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1.0 INTRODUCTION

This mitigation program for the Mission Hills Extension and the Santa Ynez Extension, both local projects associated with Phase II of the Coastal Branch extension of the State Water Project, has been prepared to specify the measures necessary to mitigate impacts that were identified in the environmental impact reports (EIRs) for these projects (DWR 1991; SAIC 1991). The mitigation monitoring plan developed for the pipelines as part of the EIR process is included in this program. The mitigation program consists of this document, which discusses overall mitigation measures, and specific mitigation plans for biological, cultural, and paleontological resources. The latter three are separate documents. Planning and design processes for the Mission Hills and Santa Ynez extensions are still underway, and consequently, some of the mitigations cannot be presented in complete detail at this time.

1.1 PURPOSE AND SCOPE

The goal of the mitigation program is to reduce the project caused impacts to a level not considered significant. For animal or plant species that are listed or candidates for listing as threatened or endangered under state or federal laws, the mitigation goal will be no-net-loss of habitat or species viability. The mitigation goal for sensitive species that are not candidate or listed species and for native plant communities will be replacement in kind, to the extent practicable. For other resources, the goal is to avoid impacts where feasible and to reduce the level of impact to insignificant levels whenever such impacts are unavoidable, particularly in the long term. This mitigation program is also intended to support a Management Agreement/Management Permit to be issued by the California Department of Fish and Game (CDFG) pursuant to Fish and Game Code Section 2081 for the state listed seaside bird's beak, unarmored threespine stickleback, bald eagle, and southwestern willow flycatcher. Other sensitive species that could become listed prior to or during construction are also included (southwestern pond turtle, red-legged frog, California tiger salamander, arroyo southwestern toad, California horned lizard, yellow warbler, yellow-breasted chat, burrowing owl, long-eared owl, Cooper's hawk, American badger, and tricolored blackbird).

1.2 DOCUMENT ORGANIZATION

This document has been divided into four sections. Section 1 contains the project description. The organization, personnel qualifications, and reporting procedures for carrying out the mitigation program are presented in section 2, Mitigation Program Management. Section 3, Project-Wide Mitigation Measures, describes specifications that will be incorporated into construction contracts throughout the ROW and facilities to minimize construction impacts to the extent feasible. References are listed in section 4.

1.3 PROJECT DESCRIPTION

1.3.1 Route Description

The routes for the two projects are contiguous and follow a 43.5-mile long corridor that originates at the end of the proposed Coastal Branch facilities at Tank 5 on Vandenberg AFB, Santa Barbara County, and extends south and east to terminate on the south side of Lake Cachuma near Bradbury Dam (see Figure 1-1). An alternative route segment being considered would involve boring under the Santa Ynez River about 3 miles west of Buellton and would follow Santa Rosa Road to Highway 101. Use of an existing water pipeline from just south of Santa Ynez to Bradbury Dam will eliminate construction of 4.5 miles of pipeline.

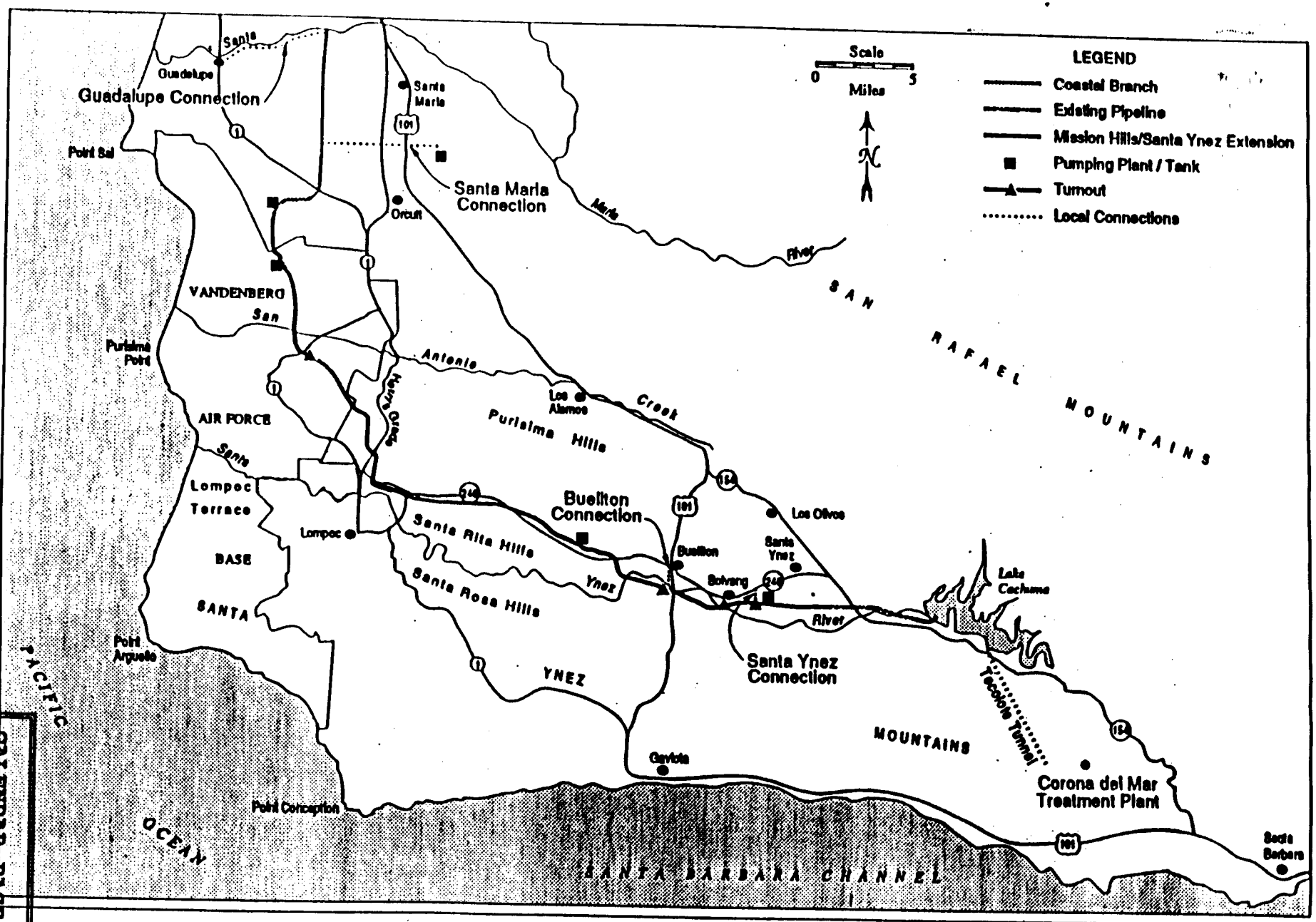

Figure 2-2

LOCATION MAP FOR STATE WATER PIPELINES IN SANTA BARBARA COUNTY

1.3.2 Permanent Facilities

The two projects consist of a buried pipeline with pumping and service turnout facilities. Permanent facilities include the buried pipeline, one pumping plant, a dechloramination station, one tank site, four water supply turnouts, and the terminus facilities. A water treatment plant will also be built by CCWA at Polonio Pass in San Luis Obispo County at the Tank 1 site for the Coastal Branch. The Department of Water Resources (DWR) will grade the site and will mitigate any resulting environmental impacts. Specific permanent facilities are:

- *Vandenberg AFB Turnout.* The turnout is located adjacent to an existing road and would require clearing of 0.01 acre.
- *Tank 7 and Access Road.* The tank site (2.5 acres) is located on the north side of State Route 246 near existing buildings. A short access road (approximately 1,000 feet long) will be required.
- *Buellton Turnout.* The Buellton turnout (0.01 acre) will be adjacent to State Route 246 just west of Buellton or adjacent to Avenue of the Flags on the south side of the Santa Ynez River.
- *Solvang Turnout.* The turnout (0.01 acre) for Solvang is located on the west side of Alisal Road on the north side of the Santa Ynez River.
- *Santa Ynez Turnout.* The Santa Ynez turnout (0.01 acre) is located to the south of Santa Ynez.
- *Santa Ynez Pumping Plant.* About 6.2 acres would be used for the pumping plant, dechloramination station, and maintenance facility.
- *Terminus.* The Santa Ynez Extension will end near the south abutment of Bradbury Dam. The pipeline would extend into the lake and end in a diffuser at a depth of approximately 100 feet below the maximum pool elevation. An alternative to be used, if found to be feasible, is discharge via the existing tunnel through the dam.

A permanent 50- to 60-foot right of way (ROW) easement will be required for the pipeline alignment. At least a portion of the permanent ROW will be kept cleared of vegetation other than grass and small shrubs to permit aerial surveillance and access for maintenance. One short permanent road will be needed to serve Tank 7. Most facilities also will require electrical power service.

Drawings and specifications (at a scale of 1 inch = 50 feet) will be prepared during final design to show all project facilities in detail. Sensitive resources and site-specific mitigations will be shown on these drawings. These drawings, because of their number and bulk, are incorporated into this program by reference. They will be made available to users of this program as needed. (Aerial photography for use in making the maps was flown in early August 1992 with additional photographs taken of realignments in the Spring of 1993, and mapping will be completed by July 1993. Biological and cultural resource surveys will be conducted as maps are available and weather permits.)

In addition, two short segments and the Tank 5 facility of the Coastal Branch pipeline (to be constructed by DWR) have been included in this mitigation program for mitigation of impacts to Burton Mesa chaparral. The pipeline segment lengths are 700 feet near Nipomo and 1,100 feet north from Bishop Road. The tank site, located adjacent to Bishop Road, is 5.5 acres.

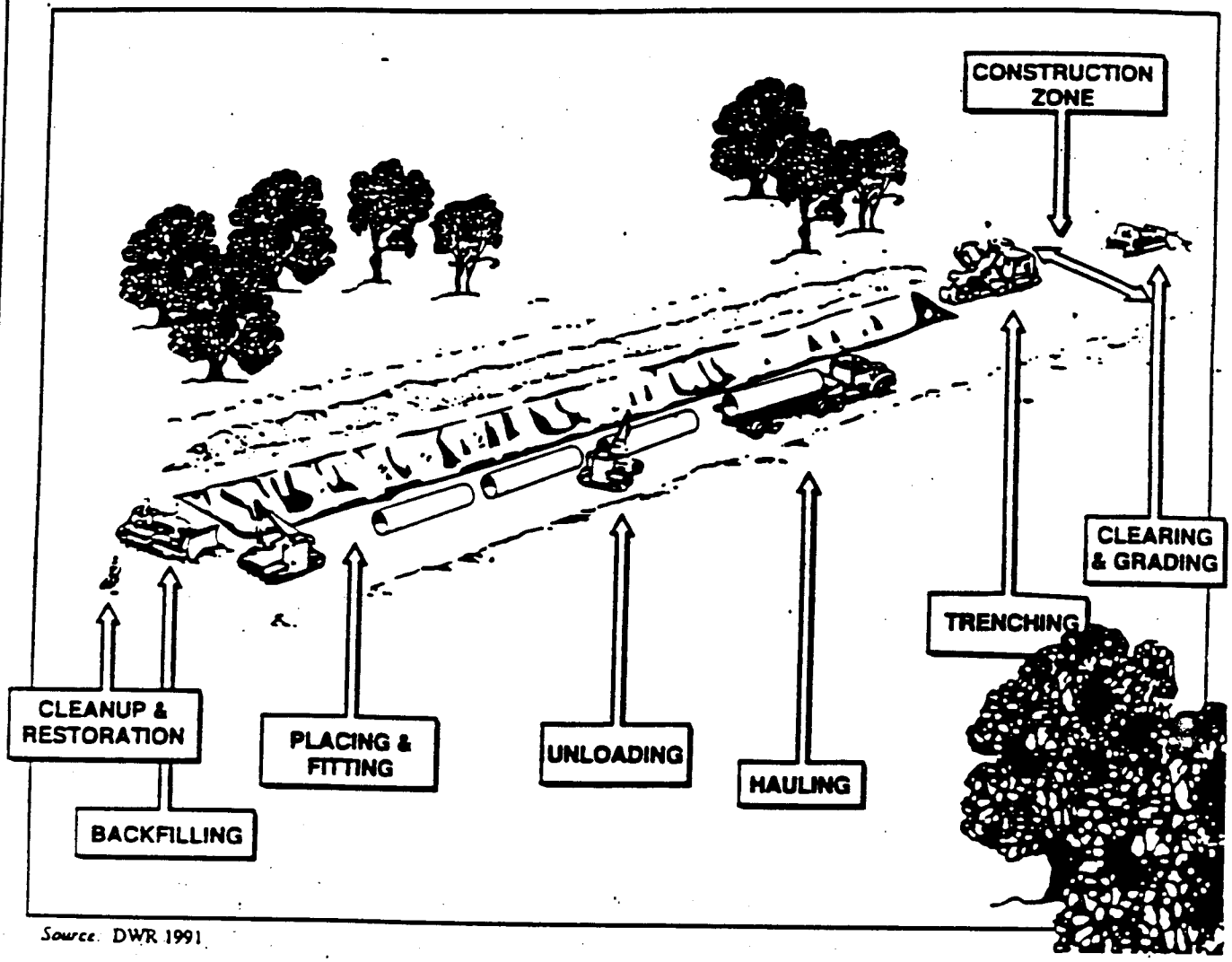

Figure 1-2

SCHEMATIC OF GENERAL STEPS IN CONSTRUCTING A BURIED PIPELINE

1.3.3 Temporary Construction Requirements

The construction ROW will generally be 100 to 120 feet wide. Some areas such as steep hillsides or sandy streambeds may require a greater ROW width, while in certain areas it may be reduced to about 50 feet for short distances. Within the ROW, the pipe trench will generally be a 15- to 30-foot wide excavation. The top of the pipe will be buried about 4 to 5 feet. Figure 1-2 illustrates the general construction steps.

Temporary staging areas will be required to store equipment and materials. Generally, staging areas will be about 4 acres but two will be 5.5 acres. The staging areas have been located based on environmental and construction considerations. Staging areas will be shown on the project drawings and specifications. The staging areas are:

- Picnic grounds – 300 feet by 580 feet
- San Antonio Bridge – 300 feet by 625 feet.
- Santa Lucia Creek – 300 feet by 725 feet.
- Vandenberg Village – 300 feet by 600 feet.
- Harris Grade Road – 300 feet by 600 feet.
- Highway 246 #1 – 300 feet by 800 feet.
- Hapgood Road – about 375 feet by 450 feet (triangular).
- Drum Canyon Road – 300 feet by 600 feet.
- Tank 7 – 400 feet by 400 feet.
- Santa Ynez River (alternative route only) – [dimensions undetermined]
- Buellton turnout – 300 feet by 500 feet (not needed for alternative route).
- Buellton Bridge – 200 feet by 870 feet (moved to Santa Rosa Road for alternative route).
- Granite property – 570 feet by 570 feet by 570 feet (triangular).
- Alisal Bridge – 200 feet by 1,000 feet.
- Refugio Road – 300 feet by 600 feet.
- ID #1 – 300 feet by 600 feet.
- Cachuma discharge – approximately 4 acres.
- Tank 5 – 2.4 acres

Construction contractors may request additional staging areas. These will have to meet criteria in the design specifications (e.g., no impacts to biological and cultural resources) and be approved by CCWA. The PEPM will evaluate all proposed new staging areas to determine if environmental criteria are met.

Excavation materials will be stored along the pipeline trench in the construction ROW. Other spoil stockpile areas may be required where the width of the ROW is reduced to avoid sensitive resources.

Access onto the ROW will be from existing roads or the new permanent road providing access to Tank 7. Temporary access roads will be constructed only where steep slopes dictate the need for such roads.

Some material will need to be imported for backfill in areas where excavated materials (primarily rock) are unsuitable for backfill. These materials will be obtained from existing commercial mining operations; no borrow areas will be developed within the ROW. All excess materials will be disposed of in an approved manner, such as at established disposal/storage areas or by spreading along the ROW.

The aqueduct will cross four major streams and many small drainages. These crossings are listed in Table 1-1. San Antonio Creek will be spanned or bored under, Hilton Creek will be spanned, and both of the Santa Ynez River crossings will be placed on bridges. For the Santa Rosa Road alternative route only, one of the river crossings would be by boring or microtunneling rather than on a bridge.

Table 1-1

STREAMS AND WETLANDS CROSSED BY THE PIPELINE CORRIDOR

Habitat	*Description*
Tributary to San Antonio Creek	Ephemeral flow; sparse willow scrub along narrow channel; crossed 3 times at roads.
San Antonio Creek	Perennial flow; deeply incised (about 25 ft); willow scrub riparian zone; wetland along stream margin; to be spanned or bored under.
Santa Lucia Creek	Ephemeral flow; coastal sage scrub adjacent to narrow channel (headwaters); no wetlands.
Unnamed A2	Ephemeral flow; small drainage through oak woodland.
Unnamed A	Intermittent flow; shrub riparian zone along small channel.
Purisma Creek	Ephemeral flow; channelized (concrete lined).
Unnamed B	Ephemeral flow; channelized (earthen berms) with narrow channel.
Unnamed C2	Ephemeral flow; no riparian vegetation; indistinct channel.
Unnamed D2	Ephemeral flow; no riparian vegetation along narrow incised channel.
Unnamed D	Ephemeral flow; no riparian vegetation; broad (about 120 ft) incised stream bed.
Unnamed PGC	Ephemeral flow; 4 small erosional channels with no riparian vegetation.
Silt basin	Basin dries in summer; a few willows.
Unnamed E	Ephemeral flow; channelized (earthen banks).
Unnamed F2	Ephemeral flow; sparse riparian scrub along small channel.
Unnamed F	Ephemeral flow; channelized (earthen berms) with narrow riparian scrub.
Santa Rosa Creek	Ephemeral flow; deeply incised stream with little riparian vegetation

Table 1-1

STREAMS AND WETLANDS CROSSED BY THE PIPELINE CORRIDOR
(page 2 of 3)

Habitat	*Description*
Unnamed H	Ephemeral flow; oak riparian along narrow channel.
Unnamed PB4	Ephemeral flow; 2 erosional channels with little or no riparian scrub.
Unnamed PB2	Ephemeral flow; deeply incised narrow channel with some oak woodland adjacent to corridor.
Unnamed PB1	Ephemeral flow; drainage ditch along road; no riparian vegetation.
Cañada de la Laguna	Ephemeral flow; sparse oak/riparian woodland along small channel.
Unnamed I	Ephemeral flow; sparse oak woodland along small channel.
Zaca Creek	Ephemeral flow; channelized (earthen berms) with riparian scrub on banks.
Santa Ynez River	Intermittent flow; sparse riparian and willow scrub; suspended on Avenue of the Flags bridge.
Nojoqui Creek	Intermittent flow; disturbed by grading; sparse riparian scrub.
Unnamed J	Ephemeral flow; sparse oak woodland along narrow incised channel.
Santa Ynez River	Intermittent flow; sparse riparian scrub; suspended from Alisal Road bridge.
Alamo Pintado Creek	Intermittent flow; sparse willow scrub along shallow channel.
Unnamed K2	Ephemeral flow; no riparian zone.
Unnamed K	Intermittent flow with perennial pool; no riparian zone; freshwater marsh in small channel.
Unnamed L	Ephemeral flow; small channel with sparse oak woodland.
Zanja de Cota	Intermittent flow; perennial pond below; edge of well-developed willow/box elder riparian forest; wetland along banks.

Table 1-1

STREAMS AND WETLANDS CROSSED BY THE PIPELINE CORRIDOR
(page 3 of 3)

Habitat	*Description*
Unnamed N	Intermittent flow; small drainage through valley oak savanna; seasonal wetland in channel.
Hilton Creek	Ephemeral flow; deeply incised stream with oak woodland on banks; to be spanned or avoided.
Lake Cachuma	Impoundment with fluctuating water level; bank near spillway is riprapped; sparse riparian scrub in drawdown zone.
Alternative route segment (avoids PB1, Cañada de la Laguna, I, Zaca Creek, and Santa Ynez River at Buellton)	
Santa Ynez River	Intermittent flow; cottonwood-willow forest along banks and willow scrub in areas of riverbed not scoured; seasonal wetland in parts of bed; bored under river.
Unnamed	Three or four ephemeral drainages with little to no riparian vegetation (to be surveyed in July 1993).

Note: All stream crossings will be buried except at San Antonio Creek, the Santa Ynez River, and Hilton Creek. Directional drilling is also being considered for San Antonio Creek and the Santa Ynez River west of Buellton.

Sources: BioSystems 1991; Hendrickson 1992; aerial photographs; field observations.

2.0 MITIGATION PROGRAM MANAGEMENT

2.1 ORGANIZATION OF MITIGATION PROGRAM MANAGEMENT

CCWA will assign qualified environmental personnel or contract with a qualified environmental consultant to monitor and carry out the mitigation program. The environmental personnel shall conduct preconstruction surveys and mitigation activities (section 3.1), monitor construction activities to assure compliance with construction contract specifications (section 3.2), monitor vegetation restoration after construction activities (section 3.3.1 and sections 4 and 5 of the Biological Resources Mitigation Plan), and prepare and implement habitat replacement requirements (section 7 of the Biological Resources Mitigation Plan). The environmental monitoring personnel also will be responsible for preparing all required monitoring reports, providing environmental awareness training to construction workers, and maintaining contact with resource agencies.

Primary responsibility for managing construction contracts resides with the Construction Manager retained by CCWA. During construction activities, Environmental Compliance Monitoring reports, including reports of violations or recommendations for changes in contract specifications, will be delivered to the Construction Manager for appropriate action. Appeal and oversight provisions are provided for conflict resolution and to provide for changes in contract specifications if necessary (section 2.5). A schematic representation of Mitigation Program Management is presented in Figure 2-1.

2.1.1 Project Environmental Program Manager

The CCWA Deputy Director (responsible for project management) shall appoint an employee or hire a consultant to act as the Project Environmental Program Manager (PEPM). The PEPM will be responsible for implementing and managing the mitigation program.

The PEPM shall have the following duties and responsibilities:

- Manage the mitigation program, environmental monitoring, and compliance activities.
- Supervise the preparation and conduct of training programs in section 2.4.
- Prepare or supervise preparation of all manuals, pamphlets, plans, and reports required in this plan.
- Supervise and coordinate activities of environmental personnel.
- In consultation with the CCWA Deputy Director, coordinate environmental matters with assigned California Department of Fish and Game (CDFG) personnel and other agencies concerning all aspects of the mitigation program.
- Certify all monitoring reports prepared by the Onsite Environmental Coordinator.
- Design, approve, or provide criteria for any environmental facilities such as escape ramps, flagging, fencing, etc.
- To temporarily (less than 1/2 hour) suspend [illegible] specific location to prevent significant environmental damage and to assure compliance with the

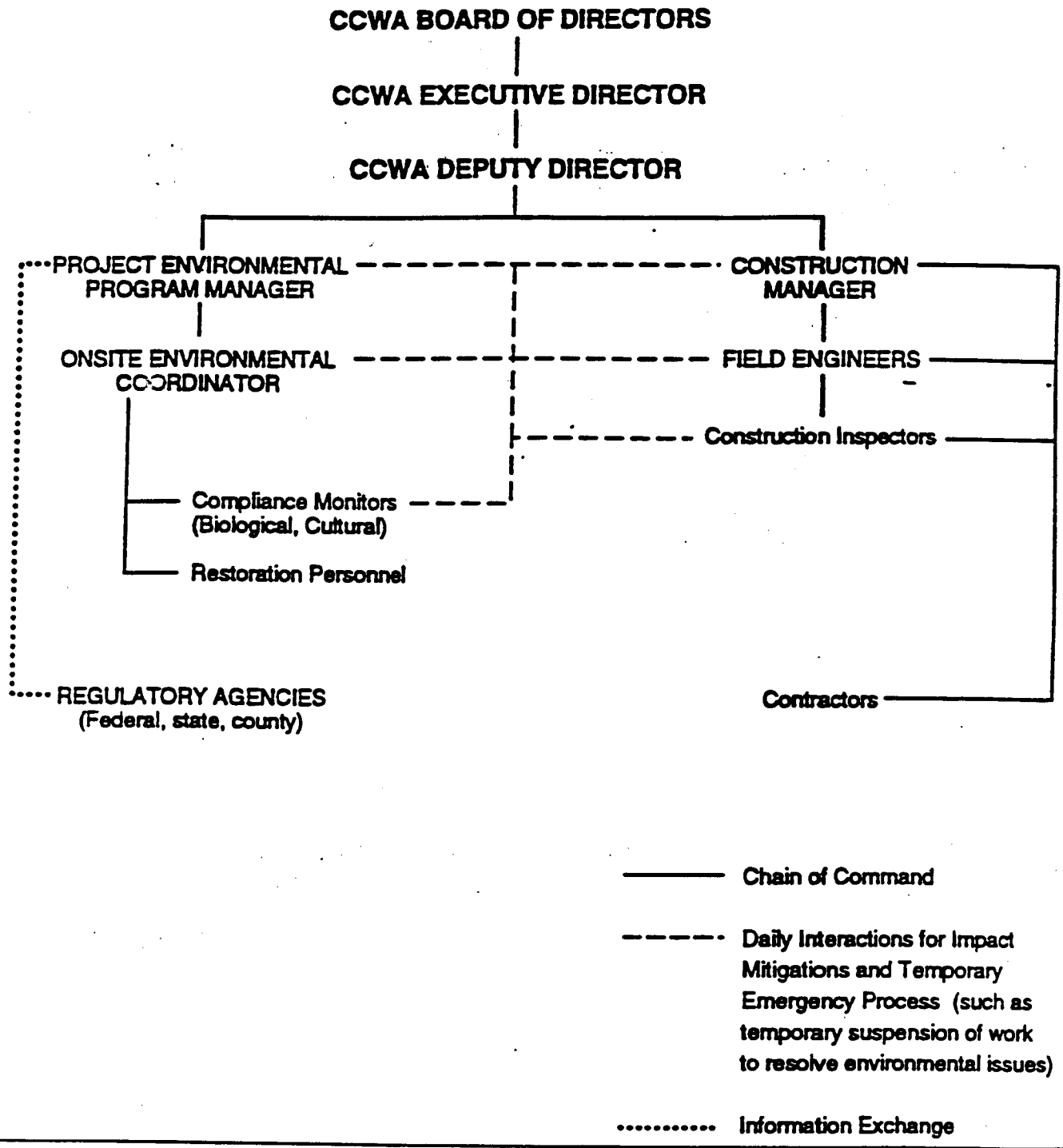

Figure 2-1

MITIGATION PROGRAM MANAGEMENT

CALENDAR PAGE 274.345

MINUTE PAGE 1423

mitigation program. This will allow time for construction management staff to address the issue.

- Work with the CCWA Deputy Director and Construction Manager to develop and implement modifications to project-wide mitigation measures to meet field conditions.

- Enact all aspects of mitigation measures presented in the Biological Resources, Cultural Resources, and Paleontological Resources Mitigation Plans and other plans developed for the project.

- Enact all aspects of the replacement program as presented in section 7 of the Biological Resources Mitigation Plan.

The PEPM shall recommend to the Deputy Director the hiring of additional staff or contractors as is determined necessary to carry out all aspects of the mitigation program. Additional personnel could be hired to serve as environmental compliance monitors, intermediate level supervisors, specialists in various resource areas, and support staff for preconstruction surveys, sensitive species relocation, seed collection, revegetation, or other activities.

2.1.2 Compliance Monitors

The required number of compliance monitors (biological, cultural, and Native American) will vary depending upon the number and type of construction activities. The monitors may assist the PEPM in marking sensitive biological/cultural resources prior to construction and in briefing construction personnel. The Onsite Environmental Coordinator will direct the field monitoring activities.

A minimum of one compliance monitor will be present at each major work area more than 1 mile apart during all earth moving activities such as clearing and grubbing, grading (if not concurrent with clearing and grubbing), and trenching in areas having or potentially having sensitive resources. Biological monitors will not be needed in agricultural fields and only periodically during trenching if in previously cleared and graded areas. Cultural monitors and Native Americans may not be required on steep slopes or other areas where no cultural resources are expected. Areas where monitors are not required will be indicated on the drawings and specifications. A biological monitor will be present for periodic checking during final cleanup activities in all but agricultural fields.

During other construction activities such as pipe laying, backfilling, and contouring, Compliance Monitors will periodically check the integrity of flagged exclusion zones and advise Field Engineers on general compliance with all project-wide mitigation measures required in construction contract specifications. The monitors will work with the CCWA construction management staff to suspend or redirect work in the case of a significant violation of these measures if the PEPM cannot be notified in time to stop additional damage to the resource. The PEPM, however, would be notified as soon as feasible. For example, a cultural resource monitor could work with a construction inspector to stop excavation if a buried cultural site were encountered during trenching and the equipment operator did not recognize this. The work could be redirected to another area beyond the site discovered. Any variations in, adjustments to, or resolution of conflicts over contract specifications will be handled as described in section 2.5.

Sensitive species habitat will be identified in the drawings and specifications. Avoidance areas for cultural resource sites will also be identified on the maps as well as areas of moderate to high sensitivity for paleontological resources.

2.1.3 Restoration Personnel

Qualified personnel will be retained by CCWA for revegetation of disturbed areas. These personnel will work under the supervision of the PEPM, and the restoration work will be monitored by the Compliance Monitors.

2.1.4 Communications

Hand-held two-way radios or equivalent communications equipment shall be supplied to all on-site monitors to provide immediate communications with their immediate supervisors. Vehicles shall be provided with cellular telephones or other communication equipment to permit immediate contact with the PEPM and construction management staff. This equipment assures prompt reporting of any problems or potential violations of the mitigation program and permits rapid deployment of personnel to areas where they are needed. On-site monitors shall keep daily logs of observations and notes on problems and potential measures for their resolution. These logs shall be submitted to the Onsite Environmental Coordinator, who will forward reports to the PEPM for submittal to appropriate agencies (e.g., CDFG) at the end of each week, and to the construction management staff.

2.2 PERSONNEL QUALIFICATIONS

The minimum requirements for environmental personnel are listed in the following sections.

2.2.1 Project Environmental Program Manager

The PEPM should be a senior level environmental scientist with at least five years of experience in conducting or carrying out mitigation or environmental monitoring programs. Educational requirements shall be a bachelor of science degree in biological or natural sciences or equivalent on the job training. Experience in environmental monitoring of other pipeline projects, habitat restoration, and management is required.

2.2.2 Support Crew

Support crew should be trained in natural resource sciences as found acceptable by the PEPM. Specialists in wildlife, botany, habitat restoration, archaeology, geology, or other disciplines may be retained as needed. The Compliance Monitors must be able to identify sensitive natural resources in the field and be familiar with monitoring.

2.3 COORDINATION OF MITIGATION PROGRAM WITH AGENCIES

The mitigation program has been developed by CCWA with input from the CDFG. The following sections describe how information regarding compliance with the mitigation and monitoring requirements will be transferred to the various agencies that have jurisdiction over the project (or parts thereof).

2.3.1 Reporting Procedures

The PEPM shall establish reporting procedures to keep the CCWA Deputy Director informed of the progress and problems with implementation of the mitigation program. Information regarding permit and mitigation program compliance will be recorded in a computer database management system. Individual Environmental Quality Control Report (EQCR) forms will be filled out upon satisfactory completion of specific construction tasks related to permit conditions or mitigation requirements and when construction activities are not in compliance with permit conditions or requirements. An EQCR summary (in tabular form) will be attached to each

Monthly Report. The CCWA Deputy Director will establish a system to transfer required reports to CDFG, U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (COE), and other agencies with jurisdiction over the project. Contact persons will be specified in a Management Agreement with CDFG. The reporting program will be designed to meet the California Environmental Quality Act (CEQA) monitoring requirements. Reports, manuals, and plans required to be prepared under this mitigation program are listed in Table 2-1. The following reporting requirements are minimum standards and are not intended to preclude additional reporting if the CCWA Deputy Director or PEPM determines an additional reporting need exists.

2.3.1.1 Preconstruction Survey Reports

After easements for the ROW are identified, environmental surveys will be conducted to identify, flag, and map sensitive resources either during or after the ROW is land surveyed. Reports shall be prepared that summarize the resources found within the area surveyed, including lists of the sensitive species identified and the resources flagged, and any change from the findings of any previous surveys conducted in the area. These preconstruction reports shall be provided to the CDFG and other appropriate agencies within 30 days following completion of the survey.

2.3.1.2 Monthly Reports

A monthly report shall be prepared by the PEPM and provided to the CCWA Deputy Director and Construction Manager within five working days of the beginning of each month. Within ten days of the beginning of each month the PEPM shall send the report to CDFG. This report shall describe the progress in implementing mitigation measures; report on environmental monitoring of construction activities; describe any incident reports filed for violation of construction restrictions and specifications and the corrective actions taken; and discuss any other problems, issues, or recommendations to improve the mitigation program.

2.3.1.3 Incident Report

Any violation of an environmental work restriction resulting in cessation of work shall be documented by the PEPM and Construction Manager immediately and the documentation transmitted to the CCWA Deputy Director within 24 hours of the incident. CDFG and other appropriate agencies shall be notified verbally no later than the next business day. A written report shall be delivered to these agencies within three business days following the incident.

2.3.1.4 Post-Construction Compliance Report

Within 90 days after construction contractors have completed work within each construction reach, the PEPM shall prepare a post construction environmental compliance report describing and documenting all monitoring efforts, environmental contract specification compliance, deviations from the mitigation program, changes (with rationale) to make the mitigation program more effective, and follow up surveys or other work needed to complete all aspects of the mitigation program except for replacement described in section 7 of the Biological Resources Mitigation Plan.

2.3.1.5 Revegetation Progress Report

Revegetation progress reports shall be prepared annually and submitted to CDFG and other agencies as permits require. Reporting will continue from the time revegetation begins until the revegetation criteria are met. The latter will vary by plant community and may exceed 5 years in oak woodlands and chaparral. The reports will describe the revegetation program

Table 2-1

MITIGATION PROGRAM REPORTS, MANUALS, AND PLANS

Title	*Periodicity*	*Section*	Estimated Schedule		
			Pre	*Construction*	*Post*
Survey Reports	As Completed	2.3.1.1	xxxx		
Training Manual	Once	2.4	xxxx		
Monitoring Reports	Monthly	2.3.1.2		xxxx	
Incident Report	As Necessary	2.3.1.3		xxxx	
Replacement Lands Report	Once	7 [a]		xxxx	
Replacement Lands Management Report	Once	7 [a]		xxxx	
Post-Construction Compliance Report	Annually As Necessary	2.3.1.4			xx
Revegetation Progress Report	Annually	2.3.1.5			xx
Final Mitigation Program Report	Once	2.3.1.6			xx

Note: a. Section 7 of the Biological Resources Mitigation Plan.

accomplishments toward the success criteria and recommend additional work or remedial measures where criteria are not being met.

2.3.1.6 Final Mitigation Program Report

A final mitigation program report shall be prepared after all aspects of the program are enacted but no sooner than five years after all vegetation planting requirements have been completed. The report shall contain a summary of the information contained in the post construction compliance reports, the results of any follow up surveys or mitigation work conducted since the post construction compliance reports, and a detailed presentation of the results, accomplishment, problems, and proposed solutions of the replacement program.

2.4 TRAINING PROGRAM

Training programs for construction workers, environmental monitoring personnel, restoration contractor personnel, and agency monitors/visitors will be developed by or under the direction of the PEPM. These programs will include a description of the sensitive resources (biological, cultural, etc.) along the project route, a summary of the specifications in the construction contracts to protect these resources, a review of the penalties associated with violation of the specifications, and an outline of procedures to be followed in case of questions or conflicts. These training programs shall be conducted at the beginning of all new construction, including changes in work crews, and regular briefings of construction workers and monitors will be held to transfer new information or revisions in procedures.

2.4.1 Monitoring Personnel

All environmental monitoring personnel shall undergo a training program developed under the supervision of the PEPM. During the training program, personnel will be provided with information outlining all environmental requirements, methods to meet these requirements, responsibilities of the monitors, the chain of command for reporting deviation from the mitigation program and limits of their authority, construction safety requirements and rules, types of construction equipment and their limitations, how to relate to construction personnel, and other relevant information.

Where applicable, training also shall be provided on the identification and handling of sensitive species, cultural resources, and paleontological resources.

The training program will be submitted to the CDFG and other appropriate agencies for review and comment at least 60 days before its use.

2.4.2 Construction Workers

All construction personnel shall take a brief (about 1/2 hour) environmental training course before conducting work on the site and periodically thereafter when new information must be passed on. The course shall be prepared and administered under the direction of the PEPM and will describe the resources being protected, contract specifications, and procedures and rules to protect the resources. It shall also outline penalties for not complying with the procedures and rules, and how to report any problems or recommendations they may have concerning the program. Construction personnel shall be given brief and concise written materials describing and identifying sensitive resources and environmental contract specifications in their construction area and shall be required to sign a statement that they have read, understand, and will follow the environmental requirements. Decals for hardhats and wallet sized cards shall be issued to those completing the course so that monitors can identify personnel who have not been

trained. A database listing all those who have completed the training shall be maintained and distributed.

Construction workers or personnel delivering materials within construction areas that have not received the environmental training course will be permitted within construction areas containing sensitive resources only if escorted by personnel who have received the training. The escort will be responsible for the activities of the untrained personnel. The untrained personnel will take the environmental training course within five days of beginning work.

2.4.3 Restoration Contractor Personnel

Restoration field supervisors shall be given a training course before beginning work on the project. This will include briefing on the status of the areas to be restored, methods for restoration, procedures for reporting problems, and quality assurance checks. These field supervisors are then responsible for passing the information on to their field personnel.

2.4.4 Agency Monitors and Visitors

Agency representatives and visitors to the construction ROW may be provided the construction worker environmental materials. Depending on the length of time they will be at construction sites and the degree of CCWA supervision, they may be required to certify that they will follow the procedures.

2.5 VARIATIONS, ADJUSTMENTS, AND CONFLICT RESOLUTION CONCERNING CONSTRUCTION CONTRACT SPECIFICATIONS

Variations, adjustments, and resolution of conflicts concerning construction contract specifications shall be made in conformity with the following procedures. Contract specifications shall include clauses incorporating these procedures.

If a change in the specifications of a construction contract is required that potentially affects the mitigation program or sensitive resources (including all fish and wildlife), the changes shall be reviewed by the PEPM. The PEPM, after consultation with resource experts, shall work with the Construction Manager if the proposed change could cause a significant adverse impact to these resources and shall report the determination to the CCWA Deputy Director. The CCWA Deputy Director shall consult with the CDFG and USFWS if the change involves candidate or listed threatened or endangered species, with the SHPO if cultural resources are involved, with the COE and CDFG if stream crossings or wetlands would be affected, and with CDFG if fish and wildlife resources would be affected. If the change will not cause a significant adverse impact to sensitive resources, and with concurrence of the CCWA Deputy Director, the PEPM shall recommend to the Construction Manager to make the change. If, after consultation with the CCWA Deputy Director, the PEPM determines that the proposed change could cause significant adverse impacts to sensitive resources and the Construction Manager finds the change necessary for construction of the project, the matter will be referred to the CCWA Deputy Director who shall prepare the necessary environmental documents and obtain the required permits for the change.

Any project changes needed to avoid or minimize impacts to one resource will be checked to make sure that no other resources would be impacted by the change. If a conflict between resources arises, the PEPM will consult with resource experts to obtain the information necessary to resolve the conflict so that impacts are minimized on all resources. The PEPM will then make a recommendation to the Construction Manager. In s[illegible]al

mitigation may be necessary. The required measures will be added to the mitigation plan and documented in the Monthly Reports.

If a conflict arises over the interpretation of a construction contract specification for project-wide mitigation measures, the Construction Manager shall make a ruling on the conflict. If the PEPM does not agree with the Construction Manager's ruling, the matter will be forwarded to the CCWA Deputy Director. After a briefing by the PEPM and the Construction Manager, the CCWA Deputy Director shall attempt to resolve the issue. They may consult with CCWA Executive Director and Board of Directors to make a final ruling (see Figure 2-1).

As noted above (section 2.1.2), Compliance Monitors will work with construction management staff to temporarily suspend or redirect construction activities when a significant violation of construction contract specifications or mitigation measures occurs and the PEPM cannot be reached in time to prevent additional environmental damage. The issue will be resolved as quickly as feasible in the field by the PEPM; consultation with the Construction Manager will occur. In addition, a temporary work halt can be exercised by the construction management staff working with the construction monitors or PEPM if a specific offense is observed more than once in the same week or four times within the same month.

Throughout these procedures, no work shall be done contrary to existing specifications or, in a conflict resolution process, requiring exercise of the specification in question. However, work can be directed around the problem area during the resolution process to minimize impacts on construction schedules. All changes made in construction contract specifications that affect the environment shall be reported in the Monthly Reports.

3.0 PROJECT-WIDE MITIGATION MEASURES

Numerous mitigation measures were identified in the EIRs for the project, and a mitigation monitoring program was developed. This section describes the measures that apply to resources such as air quality, noise, aesthetics, geology and soils, traffic, and hazardous materials. These measures generally apply to the entire project, although some may be site specific. In the latter case, particular specifications will be noted on the detailed design drawings and specifications for the project. Some of the measures may directly or indirectly apply to biological resources.

For biological, cultural, and paleontological resources separate mitigation plans have been developed under the mitigation program. These are presented in separate documents.

3.1 PRECONSTRUCTION PHASE

3.1.1 Preconstruction Surveys

The entire ROW will be surveyed for biological and cultural resources before construction by qualified biologists and archaeologists. In addition, plots (adjacent to the ROW) representative of each vegetation type will be permanently marked for use in assessing restoration success within the ROW. Information gathered during the preconstruction surveys shall be used to:

- Identify, inventory, and refine maps of the vegetation types and sensitive resources of the final ROW.
- Make final adjustments, where technically feasible, in or to the ROW to avoid or minimize impact to sensitive species and cultural resources.
- Establish exclusion zones at sensitive resource sites that can be avoided to be fenced or staked by monitors immediately prior to construction.
- Quantify the acreages and quality of sensitive vegetation types and numbers and types of mature trees that (1) will be restored on-site and (2) cannot be mitigated on-site.
- Document existing conditions at stream crossings and other sensitive habitats in enough detail to guide restoration of the habitat to pre-project conditions.

The biological surveys will be conducted during the appropriate seasons during or after the ROW land surveys. The cultural resources surveys will be conducted as soon as the alignment is established and be completed prior to construction. Adequate time (minimum of one year) has to be provided between marking the ROW and construction activities (1) to allow completion of the preconstruction mitigation activities, especially those that are dependent on season, and (2) to allow final adjustments to the ROW before pipeline specifications are submitted to vendors. The area to be mitigated on-site and off-site will be calculated using the construction corridor width specified on the drawings and specifications and the width of the "clear zone" (area maintained with no trees but little other maintenance) over the pipeline by vegetation type (varies from 0 to about 20 feet).

3.1.2 Preconstruction Mitigation Activities

Preconstruction mitigation activities shall include activities to:

- Flag the ROW boundary and sensitive resources to be avoided.

- Mark sections of the ROW where the width of the construction zone will be restricted.

- Photograph and/or videotape (on the ground) specific locations in the alignment and at the associated assessment plots to guide restoration. A videotape of the entire alignment was taken from the air in March 1993. (August 1992 aerial photographs are available.)

- Collect seeds or plants from the construction area (beginning one year prior to construction).

- Move sensitive plants or animals from the construction area.

- Fill sensitive wildlife dens or burrows in the construction area.

- Identify faults crossed by the ROW for use during final design.

- Locate potential landslide and liquefaction areas and avoid where feasible.

Additional activities for sensitive species are listed in sections 4 and 5 of the Biological Resources Mitigation Plan. Other activities may be necessary as are identified in the technical manuals or at the discretion of the CCWA Deputy Director or PEPM. The preconstruction mitigation activities shall be carried out under direction of the PEPM by mitigation program personnel. The PEPM shall provide progress reports on status to CDFG. Special design features to be considered at fault crossings include use of steel pipe, emergency shutoff valves, and cohesionless backfill. Structures will be designed for seismic zone 4 of the UBC.

3.2 CONSTRUCTION PHASE

On-site mitigation measures to minimize construction impacts to all resources are presented in this section. Table 3-1 presents a summary of project wide construction mitigation measures that are described in more detail below. These mitigation measures will be implemented through specifications placed in construction contracts and on the drawings and specifications, including incentives to avoid impacts to sensitive vegetation in the ROW. Penalties for violation of these specifications shall be placed in the contracts and include (1) loss of jobs by personnel in flagrant and/or repeated violations, (2) cost of restoration/compensation for violations of contract specifications for protection of sensitive resources in and outside the ROW to be paid by contractor, and (3) substantial monetary fine or damages to be paid by contractor when a specific violation occurs more than once in a week or four times in any four-week period.

Requirements that can be depicted in a linear reference, i.e., ROW width, grading width allowed, etc., shall be shown on the drawings and specifications. Requirements that are specific to certain areas or sites, such as areas containing listed wildlife species habitat, sensitive species exclusion zones, etc., also shall be delineated on the drawings.

In other pipeline construction projects, private landowners have often requested pipeline contractors to perform maintenance work as compensation for access, primarily in the form of road repair or minor grading that require use of large equipment (Storrer and Semonsen 1991). Since such work may require County permits and could have environmental impacts that the contractor may be responsible for, no work beyond that permitted for the pipeline should be conducted without prior approval of CCWA and the appropriate County agencies. This requirement will be discussed in the training program (section 2.4) and be made a part of construction contracts.

Table 3-1

SUMMARY OF PROJECT-WIDE CONSTRUCTION MITIGATION MEASURES
(page 1 of 2)

Controls on Construction Noise, Traffic, and Access (Section 3.2.1)

1. All activities restricted to designated areas.
2. Traffic outside of designated areas prohibited.
3. Noise control near sensitive receptors.

Clearing, Grubbing, Grading, and Dust Control (Section 3.2.2)

1. Special clearing and grubbing specifications required.
2. Flagged resources shall be avoided.
3. Grading and similar disturbances limited to area within the flagged ROW.
4. Special provisions for grading in streambeds.
5. Water pollution measures required.
6. Dust control required.

Erosion Control (Section 3.2.3)

1. Special erosion control specifications required.

Topsoil Salvage and Handling (Section 3.2.4)

1. Topsoil salvage and restoration specifications are required.
2. Provisions for handling topsoil.
3. Additional provisions for topsoil handling where sensitive resources are present.

Trenching, Blasting, and Inspections (Section 3.2.5)

1. Escape ramps for wildlife required.
2. Special requirements for blasting to protect sensitive resources.

Backfilling (Section 3.2.6)

1. The trench must be backfilled as soon as possible.

Construction Material and Equipment Storage (Section 3.2.7)

1. Inspections of open construction pipes, culverts, or similar structures for sensitive wildlife required.
2. In-place pipeline segments shall be capped daily.

Table 3-1

SUMMARY OF PROJECT-WIDE CONSTRUCTION MITIGATION MEASURES
(page 2 of 2)

Pets, Camping, Firearms, and Use of Area (Section 3.2.8)

1. No camping in any construction area.
2. No pets in any construction area.
3. Firearms prohibited in construction areas.
4. Unauthorized persons not permitted off the designated construction area.
5. Unauthorized persons not permitted at construction areas during non-scheduled hours.

Trash Control (Section 3.2.9)

1. All trash and litter shall be collected, removed, and disposed at a legal disposal site.

Handling and Disposal of Hazardous Materials and Pollution Control (Section 3.2.10)

1. Use, transfer, refueling, and storage of hazardous materials shall be limited to designated areas within the staging areas or ROW.
2. Storage or use of hazardous materials shall be consistent with all applicable regulations.
3. Special requirements for equipment washing and refueling.
4. Construction vehicles shall be regularly maintained.
5. Special requirements ~~for equipment operation~~ to reduce NO_x emissions.

Fire Control Procedures (Section 3.2.11)

1. No trash burning fires permitted in construction areas.
2. Smoking restrictions; spark arrestors on equipment.
3. Fire extinguishers required at all construction sites and on all vehicles.
4. Local fire-fighting agencies to be consulted throughout the dry season.
5. Fire conditions shall be communicated to all construction personnel.

Collection and Harassment of Species/Collection of Cultural Artifacts (Section 3.2.12)

1. No harassment, killing, or collection of plants or animals is permitted, except as provided for in the Biological Resources Mitigation Plan.
2. If wildlife species enter construction areas, removal will be under the direction of environmental personnel.
3. No collection of cultural resource artifacts is permitted except as specified in the Cultural Resources Mitigation Plan.

Cleanup (Section 3.2.13)

1. All construction materials, refuse, and wastes shall be removed from site after construction.

Surface Restoration (Section 3.2.14)

1. Surface restoration specifications are required.

3.2.1 Controls on Construction Noise, Traffic, and Access

Project-related vehicle traffic, construction activities, and equipment storage shall be restricted to established roads, designated access roads, the construction ROW, and staging areas designated for material and equipment storage and vehicle parking. All designated areas will be marked by flagging. Off-road traffic outside of designated areas is prohibited. Staging areas and the construction ROW shall be clearly identified by flagging or other marking.

After construction is completed, physical barriers and signs will be installed on the ROW and any temporary access roads to prevent, to the extent feasible, use by off-road vehicles.

Locations where pipeline construction is expected to generate significant impacts on noise-sensitive human receptors will be marked on the drawings and specifications. At these locations, the following measures shall be used, as appropriate:

- All equipment and vehicles shall be properly equipped with mufflers and silencers in accordance with OSHA requirements.
- All equipment and vehicles shall receive the necessary preventative maintenance to assure minimum noise levels are in accordance with manufacturer specifications.
- Construction activities near noise sensitive receptors shall be limited to between 7 A.M. and 6 P.M. during weekdays. No construction would occur during weekends near noise-sensitive receptors. Exceptions in unusual circumstances may be approved by the CCWA Deputy Director in order to reduce overall impacts.
- Use blast mats, if needed, near noise-sensitive receptors (human and wildlife).
- Schedule noisiest operations during peak noise periods during day or speed up construction near dense residential areas to minimize the number of days of annoyance.
- Locate noise-generating stationary equipment away from noise-sensitive receptors.
- Reroute materials transport trucks to avoid noise-sensitive receptors, where feasible.
- Use low noise-generating equipment where identified on drawings and specifications.

Traffic impacts can be minimized by using the following measures:

- Use carpooling and van pools, where feasible.
- Disperse deliveries of pipe along ROW.
- Provide detours around trench crossings and use jacked crossings under major roads.
- Restore all roads and driveways to preconstruction specifications.

In addition, the following measures may be necessary at specific access points to reduce the potential for vehicle accidents:

- Schedule pipe delivery for non-peak traffic hours.
- Have escort vehicles in front and behind pipe delivery trucks.
- Use flagmen wearing orange vests.
- Post signs before access points.
- Coordinate with California Highway Patrol or local police.

3.2.2 Clearing, Grubbing, Grading and Dust Control

Construction contract specifications shall specify clearing and grubbing techniques to be used within each construction reach. Specifications shall include provisions to:

- Avoid trees, large shrubs, and other sensitive resources that have been flagged by the monitors within construction areas.
- Mulch and save dense native vegetation removed from ROW; after construction, spread this mulch over the ROW to provide organic material to the surface and provide wildlife cover as specified in section 5 of the Biological Resources Mitigation Plan.
- Cut certain brush and tree species at soil surface level to preserve root systems (see section 5 of Biological Resources Mitigation Plan).

Grading shall be limited to that area necessary to permit movement and operation of equipment within the flagged ROW. Grading shall not be permitted in areas where sensitive plants occur until the sensitive plants are removed, seeds collected, or mitigation measures identified in section 4 of the Biological Resources Mitigation Plan are enacted. Grading generally shall not occur in stream channels during the period from 1 November to 30 June. Exceptions to this (e.g., grading in small ephemeral streams if they are dry) shall be developed on a stream-by-stream basis and specific limitations will be noted for individual streams on the drawings and specifications. Any stockpiled topsoil or backfill material shall be stored above the stream high water mark, outside any riparian zone, and in an area where the material can be prevented from washing back into the stream. Additional erosion control methods are discussed in section 3.2.3. Topsoil shall be salvaged and handled as described in section 3.2.4 and section 4 of the Biological Resources Mitigation Plan.

The construction contractors shall prepare a Dust Control plan to be approved by the PEPM and construction management. This plan will include the following measures (or modifications thereof) described in the Final EIR (SAIC 1991) to the extent applicable and feasible.

- Grading activities will cease when wind speeds are such that the application of water and other particulate regulation techniques are ineffective to control dust generation.
- Stockpiles will be covered or other particulate control techniques shall be used to minimize dust generation.

- Vehicle speeds in construction corridor and on unpaved access roads will be enforced at no greater than 20 miles per hour, except in areas where water and other particulate regulation techniques are used to control dust generation.

- After clearing, grading, earth moving or excavation is completed, the entire area of disturbed soil will be treated immediately by watering, revegetating, or spreading soil binders to prevent wind pick-up of the soil until the area is restored or otherwise developed so that dust generation will not occur. Organic mulches or other soil stabilizers will be applied to exposed ground areas that would be left in a disturbed state for a period of more than one month.

The following measures will be required in the plan:

- Haul roads and construction site roads shall be kept damp enough to prevent dust from leaving the site. If necessary, this may include watering twice a day, in the late morning and after work is complete for the day. Additional watering may be necessary whenever the wind speed exceeds 15 mph.

- Haul trucks traveling off the site will be covered. Haul trucks traveling on the site will be covered as necessary to prevent dust from leaving the site.

A person or persons shall be designated to monitor the dust control program and to work with construction management to order increased watering as necessary to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Santa Barbara County Air Pollution Control District. Watering (with added chemical dust suppressants as necessary) will follow these guidelines:

- Water will not be taken from local aquatic habitats, but water from existing water supply systems or treated wastewater is appropriate.

- Water trucks or sprinkler systems shall be used in sufficient quantities, and with sufficient frequency, to prevent dust from leaving the site and to create a crust after each day's activities cease.

- Water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. 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.

3.2.3 Erosion Control

The contractor shall prepare an erosion control/drainage plan for approval by CCWA as requested in the design specifications. It shall include measures to control and minimize soil erosion. In areas with steep slopes and at stream crossings, construction activities shall be limited to the dry season. These locations will be identified on the drawings and specifications. The erosion control/drainage plan shall describe where and how the following erosion control devices shall be placed along the pipeline alignment, at facilities or new access roads, and at stream crossings.

Waterbars

Waterbars or checkdams shall be used where the ROW crosses up and down slopes. Portions of the route where waterbars will likely be constructed include sections with steep slopes or significant slope length. These locations will be shown on the drawings and specifications.

Waterbars shall be constructed of compacted earthen materials (topsoil in areas to be revegetated) and shall be placed at an angle (based on the average gradient of the slope, but not exceeding 45 degrees) to the slope. Drainage collected from the waterbar will be channeled by the waterbar onto a preferably less steep, vegetated, undisturbed area, outside the ROW where flowing water will not cause an erosion problem.

Waterbars shall be constructed at intervals along the ROW not to exceed spacing limits based on slope and erosion potential. Existing waterbars or other diversion/retention structures will be repaired or improved where they cross the ROW.

Mulching

Mulching may be used to control erosion and enhance revegetation. Mulch should be clean cereal grain straw or native or naturalized grass hay (red brome, wild oats, or wild barley). Punching, crimping, or fiber netting is used to hold the mulch in place. Up to 2 tons per acre of straw or hay mulch is the suggested application rate, depending on the slope. Hydromulching may also be used.

Conveyance Systems

Conveyance systems or culverts shall be used in the construction of access roads where appropriate. Temporary drainage devices (e.g., plastic or corrugated steel pipe) shall be available for carrying runoff over or around disturbed areas to a stable, safe discharge point, if necessary.

Retention Devices

Retention devices such as check dams in stream channels, sediment basins, and retentive waterbars shall be used where appropriate during construction of the pipeline and other facilities. These devices shall be constructed of clean materials that will cause little or no increase in turbidity or siltation. After construction is completed, materials used in construction of the devices and sediments and debris caught by these devices shall be removed from the stream channel unless specified by a specific stream crossing restoration plan.

Diversion

In addition to waterbars, water diversion structures shall be constructed where appropriate to direct runoff from short slopes to planting basins, thereby increasing available moisture in conjunction with seeding or planting efforts.

Other

During construction activities, straw bales (hay if straw not available), sand bags, or earth berms shall be used to retain or divert run-on or runoff on the ROW to desired outlets during and following precipitation events. Straw bales and/or silt curtains shall be used to provide temporary sedimentation control in and near riparian areas at stream crossings. Bales must be grounded, staked, and positioned as required to control sheet and minor channelized flows. In potential heavy runoff areas, two rows of straw bales that are trenched, staggered, and lined with

filter fabric should be used. Sedimentation basins shall be used for water pumped from the trench where the ROW crosses streams or where perched water is encountered. All structures shall be checked and maintained regularly during runoff events. Those in stream beds shall be removed as soon as not needed to allow normal aquatic animal movements to continue. On steep slopes adjacent to streams, erosion control matting may be necessary.

3.2.4 Topsoil Salvage and Handling

Contract specifications shall specify how topsoil shall be removed, stored, and restored to all construction sites. Additional special topsoil methods, which will be conducted by the environmental mitigation personnel, are required in areas containing sensitive plants and habitats and will be listed in site-specific vegetation restoration plans (see the Biological Resources Mitigation Plan). The removal, storage, and replacement of this topsoil will be coordinated with the construction contractors by the PEPM to avoid conflicts, delays, or loss of salvaged material.

Several topsoil methods are available and would be used as appropriate for site-specific conditions along the ROW. Generally, to minimize the amount of construction ROW required to store excavated materials, topsoil will be saved by removing the surface material from the excavation and placing it to one side of the construction ROW. This material will be covered with a marker, such as wheat straw or an inert colored substance that is environmentally benign, to indicate the boundary between topsoil and subsoil. Spoil material from the rest of the excavation will be stored over and next to the surface material. The materials are replaced in the excavation in the reverse of the order removed and with equipment that will minimize mixing of the surface and subsurface materials. This method is applicable where topsoils are deep and native vegetation is not present.

In specifically marked areas of native vegetation, topsoil shall be preserved by scraping the surface soils to a specified depth to one side of the ROW and stockpiling trench spoils either on the other side of the ROW or in a separate windrow. A "double-lift" procedure may be appropriate in specific sensitive resource areas of limited size where topsoil averages more than 12 inches thick. In this case, a first pass by bladed equipment is made to remove the top layer of surface soil that is stored in a windrow (or pile if topsoil is thin and corridor must be narrow) at the edge of the spoils storage side of the ROW. A second cut is then made removing the remainder of the topsoil material and that is stored next to the surface material windrow. Then the trench is excavated and the spoils are stored in a third windrow, avoiding mixing with the other windrows. Locations and descriptions for specific salvage measures will be placed on the drawings and specifications.

In agricultural areas, input will be requested from agricultural land owners regarding any special techniques for handling agricultural soils they may request on their properties. After being confirmed as necessary and practical through consultations among the landowner, the Soil Conservation Service (for areas in USDA Conservation Reserve Program), and CCWA, special techniques determined by CCWA to be practical will be specified in construction contracts.

Topsoil storage areas shall be protected from loss through wind and/or water erosion, especially during the rainy season, and from inadvertent mixing with subsoils. The top layer of soil from native plant communities shall be kept cool and dry by covering to protect the seed bank until corridor restoration occurs as identified on the drawings and specifications. Except where erosion control considerations prevent it or a gently graded bench in a sloped area is required for access along the pipeline, all areas shall be graded back to approximate original contours.

3.2.5 Trenching, Blasting, and Inspections

For trenches with side slopes steeper than 0.5 to 1 that are not filled by day's end, escape ramps (slope no greater than 0.5 to 1) for wildlife shall be installed at distances no greater than 0.25 mile apart.

When blasting is required for trench excavation, mats, shields, or earth padding shall be placed as necessary and appropriate to protect sensitive vegetation.

3.2.6 Backfilling

The trench must be backfilled as soon as feasible following installation of the pipe. Each day prior to backfilling, environmental monitors shall inspect the trench when left open overnight, and any animals found shall be removed (by qualified personnel) or allowed to escape before filling begins. During backfilling, spoil and topsoil shall be pulled or pushed back into the trench in a manner that avoids vehicular or equipment traffic outside the ROW. The backfill will be compacted, and the surface will be graded to preproject levels except a slight crown (about 10 inches) shall be left over the trench to compensate for subsidence. Materials unsuitable for backfill will be disposed of in accordance with all regulations and as approved by the affected landowner and the construction management staff. Excess fill will not be placed in any drainage or on unstable slopes, but spread over the ROW or disposed of in accordance with all regulations and as approved by the affected landowner and the construction management staff. Excess subsoils shall not be spread over existing topsoil. Site-specific variations to this will be given in the drawings and specifications.

3.2.7 Construction Material and Equipment Storage

All open construction pipes, culverts, or similar structures stored in stockpile areas or on the ROW shall be inspected for small mammals or reptiles (e.g., California horned lizard) before the pipe is buried, capped or otherwise used or moved. All in-place pipeline segments shall be capped daily until buried to prevent entry of animals.

3.2.8 Pets, Camping, Firearms, and Use of Area

No camping shall be allowed on the ROW. Only authorized off site, established camping areas may be used.

To prevent harassment, mortality, or destruction of dens or burrows of wildlife species, pets will not be allowed on the ROW, staging areas, access roads, or any other construction sites. Possession of firearms also shall be prohibited in the same areas unless approved by the PEPM. Construction workers or other personnel shall stay within the marked ROW or facility site. Exceptions which will not cause environmental impacts to biological resources may be granted by the Construction Manager after consultation with the PEPM staff if a job-related need arises. Workers not assigned by the contractor to work shall not be permitted at construction areas during non-scheduled hours.

3.2.9 Trash Control

All trash and litter (wrappers, cans, bottles, scraps, etc.) shall be placed in closed containers and disposed of at an authorized disposal site as necessary to avoid attracting sensitive animals. The ROW and construction areas shall be policed daily by construction personnel and any trash or garbage collected and removed.

3.2.10 Handling and Disposal of Hazardous Materials and Pollution Control

Hazardous (toxic) materials most likely to be used in the construction area include fuels, lubricants, solvents, and explosives. Storage of these materials shall be at designated staging areas. Servicing of equipment and refueling shall occur within the ROW but shall not be allowed within 600 feet of any flagged sensitive resource or streambed unless approved by the PEPM. Sorbent materials shall be maintained on site for use in cleaning up minor spills. Any such spills shall be cleaned up immediately. Construction contractors shall prepare a spill response plan for review and approval by the Construction Manager and PEPM that specifies excavation and transportation procedures for spills that contact natural soils, regulatory compliance and documentation procedures, and designation of a destination for proper treatment and/or disposal of contaminated materials. Storage or use of hazardous materials in or near streams shall be consistent with CDFG regulations and other state laws.

Water used for pressure testing and cleaning the pipeline will likely be obtained from local wells or municipal supplies. Water used for disinfection of the line will have a high chlorine content. The testing and cleaning water shall be treated on site to remove debris before disposal, and the disinfection water shall either be retained in the pipe until no toxic chlorine residual remains or where approved by the PEPM a temporary bermed area can be used to hold the chlorinated water until no toxic chlorine residual remains. The contractor shall submit a plan to the CCWA that specifies and demonstrates where concrete and other equipment shall be washed along with methods for wash water containment and disposal, and how pipeline testing/cleaning shall be handled to prevent damage to sensitive resources. Groundwater encountered during trenching across streams shall be screened for hydrogen sulfide. If hydrogen sulfide is found, water shall be aerated before discharge into streambed. No wastewaters will be discharged into waters of the United States except as specified by the Regional Water Quality Control Board. A draft Water Discharge and Spill Contingency Plan has been prepared by CCWA and is included as Appendix A.

The contractor shall also prepare a NO_x Reduction Plan to be reviewed and approved by the PEPM and construction management. The plan will address the following:

- The contractor will maintain engine and emission systems in all equipment in proper operating condition. Appropriate maintenance schedules will be defined and implemented. Equipment will be subject to inspection by CCWA. If equipment is observed to be out of tune (as determined by the CCWA representative), the contractor will be required to cease using the equipment until after it has been tuned up and approved for use by the CCWA representative.

- Where the contractor has a choice among several pieces of equipment for the job, the contractor will obtain emissions data for each piece and will select the lowest-emitting (preferably less than 5 gms/bhp-hr of NO_x) equipment for service. The contractor shall include the data in the NO_x Reduction Plan for review and approval by the PEPM.

- The construction contractor will use reformulated diesel fuel on all diesel powered equipment if reformulated diesel fuel is commercially available locally.

- The construction contractor will address the feasibility of implementing 2-degree engine timing retard.

- The construction contractor will address the feasibility of installing high pressure fuel injectors on all equipment which utilizes these injectors.

- The construction contractor will be encouraged to substitute CNG-powered vehicles for diesel or gasoline-powered vehicles. The feasibility of using CNG-powered vehicles will be described.

- The construction contractor will address the feasibility of installing catalytic converters on gasoline-powered equipment.

- During Stage 2 alerts, the contractor will be required to reduce construction activity.

3.2.11 Fire Control Procedures

The construction contractor will prepare and implement a CCWA-approved fire prevention and control plan in consultation with the PEPM and fire protection agencies. The plan will contain the specifications listed below and other specifications developed in consultation with the PEPM and fire protection agencies.

No fires shall be permitted in the construction area. Smoking shall be allowed only in areas cleared of vegetation or in enclosed vehicles. All construction equipment and workers' vehicles shall be equipped with appropriate spark arrestors. Fire extinguishers shall be available at all construction sites and on all construction-related vehicles. Construction supervisors shall maintain contact with local firefighting agencies throughout the dry season to be updated on fire conditions. Fire conditions shall be communicated to all construction personnel. Vehicles are restricted to designated cleared ROW and construction areas.

3.2.12 Collection and Harassment of Species/Collection of Cultural Artifacts

No intentional intrusions upon, killing, or collection of plants or animals at or around the construction site shall be permitted, except as provided for in the Biological Resources Mitigation Plan. If sensitive wildlife species are found within the construction areas, they will be removed by mitigation program personnel who are qualified to handle these species and who possess the appropriate permits. The protocol for dealing with listed and candidate species will be established in the Management Agreement/Permit pursuant to the CESA and the federal Biological Opinion pursuant to the ESA (if any such species are present in the project area).

No collection of prehistoric or historic cultural resource artifacts shall be permitted along the pipeline route or at project facilities except as specified in the Cultural Resources Mitigation Plan. If artifacts are found within construction areas, they will be removed by mitigation program personnel who are familiar with the procedures for handling these materials. The protocol for dealing with cultural resources will be established in the Memorandum of Agreement with State Historic Preservation Office.

3.2.13 Cleanup

After construction is completed, a final ROW cleanup shall include removal of stakes, lath, flagging, barrels, cans, drums, accidental spills (not covered under section 3.2.10), hazardous materials, contaminated soils, and any other trash, debris, refuse, or wastes generated by or during construction activities. Structures and materials placed in streams that are not designed to withstand high seasonal flows shall be removed to areas above the highwater mark before such flows occur.

3.2.14 Surface Restoration

Contract specifications developed by CCWA shall specify how the surface of the ROW shall be restored. General methods for surface restoration are presented in sections 3.2.2, 3.2.3, 3.2.4, and 3.2.6. The contract specifications shall be guided by the following principles.

The pipeline alignment, staging areas, and other temporary construction sites shall be contoured to approximate the original topography once construction is completed, except where a gently graded bench is required (as shown on Plans) on sloped areas for access along the pipeline. Heavily compacted surface soils shall be loosened by a cultivator or similar device. Stockpiled topsoil shall be replaced on the surface of the excavation (see section 3.2.4). With replacement of the topsoil, rock and natural plant debris also shall be replaced in areas where such material was originally found to the degree practical. Contouring to natural grade must be done without disruption to adjacent undisturbed areas. Sediment collected in any sediment traps shall be removed and deposited at a site where it will not erode back into a water course. Permanent water breaks or terraces shall be constructed where necessary to prevent erosion. On steep grades, earth-filled sacks or stone riprap shall be used as necessary to stabilize the slope.

3.3 POST-CONSTRUCTION PHASE

3.3.1 Revegetation and Aesthetic Enhancement

All areas where vegetation is removed and not covered with permanent facilities (e.g., roads, storage tanks, and the pumping plant) shall be revegetated. Erosion control through soil stabilization or revegetation will be required immediately after construction activities are completed using annual species that have minimal competition with recolonizing native species or with efforts to reestablish native vegetation. Areas of native vegetation will be restored in the appropriate season using methods presented in section 5 of the Biological Resources Mitigation Plan. Vegetation restoration and monitoring shall be the responsibility of the contractor(s) specified by CCWA and may not necessarily be the construction contractor.

Revegetation of the pipeline corridor will reduce aesthetic effects of the project. New structures such as the pumping plant will be screened with vegetation compatible with surrounding land uses and vegetation communities. Exterior lighting will be low-intensity, hooded, and shielded inward to minimize glare. The exterior of buildings will have natural colors compatible with the surrounding terrain or neighborhood.

3.3.2 Post-Construction Access Control

Post construction access control shall be implemented to prevent the ROW from becoming a new travel corridor to unauthorized persons. Gates and signs will be used as appropriate to limit access at intersections with existing roads. Control of access to the ROW shall be determined in conjunction with the desires of ROW landowners. A letter should be sent during the ROW and access road acquisition requesting the landowners to inform CCWA of any special access requirements for their properties. Any special requirements will be specified in construction contracts, after being confirmed as necessary and feasible through consultations between the landowner and CCWA.

3.3.3 Post-Construction Environmental Monitoring and Reporting

Post-construction monitoring shall meet three basic objectives: (1) to assess actual impacts that occurred during construction as compared to the predicted impacts, (2) to monitor revegetation and other mitigation measures, and (3) to meet the monitoring reporting requirements of CEQA.

3.4.6 Growth Control

CCWA member contractors shall keep records of supply, demand, and groundwater extractions. These records shall be available for public review upon request.

4.0 REFERENCES

BioSystems Analysis, Inc. 1990. Sensitive Fish and Wildlife Resources along the Proposed Lompoc Pipeline. Prepared for California Department of Water Resources. Santa Cruz, California.

_____. 1991a. Sensitive Fish and Wildlife Resources along the Proposed Coastal Aqueduct and Santa Barbara Extension. Prepared for the California Department of Water Resources. Santa Cruz, California.

_____. 1991b. Biological Mitigation and Compensation Plan for Wildlife. Prepared for the California Department of Water Resources. Santa Cruz, California.

California Department of Fish and Game (CDFG), Natural Heritage Division. 1990. Endangered Species Program.

_____. n.d. Mitigation Plan Annotated Outline for Endangered Plants of California. Sacramento.

California Department of Water Resources (DWR). 1989a. Draft Santa Ynez Instream Flow Need Study. Northern District.

_____. 1989b. Lompoc to Cachuma Pipeline. Alignment Impacts to General Vegetation and Sensitive Plant Species. Progress Report.

_____. 1990. Bottle Rock Geothermal Powerplant Biological Resources Mitigation and Monitoring, Biennial Report. Northern District, Red Bluff.

_____. 1991. State Water Project, Coastal Branch, Phase II and Mission Hills Extension Final Environmental Impact Report. 2 volumes. Sacramento.

California Desert Studies Consortium. 1990. Mojave Siphon Powerplant Project Revegetation Plan for the Riparian Area. Prepared for the California Department of Water Resources. by California State University, Fullerton.

California-Oregon Transmission Project. 1991. Environmental Program for Maxwell - Sacramento River Segment. Construction worker environmental education brochure.

Chambers Group, Inc. 1988. Mojave-Kern River-El Dorado Natural Gas Pipelines Project Final Supplement to the Final Environmental Impact Report/Statement. 2 vols. California State Lands Commission, Sacramento, and Federal Energy Regulatory Commission, Washington, D.C.

ERCE. 1991. State Water Project Coastal Branch (Phase II) Local Distribution Lines and Facilities. Prepared for County of San Luis Obispo, Office of the Environmental Coordinator. San Luis Obispo, California.

Federal Energy Regulatory Commission. 1991. PGT/PG&E Altamount Natural Gas Pipeline Projects Final Environmental Impact Statement. EIS-0061. Washington, D.C.

Harper, B. 1988. An Adult Steelhead Investigation of the Lower Santa Ynez River Drainage. Report to U.S. Bureau of Reclamation and California Department of Water Resources. U.S. Fish and Wildlife Service, Laguna Niguel, California.

Hendrickson, B. 1992. State Water Project: Coastal Branch Phase II and Mission Hills Extension, Summary of Vegetation Studies. Prepared for California Department of Water Resources.

Minick, N., and L. Urbais. 1991. Onsite Compliance Programs For Major Oil and Gas Projects. Paper presented at Coastal Zone, 1991. Santa Barbara, California.

Mojave Pipeline Operating Company. 1991. Endangered Species Education Program, Mojave Pipeline Project. Prepared by BioSystems Analysis, Inc., Santa Cruz, California.

Mojave Pipeline Operating Company. 1991. Environmental Monitor Education Manual, Mojave Pipeline Project. Prepared by BioSystems Analysis, Inc., Santa Cruz, California.

Mulroy, T. W., J. R. Storrer, V. J. Semonsen, and M. L. Dungan. 1989. Techniques for Minimizing and Monitoring the Impact of Pipeline Construction on Coastal Streams. Presented at the California Riparian Systems Conference, 1988. USDA Forest Service General Technical Report. PSW-110.

Santa Barbara County, Resource Management Department. 1990. Condition Effectiveness Study (FDP Condition B-2 Review) Chevron Point Arguello Project. Prepared with assistance from Science Application International Corporation. Santa Barbara, California.

_____. 1991. Compliance requirements for CEQA Documents. Memorandum.

Science Application International Corporation. 1991. Santa Ynez Extension, A Local Facility of the Coastal Branch, Phase II, Final Environmental Impact Report. Prepared for the Santa Barbara Purveyors Agency and the California Department of Water Resources. Santa Barbara, California.

Storrer and Semonsen. 1991. Final Construction Monitoring Report, All American Pipeline Project, Coastal Segment. Submitted to County of Santa Barbara Resource Management Department, Energy Division and All American Pipeline Company.

Vrat, D., R. B. Almy, K. Drude, and J. A. Daily. 1991. Permit Compliance Programs for Large-Scale Development Projects. Paper presented at Coastal Zone, 91. Santa Barbara, California.

Appendix A

WATER DISCHARGE AND SPILL CONTINGENCY PLAN

DRAFT

CENTRAL COAST WATER AUTHORITY

WATER DISCHARGE AND SPILL CONTINGENCY PLAN

May 11, 1993

SECTION I - PURPOSE OF PLAN

The purpose of the water discharge and spill contingency plan is to provide a response program for the Central Coast Water Authority (CCWA) staff and its contractors in the event of a planned discharge or unplanned spill of chlorinated or chloraminated water (potable drinking water) from the pipeline and related facilities of the CCWA.

SECTION II - SYSTEM DESCRIPTION

The Central Coast Water Authority (CCWA) was formed to bring State Project water into Santa Barbara County. The project is being designed and constructed in conjunction with another project - Phase II of the Coastal Branch of the State Water Project. Phase II of the Coastal Branch is being planned, designed and constructed by the California Department of Water Resources. The overall project begins at the Devils Den Pumping plant in northwestern Kern County and terminates at Lake Cachuma in central Santa Barbara County. It includes approximately 147 miles of buried pipeline, five pumping plants, six reservoirs, a water treatment plant, and a power plant.

The Coastal Branch, Phase II, to be built and operated by DWR, consists of 102 miles of buried pipelines, five tank sites, four pumping plants, and one power recovery station. The Coastal Branch, Phase II, will terminate at Tank 5 on Vandenberg Air Force Base, in northwestern Santa Barbara County.

The Central Coast Water Authority project consists of three principal elements: (1) the Mission Hills Extension, (2) the Santa Ynez Extension, and (3) the Polonio Pass Water Treatment Plant. The Mission Hills and Santa Ynez extensions are known collectively as the Aqueduct Extension. The Aqueduct Extension incorporates 45 miles of 30-39 inch pipeline, one 2.5 million gallon reservoir (Tank 7), and one pumping plant at Santa Ynez, which consists of a forebay, pumps, dechloramination facilities and the control/administration complex. Treated water enters the system at the Polonio Pass Water Treatment Plant, which has a capacity of approximately 43 million gallons per day. Three DWR pumping plants and approximately 12 miles of DWR pipe will transport raw water to the CCWA water treatment

plant. The treated water will be transported approximately 126 miles through DWR and CCWA pipe to the CCWA Santa Ynez pumping plant where the chloramines will be removed prior to the water entering Lake Cachuma.

WATER TREATMENT

Since the system is designed to deliver treated water to Santa Barbara County, the pipeline, tanks, and Casmalia and Santa Ynez pump stations will be continuously operated with treated water. During the initial start up of the system, the pipeline may be flushed, then pressure tested and finally disinfected. This disinfection operation will employ superchlorinated water. After the pipeline is put into operation, normal treatment of the water will include initial treatment with chlorine, followed by addition of ammonia to form chloramines. Chloramines will form the residual disinfectant which will remain in the water as it moves through the pipeline. At the Santa Ynez pump station, the chloramines will be removed and dechloraminated water will be delivered through the remainder of the pipeline to Lake Cachuma.

TREATED WATER QUALITY

The concern with discharge of potable water to the environment primarily relates to the effects of the disinfection chemicals on the fish and other aquatic animals with gills that may be present in streams which receive the discharges. The two chemicals of concern are chlorine and ammonia. The recommended 1 hour average Quality Criteria goal for aquatic life protection for total chlorine residual in ambient fresh water is 0.019 mg/liter; for ammonia at a typical pH of 8.0 and a temperature of 15° C, it is 0.184 mg/liter of un-ionized ammonia and 6.9 mg/liter for total ammonia. (Quality Criteria for Water 1986, USEPA 440/5-86-001).

During normal operation of the system, the chloraminated water is expected to have a maximum of 2.0 mg/liter of total chlorine residual and 0.5 mg/liter of total ammonia at the exit of the water treatment plant. At the typical pH of 8.0 in the pipeline, the un-ionized residual of ammonia will be 0.027 mg/liter, which is well below the water quality goal of 0.184 mg/liter. Therefore, ammonia is not expected to be a water quality issue if fish are exposed to this water. It is expected that the total chlorine residual will essentially be approximately 0.4 mg/liter at the Santa Ynez pump station. The entire length of the pipeline during normal operations will have levels for chlorine residual which are higher than the recommended EPA standards stated above. As a result, CCWA plans to implement procedures to eliminate controlled discharges of treated water which exceed EPA standards, where the discharges may reach streams with fish.

As water with chloramines is released from a blow-off structure, tank or pump station, the chloramines will dissipate. This dissipation of the chlorine will accelerate as soon as the water is in contact with the atmosphere. The rate of dissipation depends on the concentration, temperature, and the amount of spreading and aeration. The slowest dissipation will occur during colder weather. The un-ionized ammonia will be well below water quality goals at the pH levels found in the treated water and in the soils and streams where the water might flow. Facilities to remove chloramines from the discharged water are only required where the treated water may enter a stream before the chloramine residuals have been reduced below water quality goal levels.

POSSIBLE EFFECTS OF A SPILL ON STREAMS

Water which is discharged during the project may find its way to local streams by flowing over land to the stream. In some cases, the water may percolate into the ground before reaching the stream. During normal operations, spills due to operational requirements and resulting from accidents may occur. Spills which can be predicted or controlled will receive treatment to eliminate the chloramines from the water. However, some events are not predictable or controllable. In these rare cases, chloraminated water may be released from the pipeline in a manner which allows chloraminated water to reach local waters. Special situations and accidental discharge scenarios are discussed below.

The exact effects of any chloraminated water on receiving waters is very difficult to determine due to the large number of variables which affect the dissipation rate. The single biggest variable is the presence of organic material in the receiving waters or on the ground surface over which the water flows. If high amounts of organic material are present, the chlorine will react with the organic material, resulting in a reduction of the chlorine in the water. Also, high temperature will cause the chlorine to dissipate. Daylight will cause the chlorine to dissipate and the slope of the terrain will influence how quickly the water flows into the stream. The relative quantities of water from the spill and flowing in the stream will determine the relative importance of the chloraminated water on the quality of the receiving water. The season of the year will have an influence on several of the above factors. Due to the large number of variables, any estimate of a specific scenario would be speculative and the scenario would not represent a likely event. Therefore, no specific estimates of the duration of the effects of an uncontrolled chloramine spill are made in this plan. If an accidental spill occurs near a stream with fish, the resource agencies will be notified and the impacts will be analyzed.

SECTION III - WATER DISCHARGES AND SPILL CONTINGENCIES

This plan addresses the various types of potential water discharges from the system. The

water discharge scenarios address the various ways in which significant quantities of treated water could be discharged from the pipeline during initial disinfection of the pipeline and during normal operational activities, as well as accidental discharges as a result of seismic events or other unplanned situations.

Accidental spills will be treated on a case by case basis. Pipeline spills will be minimized through incorporation of a number of different design features including:

1. The pipeline will be divided into sections which can be isolated from other sections with valves. These valves include those at pump stations, tanks and specific isolation valves near fault crossings.
2. A communications network will constantly monitor of flows and will provide automatic alarms and automatic closure of valves in the event of a spill from the pipeline, a tank or a pump station.
3. Systems designed to avoid spills at all tanks.
4. Standard operating procedures which include prompt response to spills from the pipeline and provide for stopping the flow of water as soon as possible automatically, with manual backup.

These features reduce the amount of water loss from the pipeline, and therefore limit water and flood damage during seismic events and other accidents.

WATER DISCHARGE DURING WASH AND PRESSURE TESTING

At the start up of a newly constructed or repaired treated water pipeline, the pipeline must be initially washed out to clear it of large debris. After the initial wash, it will be pressure tested to ensure that it was properly constructed and that there are no leaks. These two functions are performed with water supplied from the treatment plant site, or untreated water from wells along the pipeline route.

Wash and pressure test water will not be chloraminated. It will be obtained from wells, or the water will be dechloraminated. Currently, the schedule indicates that chloraminated water will not be available from the treatment plant when these functions are performed, so it is very unlikely that the water will need to be dechloraminated. The pipeline will be washed out to remove debris remaining from construction. When wash water is discharged, it will be directed into a settling basin to allow the debris to be separated from the water. The water will then be allowed to spread out to the local ground surface. Erosion control will be provided and will be described in the erosion control plan prepared by the contractor as a part of the stormwater control plan. Pressure test water will be treated in a similar manner, except that much less debris will need to be removed in the settling basin, since the pipeline will have already been washed out in the previous operation. If, due to the situation, alternative methods of disposal are required, these methods will be reviewed and approved by the

resource agencies and the Regional Water Quality Control Board.

WATER DISCHARGE DURING DISINFECTION

Once the pressure test is passed, the pipeline must be disinfected to ensure that all organic material is oxidized and all microorganisms are killed. For this project, the disinfection will be performed with superchlorinated water, which has concentrations up to 50 mg/l of free chlorine residual.

The chlorine residual in the water in the pipeline will decrease over time as the chlorine reacts initially with organic materials in the water and the pipeline. Eventually, the remaining chlorine reacts with material which coats the interior wall of the pipeline. After 7 to 10 days, there will be essentially no residual remaining. The water will be tested to determine when this has occurred.

Once the residual is below the Quality Criteria Goal, the water will be drained from the pipeline. This drainage is not expected to cause any change in water quality in local streams. CCWA will require its contractors to discharge the water in a manner to avoid erosion and a significant increase in suspended solids. The methods to accomplish this include low rate and/or low pressure releases, use of temporary sediment barriers such as rows of straw bales, sand bags, silt fences and interceptor ditches or diversion dikes, and discharge of dechlorinated/dechloraminated water directly into streams where possible to avoid all local erosion.

SPILL CONTINGENCIES

There are two faults of concern along the pipeline route. The Los Alamos-Baseline Fault is located in the San Antonio Creek Valley. The pipeline in the vicinity of this fault will be provided with isolation valves located approximately 1,500 feet on either side of the fault. The pipeline will cross San Antonio Creek on a pipe bridge.

The Santa Ynez River Fault is believed to generally follow the Santa Ynez River bed, crossing the pipeline alignment at two locations; one near the Avenue of the Flags bridge, and the other near the Alisal Road Bridge. There is also a possibility that the alignment may be changed to avoid crossing at the Avenue of the Flags bridge. This alternate alignment will include a crossing under the river through a bored tunnel about 3 miles west of the Avenue of the Flags bridge. The area of the Santa Ynez River Fault will also be protected with two isolation valves. One valve will be located south of Highway 246 near Buellton. The other valve will be located just upstream of the Solvang turnout. These two valves effectively isolate any pipeline breaks that may occur along the entire reach near the Santa Ynez River

Fault.

The four isolation valves will consist of pneumatically operated valves enclosed in concrete vaults, designed to automatically close the pipeline. The valves may be equipped to react to either ground movement or sudden pressure loss, or a combination of both. During a seismic event, or any sudden pressure loss, the valves will close rapidly (15-25 seconds) to limit the loss of water from the pipeline. However, an effect called surge could rupture the pipeline and cause total loss of all water in the pipeline if the valves close suddenly with no way to dissipate the pressure. The problem will be resolved by installing 12-inch diameter bypass valves around the large isolation valves. The large valves can then be closed rapidly and the smaller bypass valves at a slower rate to prevent excessive outflow and minimize the pressure surges. The smaller valves will close in 75-125 seconds. This slow closure will protect the pipeline from surge stresses.

Tank 7 is a storage tank with a capacity of 2.5 million gallons. The nearest drainages are approximately 700 feet from the Tank. In order to minimize the effect of an earthquake, the tank will be designed as a partially buried tank with all but the top 7 feet buried. A discharge from the tank may occur in unusual circumstances if both the automatic and backup control systems fail. An overflow basin will be constructed near the tank with a capacity to hold the entire contents of one hour of flow from the pipeline (at 26 CFS, one hour of flow is 700,180 gallons). This will provide CCWA enough response time to allow pipeline operational personnel to drive to the tank site and manually shut off flow to Tank 7.

The forebay of the pump station will have a capacity of 200,000 gallons. The water entering the forebay will be dechloraminated as it enters. The nearest watercourse is the Santa Ynez River, which is approximately 2000 feet from the pump station. The site of the pump station will be graded so that discharges from the forebay will flow to an overflow basin on the property rather than into any watercourse. The overflow basin will prevent erosion and water damage to adjacent properties. This basin will have the capacity to hold one hour of flow from the pipeline (592,460 gallons) . This will provide enough time for the Authority to manually shut off flow to the pump station.

Prior to startup of the pipeline, CCWA staff will develop specific Standard Operating Procedures to deal with discharges from the pipeline, Tank 7, or the forebay of the Santa Ynez Pump Station. The plans will specify procedures for dealing with emergency situations. These procedures will include identification of who would respond to various types of spills, what actions will be taken to minimize spills and the impacts of spills and notification of resource agencies in specified circumstances.

WATER DISCHARGE DURING OPERATIONS

Water discharges during normal operations are under the control of the CCWA, and can be planned ahead of time. This advanced planning allows the Authority to avoid discharges of treated water into the local environment. During normal operations, the water will be treated with chloramines, which must be removed prior to discharge of the water into the streams or rivers.

The removal of the chloramines in the treated water is possible using the dechloramination process which is to be used at the Santa Ynez Pump Station. This process utilizes sodium bisulfite (NaHSO3) to convert the chloramines to ammonium and chloride. This treatment process does not require extremely large equipment, so it is possible to make a portable version of the dechloramination equipment. The project will maintain a "dechloramination trailer" which will be stored at the maintenance building for the project. This trailer will hold all the required pumps, mixing equipment, valves and connections to allow dechloramination of any discharges contemplated during normal operations. Adequate storage tanks will be provided on the trailer to store enough sodium bisulfite to treat any planned discharge.

During drainage of any portion of the pipeline through the blow-offs, the dechloramination trailer will be positioned at the site of the blow-off. Connections will be provided which allow the discharged water to pass through the equipment on the trailer and then be routed to the appropriate discharge point. The trailer valves and equipment will be operated to dechloraminate the water as it flows from the pipeline.

EXHIBIT E

W 25000

NOTICE OF DETERMINATION

93 SEP -1 PM 4:26

COUNTY OF SANTA BARBARA
CLERK OF THE
BOARD OF SUPERVISORS

TO: County Clerk, County of Santa Barbara
105 East Anapamu Street
Santa Barbara, CA 93101

CC: Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

FROM: Central Coast Water Authority (CCWA)
1933 Cliff Drive, Suite 12
Santa Barbara, CA 93109

SUBJECT

Filing of Notice of Determination in Compliance with Section 21108 or 21152 of the Public Resources Code

Project Title: REVISIONS TO SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

State Clearinghouse Number: 91031071

Lead Agency Contact Person: Dan Masnada, Executive Director

Phone: (805) 962-3294

Project Location: City of Solvang, City of Buellton, Vandenberg Air Force Base, and unincorporated area of the County of Santa Barbara — a water pipeline from the terminus of the Coastal Branch, Phase II, project constructed by the California Department of Water Resources, at Tank 5 on Vandenberg Air Force Base, to the existing Improvement District No. 1 water pipeline in Santa Ynez Valley, then to Bradbury Dam and Lake Cachuma.

Project Description: Facilities required to transport State Water Project (SWP) water conveyed to Santa Barbara County by the SWP Coastal Branch pipeline, with appurtenant turnouts to allow for local extensions, a pumping plant, dechloramination facilities, and related facilities. The original project was approved in 1992, but a number of project revisions have been approved to realign the pipeline, eliminate one water tank, consolidate dechloramination and pumping facilities at one location, and refine and redescribe the design of the water treatment plant. For more information as to the precise project revisions which are the subject of this approval, see the Final Supplement to Final Environmental Impact Reports for Santa Ynez Extension and Mission Hills Extension.

This is to advise that the Board of Directors of CCWA has approved the above-described project revisions on August 26, 1993, and has made the following determinations regarding the above-described project revisions:

1. The project, even as revised, will have a ~~significant effect on the~~ environment.

CALENDAR PAGE 274.277

MINUTE PAGE 1455

2. Environmental Impact Reports (EIRs) were prepared for this project pursuant to the provisions of CEQA. A Supplement to the EIRs was prepared for the project revisions pursuant to the provisions of CEQA.

3. Mitigation measures were made a condition of the approval of the project.

4. A Statement of Overriding Considerations was adopted for this project.

5. Findings were made pursuant to the provisions of CEQA.

This is to certify that the final EIRs and the final Supplement to the EIRs with comments and responses and record of project approval are available to the general public at the CCWA offices at 1933 Cliff Drive, Suite 12, Santa Barbara, CA 93109.

Susan F. Petrovich,
Counsel for CCWA

Date: September 1, 1993

Date Received for Posting by County Clerk _____

CALIFORNIA DEPARTMENT OF FISH AND GAME
530 E. Montecito St., Room 104
Santa Barbara, California 93103
(805) 964-8849
(310) 590-5137 Region 5 Long Beach

February 4, 1994

Re: Agreement No. 5-012-94
Santa Ynez/Mission Hills
Extensions of State Water
Project

Dr. Rosemary Thompson
Science Applications International Corp.
816 State St., Suite 500
Santa Barbara, CA 93101

Dear Rosemary:

Enclosed are two copies of Streambed Alteration Agreement 5-012-94. If you agree with the conditions/measures set forth in the agreement, **PLEASE SIGN BOTH COPIES AND RETURN BOTH TO OUR OFFICE FOR SIGNATURE, AT THE ABOVE ADDRESS.** Written notice of your intent to commence project activities needs to be provided to the Department at least five days in advance of commencing project activities.

The California Fish and Game Code requires that you notify the Department in writing within 14 days of receipt of this Proposal as to its acceptability. If you do not respond within this time period you will lose your right to request binding arbitration. For minor changes we suggest you contact the person responsible for writing your agreement prior to sending the written response.

If you have any questions regarding the proposed conditions please contact me at the numbers listed above.

Thank you for your cooperation in this matter.

Kenneth C. Wilson
Environmental Services Specialist
Environmental Services, Region 5

5-012-94.sa2

EXHIBIT "F"

W 25000

CALIFORNIA DEPARTMENT OF FISH AND GAME
330 Golden Shore, Suite 50
Long Beach, California 90802

FEB 0 9 1994
FISH AND GAME
SANTA BARBARA, CA

Notification No.5-012-94.sa2
Page 1 of 9 February 4, 1994

AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

THIS AGREEMENT, entered into between the State of California, Department of Fish and Game, hereinafter called the Department, and the Central Coast Water Authority (CCWA), 1933 Cliff Drive, Suite 12, Santa Barbara 93109, State of California, hereinafter called the Operator, is as follows:

WHEREAS, pursuant to Section 1603 of California Fish and Game Code, the Operator, on the 11th day of January, 1994, notified the Department that they intend to divert or obstruct the natural flow of, or change the bed, channel, or bank of, or use material from the streambed(s) of, the following water(s): 16 streams and bodies of water, **Santa Barbara** County, California.

WHEREAS, the Department (represented by Kenneth C. Wilson and Jim White) inspected the area on the 7th day of June 1993 and Jim White on the 8th day of June 1993 and have determined that such operations may substantially adversely affect existing fish and wildlife resources including: fishes (Unarmored-threespine stickleback, steelhead), amphibians (red-legged frog, California tiger salamander), reptiles (southwestern pond turtle, coast horned lizard), raptors (Cooper's Hawk, Longeared Owl, songbirds (least bells vireo, willow flycatcher, and other species of special concern), mammals and other aquatic and wildlife resources in the area.

THEREFORE, the Department hereby proposes measures to protect fish and wildlife resources during the Operator's work. The Operator hereby agrees to accept the following measures/conditions as part of the proposed work.

If the Operator's work changes from that stated in the notification specified above, this Agreement is no longer valid and a new notification shall be submitted to the Department of Fish and Game. Failure to comply with the provisions of this Agreement and with other pertinent code sections, including but not limited to Fish and Game Code Sections 5650, 5652, 5937, and 5948, may result in prosecution.

Nothing in this Agreement authorizes the Operator to trespass on any land or property, nor does it relieve the Operator of responsibility for compliance with applicable federal, state, or local laws or ordinances. A consummated Agreement does not constitute Department of Fish and Game endorsement of the proposed operation, or assure the Department's concurrence with permits required from other agencies.

This Agreement becomes effective on date of Department signature and terminates May 1, 1995, for project construction only. This Agreement shall remain in effect for that time necessary to satisfy the terms/conditions of this Agreement.

CALENDAR PAGE 274.280
MINUTE PAGE 1458

STREAMBED ALTERATION CONDITIONS FOR NOTIFICATION NUMBER: 5-012-94

1. The following provisions constitute the limit of activities agreed to and resolved by this Agreement. The signing of this Agreement does not imply that the Operator is precluded from doing other activities at the site. However, activities not specifically agreed to and resolved by this Agreement, shall be subject to separate notification pursuant to Fish and Game Code Sections 1600 et seq.

2. The Operator proposes to alter the streambed to install a buried water pipeline crossing the bed, bank, and channel of sixteen streams.

3. The agreed work includes activities associated with No. 2 above. The project area is located in **Santa Barbara** County. Specific work areas and mitigation measures are described on/in the plans (Environmental Mitigation Plans for Areas A and B Prepared by Montgomery Watson) and documents (CESA MOU and Management Authorization for the Construction and Operation of the Polonio Pass Water Treatment Plant and the Mission Hills and Santa Ynez Extension of Coastal Branch Phase II of the State Water Project, Central Coast Water Authority; Final Biological Resources Mitigation Plan, Dated September 1993; Final Mitigation Program Dated, September 1993; Section 01030 -- Environmental Mitigation Dated January 1994); topographic maps of the pipeline corridor; Tables of streams crossed and paralleled; data sheets and photos for each crossing; and aerial photos Dated 8/26/92) submitted by the Operator and **SHALL BE IMPLEMENTED AS PROPOSED, UNLESS DIRECTED DIFFERENTLY BY THIS AGREEMENT.**

4. The Operator shall request an extension of this agreement prior to its termination if all operations contemplated under this agreement have not yet been completed. Extensions may be granted for up to 12 months from the date of termination of the agreement and are subject to Departmental approval. The extension request and fees shall be submitted to the Department's Region 5 Office at the above address. If the Operator fails to request the extension prior to the agreement's termination, then the Operator shall submit a new notification with fees and required information to the Department. Any activities conducted under an expired agreement are a violation of Fish and Game Code Section 1600 et. seq. The Operator may request two extensions of this agreement for construction purposes only, and 10 extensions for restoration work.

5. All activities shall be in conformance with the CESA Memorandum of Understanding/Management Agreement (Reference Number 9322) executed with CCWA for the Mission Hills/Santa Ynez Extension project. Activities shall also be in conformance with the Mitigation Program, Biological Resources Mitigation Plan, and Environmental Mitigation Drawings and Specifications for this project.

(*)6. The Operator shall submit the Stormwater Pollution Prevention Plan (SWPPP) (that includes the Erosion Control Plan and the Wastewater Disposal Plan) to the Department for review and approval. No Construction within drainages shall occur prior to Department approval of the these documents. The Department will

approve these Plans or propose changes to such plans within 30 calendar days.

(*)6a. No clearing of riparian vegetation shall occur until the **Revegetation Plan** has been reviewed and approved by the Department.

7. Disturbance or removal of vegetation shall not exceed the limits approved by the Department and shown on the environmental mitigation drawings and specifications. The disturbed portions of any stream channel, within the high water mark of the stream, shall be restored to their original condition under the direction of the Department.

8. Restoration shall include the revegetation of stripped or exposed areas with plant communities present prior to construction according to the Department approved revegetation plan for the project.

9. Trees and large shrubs shall be removed by cutting rather than grading, except in the trench.

10. No equipment shall be operated within actively flowing water, except under the following condition.

11. When work in a flowing stream is unavoidable, the entire stream flow shall be diverted around the work area by pumping from upstream well points, a barrier, temporary culvert, new channel, or other means approved by the Department. Location of the upstream and downstream diversion points shall be approved by the Department. Construction of the barrier and/or the new channel shall normally begin in the downstream area and continue in an upstream direction, and the flow shall be diverted only when construction of the diversion is completed. Channel bank or barrier construction shall be adequate to prevent seepage into or from the work area. Diversion berms may be made of onsite alluvium of low silt content. Channel banks or barriers shall not be made of imported earth or other substances subject to erosion unless first enclosed by some protective material. The enclosure and the supportive material shall be removed when the work is completed and removal shall normally proceed from downstream in an upstream direction.

12. The Operator shall temporarily store excavated materials within the construction easement at each site in a manner and location such that the materials will not wash or fall into the streambed or stream flows.

13. Measures shall be taken to divert runoff from steep, erodible surfaces, or from work areas adjacent to but not crossing streams, into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.

(*)14. Spoil storage sites shall be located so that spoil shall not be washed back into a stream. Soil may be stored within the banks (on the streambed) when temporarily placed within the cleared work area to protect the roots of cut vegetation, as described in the plans and specifications, or where salvaged topsoil from the

stream is temporarily stored and kept moist to maintain roots, tubers, etc. to be used in revegetation. Spoil shall not be stored outside the work area shown on the plans or where it will cover aquatic or riparian vegetation, except as specified above. Excess materials may be removed from the streambed or spread within the streambed in a manner which minimizes the alteration of the streambed contours and is consistent with local, state, and federal regulations. No materials foreign to the streambed shall be spread within the streambed, except as allowed in Condition 11.

15. The Operator shall provide to the Department for review and approval, a plan for temporary construction and placement of silt settling basins or spreading areas and temporary berms or similar diversion devices, if proposed, for dewatering purposes. This plan shall include, but shall not be limited to, the proposed dimensions of the work area for constructing the diversion berms and channels, basins or spreading areas, installation of silt barriers (if required), stockpiling of materials, and outflow locations.

16. The Operator's operation may include subsurface dewatering through a combination of one or more techniques, such as constructing temporary well points, in close proximity to the trench, and pumping water directly from the trench, as necessary and as consistent with the conditions set forth in this agreement.

17. Any sediment accumulated during the dewatering process shall be removed from the streambed or shall be placed in the trench, above the pipe zone, during backfilling.

18. Silt settling basins or spreading areas, to be used for dewatering purposes, shall be located away from the existing live stream or pond areas to prevent discolored, silt-bearing water from reacning the live stream during any flow regime.

19. The Operator shall specify in the final plans and specifications for this project, all terms and conditions of this agreement pertinent to the project activities at each site.

(*)20. Water containing mud, silt, or other pollutants from construction related activities, shall not be allowed to enter a flowing stream. Silty/turbid water shall not be discharged into the flowing stream. **Such water shall be settled, and silt shall be controlled as specified in Condition No. 15. and in a manner consistent with local, state, and federal regulations. Upon completion of construction, silt fencing, temporary berms, diversion devices, and/or other silt protective measures shall be removed from the bed, bank, and channel of the stream.**

21. If a stream channel has been altered during the operations, its low flow channel shall be returned, as nearly as possible, to pre-project conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area. The gradient of the streambed shall be returned to pre-project grade, to the extent feasible, given the need to spread materials after the trench has been backfilled, unless such operation is part of a restoration project, in which case, the change must be approved by the Department prior to project commencement.

22. Rock, gravel, and/or other materials shall not be imported to, taken from or moved within the bed or banks of the stream, except as otherwise addressed in this Agreement.

(*)23. Clean sand, gravel, and similar alluvial materials shall be obtained from onsite or offsite sources to provide bedding and backfill under, around, and over the pipe and within the trench. Fill length, width, and height dimensions shall not exceed those of the original naturally occurring topography, contour, and elevation, except as provided in Condition 21.

24. The limits of the work area within the banks, bed, and channel of the streams shall be flagged as shown on the project drawings.

25. Vegetation shall not be removed or intentionally damaged beyond the limits specified in the previous Condition.

26. A complete inventory of plants by species with Diameter at Breast Height (DBH)s of 3 inches or greater, which could be removed, shall be recorded on the environmental mitigation drawings, for use in the revegetation, prior to commencement of construction. Any changes during construction shall be recorded by the biological monitors.

(*)27. Vegetation removed from the stream shall not be permanently stockpiled in the stream bed or on its banks; it will be removed prior to winter rains. The sites selected on which to push this material out of the stream should be selected in compliance with the other provisions of this Agreement. Where possible brush piles shall be left outside of the banks, bed, and channel of the stream to provide wildlife habitat.

28. Trees that grow over the pipeline at stream crossings which could damage the pipe or prevent future access during normal maintenance activities, over the life of the project, shall be selectively trimmed, under the direction of a qualified arborist, or removed so that the streamcourse and associated riparian vegetation are not damaged. Herbicides shall not be used on native vegetation without prior approval of the Department.

29. If mature perennial trees have been removed from the upper one-half of the stream's banks, they shall be replaced in-kind, and maintained until established, under the direction of a Department representative.

(*)30. In order to determine if the revegetation techniques used have been successful any plant species required that are listed below shall achieve the minimum growth and cover(*) at the end of three and five years (designated below). If the minimum growth is not achieved then the Operator shall be responsible for taking the appropriate corrective measures as determined by Department representatives. The Operator shall be responsible for any cost incurred during the revegetation or in subsequent corrective measures.

SPECIES	SIZE AT PLANTING (GALLONS)	PLANTING CENTERS	HEIGHT 3 years	HEIGHT 5 years
Arroyo Willow	1 gallon	8 ft	10 ft	15 ft
Sandbar Willow	1 gallon	5 ft	4 ft	6 ft
Red Willow	1 gallon	8 ft	9 ft	15 ft
Sycamore	1 gallon	20 ft	5 ft	9 ft
Cottonwood	1 gallon	*	7 ft	12 ft

* = Depending if used as supplemental species (40 ft O.C.) or if dominant species (15 ft O.C.)

All Shrub species
1 gallon *

* = Plant in naturalized clumps and randomly scattered.

31. Density and growth of plantings shall meet or exceed the standards specified in Condition Number 30, five years after planting and/or shall attain 75% of pre-project cover after 3 years and 90% of the pre-project cover after 5 years from the date of planting. If the survival and cover requirements have not been met, the Operator shall be responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for 5 years after planting.

32. All planting shall be done as soon as possible following completion of construction at each location. Planting shall be done between October 1, 1994 and May 1, 1995 to take advantage of the winter rainy season, depending upon environmental conditions at the site.

33. An annual report shall be submitted to the Department by Jan. 1 of each year for 5 years after planting. This report shall include the survival rate, % cover, and height of both tree and shrub species. The number by species of plants replaced, an overview of the revegetation effort, and the method used to assess these parameters shall also be included. Photos from designated photo stations shall be included.

34. When technically feasible, plant material for revegetation shall be derived from cuttings (or rooted supercell cuttings, as appropriate) obtained from randomly selected native trees and shrubs occurring within the same drainage.

35. Any replacement tree stock which must be obtained from a native plant nursery, shall not be inoculated to prevent heart rot.

36. The Operator shall remove any invasive woody non-native vegetation (tree tobacco, castor bean, giant cane, etc.) from

the work area and shall dispose of it in a manner and a location which prevents its reestablishment. Removal shall be done at least twice annually during the spring/summer season, as needed, through the term of restoration so that competition with plantings is kept to a minimum.

37. Giant Cane shall be cut to a height of 6 inches and the stumps painted with an herbicide approved for aquatic use within 9 minutes of cutting. Herbicides shall be applied at least three times during the period from May 1 to October 1 to eradicate these plants.

38. Where control of vegetation is required within the bed, bank, or channel of the stream, the use of herbicides is necessary, and there is a possibility that the herbicides could come into contact with water, the Operator shall employ only those herbicides, such as Rodeo, which are approved for aquatic use. If surfactants are required, they shall be restricted to chemicals, such as Agri-Dex, which are approved for aquatic use.

39. The Operator shall apply any herbicides as permitted by state and federal law. No herbicides shall be used where Threatened/Endangered species occur.

40. Vehicles shall not be driven or equipment operated in water covered portions of a stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the Agreement and as necessary to complete authorized work.

41. Access to the worksite shall be as stated in the project specifications.

42. Upon Department determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation, shall be halted until effective Department approved control devices are installed, or abatement procedures are initiated.

43. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

44. The clean-up of all spills, within or adjacent to the stream, shall begin immediately. The Department shall be notified immediately by the Operator of any spills and shall be consulted regarding clean-up procedures.

45. No equipment maintenance or refueling shall be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter these areas under any flow.

46. The Operator has obtained, from the U.S. Army Corps of Engineers, a Nationwide Permit Number 12). The Operator shall

provide to the Department a copy of any attached conditions before commencing construction. The Department shall be entitled to enforce all such conditions and the same are incorporated by reference into this Agreement.

47. The Operator shall telephone the Department's fishery biologist, Mauricio Cardenas, at (805) 568-1223, prior to commencing activities within the bed, bank, and channel of the streamcourses. The Operator shall leave his/her name, date and time called, telephone number, the river name, work location, nature of planned activities, and proposed schedule.

48. Except as otherwise provided in this Agreement, no debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any logging, construction, or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into, waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area, except as otherwise provided in this Agreement. No rubbish shall be deposited within 150 feet of the high water mark of any stream.

49. The Operator shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the operator to ensure compliance.

50. The Operator shall **provide a copy of this Agreement to all contractors, subcontractors, and the Operator's project supervisors. A copy of this Agreement and all other permits and environmental documents shall be kept in the central field construction office at all times work is in progress, and must be presented to any Department personnel, or personnel from another agency, with jurisdiction over the project, upon demand.**

Copies of this Agreement shall be readily available at the work sites at all times during periods of active work and must be presented to any Department personnel, or personnel from another agency, with jurisdiction over the project, upon demand.

51. The Operator **shall** notify the Department, **in writing, at least five (5) days (**) prior to initiation of construction (project) activities and at least five (5) days prior to completion of construction (project) activities.** Notification shall be sent to the Department at 330 Golden Shore, Suite 50, Long Beach, CA 90802, Attn: ES. FAX Number (310) 590-5192 or 5193 (Reg 5-LB) (**) The Department's signature on this agreement shall suffice for 5 day notice of intent to commence activities under this agreement.

52. The Department reserves the right to enter the project site at any time to ensure compliance with the terms and conditions of this Agreement.

53. The Department reserves the right to suspend and/or revoke this Agreement if the Department determines that any of the following have occurred:

a. Failure to comply with the terms/conditions of this Agreement.

b. The information provided by the Operator in support of the Agreement/Notification is determined by the Department to be incomplete, or inaccurate.

c. When new information becomes available to the Department representative(s) that was not known when preparing the original terms/conditions of this Agreement (including but not limited to the occurrence of state or federally listed species in the area).

d. The project as described in the Notification/Agreement has changed, or conditions affecting fish and wildlife resources have changed.

CONCURRENCE

Central Coast Water Authority	Department of Fish and Game
Bruce Dumont 2-8-94	Ken Wilson 9 Feb 1994
(signature) (date)	(signature) (date)
Deputy Director	Environmental Services Specialis
(title)	(title)

CALENDAR PAGE	274.288
MINUTE PAGE	1466

EXHIBIT "G"

W 25000

CALENDAR PAGE 274.289

MINUTE PAGE 1467

CENTRAL COAST WATER AUTHORITY

MAJOR PROJECT MILESTONES

STA	REACHES "A"&"B" TANK 7	WATER TREATMENT PLANT 43 MGD	REACH "C" SANTA YNEZ PUMP STATION MICRO TUNNELING
95% SUBMITTAL	OCT 22, 1993	NOV 16, 1993	FEB 11, 1994
FINAL COST EST.	DEC 22, 1993	JAN 15, 1994	MAR 23, 1994
FINAL DESIGN 100%	DEC 23, 1993	JAN 4, 1994	APR 4, 1994
ADVERTISE	JAN 18, 1994	FEB 4, 1994	APR 21, 1994
BID OPENING	MAR 1, 1994	APR 4, 1994	JUN 2, 1994
AWARD APPROVAL	MAR 24, 1994	APR 28, 1994	JUN 22, 1994
BEGIN CONSTR	APR 11, 1994	JUN 1, 1994	JUL 12, 1994
END CONSTR	APR 11, 1995	JUN 1, 1996	JUL 12, 1995

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EXHIBIT "H"

W 25000

CALIFORNIA ENDANGERED SPECIES ACT MEMORANDUM OF UNDERSTANDING

by and between

THE CENTRAL COAST WATER AUTHORITY
and
CALIFORNIA DEPARTMENT OF FISH AND GAME

regarding

CONSTRUCTION AND OPERATION OF THE POLONIO PASS WATER TREATMENT PLANT AND THE MISSION HILLS EXTENSION AND SANTA YNEZ EXTENSION OF THE STATE WATER PROJECT

(Ref. No. 9322)

This California Endangered Species Act Memorandum of Understanding ("CESA MOU") is made and entered into by and between the Central Coast Water Authority, hereafter referred to as "CCWA", and the California Department of Fish and Game, hereafter referred to as the "Department".

The purpose of this CESA MOU, governing the management of the unarmored threespine stickleback (Gasterosteus aculeatus williamsoni), the bald eagle (Haliaeetus leucocephalus), the southwestern willow flycatcher (Empidonax traillii), the least Bell's vireo (Vireo bellii pusillus, the seaside bird's-beak (Cordylanthus rigidus littoralis), and the San Joaquin kit fox (Vulpes macrotis mutica), is to provide authority to "take" the identified state-listed threatened and endangered species under authority of section 2081 of the California Fish and Game Code. The permitted activities include the project as described in the attached California Endangered Species Act Management Authorization ("MA") (Exhibit 1). The described actions are to be undertaken as management activities for the benefit of the identified threatened and endangered species in order that the proposed project does not result individually or cumulatively in the destruction or adverse modification of habitat essential to the continued existence of the listed species. CCWA's obligations are as specified in this CESA MOU and as further set forth in the California Endangered Species Act Management Authorization, attached hereto as Exhibit 1 and which shall be executed contemporaneously with this CESA MOU.

WHEREAS, CCWA proposes to manage habitat of the unarmored threespine stickleback, the bald eagle, the southwestern willow flycatcher, the least Bell's vireo, the

seaside birds-beak, and the San Joaquin kit fox, as well as a number of other species of special concern, all of which are known to occur at or in the vicinity of the project site, and desires to minimize impacts to these species which could result from the project.

WHEREAS, pursuant to California Fish and Game Code section 1802, the Department has jurisdiction over the conservation and protection of fish, wildlife, and native plants and their habitat and holds those resources in trust for the people of California.

WHEREAS, the Department desires, consistent with the policies of the California Endangered Species Act, that there be permanent protection for the above-named state-listed species and their habitat to assure the conservation, protection, restoration, enhancement, and management of such listed species.

AND, WHEREAS, CCWA agrees to undertake the management activities contained in this CESA MOU and all exhibits attached hereto.

NOW THEREFORE, the parties agree as follows:

I. DEFINITIONS

The following definitions shall govern this CESA MOU:

Wildlife - Wildlife shall be defined consistent with the definition found at California Fish and Game Code section 711.2 to mean all wild animals, birds, plants, fish, amphibians, reptiles, and related ecological communities, including the habitat upon which the wildlife depends for its continued viability.

Take - Take shall be defined to include any act without regard to intent which results in the destruction of individuals, populations of individuals, or habitat upon which these individuals or populations rely for the continued viability of the species. (See Palila v. Hawaii Dept of Land and Natural Resources, D. Hawaii 1986, 649 F.Supp. 1070, affd. 852 F.2d 1106.)

Operation, management, and protection - These terms shall mean those actions required, in the discretion of the Department, to permit the species to function within a natural ecological system. Such actions may include management actions of a legal, biological, or administrative nature.

II. DUTIES

A. Conveyance of Habitat Management Lands

1. CCWA covenants and agrees to acquire, preserve, and enhance 108 acres of habitat management (HM) lands as expressly provided below. The required acreage of HM lands to be acquired, preserved, and enhanced may be adjusted based on actual project impacts and habitat character as determined by the Department from field surveys following completion of construction. If additional impacts to listed species are determined from the post-construction field surveys, CCWA covenants and agrees to acquire, preserve, and enhance an appropriate number of additional HM lands. If less impacts to listed species are determined from the post-construction field surveys, CCWA shall receive appropriate credits. CCWA covenants and agrees to enter into a binding agreement with the State Lands Commission, which shall be approved by the Department, to enhance the required acreage of HM lands as habitat within the Burton Mesa Management Area, also known as the Unocal Preserve Area. If CCWA does not enter into a binding agreement with the State Lands Commission, CCWA covenants and agrees to transfer fee title or a permanent conservation easement to the required 108 acres of HM lands to the Department or to an approved designated agent. Such designated agent may include the Nature Conservancy, The Trust for Public Lands, or any other non-profit entity organized for conservation purposes, which is acceptable to, and approved by, the Department.

The required HM lands acreage is based upon a biological assessment of CCWA's impact on listed species and an estimated acreage required to provide for enhanced biological carrying capacity at a replacement location. Management of the species has been determined by the facts of this application to require 108 acres of HM lands to replace the biological carrying capacity of the habitat subject to temporary and permanent impact at the project site. Such replacement habitat will offset the permanent loss and temporary disturbance resulting from the construction and operation of the project. CCWA's enhancement obligations are further described in Exhibit 1.

2. CCWA covenants and agrees to acquire, transfer, preserve, and complete the habitat protection activities required by this CESA MOU prior to December 31, 1995. If CCWA fails to complete the duties identified in this CESA MOU prior to December 31, 1995, the Department, at its option, may demand that CCWA cure its breach forthwith. If, by December 31, 1995, any of the acquisition, transfer, protection, or management duties detailed in this CESA MOU, including Exhibit 1, are not completed, the Department may draw upon the security to complete the task.

Additionally or in the alternative the Department may seek all legal remedies available at law or in equity.

3. All HM lands shall be approved by the Department for biological suitability. The documents conveying such lands and the conditions of title shall be approved prior to acceptance by either the Fish and Game Commission or the Department acting through the Wildlife Conservation Board. No approval shall be final until the lands are inspected and evaluated by the Department. Unless the State Lands Commission Burton Mesa Management Area ("BMMA") is used to satisfy CCWA's enhancement obligations, the Department of General Services shall review, and the Department shall review and approve, a preliminary title report for the HM lands and the instruments conveying the lands to the Department or other entity. The conveyance of the HM lands shall be subject only to those conditions of title approved by the Department.

B. Habitat Management Lands Protection

4. CCWA covenants and agrees to conduct the protection activities described in the Management Authorization as detailed in Exhibit 1 of this CESA MOU.

C. Security

5. CCWA covenants and agrees to secure, as provided in section IV of this CESA MOU and as further described in Exhibit 1, CCWA's covenant to acquire, transfer, and protect 108 acres of approved HM lands, including the permanent capital endowment principal amount.

D. Endowment

6. CCWA shall transfer to the Department prior to December 31, 1995, the sum of One Hundred Eight Thousand Dollars ($108,000.00) to be used as a permanent capital endowment principal, the interest from which will be available for operations, management, and protection of those HM lands acquired or designated in a CCWA/State Lands Commission agreement under this CESA MOU. This amount may be adjusted based on actual project impacts and habitat character as determined by the Department from field surveys following completion of construction, but in any event shall be equal to $1,000.00 per acre of required HM lands acquired or designated in a CCWA/State Lands Commission agreement. In addition, upon transfer of the permanent capital endowment principal, CCWA shall transfer to the Department a sum equal to twelve (12) months of interest calculated at the then-prevailing interest rate on 3-year U.S. Treasury notes, multiplied by the total capital endowment

principal. The Department shall deposit the permanent capital endowment principal in a special deposit account established pursuant to Government Code section 16370 and the principal sha. not be drawn upon unless the Department finds such expenditure of principal is essential to protect the continued existence of the species. Operation, management, and protection activities shall include, but shall not be limited to, costs of attorneys, reasonable administrative overhead, biological monitoring, improvements to carrying capacity, and law enforcement, as necessary to maintain the lands in conditions suitable for the protection of the listed species.

E. Associated Project-Induced Expenses

7. CCWA covenants and agrees to reimburse the Department for reasonable expenses incurred as a result of the approval and implementation of the project, including costs of title and documentation review, expenses incurred from other state agency reviews, attorney expenses, and overhead. The parties estimate that this project will create an additional cost to the Department of $5,000.00, which shall be billed and payable as incurred.

F. Project Mitigation Measures for Species Protection

8. CCWA covenants and agrees to comply with the project related mitigation measures set forth in Exhibit 1 attached hereto.

III. ESTIMATED COSTS

The parties to this CESA MOU estimate that the direct cost of acquiring, transferring, protecting, and managing lands will be as set forth below:

1. Acquisition and transfer of suitable habitat management lands totalling 108 acres is projected to be: $324,000.00 ($3,000/acre).

2. Initial enhancement and protection of habitat management lands so acquired or designated in the BMMA is projected to be: $216,000.00 ($2,000/acre).

3. Long-term management of habitat management lands will require a capital endowment of: $108,000.00 ($1,000/acre).

4. Associated project-induced expenses to be incurred by the Department are estimated to be: $5,000.00.

Notwithstanding the above estimates, in the event that costs exceed the projected amounts, CCWA shall not be released from performance of the duties contained herein. In the event that costs of performance of acquisition and protection duties are less than estimated, CCWA shall retain title to any funds not expended.

IV. SECURITY [IRREVOCABLE STANDBY LETTER OF CREDIT]

1. As security for the performance of its obligations under this CESA MOU, CCWA hereby agrees to procure and to deliver to the Department upon execution of this CESA MOU an Irrevocable "Standby" Letter of Credit ("CREDIT") in the stated amount of $648,000.00, substantially in the form attached as Exhibit 2. Such CREDIT shall be delivered to the General Counsel for approval as to form. The General Counsel shall then transfer the CREDIT to the accounting officer for safe keeping. The term of the CREDIT shall be for a period of not less than six (6) years. Upon timely request, CCWA shall be entitled to substitute for the permanent capital endowment portion of the CREDIT a cash payment in a sum equal to $1,000.00 for each acre of approved HM land.

2. In selecting a bank or other financial institution as issuer of such CREDIT, CCWA may choose the Santa Barbara Bank and Trust, which is acceptable to the Department, or may choose another financial institution approved by the Department and which operates an office or branch in Sacramento, California, and at least two other cities within California.

3. The Department shall have the ability to draw any amount up to the Principal Sum of this CREDIT, in one or more drawings, upon default by CCWA as specified in section V of this CESA MOU.

4. Each demand made upon the CREDIT shall be based upon a reasonable estimate of the costs necessary to cure the adverse effects of CCWA's default, including, but not limited to, administrative costs and costs for employment of third parties for the purpose of implementing the requirements and goals of this CESA MOU. Administrative costs shall be set at a rate of twenty-five (25) percent of the total of other non-administrative costs.

5. Within three (3) business days from any draw made by the Department on the CREDIT, the Department shall notify CCWA that such a draw has occurred. The Department shall thereafter allow CCWA fifteen (15) days to cure such default. If the default is cured within such time, the Department shall transfer to CCWA the funds drawn because of the default, less any administrative or other costs proximately caused by the default.

If the default is not cured, the Department shall use the funds for purposes of curing the default.

6. Upon timely request and upon presentation of documentary evidence of full compliance with the terms and the conditions of this CESA MOU, including Exhibit 1, the Department shall effectuate a cancellation of the CREDIT if such full compliance occurs prior to the natural expiration of the CREDIT.

V. DEFAULT

In the event of a default, the Department shall have all rights with respect to the security and all remedies available at law or equity including specific performance, injunction, and without limitation of all rights of a secured party pursuant to the California Uniform Commercial Code.

The following non-exclusive list of actions shall constitute an event of default under this CESA MOU:

1. CCWA has not acquired and conveyed real property interests, or entered into a binding agreement with the State Lands Commission acceptable to the Department as provided in this CESA MOU.

2. CCWA has not enhanced and protected the HM lands according to the terms of this CESA MOU.

3. CCWA has not complied with the terms and conditions of the California Endangered Species Act Management Authorization (Exhibit 1).

VI. DEPARTMENT COVENANTS, WARRANTIES, AND REPRESENTATIONS

The Department hereby covenants, warrants and represents as follows:

1. Except as the Burton Mesa Management Lands held by the State Lands Commission, the Department, its designee, or successor shall hold title to and protect all interests in real property conveyed under this CESA MOU solely for the purposes of conservation, protection, restoration, and enhancement of those species adversely impacted by the Project. This covenant shall run with the land and no use of such land shall be permitted by the Department or any subsequent titleholder or assignee which is in conflict with the stated conservation purposes of this CESA MOU. If at any time in the future the Department or any subsequent transferee uses or threatens to use such lands for purposes not in conformance with the stated conservation purposes contained herein, the California Attorney General, California

residents, or private entities shall have standing as interested beneficiaries to challenge such nonconforming uses of lands transferred herein; and

2. The Department, its designee, or successor shall record on each deed a statement that the interests in real property described in the deed of record have been conveyed to the Department or its successor for purposes of conservation, protection, restoration and enhancement of those species adversely impacted by the Project. Such statement shall be substantially as provided in Exhibit 3.

VII. MISCELLANEOUS PROVISIONS

A. NOTICES

All notices and other communications required or permitted to be given or delivered pursuant to this CESA MOU shall be in writing. Such writing shall be delivered personally, by courier, by telecopy, or sent by first-class or certified mail, return receipt requested. All default notices shall be sent certified mail, return receipt requested. All such notices or transmittals shall be deemed delivered upon the earlier of actual receipt or three days after posting by certified mail.

CCWA

Dan Masnada
Executive Director
Central Coast Water Authority
1933 Cliff Drive, Suite 12
Santa Barbara, CA 93109

DEPARTMENT

California Department of
Fish and Game
General Counsel
1416 Ninth Street
Post Office Box 944209
Sacramento, CA 94244-2090

and

REGION

Ken Wilson
Department of Fish and Game
Regional Representative
330 E. Montecito Street, Room 104
Santa Barbara, CA 93103

B. ASSIGNMENT

No sale or assignment of this CESA MOU or any of the rights or obligations thereunder shall be made by any party hereto unless there first shall have been obtained the written consent thereto of the party.

C. ENTIRE AGREEMENT

This CESA MOU, along with the Exhibits attached hereto constitutes the entire agreement and understanding between the Department and CCWA for the Project. This CESA MOU supersedes all prior and contemporaneous agreements, representation or understandings, if any, whether oral or written.

D. GOVERNING LAW

This CESA MOU shall be governed by the laws of the state of California. Actual or threatened breach of this CESA MOU may be prohibited or restrained by a court of competent jurisdiction.

E. BENEFIT OF CESA MOU

This CESA MOU is solely for the benefit of the People of the State of California by and through the Department or its designated representative.

F. FURTHER ACTIONS

From time to time hereafter, CCWA and the Department shall execute such instruments and other documents and take such other actions, upon the request of the other, as may be reasonably necessary to carry out the terms of this CESA MOU. This CESA MOU cannot be amended or modified in any way except by a written instrument duly executed by CCWA and the Department. Any proposal for amendment or modification must be duly delivered for review and approval by the Director and the General Counsel of the Department of Fish and Game, 1416 9th Street, 12th Floor, Sacramento, California 95814.

G. TERMINATION

This CESA MOU shall terminate on December 31, 1999, or upon completion of the terms and conditions contained herein, whichever shall first occur. In the event the CESA MOU terminates by law or judicial action prior to the performance of acquisition and enhancement duties herein, title to the security shall be transferred to the Department by operation of law at the date of the CESA MOU expiration. The Department shall then complete the acquisition and enhancement duties to the degree security is available.

H. EFFECTIVE DATE

This CESA MOU shall be immediately effective upon execution by both CCWA and the Department.

This CESA MOU Includes and Incorporates the Following:

1. EXHIBIT 1, the CALIFORNIA ENDANGERED SPECIES ACT MANAGEMENT AUTHORIZATION.

   a. Attachment A to EXHIBIT 1, CENTRAL COAST WATER AUTHORITY PROJECT PARTICIPANTS.

   b. Attachment B to EXHIBIT 1, MAP OF PROJECT ALIGNMENT.

   c. Attachment C to EXHIBIT 1, the PROPOSED LANDS FOR ACQUISITION FORM ("PLFAF").

2. EXHIBIT 2, SAMPLE IRREVOCABLE "STANDBY" LETTER OF CREDIT.

   a. Attachment A to EXHIBIT 2, the CERTIFICATE FOR DRAWING.

   b. Attachment B to EXHIBIT 2, the CERTIFICATE FOR CANCELLATION.

3. EXHIBIT 3, the CERTIFICATE OF PUBLIC PURPOSE.

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this CESA MOU, Ref. No. 9322, to be in effect as of the date last signed below.

Date: 12/24/93

By: for
Boyd Gibbons, Director
California Department of
Fish and Game
Sacramento, California

Date: 12/20/93

By:
Dan Masnada
Executive Director
Central Coast Water Authority
Santa Barbara, California

Approved as to form:

Susan F. Petrovich
Hatch and Parent

Approved as to form:

Craig Manson
General Counsel

EXHIBIT 1

CALIFORNIA ENDANGERED SPECIES ACT MANAGEMENT AUTHORIZATION

FOR CONSTRUCTION AND OPERATION OF

THE POLONIO PASS WATER TREATMENT PLANT,
THE MISSION HILLS EXTENSION AND THE SANTA YNEZ EXTENSION
OF COASTAL BRANCH PHASE II OF
THE STATE WATER PROJECT

CENTRAL COAST WATER AUTHORITY

(Ref. No. 9322)

SUMMARY

The Central Coast Water Authority (CCWA) has requested Authorization for Management of Endangered Species pursuant to California Fish and Game Code Section 2081 for the proposed Polonio Pass Water Treatment Plant, located in San Luis Obispo County, and the Mission Hills Extension and Santa Ynez Extension of the Coastal Branch Phase II of the State Water Project, located in Santa Barbara County, California, commencing within Vandenberg Air Force Base and terminating at Lake Cachuma (the project).

The construction could potentially affect habitat for six (6) State-listed (four are Federally-listed) endangered species and for a number of State-listed Species of Special Concern. The six (6) State-listed endangered species are the unarmored threespine stickleback (Gasterosteus aculeatus williamsoni), the bald eagle (Haliaeetus leucocephalus), the southwestern willow flycatcher (Empidonax traillii), the least Bell's vireo (Vireo bellii pusillus, the seaside bird's-beak (Cordylanthus rigidus littoralis), and the San Joaquin kit fox (Vulpes macrotis mutica). The stickleback, bald eagle, vireo, and kit fox are also federally listed. The project will temporarily disturb three (3) acres and permanently impact 0.8 acre of habitat for the willow flycatcher and the least Bell's vireo. CCWA shall acquire (or designate in a Department of Fish and Game-approved agreement with the State Lands Commission providing for the protection and enhancement of lands in the Burton Mesa Management Area), enhance, protect, and provide for the long-term management of four (4) acres of suitable habitat for these species. Bald eagle foraging area in and along the shoreline of Lake Cachuma near Bradbury Dam would be disturbed (during summer when few if any eagles are present) during installation of a pipe and diffuser in the Lake. CCWA is investigating using the existing Improvement District No. 1 (ID#1) pipeline into the lake, thereby avoiding construction of a new pipeline and diffuser, but the feasibility of this alternative is uncertain. The modification

would involve elimination of a portion of the pipeline and the diffuser which presently are part of the project, plus some val changes on the ID#1 pipeline in the vicinity of the dam.

The project will either horizontally drill under, or bridge over, the habitat of the unarmored threespine stickleback in San Antonio Creek. With implementation of specific measures to prevent erosion that could increase turbidity in the creek, the project is not expected to disturb that habitat.

Approximately 35 acres of habitat for the seaside bird's beak will be disturbed, although no individuals of this species were viewed in the pipeline right-of-way during field surveys in the summer of 1993. The right-of-way will be resurveyed during the blooming period each year prior to construction and unavoidable loss of individual plants will be compensated by either establishing a new population of seaside bird's beak as part of the habitat restoration program on the Burton Mesa Management Area or as part of revegetation of the temporary construction corridor. The maritime chaparral plant community contains, in addition to the seaside bird's beak, several rare locally endemic plant species, including the sand mesa manzanita, a federal candidate species. The acreage and quality of maritime chaparral affected shall be determined by the Department after the right-of-way has been marked in the field and verified after construction activities are completed. As specified in this document, a combination of on-site and off-site restoration of maritime chaparral, conducted accordi- to a restoration plan prepared by CCWA and approved by t Department prior to any construction in this habitat, will compensate for permanent and temporary loss of this vegetation type.

The Department of Water Resources will clear and grade the site of the Polonio Pass Water Treatment Plant and construct its own facilities on that site, which is located in San Joaquin kit fox habitat. DWR has a separate CESA MOU with the Department to provide for San Joaquin kit fox impacts. CCWA will conduct finish grading and construct CCWA water treatment facilities on a portion of the graded site. For that reason, this Management Authorization includes San Joaquin kit fox avoidance measures to be implemented by CCWA during the finish grading and construction of CCWA's treatment plant.

It is the determination of the California Department of Fish and Game that the acquisition, enhancement, and long-term management of habitat for the species identified will offset the project impacts and will result in preserving core areas for the species which will help achieve sustainable populations. It is also the Department's determination that the project, as mitigated, would not be likely to result in jeopardy to the continued

existence of the identified listed species. Timely and successful implementation of the Specific Conditions in this Management Permit and the mitigation measures set forth in the attached Biological Resources Mitigation Plan and Mitigation Program for the Mission Hills Extension and the Santa Ynez Extension are necessary conditions to the Department's determination.

ACTIVITY DESCRIPTION

This project is a water supply system consisting of a buried pipeline, water treatment and pumping facilities, turnouts to local distribution systems and a facility housing operation and maintenance personnel and equipment. The project is located in Santa Barbara County. Constructed and operated by CCWA, the project will deliver State Water Project water to member entities in the county. The CCWA members and their respective entitlement amounts are listed on Attachment "A" to Exhibit 1.

Route Description

The two extensions which comprise the project consist of a buried pipeline with pumping and service turnout facilities. The route for the two extensions are contiguous and follow a 43-mile long corridor which originates at the end of the proposed Coastal Branch facilities at Tank 5 on Vandenberg Air Force Base, Santa Barbara County, and extend south and east to terminate on the west side of Lake Cachuma near Bradbury Dam, on land owned and managed by the United States Bureau of Reclamation. A map of the project alignment is attached hereto as Attachment "B" to Exhibit 1 and incorporated by reference herein. The project will use an existing water pipeline between Santa Ynez Valley and Bradbury Dam, thereby eliminating construction of approximately five (5) miles of pipeline.

Permanent Facilities

Permanent facilities will include the buried pipeline; a water treatment facility; one pumping plant, dechloramination station and control/maintenance facility in Santa Ynez (mile 35.1); Tank 7 west of Buellton (mile 24.1); four (4) water supply turnouts located at Vandenberg Air Force Base (mile 4.2), Buellton (mile 27.7), Solvang (mile 33) and at Santa Ynez (mile 37.4); and the terminus facility at Lake Cachuma. A water treatment plant will be constructed at Polonio Pass in San Luis Obispo County on a site which the Department of Water Resources (DWR) will rough grade in preparation for construction of the treatment plant and certain DWR facilities. DWR is responsible for mitigation of habitat loss at the Polonio Pass Water Treatment Plant site. One short permanent road will be needed to serve Tank 7.

Temporary Construction Requirements

The temporary construction right of way (ROW) generally will be 100-120 feet wide. Some areas (e.g., steep hillsides, sandy streambeds) may require up to a 300-foot ROW width. In certain sensitive areas, the ROW width may be reduced to approximately 50 feet for short distances. In certain areas, minor modification of the ROW to enlarge it to allow construction equipment to operate around, to hopefully avoid, mature trees and other pockets of habitat may occur at the direction of the construction supervisor in consultation with the biological monitor. In such instances, the biological monitor shall mark the area where the ROW may be enlarged as well as the biological resources to be avoided and shall monitor activity in that area to accomplish the intended reduction in biological impacts. Locations where the construction ROW is reduced or may be modified by the construction supervisor in consultation with the biological monitor (to reduce habitat impacts) shall be clearly indicated on design drawings and described in construction contracts. Within the ROW, the pipe trench will be approximately 15-30 feet wide. The soil cover over the pipe will be approximately four to five (4-5) feet deep.

Within the construction ROW a permanent 50- to 60-foot ROW easement will be required for the pipeline alignment. A 20-foot wide area of the permanent ROW located directly over the pipeline will be kept cleared of large trees to allow access for maintenance, avoid root weight damage, and permit aerial surveillance to detect damage or leaks.

Equipment and Materials Storage Areas

Temporary staging areas will be required to store equipment and materials and shall be located to avoid sensitive resources. Generally, staging areas will be approximately four (4) acres in size, but a few may be as large as 5.5 acres in size. Excavation materials will be stored along the pipeline trench in the construction ROW. Other spoil stockpile areas may be required where the width of the ROW is reduced to avoid sensitive resources.

Construction materials will be obtained from existing commercial operations. If borrow areas become necessary, appropriate environmental review of the location and impacts shall be conducted and appropriate permits shall be obtained before the borrow area is used.

Stream Crossings

The pipeline will cross four major streams and many small drainages. An alignment which minimizes the disturbance of riparian vegetation has been selected for each crossing. The San

Antonio Creek and Hilton Creek crossings will be accomplished by placing the pipe either on a suspension bridge constructed to span the creek or in a tunnel drilled under the creek. The entry and exit ports of the tunnels shall be located away from the creek channel and shall minimize disturbance to the adjacent riparian and upland habitat. Existing bridges at Solvang and Buellton will be used for the two crossings of the Santa Ynez River. An alternative alignment, which crosses the Santa Ynez River west of Buellton by micro-tunnelling under the river and its riparian habitat from agricultural field to agricultural field is being investigated. This alternative route is depicted on Attachment "B" to Exhibit 1 and would eliminate the Buellton bridge crossing, except that this alternative would include construction of a smaller pipeline (approximately 6-8" in diameter) which would deliver water from the project pipeline to Buellton. This alternative route is preferred over the Buellton bridge crossing and will be used if the drilling technique is determined to be feasible.

Operation and Maintenance Activities

The pipeline will be routinely inspected by aerial (rather than ground) survey. Over its 50-100 year life, the pipeline will require minimal maintenance. Maintaining the 20-foot wide zone above the pipe free of large trees prevents root damage, allows for aerial survey, and minimizes impediments to access for maintenance. If large trees do begin to grow over the pipeline, a chain saw will be used for removal and the stump sealed to prevent sucker growth from the stump. The resulting cut brush will be left nearby to provide habitat.

Air release valves placed at high points will be checked periodically via existing roads and on foot. When equipment or materials are needed for maintenance or repairs, 4-wheel drive vehicles may have to leave the nearest road and travel cross-country to reach a valve.

Sections of the pipe will be drained only when necessary to repair damage to the pipe. Repairs requiring draining are expected to occur infrequently, and appropriate environmental review of the location and impacts shall be conducted and appropriate permits shall be obtained before the draining occurs.

POTENTIALLY AFFECTED SPECIES

Unarmored Threespine Stickleback

The unarmored threespine stickleback (Gasterosteus aculeatus williamsoni), a state and federally-listed endangered species occurs in San Antonio Creek on Vandenberg Air Force Base. The fish require slow flow with aquatic vegetation for cover and nest

material. They are specialized feeders whose diet consists primarily of benthic organisms or organisms living on aquatic plants. As sight feeders, they are intolerant of high turbidi Most sticklebacks complete their life cycle in one year; a few individuals in a population apparently live two or three years. Sticklebacks spawn in the spring or early summer as water warms and the duration of daylight increases. Major threats to the unarmored threespine stickleback include stream channelization, urbanization, agricultural development water diversions, groundwater pumping, introduction of predators and competitors, impacts to the habitat caused by off-road vehicles, and chemical spills.

The fish appear to be relatively abundant where found, but are continuously threatened by continuing stream degradation. The species is currently being managed by a recovery team which meets regularly. The recovery plan for the species was revised in 1985. The agencies cooperating in the recovery effort have undertaken several actions to conserve the unarmored threespine stickleback. These activities include: (1) surveys to discover additional populations, (2) transplants to establish the fish in other waters, (3) surveys to discover exotic organisms, (4) eradication programs to remove or control exotic species, (5) a contingency plan to establish response procedures in case of oil or toxic chemical spills, and (6) genetic studies to ascertain taxonomic relationships.

These conservation efforts resulted in the discovery of a remnant population of stickleback in Shay Creek, San Bernardi County, establishment of additional stickleback populations, and potential change in the taxonomic status of one or more of the recognized extant populations. U.S. Fish and Wildlife Service policy with respect to proposed taxonomic revisions is to await acceptance and publication in a reputable scientific journal before initiating changes in the management of listed species.

Bald Eagle

The bald eagle (Haliaeetus leucocephalus), a state- and federally-listed endangered species, is a large brown bird of prey which, as an adult, has a white head and tail. The bald eagle occurs widely in North America and winters throughout most of California at lakes, reservoirs, river systems, interior and coastal wetlands, and some rangelands. The breeding range is mainly in mountainous habitat near reservoirs, lakes and rivers in the northern quarter of the State; some pairs also breed in southern California on Santa Catalina Island and mainland Santa Barbara County. The winter population appears to be stable, and the breeding population is increasing in numbers and range. The size of the winter population varies from year to year and may exceed 1,000 birds some winters (as in 1987-88). Eighty-three

breeding pairs occupied breeding sites in 1989. The Pacific Bald Eagle Recovery Plan (1986) establishes geographical goals for population recovery. The multi-agency California Bald Eagle Working Team provides guidance to agencies and groups in management and research matters, and the team is preparing a management plan for bald eagles in California to assist in implementing the recovery plan. Many breeding territories are being maintained and protected under local management plans. Key winter habitats are receiving increasing attention in terms of population monitoring, site protection, and public viewing and education. Several entities, including Pacific Gas and Electric Company and U.S. Forest Service, are currently sponsoring intensive ecological studies. Other research efforts are under way on contaminants, human disturbance, and other issues that affect this species. Several bald eagles studies, including population restoration efforts on the Channel Islands, have been supported with Tax Check-off funding assistance.

Bald eagles are winter residents at Lake Cachuma (approximately 2 to 15 birds each year), usually arriving at the lake in November and departing the following March. Bald eagles nested successfully at Lake Cachuma in 1989 and 1990. The bald eagle is predominantly a fish-eating bird, however, other prey items may include birds, amphibians, and reptiles. They forage over the lake and hunt from perches in trees along the shoreline, particularly where the banks are steep. The area on the west side of the Tecolote Tunnel intake tower is used regularly for perching, while aerial foraging may occur anywhere over the lake.

Southwestern Willow Flycatcher

The willow flycatcher (Empidonax traillii), a state-listed endangered and federal candidate 1 species, was formerly a common summer resident throughout California. The breeding range of the willow flycatcher extended wherever extensive willow thickets occurred. The species has now been eliminated as a breeding bird from most of its former range in California. Only five populations of significance remain in isolated meadows of the Sierra Nevada and along the Kern, Santa Margarita, San Luis Rey and Santa Ynez rivers in southern California. The smallest of these consists of about six pairs and the largest about 44 pairs. The total population estimate for California is about 200 pairs of willow flycatchers. A survey conducted in late summer 1991 on Department-owned willow riparian habitat at Red Lake, Alpine County indicated that a significant breeding population exists there. Further study is planned.

The loss of riparian habitat is the principal reason for the decline of California's willow flycatcher population and contraction of the species range. Impacts to habitat and breeding

birds associated with livestock grazing have also been implicated in the decline of the species. Nest parasitism by brown-head cowbirds (Molothrus) may have contributed significantly population reductions.

More than a decade ago the California Department of Fish and Game designated the willow flycatcher a "Bird Species of Special Concern" of highest priority. This finding prompted several years of Department studies to further assess the status of willow flycatchers in California. Reports from the Pacific Coast and Southwest resulted in addition of the willow flycatcher to the National Audubon Society's Blue List of declined bird species in 1980 and 1986. In 1984 the willow flycatcher was added to the U.S. Forest Service, Region 5 (mostly comprised of the State of California) Sensitive Species list. The U.S. Fish and Wildlife Service has also designated the willow flycatcher as a sensitive species for Region 1 (Washington, Idaho, Oregon, California, and Nevada) based on significant declines in this region. The South-western willow flycatcher (E.t. extimus), with small populations in southern California, was proposed for listing as endangered by the U.S. Fish and Wildlife Service on July 21, 1993.

Least Bell's Vireo

Least Bell's vireo (Vireo bellii pusillus), a state- and federally-listed endangered species, is a small bird which is drab-gray above and whitish below, with sides faintly washed with grayish olive-yellow, and has indistinct white spectacles and fai wing bars with the lower bar being more prominent. The vireo is insectivorous. The vireo is a summer resident of the following riparian habitats: willow (Salix sp.), cottonwood (Populus fremontii) forest, oak (usually Quercus agrifolia) woodland, shrubby thickets (often composed solely of willow species, usually narrowleaf willow or black willow), and dry washes (with willow thickets at the edges to provide vireo foraging habitat and nest sites). The willow-cottonwood habitat is the more commonly used habitat by the vireo. The vireo was known as a breeder in the Central Valley and the Sierra Nevada foothills, in the coast ranges from Santa Clara County south to Baja California, in the Owens Valley, Death Valley, and at scattered locations in the Mojave desert. Habitat loss and degradation and nest parasitism by the brown-headed cowbird have resulted in the decline of this species in California. Now the known breeding range of the vireo is restricted, but includes small populations from Southern California (primarily Santa Barbara, Riverside, Ventura, and San Diego counties) into northwest Baja California.

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Seaside Bird's-Beak

The seaside bird's beak (Cordylanthus rigidus littoralis) is a State-listed endangered species. This plant occurs in the Burton Mesa chaparral, a form of maritime chaparral characterized by numerous locally endemic plant species, including sand mesa (shagbark) manzanita, Purisima manzanita, varieties of coast and Santa Barbara ceanothus, in addition to common chaparral species. Seaside bird's beak is a bushy annual herb in the figwort family. Its branches and leaves are covered with fine hairs and its flowers are pale yellow and clustered at the end of its branches. The preferred habitat of the plant is sandy soils of stabilized dunes covered by closed-cone pine forest or maritime chaparral; plants thrive in areas of recent surface soil disturbance. Seaside bird's beak is a hemiparasite. In Santa Barbara County about 10 sites are presently known on private land or on Vandenberg Air Force Base. Populations in Santa Barbara County are threatened by residential and energy development, off-road vehicle use, and military operations at Vandenberg AFB. Management of existing preserve lands and actions by the County to protect remaining Burton Mesa chaparral may result in protection for some populations of Seaside bird's beak. This plant was not found within the pipeline corridor between Tank 5 on Vandenberg Air Force Base and Burton Mesa Boulevard north of Lompoc during field surveys the summer of 1993.

San Joaquin Kit Fox

The San Joaquin kit fox (Vulpes macrotis mutica), a state-listed threatened and federally-listed endangered species, is one of the eight recognized subspecies of kit fox. The kit fox resembles a small lanky dog in appearance, with disproportionately large ears with an abundance of large white inner guard hairs. Total length is about 32 inches, including a 12-inch black-tipped tail. Coloration ranges from light buff to grayish along the back and tail; gray, rust, or yellowish along the sides; and white along the belly.

San Joaquin kit foxes hunt for rodents, rabbits, and other prey by night from dens that are typically excavated in loose soil. Individual animals may use from 3 to 24 separate dens. Individual den entrances may range from 1 to 36, and may extend into several individual tunnels and chambers reaching depths of up to 10-feet. Man-made structures such as culverts and pipes may also be used as dens. Den entrances are characteristically higher than wide and are sufficiently small to prevent access by large carnivores such as coyotes. Den entrance hole dimensions are generally about 8-10 inches in height and less than 8 inches in width, but may be as small as 4 inches in width. Burrows of other animals, particularly California ground squirrels (Spermophilus beecheyi), may also be opportunistically enlarged and used as den sites by San Joaquin kit

foxes. Although occupied dens may show freshly excavated soil, scats, and prey remains, such obvious signs also may be inconspicuous or absent.

San Joaquin kit foxes forage and live in an area of 1-2 square miles. Mating occurs in December-January. Pups are born in February-March, and begin to disperse at around five months of age. Survival rates of kit fox pups are low; about 75 percent of such animals die before the age of eight months.

Mortality for this species has been documented from attacks by coyotes, road kills, conversion of habitat, shooting, drowning, entombment, pneumonia, and starvation. Additionally, widespread use of rodenticides may result in mortality, since kit fox are extremely vulnerable to secondary poisoning through consumption of poisoned ground squirrels or other scavenged rodents.

The San Joaquin kit fox historically was distributed over a large portion of central California, extending roughly from southeastern Contra Costa County south along the eastern edge of the Interior Coast Range to the southern San Joaquin Valley, including major portions of western Kern County and Tulare County. San Joaquin kit fox were also distributed through adjacent valleys, foothills, and plains, including portions of San Luis Obispo County, Monterey County, and the Santa Clara Valley on the western side of the Interior Coast Range.

Habitat conversion is the principal reason for both State and Federal listing of the San Joaquin kit fox. Agricultural development is the principal contributing factor to the decline of available kit fox habitat. By 1983, approximately 42 percent of "suitable" kit fox habitat was lost as a result of such impacts.

OTHER SENSITIVE SPECIES

Lompoc Yerba Santa

The Lompoc Yerba Santa (Eriodictyon capitatum) occurs in closed cone pine forest, chaparral, and ravines in the Santa Ynez Mountains and north of Lompoc. Known localities include three colonies on Vandenberg Air Force Base, La Graciosa Ridge in the Orcutt Hills, and Hollister Ranch. The locations on Vandenberg Air Force Base are: (1) near the intersection of 35th Street and California Avenue (near the Cantonment area); and, (2) two sites in Pine Canyon (west of Vandenberg Village). None of these sites is within the project route.

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Sand Mesa (Shagbark) Manzanita

The sand mesa manzanita (Arctostaphylos rudis) occurs in sandy places of coastal sage scrub and chaparral from Oceano (San Luis Obispo County) south to Santa Barbara County. It is endemic to California with distribution limited to several populations. It is a characteristic species in Burton Mesa chaparral, but its distribution is patchy within this plant community. This species sprouts from burls. Individuals are present within the proposed corridor.

Presently unlisted sensitive species of reptiles, amphibians, birds and mammals (either under status review for federal listing or are California Species of Special Concern) or species habitat also occur in the project area. These include southwestern pond turtle, California tiger salamander, red-legged frog, arroyo toad, California horned lizard, yellow warbler, yellow-breasted chat, burrowing owl, long-eared owl, tricolored blackbird, Cooper's hawk, and American badger. The project has been planned to avoid or minimize to the extent feasible any adverse impacts to these species and their habitats.

Southwestern Pond Turtle

The southwestern pond turtle (Clemmys marmorata pallida) inhabits perennial waters such as rivers, streams, reservoirs, ponds and marshes. It prefers quiet water, particularly deeper pools lined with aquatic vegetation. Eggs are laid in late spring (May and June) in sunny upland areas adjacent to permanent water. Populations in Santa Barbara County are widespread but declining due to habitat alteration. Pond turtles are known to inhabit San Antonio Creek, the Santa Ynez River, and the Campbell vernal pools. Other habitat locations along or immediately adjacent to the pipeline corridor include the impoundment on Zanja de Cota Creek and an irrigation pond about three (3) miles west of Campbell Road. This species is a state Species of Special Concern and a candidate (Category 1) for federal listing.

California Red-legged Frog

The California red-legged frog (Rana aurora draytoni) inhabits ponds and moderately deep pools within streams that have dense growths of emergent aquatic or phreatophytic vegetation. Populations are known to occur in the Santa Ynez River about three (3) miles west of Buellton and in the Campbell vernal pools. Habitat within the project area includes San Antonio Creek and the impoundment on Zanja de Cota Creek. Degradation and loss of habitat along with predation by introduced fish and competition from introduced bullfrogs appear to be the cause of their population decline in Southern California. The red-legged frog is

a state Species of Special Concern and a candidate (Category 1) for federal listing.

California Tiger Salamander

The California tiger salamander (Ambystoma tigrinum californiense) reaches the southern extent of its range in northwestern Santa Barbara County. It breeds in temporary ponds and pools during the winter rainy season, and adults spend the remainder of the year in burrows (generally of ground squirrels) located in upland areas such as oak woodlands. Most of the burrows are found within about 1,000 feet of the pools, but some may be as far away as 1 mile. The juvenile salamanders stay in moist vegetation in the vicinity of the pools throughout the summer, even after they dry up. Habitat degradation and loss coupled with predation and competition from introduced species are believed to be the principal factors responsible for population declines within the state. The salamander is known to inhabit the Campbell vernal pools. This species is a state Species of Special Concern and a candidate (Category 2, but petition for listing) for federal listing.

Arroyo Southwestern Toad

The arroyo toad (Bufo microscaphus californicus) prefers sandy, intermittent streams that are bordered by riparian trees. The toads are usually nocturnal. Breeding is from March through June. This species has not been recorded west of Lake Cachuma the Santa Ynez River drainage, although suitable habitat occurs at several locations along the river in the project area. It is a state Species of Special Concern and proposed for federal listing as endangered on August 3, 1993.

California Horned Lizard

The California horned lizard (Phrynosoma coronatum frontale) is found in grassland and shrub habitats with sandy soils. It is known to occur at several locations along or near the pipeline route from Tank 5 on Vandenberg AFB to Purisima Road (north of Lompoc). The horned lizard is a state Species of Special Concern.

Yellow Warbler

The yellow warbler (Dendroica petechia brewsteri) is fairly common locally as a migrant and occasional breeder. It breeds in riparian habitats during spring (primarily May and June) and forages in nearby riparian and scrub habitats. This species is known to breed along San Antonio Creek, the Santa Ynez River, and Zanja de Cota Creek. Another habitat location for breeding in the project area includes the unnamed creek (Drainage A) east of