displaced by the pipe and bedding material would be used to crown the backfill (prior to placement of topsoil), to compensate for settling, or hauled offsite to an approved local disposal site. It would not be spread over existing topsoil. Rock that is not suitable for backfilling would be hauled to an approved disposal site.

The pipeline would be cleaned and tested for leaks after backfilling. This testing would be accomplished by filling the pipeline with water and maintaining a test pressure for at least 24 hours. Leaks would be detected by pressure drop then located visually. The water would also clean the line and would be drained at the blowoff valves. If the stream crossings are constructed separately, each would be tested separately from the pipeline.

Concrete Vault Construction

Bases for precast concrete vaults would be placed within their designated locations so that concrete structures could be poured in place onsite. Vaults would include air release and blowoff valves. At minimum, one concrete truck trip would be required per structure.

Staging Areas

Staging, storage of excavated material, topsoil, pipe segments, and vehicle access would occur within the temporary construction easement areas identified in Figure 2-3. The width of this easement would vary depending on topography. On steep slopes and where steep side slopes are present adjacent to the pipeline alignment, the easement would be narrower than in flatter terrain. Staging and extra work space areas may be provided in flatter areas that lack oak trees and other dense woody native vegetation if they are needed. These would be located near constrained width areas where feasible to accommodate the storage of excavated materials and supplies that would not fit in the narrow easement.

Construction Equipment

Equipment to be used during construction includes an excavator, loader, welder, 10-wheeler truck, water truck, and dozer. Other vehicles that would be on site include contractor, inspector, and engineer pickup trucks as well as worker vehicles.

Access

Existing roads and the pipeline corridor would be used for access during construction. No new roads would be constructed for the Proposed Action.

Construction Schedule

The Proposed Action from notice to proceed to restoration of the corridor is estimated to take 11 months. Mobilization of equipment and site clearing would take approximately two months and would overlap with pipeline installation (seven months). Pipeline testing would take up to one month, and finish grading and planting would take two months. Work could start in 2011. Due to terrain and erosion potential, backfilling should be complete prior to rains or contractor should be prepared to stabilize disturbed soils and stockpiles from erosion prior to any forecast rain.

2.3.6 Environmental Commitments

The following environmental commitments and BMPs would be included for construction of the proposed alternative pipeline alignments. Environmental consequences for resource areas assume the measures specified would be fully implemented. See Appendix D for the complete Mitigation Monitoring and Reporting Program including all BMPs to be implemented by COMB.

Table 2-1 Environmental Protection Measures

Resource	Protection Measure
Aesthetics	Covered receptacles shall be provided onsite prior to commencement of grading or construction activities to prevent construction and/or employee trash from blowing offsite. The applicant or designee shall retain a clean-up crew to ensure that trash and all excess construction debris is collected daily or more frequently, as directed by compliance monitors, and placed in provided receptacles throughout construction (AES-2 in Appendix D).
Air Quality	<p>The construction contractor would implement the following SBCAPCD standard fugitive dust control measures during all proposed ground disturbance activities (SBCAPCD 2007b):</p> <ol style="list-style-type: none"> 1. Use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the construction area. At a minimum, this would include wetting down such areas in the later morning and after work is completed for the day and whenever wind exceeds 15 miles per hour; 2. Minimize the amount of disturbed area and speeds of on-site vehicles; 3. Install gravel pads at all access points to prevent tracking of soil onto public roads; 4. 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; 5. After completion of clearing, grading, earthmoving, or excavation, treat the disturbed areas by watering, revegetation, or by spreading soil binders until they are paved or otherwise developed to prevent dust generation; and 6. The contractor or builder shall designate personnel to monitor the dust control program and to order increased watering, as necessary, to prevent the transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress. <p>These dust control requirements would be included on the final grading and construction plans.</p>
Biological Resources	Implementation of Santa Barbara honey suckle protection measures (see BIO-1.1 in Appendix D).
Biological Resources	Inclusion of Santa Barbara honeysuckle restoration within the Revegetation Plan (see BIO-1.2 in Appendix D and Appendix F).
Biological Resources	A Special-Status Species Protection Plan shall be prepared and implemented to minimize or avoid impacts to special status biological resources, including aquatic habitats, during pipeline construction. See BIO-1.3 in Appendix D for specific

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Resource	Protection Measure
	habitat and species measures.
Biological Resources	Glen Annie Creek, including West Fork, bed and banks shall be restored to pre project conditions to the greatest extent feasible. This shall include disposing of material displaced by the pipe and bedding outside the creek corridor but not over existing topsoil, replacing boulders and cobbles in the stream bed, and contouring to restore the stream bed gradient and bank structure. Biological monitors shall ensure that creek beds and banks are restored correctly and shall work with the construction contractor directly or through the resident engineer (BIO-1.4 in Appendix D).
Biological Resources	Inclusion of riparian woodland restoration within the Revegetation Plan (see BIO-2.1 in Appendix D and Appendix F).
Biological Resources	Inclusion of oak woodland restoration measures within the Revegetation Plan (see BIO-2.2 in Appendix D and Appendix F).
Biological Resources	Inclusion of measures to avoid or reduce impacts to migratory and resident breeding birds within the Special-status species Protection Plan. See BIO-3 in Appendix D for specific measures.
Biological Resources	The Revegetation Plan shall include a seed mix appropriate for coastal scrub and chaparral areas as well as non-native grassland and other areas to be revegetated. Performance criteria for each plant community shall be included in the Revegetation Plan. Due to the relatively short distance of the Proposed Action alignment and the similarity of habitats crossed by the Proposed Action, one diverse seed mix may be developed for the entire route. This seed mix shall be applied to all areas where vegetation was removed (BIO-4a in Appendix D).
Biological Resources	Areas of invasive exotic plant infestation shall be identified and mapped within 200 feet of the alignment prior to construction. All such areas within the construction corridor shall be marked on the construction plans and clearly flagged in the field (BIO-4b.1 in Appendix D).
Biological Resources	Prior to construction and throughout restoration, Cape ivy and other weed species shall be controlled. See BIO-4b.2 in Appendix D for specific treatment measures.
Biological Resources	Unless access is refused by the property owner, the area of invasive exotic plant species infestation (primarily black mustard and Veldt grass) in the vicinity of Ellwood Reservoir shall be treated to reduce invasive exotic plant species growth and encourage non-native annual grasses and native species to recolonize the area. See BIO-4b.3 for specific treatment measures.
Biological Resources	Extreme caution shall be taken in using equipment, including passenger vehicles and pickups, in areas identified as having invasive exotic plant species infestations. The undercarriage of all vehicles and equipment shall be washed prior to moving to another portion of the Proposed Action area, including other areas with infestation of different or the same invasive exotic plant species, or moving off the Proposed Action site. All construction personnel boots must be cleaned to remove invasive exotic plant species propagules (e.g., seeds) when moving from invasive exotic plant species infested areas to other areas of the pipeline or leaving the Proposed Action site (BIO-4b.4 in Appendix D).
Biological Resources	The Revegetation Plan shall include an invasive exotic plant species control component to address invasive exotic plant species removal within the native and naturalized habitats. The Plan shall also establish performance criteria for distribution and density of invasive exotic plant species infestations (BIO-4b.5 in Appendix D).
Biological Resources	Creation of a weed manual for O&M activities (see BIO-4b.6 in Appendix D for specific measures).
Biological Resources	Annual inspections for invasive exotic species (see BIO-4b.7 in Appendix D for specific measures).
Biological Resources	Oak tree avoidance measures (see BIO-5 in Appendix D for specific measures).
Cultural Resources	Exclusionary fencing will be used at one area (See CR-1 in Appendix D for specific measures). Pre-construction training regarding type of resources that could be found, proper reporting procedures, and specific stop work procedures will also be used to minimize the chance for impacts to post-review discoveries of resources not found during earlier work (See CR-2 in Appendix D for specific measures).
Fire Control	The construction contractor shall prepare and implement a Fire Prevention Plan.

Resource	Protection Measure
	<p>This Plan shall be prepared in consultation with COMB and shall be approved by the Santa Barbara County Fire Department. The Plan shall address the following:</p> <ol style="list-style-type: none"> 1. Smoking only in enclosed vehicles or areas cleared of vegetation; 2. No open fires permitted; 3. Vehicle operation and parking limited to the cleared work area; 4. Portable tools with internal combustion engines equipped with spark arrestors; 5. Construction crews trained in fire prevention and response; 6. All vehicles in the work area equipped with a minimum 2 pound fire extinguisher; 7. Procedures for reporting wildfires, including radio and telecommunication protocols; and 8. Compliance with California's Fire Laws. <p>The Fire Prevention Plan requirement would be included in the construction contract bid documents.</p> <p>In addition, the contractor shall acquire a permit for welding, grinding, cutting, and brazing from the Santa Barbara County Fire Department. Compliance with the requirements of the permit is mandatory.</p>
Geological Resources	COMB would implement erosion control measures. Specific measures can be found in Appendix D.
Geological Resources	A presentation by a County-qualified paleontologist explaining the potential for encountering paleontological resources during construction shall be included as an element of the Proposed Action pre-construction meeting (GEO-4.1 in Appendix D).
Geological Resources	A County-qualified paleontological monitor shall be on call during excavation activities within the Vaqueros and Rincon formations (GEO-4.2 in Appendix D).
Geological Resources	See GEO-4.3 in Appendix D for measure to be followed in the event that vertebrate fossils are found by the monitor or construction personnel.
Hazards/Hazardous Materials	A Proposed Action-specific Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and submitted to the RWQCB in compliance with the Statewide General Construction Activity Stormwater Permit, to prevent adverse impacts to nearby West Fork and main stem of Glen Annie creek associated with construction related incidental spills. See HAZ-1 in Appendix D for specific measures.
Noise	Construction activity within 800 feet of the residences shall be limited to the hours of 7 A.M. to 5 P.M., Monday through Saturday. No construction shall occur on state Holidays (e.g., Thanksgiving, Christmas, 4th of July, Labor Day). Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities are not subject to these restrictions (NOI-1.1 in Appendix D).
Noise	COMB shall notify sensitive noise receptors 48 hours in advance of the commencement of any and all construction activities. The construction manager's (or representative's) telephone number shall also be provided with the notification so that concerns can be communicated (NOI-1.2 in Appendix D).
Noise	Stockpiling and vehicle staging areas shall be located as far as practical from sensitive noise receptors. Every effort shall be made to create the greatest distance between noise sources and sensitive receptors during construction activities (NOI-1.3 in Appendix D).
Site Restoration	All disturbed soils that are not within roadways or covered with facilities would be stabilized with vegetation appropriate for the location upon completion of construction. This includes implementation of a Revegetation Plan (see Appendix F).
Solid Waste Reduction	<p>The construction contractor would adhere to the following requirements during construction activities:</p> <ol style="list-style-type: none"> 1. Demolition and/or excess construction materials would be separated onsite for reuse/recycling or proper disposal. Steel and concrete would be recycled. During grading and construction, separate bins for recycling

Resource	Protection Measure
	<p>of construction materials would be provided onsite; and</p> <p>2. Materials with recycled content would be used in Proposed Action construction.</p> <p>These requirements would be printed on the final grading and construction plans. COMB would submit a description of the amounts and types of recycled materials to be used in Proposed Action construction to the County Public Works Department.</p>
Transportation	Damage caused by the Proposed Action to the Glen Annie Road segment located north of the Glen Annie Road/Cathedral Oaks Road intersection shall be repaired (TRANS-3 in Appendix D).

2.3.7 Operations and Maintenance

The existing SCC would continue to be owned by Reclamation. The new pipeline would be owned by COMB. O&M responsibilities for the new pipeline and the existing pipeline would remain with COMB pursuant to their agreement with Reclamation.

Operation

The two pipelines would be operated so that water is delivered in one when demand is less than 41 MGD and in both when demand exceeds 41 MGD. Flow into the two pipelines at the new SPTT would be regulated automatically with manual override operation.

Maintenance

The new pipeline would be maintained by periodic checks of the cathodic protection system, visual surveillance of the corridor (where accessible) for leaks, annual testing of the blowoff valves, and annual internal inspections. For internal inspections, the pipeline would be drained so that the inside could be visually inspected. Testing of the blowoff valves would involve gradually opening and closing the valve to make sure that it works properly. The water would be released from the proposed pipeline blowoff into the existing SPTT wasteway structure at the West Fork of Glen Annie creek and into adjacent upland areas at the other two blowoffs so that it would not flow into the adjacent drainage. This operation would be conducted in a manner to prevent erosion and transport of sediment into the drainage. Individual trees of species that can grow to a large size (e.g., eucalyptus and oaks) would be removed directly over and within about 20 feet of the pipeline to allow access for maintenance as needed. These trees would be removed using hand tools before they become large.

2.4 Alternatives Considered but not Carried Forward for Analysis

The screening process used in the EIS/EIR to evaluate a reasonable range of alternatives was based on the Proposed Action's purpose and need/objectives (Section 1.2 and 1.3). Two alternatives were considered but not carried forward for detailed analysis in the EIS/EIR because they did not adequately meet the purpose of the Proposed Action. These alternatives include: 1) raising the HGL at the SPTT, and 2) modifying the CDMWTP turnout to lower the HGL.

Raising the HGL at the SPTT could increase the SCC flow capacity with modifications to the outlet structure and the fabrication of a bulkhead wall within the tunnel. However, this

alternative has several issues that make it infeasible. For example, the existing pipeline is currently operating at its pressure limit, and raising the HGL above the design pressure would result in over-pressurization of the existing pipeline. Additionally, access to the tunnel from the SPTT could be restricted to a manhole sleeve or removed entirely due to raised water levels. This would mean that the only point of entry for the entire tunnel would occur at the North Portal. As this alternative would not increase the reliability of the SCC, it is not carried forward for detailed analysis in the EIS/EIR.

The second alternative considered but not carried forward for detailed analysis is modifying the CDMWTP turnout to lower the HGL. This alternative would modify the turnout structure and automated operational controls. Two options were analyzed for this alternative, both of which would increase the flow capacity. The first option would lower the concrete weir to reduce the HGL and increase the SCC flow. However, the amount the weir could be lowered is minimal because of hydraulic constraints of the CDMWTP. The second option would automate the valve that allows flows to bypass the weir while maintaining the HGL. This could potentially increase the SCC flow in the upper section of the Goleta Reach, but would not increase the reliability of the SCC. Therefore, this alternative was eliminated from further analysis.

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Section 3 Affected Environment and Environmental Consequences

This chapter presents an assessment of the environmental effects associated with each alternative being considered, including the No Action Alternative. This chapter describes the existing physical environment of the Proposed Action site and delineates the potential effects that may result from construction of the proposed pipeline under each Proposed Action alternative. Also included is a discussion of the regulatory framework and significance criteria. As COMB has already finalized the CEQA portion of this EIS/EIR through their Notice of Determination, the primary emphasis of this Final EIS/EIR is on the NEPA analysis of impacts.

The following resource categories have been determined by Reclamation and COMB to warrant detailed evaluation in this EIR/EIR: Aesthetics/Visual Resources, Air Quality, Biological Resources, Cultural Resources, Environmental Justice, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Indian Trust Assets (ITA), Indian Sacred Sites, Land Use, Noise, and Transportation/Circulation. Cumulative impacts are evaluated in Section 4 Cumulative Impacts.

The following resources were found to have no risk of significant impact from the Proposed Action alternatives and will not be addressed further:

- **Agricultural Resources:** The Proposed Action alternatives would temporarily disturb a portion of an avocado orchard designated as Unique Farmland by the California Department of Conservation. Compensation has been negotiated between COMB and the landowner for this disturbance which could be used to replant the disturbed section of the orchard. In addition, soil removed prior to construction of the proposed pipeline within this area would be set aside and then replaced once construction was complete. There would be no change in agricultural use to lands designated as Unique Farmland.
- **Mineral Resources:** There are no known oil, gas or other mineral resources in the Proposed Action area. Further, the use of excavated material as fill minimizes risk of any unknown mineral resources being removed from the Proposed Action site.
- **Public Services:** The Proposed Action would not increase demand on public services such as police, fire, emergency medical or schools. The slight risk of a vegetation fire caused by construction activities is minimized by implementation of the Fire Protection Plan.
- **Utilities/Service Systems:** The implementation of Solid Waste Reduction Measures would ensure compliance with the Santa Barbara County Environmental Thresholds and Guidelines Manual. Portable toilets for construction workers would minimize any demand on wastewater services.
- **Recreation:** There are no recreation facilities in the Proposed Action area.
- **Socioeconomics:** Any effect on socioeconomics would be beneficial including temporary construction jobs and the associated increase in demand for local goods and services.

The only risk to socioeconomics would be a temporary loss of revenue from a portion of an avocado orchard in the Proposed Action area; however, compensation from a construction easement on the parcel would partially or fully cover any loss. Details of agricultural impacts are discussed within the Agricultural Resources section.

NEPA and CEQA differ in the standard language used to describe adverse environmental effects. CEQA requires that impacts regarded as “significant” be identified as such. NEPA criteria for significance (as listed in 40 CFR 1508.27) are based on the context and intensity of the impact. Significance determinations under CEQA are based on comparisons to existing conditions. NEPA requires a comparison of the Action Alternatives with the No Action, and under NEPA, when an EIS is prepared, it is not necessary to specify whether or not a particular impact is significant. The fact that the level of NEPA document is an EIS presumes that adverse impacts may have a significant impact on the quality of the human environment. Therefore, each impact assessment in this document concludes with a finding of significance based on a comparison of the evaluated impact with the stated significance criteria in order to comply with CEQA. For all impacts that are identified as significant pursuant to CEQA and considered adverse pursuant to NEPA, and where mitigation is possible and feasible, appropriate mitigation measures are identified to reduce the impacts to a less-than-significant level. Where implementation of more than one mitigation measure is needed to reduce an impact below a threshold of significance, all of the measures are described. Finally, for all significant impacts, the significance of each impact after implementation of the mitigation measures is assessed.

Mitigation measures in this EIS/EIR are formulated consistent with the strategy as set forth in CEQA Guidelines §15370 and NEPA CEQ Guidelines §1508.20 as follows:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

A Mitigation Monitoring and Reporting Plan has been prepared for the Proposed Action alternatives and is included in Appendix D.

3.1 Aesthetic/Visual Resources

The following discussion focuses on the visual resources of the Proposed Action site, including its undeveloped character, its relationship to surrounding areas, the degree of night lighting and glare in the vicinity, and the surrounding architectural style and character.

3.1.1 Regulatory Setting

The Santa Barbara County Comprehensive Plan Land Use Element contains two visual resources policies applicable to the Proposed Action. Policy 1 requires that all commercial, industrial, and planned developments submit a landscaping plan to the County for approval. Additionally, Policy 2 requires that in areas designated as rural on the land use plan maps, the height, scale, and design of structures be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms; shall be designed to follow the natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing places.

3.1.2 Affected Environment

The County Visual Aesthetic Impact Guidelines (Santa Barbara County 1995) provide guidance in determining the importance of visual resources. Key factors in characterizing the importance of visual resources associated with a project parcel include the following:

- Physical attributes such as undulating topography; character and type of vegetation (native or non-native); proximity to or presence of water bodies such as ponds, lakes, creeks, or streams; and extent of open space. The presence of these attributes enhances the visual importance of the project parcel.
- Relative visibility including the importance of the visual resource which is directly related to how conspicuous the project parcel and associated physical attributes are as viewed from public viewpoints.
- Relative uniqueness such as the rarity of a particular type of view due to its natural character or the loss of similar types of visual resources from previous development increases the potential importance of the visual resource.

The guidelines state that in terms of visibility, four types of geographic areas are especially important: coastal and mountainous areas; the urban fringe; and travel corridors.

Visual Character of the Site and Surroundings

The Proposed Action site is located in the foothills of Santa Barbara County, within Glen Annie Canyon. The site is characterized as open land that contains a variety of important scenic resources including undulating topography, extensive chaparral and riparian vegetation, and oak woodlands. The West Fork and main stem of Glen Annie Creek traverse the Proposed Action site. Agricultural lands (i.e., orchards) exist at the northern end of the pipeline alignment, near the SPTT and the main stem of Glen Annie Creek.

Proposed Action Site Views from Public Roadways

The Proposed Action site has limited visibility from nearby public roadways and view corridors, including U.S. Highway 101 (U.S. 101), Cathedral Oaks Road, and Glen Annie Road. Due to undulating topography and extensive vegetation coverage, views of the proposed pipeline alignments would be extremely limited. As the proposed alignments traverse areas of gentler slopes along the southeastern portion of the Proposed Action site, partial views of the site are visible from public roadways.

U.S. 101 This highway is located over 2.4 miles south of the Proposed Action site. The Santa Barbara County Comprehensive Plan designates U.S. 101 as a scenic corridor between Gaviota Beach and the South Coast Urban Complex. Because the Proposed Action site falls to the east of the South Coast Urban Complex boundary, U.S. 101 is not designated as a scenic corridor in this area. Vehicles traveling along U.S. 101 experience distance background views of the Proposed Action site; the Santa Ynez Mountains are visible beyond the site from this vantage point. Views from U.S. 101 are relatively brief (lasting no more than a few seconds).

Glen Annie Road Glen Annie Road is a two-lane local road that travels north from its intersection with Cathedral Oaks Road up the Glen Annie Canyon for approximately 1.75 miles. Intervening topography and vegetation obscure Proposed Action site views when traveling on this road. Additionally, the Glen Annie Road terminus is located south of the Proposed Action site; Glen Annie Road does not travel directly adjacent to the proposed alternative alignments.

Cathedral Oaks Road Due to intervening development and landscaping, foreground views of the Proposed Action site are obscured from Cathedral Oaks Road (located 2 miles south of the Proposed Action site); distant background views of the site are only partially visible from this roadway. Views from vehicles traveling along Cathedral Oaks Road are relatively brief (lasting no more than a few seconds).

Views of uninterrupted chaparral and oak woodland habitat and the Santa Ynez backdrop are important scenic resources experienced from the private access road that continues along the pipeline route from the terminus of Glen Annie Road.

In summary, the Proposed Action site has several important physical attributes, including undulating topography, extensive chaparral and riparian habitat, and oak woodland vegetation. The natural character of the Proposed Action site is a dominant visual characteristic. Therefore, the combination of these physical features enhances the physical quality of the site. However, due to the surrounding Glen Annie Canyon topography (i.e., intervening canyons and ridgelines), views of the Proposed Action site and its physical attributes are very limited.

Night Lighting and Glare

The absence of development, together with the adjacent agricultural lands, results in a relatively low degree of nighttime lighting and glare. The private access road and Glen Annie Road are not illuminated by street lights, minimizing the overall amount of nighttime glare. Existing ranch structures located west of the Proposed Action site are illuminated by exterior night lighting. Nighttime glare is also generated to the south by the CDMWTP. However, as adjacent development is surrounded by an expansive amount of undeveloped area that diffuses nighttime light, the existing ranch structures and CDMWTP do not collectively emit substantial amounts of nighttime glare.

Surrounding Architectural and Landscaping Character

The existing ranch structures are characteristic of contemporary California Ranch architectural styles. Development associated with the CDMWTP to the south is characteristic of industrial architecture (i.e., water treatment facilities).

3.1.3 Methodology for Analysis

The County of Santa Barbara has established Visual Resources Guidelines to provide a framework for assessing potential project impacts on aesthetics. Assessment of visual resources is based on evaluation of the physical attributes of the site, its relative visibility, and its relative uniqueness. The potential impact for a project to affect onsite and surrounding visual character and qualities is based on the assessment of the visual character of project features compared to the project setting. Determining compliance with local and state policies regarding visual resources is also an important part of visual impact assessment.

The Santa Barbara County Comprehensive Plan Open Space Element identifies the following visual resources as providing significant aesthetic value: scenic roadway corridors, park and recreational areas, views of coastal bluffs, streams, lakes, estuaries, rivers, watersheds, mountains, and cultural resource sites, and scenic areas.

CEQA Significance Criteria

The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers may have varying opinions and reactions to changes in a viewshed or the appearance of new buildings and structures. This evaluation compares the existing visual characteristics of the Proposed Action study area against the potential changes in visual characteristics that could result from implementation of the Proposed Action.

Consistent with CEQA compliance requirements, the Proposed Action would result in a significant visual impact if it would result in one or more of the following conditions:

AES-1: Obstruct an important visual resource or view;

AES-2: Substantially degrade the existing visual character or quality of the site and its surroundings; or

AES-3: Create new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, regular annual O&M activities would continue as in the past, and no new construction would occur, resulting in no impact to aesthetics or visual resources. However, due to existing environmental conditions, potential system failure of either the SPTT or SCC could occur in the future. Damage due to system failure could occur over a considerable area including stream corridors. Construction would be necessary to replace failed structure(s) and to repair any environmental damage resulting from water release. This would affect the visual character of areas requiring repair. Areas that could be damaged by a water release that would require repair would be primarily in locations that have limited visibility to the public, particularly for the SPTT and West Fork of Glen Annie Creek. Damage and repairs in the upper portion of Glen Annie Creek would also be in areas with limited public visibility. Visual impacts to Glen Annie Creek further downstream would be similar to those from storm runoff events. Most repair work would be conducted during daylight hours, although some work would be at night as needed for emergency repairs. The night work would be in areas of limited visibility and of short duration so that the increase in nighttime sources of light and glare.

Consequently, there would be minimal adverse impacts to visual resources due to facility failure. Impacts would be less than significant and no mitigation would be required.

No Project Alternative

The No Project Alternative would include construction of site improvements as well as ongoing annual O&M activities. Construction and operation of the No Project Alternative would not substantially change any existing scenic vistas. However, construction and maintenance activities including replacement of the SPTT, Glen Anne and Corona Del Mar turnout structures, and Glen Anne meter would alter the visual character and quality of the Proposed Action site and its surroundings. Additional maintenance activities would be similar to existing conditions and would include inspection of the air valves and blowoff valves for operability. Construction activities mentioned above, including grading and vegetation clearing, associated with the No Project Alternative would be substantially less than the Proposed Action alternatives. All maintenance and construction activities would occur during daylight hours and would not increase nighttime sources of light and glare. The No Project Alternative would have minimal adverse impacts to aesthetic resources. Impacts would be less than significant and no mitigation would be required.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

As described in Section 3.1.1, existing views of the Preferred Alternative alignment area from public view corridors, including U.S. 101 and Cathedral Oaks Road, are extremely limited due to intervening topography and dense vegetation. While the majority of the Proposed Action area is not visible from public roadways, proposed pipeline alignments adjacent to the CDMWTP located on gently sloping areas would be partially visible from public view corridors. However, the distance of these corridors from the Proposed Action site as well as the difference in elevation between the roadways and Proposed Action site, result in extremely limited background views of the site. Additionally, views from U.S. 101 and Cathedral Oaks Road would be brief (lasting no more than a few seconds); therefore, motorists traveling on these roadways would not be capable of discerning any changes to the Proposed Action area. Furthermore, subsequent to construction, the pipeline corridor would be revegetated (see Appendix F). As views of important visual resources would not be substantially altered as a result of construction or operation of the Preferred Alternative, there would be minimal adverse impacts. Impacts would be less than significant and no mitigation would be required.

Construction of the Preferred Alternative pipeline alignment would result in substantial clearing, grubbing, and grading, as well as excavation of the pipeline trench. Vegetation would be cleared to ground level, and roots of woody vegetation would be removed from the area to be trenched. The amount of grading required would depend primarily on the topography since the work space needs to be fairly level. To the extent feasible, native vegetation removed would be stockpiled and spread over the corridor as mulch during restoration to provide a seed bank. Topsoil would be salvaged from the area to be excavated, stockpiled separately from the remainder of the excavated material, and replaced over the backfill to aid in revegetation. After final grading and topsoil replacement in areas of native or naturalized vegetation, a Revegetation Plan (see Appendix F and Mitigation Measures BIO-1.2, BIO-2.1, BIO-2.2, and BIO-4a in Appendix D) would be implemented to restore these areas to pre-Proposed Action conditions.

Improper disposal of refuse or waste construction materials during construction activities could potentially result in construction materials and/or refuse blowing offsite. This would adversely affect the aesthetic qualities of the site and surrounding properties. Short-term impacts resulting from construction-related activities would temporarily alter the visual character of the Proposed Action site and its surroundings. However, these temporary impacts would be minimized by the following Mitigation Measures: BIO-1.2, BIO-2.1, BIO-2.2, and BIO-4a, requiring restoration of vegetation coverage to pre-Proposed Action conditions. In addition, implementing Mitigation Measure AES-2 would address potential impacts on visual resources associated with improper litter disposal during construction activities (see Appendix D for complete descriptions of Mitigation Measures including timing and agencies responsible for implementation and monitoring).

The Preferred Alternative pipeline would not introduce new sources of light or glare to an area that currently has minimal nighttime lighting. Preferred Alternative construction activities would occur during daylight hours; therefore, no additional lighting would be required. Upon completion of Proposed Action construction, sources of light and glare would be similar to existing conditions because the Preferred Alternative would not include any new lighting fixtures. The new water supply pipeline would be underground and would not require any illumination during daytime or nighttime hours. Therefore, the Preferred Alternative would not introduce new night lighting, representing no change in the level of night light illumination when compared to what is presently generated over the Proposed Action site. Impacts would be less than significant and no mitigation would be required.

The minor change in the Preferred Alternative pipeline alignment between the Draft and Final EIS/EIR (see Section 2.3) would not change impacts on aesthetics or visual resources during construction as the alignment is within the easement analyzed in the Draft EIS/EIR.

Significance of Impacts after Mitigation Implementation of Mitigation Measures BIO-1.2, BIO-2.1, BIO-2.2, and BIO-4a would ensure that residual impacts on the existing visual character of the site and its surroundings would be less than significant. Mitigation Measure AES-2, identifying and implementing construction clean-up procedures, would reduce the potential for short-term litter disposal impacts during construction to less than significant.

Alternative A (Parallel Pipeline)

Impacts resulting from Alternative A would be the same as those previously described for the Preferred Alternative. Implementation of the same Mitigation Measures described under the Preferred Alternative would minimize impacts to less than significant.

Alternative B (Non-parallel Pipeline)

Impacts resulting from Alternative B would be the same as those previously described for the Preferred Alternative. Implementation of the same Mitigation Measures described under the Preferred Alternative would minimize impacts to less than significant.

3.2 Air Quality

3.2.1 Regulatory Setting

Section 176 (C) of the CAA (42 USC 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact, conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants caused by a proposed action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

NAAQS and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), inhalable particulate matter between 2.5 and 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead. The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

CARB evaluates how the state attains the CAAQS. An area is in nonattainment for a pollutant if its' CAAQS has been exceeded more than once in three years.

3.2.2 Affected Environment

The Proposed Action lies within the Santa Barbara County under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD). Presently, Santa Barbara County attains all NAAQS and CAAQS for 1-hour O₃, NO₂, SO₂, CO, sulfates, hydrogen sulfide, and lead but is in nonattainment of CAAQS for 8-hour O₃ and PM₁₀ (SBCAPCD 2010). The County is considered a "moderate" O₃ nonattainment area by CARB (SBCAPCD 2006).

Ozone concentrations are highest during the warmer months and coincide with the seasons of maximum solar radiation. Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants, or precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOC). The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. In 2006, one monitoring station exceeded the State 1-hour standard for O₃ in Santa Barbara County. However, the County is currently in attainment for the

State 1-hour O₃ standard and the Federal 1-hour O₃ standard has been revoked (SBCAPCD 2010).

Inert pollutant concentrations (generally, pollutants other than O₃ and its precursors) tend to be the greatest during the winter and are a product of light wind conditions and surface-based temperature inversions. Maximum inert pollutant concentrations are usually found near an emission source. For example, the main sources of CO emissions are motor vehicles and the highest ambient CO concentrations are found near congested transportation arteries and intersections.

3.2.3 Methodology for Analysis

The pollutants of primary concern that are considered in this EIS/EIR include VOC, NO_x, PM₁₀, and PM_{2.5}. Although there are no ambient air quality standards for VOC or NO_x, they are important as precursors to O₃ formation. The Proposed Action analysis follows the guidance and methodologies recommended in the SBCAPCD's *Scope and Content of Air Quality Sections in Environmental Documents* (SBCAPCD 2007a).

To estimate construction and O&M emissions, factors were obtained from (1) the CARB OFFROAD2007 emissions model for construction equipment (CARB 2006a), (2) special studies for fugitive dust (EPA 1995), and (3) the CARB EMFAC2007 emissions model for on-road vehicles (CARB 2006b). Equipment usage data needed to calculate emissions for proposed construction and operational activities were obtained from COMB. All earthmoving activities performed for Proposed Action construction would implement County standard dust control measures, as identified in Section 2.3.6. Appendix B includes the data and assumptions used to estimate emissions for construction and operation of the Proposed Action alternatives.

The SBCAPCD has developed the following daily emission thresholds to determine the significance of O&M emissions: (1) for all source types, 240 pounds of VOC and NO_x and 80 pounds of PM₁₀; and (2) for on-road vehicles sources, 25 pounds of VOC and NO_x. In addition, analysis of proposed construction emissions used the annual conformity thresholds that are applicable to the Proposed Action region: 100 tons of VOC and NO_x.

CEQA Significance Criteria

Consistent with CEQA compliance requirements, the Proposed Action would result in a significant air quality impact if it would result in one or more of the following conditions:

- AQ-1:** Conflict with or obstruct implementation of an applicable air quality plan;
- AQ-2:** Exceed an ambient air quality standard or contribute substantially to an existing or projected air quality standard violation;
- AQ-3:** Result in a net increase of any criteria pollutant for which the Proposed Action region is in nonattainment under an applicable national or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- AQ-4:** Expose sensitive receptors to substantial pollutant concentrations; or
- AQ-5:** Create objectionable odors that affect a substantial number of people.

3.2.4 Environmental Consequences

No Action Alternative

Although no construction would occur for the No Action Alternative, O&M of the existing facilities would continue to produce minor amounts of nonattainment pollutants due to the occasional use of earthmoving equipment and light-duty trucks. These emissions would be similar to those estimated for the operation of the Preferred Alternative (see Table 3-2 below) and fall well below SBCAPCD's *de minimis* standards. Therefore, emissions from operation of the No Action Alternative would not exceed any ambient air quality standard, conflict with or obstruct implementation of an air quality plan, or contribute substantially to an existing air quality standard violation. Impacts would be less than significant and no mitigation would be required.

Should facility failure occur in the future, minor amount of air emissions of nonattainment pollutants from diesel-powered mobile equipment and fugitive dust (PM₁₀) would be produced during repairs. Due to the mobile and intermittent nature of these sources, their combusive emissions would not contribute to substantial ambient air quality impacts at any location. COMB would implement County standard dust control measures (see Section 2.3.6) to ensure that site repair would not contribute to an exceedance of PM₁₀ or PM_{2.5} ambient air quality standards. The minor amount of emissions generated by facility repair would result in emissions that are substantially below the applicable conformity thresholds. As a result, repairs under this alternative would not result in a net increase of any criteria pollutant for which the Proposed Action air basin is in nonattainment under an applicable national or state ambient air quality standard. Therefore, the impacts on air quality would be less than significant and no mitigation would be required.

The impact of air emissions to sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. The locations of these groups include residences, schools, playgrounds, daycare centers, and hospitals. The existing SCC is within a rural area with only two potentially sensitive receptors (two residences) located approximately 250 feet below the existing SCC. Furthermore, construction for repairs of failed facilities and operation of the No Action Alternative would produce minimal amounts of emissions. Due to an adequate distance between these emissions and nearby residents, the alternative would not expose sensitive receptors to substantial pollutant concentrations or objectionable odors and potential impacts would be less than significant and no mitigation would be required.

No Project Alternative

The No Project Alternative would have the same O&M activities and emissions as those produced under the No Action Alternative. As a result, O&M for the No Project Alternative would result in air quality impacts as described for the No Action Alternative.

Site improvements associated with the No Project Alternative would produce minor amounts of combusive emissions due to the use of diesel-powered mobile equipment and fugitive dust. Due to the mobile and intermittent nature of these sources, their combusive emissions would not contribute to substantial ambient air quality impacts at any location. Implementation of County standard dust control measures (see Section 2.3.6) would ensure that site improvements under

the alternative would not contribute to an exceedance of a PM₁₀ or PM_{2.5} ambient air quality standard. In addition, construction of this alternative would not result in a net increase of any criteria pollutant for which the Proposed Action air basin is in nonattainment under an applicable national or state ambient air quality standard. Therefore, the impacts on air quality would be less than significant and no mitigation would be required.

The impact of air emissions to sensitive members of the population is a special concern as described for the No Action Alternative. Construction and operation of the No Project Alternative would produce minimal amounts of emissions. Due to an adequate distance between these emissions and nearby residents, the alternative would not expose sensitive receptors to substantial pollutant concentrations nor would it create objectionable odors that affect a substantial number of people; therefore, impacts would be less than significant and no mitigation would be required.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

Construction of the Preferred Alternative would produce combustive emissions due to the use of diesel-powered mobile equipment. Additionally, earth-moving activities could produce uncontrolled fugitive dust emissions at a rate of about 55 pounds of PM₁₀ per day per acre of disturbed land (EPA 1995). However, construction of the pipeline would only require a few pieces of construction equipment and due to the mobile and intermittent nature of these emission sources, combustive emissions would not contribute to substantial ambient air quality impacts at any location. In addition, the Santa Barbara County 2004 and 2007 Clean Air Plans include emission reduction measures that are designed to bring the County into attainment and maintenance of the state and national ambient air quality standards (SBCAPCD 2004, 2007c). To be consistent with these policies and the policies of past air quality plans, proposed earthmoving activities would implement County standard dust control measures (see Section 2.3.6) as part of the Proposed Action. These measures are based upon policies adopted in the *Santa Barbara County 1979 Air Quality Attainment Plan*.

Table 3-1 provides an estimation of the total emissions that would occur from construction of the Preferred Alternative. These data show that construction would result in emissions that are substantially below the applicable conformity thresholds. As a result, construction of the Preferred Alternative would not result in a net increase of any criteria pollutant for which the Proposed Action region is in nonattainment under an applicable national or state ambient air quality standard nor would it conflict with or obstruct implementation of an applicable air quality plan. Therefore, impacts would be less than significant and no mitigation would be required.

Table 3-1 Total Emissions due to Construction of the Preferred Alternative

Source	Total Emission (Tons per Year)					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Construction Equipment	0.32	1.27	5.18	0.00	0.16	1.04
Fugitive Dust	---	---	---	---	8.80	0.90
Total Emissions – Tons	0.32	1.27	5.18	0.01	8.96	1.94
Conformity Thresholds – Annual Tons	100	NA	100	NA	NA	NA

Note: All emissions are expected to occur within calendar year 2011. NA = not applicable.

O&M activities associated with the Preferred Alternative would include pipeline maintenance and inspection. These activities would require the occasional use of earthmoving equipment and light-duty on-road trucks as it does for the existing SCC. Table 3-2 provides an estimation of the daily emissions that would occur from O&M of the Preferred Alternative. These data indicate that operations would result in emissions that are substantially below the SBCAPCD daily significance thresholds. Table 3-2 also shows that annual operational emissions would be substantially below the applicable conformity thresholds. As a result, operation of the Preferred Alternative would not result in a net increase of any criteria pollutant for which the Proposed Action region is in nonattainment under an applicable national or state ambient air quality standard.

Table 3-2 Operational Emissions for the Preferred Alternative

Emissions Period/Equipment Type	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
DAILY EMISSIONS						
POUNDS PER DAY						
Earth-moving Equipment	0.93	3.27	6.46	0.00	0.64	0.59
Light-Duty Trucks	0.03	0.57	0.07	0.00	0.01	0.01
Total Daily Emissions – All Sources	0.96	3.84	6.53	0.01	0.65	0.60
SBCAPCD Thresholds – All Sources	240	NA	240	NA	80	NA
SBCAPCD Thresholds –Vehicular Sources	25	NA	25	NA	NA	NA
ANNUAL EMISSIONS						
TONS PER YEAR						
Earth-moving Equipment	0.00	0.01	0.02	0.00	0.00	0.00
Light-Duty Trucks	0.00	0.03	0.00	0.00	0.00	0.00
Total Annual Emissions	0.00	0.04	0.02	0.00	0.00	0.00
Conformity Thresholds	100	NA	100	NA	NA	NA

Note: Total emissions values may not add up due to rounding errors. NA = not applicable.

As described previously, the impact of air emissions to sensitive members of the population is a special concern. The only sensitive receptors that currently occur in proximity to the Proposed Action site are two residences located at least 250 feet away from the Preferred Alternative construction activities. Consequently, proposed construction emissions would substantially disperse by the time they reach these locations. Due to an adequate distance between these emissions and nearby residents, the Preferred Alternative would not expose sensitive receptors to substantial pollutant concentrations nor would it create objectionable odors that affect a substantial number of people. Therefore, impacts would be less than significant and no mitigation would be required. Due to a minimal amount of maintenance and inspection activities, operational emissions would also have little impact at these locations.

The minor changes in the Preferred Alternative pipeline alignment between the Draft EIS/EIR and Final EIS/EIR described in Section 2.3 would not increase construction related combustive or fugitive dust emissions; change O&M emissions; result in additional exposures to sensitive receptors; or create additional objectionable odors as they are within the same easement analyzed previously.

Alternative A (Parallel Pipeline)

Impacts resulting from Alternative A would be similar as those previously described for the Preferred Alternative. Table 3-3 provides an estimation of the total emissions that would occur from construction of Alternative A. These data indicate that construction would result in emissions that are also substantially below the applicable conformity thresholds. As a result,

construction of Alternative A would not result in a net increase of any criteria pollutant for which the Proposed Action air basin is in nonattainment under an applicable national or state ambient air quality standard. Therefore, impacts would be less than significant and no mitigation is required.

Table 3-3 Total Emissions due to Construction of Alternative A

Source	Total Emission (Tons per Year)					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Construction Equipment	0.40	1.54	6.27	0.00	0.20	0.19
Fugitive Dust	---	---	---	---	8.80	0.90
Total Emissions – Tons	0.40	1.54	6.27	0.01	9.00	1.09
Conformity Thresholds – Annual Tons	100	NA	100	NA	NA	NA

Note: All emissions are expected to occur within calendar year 2011. NA = not applicable.

Daily operational activities and emissions associated with Alternative A would be similar to but slightly higher than those estimated for the Preferred Alternative. Annual emissions would be the same for either alternative. Table 3-4 shows that operations from Alternative A would result in emissions that are substantially below the SBCAPCD daily significance thresholds and the annual conformity thresholds. As a result, operation of Alternative A would not result in a net increase of any criteria pollutant for which the Proposed Action air basin is in nonattainment under an applicable national or state ambient air quality standard. Impacts would be less than significant and no mitigation would be required.

Table 3-4 Operational Emissions for Alternative A

Emissions Period/Equipment Type	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
DAILY EMISSIONS						
POUNDS PER DAY						
Earth-moving Equipment	1.11	1.11	7.76	0.00	0.78	0.71
Light-Duty Trucks	0.03	0.03	0.07	0.00	0.01	0.01
Total Daily Emissions – All Sources	1.15	4.49	7.83	0.01	0.78	0.72
SBCAPCD Thresholds – All Sources	240	NA	240	NA	80	NA
SBCAPCD Thresholds – Vehicular Sources	25	NA	25	NA	NA	NA
ANNUAL EMISSIONS						
TONS PER YEAR						
Earth-moving Equipment	0.00	0.01	0.02	0.00	0.00	0.00
Light-Duty Trucks	0.00	0.03	0.00	0.00	0.00	0.00
Total Annual Emissions	0.00	0.04	0.02	0.00	0.00	0.00
Conformity Thresholds	100	NA	100	NA	NA	NA

Note: Total emissions values may not add up due to rounding errors. NA = not applicable.

The nearest sensitive receptors (two residences) are located at least 500 feet away from the proposed Alternative A construction activities. As these would be even further away than the Preferred Alternative, proposed construction of Alternative A would not expose sensitive receptors to substantial pollutant concentrations or objectionable odors. Impacts would be less than significant and no mitigation would be required.

Alternative B (Non-parallel Pipeline)

Impacts resulting from Alternative B would be similar as those previously described for the Preferred Alternative; however, Alternative B would require more grading at the crossing of the main stem of Glen Annie Creek due to the steep terrain at this location. Table 3-5 provides an estimation of the total emissions that would occur from construction of Alternative B. As for the Preferred Alternative, construction emissions would be substantially below the applicable

conformity thresholds. As a result, construction of Alternative B would not result in a net increase of any criteria pollutant for which the Proposed Action air basin is in nonattainment under an applicable national or state ambient air quality standard. Therefore, impacts on air quality would be less than significant and no mitigation would be required.

Table 3-5 Total Emissions due to Construction of Alternative B

Source	Total Emission (Tons per Year)					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
Construction Equipment	0.47	1.75	7.40	0.00	0.24	0.23
Fugitive Dust	---	---	---	---	10.56	1.08
Total Emissions – Tons	0.47	1.75	7.40	0.01	10.80	1.31
Conformity Thresholds – Annual Tons	100	NA	100	NA	NA	NA

Note: All emissions are expected to occur within calendar year 2011. NA = not applicable.

Operational activities and emissions associated with Alternative B would be identical to those estimated for Alternative A (see Table 3-4). As a result, Alternative B operations would not result in a net increase of any criteria pollutant for which the Proposed Action region is in nonattainment under an applicable national or state ambient air quality standard. Impacts would be less than significant and no mitigation would be required.

The nearest sensitive receptors (two residences) would be the same distance from the proposed Alternative B pipeline route as from the Preferred Alternative route. As a result, construction and operation of Alternative B would not expose sensitive receptors to substantial pollutant concentrations or to objectionable odors. Impacts would be less than significant and no mitigation would be required.

3.3 Biological Resources

Sources of information for this analysis include a biological constraints study (Padre 2005); a search of rare, threatened, endangered, and sensitive species (California Natural Diversity Data Base [CNDDB] 2007); literature information for habitat preferences; expertise of preparers; and field surveys conducted by Science Applications International Corporation (SAIC) biologists in January, April, and August 2007 (SAIC 2009a).

3.3.1 Regulatory Setting

Clean Water Act (33 U.S.C. Section 1251 et seq.)

The CWA was enacted to restore and maintain the chemical, physical, and biological integrity of the Nation's waters through the elimination of discharges of pollutants. The CWA primarily relates to water quality and is discussed in Section 3.8. However, Section 404 of the CWA also regulates discharge of dredged or fill materials into wetlands.

Endangered Species Act (16 USC Section 1531 et seq.)

The ESA protects federally listed and proposed threatened and endangered species, and their designated critical habitats. Consultation with the USFWS and/or NMFS is required under ESA Section 7 if listed species or their designated critical habitats would be adversely affected by a

federal action. Section 9 of the ESA prohibits the taking of listed species without authorization from the USFWS or NMFS.

Migratory Bird Treaty Act (16 USC Section 703 et seq.)

The MBTA provides for the protection of migratory birds by making it illegal to possess, hunt, pursue, or kill migratory bird species unless specifically authorized by a regulation implemented by the Secretary of the Interior, such as designated seasonal hunting. Further, the MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11). Under certain circumstances, a depredation permit can be issued to allow limited and specified take of migratory birds.

Executive Order 13186

EO 13186 directs Federal agencies to take certain actions to further implement the MBTA. Each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations was directed to develop and implement, within two years of the order date (January 10, 2001), a Memorandum of Understanding (MOU) with the USFWS to promote the conservation of migratory bird populations. Reclamation reviewed EO 13186 and determined that, at that time, no MOU was appropriate and therefore has not signed an MOU with USFWS. Nevertheless, the order states that notwithstanding the requirement to finalize an MOU within two years, each Federal agency is encouraged to immediately begin implementing the conservation measures set forth in the order, as appropriate and practicable.

The measures include the following:

- support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions
- restore and enhance the habitat of migratory birds, as practicable
- ensure that environmental analyses of federal actions required by NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern

Executive Order 11990 – Protection of Wetlands

This EO directs federal agencies to avoid to the extent possible long and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. This EO does not apply to the issuance of permits (by federal agencies), licenses, or allocations to private parties for activities involving wetlands on non-federal property.

Executive Order 11988 – Floodplain Management

This EO directs federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

Executive Order 13112 – Invasive Species

The National Invasive Species Management Plan was developed in response to this order in 1997. This order established the National Invasive Species Council (Council) as the leaders in development of the plan, and directs the Council to provide leadership and oversight on invasive species issues to ensure that federal activities are coordinated and effective. In addition, the Council has specific responsibilities including: promoting action at local, state, tribal, and ecosystem levels; identifying recommendations for international cooperation; facilitating a coordinated network to document, evaluate, and monitor invasive species' effects; developing a web-based information network on invasive species; and developing guidance on invasive species for federal agencies. The Council has developed nine plan priorities that provide direction for federal agencies. The plan priorities include: leadership and coordination of state and federal entities; prevention (a risk based approach); early detection and rapid response; control and management; restoration; international cooperation; research; information management; and education and public awareness.

Porter Cologne Water Quality Control Act (California Water Code Section 13000 et seq.; CCR Title 23 Chapter 3, Chapter 15)

This Act is the primary state regulation addressing water quality, and waste discharges (including dredged material) on land; and all permitted discharges must be in compliance with the Regional Basin Plan. For the proposed project site, the Act's requirements are implemented by the Central Coast RWQCB.

California Endangered Species Act (Fish and Game Code Section 2050 et seq.)

The California Endangered Species Act (CESA) provides for recognition and protection of rare, threatened, and endangered plants and animal species. CESA requires state agencies to coordinate with the CDFG to ensure that state authorized/funded projects do not jeopardize a listed species. The CESA prohibits the taking of a state-listed species without authorization from the CDFG under Section 2081 of the Fish and Game Code. For projects that could affect species that are both state and federally listed, compliance with the federal ESA will satisfy the state CESA if CDFG determines that the federal incidental take authorization is consistent with the state CESA under Fish and Game Code Section 2080.1.

California Lake and Stream Alteration (Fish and Game Code Section 1600 et seq.)

This program requires notification of the CDFG before activities that would substantially alter the bed, bank, or channel of a stream, river, or lake, including obstructing or diverting the natural flow. This applies to all perennial, intermittent, and ephemeral water bodies as well as the associated riparian vegetation that are used by fish and wildlife resources. Such alterations must also be evaluated under CEQA and authorized via a Streambed Alteration Agreement (SAA) by regional CDFG staff. The SAA specifies conditions and mitigation measures that will minimize impacts to riparian or aquatic resources from proposed actions.

California Wetlands Conservation Policy (EO W-59-93)

In August 1993, the Governor announced the California Wetlands Conservation Policy. The goals of the policy are to establish a framework and strategy that:

- Ensures no overall net loss and achieves a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property;
- Reduces procedural complexity in the administration of state and federal wetlands conservation programs; and
- Encourages partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation and restoration.

The EO also directed the California Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy. The California Resources Agency and the departments within the agency generally do not authorize or approve projects that fill or harm any type of wetlands. Exceptions may be granted for projects meeting all the following conditions: the project is water dependent; there is no other feasible alternative; the public trust is not adversely affected; and the project adequately compensates the loss.

The Santa Barbara County Comprehensive Plan

The Santa Barbara County Comprehensive Plan established policies relating to protecting biological resources in the County. The Environmental Thresholds and Guidelines Manual (Santa Barbara County 1995), including Appendix A, established significance criteria and thresholds that supplement those provided in the State CEQA Guidelines for determination of significant environmental effects. For the purpose of this analysis, the proposed project is subject to Comprehensive Plan policies.

3.3.2 Affected Environment

The Proposed Action area is located in the foothills of Goleta, California. The terrain generally consists of steep, south facing slopes that are typically densely vegetated and provide habitat for a variety of wildlife species and vegetation. The slopes are divided by two forks of Glen Annie Creek: the West Fork which contains Glen Annie Reservoir, and the main stem to the east (see Figure 3-1).

Vegetation

Vegetation in the vicinity of the Proposed Action is dominated by shrubs on slopes, intermixed grassland and shrubs on hilltops and low valleys, and riparian trees and shrubs along creeks. Agriculture (orchards) is present in some locations. Plant communities present along the Proposed Action alternative alignments include coastal scrub, coast live oak woodland, chaparral, riparian woodland, non-native grassland, weed-dominated, eucalyptus woodland, orchard, and disturbed/developed (Figure 3-1).

Coastal scrub occurs on slopes with moderate soil development or on slopes that have been disturbed. Cover is generally fairly open, and this community sometimes mixes with adjacent habitats, particularly oak woodlands and grasslands. In one location, a dense stand of purple needle grass (*Nassella pulchra*) occurs intermixed with the coastal scrub. Dominant species include black sage (*Salvia mellifera*), purple sage (*Salvia leucophylla*), California sage (*Artemisia californica*), Santa Barbara honeysuckle (*Lonicera subspicata*), and coyote brush (*Baccharis pilularis*). The Santa Barbara honeysuckle is a California Native Plant Society

(CNPS) List 1B species and is discussed in more detail under the special-status species section below.

Coast live oak woodland occurs in areas receiving more moisture or shade that have not been disturbed for some time. Common locations include near creeks, canyon slopes, and on north-facing slopes. Coast live oak trees (*Quercus agrifolia*) typically dominate the overstory, although bay laurel trees (*Umbellularia californica*) can co-dominate, especially in proximity to creeks. Understory vegetation is highly variable, ranging from dense brush to herbaceous cover to vines. Dense brush occurs in the understory near the transition to shrub-dominated communities (coastal scrub and chaparral). Generally, the oak trees are less dense in this transitional zone, permitting more light to penetrate the canopy. This makes these locations more suitable for the establishment of such species as California sage and coyote brush. Herbaceous plants comprise the most typical vegetation in the understory of oak woodlands with common species such as hummingbird sage (*Salvia spathacea*) and western verbena (*Verbena lasiostachys*). However, poison oak (*Toxicodendron diversilobum*), a woody vine, is present as well. Plummer's baccharis (*Baccharis plummerae*) and Fish's milkwort (*Polygala cornuta* var. *fishae*), both on the CNPS List 4 (plants of limited distribution), were noted from oak woodlands at one or two locations along the Proposed Action alternative routes (Padre 2005). At several locations the understory is limited to one species of vine, Cape ivy (*Senecio mikanioides*, recent name change to *Delairea odorata* [U.C. Berkeley 2007]). Cape ivy spreads easily from small sections of the plant (2 inches or less) after sitting on dry ground for a couple of months (Elkhorn Slough National Estuarine Research Reserve 2000) and is considered to have a high level of negative ecological impact in California (Cal-IPC 2006).

Oak woodlands provide important habitat for a variety of wildlife species including birds, mammals, insects, and reptiles. In addition, oak woodlands provide vertical habitat structure with different levels of canopy, a variety of dead wood and debris, and new foliage. Oak woodlands and individual oak trees are protected by the County of Santa Barbara.

Chaparral is the dominant vegetation on steep, rocky soils. The vegetation is very dense and over five feet tall. Common dominant species include chamise (*Adenostoma fasciculatum*), big pod ceanothus (*Ceanothus megacarpus*), bush mallow (*Malacothamnus fasciculatus*), sugar bush (*Rhus ovata*), and scrub oak (*Quercus berberidifolia*). Scrub oak can grow into a tree-like form, and dense patches of it are scattered within the vicinity of the Proposed Action alternatives.

Riparian vegetation in the Proposed Action area is limited to a narrow linear corridor along Glen Annie Creek and the West Fork of Glen Annie Creek. Both creeks have a well-developed creek bed composed primarily of rocky substrate. Near the Proposed Action pipeline alignment crossings at the West Fork of Glen Annie Creek is a small well-defined drainage. This location is upstream of Glen Annie Reservoir with an avocado orchard on the west side (see discussion of orchards below). Many coast live oak trees occur along the top of the bank. Bay laurel trees are scattered along the bank, and a few sycamore trees are present. Very little understory was present at the time of the April 2007 field visit. The main stem of Glen Annie Creek has well-developed sycamore-bay laurel woodland with scattered areas dominated or co-dominated by willows (*Salix* spp.). The creek bed is characterized by large cobbles and boulders, suggesting frequent scour, and herbaceous vegetation was not present at the time of the April 2007 field

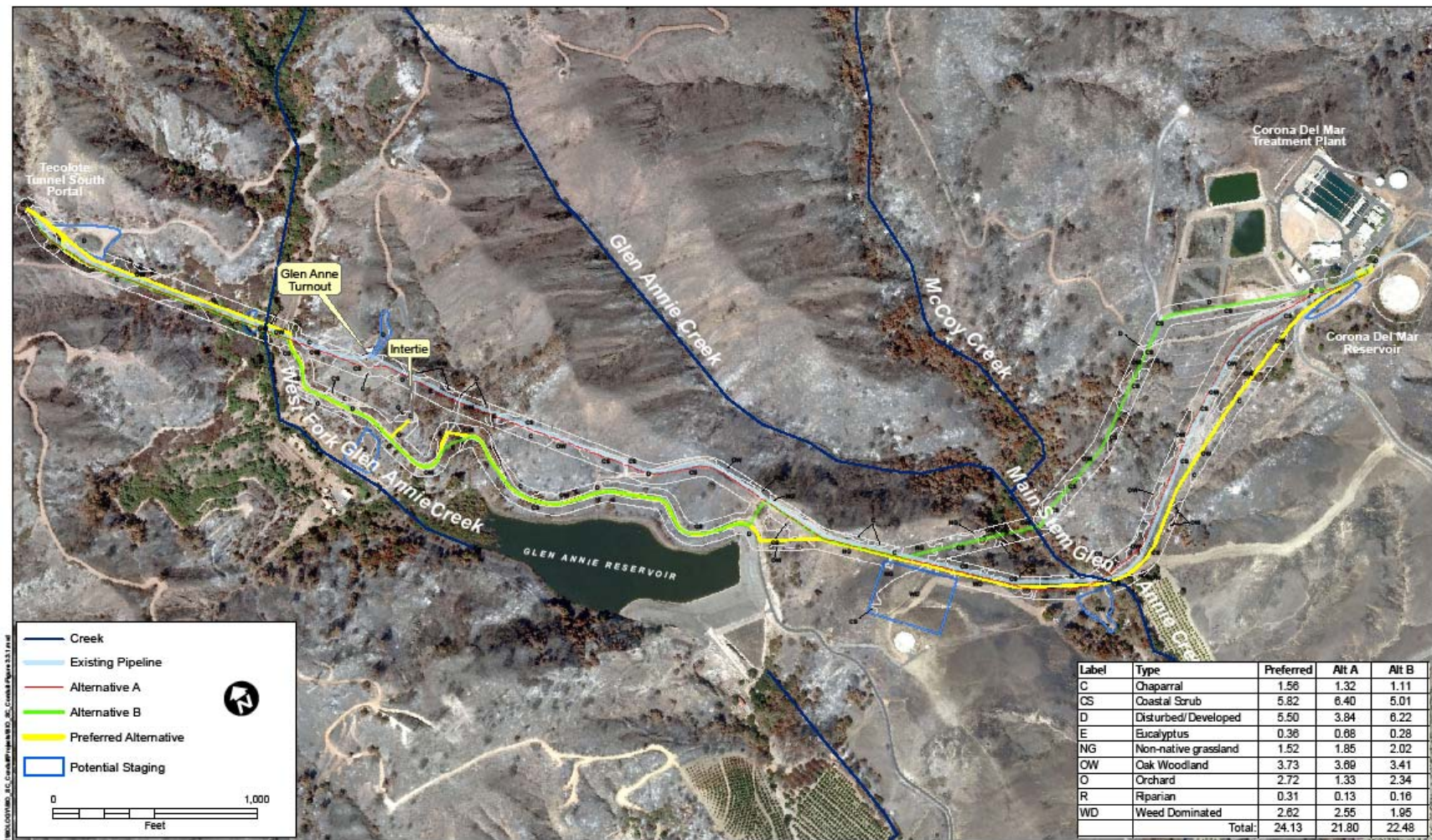


Figure 3-1 Vegetation along the Proposed Alternative Alignments

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visit. Riparian woodland provides important habitat for a variety of native animal species including birds and insects and is usually classified as an Environmentally Sensitive Habitat Area (ESHA) by the County of Santa Barbara. In addition, removal of riparian habitat is restricted by the County of Santa Barbara and by the CDFG.

Non-native grasslands are present in formerly cleared areas. Common species are generally non-native including ripgut brome (*Bromus diandrus*) and oats (*Avena* sp.). Native wildflowers are scattered in portions of the grasslands and include popcorn flower (*Plagiobothrys* sp. or *Cryptantha* sp.) and branching phacelia (*Phacelia ramosissima*). In addition, the checker mallow (*Sidalcea malvaeflora* ssp. *californica*), a County of Santa Barbara sensitive plant, has been noted in one location (Padre 2005). One site near Ellwood Reservoir supports a stand of the invasive exotic species veldt grass (*Ehrharta calycina*).

Weed-dominated areas are concentrated in recently disturbed areas. Many are very small and are associated with other plant communities. One large field below the Ellwood Reservoir supports a dense stand of invasive exotic plant species, particularly black mustard (*Brassica nigra*).

In other cases invasive exotic plant species are intermixed with native communities (see discussion of Cape ivy above).

A stand of eucalyptus woodland occurs along the paved Proposed Action access road in the vicinity of Glen Annie Reservoir. The density and size of the trees allows sufficient light for many native species to survive in the understory including big pod ceanothus, coast live oak, and poison oak.

Two orchards occur within close proximity of the Proposed Action alternative pipeline routes. All routes would go through an avocado orchard near the SPTT. A citrus orchard is present south of the Alternative A alignment on the east side of the main stem of Glen Annie Creek (Figure 3-1). Disturbed and developed areas, including roads and existing facilities, occur scattered throughout the Proposed Action vicinity.

Wildlife

The Proposed Action area supports a diverse assemblage of wildlife species that use the varied habitats present. Oak woodlands, riparian corridors, orchards, and eucalyptus woodlands provide perching, nesting, and roosting habitat for a variety of birds including several raptor species.

Several avian species are commonly associated with oak woodlands and other non-native trees, such as eucalyptus. Hutton's vireo (*Vireo huttoni*), house wren (*Troglodytes aedon*), oak titmouse (*Baeolophus inornatus*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), and hairy woodpecker (*Picoides villosus*) are common within the various oak woodland habitats along the proposed pipeline alignments. Several raptor species including red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*B. lineatus*), white-tailed kite (*Elanus leucurus*), and American kestrel (*Falco sparverius*), and several other species such as Cooper's hawk (*Accipiter cooperi*), great-horned owl (*Bubo virginianus*), and barn owl (*Tyto alba*) are expected to perch and potentially nest in oaks that offer good vantage spots for

foraging. The Cooper's hawk was observed near the main stem of Glen Annie Creek in 2005 (Padre 2005). The ferruginous hawk (*Buteo regalis*) could be present during the winter but is unlikely to breed in the Proposed Action area.

Although the stands of eucalyptus trees within the Proposed Action area are introduced species, these trees offer valuable habitat for several avian species. The eucalyptus tree flowers and the insects found on the trees attract large numbers of migratory and resident birds such as ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Dendroica auduboni*), Townsend's warbler (*Dendroica townsendi*), dark-eyed junco (*Junco hyemalis*), and Anna's hummingbird (*Calypte anna*). These trees also provide suitable roosting and potential nest sites for larger birds including American crow (*Corvus brachyrhynchos*), red-tailed hawk, red-shouldered hawk, great-horned owl, and barn owl. No raptor nests, however, were observed in the trees in the Proposed Action vicinity during the SAIC 2007 site surveys (SAIC 2009a). These trees can also provide habitat for monarch butterflies (*Danaus plexippus*) which are discussed under the Special-status species section below.

Avian species present in the chaparral and coastal scrub habitats include black phoebe (*Sayornis nigricans*), western kingbird (*Tyrannus verticalis*), Bewick's wren (*Thryomanes bewickii*), cliff swallow (*Petrochelidon pyrrhonota*), western scrub jay (*Aphelocoma coerulescens*), American goldfinch (*Carduelis tristis*), Anna's hummingbird, California quail (*Lophortyx californicus*), and northern mockingbird (*Mimus polyglottos*). The southern California rufous-crowned sparrow (*Aimophila ruficeps*) prefers rocky hillsides and steep brushy or grassy slopes. It is known from the coastal foothills west of Goleta. Although this species was not observed during 2005 field surveys, it may breed along the Proposed Action alignments at low density (Padre 2005).

The riparian woodlands crossed by the Proposed Action are important wildlife habitats. This community provides protective cover, food and fresh water, a diversity of nest and den sites, and a corridor for movement and dispersal for many wildlife species. Numerous species observed in the surrounding upland habitats (e.g., coastal scrub) would be expected to forage, drink, and take cover in the riparian habitat. Several avian species are specifically associated with riparian habitat and are expected to occur in the Proposed Action area, including Wilson's warbler (*Wilsonia pusilla*), spotted towhee (*Pipilo maculatus*), black-headed grosbeak (*Pheucticus melanocephalus*), bushtit (*Psaltiriparus minimus*), fox sparrow (*Passerella iliaca*), hairy woodpecker, downy woodpecker (*Picoides pubescens*), and pacific-slope flycatcher (*Empidonax difficilis*). In addition, this habitat is critical to several special status wildlife species known or expected in the Proposed Action area, including the California red-legged frog (*Rana draytonii*), Cooper's hawk, and yellow warbler (*Dendroica petechia*) and birds of regional concern: Wilson's warbler, Swainson's thrush (*Catharus ustulatus*), and warbling vireo (*Vireo gilvus*).

Coastal scrub, chaparral, oak woodlands, and grasslands provide habitat for many small mammals, including rodent species such as Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), western harvest mouse (*Reithrodontomys megalotis*), house mouse (*Mus musculus*), and California vole (*Microtus californicus*). Medium-size to large mammals expected to occur in the Proposed Action area include brush rabbit (*Sylvilagus bachmani*), Virginia opossum (*Didelphis virginianus*), striped skunk (*Mephitis mephitis*), grey

fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), and domesticated species including dog (*Canis familiaris*) and cat (*Felis catus*).

Several bird species prefer open areas, orchards, and urbanized settings and are expected in these habitats including western meadowlark (*Sturnella neglecta*), northern mockingbird, mourning dove (*Zenaidura macroura*), Say's phoebe (*Sayornis saya*), and European starling (*Sturnus vulgaris*).

Reptiles and amphibians typical of the habitats in the Proposed Action area include the Pacific chorus frog (*Pseudacris regilla*), western toad (*Bufo boreas*), southern alligator lizard (*Gerrhonotus multicarinatus*), western skink (*Eumeces skiltonianus*), and western fence lizard (*Sceloporus occidentalis*). The Pacific chorus frog and western toad are generally found in or near moist environments while the other species can be found in moist to dry habitats. The grassland habitat would support the common kingsnake (*Lampropeltis getulus*), gopher snake (*Pituophis catenifer*), western terrestrial garter snake (*Thamnophis elegans*), and western rattlesnake (*Crotalus viridis*).

Open grasslands support small mammals and small birds that provide abundant forage for raptor species. Raptors commonly foraging in the open areas include red-tailed hawk, red-shouldered hawk, white-tailed kite, American kestrel, Cooper's hawk, merlin (*Falco columbarius*), and the uncommon zone-tailed hawk (*Buteo albonotatus*). Grasslands also support seed-eaters and smaller bird species including killdeer (*Charadrius vociferous*), American goldfinch, western meadowlark (*Sturnella neglecta*), song sparrow (*Melospiza melodia*), and house finch (*Carpodacus mexicanus*).

Areas of freshwater marsh habitat located along the edges of Glen Annie Reservoir may support marsh species consisting of song sparrow, common yellowthroat (*Geothlypis trichas*), and red-winged blackbird (*Agelaius phoeniceus*). Great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), and great egret (*Casmerodius albus*) are common foragers in open water bodies. West Fork of Glen Annie Creek and the main stem of Glen Annie Creek support populations of aquatic invertebrates and provide breeding habitat for amphibians such as Pacific chorus frog, western toad, coast range newt (*Taricha torosa torosa*), and California red-legged frog. The latter two species are discussed under the Special-status species section below. Fish species likely to be present include arroyo chub (*Gila orcutti*), the common (partially armored) threespine stickleback (*Gasterosteus aculeatus macrocephalus*), and the non-native mosquitofish (*Gambusia affinis*).

Wetlands

No wetlands were found during pre-Proposed Action surveys in 2007. However, 2007 was an unusually dry year, and wetlands were identified within the alternative crossings of the main stem of Glen Annie Creek in 2005 (Padre 2005). Wetland delineations at the West Fork and main stem of Glen Annie Creek conducted in October 2008 (SAIC 2009) identified Corps jurisdictional seasonal wetlands along the banks of the main stem at the Preferred Alternative crossing. None were present at the crossing of the West Fork.

Special-Status Species

The CNDDDB had records for several rare, threatened, endangered, and sensitive plant and animal species that occur within the Goleta or Dos Pueblos U.S. Geological Survey (USGS) quadrangle maps (CNDDDB 2007). The list of species from that search was reduced to species that occur in habitats found in the Proposed Action area, or are associated with aquatic habitats and could occur downstream of the Proposed Action. Other species potentially occurring in the Proposed Action area were added as appropriate. The species that are addressed in this document are listed in Table 3-6. The current status of animals was taken from the 2008 special animals list (CNDDDB 2008). For several birds in Table 3-6, the California Species of Special Concern (CSC) status is for breeding only; thus, birds designated as CSC and unlikely to breed in the area (northern harrier, loggerhead shrike) will be considered common wildlife if occurring in the Proposed Action area. Surveys for rare, threatened, endangered, and sensitive plant species were conducted in May 2005 (Padre 2005) and in April, March, and August 2007 along the Proposed Action alternative pipeline alignments. Reconnaissance-level surveys focused on sensitive species that were identified as potentially present from the CNDDDB search, but were not limited to those species. Plant species listed as rare, threatened, or endangered by the USFWS, the CDFG, or the CNPS were the focus of rare plant surveys. Other special status plant species (e.g., those considered plants of limited distribution by CNPS or sensitive by Santa Barbara County) were not the subject of rare plant surveys, but were noted when encountered and described in the discussion of vegetation above. The only rare, threatened, endangered, or sensitive plant species that were found was the Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*). The mesa horkelia (*Horkelia cuneata* ssp. *puberula*) and black-flowered figwort (*Scrophularia atrata*) were not observed and are not expected to be present. Consequently, these two species are not discussed further in this document.

Surveys for special status wildlife species were conducted in May, June, and July 2005 (Padre 2005). These included two nighttime surveys for California red-legged frog. SAIC biologists also recorded any observations of special status wildlife species during site visits in 2007 and 2008 (SAIC 2009a). For wildlife, several of the bird species discussed as CSC are no longer considered CSC (CNDDDB 2008), and these species (ferruginous hawk, Cooper's hawk, and southern California rufous-crowned sparrow) are considered common species and are not discussed in this section.

Table 3-6 Special-status species potentially occurring within the Proposed Action Area

Species	Status Fed/State/ CNPS or Other	Habitat and Description	Distribution within Proposed Action area
PLANTS			
Black-flowered figwort (<i>Scrophularia atrata</i>)	—/—/1B	Sandy and diatomaceous earth areas in coastal scrub, chaparral, and riparian habitats. Blooms April to July.	Known from one occurrence in the Devereux dunes and one site in Ellwood. Not found during Proposed Action surveys.
Mesa horkelia (<i>Horkelia cuneata</i> ssp. <i>puberula</i>)	—/—/1B	Occurs in chaparral, woodland, and coastal scrub. Blooms March to July.	Suitable habitat present in the Proposed Action area, but this taxon was not found during Proposed Action surveys.
Santa Barbara honeysuckle (<i>Lonicera subspicata</i> var.)	—/—/1B	Occurs in chaparral, woodland, and coastal scrub.	This species is abundant along the Proposed Action alternative

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Species	Status Fed/State/ CNPS or Other	Habitat and Description	Distribution within Proposed Action area
<i>subspicata</i>)		Blooms May to August.	alignments.
INSECTS			
Monarch butterfly (<i>Danaus plexippus</i>)	—/—/Local Concern	Open grassland, meadows, and wetlands with milkweed (<i>Asclepias</i> spp.) plants. Roosts in eucalyptus groves.	Individuals observed on site; no record of roost sites in the Proposed Action area; marginal roost sites present.
FISH			
Arroyo chub (<i>Gila orcutti</i>)	—/CSC/—	Low gradient streams with pools. Native to coastal drainages from Malibu Creek to the Santa Margarita River; widely introduced outside of that area.	Known to occur in the tributaries to Goleta Slough (Swift et al. 1993) and could occur in Glen Annie Creek
Southern California steelhead Evolutionary Significant Unit (ESU) (<i>Oncorhynchus mykiss</i>)	FE/CSC/—	Clear, cool water with abundant instream cover, well-vegetated stream banks, relatively stable water flow.	Moderate quality habitat is present along Glen Annie Creek at the proposed pipeline crossing; low potential for presence of migratory individuals due to downstream barriers that limit access (Stoecker and Conception Coast Project 2002).
AMPHIBIANS			
California red-legged frog (<i>Rana draytonii</i>)	FT/CSC/—	Seasonally ponded areas with slow to stagnant water and emergent aquatic vegetation.	Found in West Fork and main stem of Glen Annie Creek, at or near Proposed Action crossings (Padre 2005).
Coast range newt (<i>Taricha torosa torosa</i>)	—/CSC/—	Moist areas along creeks and streams with riparian vegetation.	Found in West Fork and main stem of Glen Annie Creek, at or near Proposed Action crossings (Padre 2005).
REPTILES			
Silvery legless lizard (<i>Anniella pulchra</i>)	—/CSC/—	Occurs in warm, moist loose soil of sparsely vegetated areas. Found under leaf litter and/or low lying plants and rocks.	Known from the region and may occur in woodlands near the Proposed Action (Padre 2005).
Southwestern pond turtle (Southern Pacific pond turtle) (<i>Emys marmorata pallida</i>)	—/CSC/—	Found in ponds, marshes, rivers, streams, and irrigation ditches with muddy or rocky bottoms.	Known from San Pedro Creek, about 1.5 miles east of the CDMWTP; not found during 2005 field surveys, but may occur in Glen Annie Creek (Padre 2005).
Two-striped garter snake (<i>Thamnophis hammondi</i>)	—/CSC/—	Near permanent fresh water, often along streams with rocky beds bordered by streamside vegetative growth.	Occurs along foothill creeks on the South Coast. Not observed during 2005 field surveys but may occur near Glen Annie Creek (Padre 2005).
BIRDS			
Loggerhead shrike (<i>Lanius ludovicianus</i>)	—/CSC*/—	Open and semi-open habitats including grassland, woodland, and scrub.	Breeds west of Gaviota and may forage in Proposed Action area. Not observed during 2005 field surveys (Padre 2005).
Northern harrier (<i>Circus cyaneus</i>)	—/CSC*/—	Regular fall, winter, and spring transient to grasslands and open scrub habitats along the South Coast of Santa Barbara County.	Likely to forage in grasslands in the Proposed Action area. Unlikely breeder in the area.

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Species	Status Fed/State/ CNPS or Other	Habitat and Description	Distribution within Proposed Action area
White-tailed kite (<i>Elanus leucurus</i>)	—/FP/—	Open grassland, riparian and oak woodland.	A communal roost was reported from Glen Annie Canyon in 1968, but not currently known to breed in the Proposed Action area. Not observed during 2005 field surveys but may forage in Proposed Action area (Padre 2005). Expected in open space areas; suitable foraging habitat present.
Yellow Warbler (<i>Dendroica petechia</i>)	—/CSC*/—	Favors wet habitats, especially willows and alders; open woodlands, gardens, orchards.	Found near the West Fork and main stem of Glen Annie Creek, along the Proposed Action alternative alignments (Padre 2005).
Mammals			
Pale big-eared bat (<i>Corynorhinus townsendii pallescens</i>)	—/CSC/—	Caves near scrub and pine forest.	Distribution of bat species is poorly known; species could forage in Proposed Action areas (Padre 2005).
Pallid bat (<i>Antrozous pallidus</i>)	—/CSC/—	Oak woodlands and grasslands.	Distribution of bat species is poorly known; species could forage in Proposed Action areas (Padre 2005).
Western mastiff bat (<i>Eumops perotis californicus</i>)	—/CSC/—	Caves near open, arid areas with high cliffs.	Distribution of bat species is poorly known; species could forage in Proposed Action areas (Padre 2005).
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	—/CSC/—	Desert scrub, coastal sage scrub, and chaparral.	Reported from rocky chaparral near West Camino Cielo. Not observed during 2005 field surveys, but potential to occur in Proposed Action area (Padre 2005).
<p><i>Source:</i> CNDDDB 2007, 2008 Federal Status (determined by USFWS or NMFS): FE = Endangered. In danger of extinction throughout all or a significant portion of its range. FT = Threatened. Likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.</p> <p>State Status (determined by CDFG): E = Endangered T = Threatened CSC = Species of Special Concern (*Breeding only) FP = Fully Protected</p> <p>CNPS List: 1B = Plants considered rare or endangered in California and elsewhere.</p>			

Santa Barbara Honeysuckle The Santa Barbara honeysuckle grows in chaparral and coastal scrub in Santa Barbara and Los Angeles counties. It can be shrubby or vine-like. Numerous Santa Barbara honeysuckle were found along the Proposed Action alternative pipeline alignments. In some locations individual Santa Barbara honeysuckle could not be counted because the stems coming out of the ground were too dense to distinguish individual plants. However, it is abundant in many locations along the proposed pipeline alignments.

Monarch Butterfly The monarch butterfly is a common winter migrant in Santa Barbara County and is known to occur in the vicinity of the Proposed Action pipeline alignments. Monarchs are included in the CDFG's Special Animals List (October 2008), and overwintering sites are protected under the County's Local Coastal Plan as an ESHA (Santa Barbara County 1982).

Each year monarch butterflies make a mass migration from milkweed breeding habitat in northwestern North America to the mild climate of coastal California; butterflies on the eastern side of the Rocky Mountains fly south to spend the winters in the Michoacán Mountains of Mexico. Santa Barbara County harbors over one hundred monarch butterfly roosting sites scattered within one mile of the coastline (Meade 1999). Eucalyptus trees create 90 percent of the overwintering habitat; other tree species used include oaks, pines, sycamores, willows, cypresses, and palms.

In mid-September, monarchs begin to arrive at similar habitats along the coast of California for their winter residence. Large numbers, sometimes up to tens of thousands, of butterflies gather in groves of trees and form dense clusters on the leaves and branches. By late February, the butterflies will mate and females will start the northward migration and lay eggs on milkweed plants as they travel. Three to four generations of monarchs will flourish through the summer, and in the late summer offspring will make the next long journey southward. Overwintering sites typically share various characteristics that are important for monarch survival, including the optimum balance between temperature, humidity, wind shelter, and sun exposure. Most winter habitats follow similar patterns of composition and distribution of vegetation, orientation to incoming solar radiation, and distance from the ocean.

Butterfly aggregation sites are known to occur throughout Ellwood Mesa, south of the Proposed Action site, and along many canyons and drainages to the east and west including Tecolote Canyon, Eagle Canyon, Dos Pueblos Canyon, Las Varas Canyon, an arroyo 0.4 miles west of Gato Canyon, and Cañada del Capitan Creek (Meade 1999). These sites all occur south of Highway 101 in vegetation consisting of groves of eucalyptus, sycamores, and/or coast live oaks. These sites harbor populations of butterflies ranging between 20 and 14,000 individuals.

Surveys for monarch wintering aggregations have not been conducted in the Proposed Action area (Padre 2005); therefore, the presence or absence of monarch aggregation sites cannot be confirmed. However, the stands of eucalyptus trees create potentially suitable habitat. Monarchs may use these trees as autumnal roosting sites, temporary gathering locations persisting no more than a few months from September to December.

California Red-Legged Frog The California red-legged frog was listed as threatened on May 23, 1996 (USFWS 1996a) and the final rule became effective on June 24, 1996. Critical habitat was first designated for the California red-legged frog on March 13, 2001 (USFWS 2001) and includes essential aquatic habitat, associated uplands, and dispersal habitat connecting essential aquatic habitat. The revised critical habitat was proposed on April 13, 2004 (USFWS 2004), further revised in 2005 (USFWS 2005), and designated on April 13, 2006 (USFWS 2006). The following description was taken from the Biological Opinion (1-8-96-F-16) for the Coastal

Aqueduct (USFWS 1996b), the final listing rule, and the proposed rule for critical habitat (USFWS 2004, 2005).

The California red-legged frog is one of two subspecies of the red-legged frog (Rana aurora) found on the Pacific coast. The final listing rule states that the species occupies a fairly distinct habitat, combining both specific aquatic and riparian components. Adults prefer dense, shrubby or emergent riparian vegetation closely associated with deep (more than 2.3 feet in depth), still or slowly moving water. However, recent observations indicate that California red-legged frogs will occur in a variety of habitat types, including aquatic, riparian, and upland habitats with permanent water nearby. Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter, foraging areas, and dispersal corridors. California red-legged frogs breed from November through April, with the earlier breeding records occurring in southern localities. Eggs hatch in 6 to 14 days while larvae take 3.5 months or longer to metamorphose. California red-legged frogs may live 8 to 10 years. The frogs disperse upstream and downstream of breeding habitat to forage and seek resting habitat. They take cover in small mammal burrows and moist leaf litter (up to 100 feet from water) in dense riparian vegetation with drying of creeks in summer, but will use other cover sites when traveling overland. Adults can be found within streams over 1.8 miles from breeding habitat and within dense riparian vegetation more than 328 feet from water. After winter rains begin, California red-legged frogs may move away from aquatic habitats, primarily at night, and can travel one mile from those habitats (USFWS 1997). Juveniles may also disperse locally shortly after metamorphosis in July-September and away from their natal habitats during warm rain events.

Critical habitat includes (1) aquatic breeding habitat (includes natural and manmade ponds, slow-moving streams or pools in streams, and other ephemeral or permanent waters) that hold water for a minimum of 15 weeks in all but the driest years, (2) non-breeding aquatic habitat (similar to breeding habitat but may not hold water as long) that provides shelter, foraging, predator avoidance, and aquatic dispersal habitat for juveniles and adults, (3) upland habitat within 200 feet of aquatic and wetland habitat with various vegetation types and natural or manmade structures for cover, and (4) dispersal habitat (upland or wetland) located between occupied locations within 0.7 mile of each other with no barriers (USFWS 2005). However, no designated critical habitat for this species is present in the Glen Annie watershed.

California red-legged frogs were observed along the West Fork and main stem of Glen Annie Creek during field surveys in 2005 (Padre 2005). Yearly rainfall at the time of this survey was unusually high and could cause suitable habitat for this species to be more common and abundant than in drier years. The 2006-2007 wet season was extremely dry and, therefore, the local population of California red-legged frogs may be less abundant or absent from the Proposed Action area. Rainfall in the 2007-2008 wet season was above average, which may allow the population to expand again.

Coast Range Newt The coast range newt is endemic to California and listed by the state as a CSC. This species is terrestrial for most of its adult life and becomes aquatic during breeding. Through the summer and fall, terrestrial newts inhabit moist places under woody debris, or in

rock crevices and animal burrows, and can traverse overland in moist habitat or conditions any time of the year. The coast range newt eats small invertebrates including insects, worms, slugs, and snails. The breeding season generally begins in December with the first heavy rains and continues for 6 to 12 weeks. Newts breed in ponds, reservoirs, and slow-moving to stagnant pools in streams (Nafis 2008).

Two-Striped Garter Snake The two-striped garter snake is listed by the state as a CSC. This species is primarily aquatic, active during the day, and prefers streams and pools and other waters with rocky areas in oak woodland, chaparral, brushland, and coniferous forest. This species forages for tadpoles, newt larvae, small frogs and toads, fish, and occasionally worms and fish eggs in water. This snake breeds in late March and early April and live young are born in late July and August. The two-striped garter snake occupies coastal California from Monterey County south to Baja California at elevations from sea level to 6,988 feet (Nafis 2008).

Silvery Legless Lizard The silvery legless lizard is listed by the state as a CSC and occurs in southern California from the southern edge of the San Joaquin River in Contra Costa County south to northwestern Baja California from sea level to around 5,100 feet in the Sierra Nevada foothills. This species lives primarily underground and burrows in loose sandy soil. This lizard prefers moist warm loose soil with plant cover in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks (Nafis 2008). During the day, it forages in loose soil, sand, and leaf litter on small invertebrates including beetles, larval insects, termites, and spiders. The silvery legless lizard breeds in early spring and summer and bears one to four live young between September and November (Nafis 2008).

Arroyo Chub The arroyo chub is a state CSC whose native range extends from Malibu Creek in Los Angeles County to the Santa Margarita River in San Diego County. The species has been introduced into many drainages in Santa Barbara and San Luis Obispo counties (Moyle et al. 1995). Arroyo chubs inhabit slow-moving or backwater areas of streams with mud to sand substrates. Their life span is about four years, and breeding occurs from February through August. They are omnivorous and feed on algae, insects, and small crustaceans. Arroyo chubs can survive hypoxic (low oxygen) conditions and wide temperature fluctuations.

Southern California ESU Steelhead Wild steelhead populations in California have decreased from their historic abundance (Swift et al. 1993; NMFS 1997). This decline prompted listing of the steelhead populations in the Southern California ESU as federally endangered on August 18, 1997. The ESU includes all naturally spawned populations of steelhead (and their progeny) in streams from the Santa Maria River to Malibu Creek on the south. Critical habitat was designated on February 16, 2000 (NMFS 2000) and was withdrawn on April 30, 2002. It was reissued on September 2, 2005 (NMFS 2005). Glen Annie Creek is included in the designated critical habitat. The species is also a CSC (CDFG 2005).

Life History Steelhead are steel-blue to olive above and white below with small, irregular black spots on the back and most fins and radiating rows of black spots on the caudal fin. Steelhead are the anadromous form of rainbow trout, migrating from the ocean up rivers and streams to spawning grounds. Adult steelhead enter creeks in the winter (October to March), usually after

the first substantial rainfall, and move upstream to suitable spawning areas. Spawning can occur in winter to spring (late February through March, or April in some years), generally in riffle areas or the tails of pools. Suitable spawning gravels generally are 0.5 to 3 inches in diameter, are not heavily compacted, and have low amounts of sand or silt in them; however, steelhead can successfully spawn in gravels not meeting these characteristics. Females dig a nest in the gravel and deposit their eggs, the males fertilize the eggs, and the female covers the nest with gravel. Eggs hatch within 3.5 to 5 weeks with fry emerging from the gravel within 2 to 6 weeks after hatching in late May to early June and disperse throughout the creek, typically occupying shallow areas along stream margins. Juvenile steelhead often move to deeper water as they grow and will remain in freshwater for an average of two years before migrating to the ocean (NMFS 1997; Titus et al. 2003). Downstream movement of adults after spawning and juveniles migrating to the ocean usually occurs from March through July. Photoperiod, stream flow, and temperature appear to influence emigration timing (Shapovalov and Taft 1954; Bjornn and Reiser 1991; Holubetz and Leth 1997). Juvenile steelhead may spend several weeks in the coastal lagoon or estuary of a stream before entering the ocean. They reside in the ocean for two to three years before returning to their natal stream to spawn (NMFS 1997) although steelhead may return to spawn after only one year in the ocean in wet years (Moyle et al. 1995). The adults can spawn more than once, although most do not spawn more than twice (NMFS 1997).

Habitat Requirements Optimal habitat for steelhead can generally be characterized by clear, cool water with abundant instream cover, well-vegetated stream banks, relatively stable water flow, and a 50:50 pool-to-riffle ratio (Raleigh et al. 1984). Although optimal water temperatures for steelhead are considered to range from 12 to 20°C, various sources document southern steelhead as persisting in streams with water temperatures ranging from 14.4 to 25.5°C during the summer and early fall months of drought years (Titus et al. 2003). The critical thermal maximum is reported to be up to 29.4°C (Lee and Rinne 1980).

In fresh water, steelhead need spawning and rearing areas and migration corridors (NMFS 2000). Essential features of steelhead habitat include adequate substrate, water quality and quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions. In general, appropriate stream flow, water temperature, and water chemistry (e.g., high dissolved oxygen and low turbidity) are necessary for adult migration to spawning areas and juvenile migration to the ocean. Suitable water depth and velocity and substrate composition are the primary requirements for spawning, although water temperature and turbidity are also important. Dissolved oxygen, pH, and water temperature all affect survival of incubating embryos. Fine sediment particles (sand and smaller) can settle into the spaces between larger substrate particles (such as gravel and cobbles) thereby reducing water flow through the nest as well as dissolved oxygen concentration. For juvenile steelhead, living space (defined by water depth and velocity), shelter from predators and adverse environmental conditions, an adequate food supply, and suitable water quality and quantity are necessary for survival and development while in fresh water. All age classes may seek cover and cool water in pools during the summer (Nielsen et al. 1994), especially when flow, and consequently space, decline during the summer and fall (Kraft 1972).

Historically, steelhead occupied Glen Annie Canyon Creek. This species had access to the lower 6.5 miles of the creek where a 10 percent stone slope limited upstream movement and created a

natural barrier (Stoecker et al. 2002). This slope is upstream of the Proposed Action crossing, and steelhead had access to the Proposed Action area previously when flowing water was present. Presently, there are a number of man-made structures installed along the creek below the Proposed Action area that form barriers to steelhead movement upstream. These barriers include five double box culverts located 3 to 4.5 miles from the ocean, four of which are ranked as impassible or extremely high severity to impassible (Stoecker et al. 2002). Due to these barriers, steelhead have a low potential to be present in Glen Annie Creek in the Proposed Action area; however, their resident counterpart, rainbow trout, is expected to occur when flowing water is present. The dam at Glen Annie Reservoir is an impassible barrier that prevents steelhead from reaching the Proposed Action crossing of the West Fork of Glen Annie Creek. The main stem of Glen Annie Creek is classified as moderate habitat for steelhead between the confluence of McCoy Creek and West Fork (Stoecker et al. 2002).

White-Tailed Kite The white-tailed kite is classified by the CDFG as a Fully-Protected Species. White-tailed kites are regularly observed within the vicinity of the Proposed Action area. The white-tailed kite is a semi-social raptor that prefers open grassland and marshy (wetland) habitats with high abundances of small rodent species. Kites are also found in agricultural areas but less frequently (Lehman 1994). California voles are an especially important prey item for this species. They hunt primarily in meadows, roosting and nesting in trees bordering good foraging habitat.

Local experts include the following list as habitat characteristics and conditions that maintain a healthy kite population: ample foraging habitat and prey base; open areas with connectivity to diverse habitats; and maintenance of natural processes and functions of a particular roosting or nesting site in regards to drainage, runoff, recharge and tidal exchange (Holmgren and Knight 1998).

Roost site aggregations begin to form in mid- to late-September, and last until the onset of breeding behavior in late January or February, although roost sites can change throughout the seasons (Waian 1973). Roost sites are found in willow woodland, oaks, avocado and citrus orchards, and stands of eucalyptus (Lehman 1994) and are used repeatedly year after year. This species has the potential to forage and nest in the Proposed Action vicinity, although no known nesting sites are currently present in the immediate Proposed Action area.

Northern Harrier Northern harriers forage over open grassland, coastal sage scrub, marshes, and agricultural areas. This species nests on the ground in grassy or scrubby habitats. Northern harriers are expected to occasionally forage over the Proposed Action area but are unlikely to nest there.

Loggerhead Shrike The loggerhead shrike is listed as a California CSC for breeding only. This species prefers open and semi-open habitats including grassland, woodland, and scrub. It breeds west of Gaviota (approximately 20 miles away) and therefore may forage in the Proposed Action area; however, it was not observed during 2005 field surveys (Padre 2005).

Yellow Warbler The yellow warbler is listed as a California CSC for breeding only. This species favors wet habitats, especially willows and alders, open woodlands, gardens, and

orchards. It was found near the West Fork and main stem of Glen Annie Creek, along the Proposed Action alignments (Padre 2005) and has the potential to breed in the area.

Bats Western mastiff bat, Pale big-eared bat, and pallid bat are listed as California CSC. These bats can be found in caves near open, arid areas with high cliffs, near scrub and pine forest, oak woodlands, and grasslands. These species may forage in the Proposed Action area, but their distribution is poorly known (Padre 2005).

San Diego Desert Woodrat The San Diego desert woodrat is listed as a California CSC and inhabits desert scrub, coastal sage scrub, and chaparral. This species was not observed during 2005 field surveys but has been reported from rocky chaparral near West Camino Cielo and, thus, has the potential to occur in the Proposed Action area (Padre 2005).

3.3.3 Methodology for Analysis

Impacts to vegetation, special-status plant species, and oak trees were determined by overlaying the Proposed Action footprint maps for each alternative alignment on the vegetation map created for the Proposed Action. A 100-foot wide construction corridor centered over the pipeline was assumed for each of the alternative alignments, even though the corridor could be narrower in areas with topographic constraints. Several potential staging area locations are included in or adjacent to this construction corridor. Areas of overlap were totaled to determine area of impact, or in the case of oak trees, numbers of trees within the Proposed Action boundaries were counted. Impacts to remaining biological resources were determined based on qualitative analysis using existing information regarding the species habitat preferences and sensitivity to disturbance along with the preparers' expertise and experience.

CEQA Significance Criteria

Consistent with guidance provided in CEQA guidelines, the Proposed Action would have a significant impact on biological resources if it would result in one or more of the following conditions:

- BIO-1:** Have a substantial direct or indirect effect on plant or wildlife species identified for special-status under local, state, tribal, or federal laws, regulations, or policies;
- BIO-2:** Have a substantial adverse effect on any natural vegetation community identified for special-status under local, state, tribal, or federal laws, regulations, or policies, including wetlands;
- BIO-3:** Have a substantial adverse effect on native resident or migratory wildlife movement corridors, breeding or spawning habitats, and nursery habitats;
- BIO-4:** Cause a substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species); or
- BIO-5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- BIO-6:** Conflict with provisions of an approved local, state, tribal, or federal habitat or species conservation plan.

As there are no habitat or species conservation plans covering the Proposed Action area, criterion BIO-6 would not apply and thus is not used in the following impact analysis.

3.3.4 Environmental Consequences

No Action Alternative

There would be no impacts to biological resources under the No Action Alternative as no construction of Proposed Action facilities or site improvements would occur. However, as described in Section 2.1, one or more of the existing pipeline facilities could ultimately fail and structural failure of facilities, such as the SPTT, would result in the uncontrolled release of water to the environment that could cause erosion and deposition of soil in drainages as well as loss of plants and wildlife habitat due to erosion and repair activities. Impacts would depend on the location of the failure but would likely affect either the West Fork or the main stem of Glen Annie Creek as well as the land between the failure and the creek. Loss of topsoil through erosion would increase the likelihood for spread of invasive species, limit restoration of vegetation, and deposition of soil in the creek would alter or eliminate aquatic habitat for as far downstream as the deposition occurs. Habitat for the California red-legged frog, steelhead (in main stem Glen Annie Creek only), coast range newt, and other special-status species could be affected. Such impacts would be significant and unavoidable.

No Project Alternative

Native plant communities would not be disturbed at the SPTT, Glen Anne Turnout, or Glen Anne meter under the No Project Alternative because all work would be in previously disturbed areas with no native plant communities. The disturbance areas where construction would occur provide minimal habitat for wildlife, and the temporary disturbance in these small areas would not substantially disrupt wildlife communities. The No Project Alternative would not result in the removal of any Santa Barbara honeysuckle or its habitat because none are present in the areas where site improvement construction activities would occur. The mesa horkelia and black-flowered figwort were not observed along the existing pipeline alignment and would not be affected by the No Project Alternative site improvements. Therefore, impacts would be less than significant and no mitigation would be required.

No riparian woodland, oak woodland, and seasonal wetlands that occur outside of the two creek crossing would be disturbed for site improvements under the No Project Alternative. No vegetation providing habitat for sensitive terrestrial species would be removed or adversely impacted; therefore, there would be no impacts to terrestrial species. Impacts would be less than significant and no mitigation would be required. However, site improvements to protect or replace the existing pipeline at the two creek crossings would affect riparian woodland and seasonal wetlands in these areas which could affect the California red-legged frog and steelhead (and their critical habitat) similarly to that described for the Preferred Alternative. COMB would implement Mitigation Measures BIO-1.3, BIO-1.4, and BIO-2.1 to reduce impacts to California red-legged frog, steelhead, and riparian woodland (see Appendix D).

Noise and human activities from construction of the No Project Alternative site improvements could cause birds nesting in adjacent habitat to abandon their nests. Only small previously disturbed areas would be affected by construction activities at the SPTT, Glen Anne Turnout, and Glen Anne meter, and therefore, no nesting habitat would be removed and few, if any, nesting pairs of birds would be affected. Site improvements at the two creek crossings, however, could affect nesting birds at those locations. No migration corridors would be affected by construction activities within these few localized areas. COMB would implement Mitigation

Measures BIO-1.3, BIO-2.1, and BIO-3 to avoid impacts to nesting birds and restore their habitat (see Appendix D).

Impacts from introduction or spread of invasive species would not occur as both previously disturbed terrestrial areas away from and at the two creek crossings do not support infestation (the area adjacent to the West Fork crossing is an avocado orchard which is regularly treated for weed control and the area adjacent to the main stem crossing is a farm road that is cleared regularly). However, operation of the existing pipeline would include periodic checking and maintenance of structures, requiring occasional use of unpaved roads for access. Driving on the unpaved roads could result in the spread of invasive exotic plant species from one part of the existing pipeline corridor to another. However, the potential for this to occur is limited as the amount of dirt road traversed during O&M would be small. Water transported in the existing pipeline is unfiltered, untreated water from Lake Cachuma. This water could transport non-native species such as sport fish, bullfrogs (*Rana catesbeiana*), or invertebrates from Lake Cachuma. Native species whose range does not include coastal drainages could also be transported. During use of blowoff valves to drain segments of the pipeline, released water could introduce new species from the Cachuma watershed into the West Fork and main stem of Glen Annie Creek, the reservoir, and tributary waterways disrupting biological communities present in these systems. However, water from the existing pipeline has been periodically discharged into the two creeks since the 1950s, and any effects of those discharges are part of the environmental baseline. Therefore, the potential to spread invasive exotic plant and animal species would be less than significant and no mitigation would be required.

Significance of Impacts after Mitigation Implementation of Mitigation Measures BIO-1.3, BIO-1.4, BIO-2.1 and BIO-3 would reduce impacts to riparian woodland, California red-legged frog, steelhead, and nesting birds to less than significant.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

Construction activities for the Preferred Alternative could directly affect individuals or populations of special status wildlife species through mortality of individuals, habitat loss, and/or temporary disturbance to their habitat due to direct removal of vegetation, sedimentation, or erosion. The slight increase in vegetation impacted from construction activities between the Draft and the Final EIS/EIR are due to minor changes in the proposed pipeline alignment and inclusion of the staging areas. This area is part of the easement analyzed in the draft; therefore, minor changes in the Preferred Alternative pipeline alignment since the Draft EIS/EIR was released would not change the impacts described below as they are still within the same easement previously analyzed.

Vegetation Construction of the Preferred Alternative would result in removal of 24.14 acres of vegetation with 15.92 acres consisting of native and naturalized vegetation (Table 3-7). This includes areas temporarily disturbed for use as staging areas. Temporary losses of coastal scrub and chaparral would not substantially disrupt local plant communities and would be less than significant because these plant communities are common and widespread in the region, the amount removed would be small, and recovery to early successional stages would be rapid. Clearing of non-native grassland, weed-dominated areas, eucalyptus woodland, and orchard would have less than significant impacts on these common, non-native plant communities as they

would either reestablish quickly or be replanted (orchards). Work in disturbed and developed areas would not affect plant communities. COMB would implement a Revegetation Plan (see Appendix F) for habitat restoration. Seed mix for revegetation of these habitat types would be included as part of the Revegetation Plan (see Mitigation Measure BIO-4a in Appendix D).

Table 3-7 Potential Vegetation Removal from Implementation of the Preferred Alternative

Vegetation Type	Acres Removed
Coastal scrub	5.82
Coast live oak woodland	3.73
Chaparral	1.56
Riparian Woodland	0.31
Non-native grassland	1.52
Weed-dominated	2.62
Eucalyptus woodland	0.36
Orchard	2.72
Disturbed and developed	5.50
Total	24.14

The Preferred Alternative would result in the removal of approximately 116 individual Santa Barbara honeysuckle plants and 0.37 acre of occupied Santa Barbara honeysuckle habitat, a species considered rare, threatened, or endangered by the CNPS. COMB would include measures to minimize impacts to Santa Barbara honeysuckle within the Revegetation Plan (see Mitigation Measures BIO-1.1 and BIO-1.2 in Appendix D). The Mesa horkelia and black-flowered figwort were not observed along the Preferred Alternative alignment as described for the No Project Alternative and would therefore not be affected by this action alternative.

Construction of the Preferred Alternative would result in direct removal of or disturbance within approximately 0.31 acre of riparian woodland from creek crossings at the West Fork and main stem of Glen Annie Creek (see Table 3-7). Mature sycamore and bay trees as well as smaller oaks and willows would be removed at the creek crossing locations. Riparian woodland is considered a sensitive habitat by the County of Santa Barbara and other agencies. COMB would include measures within the Revegetation Plan to minimize these impacts (see Mitigation Measure BIO-2.1 in Appendix D).

Construction of the Preferred Alternative, including use of the staging area on the west side of the main stem of Glen Annie Creek, would result in the removal or disturbance of 3.73 acres of coast live oak woodland (see Table 3-7). Approximately 110 trees 6 inches or greater diameter at breast height would be removed during construction activities along the pipeline corridor; however, no oak trees would be removed in the staging areas although they may still be disturbed. Oak woodlands are a declining natural community and are protected in many regions, including Santa Barbara County. The trees are slow-growing, and an oak woodland ecosystem takes decades to become established. This would be a significant and unavoidable impact, as it conflicts with Santa Barbara County oak tree and native oak woodland protection policies. COMB would implement Mitigation Measures BIO-2.2 and BIO-5 requiring avoidance whenever possible and measures for tree replacement in order to reduce impacts on oak trees and oak woodlands (see Appendix D). The number of trees required to replace those removed cannot be accommodated in the space that is currently occupied by oak woodlands; therefore, replanting

oak trees at a ratio of 10:1 or as required by Proposed Action permits would expand the current oak woodland habitat.

Wildlife The Preferred Alternative has the potential to impact California red-legged frogs at the creek crossings and in upland habitat during their movement between drainages as they are known to be present within or downstream of the proposed pipeline crossings of the West Fork and main stem of Glen Annie Creek. There is also potential to impact migratory steelhead within the main stem of Glen Annie Creek near the proposed creek crossing; however, this potential is low due to the presence of downstream barriers described previously. Migratory steelhead would not be present in the West Fork of Glen Annie Creek due to the Glen Annie Reservoir dam and would not be impacted at this crossing. Critical habitat for steelhead would be temporarily affected during construction activities in the Glen Annie Creek channel; however, COMB would implement habitat restoration immediately following the work (see Appendix F). Therefore, no permanent alteration or loss of critical habitat would occur. In addition, COMB would prepare and implement a Special-status species Protection Plan (see Mitigation Measure BIO-1.3) to minimize or avoid impacts to special status biological resources, including aquatic habitats, during pipeline construction.

Installation of diversion structures to divert water in the creeks during construction has the potential to injure individuals of sensitive species present. In addition, construction materials (e.g., concrete washwater, lubricants, fuels, and paint) and sediment have the potential to be released into these drainages from construction activities within and adjacent to them and could be transported downstream of the work area. If transported downstream, these materials would alter the physical and chemical character of the habitat through sedimentation, changes in pH (from concrete washwater), reduced dissolved oxygen, or toxicity. These habitat changes could result in adverse effects on breeding success of sensitive species of amphibians and fish, including the California red-legged frog (both creeks) and steelhead (in main stem Glen Annie Creek only). Loss of individuals or reduced breeding success that adversely affects the populations of these species would be considered significant. Work would be completed during the dry season when little or no water is present at both crossing locations in order to minimize impacts to these species. COMB would also implement the Special-Status Species Plan and creek restoration in order to minimize impacts to aquatic and semi-aquatic species (see Mitigation Measures BIO-1.3 and BIO-1.4 in Appendix D).

Consultation with the USFWS and NMFS, respectively, under Section 7 of the ESA was conducted for the California red-legged frog and steelhead. The Corps was the lead agency for these consultations. On September 1, 2009, the USFWS issued a non-jeopardy Biological Opinion to the Corps for the California red-legged frog covering the entire Proposed Action alignment (see Appendix G). On July 1, 2010, NMFS concurred with the Corps' determination that their Proposed Action is not likely to adversely affect the Southern California Distinct Population Segment of steelhead or its critical habitat (see Appendix H).

Tree removal within the work area would result in short- to long-term loss of habitat potentially used by three sensitive bat species for roosting. Construction noise and human presence are unlikely to affect foraging behavior of these species because they primarily feed at dusk which is

outside normal construction hours. Due to other abundant roosting habitat in the area, the loss of trees along the Proposed Action route would have less than significant impacts on these species.

Although the two-striped garter snake and the southwestern pond turtle have the potential to be present within the creeks, neither was found during the 2005 surveys. The silvery legless lizard could be present within woodlands near the Proposed Action area but is not expected to occur in the Proposed Action area and, thus, would not be affected by construction activities. The coast range newt is known to occur along both drainages in the Proposed Action vicinity, and the San Diego desert woodrat may be present as well. Proposed Action construction activities would result in a short-term loss of habitat for these three species and potentially a loss of a few individuals. These species are California CSC that have a wide but scattered distribution in the region, and these impacts would not adversely affect their populations because only a small amount of habitat would be affected and few if any individuals would be lost. Therefore impacts would be less than significant, and mitigation measures proposed for other species would further protect these species as well (see Mitigation Measure BIO-1.3 in Appendix D).

Construction of the Preferred Alternative would involve the removal of eucalyptus trees within the pipeline corridor (0.36 acre) that may provide habitat for autumnal roosting monarch butterflies (September through December). Construction activities at this location in the summer prior to September would not affect any roosting monarchs, and would only remove a few of the eucalyptus trees. Construction at this location after the first of September could affect monarchs, if any are present and roosting at the time of tree removal. Impacts could include direct injury or mortality of individuals and destruction of occupied roosting habitat. These impacts would be less than significant because only a small amount of habitat would be affected (if the preconstruction surveys indicate that complete avoidance is not possible) and seasonal restrictions would avoid the loss of individual butterflies, resulting in no substantial effects on their population. COMB would include measure within the Special-status species Plan to minimize impacts to monarch butterflies (see Mitigation Measure BIO-1.3 in Appendix D).

Migratory Birds Construction of the proposed pipeline would result in damage to and removal of native and non-native trees and shrubs that provide cover, roosting, and nesting habitat for common wildlife and migratory birds. Raptors and other bird species protected under the MBTA, including the red-tailed hawk, red shouldered hawk, white-tailed kite, and American kestrel, may use these trees for nesting and perch sites. Other bird species common in the area are expected to nest within coast live oak woodland, chaparral, and coastal sage scrub habitats along the Preferred Alternative alignment. The breeding season for raptors can begin as early as February and continue through August, while the season for smaller resident and migratory birds can extend from mid-March through mid-September. Birds listed as California CSC for breeding only, including yellow warbler, may also be affected by removal of potential breeding habitat. If removal of these vegetation types occurred within the breeding seasons for these species, reproductive success of the individuals nesting there would be adversely affected. Nests could be lost during vegetation clearing, and noise and human activities within the construction corridor could cause birds nesting in adjacent habitat to abandon their nests.

The Special-status species Plan would include measures to minimize or avoid impacts to migratory and nesting birds (see Mitigation Measure BIO-1.3 and BIO-3 in Appendix D). In

addition, COMB would implement BIO-2.1 (riparian woodland restoration) to reduce impacts to migratory and nesting birds. Since northern harrier, loggerhead shrike, and ferruginous hawk are unlikely to breed in the area, temporary removal of vegetation would be considered to have a less than significant impact for these species and no mitigation is required.

Migratory Corridors Construction activities would not adversely affect any migratory corridors for terrestrial wildlife because none are known to be crossed by the pipeline corridor and the work would generally be concentrated at one location along the route, allowing animals to move freely across the remainder of the corridor. Therefore, no impacts would occur. Construction activities could have a minor impact if monarch butterfly roosting trees cannot be completely avoided, but timing would be restricted to avoid the migration period, therefore there would be less than significant impacts. For aquatic species, any flow present at the two creek crossings would be maintained via a diversion so that individuals could at least move downstream during construction resulting in a less than significant impact. Work would not be conducted during the upstream migration time for steelhead and none would be present so no adverse impacts would occur to upstream movement of this species. Because no wildlife migration or movement corridors would be affected, no mitigation measures would be required.

Wetlands Construction of the Preferred Alternative would result in temporary impacts to 0.05 acre within the west fork of Glen Annie Creek and 0.04 acre within the main stem of Glen Annie Creek, for a total of 0.09 acre of temporary impacts to waters of the U.S. In addition, there are small seasonal wetlands located along the banks of the main stem of Glen Annie Creek which may be temporarily lost during construction. These wetlands are not well developed and would be able to be reestablished due to annual scouring by storm runoff that occurs during the rainy season. COMB would comply within any environmental requirements pursuant to the CWA 404 permit issued by the Corps and would implement creek restoration once construction is complete in order to minimize impacts to wetlands and Waters of the U.S. (see Mitigation Measure BIO-1.4 in Appendix D).

Invasive Species Construction activities associated with the Preferred Alternative could result in the spread of invasive exotic plant species already present onsite. In addition, invasive exotic plant species could be introduced from vehicles and equipment coming from other construction sites. Invasive exotic plant species of particular concern include Cape ivy which is particularly abundant in portions of the Preferred Alternative corridor and could be particularly problematic. Cape ivy can very easily be spread, and it has been known to completely engulf native vegetation, killing the underlying vegetation. Furthermore, small sections of the plant can survive and form a new plant, even after months with no water or soil. Other invasive exotic plant species that would require careful management in the area disturbed by construction include black mustard, castor bean, veldt grass, and tree tobacco.

Operation of the proposed pipeline would include periodic checking and maintenance of structures (e.g., valves) along the route. Most structures would be accessed from existing paved roads. However, some structures would have small unpaved roads for access. As described for the No Project Alternative, this could lead to a small potential for spread of invasive species.

As described under the No Project Alternative, water from Lake Cachuma has the potential to spread aquatic invasive species during use of one blowoff valve for the SCC and the proposed pipeline; however, as described in Section 2.3, water from the other two blowoff valves would be released to upland areas and not directly into flowing streams. This would minimize the potential for introduction of non-native aquatic species from the Cachuma watershed to the Glen Annie watershed. Operation of the existing pipeline blowoff at that location would continue as in the past. COMB would implement Mitigation Measures BIO-4b.1, BIO-4b.2, BIO-4b.3, BIO-4b.4, BIO-4b.5, BIO-4b.6, and BIO-4b.7 to reduce potential impacts from invasive species (see Appendix D).

Significance of Impacts after Mitigation Implementation of Mitigation Measures BIO-1.1 to BIO-5 would reduce impacts to most biological resources to less than significant. In addition, impacts to seasonal wetlands and other Waters of the U.S. would be less than significant as natural conditions in the creeks would be re-established within approximately one year after construction. Implementation of Mitigation Measure BIO-2.2 and Mitigation Measure BIO-5 would help to mitigate the loss of oak trees and oak woodland habitat; however, it can take up to many decades for coast live oaks to mature and provide the habitat characteristics of oak woodlands, resulting in a long-term loss of oak woodland habitat. In addition, young trees do not have the diversity of microhabitats that make these communities so valuable to wildlife (e.g., lush foliage, dead wood and bark, and diverse understory of shade tolerant plants). Therefore, removal of up to 3.73 acres of coast live oak woodland would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies. Therefore, residual impacts to oak woodland would be significant and unavoidable.

Alternative A (Parallel Pipeline)

Construction of Alternative A would result in removal of less total vegetation than that of the Preferred Alternative (21.8 versus 24.14 acres) but slightly more native and naturalized vegetation [16.63 versus 15.92] (see Table 3-8). Impacts to these habitat types would be similar to those described under the Preferred Alternative.

Table 3-8 Potential Vegetation Removal from Implementation of Alternative A

Vegetation Type	Acres Removed
Coastal scrub	6.40
Coast live oak woodland	3.69
Chaparral	1.32
Riparian Woodland	0.13
Non-native grassland	1.85
Weed-dominated	2.55
Eucalyptus woodland	0.68
Orchard	1.33
Disturbed and developed	3.84
Total	21.80

Impacts to riparian woodland, potential introduction of invasive species, Water of the U.S., and special-status species including California red-legged frog, steelhead, and migratory birds would be the same as those described for the Preferred Alternative. The proposed Alternative A alignment would result in the removal of approximately 97 individual Santa Barbara honeysuckle plants and about 0.74 acre of occupied Santa Barbara honeysuckle habitat. This

would be a decrease in impacts to individual plants but an increase in impacts to habitat from those under the Preferred Alternative. The proposed alignment under Alternative A would also remove more eucalyptus trees within the pipeline corridor than the Preferred Alternative (0.68 versus 0.36 acre). Location of this disturbance would be different than that for the Preferred Alternative (see Figure 3-1). Removal of eucalyptus trees would have similar impacts to roosting monarch butterflies as those described under the Preferred Alternative.

Construction of the Alternative A pipeline alignment would result in the removal of approximately 90 coast live oak trees 6 inches or greater diameter at breast height and removal of up to 3.69 acres of coast live oak woodland, which is slightly less than the Preferred Alternative. Removal or disturbance of 3.69 acres of coast live oak woodland would be a significant and unavoidable impact as explained under the Preferred Alternative.

Alternative B (Non-parallel Pipeline)

Construction of Alternative B would result in removal of less total vegetation (22.48 versus 24.14 acres) and less native and naturalized vegetation (13.92 versus 15.92) than that of the Preferred Alternative (see Table 3-9). Impacts to these habitat types would be similar to those described under the Preferred Alternative.

Table 3-9 Potential Vegetation Removal from Implementation of Alternative B

Vegetation Type	Acres Removed
Coastal scrub	5.01
Coast live oak woodland	3.41
Chaparral	1.11
Riparian Woodland	0.16
Non-native grassland	2.02
Weed-dominated	1.95
Eucalyptus woodland	0.28
Orchard	2.34
Disturbed and developed	6.22
Total	22.48

Impacts to special-status species, potential introduction of invasive species, Water of the U.S., and migratory birds would be the same as those described for the Preferred Alternative. Impacts to riparian woodland would be similar to those for the Preferred Alternative, except additional riparian woodland, particularly western sycamores, would be removed. There is a greater potential to impact California red-legged frog and steelhead and their habitat including steelhead critical habitat where Alternative B crosses the main stem of Glen Annie Creek due to the need for more extensive excavation in the steep bank. The proposed Alternative B alignment would result in the removal of approximately 140 individual Santa Barbara honeysuckle plants and about 0.09 acre of occupied Santa Barbara honeysuckle habitat. This would be an increase in impacts to individual plants but a decrease in impacts to habitat from those under the Preferred Alternative. The proposed alignment under Alternative B would remove less eucalyptus trees within the pipeline corridor than the Preferred Alternative (0.28 versus 0.36 acre). Location of this disturbance would be different than that for the Preferred Alternative (see Figure 3-1). Removal of eucalyptus trees would have similar impacts to roosting monarch butterflies as those described under the Preferred Alternative.

Construction of the Alternative B pipeline alignment would result in the removal of approximately 130 coast live oak trees 6 inches or greater diameter at breast height and removal of up to 3.41 acres of coast live oak woodland, which is slightly more than the Preferred Alternative. Removal or disturbance of 3.41 acres of coast live oak woodland would be a significant and unavoidable impact as explained under the Preferred Alternative.

3.4 Cultural Resources

3.4.1 Regulatory Setting

Federal Regulations

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

If the undertaking will result in adverse effects to historic properties, these adverse effects must be resolved in consultation with the SHPO and other parties identified during the Section 106 process. This must be completed before the undertaking can proceed to implementation via the issuance of the Reclamation permit pursuant to 36 CFR Part 800.1(c).

In addition to the NHPA, cultural resources on federal or tribal lands are protected by the Archaeological Resources Protection Act of 1979 [ARPA] (16 USC §§469-469c). The ARPA describes the requirements that must be met before federal authorities can issue a permit to excavate or remove any archeological resource on federal or Indian lands. Requirements for curation of artifacts, other materials excavated or removed, and the records related to the artifacts and materials are described. The ARPA provides detailed descriptions of prohibited activities including damage, defacement, and unpermitted excavation or removal of cultural resources on federal lands. Selling, purchasing, and other trafficking activities of cultural resources either

within the United States or internationally is prohibited. ARPA also identifies stiff penalties that can be levied against convicted violators.

As prehistoric archaeological sites, artifacts, and human remains are considered important components of contemporary Native American heritage, two federal statutes apply. The American Indian Religious Freedom Act of 1978 [AIRFA] (42 USC §§1996-1996a) requires that locations identified as central to Native American religious practice be protected. The Native American Graves Protection and Repatriation Act of 1990 [NAGPRA] (25 USC §§3001-3013) requires that prehistoric human remains and burial-related artifacts of individuals recovered from federal or tribal lands during ground disturbances be provided to those contemporary Native Americans who are recognized as descendants.

State Regulations

CEQA Guidelines Section 15064.5(a.3) and PRC Section 21084.1 define the following criteria used to determine the significance of cultural resources, characterized as “historic resources.”

Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources (PRC SS5024.1, Title 14 CCR, Section 4852).

CEQA Guidelines Section 15064.5(b) (revised October 26, 1998) states that “a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.”

1. Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.
2. The significance of a historical resource is materially impaired when a project:
 - a. 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 (CRHR);
 - b. 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 PRC or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the PRC, 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
 - c. 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 CRHR as determined by a lead agency for purposes of CEQA.

When an archaeological resource is listed in, or is eligible to be listed in, the CRHR, PRC Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. PRC Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of the environmental analysis for a project. Either of these benchmarks may indicate that a proposal may have a potential adverse effect on archaeological resources.

CEQA Guidelines Sections 15064.5 and 15126.4 guide the evaluation of impacts to prehistoric and historic archaeological resources. Section 15064.5(c) provides that, to the extent an archaeological resource is also a historical resource, the provisions regarding historical resources apply. These provisions endorse the first set of standardized mitigation measures for historic resources by providing that projects following the Secretary of the Interior's Standards for Treatment of Historic Properties be considered as mitigated to a less than significant level.

Other state-level requirements for cultural resources management are written into the California PRC, Chapter 1.7, Section 5097.5 (Archaeological, Paleontological, and Historical Sites).

The disposition of Native American burials not located on Federal or Tribal lands is governed by Section 7050.5 of the California Health and Safety Code, and Sections 5097.94 and 5097.98 of the PRC, and falls within the jurisdiction of the Native American Heritage Commission (NAHC). Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, or historical, resources located on public lands.

3.4.2 Affected Environment

Archaeological evidence suggests that Santa Barbara County has been inhabited by Native Americans for at least 13,000 years (Johnson et al. 2001). Native American occupation lasted until European colonial expansion disrupted traditional cultures throughout California. Indigenous life ways were not static over this long occupational sequence, however, and many cultural changes have been documented by local archaeologists. Cultural change in southern California has been attributed to adaptive responses to both ecological factors (e.g., climatic fluctuations) and cultural factors (e.g., population growth and decline). Archaeologists have created a temporal chronology of prehistoric cultural manifestations based on changing artifact assemblages and radiocarbon dates. These periods include the Paleoindian/Paleo-Coastal Period (13,500-9,000 years before present), Millingstone Period (9,000-5,500 years before present), Early Period (5,500-3,500 years before present), Middle Period (3,500-800 years before present), and the Late Period (800 years before present to European Contact). Prehistoric archaeological resources commonly located in the Santa Barbara area include, but are not limited to, village

sites, camp sites, resource exploitations areas, rock art sites, and locations of ritual and spiritual activity.

At the time of Spanish contact, the Santa Barbara region was occupied by a group of Native Americans collectively known as the Chumash. The Chumash lived in large sedentary villages with population densities rivaling those of prehistoric agriculturalists. Scholars have suggested that they reached a level of social complexity rare among most California and North American hunting and gathering groups. Their society was stratified into social classes that included commoners, elites, religious specialists, and craft specialists (Glassow 1996). Political organization was manifested at the village level, and a chief or headman usually controlled political and economic interactions (Gamble and Russel 2002). Although most villages were autonomous, ethnographic data suggest that in certain circumstances, chiefs had influence over multiple village districts (Kennett 2005). The Chumash produced a shell bead currency that facilitated trade relationships with distant groups. Along with beads, craft specialists produced a range of sophisticated technologies that included the redwood plank canoe (*tomol*) among other goods. It has been suggested that control over the production and exchange of these commodities contributed greatly to the development and maintenance of an elite class and the growth of social complexity (Arnold 1992; Munns and Arnold 2002).

The Chumash endured significant changes to traditional culture with the establishment of Mission Santa Barbara in 1786. The missionaries, for example, used the neophyte population as forced labor to construct mission buildings and to perform agricultural tasks vital to the mission economy. This fact restricted Chumash involvement in traditional subsistence activities and other aspects of native life ways that were essential components of cultural identity. In addition, indigenous religious practices were forbidden by the missionaries who considered native religion to be paganistic and a threat to organized Catholicism and mission life. Most devastating to the local Chumash population was the introduction of Old World diseases for which they had little immunity. As a result, the Native American population in the area dropped dramatically between the end of the 18th and the end of the 19th century.

The establishment of the Royal Presidio and Mission opened the Santa Barbara region to Spanish colonial settlement, and by the 1830's the town of Santa Barbara contained a population of 400 settlers. After Mission secularization in 1834, church land holdings were divided into large ranchos and granted to prominent residents. Cattle ranching was the principle economic venture at this time and most Ranchos traded in cattle hides and tallow. A major drought event during the mid to late 1800's crippled the cattle industry and caused local rancho owners to sell their estates. With signing of the Treaty of Guadalupe Hidalgo at the end of the Mexican-American war, Santa Barbara entered into the early American Period.

During the mid to late 1800's, the town of Santa Barbara grew rapidly. The growing population and economy was related (at least partially) to the establishment of the local oil industry, and the construction of wells, refineries, and transportation operations (Carbone 2005). The construction of Stearns Warf and the Southern Pacific Railroad also spurred commercial development, and a thriving business district was established at the bottom of State Street. The mostly agrarian landscape of Goleta underwent industrial and residential development as a result of the local oil industry and construction of the railroad system.

The following summary of water development is adapted from Smallwood and Hamilton's (2010) evaluation of the Tecolote Tunnel South Portal Vault, Tailings, and Construction Access Road. Water development during the latter part of the 19th Century and the first half of the 20th Century in the area focused on supplying sufficient water to keep up with local demand by population growth and economic expansion. Several local projects in the first half of the 20th Century involved the construction of reservoirs and tunnels intended to meet the growing demand for water. By the mid-1940s, the area was vulnerable to water shortages again. In 1945, the Santa Barbara County Water Authority was formed, and negotiations commenced with Reclamation to fund construction of the largest water development project in Santa Barbara history. The Cachuma Project was authorized on March 4, 1948, by the Secretary of the Interior pursuant to the Reclamation Project Act of 1939. Reclamation provided financial support and federal lands to be inundated by the construction of Lake Cachuma. The project was to insure a water supply for use in agricultural, municipal, and industrial applications providing the necessary means for expansion of the South Coast area amidst the post-WWII era development boom.

The project included construction of a complex of engineering structures: the Cachuma Dam (later renamed the Bradbury Dam) and reservoir on the Santa Ynez River (several miles downstream from Gibraltar Dam); the Tecolote Tunnel to convey water through the Santa Ynez Mountains; and the SCC, a pipeline that conveys water to several small regulating reservoirs in each of the South Coast town's water districts. Construction began in 1950 and was completed by 1956. Reclamation owns the Bradbury Dam, Lake Cachuma, Tecolote Tunnel, SCC, and the four regulating reservoirs that furnish water to the South Coast region, but COMB has operated and maintained the facilities south of the Lake's intake tower since 1957 when it was formed to take over these responsibilities from Reclamation.

Summary of Cultural Resource Investigations and Resources for the Proposed Action Area

A total of 17 cultural resource investigations have been conducted within a 1-mile radius of the Proposed Action area. Six of these investigations cover all or a portion of the Proposed Action area. These investigations include surface surveys for archaeological sites, an inventory of the built environment, and several archaeological excavations.

The first investigation was performed by Larry Wilcoxon Consultants in November 1982. This survey was limited to areas within the University Exchange Corporation's proposed Glen Annie Water Diversion bounds. Padre Associates, Inc. conducted a survey of the Alternative A alignment in 2002. A Phase 1 archaeological assessment was performed by Larry Carbone in 2005 for the Proposed Action (Carbone 2005).

This investigation included a pedestrian survey of Alternative A, Alternative B, and a 50-foot buffer zone surrounding each alternative pipeline route. In addition, all accessible bedrock exposures were inspected for evidence of modification including bedrock mortars and rock art. Dense vegetation limited surface visibility to less than one percent over most of the survey area. Based on this fact survey efforts were focused on areas with exposed ground surface along creek terraces, ridge crests, saddles, and rodent burrows (Carbone 2005). The Phase 1 archaeological assessment also included a complete record search to identify all previously recorded

archaeological resources (both historic and prehistoric) within a 1-mile radius of the Proposed Action area.

In addition to Carbone's study, SAIC conducted a pedestrian survey along the segments of the Preferred Alternative alignment that were not within the areas previously surveyed in 2005 (SAIC 2008b). This included potential staging areas identified during the EIS/EIR process. Other follow-up work involved analysis of the potential for the preferred alignment to hold previously unknown buried archaeological sites. This study used mechanical trenching by archaeologists at a location west of the main stem of Glen Annie Creek in an area deemed especially likely to harbor a buried archaeological deposit. The results of this trenching did not reveal a buried archaeological deposit (Lloyd 2010). Investigation of archaeological site CA-SBA-1775, employing hand excavation units, was also undertaken to assess the status and integrity of this resource (Lloyd et al. 2010).

Several inventories of the built environment were also used to assess whether structures located within the Proposed Action area were eligible for the National Register or the CRHR. A large scale evaluation of the entire Cachuma Project was recently completed by a consultant as part of a general inventory unrelated to the Proposed Action (JRP Historic Consulting 2010). Reclamation determined and the SHPO concurred that the Tecolote Tunnel and several appurtenant facilities were eligible for listing on the National Register collectively as a complex. A supplemental study of the Cachuma Project facilities was completed for the Proposed Action (Smallwood and Hamilton 2010) and this study provided more detailed consideration of some of the individual components of the Tecolote Tunnel.

Several cultural resources are within or immediately adjacent to the Proposed Action area. Archaeological site CA-SBA-1775 is in the Preferred Alternative alignment of the Proposed Action area. Manual excavation of archaeological units revealed a disturbed cultural deposit with very limited archaeological residue (Lloyd et al. 2010). Based on these findings, Reclamation has determined that the site is not eligible for the National Register and is consulting with SHPO on this determination. Archaeological site CA-SBA-3923 is located adjacent to but outside the Proposed Action alternative alignments. The site contains both historic and prehistoric materials and remains unevaluated with respect to eligibility for the National Register since it will not be impacted by the Proposed Action.

Components of the Tecolote Tunnel complex are also present in the Proposed Action area and several components would be modified by the Proposed Action. The Tunnel complex as a whole has been determined eligible for the National Register. Appurtenant facilities of the complex located within the Proposed Action area include the outfall of the tunnel, the SPTT, the tailings from tunnel construction, and the construction access road (Smallwood and Hamilton 2010).

3.4.3 Methodology for Analysis

Impacts on cultural resources from the Proposed Action were evaluated by determining whether construction activities would have a significant adverse effect on any archaeological or historical resources listed in or eligible for listing in the National Register or the CRHR. Additionally, consideration was given to potential indirect effects, such as whether the Proposed Action would

preclude access to or affect the use of a Native American religious or sacred sites located on Federal Property.

CEQA Significance Criteria

The following significance criteria are derived from relevant federal and state regulations related to the identification of historic properties/significant cultural resources and substantial adverse effects on those resources. An impact on cultural resources would be considered significant if a project:

CR-1: Adversely affects a resource listed in or eligible for listing in the National Register, the CRHR, or otherwise considered a unique or important archaeological resource under CEQA.

An adverse effect on a historic property is defined as:

- Demolition, physically damaged, or altered;
- Relocation that would isolate the resource from its original context; or
- Conversion, rehabilitation, or alteration that does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

CEQA Guidelines Section 15064.5 (revised October 26, 1998) indicate a project may have an adverse environmental effect if it causes "substantial adverse change" in the significance of a "historical resource" or a "unique archaeological resource," as defined or referenced in CEQA Guidelines Section 15064.5 (b,c). Such changes include "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (CEQA Guidelines Section 15064.5 [b]).

3.4.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no construction of Proposed Action facilities or site improvements would occur, and regular O&M activities would continue as in the past. This would result in no significant impacts to cultural resources. However, as described in Section 2.1, one or more of the existing pipeline facilities could fail without site improvements resulting in the uncontrolled release of water to the environment that could cause disturbance to archaeological site CA-SBA-1775 due to erosion and subsequent repair activities. Impacts to CA-SBA-3923 would be avoided since its location is topographically higher than the existing pipeline, and would not be affected by uncontrolled release of water. The concrete SPTT would also continue to suffer ongoing erosion from the hydrogen sulfide in the water and could fail. The failure would result in an impact to some elements of the Tecolote Tunnel complex but the impact to this resource would not be significant since the loss of the SPTT or damage to the tailings it sits on would not comprise an adverse effect to the complex as a whole. No mitigation would be required.

No Project Alternative

The ground disturbing activities associated with the No Project Alternative include planned regular O&M and site improvements described in Section 2.2. None of these activities would affect archaeological sites CA-SBA-1775 or CA-SBA-3923. Due to the ongoing degradation of the SPTT, this element of the Tecolote Tunnel Complex would still be replaced resulting in no significant impact on cultural resources because the loss of the SPTT would not comprise an adverse effect to the tunnel complex as a whole. No mitigation would be required.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

Ground disturbing activities associated with the Preferred Alternative would result in no significant impact to cultural resources. Site CA-SBA-3923 would be avoided but this site is very near the alignment. To insure that construction activities do not inadvertently impact the site, Mitigation Measure CR-1 will be used. A portion of site CA-SBA-1775 will be impacted but Reclamation is in the process of obtaining concurrence from SHPO that this site is not eligible for the National Register. To insure that excavation activities at CA-SBA-1775 or in the tailings do not impact any previously undefined buried archaeological sites or features, Mitigation Measure CR-2 will be used. Last, the SPTT would be removed and replaced in this alternative but this would result in no adverse effect to the Tecolote Tunnel Complex.

Significance of Impacts after Mitigation Mitigation Measure CR-1 would reduce the potential for inadvertent impacts to Site CA-SBA-3923. Mitigation Measure CR-2 would reduce the possibility of adverse effects to previously unknown historic properties and would insure that proper procedures are followed in the unlikely event that additional previously unknown material was encountered. Mitigation Measure CR-1 and CR-2 would insure that impacts on cultural resources remain less than significant.

Alternative A (Parallel Pipeline)

Ground disturbing activities and structure replacements associated with Alternative A would have the same impacts described under the Preferred Alternative. Implementation of the same Mitigation Measure described under the Preferred Alternative would insure impacts to cultural resources remain less than significant.

Alternative B (Non-parallel Pipeline)

Construction activities associated with Alternative B would avoid impacts to archaeological site CA-SBA-1775. and CA-SBA-3923 but would still replace the SPTT resulting in no adverse effect to historic properties. Implementation of the same Mitigation Measures described under the Preferred Alternative would insure impacts to cultural resources remain less than significant.

3.5 Environmental Justice

The environmental justice analysis identifies minority and low-income populations in the Proposed Action area and determines the potential for the Proposed Action to cause disproportionate public health and environmental effects on minority and low-income populations. The terms “minority population” and “low-income population” defined below are

consistent with federal environmental justice guidance (CEQ 1997), California state law, and the race and ethnicity categories used in the 2000 Census.

CEQ environmental justice guidance defines “minority persons” as “individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black (not of Hispanic origin); or Hispanic” (CEQ 1997). Hispanic or Latino refers to an ethnicity whereas American Indian, Alaskan Native, Asian, Pacific Islander, and Black/African-American (as well as White or European-American) refer to racial categories. For this analysis, consistent with the 1997 CEQ guidance as well as EPA (1998, 1999), “minority” refers to people who are Hispanic/Latino of any race, as well as those who are non-Hispanic/Latino of a race other than White or European-American.

Low-income populations are defined as persons living below the poverty level, which is \$18,104 for a family of four in 1999 and varies depending on family size, as reported in the 2000 Census.

3.5.1 Regulatory Setting

EO 12898 requires federal agencies to address environmental justice issues affecting minority and low-income populations, using all the statutory and regulatory authorities that already exist. EO 12898 created an Interagency Work Group on Environmental Justice. It also directed federal agencies to take several specific steps, including to make achieving environment justice part of their mission; to develop an agency wide environmental justice strategy; to not exclude populations from participation in programs and activities or deny benefits or subject populations to discrimination based on race, color or national origin; to attempt to address multiple and cumulative exposures in research; to collect and disseminate information assessing disproportionately high and adverse human health and environmental effects on minority and low income populations; and to promote public participation in decision-making and access to information.

The CEQ’s *Environmental Justice Guidance under NEPA* (CEQ 1997) provides an overview of EO 12898; summarizes its relationship to NEPA; recommends methods for the integration of environmental justice into NEPA compliance; and incorporates definitions, established by the Interagency Work Group on Environmental Justice, of key terms and concepts contained in EO 12898. CEQ guidance identifies minority populations where the percent minority is greater than 50 percent, or “meaningfully greater” than that of the general population (usually the next larger geographic unit relevant for a specific impact with a specific geographic scope; for this analysis, the general population is usually Los Angeles County). “Meaningfully greater” is not defined in CEQ (1997) guidance; for this analysis, “meaningfully greater” is interpreted to mean simply “greater,” which provides for a conservative analysis. CEQ guidance identifies low-income populations where the percent low-income is meaningfully greater than the general population.

California Government Code Section 65040.12 defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies. While there is no requirement under CEQA to address environmental justice, a handful of state legislation has been signed into law since 1999. Legislative and executive actions relating to environmental justice in California have largely been procedural, including, but not limited to, formation of

environmental justice advisory committees and assigning coordinating roles and responsibilities to the Governor's Office of Planning and Research and the California Environmental Protection Agency.

3.5.2 Affected Environment

All of the alternatives addressed in this EIS/EIR have the same start and end locations with minor variations in between. The alternative pipeline routes all traverse an avocado orchard located near the SPTT. The Preferred Alternative and Alternative B would be located approximately 250 feet from two farmhouse residences, and the Alternative A alignment is located approximately 500 feet from these residences. Both residences are rental units that are not currently inhabited by minority persons. The Preferred Alternative and Alternative B alignments are located adjacent to a citrus orchard; the Alternative A route is located approximately 650 feet north of that orchard.

3.5.3 Methodology for Analysis

The direct effects of noise, air emissions, and hazardous materials on minority people, as well as the indirect effects associated with construction disturbances within the avocado orchard that could change employment of minorities, are evaluated in this section.

3.5.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, regular maintenance would continue as in the past, but no site improvements would be made. As a result, the SPTT or the pipeline at one of the creek crossings could fail causing release of a large volume of water and extensive erosion downslope of the release. Damage to the avocado orchard near the SPTT or the lemon orchard adjacent to the main stem of Glen Annie Creek could affect jobs for minority workers that tend these orchards. Repair of the failed structures and erosion would result in temporary noise from equipment. Because the work would be done under emergency circumstances, noise mitigation likely would not be implemented. Normal O&M would have no impact on minority and low-income populations. Emergency repairs would not substantially affect minority or low-income persons; therefore, the No Action Alternative would not result in disproportionately high and adverse effects on minority and low-income populations and no mitigation would be required.

No Project Alternative

The No Project Alternative would include construction of site improvements as well as continued annual O&M. Similar to the Proposed Action alternatives, impacts on surrounding sensitive noise receptors would be minimized during construction with implementation of Mitigation Measures NOISE-1.1 through NOISE 1.3 (see Appendix D). No impacts that would substantially affect minority or low-income persons would occur under this alternative. Therefore, the No Project Alternative would not result in disproportionately high and adverse effects on minority and low-income populations and no mitigation would be required.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

As described previously, there are no minority or low income persons living within the vicinity of the Proposed Action area. The Proposed Action would provide benefits to the local communities served by the SCC by increasing the reliability of the water supply. As a result, the

Preferred Alternative would not result in disproportionately high and adverse effects on minority and low-income populations and no mitigation would be required. The minor changes in the proposed Preferred Alternative pipeline alignment between the Draft and Final EIS/EIR would not change these impacts.

Alternative A (Parallel Pipeline)

Effects of Alternative A would be the same as described for the Preferred Alternative. Consequently, Alternative A would not result in disproportionately high and adverse effects on minority and low-income populations and no mitigation would be required.

Alternative B (Non-parallel Pipeline)

Effects of Alternative B would be the same as described for the Preferred Alternative. Consequently, Alternative B would not result in disproportionately high and adverse effects on minority and low-income populations and no mitigation would be required.

3.6 Geology and Soils

3.6.1 Regulatory Setting

The International Building Code (IBC) defines different regions of the United States and ranks them according to their seismic hazard potential. The four categories of these regions are designated as Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the highest seismic potential.

The State of California provides a minimum standard for building design through the California Building Code (CBC), which is based on the IBC, but has been modified for California conditions. The CBC is selectively adopted by local jurisdictions, based on local conditions. The Proposed Action area is also located within Seismic Zone 4 of the CBC.

Chapter 23 of the CBC contains specific requirements for seismic safety. Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. Chapter 33 of the CBC contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 of the CBC regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in the State of California Division of Occupational Safety and Health (commonly called Cal/OSHA) regulations (Title 8 of the California Code of Regulations) and in section A33 of the CBC.

The criteria most commonly used to estimate fault activity in California are described in the Alquist-Priolo Special Studies Zones Act of 1972, which addresses only surface fault-rupture hazards. The legislative guidelines to determine fault activity status are based on the age of the youngest geologic unit offset by the fault. The California Geological Survey (formerly the California Division of Mines and Geology) defines an active fault as a fault that has “had surface displacement within Holocene time (about the last 11,000 years)” (CDMG 1994). A potentially active fault is defined as “any fault that showed evidence of surface displacement during

Quaternary time (last 1.6 million years).” This legislation prohibits the construction of buildings used for human occupancy on active and potentially active surface faults. However, only those potentially active faults that have a relatively high potential for ground rupture are identified as fault zones. Therefore, not all potentially active faults are zoned under the Alquist-Priolo Earthquake Fault Zone, as designated by the State of California.

The Seismic Hazards Mapping Act regulations were promulgated for the purpose of promoting public safety by protecting against the effects of strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Special Publication 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California* (CDMG 1997), constitutes the guidelines for evaluating seismic hazards other than surface fault-rupture, and for recommending mitigation measures as required by PRC section 2695(a).

The Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (Title 17 CCR Section 93105) contains the requirements for construction operations that would disturb any portion of an area that is located in a geographic ultramafic rock unit or that has naturally-occurring asbestos, serpentine, or ultramafic rock. Construction or grading operations on property where the area to be disturbed is greater than one acre, require an Asbestos Dust Mitigation Plan to be submitted and approved by the air quality management district before the start of construction. The Asbestos Dust Mitigation Plan must be implemented at the beginning and must be maintained throughout the duration of the operation. In order to receive an exemption from this Airborne Toxic Control Measure, a registered geologist must conduct a geologic evaluation of the property and determine that no serpentine or ultramafic rock is likely to be found in the area to be disturbed. This report must be presented to the executive officer or air pollution control officer of the air pollution control or air quality management district, who may then grant or deny the exemption.

Conformance with the Santa Barbara County’s Grading and Building Codes are considered generally satisfactory (by the County), with respect to geologic hazards; however, select amendments are recommended in the County General Plan Seismic Safety and Safety Element (Santa Barbara County 1979). This document recommends that an adequate site-specific investigation be performed where the possibility of soil or geologic problems exist.

Paleontological Resources

In recent years, public interest and the commercial value of fossils has increased. The unfortunate consequence has been loss of fossils for scientific purposes. The removal of fossils, especially vertebrate fossils, from private or public lands reduces scientific and public access to important and instructive fossils and destroys the contextual information critical for interpreting the fossils.

On March 30, 2009, the [Paleontological Resources Preservation Act \(PRPA\)](#) became law when President Barack Obama signed the Omnibus Public Land Management Act (OPLMA) of 2009. This law requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on Federal land using scientific principles and expertise. The law includes specific provisions addressing management of these resources by the Bureau of Land Management, the National Park Service, Reclamation, the USFWS, and the U.S. Forest Service

of the Department of Agriculture. It only applies to Federal lands and does not affect private lands. It provides authority for the protection of paleontological resources on Federal lands including criminal and civil penalties for fossil theft and vandalism.

The Federal Land Management Policy Act of 1976 states that Federal land management agencies are given the authority and the mandate to protect public resources, including those of scientific value. These resources include fossilized paleontological specimens, which provide valuable clues to the Earth's history. In 2005, the Interior Board of Land Appeals acknowledged that paleontological resources on public lands are owned by the United States, and that they are protected under the Federal Land Management Policy Act.

CEQA Guidelines (Appendix G, Section V, Part c) refer to whether or not implementation of a project would “directly or indirectly destroy a unique paleontological resource.” Additionally, the California PRC, Section 31244, states that “where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable measures shall be required.”

Section 5097.5 of the California PRC prohibits excavation or removal of any “vertebrate paleontological site or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.” PRC Section 30244 requires reasonable mitigation of adverse impacts to paleontological resources from development on public land. Penal Code Section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no “material” (including all or any part of any paleontological item) shall be removed from any natural geologically formed cavity or cave.

3.6.2 Affected Environment

At the regional scale, the Proposed Action is located near the base of the Santa Ynez Mountains, which are part of the western Transverse Ranges geomorphic province of southern California. This east-west-trending range is composed almost entirely of sedimentary rocks of Cenozoic and late Mesozoic age. In the Santa Barbara area, the Santa Ynez Mountains are folded into a south-dipping monocline. The Proposed Action area is located within the IBC and CBC Seismic Zone 4; accordingly, any future development would be required to comply with all design standards applicable to Seismic Zone 4 (Santa Barbara County 1979).

Topography

At the Proposed Action scale, the topography, or more specifically the slope, along the proposed pipeline alignments is predominantly moderately steep to very steep (Figure 3-2). Beginning at the SPTT, the Preferred Alternative, Alternative A, and Alternative B pipeline alignments are the same and traverse a relatively flat area, which was created as a staging area for construction of the Tecolote Tunnel. The alignments then traverse southeast down a very steep fill slope, created during grading for the aforementioned staging area, as well as from tunneling spoils created during construction of the tunnel. The proposed alignments then trend down a tributary canyon of the West Fork of Glen Annie Creek, before crossing this creek. From that point, the Preferred Alternative and Alternative B alignments generally follow the topography around these ridges and intervening canyons along an existing road, resulting in a gentle downhill slope

gradient along the alignment; the Alternative A alignment takes a direct route straight up and over three steep ridges and intervening canyons.

After generally following the topography around several ridges, the Preferred Alternative and Alternative B alignments trend straight up an approximately 30-foot high vertical cliff to join the Alternative A alignment (see Figures 2-3 and 3-2). Near Ellwood Reservoir, the Preferred Alternative and Alternative A alignments continue southeastward traversing moderately sloped topography to Glen Annie Creek. After crossing Glen Annie Creek, the Preferred Alternative and Alternative A alignments climb up a moderately steep to steep hillside east of the creek. The final portion of the alignment before the CDMWTP is gently sloping.

The Alternative B alignment diverges eastward near Ellwood Reservoir and traverses a narrow, very steep-sided portion of the creek, before following a moderately sloped ridge-line to the CDMWTP (see Figures 2-3 and 3-2). The final portion of this alignment traverses the top of a large fill slope, created for treatment plant detention ponds.

One landslide is present west of the pipeline alignments, along the steep northwest-facing bank of West Fork of Glen Annie Creek. A second landslide is present along the southern portion of the Preferred Alternative and Alternative A alignments, within the Rincon Shale Formation. Landslides and slumps are common in this unstable rock unit throughout Santa Barbara County. However, all three alignments are predominantly underlain by either the Sespe or Vaqueros formations. No areas of gross overall instability appear to be present along the alignments. However, there is a potential for localized soil movement associated with thickened soil horizons in draw areas (Fugro West, Inc. 2003).

Stratigraphy

The proposed pipeline alignments are underlain by artificial fill, alluvium, Sespe Formation, Vaqueros Formation, and Rincon Formation [Dibblee 1987a, 1987b] (Figure 3-2). Artificial fill is present primarily at both ends of the Proposed Action, where fill was placed during construction of the Tecolote Tunnel (at the north end) and the CDMWTP (at the south end). Alluvium is present in the base of West Fork and Glen Annie canyons; this material consists of unconsolidated floodplain deposits of silt, sand, and gravel. The Sespe Formation, consisting primarily of massive red sandstone, with interbeds of claystone up to 2-feet thick, is present along the alternative alignments, from the SPTT, southward to the third ridge. From this point, the remainder of the Preferred Alternative and Alternative A alignments, to the CDMWTP, are underlain by alternating Sespe Formation (as described above), the Vaqueros Formation, consisting primarily of tan, massive to thick-bedded sandstone, and Rincon Formation, consisting primarily of poorly bedded, gray clay shale and claystone. However, the Alternative B alignment traverses primarily Sespe Formation from the third ridge to the CDMWTP.

In areas previously not disturbed by grading for the existing pipeline and road, the upper few feet of strata consists of surficial soil deposits, including the Todos-Lodo Complex, Lodo-Sespe Complex, and Gaviota Series. Todos-Lodo soils, which are present along all three alternative pipeline alignments within West Fork and Glen Annie canyons, consist of well-drained soils found on 30 to 50 percent slopes, where runoff is rapid and the erosion hazard is high.

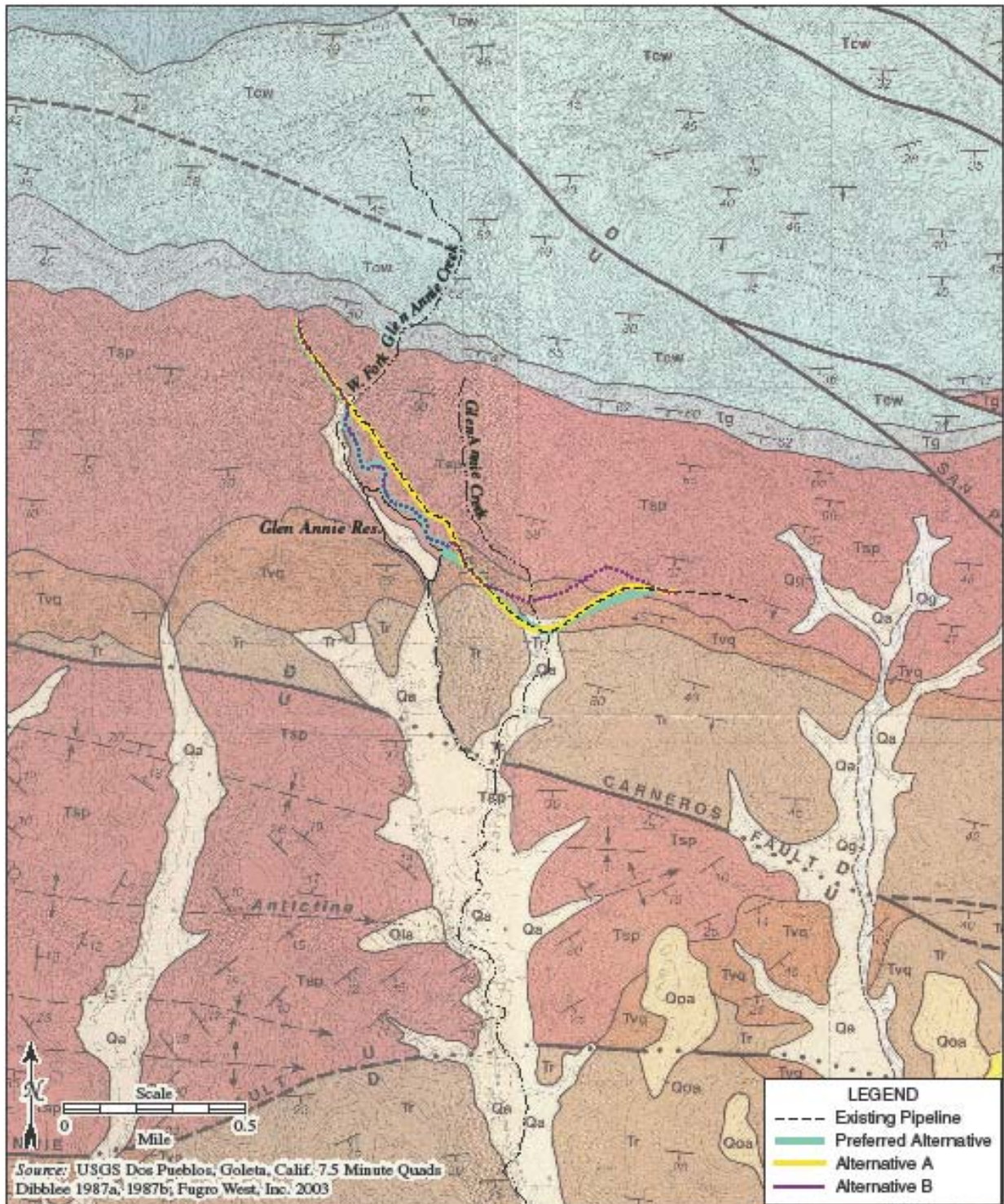


Figure 3-2 Geologic Map

Lodo-Sespe soils, which are present along the alternative pipeline alignments on ridge- and hill-tops, consist of somewhat excessively drained soils found on 50 to 75 percent slopes, where

runoff is rapid and the hazard of erosion is high. Gaviota sandy loam, which is present at the southern end of the Preferred Alternative and Alternative A pipeline routes, overlying the Rincon Shale, consists of excessively drained soils found on 30 to 75 percent slopes, where runoff is rapid and the hazard of erosion is very high (USDA 1973).

Paleontological Resources

Any rock material that contains fossils has the potential to yield fossils that are unique or significant to science. However, paleontologists consider that geological formations having the potential to contain vertebrate fossils are more “sensitive” than those likely to contain only invertebrate fossils. Invertebrate fossils found in marine sediments are usually not considered by paleontologists to be significant resources, because geological contexts in which they are encountered are widespread and fairly predictable. Invertebrate fossil species are usually abundant and well-preserved, such that they are not unique. In contrast, vertebrate fossils are much rarer than invertebrate fossils, and are often poorly preserved. Therefore, when found in a complete state, vertebrate fossils are more likely to be a more significant resource than invertebrate fossils. As a result, geologic formations having the potential to contain vertebrate fossils are considered the most sensitive.

Vertebrate fossil sites are usually found in non-marine, upland deposits. However, vertebrate marine fossils such as whale, porpoise, seal, or sea lion can be found in marine rock units such as the Monterey, Rincon, Vaqueros, and Sisquoc formations of Santa Barbara County. Therefore, these rock formations are considered to have a high paleontological sensitivity (Santa Barbara County 2007a). Portions of the Preferred Alternative, Alternative A, and Alternative B alignments are underlain by the Vaqueros Formation; a portion of the Alternative A alignment is underlain by the Rincon Formation.

3.6.3 Methodology for Analysis

Geological impacts have been evaluated in two ways: (1) impacts of the Proposed Action on the local geologic environment; and (2) impacts of geohazards on components of the Proposed Action that may result in substantial damage to structures or infrastructure or expose people to substantial risk of injury.

The methodology for paleontological resources is limited to the determination that the Proposed Action area possesses high paleontological sensitivity. All additional analysis would be performed by a County-qualified paleontological monitor who shall be on call during excavation activities within the Vaqueros and Rincon formations. Material having fossil potential would be analyzed in the field or at facilities with the personnel and equipment required to complete the analysis.

CEQA Significance Criteria

Impacts would be considered significant under the following circumstances for construction or operational impacts:

GEO-1: Substantial alteration of the topography beyond that resulting from natural erosion and depositional processes,

GEO-2: Substantial erosion would be triggered or accelerated,

- GEO-3:** Landslides would be triggered or accelerated.
- GEO-4:** Results in the permanent loss of, or loss of access to a paleontological resource of regional or statewide significance.
- GEO-5:** Ground rupture due to an earthquake at the site and attendant damage to structures, limiting their use due to safety considerations or physical condition,
- GEO-6:** Earthquake-induced ground motion (shaking) causing liquefaction, settlement, or surface cracks at the site and attendant damage to proposed structures, resulting in a substantial loss of use for more than 60 days or exposing the public to substantial risk of injury.
- GEO-7:** Exposure of people or property to a greater than average risk of tsunamis or seiches.

3.6.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no construction of Proposed Action facilities or site improvements would occur and regular maintenance activities would continue as in the past. However, as described in Section 2.1, the SPTT or the pipeline at one of the two creek crossings could ultimately fail if the site improvements were not implemented. The structural failure of these facilities could result in the uncontrolled release of water to the environment at a rate of 40+ MGD that could cause severe erosion and gulying, followed by deposition of soil in downstream drainages. Repair activities and restoration of eroded areas would also cause disturbances to soil. Impacts would depend on the location of the pipeline failure, but would likely affect either West Fork or the main stem of Glen Annie Creek. With respect to a SPTT failure, impacts would occur to the land between the failure and the West Fork. Eroded soils would be deposited in Glen Annie Reservoir during a failure of the SPTT or the West Fork pipeline crossing, while failure of the pipeline at the main stem crossing would affect Glen Annie Creek and Goleta Slough. Impacts would be significant and unavoidable. Repair of the failed structure and erosion would also cause short-term soil disturbances similar to those associated with construction of the Preferred Alternative pipeline. Repair activities and restoration resulting from the failure could also cause disturbances to paleontological resources. COMB would implement mitigation measures similar to those for the Proposed Action that would minimize these impacts.

No Project Alternative

In addition to regular maintenance, the No Project Alternative would include the construction of site improvements and other actions for the SPTT, Glen Anne, and Corona Del Mar turnout structures, as well as the Glen Anne meter and downstream crossings. These individual actions have the potential to cause impacts from excavation or other earthwork including an increase in erosion. COMB would implement mitigation measures similar to those for the Proposed Action that would minimize these impacts.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

Minor changes in the Preferred Alternative Alignment since the Draft EIS/EIR do not change the impacts to topography. The proposed Preferred Alternative would utilize an open trench method to install the pipeline. Soil would be temporarily stockpiled adjacent to the trench for backfill after installation of the pipe. The trench would be a minimum of 9.5 feet deep to allow a 5 foot

cover over the pipe. At the West Fork and Glen Annie creek crossings, the pipeline would be buried with a minimum of 8 feet cover.

A temporary construction corridor up to 100 feet wide would be provided for storage of excavated material, topsoil, pipe segments, and vehicle access. The width of this easement would vary depending on topography. On steep slopes and where steep side slopes are present adjacent to the pipeline alignment, the easement would be narrower than in flatter terrain. This construction easement would result in a temporary alteration of the topography, which would be restored upon completion of the proposed Preferred Alternative. Impacts would be less than significant and no mitigation would be required.

Any creek flow present would be temporarily redirected during construction. Vegetation would be cleared throughout the temporary construction corridor resulting in short-term exposure of on-site soils, which are highly prone to erosion due to the steep topography and erodible soils along the proposed pipeline corridor. This potential for short-term soil erosion could lead to increased sediment runoff into the West Fork and main stem of Glen Annie creek. COMB would implement mitigation measures to address erosion and sediment control, energy dissipation and downstream sedimentation to reduce impacts to less than significant (see Mitigation Measure GEO-2 and Appendix F).

The majority of the proposed pipeline alignment traverses steep topography that is subject to shallow landslides, rockfalls, and debris flows, which could be triggered during construction or by heavy rainfall, especially before vegetation can be re-established. Such shallow failures could potentially expose the pipeline, but would not likely result in structural failure. Deep-seated landslides are not anticipated as a result of construction, as no areas of gross overall instability appear to be present along the alignment (Fugro West, Inc. 2003). In addition, construction would be completed in accordance with recommendations of a final geotechnical report and grading/excavation requirements of the CBC.

While the Proposed Action area is traversed by a known active fault, seismic hazards are common to the Santa Barbara region and seismically induced structural damage to the pipeline cannot be completely avoided. Although surface fault rupture and/or liquefaction of sediments is not anticipated other types of seismically induced ground failure are possible including:

- **Differential settlement:** A process where soils settle non-uniformly, potentially resulting in stress and damage to pipelines or other overlying structures. Such movement can occur in the absence of seismically induced ground failure, due to improper grading and soil compaction, or discontinuity of naturally occurring soils. Elongated structures such as pipelines are especially prone to damage as a result of differential settlement.
- **Lateral spreading:** A type of seismically induced ground failure that occurs when cracks and fissures form on an unsupported slope, resulting in lateral propagation and failure of slope material in a downslope direction. Such failures are possible where the pipeline traverses the steep northwest-facing slope along the West Fork of Glen Annie Creek.

Therefore, the pipeline may be rendered unusable following a strong earthquake, pending repairs. However, the pipeline would be constructed in accordance with site-specific

recommendations of a final geotechnical report and in accordance with provisions of the CBC. Such engineering would include compacted trench backfill around the proposed pipeline, in accordance with engineering specifications, to minimize ground movement surrounding the proposed pipeline. Such engineering would minimize potential damage and reduce potential seismic related impacts.

Portions of the Preferred Alternative alignment are underlain by the Vaqueros Formation which could potentially yield marine vertebrate fossils.

Significance of Impacts after Mitigation Mitigation Measures to address erosion and sediment control, energy dissipation and downstream sedimentation are addressed in Appendix F and Mitigation Measure GEO-2. Implementation of these mitigation measures would ensure that residual impacts on the existing geology and soils of the site and its surroundings would be less than significant.

Topsoil would be salvaged from the area to be excavated, stockpiled separately from the remainder of the excavated material, and replaced over the backfill to aid in revegetation. After final grading and topsoil replacement in areas of native or naturalized vegetation, a Revegetation Plan would be implemented to restore these areas to pre-Proposed Action conditions (see Appendix F and Mitigation Measures BIO-1.2, BIO-2.1, BIO-2.2, and BIO-4a in Appendix D).

A pre-construction workshop addressing potential impacts to paleontological resources and monitoring during excavation by a qualified paleontological monitor would be required. Specific mitigation measures to address paleontological resources are addressed in Appendix F and Mitigation Measures GEO-4.1, GEO-4.2, and GEO-4.3. Implementation of these mitigation measures would ensure that residual impacts on paleontological resources would be less than significant.

Alternative A (Parallel Pipeline)

The Alternative A alignment would use the same construction methods and easements and would have the same topographical impacts as those described for the Preferred Alternative. Erosion impacts to the West Fork and main stem of Glen Annie creeks and seismic hazards would also be the same as those described for the Preferred Alternative. Portions of the Alternative A alignment are underlain by the Vaqueros Formation and by the Rincon Formation which could potentially yield marine vertebrate fossils. Implementation of the same Mitigation Measures described under the Preferred Alternative would minimize impacts to geological and paleontological resources to less than significant.

Alternative B (Non-parallel Pipeline)

The Alternative B alignment would use the same construction methods and easements as those described for the Preferred Alternative. However, the Alternative B alignment diverges to the east from Ellwood Reservoir and would cross Glen Annie Creek at a location which has a high, nearly vertical west bank. Trenching through this bank would result in a permanent change in topography due to the inability to reconstruct the vertical bank which would be a significant unavoidable impact. At this location, alteration of the steep west bank would result in a larger amount of disturbed ground than for the other alternatives and, thus, a greater potential for

erosion (see Appendix F and Mitigation Measures GEO-2 for measures in place to minimize erosion at this location). Topography along the remainder of the route would be restored as described under the Preferred Alternative. Erosion impacts along the remainder of the alignment would also be the same as the Preferred Alternative. Erosion mitigation measures would be implemented to restore these areas to pre-Proposed Action conditions (see Appendix F and Mitigation Measures GEO-2). Seismic hazards and potential yield of marine vertebrate fossils would be the same as those described for the Preferred Alternative. Implementation of the same Mitigation Measures described under the Preferred Alternative would minimize impacts to less than significant.

3.7 Hazards and Hazardous Materials

Generally speaking, “hazardous materials” means 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. Hazardous materials that are commonly found in soil and groundwater include petroleum products, fuel additives, heavy metals, and VOC. Asbestos can also be present in certain types of soils.

Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or which is being stored prior to disposal.

3.7.1 Regulatory Setting

Applicable federal, state, and local laws each contain lists of hazardous materials or hazardous substances that may require special handling if encountered in soil or groundwater during construction of the Proposed Action. These include “hazardous substances” under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and the state Hazardous Substances Account Act (Health and Safety Code Section 25300, et seq.); “hazardous materials” under Health and Safety Code Section 25501, California Labor Code Section 6380 and CCR Title 8, Section 339; “hazardous substances” under 40 CFR Part 116; and, priority toxic pollutants under CFR Part 122. In addition, “hazardous materials” are frequently defined under local hazardous materials ordinances, such as the Uniform Fire Code.

Depending on the type and degree of contamination that is present in soil and groundwater, any of several governmental agencies may have jurisdiction over the Proposed Action site. Generally, the agency with the most direct statutory authority over the affected media is designated as the lead agency for purposes of overseeing any necessary investigation or remediation. Typically, sites that are nominally contaminated with hazardous materials remain within the jurisdiction of local hazardous materials agencies, such as the Santa Barbara County, Fire Protection Services Division. Sites that have more heavily contaminated soils are more likely to fall under the jurisdiction of the State Department of Toxic Substances Control which is authorized to administer the federal hazardous waste program under the Resource Conservation and Recovery Act and is also responsible for administering the State Superfund Program, under the Hazardous Substance Account Act.

Sites that have contaminated groundwater fall within the jurisdiction of the Central Coast RWQCB and are subject to the requirements of the Porter-Cologne Water Quality Control Act.

3.7.2 Affected Environment

The Proposed Action is located in a rural foothill area at the base of the Santa Ynez Mountains. No industrial or commercial facilities, which might have resulted in soil and/or groundwater contamination with hazardous materials, are present in the Proposed Action vicinity. None of these geological units within the Proposed Action area bear serpentine or naturally occurring asbestos. Although Rincon Shale and Vaqueros Formation are part of an ultramafic ophiolitic sequence, neither contains serpentine or asbestos.

3.7.3 Methodology for Analysis

Hazards and hazardous materials impacts have been evaluated in two ways: (1) impacts of Proposed Action-related hazardous materials on local soil and groundwater quality; and (2) impacts of existing hazardous materials on components of the Proposed Action, that may result in health and safety impacts to construction workers or operational personnel.

CEQA Significance Criteria

Impacts on hazards and hazardous materials would be significant under the following circumstances:

- HAZ-1:** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident involving the release of hazardous material into the environment;
- HAZ-2:** Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions associated with operations and/or maintenance; or
- HAZ-3:** The presence of soil or groundwater contamination creates a significant hazard to the public or the environment.

3.7.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no site improvements would be implemented although regular O&M would continue as in the past. As a result, the SPTT and existing pipeline at both creek crossings could ultimately fail resulting in the release of large amounts of water. Potential impacts from hazardous spills could occur during repair activities. COMB would implement mitigation measures similar to those for the Proposed Action that would minimize these impacts to less than significant.

No Project Alternative

As described previously, the No Project Alternative would involve regular annual O&M as well as construction of specific site improvements. Accidental spills or leaks of pollutants such as fuels, lubricants, and hydraulic fluid during equipment operation, refueling, or maintenance have the potential to enter the West Fork and main stem of Glen Annie creek. COMB would implement mitigation measures similar to those for the Proposed Action that would minimize these impacts to less than significant. Other potential construction related contaminants include solid and sanitary wastes, concrete truck washout, construction chemicals, and construction

debris. Any of these contaminants would have the potential to impair surface water quality if they reach surface water in the creeks; however, small spills are likely to remain within the work area with little or no material reaching flowing water. Additionally, construction at the creek crossings would be during the dry season when creek flow would be low to none. Impacts would be less than significant and no mitigation would be required.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

The minor change in the Preferred Alternative alignment from that described in the Draft EIS/EIR would not change potential impacts from hazards and hazardous waste as the proposed alignment within the Final EIS/EIR is still within the same easement as analyzed in the draft. Accidental spills or leaks of pollutants such as fuels, lubricants, and hydraulic fluid during equipment operation, refueling, or maintenance have the potential to enter the West Fork and main stem of Glen Annie creek as described under the No Project Alternative. Other potential construction related contaminants would be the same as those described under the No Project Alternative. Impacts of small spills would be adverse, short-term, and less than significant because small spills are likely to remain within the work area with little or no material reaching flowing water, and construction at the creek crossings would be during the dry season when creek flow would be low to none. However, larger spills that enter either creek would potentially have short-term, significant impacts on water quality.

Limited vehicle and equipment use would be required during standard pipeline inspections and O&M. Impacts of accidental spills or leaks of pollutants such as fuels, lubricants, and hydraulic fluid during equipment operation would be adverse, short-term, and less than significant because such spills would generally be minor and localized, enabling clean-up prior to such substances entering the West Fork or main stem of Glen Annie creek.

COMB would prepare and implement a SWPPP with associated BMPs to reduce potential impacts from construction and O&M related spills (see Mitigation Measure HAZ-1 in Appendix D).

As described previously, none of the rock formations present within the Proposed Action area contain serpentine or naturally occurring asbestos; therefore, there is minimal chance that construction activities would create asbestos-containing dust. COMB would use a water truck in order to minimize dust production during construction further reducing any potential harm caused by asbestos.

Significance of Impacts after Mitigation Mitigation Measures that minimize significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials are addressed in Mitigation Measures HAZ-1 in Appendix D. The Preferred Alternative would not create a significant hazard to the public or the environment as a result of O&M. Soil and/or groundwater contamination is not anticipated to be present in the existing environment because there is no development history within the Preferred Alternative area. In addition, there is limited potential for significant soil and/or groundwater contamination due to the scope of work for construction and O&M which does not include contaminants in quantities that could not be limited by BMPs.

Alternative A (Parallel Pipeline)

Impacts would be the same as those described under the Preferred Alternative.

Alternative B (Non-parallel Pipeline)

Impacts would be the same as those described under the Preferred Alternative.

3.8 Hydrology and Water Quality

3.8.1 Regulatory Setting

The 1972 Federal Water Pollution Control Act and its 1977 amendments, collectively known as CWA, established national water-quality goals and the basic structure for regulating discharges of pollutants into the Waters of the U.S. Section 402 of the CWA also created National Pollutant Discharge Elimination System (NPDES) permits that specified minimum standards for the quality of discharged waters. It required states to establish standards specific to water bodies and designated the types of pollutants to be regulated, including total suspended solids and oil. The CWA authorized the federal EPA to issue NPDES permits. Section 404 of the CWA requires permits for discharge of dredge or fill material into Waters of the U.S., and this section is administered by the Corps. A Section 401 Water Quality Certification is required for issuance of a Section 404 permit.

Since 1973, the State Water Resources Control Board and its nine RWQCB have been delegated the responsibility for administering permitted discharge into the waters of California. The Porter-Cologne Water Quality Act provided a comprehensive water-quality management system for the protection of California waters. Under the Act “any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state” must file a report of the discharge with the appropriate RWQCB. In April 1991, the State Water Resources Control Board and other state environmental agencies were incorporated into the California EPA.

This Act is the primary state regulation addressing water quality and waste discharges on land. Permitted discharges must be in compliance with the regional Basin Plan that was developed by the Central Coast RWQCB for Region 3, which includes Santa Barbara County and the Proposed Action area. Each Regional Board implements the Basin Plan to ensure that projects consider regional beneficial uses, water quality objectives, and water quality problems.

The State Water Resources Control Board regulates non-point construction runoff discharges under the NPDES permit regulations, by issuing Construction Permits, which primarily deal with erosion, sediment transfer, and chemical spills at construction sites. The monitoring requirements are less stringent for the Construction Permit than for the General Industrial Permit Requirements and no sampling is required.

BMPs are required as part of a SWPPP. The EPA defines BMPs as “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the United States. BMPs include treatment requirements,

operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage” (40 CFR 122.2).

The Santa Barbara County Water Agency’s *Project Clean Water* has been established to reduce or eliminate discharges of pollution into creeks, rivers, ponds, or ocean waters, through implementation of NPDES permit requirements and applicable regulations. This agency completes stormwater sampling at select locations, including Goleta Slough, located downstream of the Proposed Action site. The County Water Agency is currently in the process of adopting provisions of the Storm Water Phase II Final Rule, which requires the operator of a regulated small municipal separate storm sewer system to obtain NPDES permit coverage because discharges of storm water from such systems are considered point sources of potential pollution and they are considered publicly owned or operated point sources.

3.8.2 Affected Environment

The proposed pipeline alignments traverse the West Fork and main stem of Glen Annie creek. The West Fork of Glen Annie Creek is a tributary to Glen Annie Creek and both are intermittent streams. Glen Annie Reservoir is located along the West Fork of Glen Annie Creek, which flows into Glen Annie Creek approximately 1,500 feet south of the proposed pipeline alignments (Figure 3-3). Glen Annie Creek merges downstream into Tecolotito Creek. The Tecolotito/Glen Annie Creek watershed originates on the southern flanks of the Santa Ynez Mountains and drains a 3,858-acre watershed, capable of producing 4,600 cubic feet per second of flow during a 100-year period precipitation event (Santa Barbara County 2007b).

The Tecolotito/Glen Annie Creek watershed flows into Goleta Slough approximately 3 miles southeast of the Proposed Action area. The Goleta Slough, which is fed by seven creeks (Tecolotito, Carneros, San Pedro, Las Vegas, San Jose, Atascadero, and Maria Ygnacio creeks), is the largest estuary between Point Mugu and Morro Bay, and is the northernmost example of a large southern California estuary. The slough is widely acknowledged to be in decline and less than fully functional. Due largely to agricultural development and construction and expansion of the Santa Barbara Airport, the slough has shrunk from a historical 18 square miles to 400 acres today. Over time, its creeks have been filled and channelized, wetland acreage has been lost to human development, and water quality has been severely degraded by surrounding urban and agricultural land uses. The ability of the slough to filter pollutants has been diminished at the same time that pollution levels have risen. The Goleta Slough is listed as an impaired waterbody on the State’s 303(d) List of Water Quality Limited Segments as a result of contamination by pathogens, heavy metals, priority organics, and sediment (SWRCB 2002; California Coastal Commission 2006; Santa Barbara Channelkeeper 2006).

The Proposed Action site does not overlie any established groundwater basin. Groundwater is present within the Sespe, Vaqueros, and Rincon formations, as evidenced by wells producing from these formations throughout southern Santa Barbara County. Permeability is largely controlled by fracture permeability in these formations, although some intergranular permeability may occur in both the Sespe and Vaqueros formations. Typical of fractured rock aquifers, well yields in the Tertiary bedrock aquifers are quite variable. Well yields ranging from 2 to 254 gallons per minute and transmissivities ranging from 42 to 786 gallons per day per foot have

been reported by the USGS for water wells completed in the Gaviota and Tajiguas areas, located west of the Proposed Action site (McClelland Engineers 1987).

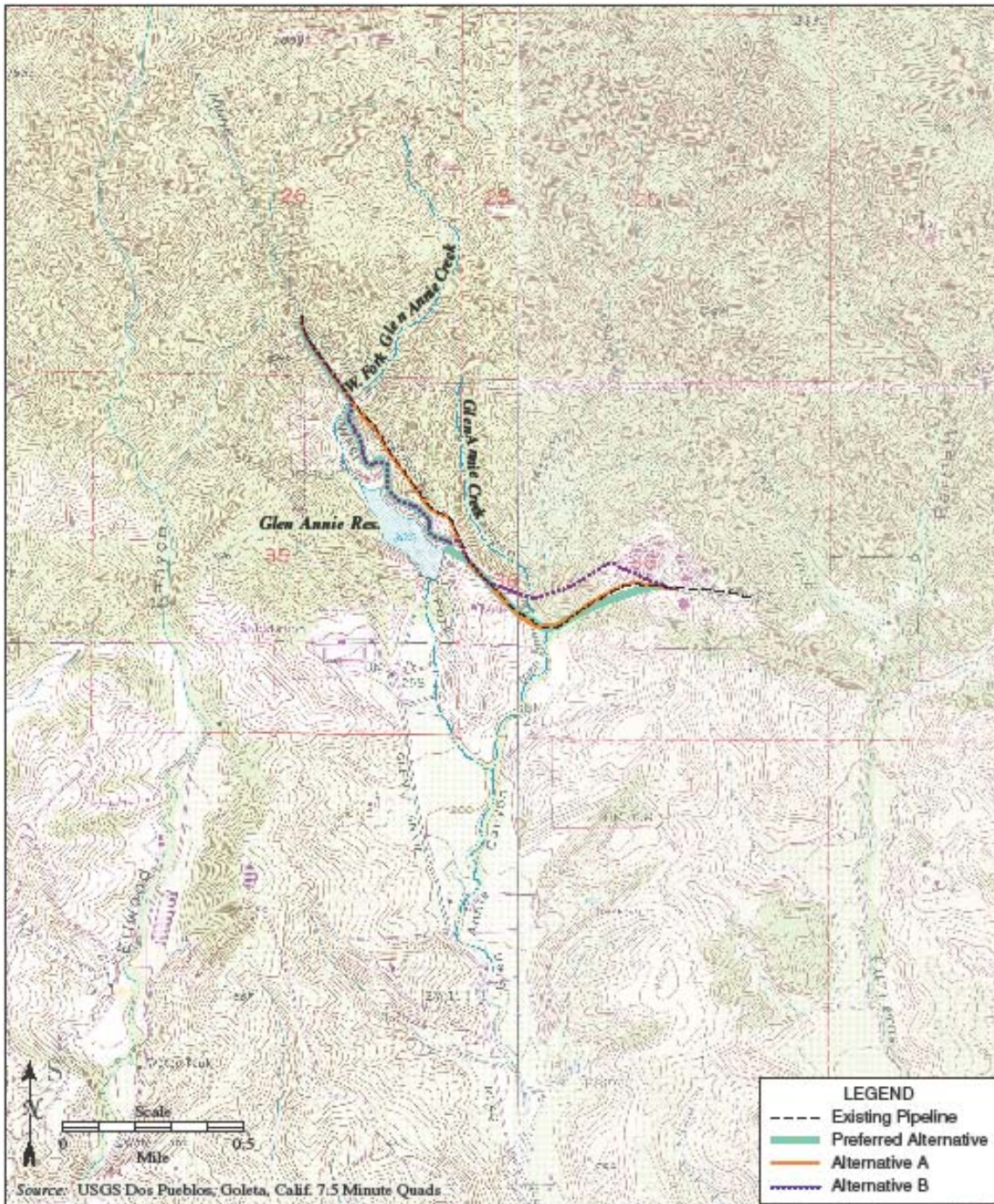


Figure 3-3 Topography and Drainage

Water quality from the bedrock aquifers is also highly variable. Total dissolved solid concentrations in the nearby Gaviota area range from 400 to 2,900 milligrams per liter. Bedrock aquifer water in this area typically exceeds drinking water standards for iron, manganese, and

fluoride, and may contain dissolved hydrogen sulfide gas (McClelland Engineers 1987). The Goleta Water District has extracted water from bedrock wells in the vicinity of the Proposed Action site on a test basis. The pumped water from the fractures in consolidated bedrock in this foothill area was of very poor quality. The District has no plans to utilize water from this source (Santa Barbara County 2006).

The Proposed Action site lays upgradient of the West Subbasin of the Goleta Groundwater Basin. This underground reservoir is considered to be hydrologically separate from the North and Central subbasins of the Goleta Groundwater Basin (Goleta North/Central Basin). Based on the most recent analysis, the West Subbasin is in a state of surplus. However, water quality from wells drilled in this subbasin is of poor quality and low yield, but is classified as beneficial use drinking water by the RWQCB under the Basin Plan (RWQCB 1994; Santa Barbara County 2006).

3.8.3 Methodology for Analysis

Water quality and hydrologic impacts have been evaluated primarily with respect to construction. Water quality impacts are primarily associated with minor accidental spills of petroleum products and hazardous materials. Erosional impacts are addressed in Section 3.6, Geology and Soils. Proposed Action operations are not anticipated to adversely affect water quality or hydrologic conditions.

CEQA Significance Criteria

Impacts on hydrology and water quality would be significant under the following circumstances:

- HYDRO/WQ-1:** Violate (or cause the violation of) any water quality standards or waste discharge requirements;
- HYDRO/WQ-2:** Substantially deplete groundwater supplies or interfere substantially with groundwater recharge or flow to the extent that it would not support existing land uses that rely on groundwater or planned uses for which permits have been granted; or
- HYDRO/WQ-3:** Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

3.8.4 Environmental Consequences

No Action Alternative

O&M of existing SCC facilities under the No Action Alternative would have no impact on hydrology and water quality as conditions would remain the same as existing conditions. However, there would likely be adverse impacts to hydrology and water quality should the existing structures fail. A large release of water from any failure point would likely result in localized flooding as well as substantial erosion and deposition of soil within the creeks, Goleta Slough, and potentially the Pacific Ocean as described in Section 2.1, which would be substantial and unavoidable. In addition, structural failure would have substantial and unavoidable impacts to surface water availability for the South Coast communities dependent on this system which may require additional pumping of groundwater to meet demand. Repair of failed structures

would also cause water quality impacts similar to those described for the Proposed Action alternatives due to short-term soil disturbances and erosion. However, these impacts would be mitigated as described under the Proposed Action alternatives to less than significant. The use of groundwater to meet demands during system failure would only occur during repair of the system and would likely cease once the system is operational again.

No Project Alternative

Under the No Project Alternative, there could be water quality impacts due to construction activities to repair downstream degradation of the existing creek crossings. In addition, there could be water quality impacts to the West Fork and main stem of Glen Annie creek due to potential petroleum and/or hazardous spills as described previously. Construction activities for site improvements could have similar impacts as those described for the Preferred Alternative although at a smaller scale as proposed site improvements under this alternative are much less than those proposed for the Proposed Action alternatives. COMB would implement erosion control BMPs and a construction-related SWPPP (see Mitigation Measures GEO-2 and HAZ-1 in Appendix D) in order to reduce these potential impacts. Site improvements would reduce the potential for system failure along the SCC enabling the delivery of surface water to the South Coast communities dependent on this system. Surface water from Lake Cachuma has been used to reduce the need for groundwater pumping to meet water demands.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

The proposed pipeline would be installed using an open trench construction method as described in Section 2.3. Temporary diversion of surface and subsurface creek flow, using temporary culverts and/or groundwater dewatering, would be required at both creek crossings if flow is present causing a temporary alteration of drainage patterns. However, stream channel topography, surface flow within the creek, and topography of the proposed pipeline corridor would be restored to normal conditions, to the extent possible, subsequent to construction, resulting in no permanent alteration of drainage patterns. In addition, surface runoff would not be increased, as paving would not occur as part of the Proposed Action.

Proposed pipeline construction activities could result in impairment of water quality due to erosion-induced runoff of sediment from construction activities near the West Fork and main stem of Glen Annie creek (see discussion under Geology and Soils in Section 3.6). COMB would implement erosion control BMPs in order to reduce these impacts to less than significant (see Mitigation Measure GEO-2 in Appendix D). In addition, accidental spills or leaks of pollutants such as fuels, lubricants, and hydraulic fluid during equipment operation, refueling, or maintenance have the potential to enter these creeks. Other potential construction related contaminants include solid and sanitary wastes, concrete truck washout, construction chemicals, and construction debris. Any of these contaminants would potentially impair the quality of surface water runoff. COMB would implement a construction-related SWPPP in order to reduce potential surface water quality impacts (see Mitigation Measure HAZ-1 in Appendix D).

Construction of the Preferred Alternative would not increase the amount of water available to South Coast communities from Lake Cachuma as the amount of water delivered to Cachuma Member units would remain the same. However, the Preferred Alternative would provide a more reliable delivery mechanism with increased capacity for conveyance of water from Lake

Cachuma, particularly during the summer and fall, which would have a beneficial impact on water delivery and water supply. Availability of Cachuma Project water would continue to decrease reliance on groundwater supplies from coastal Santa Barbara groundwater basins. Water use for Preferred Alternative construction would be restricted primarily to dust control and would be supplied by COMB. No groundwater would be used for the Preferred Alternative.

The minor changes in the Preferred Alternative pipeline alignment since the Draft EIS/EIR would not increase the potential to violate water quality standards, impact groundwater resources, or alter drainage patterns.

Significance of Impacts after Mitigation Implementation of Mitigation Measures GEO-2 and HAZ-2 incorporating erosion-control BMPs and a construction-related SWPPP would ensure that residual impacts on water quality and hydrology would be less than significant.

Alternative A (Parallel Pipeline)

Impacts to water quality and hydrology would be the same as those described for the Preferred Alternative as construction methods and creek crossings for this alternative would be the same as those for the Preferred Alternative. Alternative A would implement the same mitigation measures and BMPs described for the Preferred Alternative reducing impacts to less than significant. No groundwater would be used for this alternative.

Alternative B (Non-parallel Pipeline)

Construction methods for this alternative would also be the same as those described for the Preferred Alternative. Consequently, impacts due to potential spills would be the same as those described for the Preferred Alternative. Although the crossing at the West Fork of Glen Annie Creek would be at the same as the Preferred Alternative crossing, the crossing at the main stem of Glen Annie Creek under Alternative B would be approximately 325 feet further upstream in a location with a very tall and steep western bank. The western creek bank would require considerable additional excavation in order to install the proposed pipeline. Consequently, impacts to water quality at this location would be greater than those described under the Preferred Alternative. COMB would implement the same mitigation measures as described under the Preferred Alternative (see Mitigation Measures GEO-2 and HAZ-1 in Appendix D) in order to reduce these impacts to less than significant. No groundwater would be used for this alternative.

3.9 Indian Trust Assets

3.9.1 Regulatory Setting

ITA are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. “Assets” are anything owned that holds monetary value. “Legal interests” means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use

something. ITA cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or EO.

3.9.2 Affected Environment

The nearest ITA is the Santa Ynez Reservation approximately 15 miles northwest of the Proposed Action location. Consequently, there would be no impacts to ITA due to any of the alternatives as there are none in the vicinity of the SCC or the Proposed Action alternatives.

3.10 Land Use

3.10.1 Regulatory Setting

This section provides a preliminary analysis of the Proposed Action's consistency with County plans and policies, including the County General Plan Conservation Element and the Oak Tree Protection in the Inland and Rural Areas supplement, County Code Chapter 14 (Grading, Erosion, and Sediment Control), and County Land Use Development Code Chapter 35.22 (Resource Protection Zones). A final determination of Proposed Action consistency with plans and policies will be made by County decision-makers. The Santa Barbara County Comprehensive Plan policies and recommendations listed below are applicable to the Proposed Action site:

- Land Use designation and zoning
- Hillside and watershed protection policies #1-5 and #7
- Streams and creek policy #1
- Historic and archaeological policies #1-5
- Other open land use policy #1 (Williamson Act)
- Visual resources policy #2
- Seismic safety and safety element
- Fire hazard recommendations #2 and 3
- Noise element policy #1
- Environmental Resources Management Element
- Oak tree protection policy #1
- Code 14 Grading, Erosion, and Sediment Control Ordinance
- Land Use Development Code Chapter 35.22 Resource Protection Zones

3.10.2 Affected Environment

The existing Proposed Action site land uses consist of primarily remote, open land, with limited agriculture (i.e., avocado and citrus orchards), water distribution facilities, and a Southern California Edison power transfer sub-station. Onsite agricultural operations consist of daily

farming activities including irrigation, weed abatement, road maintenance, irrigation maintenance, crop spraying, tree trimming, crop picking, and nighttime frost protection measures. These activities typically occur seven days a week and up to 24 hours per day. Existing SCC pipeline O&M activities include periodic checks of the cathodic protection system, annual inspection of the air valves and blowoff valves, annual inspection of the ROW for encroachments, and annual internal inspections. The Proposed Action site has a Santa Barbara County Comprehensive Plan land use designation of AG-II-100 (Agricultural, 100-acre minimum parcel size) and AC (Agricultural Commercial), and the existing zoning designation under County Ordinance Article III is AG-II-100 (Agricultural, 100-acre minimum parcel size).

3.10.3 Methodology for Analysis

This analysis evaluates land use consistency and compliance of the Proposed Action with adopted plans and policies governing land use and development on the Proposed Action site, including the County of Santa Barbara Comprehensive Plan and its Elements, the Zoning Ordinance, and other applicable plans.

The land use analysis also evaluates the potential for the Proposed Action to introduce incompatible land uses relative to existing surrounding land uses or activities. This analysis includes an evaluation of the extent to which off-site land uses may be affected by physical interruption or disruption, or the extent to which other environmental impacts also constitute land use impacts.

CEQA Significance Criteria

Impacts on land use would be considered significant under the following circumstances:

- LU-1:** Create structures and/or land uses incompatible with existing land use;
- LU-2:** Disrupt or divide the physical arrangement of an established community; or
- LU-3:** Conflict with any applicable land use plan, applicable habitat conservation plan, or natural community conservation plan.

3.10.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, regular O&M activities would continue as in the past, and no new construction would occur, resulting in no impact to land use. If the SPTT or pipeline at either creek crossing fails because the site improvements were not implemented, construction would be necessary to replace the failed structure(s) and to repair any environmental damage resulting from release of water. Construction to repair the failed structure would occur within the existing easement, would not disrupt existing communities, and would be consistent with Santa Barbara County Comprehensive Plan policies. Therefore, there would be no impact resulting from these activities under the No Action Alternative. Repairs of environmental damage caused by the water release would be outside the existing easement. For failure of the SPTT, agricultural land use downslope to Glen Annie Reservoir could be temporarily affected due to erosion and soil deposition. Similarly, failure of the existing pipeline at the main stem Glen Annie Creek crossing would have the potential to damage agricultural lands adjacent to the creek if flooding were to occur in planted areas. These effects on land use would be temporary, and impacts would be less than significant.

No Project Alternative

The No Project Alternative would include construction of site improvements as well as regular O&M activities. Impacts from O&M activities would be the same as those described for the No Action Alternative. The No Project Alternative would not disrupt or divide any established communities as there are none in the vicinity of the existing SCC. All disturbances would occur in currently unvegetated areas; therefore, construction activities under this alternative would not conflict with local oak tree and oak woodland protection policies. As no substantial construction or change in operations would result under this alternative, no inconsistencies with other applicable land use and conservation plans and/or policies contained in the Santa Barbara County Comprehensive Plan would result.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

The existing land use designation for lands within the Preferred Alternative alignment is AG-II-100 and AC, both of which designate agricultural uses. The Preferred Alternative involves construction and operation of a water supply pipeline that would cross both private and public lands requiring easements. Easements are legal agreements that provide the non-property owner the right to make specific use of land owned by another entity. The right to construct an underground pipeline is a common utility easement. For the Preferred Alternative, an easement would be granted by the adjacent private landowners to COMB on behalf of Reclamation in order to allow construction of the proposed pipeline across their property. As the easement would ensure the conditional use of private property, impacts on existing land uses would be less than significant.

Approximately 800 feet of the proposed pipeline would run through private land near the pipeline terminus at the CDMWTP. However, the majority of the Preferred Alternative pipeline route is located within USA Property or USA Easements (Figure 2-3). COMB already holds easements for portions of this land and has requested easements for the additional lands owned by Reclamation needed for the Preferred Alternative. During construction, a temporary construction easement would be required to accommodate the equipment, trench, and construction activities. The temporary construction easement would be a maximum of 100 feet wide, and a minimum of 50 feet wide, depending on topographic or other constraints. The temporary easement would also include extra space for staging areas. During operations, COMB personnel would periodically check appurtenant structures, such as blowoff valves and air release valves, to ensure operability within the permanent easement.

Construction of the Preferred Alternative pipeline alignment would not disrupt or divide any established communities because no communities are located within the Preferred Alternative area. The only residential structures within the Preferred Alternative vicinity are two ranch houses located at least 250 feet from the Preferred Alternative pipeline alignment. The minor changes in the Preferred Alternative pipeline alignment since release of the Draft EIS/EIR would not affect the proximity of the pipeline to the two ranch houses. Neither of the ranch house structures would be located within the temporary construction easement or the staging areas; therefore, they would not be disrupted by Preferred Alternative construction. As no established communities would be disrupted by construction of the Preferred Alternative, there would be no impact.

Removal of up to 110 coast live oak trees and up to 3.73 acres of coast live oak woodland during Proposed Action construction would conflict with Santa Barbara County oak tree and native oak woodland protection policies. As described previously under Section 3.3, removal of up to 3.73 acres of coast live oak woodland would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies. Implementation of Mitigation Measure BIO-2.2, requiring coast live oak tree planting, and Mitigation Measure BIO-5, requiring avoidance of oak trees and financial incentives for avoiding oak trees, would ensure consistency with local oak tree protection policies and reduce impacts on oak trees to less than significant (see Appendix D). However, impacts to oak woodland habitat would continue to be a significant unavoidable impact, as it conflicts with Santa Barbara County native oak woodland protection policies.

Construction and operation of the Preferred Alternative pipeline alignment would not result in additional inconsistencies with plans and policies contained in the Santa Barbara County Comprehensive Plan. Without mitigation, some inconsistencies would exist with regards to vegetation removal, grading activities, and noise generation; however, implementation of the resource specific mitigation measures included in the various resource sections contained in this EIS/EIR (i.e., Biological Resources, Cultural Resources, Geology and Soils, and Noise) would ensure compliance with plans and policies. No existing habitat conservation plans or natural community conservation plans apply to the Preferred Alternative area. The minor changes in the Preferred Alternative pipeline alignment since release of the Draft EIS/EIR would not change these impacts.

Significance of Impacts after Mitigation

Implementation of Mitigation Measure BIO-2.2 and Mitigation Measure BIO-5 would ensure consistency with local oak tree protection policies. The residual impact on oak tree protection policies would be less than significant. Replanting oak trees would eventually replace the habitat removed. However, it can take up to many decades for coast live oaks to mature and provide the habitat characteristics of oak woodlands, resulting in a long-term loss of oak woodland habitat. In addition, young trees do not have the diversity of micro habitats that make these communities so valuable to wildlife (e.g., lush foliage, dead wood and bark, and diverse understory of shade tolerant plants). Therefore, removal of up to 3.73 acres of coast live oak woodland would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies. Therefore, residual impacts would be significant and unavoidable. The Preferred Alternative is consistent with all other Santa Barbara County Comprehensive Plan plans and policies.

Alternative A (Parallel Pipeline)

The proposed Alternative A pipeline would have the same impacts described for the Preferred Alternative and would cross the same amount of private and public lands as the Preferred Alternative. There would be a slight reduction in impacts to oak trees and oak woodland habitat compared to the Preferred Alternative (90 versus 110 trees and 3.69 versus 3.73 acres of habitat). COMB would implement the same mitigation measures described for the Preferred Alternative to minimize impacts to oak trees. Impacts to oak woodland habitat under this alternative would also be significant and unavoidable as described for the Preferred Alternative.

Alternative B (Non-parallel Pipeline)

The proposed Alternative B pipeline would have the same impacts described for the Preferred Alternative but would cross more private lands than the Preferred Alternative (2,400 feet versus 800 feet). There would be an increase in impacts to oak trees and a decrease in impacts to oak woodland habitat compared to the Preferred Alternative (130 versus 110 trees and 3.41 versus 3.73 acres of habitat). COMB would implement the same mitigation measures described for the Preferred Alternative to minimize impacts to oak trees. Impacts to oak woodland habitat under this alternative would also be significant and unavoidable as described for the Preferred Alternative.

3.11 Noise

Vibrations, traveling as waves through air from a source, exert a force perceived by the human ear as sound. Sound pressure level (referred to as sound level) is measured on a logarithmic scale in decibels (dB) that represent the fluctuation of air pressure above and below atmospheric pressure. Because this is a logarithmic scale, a doubling of sound energy results in a 3 dB increase in noise levels. A noise level change of less than 3 dB is considered imperceptible to the human ear.

An individual's noise exposure occurs over a period of time. Noise level is a measure of noise at a given instant in time. Community noise sources vary continuously, being the product of many noise sources at various distances, all of which constitute a relatively stable background or ambient noise environment. The background (or ambient) noise level gradually changes throughout a typical day, corresponding to distant noise sources such as traffic volume as well as changes in atmospheric conditions.

Noise levels are generally higher during the daytime and early evening when traffic (including airplanes), commercial, and industrial activity is the greatest. Noise sources experienced during night-time hours; however, when background levels are generally lower, can be potentially more conspicuous and irritating to the receiver. In order to evaluate noise in a way that considers periodic fluctuations experienced throughout the day and night, noise measurements are weighted and added over a 24-hour period to reflect magnitude, duration, frequency, and time of occurrence. The acoustical scale and units of measurement developed to represent the "average" sound over a 24-hour period, as used in this EIS/EIR, include the following:

- *A-weighted decibel* (dBA) is a decibel logarithmic scale that more heavily weights frequencies to which the human ear is sensitive.
- *Day-night average sound levels* (L_{DN}) are a measure of the cumulative noise exposure of the community. The L_{DN} value results from a summation of hourly L_{DN} 's over a 24-hour time period, with an increased weighting factor applied to the nighttime period between 10:00 P.M. and 7:00 A.M. This noise rating scheme takes into account those subjectively more annoying noise events which occur during the normal sleeping hours.
- *Community Noise Equivalent Level* (CNEL) is a decibel scale that weights noise that occurs during the evening (7 P.M. to 10 P.M.) by 5 dBA and during the night (10 P.M. to 7 A.M.) by 10 dBA to account for increased sensitivity to noise after dark. Because of

the weighting factors applied, the CNEL value at a given location will always be greater than the L_{DN} value. However, the results of numerous noise source measurements have shown that CNEL and L_{DN} values consistently are within 1 dBA of each other.

Consequently, CNEL and L_{DN} values are sometimes used interchangeably in planning analyses.

- *Equivalent sound level* (L_{EQ}) is the constant level that, over a given time period, transmits the same amount of acoustic energy as the actual time-varying sound. L_{EQ} 's are the basis for both the L_{DN} and CNEL scales. However, L_{EQ} values have been found to be consistently less than CNEL and L_{DN} measurements taken over the same 24-hour period.

Whether a sound is considered unpleasant depends on the individual who hears the sound and the setting and circumstance in which the sound is heard. While performing certain tasks, people expect and accept certain sounds that may be considered unpleasant under other circumstances. For example, if a person works in an office, sounds from office machines are generally acceptable and not considered unduly unpleasant or unwanted. By comparison, when resting or relaxing, these same sounds may be intolerable. Because individuals' tolerance for noise varies by setting and context, some land uses are more sensitive to changes in the noise environment. Residences, motels and hotels, schools, libraries, churches, parks, and outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses.

Under controlled conditions, the human ear is able to discern changes in sound levels of 1 dBA when exposed to steady, mid-frequency "pure tone" signals. In a normal noise environment outside of controlled conditions, an individual barely detects changes in sound levels that are less than 2 dBA. Changes between 2 and 3 dBA may be perceived by some individuals who are extremely sensitive to changes in noise. However, it is recognized that changes of more than 3 dBA are generally perceptible; the human ear perceives a 10 dBA increase as a doubling of sound.

Noise sources are classified in two forms: (1) point sources, such as stationary equipment; and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dBA at acoustically "soft" sites. A "hard" or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt or concrete surfaces, and very hard-packed soils. An acoustically "soft" or absorptive site is characteristic of unpaved, vegetated ground. For example, a 60 dBA noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dBA at 100 feet from the source and 48 dBA at 200 feet from the source. A noise level generated over an acoustically "soft" site would attenuate from a 60 dBA noise level measured at 50 feet from a point source to 52.5 dBA at 100 feet from the source and 45 dBA at 200 feet from the source.

Sound levels can also be attenuated by man-made or natural barriers. Solid walls, berms, or elevation differences typically reduce noise levels by 5 to 10 dBA. Structures can also provide noise reduction by insulating interior spaces from outdoor noise. The exterior-to-interior noise attenuation provided by typical California building structures range between 17 and 30 dBA with open and closed windows, respectively (see Table 3-10).

Table 3-10 Outside to Inside Noise Attenuation

Building Type	Open Windows (dBA)	Closed Windows (dBA)
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/Offices	17 to 20	25 to 30
Theaters	17	25

Source: Transportation Research Board, National Research Council, 2000. Highway Noise: A Design Guide for Highway Engineers. National Cooperative Highway Research Program Report 117.

3.11.1 Regulatory Setting

Policy 1 of the Santa Barbara County Comprehensive Plan Noise Element prescribes exterior noise level limits. Specifically, this policy sets a 65 dBA Day-Night Average Sound Level as the maximum exterior noise exposure compatible with noise-sensitive uses.

3.11.2 Affected Environment

The Proposed Action site and nearby areas are primarily exposed to noise generated by traffic from nearby roadways, with intermittent noise exposure from surrounding agriculture operations, the CDMWTP, the Southern California Edison transmission lines and substation, and maintenance of existing pipeline facilities. The primary noise sources currently affecting the Proposed Action area are vehicle noise on Glen Annie Road, over 2,000 feet from the site. Little traffic presently exists on Glen Annie Road, which is the only roadway within the Proposed Action vicinity, and vehicular noise levels are therefore minimal. The Southern California Edison substation, an operational noise source, is located over 1,500 feet from all proposed pipeline alignments.

Noise sensitive receptors within the Proposed Action vicinity include two farmhouse residences located approximately 500 feet or more from the existing pipeline alignment. These residences are located approximately 500 feet from the Alternative A alignment, and 250 feet from the Preferred Alternative and Alternative B alignments. No schools, hospitals, churches, or other noise sensitive receptors are located within the Proposed Action vicinity.

3.11.3 Methodology for Analysis

Assessment of noise impacts is based on the following: (1) current motor vehicle noise conditions near the Proposed Action site; and (2) review of various site parameters including the traffic volume, vehicle mix and speed, the roadway configuration, the distance to the receiver, and the acoustical characteristics of the site.

CEQA Significance Criteria

The Santa Barbara County Noise Thresholds (1993) are based on the County Comprehensive Plan Noise Element (Santa Barbara County 1993). The Proposed Action would result in a significant noise impact if it would result in one or more of the following conditions:

NOISE-1: Generate short-term noise levels exceeding 65 dBA CNEL that could affect sensitive receptors;

NOISE-2: Generate long-term exterior noise levels exceeding 65 dBA CNEL and/or interior noise levels exceeding 45 dBA CNEL that could affect sensitive receptors; or

NOISE-3: Substantially increase the existing noise levels of adjacent areas.

The industry criteria for significance recognizes that once the threshold level has been passed, any noticeable change above that level (a 3 dBA increase) results in further degradation of the noise environment. A clearly noticeable change of 5 dBA in the noise environment, regardless of whatever acceptability threshold is reached, is also a significant impact because people will respond to such change in noise level regardless of the absolute level of the noise.

Short-term Construction Impacts

Noise impacts from construction of the Proposed Action are a function of the noise generated by construction equipment, the equipment location, the sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Construction activity for the Proposed Action was examined for the following activities: (1) clearing, grubbing, and grading; (2) excavation of the trench; (3) delivery of pipe segments and bedding material; (4) placement of the pipe segments along the trench; (5) installing the pipe in the trench; (6) backfilling the trench and installing the fiber-optic cable; (7) testing the pipe for leaks; and (8) cleanup and restoration of the corridor.

The EPA has compiled data regarding the noise-generating characteristics of specific types of construction equipment (Table 3-11). Noise levels from the sources shown in Table 3-11 decrease with distance from the construction site at a rate of approximately 6 dBA per doubling of distance.

Table 3-11 Construction Equipment Noise Levels

Equipment Type	Equipment dBA at 50 feet	Quieted Equipment dBA at 50 feet
Air compressor	81	71
Backhoe	85	80
Concrete pump	82	80
Concrete vibrator	76	70
Track, crane	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic tools	85	75
Pile driver	100	Not applicable
Water pump	76	71
Power hand saw	78	70
Shovel	82	80
Trucks	88	83

Source: EPA 1971

Note: Quieted equipment includes equipment installed with enclosures, mufflers, or other noise-reducing features.

3.11.4 Environmental Consequences

No Action Alternative

Under the No Action Alternative, O&M of the existing facilities would continue as in the past with no additional impact on ambient noise levels. Repair activities at the SPTT or existing creek crossings, should failure occur, would produce equipment noise similar to that during construction of the Preferred Alternative. Only failure of the pipeline at the West Fork of Glen Annie Creek would result in repair activities within 800 feet of the residences.

No Project Alternative

Construction activities for site improvements under the No Project Alternative would result in substantial, short-term increases in existing ambient noise levels over 65 dBA CNEL at the residences when construction activities are within approximately 800 feet of the residences (i.e., for Glen Anne turnout and meter and West Fork of Glen Annie Creek crossing). COMB would implement measures to reduce these impacts (see Mitigation Measures NOISE-1.1 to 1.3 in Appendix D). Regular O&M activities would be similar to the No Action Alternative. Accordingly, operational noise sources associated with this alternative would be similar to existing conditions and would not substantially increase ambient noise levels of adjacent areas. Impacts on ambient noise levels during No Project Alternative operations would be less than significant.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

Noise levels in the immediate vicinity of the construction area would increase during Preferred Alternative construction activities. Noise sensitive receptors (adjacent residences) would potentially perceive short-term noise increases during the following activities: (1) delivery of construction equipment, pipe, and construction materials; (2) activities that would occur in the construction staging areas near the residences; and (3) pipeline construction. The intensity of potential noise impacts would depend upon the proximity of the noise receiver to the area under construction, the number and type of construction equipment operating each day, and the length of time each piece of equipment would be in use. The minor changes in the Preferred Alternative pipeline alignment would not affect short-term noise increases perceived by nearby sensitive receptors. These short-term noise impacts associated with construction activities could produce noise levels up to 88 dBA measured 50 feet from the noise source (Table 3-11) resulting from the operation of construction equipment, including a bulldozer, excavator, loader, water truck, 10-wheeler truck, and diesel welder. These noise levels would exceed the short-term 65 dBA CNEL threshold at the residences when construction activities are within approximately 800 feet of the two residences. This would occur over approximately 1,800 feet of the proposed pipeline route. COMB would implement noise reduction measures to minimize this impact (see Mitigation Measures NOISE-1.1 to 1.3 in Appendix D).

Noise levels associated with operation of the Preferred Alternative pipeline alignment would be similar to the existing conditions. The main source of existing noise in the Proposed Action area is roadway noise generated on Glen Annie Road. Operational activities would not substantially increase traffic trips on adjacent roadways; therefore, corresponding roadway noise levels would not substantially increase. Routine pipeline maintenance, including periodic checks of the cathodic protection system, visual surveillance of the corridor where accessible for leaks, annual testing of the blowoff valves, and annual internal inspections, would generate sporadic, short-term sources of noise. Such short-term noise sources associated with routine maintenance would not contribute substantially to the long-term exterior or interior noise levels that would affect sensitive receptors. As long-term noise levels would not increase such that exterior and interior noise levels would exceed 65 dBA CNEL and 45 dBA CNEL, respectively, Preferred Alternative operational noise impacts on sensitive receptors would be less than significant.

Significance of Impacts after Mitigation

As noise impacts would be temporary during construction activities and COMB would implement measures to reduce noise impacts, there would be no net increase in noise due to the Preferred Alternative and residual impacts would be less than significant.

Alternative A (Parallel Pipeline)

Noise levels in the immediate vicinity of the construction area would increase during Alternative A construction activities as described for the Preferred Alternative, and noise sensitive receptors (adjacent residences) would potentially perceive short-term noise increases. However, the Alternative A pipeline route would be approximately 250 feet farther from the two residences at its closest point compared to the Preferred Alternative pipeline alignment slightly reducing noise impacts. COMB would implement the same measures described under the Preferred Alternative to reduce noise impacts (see Mitigation Measures NOISE-1.1 to 1.3 in Appendix D).

Alternative B (Non-parallel Pipeline)

Alternative B construction related noise generation would be similar to that previously described for the Preferred Alternative, and the pipeline alignment would be in the same location near the residences. Therefore, impacts to sensitive noise receptors would also be the same as those described for the Preferred Alternative. COMB would implement the same measures described under the Preferred Alternative to reduce noise impacts (see Mitigation Measures NOISE-1.1 to 1.3 in Appendix D).

3.12 Transportation and Circulation

3.12.1 Regulatory Setting

Regulations, analysis methodologies, and transportation/circulation policies used to analyze Proposed Action impacts were obtained from the City of Goleta General Plan/Coastal Land Use Plan Transportation Element and the Santa Barbara County General Plan.

3.12.2 Affected Environment

U.S. 101, located south of the Proposed Action site, is a four-lane, north-south freeway within the Proposed Action area. U.S. 101 is a principal route between the City of Santa Barbara, the adjacent City of Goleta, and Santa Maria (northbound), and Carpinteria and Ventura (southbound). Access between the Proposed Action site and U.S. 101 would be provided via the Glen Annie freeway interchange.

Glen Annie Road, located south of the Proposed Action site, is the primary access route to the Proposed Action site. Glen Annie is a two-lane, north-south roadway that extends from U.S. 101 northward to its existing terminus. South of U.S. 101, Glen Annie Road turns into Storke Road, a four-lane roadway that provides access to Hollister Avenue and El Colegio Road.

Cathedral Oaks Road, located south of the Proposed Action site, is a two-lane, east-west roadway that runs through the City of Goleta and becomes Foothill Road east of State Route 154.

Level of Service (LOS) is an indicator of the operating condition of a roadway as represented by traffic congestion, delay, and volume-to-capacity (V/C) ratio. LOS A through F are used to rate roadway operations, with LOS A indicating very good free-flow operation and LOS F indicating poor, congested operations (see Appendix C for LOS definitions). Traffic flow on street networks is most constrained at intersections. Therefore, a detailed analysis of traffic flow must examine the operating conditions of critical intersections during peak travel periods. The City of Goleta and Santa Barbara County consider LOS C as the minimum standard for intersection operations during peak hour periods. The relationship between V/C ratio and LOS for signalized intersections is shown in Table 3-12. Based on peak-hour traffic volumes, V/C ratios, and average intersection control delays, the corresponding LOS has been determined for each Proposed Action area intersection. The intersections' LOS are summarized in Table 3-13.

Table 3-12 LOS and V/C Ratio Descriptions

V/C Ratio	LOS	Traffic Conditions
<0.60	A	Describes primarily free-flow conditions at average travel speeds. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delay at intersections is minimal.
0.61-0.70	B	Represents reasonable unimpeded operations at average travel speeds. The ability to maneuver in the traffic stream is slightly restricted and delays are not bothersome.
0.71-0.80	C	Represents stable operations; however, ability to change lanes and maneuver may be more restricted than LOS B and long queues are experienced at intersections.
0.81-0.90	D	Congestion occurs, and a small change in volumes increases delays substantially.
0.91-1.00	E	Severe congestion occurs with extensive delays and low travel speeds occur.
>1.00	F	Characterize arterial flow at extremely low speeds and intersection congestion occurs with high delays and extensive queuing.

Source: City of Goleta 2006

Note: LOS is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. Intersection capacity analysis evaluates the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions) based on corresponding V/C ratios shown in the table.

Table 3-13 Existing Intersection LOS during Peak P.M. Hours

Intersection	Control Type	LOS	V/C or Delay (seconds)
U.S. 101 SB Ramps/Glen Annie/Storke Road	Signal	A	0.51
U.S. 101 NB Ramps/Glen Annie Road	Signal	B	0.65
Glen Annie Road/Cathedral Oaks Road	Signal	B	0.62

Source: City of Goleta 2006

Note: Data are expressed at V/C ratios for signalized intersections during the P.M. peak hour.

The data presented in Table 3-13 indicate that the Proposed Action area intersections operate at LOS B or better during the P.M. peak hour period. These service levels are considered acceptable based on the City and County LOS C design standards.

3.12.3 Methodology for Analysis

Impacts were assessed by quantifying differences between current and future conditions without the Proposed Action and future conditions with the Proposed Action. Future traffic forecasts for the roadways within the Proposed Action area were obtained directly from the *City of Goleta General Plan/Coastal Land Use Plan Transportation Element* (City of Goleta 2006). The Transportation Element includes existing 2005 P.M. peak hour traffic volumes and future traffic volumes that were used to forecast and evaluate future traffic conditions with full General Plan buildout on selected intersections and roadways within the city. These forecasts were developed

through the use of the Goleta Travel Model, which is a single-mode, P.M. peak period model that addresses auto travel based on VISUM model software. Future traffic conditions were estimated by adding traffic due to proposed local development projects and regional traffic growth that is not attributable to the Proposed Action. These volumes represent baseline conditions (i.e., future conditions without the Proposed Action).

Congestion Management Plan Analysis

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact thresholds to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Plan (CMP) roadway system. The following guidelines were developed by SBCAG to determine the significance of project-generated traffic on regional CMP system:

- For any roadway or intersection operating at LOS A or B, a decrease of two LOS resulting from the addition of project-generated traffic.
- For any roadway or intersection operating at LOS C, project-added traffic that results in a LOS D or worse.
- For intersections within the CMP system with existing congestion, the following defines significant impact thresholds: 20 project-added peak hour trips for LOS D and 10 project-added trips for LOS E and LOS F.
- For freeway or highway segments with existing congestion, the following defines significant impact thresholds: 100 project-added peak hour trips for LOS D and 50 project-added trips for LOS E and LOS F.

CEQA Significance Criteria

Due to the Proposed Action site access locations along Glen Annie Road within the City of Goleta, the City of Goleta traffic impact thresholds (the same standards used by Santa Barbara County Public Works Department) were used to assess the significance of the potential transportation and circulation impacts generated by the Proposed Action. Based on these thresholds, impacts on transportation and circulation would be considered significant under the following circumstances:

TRANS-1: The Proposed Action would increase the V/C ratio at local intersections by the following values:

Significant Changes in LOS	
Intersection LOS (including Proposed Action)	Increase greater than
LOS A	0.20 V/C ratio
LOS B	0.15 V/C ratio
LOS C	0.10 V/C ratio
LOS D	15 trips
LOS E	10 trips
LOS F	5 trips

TRANS-2: Proposed Action traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable LOS, but with cumulative traffic would degrade to or approach LOS D (V/C 0.80) or lower. Substantial is defined as a minimum changes of 0.03 for an intersection that would operate from 0.80 to 0.85, a change of 0.02 for an intersection that would operate

from 0.86 to 0.90, and a change of 0.01 for an intersection that would operate greater than 0.90 (LOS E or worse);

TRANS-3: The addition of Proposed Action traffic to a roadway that has design features (e.g., narrow width, road-side ditches, sharp curves, poor sight distance, or inadequate pavement structure) would result in a potential safety problem; or

TRANS-4: Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways.

3.12.4 Environmental Consequences

No Action Alternative

There would be no impacts to transportation under the No Action Alternative as existing conditions operate at an acceptable LOS. However, if the SPTT or pipeline at either creek crossing fails because the site improvements were not implemented, construction would be necessary to replace the failed structure(s) and to repair any environmental damage resulting from release of water. These activities would result in fewer trip generations than during construction of the Proposed Action, as construction activities would be limited to the repair location, resulting in less than significant impacts. However, transport of heavy construction equipment/materials along the Glen Annie Road segment could further exacerbate existing inadequate roadway conditions, increasing the potential for safety problems. Therefore, COMB would implement Mitigation Measure TRANS-3 in order to minimize potential safety impacts associated with transport of construction equipment and materials along the Glen Annie Road segment with existing inadequate roadway conditions.

No Project Alternative

Under the No Project Alternative, regular O&M activities would result in minimal increases in traffic (i.e., truck trips) within the Proposed Action vicinity. As intersections in the Proposed Action vicinity have sufficient capacity (i.e., currently operate at LOS B or better) to accommodate the nominal increases in traffic generated by regular O&M activities and construction of site improvements, the No Project Alternative would have less than significant impacts on transportation and circulation.

Preferred Project Alternative (Parallel and Non-parallel Pipeline)

Preferred Alternative construction would result in a short-term increase in traffic (i.e., truck trips) within the Proposed Action vicinity during construction activities. Proposed construction activities include (1) site preparation (i.e., clearing, grubbing, and grading), and (2) pipeline construction. The proposed construction schedule for these activities is approximately eight months; mobilization of equipment and site clearing would take approximately two months and would overlap with pipeline installation (seven months).

It is anticipated that the majority of construction materials (i.e., pipe, bedding material [sand], and concrete structures) would be provided by local suppliers; however, approximately 52 tractor-trailer truck trips would be required to transport the 48-inch pipe from outside the local area. Approximately 1,100 truck trips would be required to transport 8,100 cubic yards of bedding material from local sand and gravel pits. In addition, approximately seven concrete truck trips would be required for construction of the blowoff valve and air release valve structures. These construction activities would require up to 10 daily truck trips to import

construction materials. Up to 18 workers (18 trips per day) would support construction activities. Most trips for delivery of construction materials and worker trips would be outside peak hours.

As stated in Table 3-13, all intersections impacted by construction activities operate at LOS B or better. The maximum number of construction vehicle trips, estimated at 28 trips per day with few peak hour trips, would occur during Preferred Alternative construction. The Preferred Alternative would not increase traffic volumes and/or congestion at any CMP intersections by the threshold values identified by SBCAG. In addition, construction activities would be temporary and the increase in vehicle trips would be minimal relative to the existing LOS A to B at the affected intersections, and would be substantially less than the 0.15 degradation threshold for V/C as identified in significance criterion TRANS-1. Therefore, Preferred Alternative construction traffic would not substantially increase vehicular volumes at any intersection within the Proposed Action area during the typical commute peak periods; impacts on ground transportation and circulation would be less than significant and no mitigation would be required.

The Preferred Alternative would be accessed via Glen Annie Road to the private access road that continues along the proposed pipeline route from the terminus of Glen Annie Road. Preferred Alternative operations would require up to two employee vehicular trips per week. Intersections in the Preferred Alternative vicinity have sufficient capacity (i.e., currently operate at LOS B or better) to accommodate Preferred Alternative operations. As employee vehicular trips associated with Preferred Alternative O&M would not affect existing LOS or increase V/C ratios at any intersections within the Preferred Alternative vicinity by the threshold values identified in criterion TRANS-1, impacts on transportation would be less than significant.

Projected Proposed Action area intersection LOS values are included in Table 3-14 below. As the intersections in the Proposed Action vicinity are projected to operate at LOS C or better during the P.M. peak hour, the addition of few if any Preferred Alternative-generated P.M. peak hour trips at any Proposed Action area intersection would not decrease the projected future LOS to LOS D. Therefore, Preferred Alternative -generated trip impacts on intersection operations would be less than significant and no mitigation would be required.

Table 3-14 Projected Future Intersection LOS

Intersection	Control Type	LOS	V/C or Delay (seconds)
U.S. 101 SB Ramps/Glen Annie/Storke Road	Signal	B	0.63
U.S. 101 NB Ramps/Glen Annie Road	Signal	C	0.77
Glen Annie Road/Cathedral Oaks Road	Signal	B	0.69

Source: City of Goleta 2006

Note: Projected future traffic volumes were based on a "worse case" scenario that assumes full buildout of the City of Goleta General Plan with no planned transportation system improvements. Data are expressed at V/C ratios for signalized intersections during the P.M. peak hour.

Proposed construction activities would require use of heavy equipment for excavation, equipment delivery, and pipe installation. These construction activities would require up to six daily truck trips to import construction equipment and materials. Construction truck traffic would access the site via the U.S. 101/Glen Annie Road interchange, and proceed north along Glen Annie Road to the private access road. North of the Glen Annie Road/Cathedral Oaks Road intersection, Glen Annie Road narrows and consists of an asphalt surface that is in poor

condition; portions of this roadway segment have extensive cracking and subsidence. Accordingly, transport of heavy construction equipment/materials along this roadway segment could further exacerbate existing inadequate roadway conditions, increasing the potential for safety problems. COMB would implement measures to minimize these impacts (see Mitigation Measure TRANS-3 in Appendix D).

Significance of Impacts after Mitigation

The only potentially significant transportation impact is related to increased road degradation related to portions of a roadway segment with existing inadequate conditions. With implementation of Mitigation Measure TRANS-3 requiring repair of damaged road sections, COMB would minimize these impacts to less than significant.

Alternative A (Parallel Pipeline)

Transportation impacts under this alternative would be the same as those described for the Preferred Alternative.

Alternative B (Non-parallel Pipeline)

Transportation impacts under this alternative would be the same as those described for the Preferred Alternative.

3.13 Unavoidable Significant Impacts

The No Action Alternative, should structural failure occur, may result in significant and unavoidable impacts to special-status species and their habitat, riparian habitat, cultural resources, increased soil deposition, water quality impacts due to erosion and flooding, and loss of water supply due to structural failure and during repair activities.

In addition, the Proposed Action alternatives would result in significant, unavoidable impacts on the following resources:

Biological Resources

Proposed Action construction would result in the removal of up to 3.73 acres of coast live oak woodland under the Preferred Alternative; up to 3.69 acres of coast live oak woodland for Alternative A, and up to 3.41 acres of coast live oak woodland for Alternative B.

Implementation of Mitigation Measure BIO-2.2, requiring coast live oak tree planting, and Mitigation Measure BIO-5, requiring avoidance of oak trees and financial incentives for avoiding oak trees, would minimize impacts on oak woodland habitats to the extent feasible. However, it can take up to many decades for coast live oaks to mature and provide the habitat characteristics of oak woodlands. In addition, young trees do not have the diversity of microhabitats that make these communities so valuable to wildlife (e.g., lush foliage, dead wood and bark, and diverse understory of shade tolerant plants). Therefore, as removal of coast live oak woodland would not be immediately avoided through mitigation, impacts would be significant and unavoidable.

Land Use

The removal of coast live oak woodland would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies. This would be a significant and unavoidable impact.

Geology and Soils

The main stem Glen Annie Creek crossing for Alternative B would require trenching through the steep, vertical bank. This would result in a permanent change in topography due to the inability to reconstruct the vertical bank which would be a significant unavoidable impact.

Mitigation has been included, where feasible, to reduce these direct, indirect, and cumulative impacts but would not be sufficient to reduce them to less than significant levels.

3.14 Significant Irreversible Impacts

Pursuant to Section 15126.2(c) of CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the Proposed Action should it be implemented. Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impact and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis of Irreversible Changes

The Proposed Action would require the use of non-renewable resources, such as metal alloys and aggregate resources, for the physical construction of the water supply pipeline. However, the Proposed Action does not represent an uncommon construction project that uses an extraordinary amount of raw materials in comparison to other infrastructure/maintenance projects of similar scope and magnitude.

The Proposed Action would construct a water supply pipeline with appurtenant facilities. Resources that are committed irreversibly and irretrievably are those that would be used by a Proposed Action on a long-term or permanent basis. Resources committed to this Proposed Action include fossil fuels, capital, labor, and construction materials such as rock, concrete, steel, gravel, and soils.

Fossil fuels and energy would be consumed in the form of diesel, oil, and gasoline used for equipment and vehicles during construction and operation activities. During operations, diesel, oil, and gasoline would be used during routine pipeline maintenance. These fossil fuel resources would be irretrievable and irreversible.

Non-recoverable materials and energy would be used during construction and operations, but the amounts needed would be easily accommodated by existing supplies. Although the increase in the amount of materials and energy used would be insignificant, they would nevertheless be unavailable for other uses.

CEQA Section 15126.2(c) requires that an EIR evaluate the irretrievable commitments of resources to assure that current consumption is justified. The irretrievable commitment of resources required by the Proposed Action is justified by the purpose and need and objectives of the Proposed Action described in Section 1.2 and 1.3.

3.15 Growth Inducement

CEQA Guidelines require an EIR to discuss the ways in which a Proposed Action could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. This includes ways in which the Proposed Action would remove obstacles to population growth or trigger the construction of new community services facilities that could cause significant effects (CEQA Guidelines, Section 15126.2).

NEPA requires an EIS to examine the potential of a proposed action to significantly or adversely affect the environment as a result of direct or indirect effects. Indirect effects (NEPA, 40 CFR 1508.8[b]) may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems including ecosystems. The analysis presented below focuses on whether the Proposed Action would directly or indirectly stimulate significant economic or population growth in the surrounding area.

Direct Growth-inducing Impacts

A project would directly induce growth if it would remove barriers to population growth (e.g., by proposing new homes and businesses). The Proposed Action would construct a second water supply pipeline with appurtenant facilities. This type of project is not anticipated to trigger new residential development in the Proposed Action area for the following reasons: (1) the Proposed Action does not include the development of new housing or population-generating uses; and (2) the Proposed Action would not significantly affect the economy of the region in ways that would generate significant direct growth-inducing impacts.

The direct effects of a proposed action on regional growth generally stem from economic growth resulting from labor needs and expenditures. This Proposed Action would result in the generation of up to 18 new, short-term jobs during construction activities, but would not generate any new jobs during operations. The short-term construction effects would include expenditures that would result in the employment of people primarily from the local region. There would be no long-term operational effects as the Proposed Action would not result in new employment opportunities. Therefore, the Proposed Action would not be expected to stimulate substantial growth in the retail sector or contribute significantly to employment within the region.

Construction activities would occur over an approximate 11-month period. The short-term construction employees would likely be accommodated by the existing labor pool within the greater Santa Barbara County area. Because of the existing sizable local and regional labor pool, no significant influx of workers into the local community is anticipated. Thus, due to the minimal number of employees and the existing supply for workers in the local community, any increase in population and housing as a result of construction of the Proposed Action would be less than significant.

Therefore, because the Proposed Action would not (1) involve the development of new housing; and (2) significantly affect the economy of the region, the Proposed Action would not generate significant direct growth-inducing impacts.

Indirect Growth-inducing Impacts

A project would indirectly induce growth if it would trigger the construction of new community service facilities that could increase the capacity of infrastructure in an area that currently meets the demands (e.g., an increase in the capacity of a sewer treatment plant or the construction or widening of a roadway beyond that which is needed to meet existing demand).

The purpose of the Proposed Action is to increase the operational flexibility, reliability, and conveyance capacity of the SCC between the SPTT and the CDMWTP to accommodate peak demand levels and to allow maintenance of the pipeline. As the total amount of water delivered per year would not increase, the potential for growth inducement resulting from construction and operation of the Proposed Action would be less than significant.

Section 4 Cumulative Impacts

Cumulative effects are defined as the impact on the environment that results from the incremental effects of the action when added to other past, present, and reasonably foreseeable actions, regardless of what agency (federal or non-federal) or person undertakes such actions (40 CFR 1508.7). Cumulative effects can result from individually minor but collectively major actions taking place over a period of time.

The analysis of cumulative effects associated with reasonably foreseeable future actions should not be speculative, but based upon known long-range plans and other plans developed by agencies, organizations, and individuals. Cumulative effects are analyzed per resource within this section. The study area for effects is dependent on the resource and the anticipated range of the effect. For most resource effects, the cumulative effects analysis focuses on effects in Santa Barbara County. As the Proposed Action has an indefinite lifespan, all reasonably foreseeable future actions are considered.

4.1 Approved or Proposed Projects near the Proposed Action

A total of 56 present or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the Proposed Action that could contribute to cumulative impacts. A list of the cumulative projects provided by the City of Goleta and the County of Santa Barbara is provided in Table 4-1, and the corresponding locations of these projects are shown on Figure 4-1.

Table 4-1 List of Approved or Proposed Projects within Vicinity of Proposed Action

Map #	Project Name	Project Location/Description	Status
CITY OF GOLETA			
1	Fairview Commercial Center; 01-SB-DP; CUP	151 S. Fairview Ave.: 16,885 SF mixed use building (10,115 SF retail space, 5,460 SF office space), 2 units	Pending
2	Dwight Gregory; 02-057-LUP	879 S. Kellogg Ave.: 2,346 SF commercial addition	Pending
3	Bermant: Technology Drive Industrial (KS 7A) 02-081-DP et al	West side of Technology Drive: TM of 8 lots; 68,000 SF among 8 commercial/ industrial buildings and 92,070 SF outside storage area of 265,695 SF outside storage area	Pending
4	University Properties; 25-SB-PM; 26-SB-PD	SEC Technology and Thornwood Drives: TPM of 4 parcels and 5,427 SF industrial building (and potential for approximately 15,000 SF additional development)	Pending
5	Stokes Industrial Building; 02-084-DP	East side of Technology Drive: 5,000 SF industrial building	Pending
6	Islamic Society of Santa Barbara; 03-051-DP; CUP	NEC Los Cameros and Calle Real: 7185 SF building for Islamic Center and attached apartment (1 dwelling unit)	Pending
7	Pacific Technology Center/GRC Lotsplit; 03-062-PM; DP et al	5383 and 5385 Hollister Avenue: TPM for 2 parcels 12,040 SF (net new) professional institutional (and potential for approximately 30,000 SF additional development)	Pending
8	Winnikoff; 22-SB-DP	260 Storke Road: New 2,232 SF office building	Pending
9	BDC/Joslyn; 71-SB-PM, -DP	6830 Cortona Drive: TPM of 3 parcels, 171,526 SF M-RP buildings	Pending

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Map #	Project Name	Project Location/Description	Status
10	Los Carneros Pointe; 45-SB-DP, -RZ, -OA, etc.	Los Carneros Road/Los Carneros Way: 31,051 SF commercial development including a day-care facility, restaurant, shops, and office	Pending
11	McClean's Auto Body; 65-SB-DP	5989 Daley Street: Development Plan for 1,963 SF auto body shop	Pending
12	Meyer-Thrifty; 64-SB-DP	5971 Placencia Street: <2,000 SF car rental agency office	Pending
13	Page Hotel; 35-SB-DP et al	West side of Kellogg at Ekwill alignment: 247 room hotel, 11,000 SF spa, and 6,000 SF restaurant	Pending
14	Sares-Regis; 36-SB-SCD	6767 Hollister Avenue: 2,800 SF storage space	Pending
15	Cabrillo Business Park; 37-SB-DP et al	6767 Hollister Avenue: Business Park with new structures totaling 704,600 SF (R&D, self storage, onsite service related uses)	Pending
16	Costco Gas Station; 40-SB-DP	7095 Marketplace Drive: 10,800 SF 4-island gas station	Pending
17	Village at Los Carneros; 03-050-TM, -DP, etc.	South Los Carneros Road, Cortona/Castilian Drives: 265 housing units	Pending
18	Taylor Parcel Map; 03-053-PM	590 North Kellogg Avenue: 2 new parcels	Pending
19	PR Ranch; 30-SB-CUP	7400 Cathedral Oaks Road: 1 unit agricultural worker dwelling	Pending
20	Hira Mixed Use Project; 03-111-PRE	5718 Hollister Avenue: 22 units, 1,827 SF retail space	Pre-application
21	Sandpiper Golf Course Renovations; 32-SB-DP, et al	7925 Hollister Avenue: Renovation and redevelopment of existing golf course	Pending (Inactive)
22	Gordon Mixed Use Project; 49-SB-CUP/LUP	345 Pine Avenue: 3,462 SF commercial building including 2 apartments	Pending
23	Good Shepherd Lutheran Church; 03-136-DP	380 North Fairview Avenue: Addition of 18,000 SF parish hall	Pending
24	Fairview Gardens; 03-159-CUP	598 North Fairview Avenue: 5 units for farmworker housing (2 trailers, 3 yurts) 1 trailer for kitchen facilities, 1 yurt for a farm office (127 SF)	Pending
25	Citrus Village; 04-226-DP; TM	7388 Calle Real: 11 units	Pending
26	Guerrero Duplex; 01-107-LUP	5737 Armitos Avenue: 1 new unit (duplex)	Pending
27	Barcara Expansion; 05-034-DP; -TM	8301 Hollister Avenue: 62 hotel suites	Pending
28	Housing Authority; 05-059-PM; DP AM02	5575 Armitos Avenue: Division of 4.06 acres into three parcels of 1.63, 2.19, and 0.24 acres; addition of 1 new assisted living unit (4 rooms)	Pending
29	City of Goleta Western Snowy Plover Habitat Management Plan; 05-116-DP	Ellwood-Devereux: Western Snowy Plover Habitat Management Plan	Pending
30	Rancho Mobile Home Park Subdivision (Guggenheim); 05-140-TM	7465 Hollister Avenue: Subdivision of a 17.84 acre rental mobile home park property (150 existing mobile homes)	Pending
31	Apostolic Assembly Faith in Jesus Christ; 05-179-CUP	7340 Hollister Avenue: Church use occupying a 3,200 SF M-RP building	Pending
32	Happy Harry's Produce; 46-SB-LUP	7020 Calle Real: 2,984 SF neighborhood produce market	Pending
33	Campus Pointe; 34-SB-DP; 38-SB-PM et al (Lots 2 and 5)	South Los Carneros Road, Cortona/Castilian Drives: 2 M-RP buildings totaling 204,000 SF	Approved (On Hold)
34	Camino Real Marketplace Skating Facilities; 95-DP-026	Santa Felicia Drive: 46,000 SF ice rink, 85' x 200' roller rink	Approved
35	Live Oak Unitarian Church Phase 2; 92-CP-066	820 North Fairview Avenue: 2,996 SF sanctuary, 316 SF restroom facility	Approved
36	Fairview Corporate Center; 74-SB-DP	420 South Fairview Avenue: 65,600 SF M-RP building	Approved

Cumulative Impacts
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South Coast Conduit/Upper Reach Reliability Project

Map #	Project Name	Project Location/Description	Status
37	Yardi; 01-DP-001	5901, 5949, 5959, and 5979 Hollister Avenue: 6 units (apartments), 44,000 SF office space, and 7,850 SF retail space. Existing onsite development includes 24,720 SF.	Approved
38	Sumida Gardens; 94-DP-007 RV01 03-098-LUP	5501 Overpass Road: 200 units	Approved
39	El Encanto Apartments; 99-DP-045 et al	7388 Calle Real: 16 units	Approved (On Hold)
40	Quixote Fund; 00-DP-030	275 Mathilda Drive: 2 units	Approved
41	Robinson LLA-related lots	Barker, Violet, and Daffodil Lanes: 13 units (6 unbuilt and 7 under construction)	Approved
42	Nuovo Edificio; 28-SB-DP	747 S. Kellogg Avenue: 3,635 SF industrial building	Approved
43	Old Town Inn and Village; 63-SB-RZ, TM, DP	5665 Hollister Avenue: 51,247 SF 98-room hotel, 998 SF retail/commercial space, and 59,105 SF for 37 units and garages	Approved
44	Comstock Homes; 67-SB-TM	7800 block of Hollister Avenue: 62 single family dwelling units	Approved
45	Cislo; 04-03-DP AM01	757 S. Kellogg Avenue: Remove office trailer, add 900 SF to existing developed M-1 property	Approved
46	Ellwood Apartments; 19-SB-DP	360 Ellwood Beach Drive: 8 units	Under Construction
COUNTY OF SANTA BARBARA			
A	Santa Barbara Ranch Project; 03DVP-00000-00041	Santa Barbara and Dos Pueblos Ranches: 54 new single-family homes on 485 acres; and 72 new single-family homes on 3,254 acres.	In process
B	Morehart Land Company; 05DVP-0000-00010	Within Naples Townsite, south of Hwy 101, on the western edge of Santa Barbara Ranch: 8 new single-family dwellings on 14 acres.	Pending
C	Dos Pueblos Naples Residential Development (Makar); 05RE-00000-00004	South of Hwy 101, east of Santa Barbara Ranch at Naples and west of Tomate Canyon: Merge 25 antiquated lots on 63 acres into 10 new lots and construct a single family dwelling on each lot.	Complete
D	Dos Pueblos Ranch Estates Lot 1 (Makar); 06CHE-00000-00038	South of Hwy 101, west of Bacara Resort: 6,505 SF dwelling unit with 680 SF attached garage, 861 SF guest house, and 506 SF garage on 65 acres.	In process
E	Dos Pueblos Ranch Estates Lot 2 (Makar); 06CHE-00000-00038	South of Hwy 101, west of Bacara Resort: 9,436 SF dwelling with 792 SF detached garage and 928 SF guest house with 293 SF attached garage on 78 acres.	In process
F	Eagle Canyon Ranch (Parsons); 05LLA-00000-00007	0.5 miles west of Bacara Resort: Merge 7 existing lots on 1,060 acres into 4 new lots and establish an area for a dwelling on each lot.	Pending
G	Ballantyne Single Family Residential; 05LUP-00000-00611	500 Farren Road: 13,296 SF dwelling unit with attached garage, detached guesthouse, and detached barn on 17 acres.	Pending
H	Tecolote Canyon (Wallover); 04PRE-00000-00012	North of Rancho Embarcadero and west of Goleta: Create 26 residential lots and one 984 acre lot for agricultural use and a nature preserve on 1,047 acres for single family residential development.	Complete
I	Braunger; 05COC-00000-00006	2 miles north of Las Varas Ranch: Conditional certificates of compliance for four parcels on 53 acres.	Pending
J	Miller New SFD	1560 San Roque Road: 1 single family dwelling unit.	

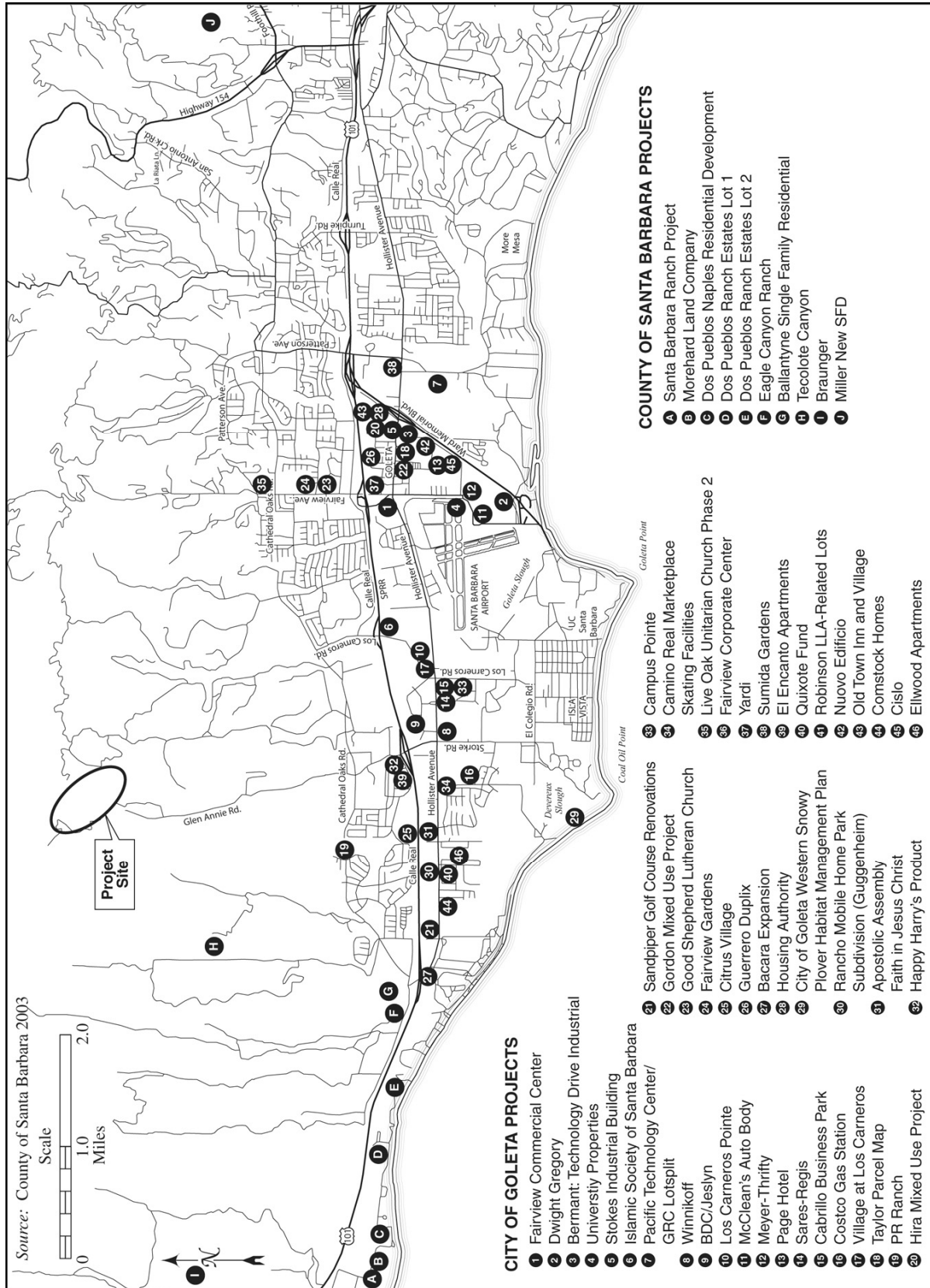


Figure 4-1 Map of Approved or Proposed Projects in the Vicinity of the Proposed Action

4.2 Cumulative Impact Analysis

4.2.1 Aesthetics/Visual Resources

Reasonably foreseeable development listed in Table 4-1 includes buildout of the Santa Barbara County and City of Goleta, including residential, commercial, and industrial projects. Many of the infill projects would not likely contribute to a substantial change in the region's visual resources or character, as they would be surrounded by existing residential or commercial structures and landscaping that have defined precedents for height, massing, landscaping, and color, and would be within smaller parcels that do not have relatively important topographic, vegetation, or other unique visual qualities. However, many of the future developments within the unincorporated County areas represent larger expanses of undeveloped, natural lands on the periphery of the City of Goleta. These sites, such as Santa Barbara Ranch, Dos Pueblos Naples Residential Development, and Eagle Canyon Ranch, contain important visual qualities that would be compromised by their development, as experienced from surrounding views. The conversion of undeveloped, natural areas to residential, commercial, and/or industrial development under reasonably foreseeable cumulative buildout would likely result in significant impacts on important visual resources.

Existing views of the Proposed Action area from public view corridors, including U.S. 101 and Cathedral Oaks Road, are extremely limited due to distance from the Proposed Action site, intervening topography, and dense vegetation. Views of important visual resources from U.S. 101 and Cathedral Oaks Road would be brief; therefore, vehicles traveling on these roadways would not be capable of discerning any changes to the Proposed Action area. Short-term impacts resulting from construction activities (i.e., clearing, grubbing, grading, and excavation) would temporarily alter the visual character of the Proposed Action site and its surroundings. The Proposed Action alternatives would not introduce new sources of light and glare; construction would occur during daylight hours; and Proposed Action alternative operations would not include any new lighting fixtures. Implementation of Mitigation Measures AES-2, BIO-1.2, BIO-2.1, BIO-2.2, and BIO-4a (see Appendix D) would maintain the existing visual character of the Proposed Action site, reducing this adverse contribution so that residual impacts would be less than significant. As the Proposed Action alternatives would not substantially alter any scenic vistas, degrade the existing visual character, or produce substantial light or glare, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact.

4.2.2 Air Quality

Santa Barbara County currently attains all ambient air quality standards except the State O₃ and PM₁₀ standards. These nonattainment conditions for ambient O₃ and PM₁₀ within the Proposed Action region are therefore cumulatively significant. Reasonably foreseeable future projects identified in Table 4-1 that would overlap in time with the Proposed Action would contribute to these significant cumulative impacts.

Emissions of O₃ precursors and PM₁₀ emissions from the proposed construction activities, in combination with emissions from future sources and approved projects in the region, would exacerbate the existing O₃ and PM₁₀ nonattainment conditions within the County. However, all construction activities would be required to implement standard SBCAPCD dust control measures

and construction emissions are included in the County air attainment planning process. As a result, proposed construction activities would produce less than significant cumulative impacts. Emissions of O₃ precursors and PM₁₀ due to operation of the Proposed Action alternatives, in combination with emissions from future sources and approved projects in the region, would exacerbate the existing O₃ nonattainment status within the County. However, emissions from operation of the Proposed Action alternatives would not exceed the operational daily thresholds of 25 pounds of NO_x and VOC for motor vehicle trips. As a result, operation of the Proposed Action alternatives would produce less than significant cumulative air quality impacts (SBCAPCD 2007a).

4.2.3 Biological Resources

Projects identified for the cumulative analysis primarily include infill projects within the greater developed area of the City of Goleta. These projects would have few, if any, direct biological impacts. However, several of the projects within the unincorporated County areas could have impacts on biological resources, such as sensitive plant species, native grasses, oak trees, and riparian habitat that would be cumulatively significant but feasibly mitigated. Any losses of oak woodland, however, would be cumulatively significant and unavoidable. Assuming that all other significant impacts of these projects are mitigated through the environmental review and permitting processes for each project, their cumulative impacts on all but oak woodland would be less than significant.

The Proposed Action alternatives would have significant impacts to special-status species (Impact BIO-1), special status natural vegetation communities (Impact BIO-2), migratory bird breeding (Impact BIO-3), local biological communities through introduction of invasive species (Impact BIO-4b), and oak trees protected by local ordinance (Impact BIO-5), prior to mitigation that could contribute substantially to cumulative effects of past, present, and future projects. With implementation of the mitigation measures described in Section 3.3, residual impacts of the Proposed Action alternatives would be less than significant, and their contribution to cumulative effects would result in a less than significant cumulative impact for all but the loss of oak woodland. The Proposed Action alternatives' contribution to loss of oak woodland habitat would be cumulatively significant and unavoidable.

4.2.4 Cultural Resources

The Proposed Action alternatives, together with other reasonably foreseeable projects identified in Table 4.1 could have a cumulatively significant impact on the remaining archaeological resources in the region. Reasonably foreseeable development would include ground disturbing activities during construction (i.e., clearing, grubbing, grading, and excavation) that could potentially affect prehistoric and historic archaeological sites, and historic structures. However, contributions to cumulative impact by the Proposed Action alternatives remain less than significant due to the project review undertaken for Section 106 compliance and the implementation of the Mitigation Measures described under the Preferred Alternative. Impacts would be addressed for each discretionary project during plan review, and standard conditions would be applied as necessary to minimize these effects, resulting in a less than significant cumulative impact.

4.2.5 Environmental Justice

As there are no impacts to minority or disadvantaged populations due to the Proposed Action, there would be no cumulative impacts.

4.2.6 Geology and Soils

Erosion

Numerous approved and probable future projects within the Goleta Slough watershed (e.g., Fairview Commercial Center, Dwight Gregory, University Properties, Islamic Society of America, Los Carneros Pointe, and Cabrillo Business Park) would contribute to erosion-induced sedimentation of local creeks and the slough. The sediment load contribution of these projects could result in cumulatively significant but feasibly mitigated impacts on water quality. The EPA's recently enacted NPDES Phase II stormwater quality regulations have resulted in more stringent review of discretionary projects. The City of Goleta Planning and Environmental Services Department and Santa Barbara County Planning & Development Department would review all related development proposals for consistency with the adopted statutes. Implementation of BMPs associated with probable future related project SWPPPs would reduce cumulative regional impacts of erosion on stormwater quality to less than significant.

Proposed Action alternatives construction would result in short-term exposure of onsite soils, which are highly prone to wind and water erosion due to the steep topography and erodible soils along the pipeline corridor. Although pipeline corridor revegetation would occur subsequent to construction, thus minimizing the potential for long-term soil erosion, the potential for substantial short-term soil erosion that could cause increased sediment runoff into the West Fork and main stem of Glen Annie Creek would remain until the disturbed soils are stabilized. Such effects would, prior to mitigation, contribute substantially to cumulative effects of past, present, and future projects. Implementation of a SWPPP and associated construction BMPs (see Mitigation Measure GEO-2 in Appendix D) would ensure that Proposed Action alternative-specific residual impacts of erosion on water quality would be less than significant. Therefore, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact. Alternative B would result in a cumulatively significant impact on topography at its crossing of the main stem of Glen Annie Creek as trenching in this location would cause a permanent change in topography which could not be repaired. Water quality impacts are further discussed below under Hydrology and Water Quality.

Seismicity and Ground Rupture

Related approved and probable future construction projects in the Proposed Action vicinity (e.g., Fairview Commercial Center, Dwight Gregory, University Properties, Islamic Society of America, Los Carneros Pointe, and Cabrillo Business Park) would be subject to geohazard impacts due to seismically induced ground failure and unstable slopes. Potential ground failure at any of these related project sites due to site-specific and regional geohazards would be less than significant with implementation of proper geotechnical engineering. Due to the localized nature of the impacts, cumulative impacts would not occur. These discretionary projects would be subject to environmental review and appropriate mitigations would be established for each project prior to development. Standard geotechnical investigations and resultant engineered construction designs would address any specific geotechnical constraints that could impair development-related structural stability, ensuring public safety.

With implementation of proper geotechnical engineering, less than significant impacts would occur in association with construction and operation of the Proposed Action alternatives due to potential seismically induced ground failure and potentially unstable slopes. The Proposed Action alternatives' contribution to cumulative effects related to geological resources would result in a less than significant cumulative impact, based on the localized nature of the impacts.

Paleontological Resources

The Proposed Action, together with other reasonably foreseeable projects identified in Table 4.1 could have a cumulatively significant impact on the remaining paleontological resources in the region. Reasonably foreseeable development would include ground disturbing activities during construction (i.e., clearing, grubbing, grading, and excavation) that could potentially affect paleontological resources. Impacts would be addressed for each discretionary project during plan review, and standard conditions would be applied as necessary to minimize these effects, resulting in a less than significant cumulative impact.

Ground disturbing activities associated with the Proposed Action alternatives could result in significant adverse effects, therefore contributing substantially to cumulative effects on paleontological resources prior to mitigation. However, implementation of Mitigation Measures GEO-4.1, GEO-4.2, and GEO-4.3 would minimize the Proposed Action alternatives' potential for disturbing paleontological resources (see Appendix D). Therefore, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact.

4.2.7 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer and is considered a cumulative impact. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2010a).

Gases that trap heat in the atmosphere are often called GHG. Some GHG, such as CO₂, occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane, nitrous oxide, and fluorinated gasses (EPA 2010a). Between 1990 and 2009, CO₂ was the primary GHG (approximately 85 percent) produced in the U.S. due to the combustion of fossil fuels. Methane steadily declined within the same time period (EPA 2010b).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities, and appliances. The added gases, primarily CO₂ and methane, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes (EPA 2010a). While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the Environmental Protection Agency (EPA) has issued regulatory actions under the CAA as well as other statutory authorities to address climate change issues (EPA 2010c). In 2009, the EPA issued a rule for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG per year (40 CFR Part 98). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2010c).

While the emissions of one single project listed in Table 4-1 would not cause global climate change, GHG emissions from multiple projects, including the Proposed Action, could result in an impact.

Calculations of CO₂ for the construction and operation of the Proposed Action alternatives can be found in Table 4-2 (see Appendix B for complete breakdown).

Table 4-2 Calculated Annual CO₂ Emissions (tons per year)

Total Annual Emissions	Preferred Alternative	Alternative A	Alternative B
Construction	515.16	611.53	713.14
Operation	4.68	4.94	4.94
Total Emissions	519.84	616.47	718.08

Calculated CO₂ emissions for the construction and operation of the Proposed Action alternatives are estimated to be well below the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, the Proposed Action alternatives would result in below *de minimis* impacts with respect to global climate change.

4.2.8 Hazards and Hazardous Materials

Storage and use of hazardous materials at approved and reasonably foreseeable commercial and industrial project sites in the Proposed Action vicinity (e.g., Fairview Commercial Center, Dwight Gregory, University Properties, Los Carneros Pointe, Cabrillo Business Park, and Costco Gas Station), in addition to lower concentrations at residential projects (e.g., Page Hotel, Village at Los Carneros, Hira Mixed Use Project, and Citrus Village), would have the potential to result in a significant cumulative impact.

Compliance with applicable federal, state, and local regulations during project construction and operation would ensure that the use and storage of hazardous materials would be undertaken in a safe and prudent manner. Accidental spills during hazardous material use, however, would result in a significant impact prior to mitigation. Implementation of Mitigation Measure HAZ-1, requiring construction contractors to implement a SWPPP and Hazardous Material Business

Plan, would minimize the Proposed Action alternatives' contribution to potential releases of hazardous materials due to use of these substances with less than significant residual impacts. The Proposed Action alternatives' contribution to cumulative effects on public health related to public exposure to hazardous materials would result in a less than significant cumulative impact.

4.2.9 Hydrology and Water Quality

Water Quality

Numerous approved and reasonably foreseeable projects within the Goleta Slough watershed (e.g., Fairview Commercial Center, Dwight Gregory, University Properties, Islamic Society of America, Los Carneros Pointe, and Cabrillo Business Park) would contribute runoff and pollutants. The pollutant load contribution of these projects could result in cumulatively significant but mitigable impacts on water quality. The EPA's recently enacted NPDES Phase II stormwater quality regulations have resulted in more stringent review of discretionary projects. The City of Goleta Planning and Environmental Services Department and Santa Barbara County Planning & Development Department would review all related development proposals for consistency with the adopted statutes. Implementation of BMPs associated with probable future related project SWPPPs would reduce cumulative regional impacts on stormwater quality to less than significant.

Accidental spills or leaks of pollutants, such as fuels, lubricants, and hydraulic fluid, during Proposed Action equipment operation, refueling, or maintenance, have the potential to enter the West Fork and main stem of Glen Annie Creek. Impacts of small spills would be adverse, short-term, and less than significant because small spills are likely to remain within the work area, with little or no material reaching flowing water. In addition, construction at the creek crossings would be during the dry season when creek flow would be low to none. Larger spills that enter either creek could have short-term, significant impacts on water quality prior to mitigation that would contribute substantially to cumulative effects of past, present, and future projects. Implementation of a SWPPP and associated construction BMPs in Mitigation Measures GEO-2 and HAZ-1 would ensure that Proposed Action alternative-specific residual impacts on water quality would be less than significant. Therefore, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact.

Water Resources

Several reasonably foreseeable projects identified in Table 4-1 would primarily be served by the Goleta Water District. The County of Santa Barbara Board of Supervisors has determined that service through the Goleta Water District does not have the potential to cause or contribute to groundwater basin overdraft due to the Goleta Water District's compliance with the Wright Judgment. All probable future related projects requiring a water supply would be provided water by the Goleta Water District under similar circumstances.

Water use for Proposed Action alternative construction would be restricted primarily to dust control and would be supplied by COMB. No groundwater within the underlying bedrock formations would be used for the Proposed Action. Therefore, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact. In addition, the Proposed Action alternatives' contribution to these probable future related projects

would be beneficial, as the proposed pipeline operations would provide a more reliable source of water from Lake Cachuma to South Coast communities.

Drainage and Flooding

Numerous approved and reasonably foreseeable projects within the Goleta Slough watershed (e.g., Fairview Commercial Center, Dwight Gregory, University Properties, Islamic Society of America, Los Carneros Pointe, and Cabrillo Business Park) would be subject to County Flood Control District and/or City of Goleta Public Works specifications requiring sufficient retention of runoff to ensure that impacts on existing drainage infrastructure would be addressed. This would include determination of drainage flows during medium and high storm events and the establishment of onsite detention or retention facilities. The cumulative impacts on drainage and flooding within the Goleta Slough watershed would be significant but feasibly mitigated with implementation of onsite detention and retardation infrastructure that would be required for approval of those projects.

Surface runoff would not be increased as a result of the Proposed Action alternatives, as paving would not occur. Therefore, drainage and flooding impacts would be less than significant. Due to a lack of increased paving, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact.

4.2.10 Indian Trust Assets

There would be no cumulative impacts to ITA from the Proposed Action alternatives as there are none in the Proposed Action vicinity.

4.2.11 Land Use

Cumulative development throughout the surrounding City of Goleta and Santa Barbara County areas would incrementally alter the area's semi-rural character and would result in the conversion of undeveloped lands to suburban development. Reasonably foreseeable development of projects in the region would have the potential to introduce incompatible development relative to surrounding existing land uses. Potential incompatibilities between existing open space and reasonably foreseeable development would be resolved on a case-by-case basis through the use of landscape buffers, setbacks, and appropriate architectural design. Reasonably foreseeable development listed in Table 4-1 would not disrupt or divide any existing communities. Potential inconsistencies with plans and policies in the Santa Barbara County Comprehensive Plan associated with cumulative development would be addressed for each discretionary project during plan review, and standard conditions would be applied as necessary to minimize these effects. Thus, cumulative impacts would be less than significant.

The Proposed Action alternatives would not result in incompatibilities with existing land uses, or disrupt or divide any established communities because no communities are located within the Proposed Action area. An easement would be granted by the adjacent private landowners and Reclamation to COMB in order to allow pipeline construction and operation activities that would permit the conditional use of private and public property, minimizing impacts on existing land uses.

Removal of coast live oak woodland habitat would be inconsistent with the Santa Barbara County Comprehensive Plan native oak woodland protection policies, which would be a

significant unavoidable impact. Implementation of resource-specific mitigation measures would ensure Proposed Action alternative compliance with all other Santa Barbara Comprehensive Plan policies, including oak tree protection measures. Residual impacts of the Proposed Action alternatives on land use would be less than significant, and the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact for all but the loss of oak woodland. The Proposed Action alternatives' contribution to loss of oak woodland habitat would be cumulatively significant and unavoidable.

4.2.12 Noise

Reasonably foreseeable development listed in Table 4-1 would result in intermittent, short-term noise impacts throughout the Proposed Action vicinity. The duration of these localized impacts would be limited to the construction phases of the individual projects. All construction activities taking place within the region would be subject to the standard measures and conditions regulating construction daily noise levels to ensure consistency with the Santa Barbara County Comprehensive Plan and City of Goleta General Plan Noise Element policies. Buildout and operation of reasonably foreseeable projects would contribute to increased ambient noise levels in the region. Cumulative project operations would increase roadway noise levels, affecting any nearby sensitive receptors. However, roadway noise would be conditioned as necessary by incorporation of noise reduction measures (i.e., sound walls), reducing cumulative impacts on sensitive noise receptors to less than significant.

Noise from construction activities would contribute substantially to cumulative effects of past, present, and future projects prior to mitigation. Routine pipeline maintenance would generate sporadic, short-term sources of noise. Short-term sources of noise generated by routine pipeline maintenance activities would not result in a substantial contribution to ambient noise levels because these sources would be infrequent. Proposed Action alternatives operations would not generate substantial traffic trips along adjacent roadways, and roadway noise would not increase substantially. The Proposed Action alternatives' incremental short-term construction noise residual impacts would be reduced to less than significant with implementation of Mitigation Measures NOISE-1.1 through NOISE-1.3. Therefore, the Proposed Action alternatives' contribution to cumulative effects would result in a less than significant cumulative impact.

4.2.13 Transportation and Circulation

Increased traffic volumes associated with reasonably foreseeable development listed in Table 4-1 would potentially impact the existing transportation system. Cumulative project traffic would substantially impact V/C ratios and/or LOS within the cumulative transportation area of analysis, and would potentially degrade the LOS at some intersections to unacceptable levels. Reasonably foreseeable development would increase regional daily and peak hour trips, which would add traffic to some roadways that have inadequate design features, creating potential safety problems. These problems would be addressed for individual projects during their approval process and would be mitigated so that cumulative impacts would be less than significant.

Proposed Action alternative-related vehicular trips would be minimal and would not affect V/C ratios or existing LOS at any intersections and/or roadway segments within the Proposed Action vicinity. Construction-related traffic could increase the potential for safety problems to a level that would result in a cumulatively considerable impact within an already degraded roadway.

Implementation of Mitigation Measure TRANS-3, requiring repair of damaged road sections, would minimize potential safety impacts associated with transport of construction equipment and materials along inadequate roadway segments so that residual impacts would be less than significant. Therefore, the Proposed Action alternatives' contribution to cumulative traffic impacts would result in a less than significant cumulative impact.

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Section 5 Alternatives Comparison

This chapter presents a comparison of the Preferred Alternative to the action alternatives as well as the No Project Alternative and the No Action Alternative. Under NEPA, an EIS must devote “substantial treatment” to each alternative considered in detail, including the Preferred Alternative, so that reviewers may evaluate their comparative merits (40 CFR 1502.14[b]). CEQA requires that an EIR present a range of reasonable alternatives to the proposed project. Accordingly, five alternatives, including the Preferred Alternative, have been analyzed co-equally in this Final EIS/EIR to provide sufficient information about the environmental effects of each alternative, such that informed decision-making can occur.

5.1 Environmentally Superior Alternative

Table 5-1 illustrates the associated environmental impacts of the five alternatives described in Section 2.

Adverse impacts reduced relative to the Preferred Alternative are indicated by (-); increased adverse impacts relative to the Preferred Alternative are indicated by (+); and similar impacts are indicated by (=).

Table 5-1 Comparison of Alternatives to the Preferred Alternative

<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PREFERRED ALTERNATIVE				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
AESTHETIC/VISUAL RESOURCES					
AES-1: Change existing scenic vistas during construction or operation.	III	III (=)	III (=)	III (-)	III (-)
AES-2: Degrade existing visual character or quality of the site and its surroundings through the processes of grading and vegetation clearing.	II	II (=)	II (=)	III (-)	III (-)
AES-3: Create substantial sources of light or glare.	IV	IV (=)	IV (=)	IV (-)	IV (-)
AIR QUALITY					
AQ-1: Conflict with or obstruct implementation of an applicable air quality plan.	III	III (=)	III (=)	III (-)	III (-)
AQ-2: Exceed any ambient air quality standard or contribute substantially to an existing or projected air quality standard violation.	III	III (+)	III (+)	III (-)	III (-)
AQ-3: Result in a net increase of any criteria pollutant for which the project region is in nonattainment.	III	III (+)	III (+)	III (-)	III (-)
AQ-4: Expose sensitive receptors to substantial pollutant concentrations.	III	III (-)	III (=)	III (-)	III (-)
AQ-5: Create objectionable odors that affect a substantial number of people.	III	III (-)	III (=)	III (-)	III (-)

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<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PREFERRED ALTERNATIVE				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
BIOLOGICAL RESOURCES					
BIO-1: Result in the loss of individuals or habitat for special status plants and wildlife.	II	II (=)	II (-)	III (-)	I (+)
BIO-2: Result in a temporary loss of riparian woodland, oak woodland, and seasonal wetlands.	I	I (-)	I (+)	II (-)	I (+)
BIO-3: Adversely affect wildlife migration or breeding habitat for migratory birds and wildlife.	II	II (=)	II (=)	II (-)	I (+)
BIO-4a: Disrupt local plant or wildlife communities.	III	III (+)	III (-)	III (-)	I (+)
BIO-4b: Disrupt local plant communities through the introduction or spread of invasive species.	II	II (=)	II (=)	III (-)	I (+)
BIO-4c: Disrupt local aquatic communities through the introduction or spread of non-native species.	III	III (=)	III (=)	III (-)	III (-)
BIO-5: Removal of oak trees and oak woodland would conflict with local policies.	I	I (-)	I (+)	IV (-)	IV (-)
CULTURAL RESOURCES					
CR-1: Result in the disturbance of a resource listed in or eligible for listing in the NRHP, the CRHR, or otherwise considered a unique or important archaeological resource under CEQA.	III	III (=)	III (-)	III (=)	III (=)
GEOLOGY AND SOILS					
GEO-1: Potential to alter the topography beyond that resulting from natural erosion and depositional processes.	III	III (=)	I (+)	III (-)	I (+)
GEO-2: Potential to trigger or accelerate substantial erosion.	II	II (=)	II (+)	II (-)	I (+)
GEO-3: Potential to trigger or accelerate shallow landslides.	III	III (=)	III (=)	III (-)	III (-)
GEO-4: Result in the disturbance of paleontological resources of unusual scientific value.	II	II (=)	II (=)	III (-)	II (-)
GEO-5: Potential for ground rupture due to an earthquake to cause damage to structures during operations.	III	III (=)	III (=)	III (=)	III (=)
GEO-6: Damage resulting from earthquake-induced ground shaking during operations.	III	III (=)	III (=)	III (=)	III (=)
GEO-7: Exposure of people or property to a greater than average risk of tsunamis or seiches.	IV	IV (=)	IV (=)	IV (=)	IV (=)
HAZARDS AND HAZARDOUS MATERIALS					
HAZ-1: Create a hazard through the routine transport, use, or disposal of hazardous materials upset and accident involving the release of hazardous material into the environment.	II	II (=)	II (=)	II (-)	II (-)
HAZ-2: Create hazard through upset and accident conditions associated with operations and/or maintenance.	III	III (=)	III (=)	III (=)	III (=)

Alternatives Comparison
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<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PREFERRED ALTERNATIVE				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
HAZ-3: Create a hazard due to the presence of soil or groundwater contamination.	III	III (=)	III (=)	III (=)	III (=)
HYDROLOGY AND WATER QUALITY					
HYDRO/WQ-1: Violate water quality standards.	II	II (=)	II (+)	II (-)	I (+)
HYDRO/WQ-2: Deplete groundwater supplies or interfere with groundwater recharge or flow.	IV	IV (=)	IV (=)	IV (=)	II (+)
HYDRO/WQ-3: Alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff resulting in flooding.	III	III (=)	III (=)	III (-)	II (+)
Loss of Water Supply	IV	IV (=)	IV (=)	IV (=)	I (+)
LAND USE					
LU-1: Result in incompatibilities with existing land uses.	III	III (=)	III (+)	IV (-)	III (-)
LU-2: Disrupt or divide any established communities.	IV	IV (=)	IV (=)	IV (=)	I (+)
LU-3: Result in inconsistencies with land use and conservation plans and Santa Barbara County Comprehensive Plan and policies.	I	I (=)	I (=)	IV (-)	IV (-)
NOISE					
NOISE-1: Short-term increases in existing ambient noise levels during construction activities.	II	II (-)	II (=)	II (-)	II (-)
NOISE-2: Generate long-term exterior or interior noise levels that would affect sensitive receptors during operations.	III	III (-)	III (=)	IV (-)	IV (-)
NOISE-3: Increase ambient noise levels of adjacent areas during operations.	III	III (-)	III (=)	IV (-)	IV (-)
TRANSPORTATION/CIRCULATION					
TRANS-1.1: Increase intersection v/c ratios within the project vicinity during construction activities.	III	III (=)	III (=)	III (-)	III (-)
TRANS-1.2: Increase intersection v/c ratios within the project vicinity during operations.	III	III (=)	III (=)	III (-)	III (-)
TRANS-2: Generate additional vehicular trips that would adversely affect intersection capacities in the project vicinity.	III	III (=)	III (=)	III (-)	III (-)
TRANS-3: Increase traffic on a roadway that could result in a potential safety problem due to existing design features.	II	II (=)	II (=)	II (-)	II (-)
TRANS-4: Exceed a LOS established by the county congestion management agency for designated roads and highways.	III	III (=)	III (=)	III (-)	III (-)

<i>Type of Impact</i>	MAGNITUDE OF IMPACT IN COMPARISON TO PREFERRED ALTERNATIVE				
	<i>Preferred Alternative</i>	<i>Alternative A</i>	<i>Alternative B</i>	<i>No Project Alternative</i>	<i>No Action Alternative</i>
<p><i>Key:</i></p> <p>I Significant adverse impact that cannot be feasibly mitigated or avoided.</p> <p>II Significant adverse impacts that can be feasibly mitigated to a less than significant level.</p> <p>III Adverse impacts that are less than significant.</p> <p>IV No impacts.</p> <p>+ More adverse impacts than Preferred Alternative.</p> <p>= Similar to Preferred Alternative.</p> <p>- Fewer adverse impacts than Preferred Alternative.</p>					

The No Action Alternative would include regular O&M activities without site improvements which would normally be the least environmentally damaging. However, the poor condition of the concrete in the SPTT, due to hydrogen sulfide gas within the water, could ultimately cause this structure to fail. Failure would result in adverse impacts on biological resources, cultural resources, geological resources, hydrology, and water quality. These potential impacts make this alternative environmentally inferior. In addition, this alternative does not meet the purpose and need or objectives of the Proposed Action.

The No Project Alternative, by virtue of the absence of substantial development, would be environmentally superior to all other alternatives. However, this alternative does not meet the purpose and need or CEQA objectives of the Proposed Action for increased operational flexibility or reliability.

Construction of the Preferred Alternative would meet the Proposed Action's purpose and need and objectives associated with increasing operational flexibility, reliability, and the conveyance capacity of the SCC between the SPTT and the CDMWTP with the fewest overall environmental impacts when compared to the other action alternatives (see Table 5-1). Therefore, the Preferred Alternative is considered the environmentally superior alternative.

The proposed Alternative A (parallel) pipeline would be constructed adjacent to the existing pipeline alignment. Buildout under this alternative would have less impact on oak trees and oak woodland habitat compared to the other action alternatives; however, impacts would still be significant and unavoidable. Construction of the central portion of the Alternative A alignment parallel to the existing pipeline across steep hilly terrain would increase the exposure of highly erodible soils to substantial erosion. The exacerbated geological impacts make this alternative environmentally inferior.

The proposed Alternative B (non-parallel) pipeline alignment would include portions along the existing pipeline easements; however, this alignment would generally be constructed southwest or north of the existing pipeline. Construction of this alignment would reduce impacts on paleontological resources to the greatest extent feasible, but would increase impacts on biological resources, geology and soils, and hydrology/water quality. Therefore, this alternative would not be environmentally superior.

Section 6 Consultation and Coordination

This section reviews agency consultation and coordination performed by Reclamation and COMB that occurred prior to and during preparation of this EIS/EIR.

6.1 Public Scoping

As described previously, the Draft EIS/EIR was distributed for a 45-day public review and comment period beginning on August 20, 2008. A public meeting was also held at the COMB office on September 10, 2008. During the public review period, five comment letters were received, and no comments were made at the public meeting. The comment letters and responses to comments are located in Appendix E of the Final EIS/EIR. On March 25, 2009, a Notice of Determination was submitted to the Santa Barbara County Clerk by COMB to finalize the joint document pursuant to the CEQA.

6.2 Distribution List for Draft EIS/EIR

6.2.1 Federal Agencies

National Marine Fisheries Service
U.S. Fish and Wildlife Service
U.S. Forest Service

6.2.2 State Agencies

California Air Resources Board
California Department of Fish and Game, Region 5
California Department of Forestry and Fire Protection
California Department of Transportation, District 7
California Regional Water Quality Control Board, Region 3
California Resources Agency
Native American Heritage Commission
State Water Resources Control Board

6.2.3 Local Entities

City of Goleta
Santa Barbara County
Goleta Public Library
Santa Barbara Public Library
Goleta Water District
City of Santa Barbara
Carpinteria Valley Water District
Montecito Water District
Santa Ynez River Water Conservation District, Improvement District #1

6.3 Consultations/Coordination and Applicable Laws

Several federal, State, and local laws and regulations have directed, limited or guided the NEPA and CEQA analysis and decision making process of this EIS/EIR.

6.3.1 Federal

Fish and Wildlife Coordination Act (16 USC § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action is the addition of a second water supply pipeline to the existing SCC. As this is not a new water development project, FWCA does not apply and no consultation is required.

Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

The Corps requested Section 7 consultation with USFWS for the California red-legged frog and the NMFS for steelhead on 28 May 2009. On September 1, 2009, the USFWS issued a non-jeopardy Biological Opinion to the Corps for the California red-legged frog which included the entire Proposed Action area. On July 1, 2010, NMFS concurred with the Corps's determination that their Proposed Action is not likely to adversely affect the Southern California Distinct Population Segment of steelhead or its critical habitat.

Migratory Bird Treaty Act (16 USC § 703 et seq.)

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds as described in Section 3.3.

COMB has included mitigation measures in their Special-status species Plan (see BIO-3 in Appendix D) to reduce potential impacts to migratory nesting birds as described in Section 3.3. Therefore, no consultation is required.

Executive Order 13186 – Migratory Birds

COMB has included measures to protect migratory birds as described in Section 3.3.

Executive Order 11988 – Floodplain Management

The Proposed Action would not adversely impact floodplains as there are none in the Proposed Action area.

Executive Order 11990 – Protection of Wetlands

Although a small amount of seasonal wetlands would be temporarily impacted during construction of the crossing at the main stem of Glen Annie Creek, these wetlands would be restored once construction is complete. Consequently, there would be no net loss to wetlands.

This EO does not apply to the issuance of permits (by federal agencies), licenses, or allocations to private parties for activities involving wetlands on non-federal property.

Executive Order 13112 – Invasive Species

COMB has incorporated mitigation measures into the Proposed Action to reduce potential impacts from invasive species (see BIO-4b.1 to BIO-4b.7 in Appendix D).

Clean Water Act (16 USC § 703 et seq.)

Section 401 Section 401 of the CWA (33 USC § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 USC § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual Corps dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

COMB was issued a 401 certification for the Proposed Action on May 21, 2009.

Section 404 Section 404 of the CWA authorizes the Corps to issue permits to regulate the discharge of “dredged or fill materials into waters of the United States” (33 USC § 1344). A 404 permit would be issued to COMB once Reclamation completes consultation under Section 106 of the NHPA.

National Historic Preservation Act (16 USC § 470 et seq.)

The NHPA of 1966, as amended (16 USC 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Reclamation is in the process of consulting with SHPO on a finding of no adverse effect to historic properties regarding the Proposed Action. A Record of Decision will not be issued until consultation is complete.

Executive Order 13007 – Indian Sacred Sites

EO 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. It also requires agencies to develop procedures for

reasonable notification of proposed actions or land management policies that may restrict access to or ceremonial use of, or adversely affect, sacred sites.

At this time no Indian Sacred Sites have been identified. Should any sites be identified, Reclamation would comply with EO 13007.

Clean Air Act (42 USC § 7506 (C))

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provides financial support for, issues licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 USC § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact, conform to the applicable SIP before the action is taken.

An air quality analysis was conducted for the Proposed Action (see Section 3.2 and Appendix B). The Proposed Action would conform to the SIP.

6.3.2 State

California Lake and Stream Alteration (Fish and Game Code Section 1600 et seq.)

This program requires notification of the CDFG before activities that would substantially alter the bed, bank, or channel of a stream, river, or lake, including obstructing or diverting the natural flow as described previously in Section 3.2. COMB received a letter issued by CDFG on July 13, 2009 that authorized the Proposed Action to proceed without a SAA as long as the Proposed Action remained the same, and would be implemented, as it was described in the notification.

California Endangered Species Act (Fish and Game Code Section 2050 et seq.)

No State-listed species would be impacted under the Proposed Action; therefore, consultation is not required.

Porter Cologne Water Quality Control Act (C.W.C. Section 13000 et seq.; CCR Title 23 Chapter 3, Chapter 15)

This Act is the primary state regulation addressing water quality, and waste discharges (including dredged material) on land; and all permitted discharges must be in compliance with the Regional Basin Plan. For the Proposed Action area, the Act's requirements are implemented by the Central Coast RWQCB. COMB has received a Section 401 certification pursuant to the CWA from the Central Coast RWQCB which addresses water quality impacts related to the Proposed Action. No additional consultation pursuant to the Porter Cologne Water Quality Control Act is required.

California Wetlands Conservation Policy (Executive Order W-59-93)

Although a small amount of seasonal wetlands would be temporarily impacted during construction of the crossing at the main stem of Glen Annie Creek, these wetlands would be restored once construction is complete. Consequently, there would be no net loss to wetlands.

6.3.3 Local General Plans

An analysis of the Proposed Action for consistency with local plans and policies was conducted in this EIS/EIR. The Proposed Action was found to be consistent for all local plans and policies except for removal of oak woodland habitat. Although oak trees would be replaced at a 10:1 ratio (or whatever was required under permits), oak woodland habitat functions and values would take many years to reestablish which is a significant and unavoidable impact.

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Section 7 Preparers and Reviewers

7.1 Bureau of Reclamation

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7.2 Cachuma Operation and Maintenance Board

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7.3 Science Applications International Corporation (SAIC)

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Preparers and Reviewers
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Lisbeth Springer	Economist	Socioeconomics
Karen Quinkert	Document Processor	Document Processing
Greg Wadsworth	Document Processor	Document Processing
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