RECLAMATION
Managing Water in the West

RECORD OF DECISION

South Coast Conduit/Upper Reach Reliability Project

ROD-06-140

Recommended by:

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Date: March 2nd, 2011

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Date: May 11, 2011

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Date: May 11, 2011

U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

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Introduction

The Bureau of Reclamation (Reclamation) and the Cachuma Operation and Maintenance Board (COMB) have completed a Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed South Coast Conduit/Upper Reach Reliability Project. Under this Proposed Action, COMB will construct a second pipeline with appurtenant facilities that roughly parallel the existing South Coast Conduit (SCC) from the South Portal of Tecolote Tunnel (SPTT) to the Corona Del Mar Water Treatment Plant (CDMWTP). 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 Record of Decision (ROD) documents Reclamation's decision to approve the issuance of an MP620 permit (a Reclamation Mid-Pacific Region-specific permit issued for additions or alterations to Reclamation-owned conveyance and distribution facilities) as well as the issuance of an easement authorizing pipeline construction and operation and maintenance (O&M) within Reclamation ROW to COMB. This ROD has been prepared in accordance with the National Environmental Policy Act [NEPA] (40 CFR 1508.27) and the Council on Environmental Quality's NEPA implementing regulations (40 CFR 1500-1508). The decision made herein is based on the information and analysis contained within the Final EIS/EIR for the *South Coast Conduit/Upper Reach Reliability Project*, which is incorporated by reference and was published December 10, 2010. The decision is also based on the results of consultation and coordination with public agencies, tribes, and COMB. Reclamation has considered all comments received on the Proposed Action in developing this ROD.

The U.S. Army Corps of Engineers (Corps) was the lead federal agency for consultations with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act (ESA) for the Proposed Action as the regulatory agency responsible for permitting work within the two creek crossings. However, because the Corps did not have jurisdiction over operation of the proposed pipeline, Reclamation was the lead federal agency for NEPA and Section 106 of the National Historic Preservation Act (NHPA).

Background

The SCC and 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 State Water Project water deliveries to Lake Cachuma for the following South Coast communities: Goleta, Santa Barbara, Montecito, Summerland, Santa Ynez, and Carpinteria.

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 instruments at control stations and turnouts along the SCC pipeline, and at four regulating reservoirs. COMB coordinates closely with Reclamation and Member Units' staff to ensure that water supplies meet daily demands.

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.

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 will not increase as amounts delivered to Cachuma Member Units will not change.

Decision

Reclamation will issue an MP620 permit for modification to federal facilities and an easement authorizing pipeline construction and O&M within Reclamation ROW to COMB for implementation of the Preferred Alternative identified in Section 2.3 of the Final EIS/EIR. The decision includes implementation of best management practices and mitigation measures listed in Section 2.3.6 (Environmental Commitments) and the reasonable and prudent measures and terms and conditions in the Biological Opinion from USFWS issued to the Corps for the Proposed Action. These measures are required to implement the Preferred Alternative.

Implementation of the Preferred Alternative will result in construction of a new buried 48-inch diameter pipeline from the SPTT to the CDMWTP, replacement of the exiting SPTT, construction of a 115-foot long, 18-inch diameter intertie pipeline that could be connected to the Goleta West Conduit in the future, modification of the CDMWTP turnout, removal of a vent structure at that turnout, and installation of a fiber-optic cable within the pipeline trench.

The new facilities will be owned, operated, and maintained by COMB.

Alternatives Considered in the Final EIS

Five alternatives analyzed in the Final 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 an MP620 permit for modification or alterations to federal facilities or an easement to COMB for construction of a secondary water service pipeline within Reclamation ROW. 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.

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.

Preferred Alternative (Parallel and Non-Parallel Pipeline)

The Preferred Alternative alignment will 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 will require crossings at the West Fork and the main stem of Glen Annie Creek, which will require Section 404 permits from the Corps. Construction of the Preferred Alternative pipeline alignment will connect to SCC structures at the SPTT and CDMWTP. A new SPTT diversion/wasteway structure will be constructed to divert water into each pipeline. Magnetic flowmeters will 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 will include the installation of slide gates (or butterfly valves). Modifications to the CDMWTP turnout structure will also be required for flow control. The existing vent structure will be demolished because the turnout structure functions as a hydraulic control structure; however, a vacuum release valve (or vent) will be provided downstream of the CDMWTP turnout. The Preferred Alternative alignment will be connected to the Goleta West Conduit (GWC) south of the Glen Anne Turnout.

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 hydraulic grade line (HGL) to the GWC (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), 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.

Basis of Decision, Issues Evaluated, and Factors Considered

Reclamation evaluated the effects of the proposed alternatives on aesthetics/visual resources, agricultural resources, air quality, biological resources, cultural resources, environmental justice, geology, soils, and paleontology, hazards and hazardous materials, hydrology and water quality, Indian Trust Assets, Indian Sacred Sites, land use, mineral resources, noise, public services, recreation, socioeconomics, transportation/circulation, and utilities/service systems.

There will be no impacts to Indian Trust Assets are there are none in the Proposed Action area.

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 EIS/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 the 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.

Public input was considered by Reclamation and issues were examined in detail in the Final EIS/EIR. The major areas of public concern included potential impacts to biologic resources, erosion, water quality, and violation of local plans and policies related to oak woodland habitat. Reclamation and COMB addressed the comments in the Final EIS/EIR through incorporated mitigation measures and the slight change in alignment of the Preferred Alternative.

Impacts to cultural resources were considered through the NHPA Section 106 consultation process as outlined in regulation at 36 CFR Part 800. The effort to analyze impacts to cultural resources included archival investigations, field identification efforts, and consultation with interested members of the public and Tribes for each action alternative. All three action alternatives were determined to have one historic property in a part of the project common to each alternative. The solitary historic property in the area of potential effects (APE) consists of portions of the Tecolote Tunnel Complex that would be impacted by the Proposed Action. Reclamation determined that the impacts to the resource would not comprise an adverse effect to historic properties and the California State Historic Preservation Officer (SHPO) concurred with this determination on January 24, 2011 (see attached concurrence memo). One additional cultural resource commitment remains for this project under Section 110 of the NHPA. COMB, as the project proponent, has agreed to have their consultant furnish additional documentation of the outfall of the Tecolote Tunnel and the vault as they are dismantled by COMB's contractors. The Tecolote Tunnel Complex is a historic property and the documentation of these facilities while they are exposed prior to alteration are conditions Reclamation committed to in our consultation with SHPO. This last recording effort is necessary to successfully comply with all cultural resource compliance commitments made under NHPA for the project and will need to be coordinated between COMB, COMB's various contractors, and Reclamation as project construction moves forward.

No new information is expected, but in the event that previously unknown historic properties are identified in the APE as the project moves forward, Reclamation will follow the procedures for post review discoveries found at 36 CFR Part 800.13(b).

All three action alternatives would have significant and unavoidable long-term impacts on oak woodland habitat which would be inconsistent with native oak woodland protection policies within the Santa Barbara County Comprehensive Plan. The magnitude of this impact would be slightly less for Alternative A and slightly greater for Alternative B than for the Preferred Alternative. Construction of the central portion of the Alternative A alignment parallel to the existing pipeline across hilly terrain would have greater significant geology/soil impacts due to the exposure of highly erodible soils to substantial erosion than the Preferred Alternative. 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. Trenching through the nearly vertical creek bank would result in permanent changes in the topography since the vertical bank could not be restructured. This would also result in increased significant impacts to water quality due to erosion and deposition of sediment in the creek which would not occur under the Preferred Alternative.

Environmentally Preferable Alternative

The No Project Alternative would involve much less construction and would have fewer environmental impacts than the Proposed Action alternatives but would not meet the purpose and need of the Proposed Action. The No Action Alternative includes ongoing O&M of the existing SCC; however, lack of site improvements could result in facility failures with greater environmental damage than implementation of improvements.

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. Therefore, the Preferred Alternative is considered the environmentally preferable alternative.

Implementing the Decision and Environmental Commitments

Reclamation has adopted all practicable means to avoid or minimize adverse effects on the environment that will result from the implementation of the Preferred Alternative. Where feasible and appropriate, Reclamation will implement mitigation measures as specified in the attached Mitigation Monitoring Program (MMP) for the Preferred Alternative (Table 1). The MMP includes a summary of all the environmental commitments and mitigation for the Proposed Action, specifies the party responsible for implementation, and provides a time frame for completion. The MMP has been prepared to ensure all required mitigation measures are implemented and completed according to schedule in an effective manner during design, construction, and operation as required. In addition to the mitigation measures identified in the MMP, Reclamation will comply with all the terms and conditions found in the Biological Opinion issued by the USFWS to Corps for the Preferred Alternative.

Comments on the Final Environmental Impact Statement/Final Environmental Impact Report

The Notice of Availability of the Final EIS/EIR was published in the Federal Register on Friday, December 10, 2010. No comment letters were received between that date and the execution of this ROD.

Table 1 South Coast Conduit/Upper Reach Reliability Project Mitigation Monitoring and Reporting Plan

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	AESTHETICS				
AES-2	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.	COMB		Prior to and during construction	Reclamation and COMB
	BIOLOGICAL RESOURCES				
BIO-1.1	Santa Barbara honeysuckle plants (*Lonicera subspicata*) shall be avoided to the greatest extent feasible during construction. Locations of this species within the construction corridor shall be clearly marked on the project plans and in the field by a qualified biologist prior to construction. The qualified biologist shall work with the Resident Engineer and construction contractor to determine which of these areas cannot be avoided. For the areas that cannot be avoided, cover of Santa Barbara honeysuckle shall be recorded using line-intercept sampling and will form the restoration criterion.	COMB	Specifications shall be included in the final construction plans	Prior to vegetation removal	Reclamation and COMB
BIO-1.2	The project Revegetation Plan (see Appendix F) shall include specific measures for restoring Santa Barbara honeysuckle to pre-project cover.	COMB	Specifications shall be included in the Revegetation Plan	Prior to construction	Reclamation and COMB
BIO-1.3	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. Habitat and species protection measures shall include, at a minimum: 1. Construction shall be scheduled to avoid the breeding season of special status species. For example, schedule pipeline construction (or at a minimum, crossing of drainages that support special status aquatic species) to avoid the breeding season for the California red-legged frog (*Rana draytonii*) [November 1 through May 30] and steelhead (*Oncorhynchus mykiss*) migration and spawning (November 1 through June 30) or to occur while water is not present; 2. Work at the two stream crossings shall be scheduled to avoid the high flow seasons (October through April) if trenching is used to cross the two drainages to avoid potential impacts to downstream resources, including breeding habitat for the California red-legged	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	frog and steelhead; 3. A USFWS-approved California red-legged frog biologist shall conduct pre-construction California red-legged frog surveys following USFWS protocols in all suitable habitat crossed by the pipeline ROW (the West Fork and main stem of Glen Annie Creek) to determine the presence or absence of this species within about 500 feet of the construction area; 4. A biologist experienced in identification of steelhead shall conduct pre-construction surveys in Glen Annie Creek to determine the presence or absence of this species within about 500 feet of the construction area. A qualified steelhead biologist shall be present during construction in Glen Annie Creek to monitor for the species if any are found during the pre-construction survey. The construction activities as described by Corps and avoidance and minimization requirements to steelhead and their habitat that were identified for that action which allowed NMFS to concur with the Corps' determination that the effects from the project would not likely adversely affect listed species or adversely modify designated critical habitat must be adhered to. If any water is present when construction is to occur, the habitat shall be assessed (length, width, and depth) within the work area. This information plus the results of the preconstruction survey shall be reported to Corps and NMFS prior to initiating construction activities in Glen Annie Creek in accordance with the NMFS letter dated July 1, 2010; 5. A qualified biologist with the appropriate permits shall be present during construction in habitats that support special status species; 6. The project biologist and the project engineer shall clearly designate "sensitive resource zones" on the project maps and construction plans. Sensitive resource zones are defined as areas where construction would be limited in space, time, or methods to minimize or avoid impacts to special status species or their habitat; 7. A USFWS-approved California red-legged frog biologist shall be present during construction in locations known to support California red-legged frogs to monitor for this species. The biologist shall inspect the work area (especially areas with ponded water, if present) for the presence of the species and shall be authorized to temporarily stop work if immediate threats to the species are identified during monitoring. Any disturbances to occupied habitat or red-legged frogs shall be in conformance with				

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	the terms and conditions of the project Biological Opinion from the USFWS; 8. All machinery shall be stored and fuelled in designated locations at least 100 feet away from any sensitive habitats or in areas approved by the project biologist. Heavy equipment and construction activities shall be restricted to the defined construction corridor. Construction vehicles and personnel shall use existing access roads; 9. A qualified biologist shall conduct pre-construction surveys of the stand of eucalyptus trees for roosting monarch butterflies (*Danaus plexippus*) in the appropriate season. Surveys shall be conducted during the fall and winter (October through December) to verify the presence or absence of autumnal or wintering roost sites. If autumnal or wintering roost sites are identified, the biologist shall work with the resident engineer to either avoid removal of these trees or schedule construction to occur outside of the monarch roosting season when the species would not be present; and 10. Any other requirements stipulated by the USFWS and/or NMFS as part of Section 7 Consultation under the Endangered Species Act shall be implemented.				
BIO-1.4	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.	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
BIO-2.1	Measures for restoration of riparian woodland shall be included in the Revegetation Plan (see Appendix F). All riparian woodland removed shall be replaced at a 2:1 ratio, or as mandated in project permits. For areas of temporary impact, restoration onsite will be 1:1, and an equal area shall be replaced offsite. Any permanent loss of riparian woodland shall be replaced offsite at a 2:1 ratio.	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
BIO-2.2	Measures for restoration of oak woodland in the Revegetation Plan (see Appendix F) shall include planting individual coast live oak trees (*Quercus agrifolia*) at suitable sites (within the pipeline ROW where feasible, on existing land owned by Reclamation along the pipeline, on Reclamation land at Lauro Reservoir (approximately 9 miles east of the	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	project area), and on private land along the pipeline as permitted by the landowners) and the following specifications. Coast live oak tree 6 inches or greater in diameter at breast height (DBH) removed for the project shall be replaced by establishing 10 planted trees meeting minimum performance criteria five years after planting for each tree removed. The performance criteria shall include a period of two years without supplemental watering, a healthy vigorous appearance, minimum height of 6 feet, and a minimum diameter 1 foot above the ground of 2 inches. In most cases, it will take more than five years for trees to meet these criteria. Oak tree plantings shall be appropriately spaced to promote survival past the monitoring period.				
BIO-3	The following shall be incorporated into the Special Status Species Protection Plan (Mitigation Measure BIO-1.3) to avoid or reduce impacts to migratory and resident breeding birds: 1. A qualified biologist shall conduct pre-construction bird surveys during the nesting season in areas that would require the direct removal of coastal scrub and chaparral vegetation, native and non-native trees, or other areas where suitable nesting habitat for resident or migratory bird species may occur. The surveys shall focus on breeding behavior and nesting locations in the proposed work area and immediately adjacent to that area. Based on the results of the surveys, recommended buffer areas between construction activities and observed nesting habitat shall be provided to the resident engineer if the work were scheduled to occur near those locations while nesting is occurring (February 15 through August 31); 2. A qualified biologist shall be present during removal of vegetation to ensure that breeding wildlife and nesting birds are not harmed. The biologist shall have the authority to redirect or temporarily stop work if threats to the species are identified during monitoring; and 3. Riparian vegetation and oak trees scheduled to be removed for construction shall be removed before the nesting season (April 15) to further avoid impacts to nesting birds, where feasible. For trees outside the area to be trenched, removal should be by cutting at ground level to leave the roots in place to facilitate restoration.	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
BIO-4a	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 project alignment and the similarity of	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	habitats crossed by the project, 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-4b.1	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.	COMB	Measure shall be a condition of project approval	Prior to construction	Reclamation and COMB
BIO-4b.2	Prior to construction and throughout restoration, Cape ivy (*Delairea odorata*) and other weed species shall be controlled. For Cape ivy, control shall consist of herbicide treatment of growing stems where such spraying would not damage adjacent native plants and removing portions of the plants growing within native vegetation that cannot be sprayed. Cape ivy that has been removed from native vegetation shall be hauled off-site to a landfill. Treatment shall encompass a corridor a minimum of 200 feet wide centered on the pipeline alignment. Treatment shall continue a minimum of three times per year, but up to five times per year until all of the performance criteria in the Revegetation Plan have been met.	COMB	Measure shall be a condition of project approval	Prior to construction	Reclamation and COMB
BIO-4b.3	Unless access is refused by the property owner, the area of invasive exotic plant species infestation (primarily black mustard [*Brassica nigra*] and Veldt grass (*Ehrharta calycina*)] 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. Treatment shall be attempted for two years prior to construction, if feasible. Areas of very dense black mustard may be sprayed aerially or by using a tractor mounted system for efficiency, but areas near native vegetation must be treated by hand. Veldt grass shall be treated by hand as many herbaceous native species co-occur with this species. Treating before construction will greatly reduce the amount of viable seed that could be spread by construction or that could come up following construction.	COMB	Measure shall be a condition of project approval	Prior to construction	Reclamation and COMB
BIO-4b.4	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 project area, including other areas with infestation of different or the same invasive exotic plant species, or moving off the project 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	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	project site.				
BIO-4b.5	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.	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
BIO-4b.6	A weed manual shall be prepared prior to operation and maintenance activities that shall include photographs of the different invasive exotic plant species that are present along the pipeline route. The weed manual shall be distributed to technicians performing maintenance on the structures. They will be instructed to look for invasive exotic plant species infestations along the access roads and at structures. Invasive exotic plant species infestations identified shall be treated or removed.	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
BIO-4b.7	A biologist shall inspect unpaved access roads for the project annually for invasive exotic plant species as part of regular pipeline maintenance activities. If invasive exotic species are found, they shall be removed using the methods provided in the Revegetation Plan, or currently accepted methods. In addition, vehicles shall be washed or inspected by COMB after driving through areas with identified invasive exotic plant species infestations prior to using the vehicles elsewhere to prevent the spread of those invasive exotic plant species to other areas.	COMB	Specifications shall be included in the operations plan	Upon completion of construction	Reclamation and COMB
BIO-5	Oak trees shall be avoided to the maximum extent feasible. Protections shall include financial incentives and penalties, and creation of exclusion zones. Trees that may be removed and those that must be protected shall be clearly shown on project plans and marked in the field. The construction plans and specifications shall include financial compensation to the construction contractor for avoiding oak trees that would be permitted to be removed and financial penalties for removing trees that are designated for protection. Financial compensation shall minimally be the estimated cost of mitigating loss of that tree (planting, monitoring, maintenance, and reporting to attain 10 trees that meet performance criteria for each tree removed). Financial penalties shall be minimally two times the compensation amount. Exclusion zones shall be created within the nominal construction easement to protect groups of trees where feasible.	COMB	Specifications shall be included in the final construction plans		Reclamation and COMB
	CULTURAL RESOURCES				
CR-1	Prior to construction a qualified archaeologist will work with COMB to place exclusionary fencing that restrict access to the area holding archaeological site CA-SBA-3923. This area will be labeled as a sensitive area on construction plans.	COMB	Specifications shall be included in the final construction	Prior to and during construction	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
			plans		
CR-2	Preconstruction meetings with a qualified archaeologist shall be conducted in order to inform construction personnel about the importance of cultural resources to archaeologists and Native Americans. The meeting will also describe reporting requirements and responsibilities of construction personnel if archaeological material is found. In the event that unexpected archaeological resources are discovered outside the boundary of CA-SBA-1775 or in the unlikely event that previously unknown intact features are found at CA-SBA-1775 or in the tailings during construction, all construction activities shall be halted in the area until the lead federal agency is notified and the appropriate Section 106 consultations, if any, can be initiated.	COMB	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
CR-3	The subsurface interior and exterior elements of the South Portal Vault and the downstream end of the Tecolote Tunnel will be recorded during deconstruction. All fieldwork and recording will be conducted by or under the direct supervision of personnel meeting the Secretary of the Interior's Standards and Guidelines for Professional Qualifications. This work will require close coordination and scheduling between the construction contractor and the consultant to ensure that the appropriate information is collected prior to the dismantling of the vault in a safe and timely manner that does not unduly delay construction.	COMB/Construction contractor/ Consultant	Specifications shall be included in the final construction plans	Prior to and during construction	Reclamation and COMB
		GEOLOGY AND SOILS			
GEO-2	The following erosion control protocol shall be followed in association with pipeline construction: 1. Prior to any work beginning, a Stormwater Pollution Prevention Plan (SWPPP) for construction shall be prepared and submitted to the Regional Water Quality Control Board (RWQCB) in compliance with the statewide General Construction Activity Stormwater Permit. This plan shall be designed for a 10-year, 8-hour duration storm event. Where possible, erosion control measures shall be installed prior to work beginning. Standard erosion and sediment control features as described in the Erosional Sediment Control Field Manual (California RWQCB 1999) shall be utilized during and immediately after grading to minimize short-term impacts associated with erosion and off-site siltation of West Fork and Glen Annie creeks. 2. Prior to construction-related discharges, energy dissipation measures shall be installed at groundwater dewatering discharge points into West Fork and Glen Annie creeks to prevent erosion.	COMB/ Construction Contractor	COMB shall submit Notice of Intent to the RWQCB; contractor shall provide SWPPP to COMB; Best Management Practices (BMPs) shall be located on the SWPPP/Erosion and Sediment Control Plan and grading and drainage plan; copy of the SWPPP/Erosion	Prior to construction	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	3. Sedimentation basins (may be straw bales lined with filter fabric) shall be used for dewatering discharge points to prevent excess downstream sedimentation. These basins shall be constructed prior to dewatering and regularly maintained during construction, including after storm events, to remain in good working order. 4. Straw bale/filter fabric barriers, backed by wire fencing for strength, shall be installed around spoil piles to contain sediment from runoff. These barriers shall be installed prior to any stockpiling during the rainy season or immediately after stockpiling during the dry season, and shall be regularly maintained, including during major rainfall events, until the stockpiles are completely removed. 5. Subsequent to pipeline construction, erosion control matting shall be placed on disturbed slopes greater than 5:1 (20 percent), over seeding and mulching. 6. Straw bale and/or filter fabric barriers shall be installed at the base of disturbed slopes, for a minimum of two months following slope completion (or until the end of the rainy season, whichever is longer), to reduce short-term erosion impacts prior to plant growth. 7. During construction and on all disturbed slopes, water bars, filter fabric fencing, and/or rice wattles shall be placed at 50-foot intervals on slopes greater than 5:1 (20 percent).		and Sediment Control Plan shall be maintained on the project site during grading and construction activities		
GEO-4.1	A presentation by a County-qualified paleontologist explaining the potential for encountering paleontological resources during construction shall be included as an element of the project pre-construction meeting. Construction workers and other project personnel (including environmental monitors) shall be educated regarding the appearance of local paleontological resources, the proper notification channels in the event vertebrate fossils are encountered, as well as penalties for the illicit disturbance of such fossils.	COMB	County-qualified paleontologist shall conduct meeting	Prior to construction	Reclamation and COMB
GEO-4.2	A County-qualified paleontological monitor shall be on call during excavation activities within the Vaqueros and Rincon formations.	COMB	Specifications shall be included in the final construction and grading plans, including location of Vaqueros and Rincon formations	Prior to construction; monitoring during construction	COMB
GEO-4.3	In the event that vertebrate fossils are found by the monitor or	COMB	Specifications	Prior to and	Reclamation

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	construction personnel, the following actions shall be taken: 1. Follow appropriate notification procedures; 2. Assess the find and determine recovery procedures; 3. Provide for construction avoidance until the fossils are assessed and recovered, if appropriate; and 4. Continue paleontological monitoring while fossil assessment and/or recovery are being completed.		shall be included in all construction and grading plans	during construction	and COMB
	HAZARDS AND HAZARDOUS MATERIALS				
HAZ-1	A project-specific 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 of Glen Annie and Glen Annie creeks associated with construction related incidental spills. This plan shall include, but not be limited to, a description of BMPs, including spill prevention measures, spill containment equipment, and monitoring requirements. The following pollution prevention measures shall be followed in association with pipeline construction: 1. If rain occurs during or within three days after concrete is poured for any pipeline structures, plastic sheets or tarps shall be spread and secured over the concrete in such a manner to prevent rain from coming in contact with the concrete; 2. Concrete trucks shall be washed out in a designated area where the material cannot run off into the stream or percolate into the groundwater. This area shall be specified on all applicable construction plans and be in place before any concrete is poured; 3. Upon entering the site and regularly thereafter, equipment shall be inspected and maintained prior to working in or immediately adjacent to West Fork of Glen Annie or Glen Annie creeks. Any leaks or hoses/fittings in poor condition shall be repaired before the equipment begins work; and 4. A Hazardous Materials Business Plan shall be prepared prior to equipment use on the site and followed for project construction. This plan shall include, but not necessarily be limited to: a) Specific bermed equipment maintenance and refueling areas; b) Bermed and lined hazardous material storage areas on site that are covered during the rainy season; c) Hazardous material spill cleanup equipment on site (e.g., sorbent pads, shovels, and bags to place contaminated soil	COMB/ Construction Contractor	COMB shall submit Notice of Intent to the RWQCB; contractor shall provide SWPPP to COMB; BMPs shall be located on the SWPPP grading/drainage plan; copy of the SWPPP shall be maintained on the project site during grading and construction activities; Hazardous Materials Business Plan shall be reviewed and approved by COMB	Prior to issuance of grading permits	Reclamation and COMB

Mitigation Measure	Implementation Procedure or Action	Organization Responsible for Implementation	Reporting/ Notification Requirement	Compliance Schedule	Responsible Party for Verification of Compliance
	in); and d) Workers trained in location and use of cleanup equipment.				
	NOISE				
NOISE-1.1	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.	COMB	Specifications shall be included on the construction plans	Prior to and during construction	Reclamation and COMB
NOISE-1.2	COMB shall notify the 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.	COMB	Specifications shall be included on the construction plans	Prior to and during construction	Reclamation and COMB
NOISE-1.3	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.	COMB	Specifications shall be included on the construction plans	Prior to and during construction	Reclamation and COMB
	TRANSPORTATION AND CIRCULATION				
TRANS-3	Damage caused by the Project to the Glen Annie Road segment located north of the Glen Annie Road/Cathedral Oaks Road intersection shall be repaired.	COMB/ Construction Contractor	Repair requirements shall be in contractor bid solicitation package and included in contractor's scope of work	Prior to and during construction	Reclamation and COMB