

Vandenberg Village. This species is a state Species of Special Concern.

Yellow-breasted Chat

The yellow breasted chat (Icteria virens) is a migratory species that nests in riparian habitats. Breeding is generally in May and June. It is known to occur at the Santa Ynez River about three miles west of Buellton, and along the tributary to San Antonio Creek. Suitable habitat is present at Zanja de Cota Creek and at the unnamed stream (Drainage A) east of Vandenberg Village. It is a state Species of Special Concern.

Burrowing Owl

Burrowing owls (Athene cunicularia) are winter visitors to grassland areas in northern Santa Barbara County. No nesting is known to occur in the project area, and few if any burrowing owls are expected along the pipeline route. This species is a state Species of Special Concern.

Long-eared Owl

The long-eared owl (Asio ofus) is a resident in northern Santa Barbara County. No known nesting sites are located within or immediately adjacent to the pipeline corridor, although nesting has occurred in the area. Breeding begins in late March and may extend through June. The owl is a state Species of Special Concern.

Cooper's Hawk

The Cooper's hawk (Accipiter cooperi) is a local resident that nests and forages in riparian habitats. Breeding begins in late April and the young are fledged in July or August. It has been known to nest in Zanja de Cota Creek north of the pipeline corridor and suitable habitat is present along the tributary north of San Antonio Creek, at the Santa Ynez River west of Buellton, and in oak woodlands near the pipeline corridor between Highway 101 and Alisal Road. This species is a state Species of Special Concern.

American Badger

The American badger (Taxidea taxus) occurs throughout the project area, primarily in open habitats (e.g., grasslands and scrub areas). It lives in burrows and is a state Species of Special Concern.

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Tricolored Blackbird

The tricolored blackbird (Agelaius tricolor) lives in large colonies and nests in dense stands of emergent vegetation, such as tules and cattails. Breeding generally occurs from May through July. It forages over open grassy areas and agricultural fields. A breeding colony was present at a pond adjacent to the pipeline corridor in 1992. Little other suitable nesting habitat is present along the corridor. This species is a candidate (category 2) for federal listing.

POTENTIAL EFFECTS ON LISTED SPECIES

Unarmored Threespine Stickleback

Unarmored threespine stickleback occur in San Antonio Creek. At the pipeline crossing of San Antonio Creek the stream is deeply incised (about 25 feet) with nearly vertical banks. The pipe will be placed on a bridge constructed over the creek to avoid disturbing stickleback habitat, or the pipeline will be installed by deep horizontal drilling beneath the stream-side habitat and the creek, starting and ending a sufficient distance from the riparian habitat to avoid disturbance to soil and vegetation. Just north of the proposed micro-tunnelling or bridged crossing, the pipeline crosses an unnamed tributary to San Antonio Creek at three locations. Sticklebacks may be subject to direct and indirect effects of increased turbidity from sediments carried in storm runoff from the construction area upslope from the bridge crossing, including from the tributary crossing sites. Increased turbidity could result in impaired feeding behavior, adverse effects on food supply, and reduced reproductive success. Rupture of the pipeline, if suspension rather than micro-tunnelling is used, could result in the spill of chloraminated water into the creek, causing physical damage to the habitat or mortality of sticklebacks or their food organisms from the toxicity of the chloramine.

Bald Eagle

Construction of the pipeline terminus near the south abutment of Bradbury Dam temporarily will affect approximately five (5) acres of foraging area along the Lake Cachuma shoreline, including an area of the lake near the barge which will lay the pipe and diffuser 1900 feet into the Lake. Disturbance associated with construction near Bradbury Dam temporarily will discourage bald eagle foraging at the Lake in the vicinity of the construction activity. This limited temporary disturbance is not expected to disrupt the bald eagles' use of perch sites or interfere with foraging. Construction is planned for summer when it is expected that few if any bald eagles will be present. If the existing ID#1

pipeline terminus is used, it will require some retrofitting of the existing facility and no new construction.

The pipeline either will use the existing ID#1 pipeline to enter the Lake or will enter the Lake in the vicinity of the dam, as shown on Attachment "B" to Exhibit 1, and will end approximately one-half mile northeast of the entry point, in the vicinity of the Santa Ynez River Water Conservation District inlet structure.

Willow Flycatcher and Least Bell's Vireo

The southwestern willow flycatcher occurs in only a few locations, including a small breeding population using willow riparian habitat along the Santa Ynez River about three miles west of Buellton. No vireos were viewed in or adjacent to the right-of-way during spring 1993 field surveys. The least Bell's vireo has not been observed during recent surveys in the vicinity of the project, but some suitable habitat does exist along and near portions of the project route.

Willow flycatchers historically have nested in cottonwood-willow riparian and riparian scrub habitat along creeks and rivers in the project area. Willow flycatchers breed in dense riparian habitat along the Santa Ynez River about three miles west of Buellton and potential flycatcher habitat exists at the San Antonio Creek crossing. The willow flycatcher was observed in both the migratory and breeding seasons during preliminary biological resource surveys conducted in the late 1980s along the Santa Ynez River west of Buellton. No vireos were viewed during surveys conducted during the summer of 1992 and 1993. The pipeline has been relocated to avoid direct loss of willow habitat along the Santa Ynez River at Buellton; this is true either with the presently proposed route or with the preferred alternative route being studied. During the breeding season, construction activities near occupied habitat could disturb breeding flycatchers (and vireos if present) and adversely affect their reproductive success. The removal of willow riparian habitat at Zanja de Cota Creek will result in temporary loss of potential foraging and nesting habitat for these species, but there is no documented sighting of a willow flycatcher or least Bell's vireo at or near the Zanja de Cota Creek crossing.

Seaside Bird's Beak

Individual seaside bird's beak plants were reported for the corridor in surveys conducted by DWR. The pipeline route has been relocated through much of the Burton Mesa area in order to reduce impacts to the seaside bird's beak and its habitat. Field surveys during the 1993 flowering period for the bird's beak were conducted to determine whether any plants are present. The more common

subspecies of bird's beak, but not the listed subspecies, was found during the surveys of the final route. The identification is verified by Dr. Tsan Iang Chuang, of Illinois State University, a foremost expert on this species. Annual variation in conditions will affect the distribution of the species within suitable habitat.

Clearing the construction ROW and facilities sites will result in the temporary disturbance of 35 acres of seaside bird's beak habitat in Burton Mesa chaparral, plus 12 acres loss from the Coastal Branch Phase II construction by DWR. No permanent loss of seaside bird's beak habitat will occur due to the revegetation plan described in more detail below. Seaside bird's beak apparently grows well in disturbed surface soils and is expected to be responsive to species specific restoration plans proposed by CCWA.

San Joaquin Kit Fox

Construction at the Polonio Pass Water Treatment Plant site will result in temporary and permanent habitat losses for San Joaquin kit fox. (The Department of Water Resources is responsible for mitigating these losses and for removing or sealing dens in the vicinity of construction activity.) During CCWA's construction activity at the site, individual animals could be injured or killed as a result of crushing or striking by vehicles and equipment, if they venture into the construction area. Direct mortality may occur from operation and parking of vehicles and equipment, and vehicle traffic to and from the project site by construction personnel and other visitors to the site.

POTENTIAL EFFECTS ON OTHER SENSITIVE SPECIES

Lompoc Yerba Santa

Although this species is located on Vandenberg Air Force Base, biological surveys of the proposed project route conducted to date (including the 1993 survey) indicate that the species does not occur within or adjacent to the proposed construction right-of-way. Therefore, it is not expected to be impacted by the project construction. Pre-construction surveys will include this species and appropriate management measures, meeting the Department's specifications, will be implemented should individuals of the species be discovered to occur in an area where they cannot be avoided.

Sand Mesa (Shagbark) Manzanita

Pre-construction surveys will identify the individual members of the species which occur within the construction right-of-way and which cannot be avoided. As set forth in more detail in the

Biological Resources Mitigation Plan, sensitive plant species such as the sand mesa manzanita will be avoided to the extent feasible and the contractor will be provided financial incentives to avoid the plants rather than remove them. Where feasible, the pipeline corridor will be narrowed to avoid sensitive plant species. Individual plants which cannot be avoided either will be transplanted or the seed, young plants, or cuttings will be collected and preserved to be replanted following construction in order to re-establish the plants removed. Individuals outside the trench, but in the construction easement, will be cut above the burl to allow resprouting after construction is complete. Off-site restoration of maritime chaparral will include sand mesa manzanita.

Southwestern Pond Turtle

Construction of the pipeline could affect pond turtle habitat in San Antonio Creek, the Santa Ynez River, Zanja de Cota Creek, and at the Campbell vernal pools. Direct effects at San Antonio Creek and the Santa Ynez River are unlikely since the pipeline will either be placed on a bridge or bored under the streambed. Rupture of the pipeline over San Antonio Creek or the Santa Ynez River (low probability of occurrence) with release of chloraminated water could cause physical damage of the habitat but would not cause any mortality of pond turtles from toxicity of the chloramines since this species breathes air. Potential habitat will be disturbed at Zanja de Cota creek, however no pond turtles have been observed there. The pond turtle population in the Campbell vernal pools could be affected by construction (primarily through noise and human presence) for the short duration of this activity during the dry season. Any damage to the vernal pools or alteration of the local hydrology could affect the carrying capacity of this habitat. CCWA is negotiating with CalTrans to try to obtain permission to construct the pipeline within the CalTrans right-of-way south of Highway 246, thereby avoiding potential impacts to the Campbell vernal pools. The outcome of these negotiations is uncertain at this time.

California Red-legged Frog

Red-legged frogs in the Santa Ynez River 3 miles west of Buellton would not be affected by construction since the river would be crossed by boring beneath the streambed if this crossing site is used. Construction activities adjacent to the Campbell vernal pools could result in impacts similar to those described above for the pond turtle. Rerouting the pipeline to the CalTrans right-of-way would avoid these potential impacts.

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California Tiger Salamander

Construction of the pipeline immediately adjacent to the Campbell vernal pools during the dry season could interfere with the movement of the adults between the pools and the upland burrows they use during the summer. Most movement, however, should be completed prior to initiation of construction. In addition, adult salamanders in burrows within the construction corridor would likely be lost during trench excavation or crushed in their burrows by heavy equipment moving beside the trench. Juvenile tiger salamanders remain in moist vegetation around the pools as they dry up, and mortality through crushing by equipment traffic or stockpiling of excavated materials adjacent to the trench could occur. Alteration of the local hydrology could have long-term effects on the habitat size and quality. Rerouting the pipeline to the CalTrans right-of-way would avoid these potential impacts.

Arroyo Southwestern Toad

This species is not expected to occur within the pipeline corridor and may not be affected by construction activities. The Santa Ynez River will be crossed by suspension on the Alisal Road bridge and by boring or use of an existing bridge west of Buellton.

California Horned Lizard

Habitat for the horned lizard from Tank 5 to Purisima Road would be temporarily disturbed during construction. Any horned lizards within the construction corridor would be lost during brush clearing and trenching activities. Individuals entering the corridor during construction activities could be run over by equipment or fall into the open trench and be trapped.

Yellow Warbler and Yellow-breasted Chat

Construction within or adjacent to breeding habitat for the yellow warbler and yellow-breasted chat could disrupt nesting activities of those individuals for one year. Pruning of willows within the construction corridor along the tributary to San Antonio Creek would reduce habitat until the willows grow back. Clearing of riparian trees at the Zanja de Cota Creek crossing would reduce habitat for the yellow warbler and habitat for the chat. A permanent loss would occur in the area (about 20 feet wide) maintained clear of large trees for maintenance access.

Burrowing Owl

This species is not expected to nest in the project area. Any burrowing owls present would be winter visitors. Any individuals present in the construction corridor that do not leave their burrows would be lost.

Long-eared Owl

Construction activities are not expected to have any adverse impacts on this species. No long-eared owl nesting is known to occur along the pipeline route.

Cooper's Hawk

No nesting sites are known to occur within the construction corridor, but noise and human presence associated with construction could adversely affect any Cooper's hawks that are nesting immediately adjacent to the corridor. Disturbance could result in abandonment of the nest.

American Badger

Construction activities could trap or crush any badgers remaining in burrows within the pipeline corridor. Badgers have relatively large home ranges and may enter the corridor at night, digging new burrows in the cleared area or the stockpiled excavated materials. They also could fall into the trench and be trapped while foraging in the area at night.

Tricolored Blackbird

Construction activities could disrupt breeding at the pond adjacent to the pipeline corridor along Highway 246 where blackbirds were observed in 1992.

SPECIFIC CONDITIONS REQUIRED BY THE MANAGEMENT PERMIT

Off-site Habitat Management Lands Requirement

To offset the temporary and permanent impacts to willow flycatcher habitat and least Bell's vireo, CCWA shall enter into a binding agreement with the State Lands Commission, which shall be approved by the Department, to preserve and 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 acquire and to transfer to the Department or to a conservation organization approved by the Department fee title or a permanent conservation easement to 4.0 acres of suitable riparian/wetland (0.8 acres of permanently lost riparian/wetland habitat replaced at a 5:1 ratio) at a location acceptable to the Department. 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. Acquisition (or, in the case of the BMMA, execution of the Department-approved contract with the State Lands Commission) shall be completed prior to December 31, 1995. CCWA shall enhance the acquired or designated BMMA habitat as specified by the Department and establish a permanent capital endowment for the protection and management of the habitat by depositing \$3,200.00 (\$800/acre) in a Department special trust account. CCWA shall ensure that any acquired or designated BMMA lands have sufficient water to sustain the riparian habitat in good condition.

To compensate for temporary and permanent loss of maritime chaparral on Burton Mesa, including the identified species described above, CCWA shall carry out the habitat restoration and enhancement activities within the BMMA. The number of acres to be preserved and enhanced shall be calculated from a Department determination of the amount of habitat lost from each of three categories: prime, moderately degraded, and highly degraded maritime chaparral. CCWA shall preserve, restore, and enhance three acres of habitat for each acre of prime chaparral that is disturbed by the project (3:1). For disturbance of moderately degraded and highly degraded maritime chaparral, CCWA shall restore chaparral habitat at 2:1 and 1:1 ratios, respectively. Once the right-of-way has been staked and flagged, the Department will inspect the alignment and determine the number of acres in each category that will be disturbed. Prior to any construction of mile 5 through mile 11 of the pipeline, CCWA shall complete a detailed maritime chaparral restoration plan, for Department and State Lands Commission approval, that includes the plant species characteristic of this vegetation type. CCWA shall begin implementation of an approved restoration plan within 90 days after execution of a binding agreement with the State Lands Commission designating lands in the BMMA to be restored by CCWA. CCWA shall deposit with the Department (or the State Lands Commission if the Department so directs) the sum of \$1000 per acre of restored chaparral habitat to establish a permanent capital endowment principal for the long-term protection and management of this habitat. These funds shall be placed in a special deposit account and the interest on this account shall be made available annually to the agency or agencies designated by the Department as responsible for the management of the chaparral habitat.

Prior to December 31, 1995, CCWA also shall provide cash or a standby letter of credit for \$648,000.00 (108 total acres to be restored and enhanced off-site) to secure the acquisition, enhancement, and long-term management of the habitat management lands to offset riparian/wetland and Burton Mesa chaparral habitat losses from the project. For the purpose of determining the acreage of Habitat Management Land and, thus, the dollar amount of this security, it is assumed that all maritime chaparral affected

by the project falls into the prime category and the 3:1 ratio has been applied. The actual acreage of Burton Mesa chaparral to be restored will be calculated as described above and may be less than 108 acres.

The Department may release portions of said cash or letter of credit upon timely request and documentation of the following:

a. Upon execution of the described Department-approved binding agreement with the State Lands Commission or (if non-BMMA lands are used) upon recordation of fee title or a conservation easement, the sum of \$324,000.00 (\$3,000.00 per 108 acres).

b. Upon Department-approved completion of restoration and enhancement, the sum of \$216,000.00 (\$2,000.00 per 108 acres). (The remaining \$108,000 represents the \$1,000.00 per 108 acres endowment for on-going habitat management as described above.)

Following completion of construction, CCWA shall submit a written report to the Department, setting forth the precise amount of acreage of riparian habitat and maritime chaparral habitat disturbed by the project. The amount of off-site habitat management lands (and the appropriate letter of credit or cash deposit and endowment amounts) required will be adjusted as necessary to account for any difference between the estimated and actual amount of habitat loss.

On-site Management Conditions to Avoid and Minimize Take

The management conditions presented below shall be specified in all drawings and specifications that are part of the contract documents for pipelines and other related facilities. The requirements that can be depicted in a linear reference, i.e., ROW width, grading width allowed, etc., shall be shown on aerial photo or topographic alignment sheets or construction drawings. Other requirements shall become part of the construction specifications in narrative or line list format. All conditions shall apply to construction and operation of both the pipeline and the ancillary facilities.

A. Pre-Construction Phase

1. For the portions of the project route where endangered species or Species of Special Concern and their habitat have been identified, CCWA shall hire qualified biologists acceptable to the Department to conduct a pre-construction survey to re-inventory the construction ROW and all proposed access roads for the occurrence of the listed species and Species of Special Concern enumerated above. The inventory of seaside bird's beak shall be conducted during the species' flowering period; the surveys for southwestern

willow flycatcher, least Bell's vireo, other riparian bird Species of Special Concern, bald eagles and other raptors Species of Special Concern shall be conducted within sixty (60) days prior to commencement of construction in the vicinity of known or potential habitat. Riparian corridors at San Antonio Creek, the Santa Ynez River and Zanja de Cota Creek shall be surveyed for listed and sensitive bird species at least one half mile upstream and downstream from the crossings where riparian habitat is present. Surveys shall be conducted in April and May in the year of construction. Each inventory shall be conducted by a qualified biologist with prior inventory experience for the species inventoried. This is necessary to implement protection measures described below.

2. Fenced exclusion zones shall be established as deemed appropriate by the biologist to effectively protect sensitive habitat from inadvertent damage from construction activities. Exclusion zone fencing shall consist of either large flagged stakes connected by rope or cord; survey laths or wooden stakes prominently flagged with survey ribbon, plastic mesh or chain link fencing, as appropriate. Exclusion zones shall be maintained until all construction activities in the vicinity of the zones have been completed, and then shall be removed. If specified exclusion zones cannot be observed for any reason, the Department shall be contacted for guidance prior to ground disturbing activities on or near the affected habitat.

3. As close to the beginning of construction as possible but not more than 14 days prior to the onset of construction, a qualified biologist shall conduct a final pre-construction survey of suitable habitat for the southwestern willow flycatcher, least Bell's vireo, or other riparian bird Species of Special Concern within one half mile to determine whether individuals of these species are present. If nesting birds are found, CCWA shall contact the Department for an assessment of the site-specific conditions and a determination of the potential impact of beginning construction. If the Department determines that construction activities would likely disturb nesting bird species which are state-listed or Species of Special Concern, construction at the site shall be prohibited until young birds have fledged.

4. Existing vegetation characteristics of habitat suitable for the listed species or Species of Special Concern described above shall be characterized by a combination of photographic documentation and other standard vegetation survey techniques. This survey shall be conducted by qualified plant ecologists approved by the Department.

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5. Documentation of pre-project conditions along the ROW, facilities sites, staging areas, parking areas, etc. shall include:

- * Aerial photographs and/or videotapes taken not more than 12 months prior to execution of this Permit at a 1 to 12,000 scale of the entire alignment, access roads and the temporary and permanent facilities sites.
- * In sensitive species habitat (riparian corridors, stream crossings, vernal pools, freshwater marsh, Burton Mesa chaparral) photographs or videotape shall be used to document the pre-project condition of the habitat.
- * Where state and/or federally listed plants are encountered, a complete analysis of the population including an absolute count of plants on and adjacent to the alignment or the use of a sampling method that will achieve a statistically valid (95% level of confidence) estimate of population.

A report shall be provided to the Department providing all data compiled during the pre-construction surveys within 60 days after completion of surveys for each milepost.

6. Prior to the initiation of construction, CCWA shall submit to the Department completed plant community revegetation technical manuals describing restoration to be implemented in listed species habitat.

7. Prior to initiation of construction in areas of potential impact to species which are listed or of special concern, a worker education program shall be presented to all workers (including CCWA personnel) who will be on-site during construction activities. The program shall be given within 20 miles of the construction ROW. Construction inspectors, as well as supervisors and employees of contracting and subcontracting companies are required to attend the course. The program shall consist of briefing sessions and written materials, developed by biologists familiar with biological resources along this portion of the route, with emphasis on sensitive species and listed species.

Initial briefing sessions shall be given by biologists or biological monitors. Due to the length of time required for pipeline construction, the worker education program shall be an ongoing process as new employees and subcontractors begin work.

During the briefings, participants shall be informed of:

The sensitive habitats, as well as the legal and biological status of sensitive species, including the listed species

known or likely to occur in the project area. Potential penalties for take of a listed wildlife species shall be described.

General measures to be followed that will reduce impacts to biological resources of the area, such as restricting disturbance to a clearly delineated construction zone and the prohibition of cross-country travel in vehicles.

Distribution and expected occurrence of sensitive species within the project vicinity.

Brief life history description and an explanation of the abundance trend, limited range or other facts about the species status that explains the need for the implementation of special measures.

Descriptions of special measures designed to minimize impacts to sensitive species, such as enforcement of speed limits, prohibition of collecting, harassing, or harming individuals of sensitive species, prohibition of firearms at the site, etc.

Additional general measures that workers can follow to assist in protecting these species.

Protocol to follow if sensitive species are encountered including appropriate contact points, such as construction supervisors, construction inspectors, and environmental monitors.

In addition:

Pamphlets and pocket-size fact sheets or cards shall be produced and distributed to all workers, including pipeline employees and inspectors, as well as employees and supervisors of contracting and subcontracting companies, to reinforce information presented in the briefings. The pamphlets shall highlight important points regarding each sensitive species, including sensitive and legal status, need for protection, protective measures, and contact points to report encounters.

Prior to being allowed on the job site in areas of potential impact to species which are listed or of special concern, construction workers shall sign a statement that they have read and understand the environmental requirements and shall follow those procedures. Badges, hard hat decal or similar easily recognizable designating method shall be issued which designate that training has been successfully completed, and shall be worn at all times on the construction site.

Agency monitors and all visitors to the construction site in areas of potential impact to species which are listed or of special concern shall read the compliance training materials and certify that they understand and will follow these requirements. Agency monitors and all visitors shall be issued identification badges which shall be worn on the construction site.

In lieu of providing the Environmental Training to persons entering project areas of potential impact to species which are listed or of special concern infrequently and for brief periods (e.g. to deliver construction material or supplies to a storage area or work site) these persons shall be advised of environmental requirements relevant to the immediate vicinity and be escorted during the entire visit by a designated construction worker or environmental monitor who has completed the Environmental Training. The escort shall be responsible for the actions of the visitor and for the consequences of any violations.

Worker education materials shall be submitted to the Department for review and approval 60 days prior to the start of construction. Department responses shall be provided within 30 days of receipt.

Until the Environmental Training Program is completed and approved, CCWA shall provide sensitive species briefings for personnel who will be on-site prior to construction, such as surveyors, geologists, and construction engineers.

8. CCWA shall designate a specific individual as a contact representative between CCWA and the Department to oversee compliance with protection measures detailed in this document and in the Mitigation Program and Biological Resources Mitigation Plan. CCWA shall provide written notification of the contact representative to the Department within 30 days of execution of the CESA MOU. Written notification also shall be provided by CCWA to the Department during any future times that the designee is changed due to position transfer or other reasons.

B. Construction Phase

1. To minimize permanent and temporary construction disturbances, project-related vehicle traffic, construction activities, and equipment storage shall be restricted to established roads, designated access roads, the construction ROW, storage areas, staging and parking areas, and other designated project areas including the placement of portable restroom facilities. Off-road traffic outside of designated areas shall be prohibited. Parking, storage, and other areas shall be designated

by flagged lath stakes at least 24 inches above ground height placed in line of sight with a maximum spacing of 200 ft. Parking storage, and other areas shall be examined during pre-construction surveys for state and/or federally listed species, and shall be established in locations disturbed by previous activities, to the extent possible. The construction ROW shall also be clearly marked at the outside boundaries. The outside boundaries of the ROW shall be staked with at least 24 inch-tall flagged lath at a maximum interval of 200 ft. prior to construction. If construction activities are repeatedly documented outside of these flagged areas, the outer boundaries of the ROW must be delineated by a continuously taped boundary.

2. CCWA or its construction contractor shall use signs and other means to establish traffic restrictions to minimize temporary disturbances and shall enforce these restrictions. All project-related vehicle traffic shall be restricted to established roads, construction areas, storage areas, and staging and parking areas. Off-road traffic outside of designated project areas shall be prohibited.

3. Unauthorized vehicle use of the ROW, staging areas, and access roads by the construction crews or the public shall be prohibited. CCWA or its construction contractor shall post signs at the construction site to restrict access of vehicles and equipment unrelated to site operations...

4. Only authorized vehicles which have been inspected insure fire safety requirements shall be permitted on the ROW. Each vehicle on the ROW shall be equipped with a minimum 2 lb. fire extinguisher. All welding rigs shall be equipped with a minimum 20 lb (or 2 - 10 lb) fire extinguisher and a five gallon water bladder bag full of water.

5. All equipment storage and parking during site development and operation shall be confined to the ROW or the identified staging areas or to other areas that are approved and marked by biological monitors.

6. Biological monitors shall be present at all times within a reasonable distance of grading and clearing operations through or adjacent to habitat areas for listed species or Species of Special Concern. Field notes shall be submitted weekly for routine monitoring; a monthly compliance report will be provided to the Department representative in Santa Barbara County and to the Environmental Services Division office in Sacramento. Biological monitors shall check for compliance with all of the management avoidance measures contained in this plan and in the Biological Resources Mitigation Plan for the Mission Hills Extension and Santa Ynez Extension. Exclusion zones shall be checked to ensure that

the signs, stakes, and fencing are still intact and that human activities have been restricted in these protective zones.

7. To prevent entrapment of endangered species or other animals during the construction phase of the project, all excavated holes or trenches with sides steeper than 0.5 to 1 which are not filled by day's end shall have escape ramps for wildlife, installed at distances no greater than 0.25 mile apart, except where construction of such ramps could result in increased habitat disturbance. Trenches shall be inspected by biological monitors for entrapped wildlife each morning prior to onset of construction for the day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped animals. Any animals discovered during these inspections shall be allowed to escape voluntarily, without harassment, before construction activities resume, or shall be removed from the trench or hole by a qualified biologist and allowed to escape.

8. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for small animals before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight shall be capped.

9. All food-related trash items such as wrappers, cans, bottles, and food scraps generated both during construction and during subsequent facility operation shall be disposed of in closed containers only and regularly removed from the site. No deliberate feeding of wildlife shall be allowed.

10. To prevent harassment, mortality, or destruction of dens or burrows of American badger or other wildlife species by domestic dogs and cats, no pets shall be permitted on the ROW, staging areas, access roads, or any other construction sites.

11. Use of rodenticides and herbicides on the site shall be permitted only if it is part of a Department-approved management plan or unless such use is otherwise approved on a case-by-case basis. This is necessary to prevent primary or secondary poisoning of endangered species using adjacent habitats, and the depletion of prey upon which wildlife (including birds of prey) depend.

12. Any employee who inadvertently kills or injures a listed species or finds same either dead, injured, or entrapped shall report the incident immediately to the on-site CCWA representative. In the case of entrapped animals, escape ramps or structures shall be installed immediately if possible to allow the subject animal(s) to escape unimpeded. In the event that such observations are of dead animals, CCWA shall notify the Department in writing within

three working days of the finding of any such animal(s). In the event that such observations are of injured animals, CCWA shall notify the Department immediately by telephone or FAX. Notification shall include the date, time, location and circumstances of the incident. The Department contact shall be Mr. Ken Wilson at (805) 964-8849, 530 East Montecito Street, Room 104, Santa Barbara, CA 93103.

C. Post-Construction Phase

1. After construction is completed, unauthorized vehicle use of the project ROW shall, to the maximum extent practicable, be prevented by physical barriers and signs.

2. Steep slopes are present in or near some portions of the alignment, including the San Antonio Creek and Zanja de Cota Creek crossings. In areas with steep slopes, erosion shall be controlled and revegetation enhanced by mulching with clean cereal grain straw or native or naturalized grass hay (e.g. red brome, wild oats, or wild barley). The mulch shall be held in place by punching, crimping, or fiber netting. Approximately two tons per acre of hay or straw shall be used. Seeded areas on steep slopes shall be mulched within 24 hours of seeding. On severe slopes or windy sites, netting, a wood fiber slurry (500 lbs/acre), or a tackifier such as J-tac (40-80 lbs/acre) shall be evaluated for use by the on-site biological monitoring staff prior to initiating revegetation efforts. Riparian areas shall be subject to specific procedures including planting of riparian species and erosion control. No ground disturbing activities shall occur in these areas prior to Department approval of reclamation/revegetation plans prepared by CCWA.

3. Following revegetation, procedures shall be implemented to limit authorized and unauthorized access on the permanent ROWs, to limit additional intrusion into wildlife habitat and allow recovery of vegetation on the ROW. Approved means of access shall be a component of environmental training for operational personnel.

4. Routine inspections of the ROW shall be conducted by air to detect encroachment by unauthorized vehicles or machinery, damage to equipment that may not be detected by instrumentation, and success of erosion control and revegetation.

5. The permanent ROW may be used to access the pipeline in emergency situations as specified in the approved Operation and Maintenance Plan. Damage to vegetation on the ROW shall be fixed and the ROW restored as soon as possible following the emergency.

6. Signs shall be posted indicating the ROW is closed to vehicles. The signs shall state "Pipeline Right-of-Way Closed to

All Vehicles to Protect Plants and Wildlife." Intersection of existing roads with the permanent ROW shall be clearly marked with signs identifying the presence of the pipeline. Earthen berms shall be placed at all intersections with access to the ROW where authorized by landowners.

7. Post-construction environmental monitoring shall meet two basic objectives: 1) assess actual impacts that occur during construction, and 2) monitor effectiveness of revegetation and other management conditions. A post-construction inspection of the project area shall be conducted by the environmental monitoring team immediately after completion of clean up, surface restoration, and revegetation. This inspection shall determine the actual acreage extent of ground disturbance, compared to the pre-construction estimates. The pipeline project area shall be photographed or videotaped from the air to assist in this evaluation and to allow comparison with pre-construction aerial photographs. The actual acreage extent of construction impacts will be used to refine off-site mitigation requirements.

8. A final construction monitoring report shall be prepared and submitted to the Department no later than 120 days after initial water delivery to a CCWA member. If this report is prepared by the biological monitoring consulting firm, all drafts submitted to CCWA shall be concurrently submitted to the Department. This report shall provide an evaluation of the overall success of the management and monitoring program, deviations from the mitigation plan, and outline follow-up surveys and future monitoring needs. It shall be based on all the reports prepared during the monitoring program and shall include specific sections describing the effectiveness of the management measures and the level of take for state listed species.

9. A ROW rehabilitation report shall be completed and submitted to the Department within 5 years of initial water delivery. Any disturbance of the construction ROW in listed species habitat that is not restored to the satisfaction of the Department shall be subject to compensation by CCWA through acquisition of off-site lands for enhancement and long-term management as specified above (Off-site Habitat Management Lands Requirement).

10. CCWA shall prepare an Operations and Maintenance Plan, and submit the Plan for Department approval of aspects that may affect listed species and Species of Special Concern, and the habitat of same. Once approved, the Plan will become part of this Management Authorization and the CESA MOU.

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Species-Specific Management

Unarmored Threespine Stickleback

To minimize the potential for runoff of sediments from the construction corridor adjacent to San Antonio Creek, including the crossings of the unnamed tributary to the Creek, which could increase turbidity in the Creek during runoff events, the following measures shall be implemented (unless the horizontal drilling technique is used, in which case the following measures will be unnecessary provided that drilling begins and ends outside the riparian corridor): (1) avoid disturbance to the creek banks during construction of the bridge and installation of the pipe; (2) use erosion control measures such as berms and straw bales to prevent runoff of sediments and construction materials to the creek; (3) monitor and maintain erosion control devices during construction to ensure their effectiveness; (4) complete construction over and near the creek during the dry season; (5) stabilize disturbed soils prior to the rainy season by revegetation if possible and with erosion control devices as necessary until soils are permanently stabilized; (6) monitor the effectiveness of erosion control measures during the rainy season until all potential for erosion is eliminated by successful revegetation after construction is completed. Turbidity shall be measured in San Antonio Creek immediately upstream and downstream of the project area during runoff events. Remedial measures shall be implemented to control the sediment input to the Creek if the project is causing any perceptible increase in turbidity in the Creek. Turbidity monitoring shall continue during major storm events until this criteria is met during two successive events of greater than three (3) inches of precipitation in 24 hours.

To minimize the risk to sticklebacks in San Antonio Creek from the accidental discharge of chloraminated water into the Creek, the pipeline design shall include pressure sensitive valves in the pipe both north and south of the Creek to limit the volume of water released to the Creek during a pipe failure. CCWA has prepared a Spill Contingency Plan for the project which, once approved by the Department, becomes a part of this document and implementation of the Plan shall be a condition of the project.

Seaside Bird's-Beak

CCWA shall conduct pre-construction surveys of the corridor for seaside bird's-beak during the appropriate season to identify locations and numbers of this species in the corridor. If any are found in the corridor, the following measures shall be implemented: (1) avoidance if feasible by minor realignment; (2) collection of seeds during the summer prior to construction; (3) collection of whole plants for use in reseeding the disturbed areas; (4)

replacement of other herbs and shrubs found associated with the species to provide hosts; (5) salvage and replacement of topsoil to enhance revegetation and to preserve seeds in the topsoil; and (6) monitoring of the revegetation efforts, with remedial work as necessary until all restoration criteria have been met. The habitat area affected, if any, shall be determined during the pre-construction and post-construction surveys. All mitigation shall be conducted within the pipeline corridor after construction is completed or on the Burton Mesa Project Area lands in conjunction with maritime chaparral restoration, so that an area equal to that lost is replaced with a population of the same size.

Bald Eagle

Management measures involve scheduling construction activities to coincide with the period of minimum use of the Lake by bald eagles. Construction adjacent to Bradbury Dam and in a limited area of Lake Cachuma within one quarter mile of the dam, if the same becomes necessary, would be scheduled for the summer, following the fledging of young, when few or no eagles are present. If bald eagles have nested at Lake Cachuma in the summer when construction at the Lake will occur, eagle activity will be monitored by CCWA for evidence that use of the Lake by eagles is being affected by construction activities on or near the Lake. If construction-related interference with use of the Lake by bald eagle prior to fledging of the young becomes apparent, CCWA shall discontinue construction activities at Lake Cachuma and immediately contact the Department for a determination of the conditions under which construction can be resumed. No loss of bald eagle habitat will occur from project construction at Lake Cachuma.

Willow Flycatcher and Least Bell's Vireo

Pre-construction surveys shall be conducted for these species in April or May in the year of construction at the following locations to determine if flycatchers or vireos are present: the San Antonio Creek crossing, Zanja de Cota Creek crossing, the Santa Ynez River adjacent to the Avenue of the Flags bridge, and the Santa Rosa Road crossing of the Santa Ynez River three miles west of Buellton. No survey is required at the Santa Rosa Road location if this alternative route across the Santa Ynez River is not used. If any flycatchers or vireos are found, CCWA shall contact the Department to determine if construction in the vicinity may either 1) proceed without adverse effect or 2) shall not begin until the young have fledged to avoid disturbance during nesting. Determinations will be made on a case by case basis.

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San Joaquin Kit Fox

Pre-construction surveys shall be conducted by DWR within 14 days where possible but no earlier than 45 days prior to ground disturbing activities to identify all kit fox dens within the ROW or 150 ft. on either side of the ROW. A 50 foot radius exclusion zone will be established around all known or probable kit fox dens and a 150 foot radius exclusion zone will be established around natal dens. This shall be accomplished by (1) modification of the pipeline alignment around known kit fox dens, (2) localized reductions in the width of the construction ROW, and (3) minimization of construction impacts to the least possible area within the corridor. CCWA construction activities at the Polonio Pass water treatment plant site shall be carried out in accordance with the exclusion zones and other take avoidance measures applicable to DWR activities at the site.

Following grading of the site by DWR and in the event that DWR construction and monitoring activities at the site have been discontinued for more than 45 days, surveys as described above for kit fox shall be repeated prior to the start of construction at the site by CCWA to determine if kit foxes have reoccupied the area. If kit fox are found, CCWA shall notify the Department for a determination of the conditions under which construction at the Polonio Pass site may begin.

All pipes and culverts within San Joaquin kit fox habitat that will be installed, removed or disturbed shall be thoroughly inspected for kit foxes before the pipes or culverts are moved or disturbed. If any pipe or culvert contains a kit fox, the fox shall be allowed to escape unharmed or shall be removed in a manner approved by the Department.

OTHER SPECIES MANAGEMENT MEASURES

Southwestern Pond Turtle

All stream crossings and wetlands with suitable habitat for the species shall be surveyed the spring/early summer prior to the construction of the pipeline crossing to determine if southwestern pond turtles are present. The survey shall be conducted by visual searches while walking the crossing area, including the area within the construction right-of-way 400 feet on either side of the stream or wetland, and areas within suitable habitat up to 400 feet from the construction right-of-way, at least twice each day for four days. If southwestern pond turtles are detected, CCWA shall prepare and implement a protection plan acceptable to the Department. In addition if southwestern pond turtles are detected, CCWA shall acquire and transfer to the Department or to a land conservation organization approved by the Department (or in the

case of BMMA lands, execute a Department-approved binding agreement with the State Lands Commission for the use of such lands), three (3) acres for each acre of southwestern pond turtle habitat permanently lost and one acre for each acre of such habitat temporarily disturbed (based on a site-specific determination by the Department of the extent of pond turtle habitat disturbance, including both aquatic habitat and associated upland habitat) of suitable habitat at a location acceptable to the Department. The acquired habitat shall be within 30 miles of the project facilities. CCWA shall enhance the acquired habitat as specified by the Department and establish a permanent capital endowment for the protection and management by depositing \$800/acre in the Department special deposit trust account. Acquired or designated lands shall have appropriate riparian or appropriative water rights to sustain pond turtle habitat in good condition. Acreage acquired (or BMMA lands designated) to satisfy riparian/wetland habitat compensation requirements for listed species (willow flycatcher, least Bell's vireo) may also offset impacts to pond turtles if such lands also provide suitable pond turtle habitat.

California Red-Legged Frog

All stream crossings and wetlands with suitable habitat for the species shall be surveyed the spring/early summer prior to the construction of the pipeline crossing to determine if California red-legged frogs are present. The survey shall be conducted by visual searches while walking the crossing area, including the area within the construction right-of-way 400 feet on either side of the stream or wetland, and areas within suitable habitat up to 400 feet from the construction right-of-way, at least twice each day and by evening auditory surveys for four days. If California red-legged frogs are detected, CCWA shall prepare and implement a protection plan acceptable to the Department. In addition if California red-legged frogs are detected, CCWA shall acquire and transfer to the Department or to a land conservation organization approved by the Department (or in the case of BMMA lands, execute a Department-approved binding with the State Lands Commission for the use of such lands), three (3) acres for each acre of California red-legged frog habitat permanently lost and one acre for each acre of such habitat temporarily disturbed (based on a site-specific determination by the Department of the extent of red-legged frog habitat disturbance) of suitable habitat at a location acceptable to the Department. The acquired habitat shall be within 30 miles of the project facilities. CCWA shall enhance the acquired habitat as specified by the Department and establish a permanent capital endowment for the protection and management by depositing \$800/acre in the Department special deposit trust account. Acquired or designated lands shall have appropriate riparian or appropriative water rights to sustain red-legged frog habitat in good condition. Acreage acquired (or BMMA lands designated) to satisfy

riparian/wetland habitat compensation requirements for listed species (willow flycatcher, least Bell's vireo) may also offset impacts to red-legged frogs if such lands also provide suitable red-legged frog habitat, as approved by the Department.

California Tiger Salamander

All potential tiger salamander habitat shall be surveyed the spring prior to the construction of the pipeline crossing to determine if California tiger salamanders are present. The survey shall be conducted by visual searches and seining water bodies for salamander larvae. Potential habitat shall be sampled at least twice during the sampling season. If tiger salamanders are detected, a protection plan shall be submitted to Department for review and approval. In addition if California tiger salamanders are detected, CCWA shall acquire and transfer to the Department or to a land conservation organization approved by the Department (or in the case of BMMA lands, execute a Department-approved binding agreement with the State Lands Commission for the use of such lands), three (3) acres for each acre of California tiger salamander habitat permanently lost and one acre for each acre of such habitat temporarily disturbed (based on a site-specific determination by the Department of the extent of tiger salamander habitat disturbance) of suitable habitat at a location acceptable to the Department. The acquired habitat shall be within 30 miles of the project facilities. CCWA shall enhance the acquired habitat as specified by the Department and establish a permanent capital endowment for the protection and management by depositing \$800/acre in the Department special deposit trust account. Acquired or designated lands shall have appropriate riparian or appropriative water rights to sustain tiger salamander habitat in good condition. Acreage acquired (or BMMA lands designated) to satisfy riparian/wetland habitat compensation requirements for listed species (willow flycatcher, least Bell's vireo) may also offset impacts to tiger salamanders if such lands also provide suitable tiger salamander habitat, as approved by the Department.

DISCLAIMERS

If any requirements of this Management Authorization are in conflict with provisions of the Biological Resources Mitigation Plan and Mitigation Program adopted by CCWA, the requirements of this Management Authorization shall prevail.

Upon timely satisfaction of the conditions of this California Endangered Species Act Management Authorization, CCWA will have satisfied the State's endangered species requirements, and understands and recognizes that this document does not constitute or imply compliance or entitlement to proceed with the project, with regard to laws and regulations beyond the authority and

jurisdiction of the Department. CCWA has sole responsibility for compliance with any and all applicable laws and regulations.

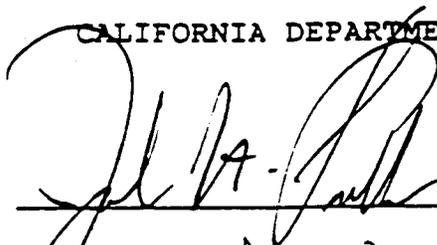
Following execution of the CESA MOU and issuance by the Department of this California Endangered Species Act Management Authorization, CCWA's decision whether to proceed with said project shall be voluntary, and subject to all other pertinent law and regulations. As such, CCWA shall hold the State of California and the Department of Fish and Game harmless, in any violation of the law, lien, suit, or claim of injury or damage which may result from any aspect of the project, including fulfillment of the obligations under this MA and the CESA MOU.

DEPARTMENT OF FISH AND GAME FINDINGS:

If the above-written conditions of this Management Authorization and the CESA MOU are implemented in a timely manner, as provided herein, the Department finds that the Central Coast Water Authority's Mission Hills Extension and Santa Ynez Extension Project will not result in jeopardy to the continued existence of the identified species and may, through the acquisition, restoration, and enhancement of habitat lands, protect the species from further degradation.

CALIFORNIA DEPARTMENT OF FISH AND GAME:

BY:



TITLE:

Chief of W. District

DATED:

12/24/93

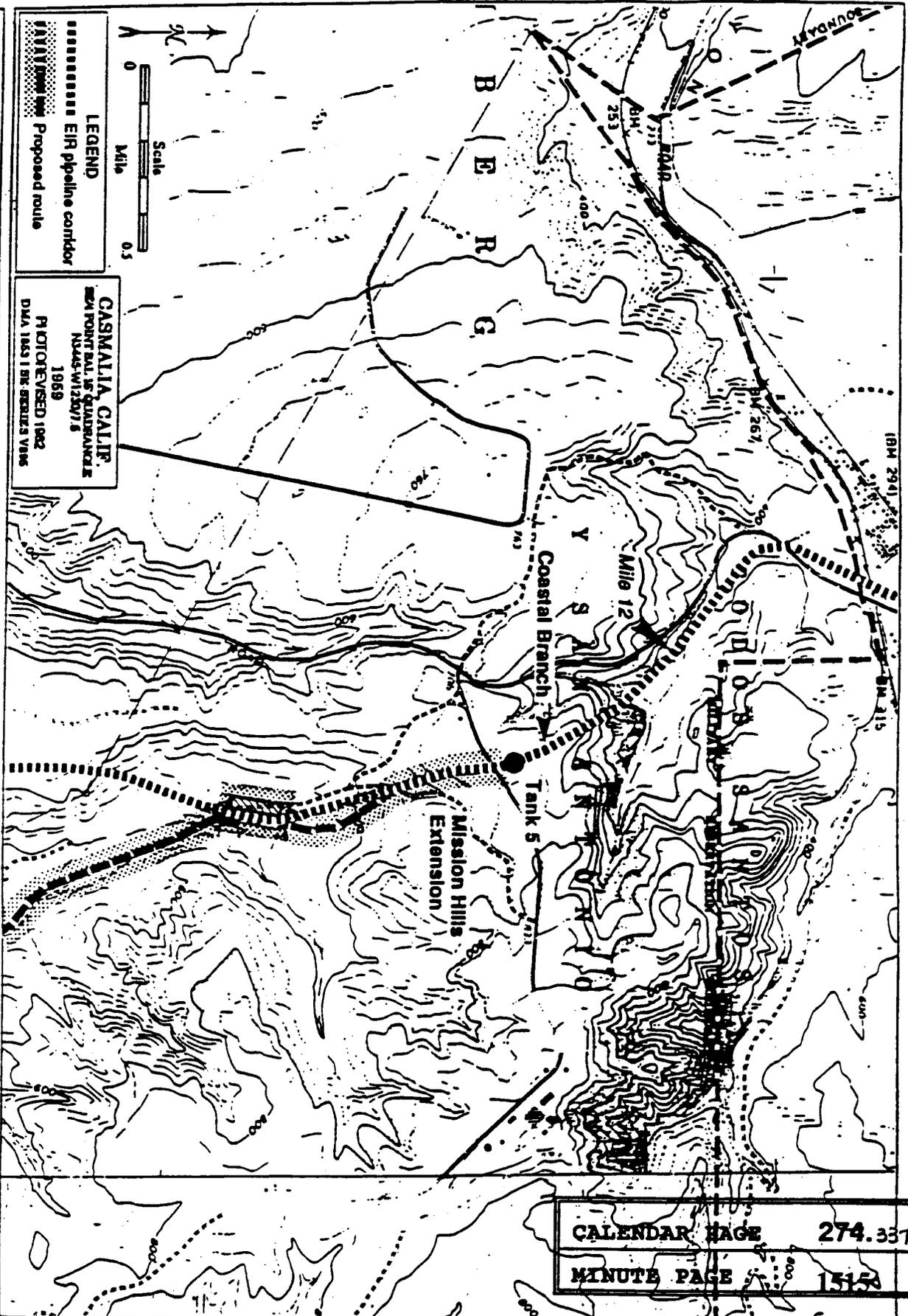
ATTACHMENT "A"

CENTRAL COAST WATER AUTHORITY
PROJECT PARTICIPANTS

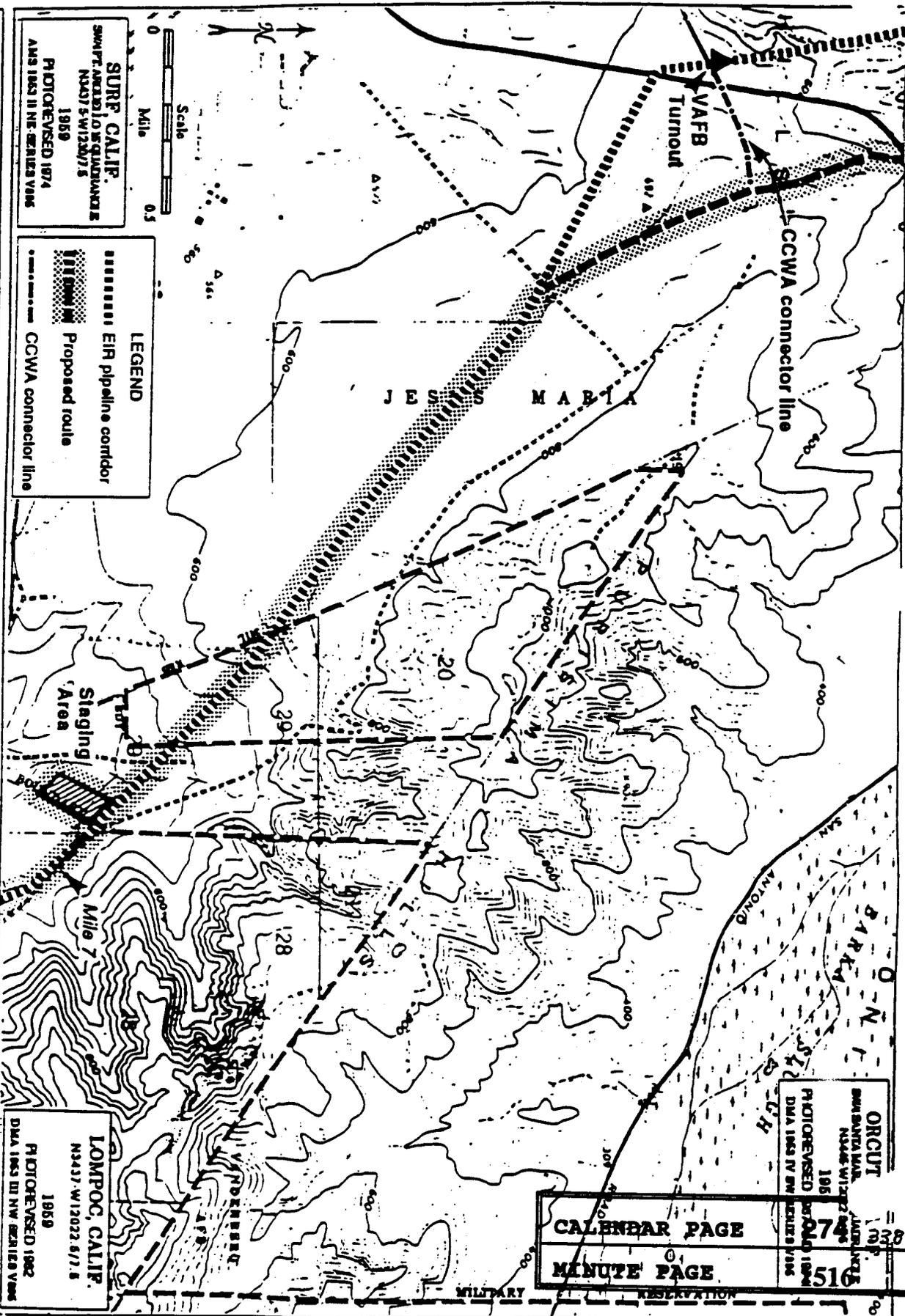
<u>Entity</u>	<u>Allocation</u>	<u>(AFY)</u>
City of Guadalupe		550
City of Santa Maria		16,200
Vandenberg Air Force Base		5,500
City of Buellton		578
Santa Ynez River WCD ID #1		2,000
Goleta Water District		4,500
Morehart Land Co.		200
Santa Barbara Research Center		50
La Cumbre MWD		1,000
City of Santa Barbara		3,000
Montecito Water District		2,700
Summerland County Water District		300
Carpinteria County Water District		<u>2,000</u>
		38,578
DROUGHT BUFFER TO FIRM UP DELIVERY OF ABOVE CONTRACTUAL ENTITLEMENTS		3,908 *

* THIS WATER IS NOT ALLOCATED TO ANY CONTRACTOR. BECAUSE OF DELTA PUMPING RESTRICTIONS, PROJECT WATER DELIVERIES HAVE NOT MET CONTRACTORS' ENTITLEMENTS. THIS BUFFER IS INTENDED TO FIRM UP ACTUAL DELIVERIES SO THAT THEY MORE CLOSELY APPROACH ENTITLEMENTS.

COASTAL BRANCH AND MISSION HILLS PIPELINE CORRIDOR



MISSION HILLS PIPELINE CORRIDOR



SURE CALIF.
 SWIFT AERIAL PHOTOGRAPHY
 N3437 5-W12077 5
 1969
 PHOTO REVESED 1974
 AMS 1963 II NE SERIES VAMS

LEGEND

- ██████████ EIR pipeline corridor
- Proposed route
- CWVA connector line

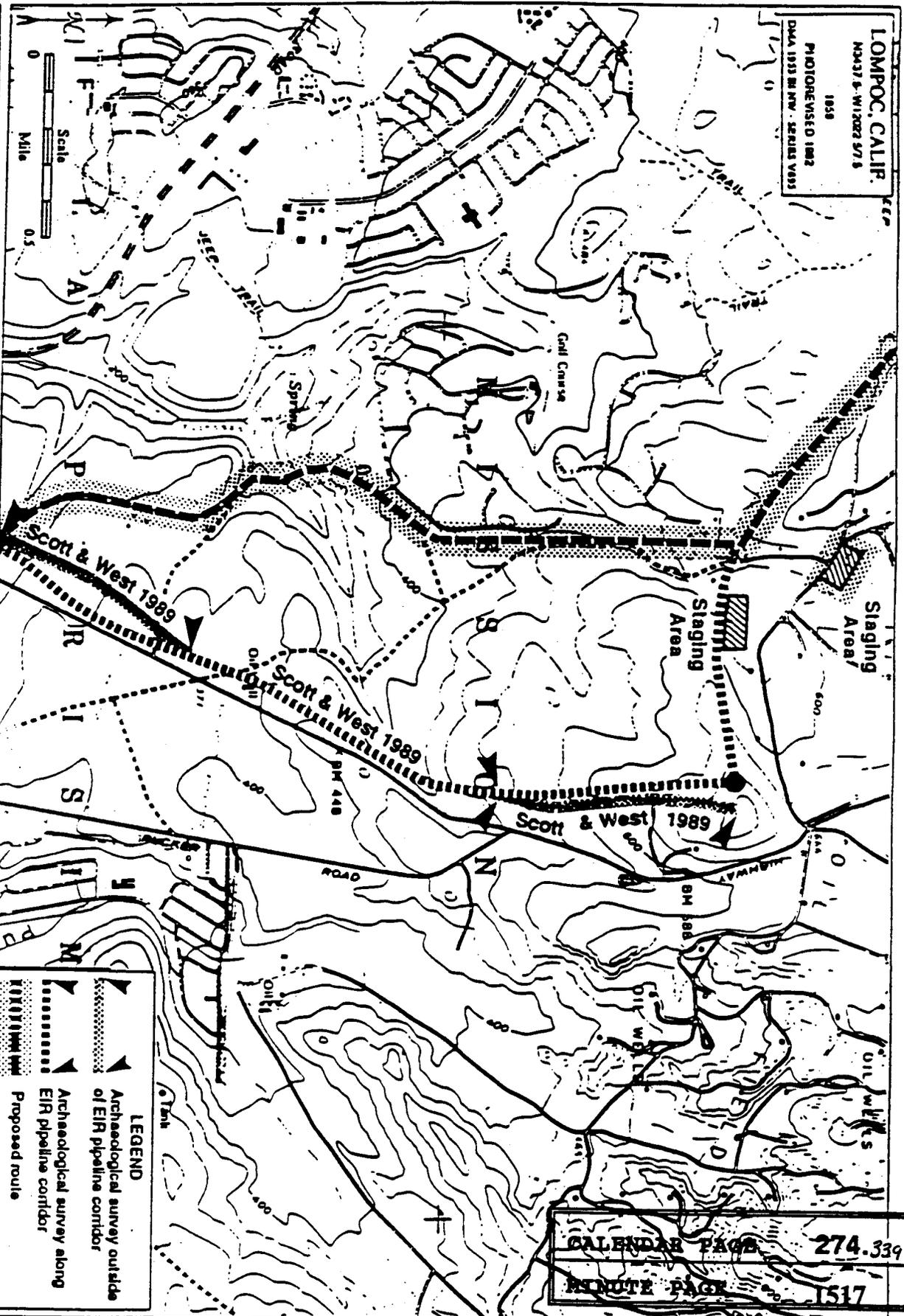
LOMPOC CALIF.
 N3437 W12022 5/7 5
 1969
 PHOTO REVESED 1982
 DMA 1963 III NW SERIES VAMS

ORCUT
 DMA 1963 IAA
 N3446 W1222 5
 1965
 PHOTO REVESED 1970
 DMA 1963 IV SW SERIES VAMS

CALENDAR PAGE 77
 MINUTE PAGE 516

LOMPOC, CALIF.
N4437 & W12022 571.5

1858
PHOTOREVISED 1982
DATA 1953 IN NW - SERIES V095



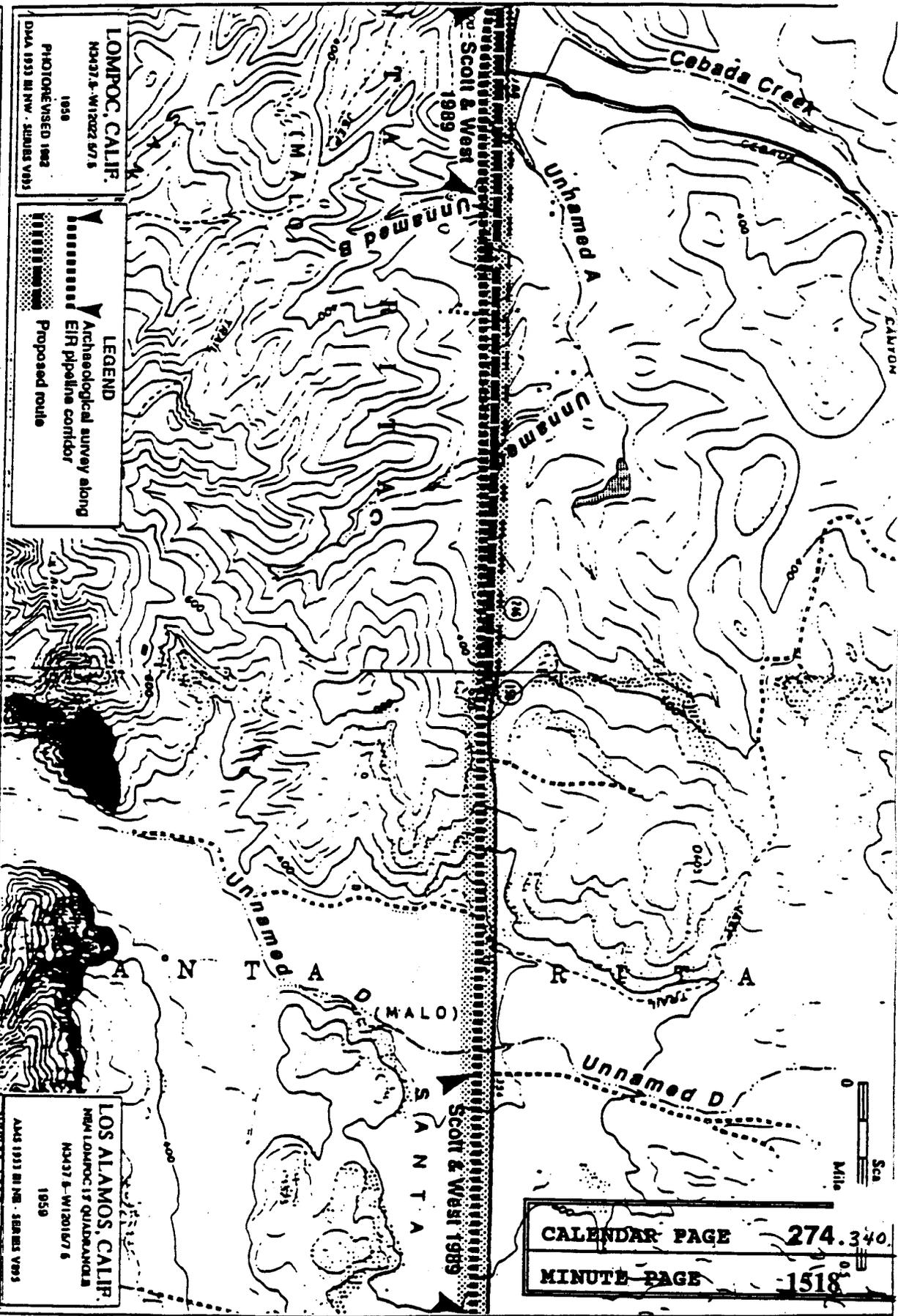
MISSION HILLS AND SANTA YNEZ PIPELINE CORRIDOR

LEGEND

- ▲ Archaeological survey outside of EIR pipeline corridor
- ▲ Archaeological survey along EIR pipeline corridor
- Proposed route

CALENDAR PAGE 274.339
 MINUTE PAGE 1517

SANTA YNEZ PIPELINE CORRIDOR

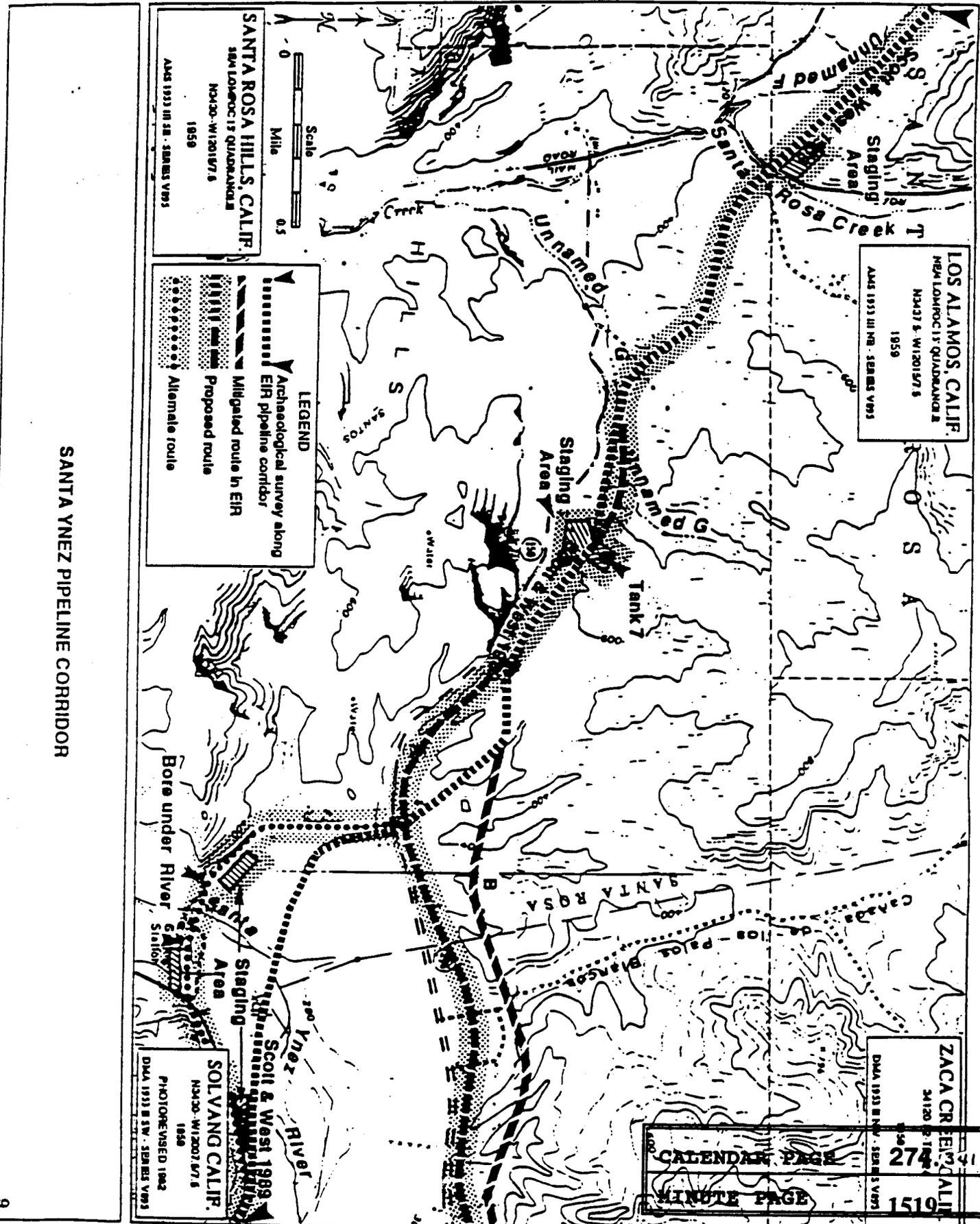


LOMPOC, CALIF.
 N3437-B-W12022 5/7 5
 1959
 PHOTOREVISED 1982
 DMA 1933 MIN. - SERIES V813

LEGEND
 Archaeological survey along
 EIR pipeline corridor
 Proposed route

LOS ALAMOS, CALIF.
 N3437-B-W12015/7 6
 1959
 A445 1933 MIN. - SERIES V895

CALENDAR PAGE 274.340
 MINUTE PAGE 1518



SANTA ROSA HILLS, CALIF.
 NE4 LOROC 15 QUADRANGLE
 N4320 - W120157.5
 1959
 A445 1933 III SB - SERIES V093

LOS ALAMOS, CALIF.
 NE4 LOROC 15 QUADRANGLE
 N4320 - W120157.5
 1959
 A445 1933 III SB - SERIES V093

LEGEND

- ▲ Archaeological survey along
- ▬ EIR pipeline corridor
- ▬ Mitigated route in EIR
- ▬ Proposed route
- ▬ Alternate route

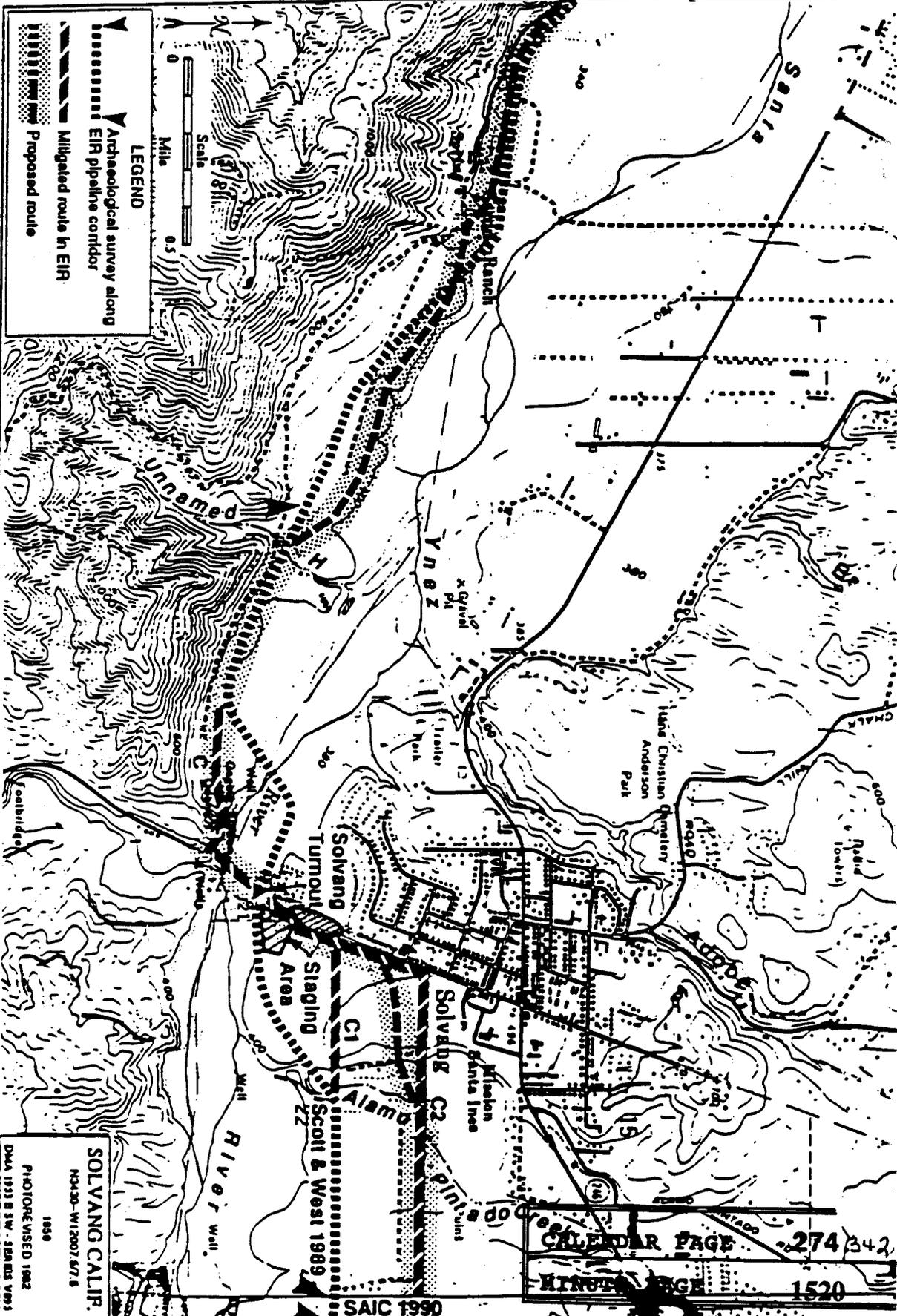
SOLVANG CALIF.
 NE4 LOROC 15 QUADRANGLE
 N4320 - W120157.5
 1959
 PHOTO REUSED 1942
 D444 1933 III SW - SERIES V093

ZACA CREEK, CALIF.
 NE4 LOROC 15 QUADRANGLE
 N4320 - W120157.5
 1959
 D444 1933 III SW - SERIES V093

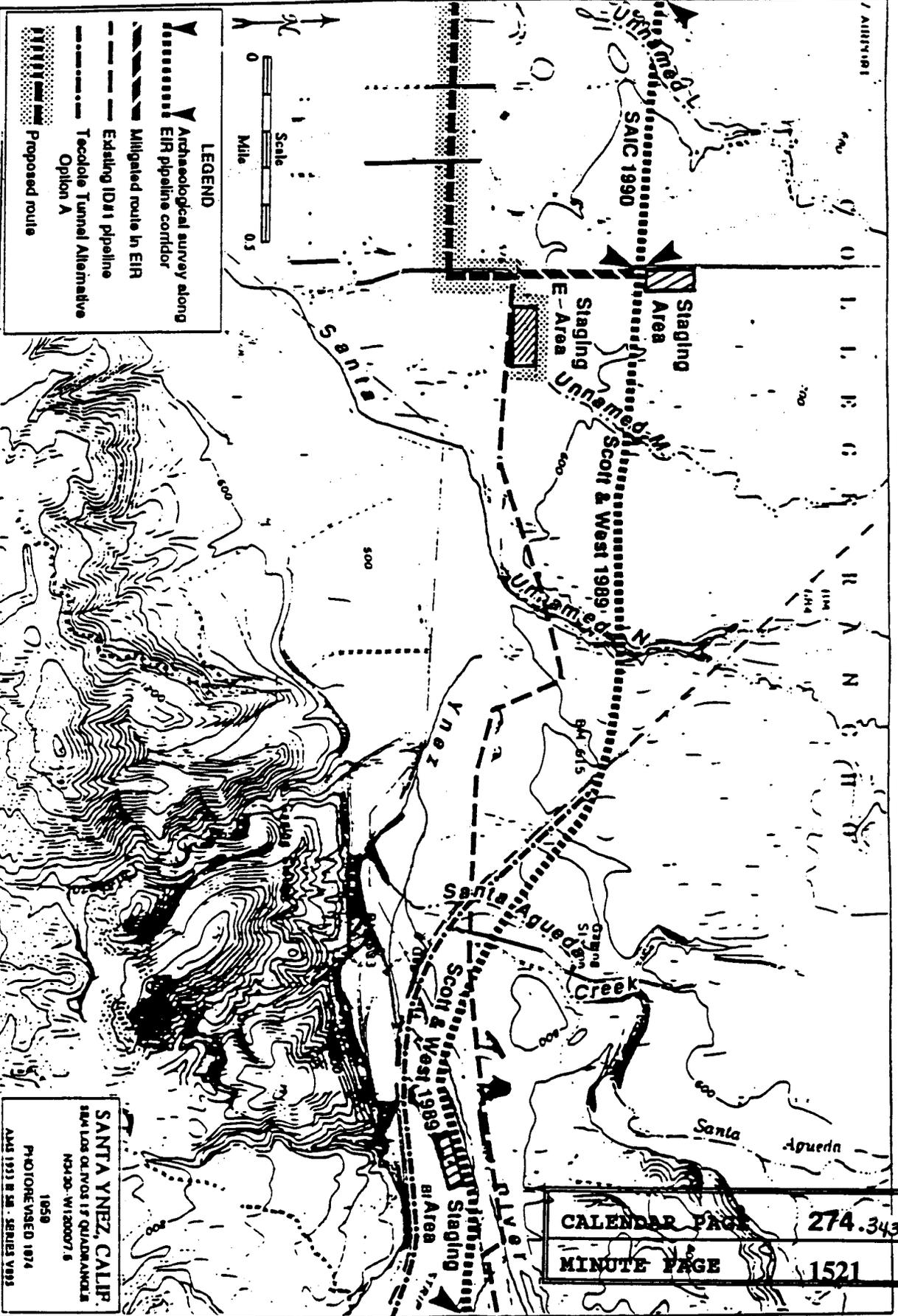
CALENDAR PAGE 274
 MINUTE PAGE 1519

SANTA YNEZ PIPELINE CORRIDOR

SANTA YNEZ PIPELINE CORRIDOR



SANTA YNEZ PIPELINE CORRIDOR



SANTA YNEZ, CALIF.
 SAN LOS OLIVOS 15 QUADRANGLE
 NCA-20-W120007.6
 1859
 PHOTOGRAPHED 1974
 AUG 1993 IN 28 - SERIES 9995

CALENDAR PAGE 274.343
 MINUTE PAGE 1521

ATTACHMENT "C"

PROPOSED LANDS FOR ACQUISITION FORM ("PLFAF")

Date: _____

TO: **Regional Representative**

Facsimile:

FROM:

CCWA proposes that the following parcel of land be considered for approval by the Department as suitable for purposes of mitigation of the adverse environmental impacts of the Project:

Section Township Range Number of Acres

Current Legal Owners(s)

Please check one:

This parcel is located within the _____

This parcel is not located within the _____

Explanation: _____

APPROVED _____

By: _____

REJECTED _____

Date: _____

Region _____

Explanation: _____

EXHIBIT 2

IRREVOCABLE "STANDBY" LETTER OF CREDIT

ISSUER:

ACCOUNT PARTY/C

IRREVOCABLE LETTER OF CREDIT NO.: _____

Dated:

TO BENEFICIARY:

California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814
Attention: Director

Dear Sirs:

1. At the request and on the instructions of our _____ ("Applicant"), we establish in favor of the BENEFICIARY, the California Department of Fish and Game (the "Department"), this Irrevocable Letter of Credit ("CREDIT") in the Principal Sum of \$ _____

2. This CREDIT is and has been established for the benefit of the Department pursuant to the terms of the _____ of Understanding ("the CESA MOU") entered into between _____ and the Department _____, 1993.

3. This CREDIT is intended by the parties to the _____ to serve as a security device for the performance by _____ of its obligations under the CESA MOU.

4. Upon the occurrence of any default by Applicant determined by the Department in its sole discretion under the CESA MOU, the Department shall be entitled to draw upon the CREDIT by presentation of a duly executed CERTIFICATE in substantially the same form as Attachment A, attached at our office located at _____

5. The CERTIFICATE shall be completed and signed by the "Authorized Representative" as defined in paragraph 12 of the CESA MOU. Presentation by the Department of a completed CERTIFICATE shall be made in person or by registered mail, return receipt requested.

6. Upon presentation of a duly executed CERTIFICATE in the form above provided, payment shall³ be made to the Department.

CALENDAR PAGE	274.345
MINUTE PAGE	1523

Attachment A to EXHIBIT 2

CERTIFICATE FOR DRAWING

ISSUER:

ACCOUNT PARTY/CUSTOMER:

IRREVOCABLE LETTER OF CREDIT NO.: _____

BENEFICIARY:

California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814

The undersigned, a duly Authorized Representative of the California Department of Fish and Game (the Department) (as defined in the above-referenced CREDIT), hereby certifies to the ISSUER that:

1. In the opinion of the Department, an Event of Default has occurred as defined in section V of the CESA MOU.

2. The undersigned is authorized under the terms of the above-referenced CREDIT to present this CERTIFICATE as the sole means of demanding payment on the CREDIT.

3. The Department is therefore making a drawing under the above-referenced CREDIT in the amount of \$

_____.

4. The amount demanded does not exceed the Principal Sum.

5. Sums received shall be used by the Department in accordance with the terms of the CESA MOU.

THEREFORE, the Department has executed and delivered this CERTIFICATE as of the _____ day of _____, 19____.

DEPARTMENT OF FISH AND GAME
OF THE STATE OF CALIFORNIA

By: _____
Title: _____
Authorized Representative

CALENDAR PAGE 274.346

MINUTE PAGE 1524

Attachment B to EXHIBIT 2

CERTIFICATE FOR CANCELLATION

ISSUER:

ACCOUNT PARTY/CUSTOMER:

IRREVOCABLE LETTER OF CREDIT NO.: _____

BENEFICIARY:

California Department of Fish and Game
1416 9th Street, 12th Floor
Sacramento, California 95814

The undersigned, a duly Authorized Representative of the California Department of Fish and Game (the Department) (as defined in the above-referenced CREDIT), hereby certifies to the ISSUER that:

1. Pursuant to the CESA MOU entered into between _____ ("Applicant") and the Department, Applicant has presented documentary evidence of full compliance with the terms and conditions of the CESA MOU, or, the natural expiration of the CREDIT has occurred.

2. The Department therefore requests the cancellation of the above-referenced CREDIT.

THEREFORE, the Department of the State of California has executed and delivered this CANCELLATION as of the _____ day of _____, 19____.

DEPARTMENT OF FISH AND GAME
OF THE STATE OF CALIFORNIA

By: _____
Title: _____
Authorized Representative

CALENDAR PAGE	274.347
MINUTE PAGE	1525

EXHIBIT 3
CERTIFICATE OF PUBLIC PURPOSE

This is to certify that the interest in real property conveyed by the deed or grant of the following property

_____, dated _____, from _____, to the California Department of Fish and Game (the "Department"), grantee, a governmental agency (under section 27281 of the Government Code), is hereby accepted by the undersigned officer on behalf of the Department, pursuant to authority conferred upon him by resolution of the _____ on _____.

The public purpose of this real property conveyance and the recordation hereof is being accomplished pursuant to the terms and conditions of the Memorandum of Understanding (the "CESA MOU") entered into on _____, by and between _____ and the Department.

The CESA MOU, among other terms and conditions not relevant here, provides at section VI paragraph (1):

"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."

A copy of this CESA MOU may be obtained by interested parties by sending a request to the Director of the Department at this address:

DEPARTMENT OF FISH AND GAME
OF THE STATE OF CALIFORNIA
1416 Ninth Street
Sacramento, California 95814

By: _____
Title: _____
Authorized Representative
Date: _____

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
(page 1 of 16)

EXHIBIT "I"

Impact	Mitigation	Monitoring Action	Responsibility	Timing
<p>Geology</p> <p>Potential soil disruption, modification to topography and drainage due to grading and construction.</p>	<p>Perform grading and construction using standard construction techniques and pursuant to project-specific erosion control plan. Restore soil horizon upon completion.</p>	<p>Prepare erosion control/drainage plan. On-site supervisor monitor to ensure compliance. Include compliance requirement in construction controls.</p>	<p>CCWA</p>	<p>Prior to final design approval and during construction.</p>
<p>Potential for fault-related pipe rupture and resulting water caused erosion along the Santa Ynez River Fault and unmapped faults along the pipeline corridor.</p>	<p>Avoid known faults where possible. At fault crossings use special engineering design such as: emergency shutoff valves; steel pipe; above-ground pipeline construction; using catenarionics backfill around the pipe; and other best available pipeline technology.</p>	<p>Include in final design fault avoidance routes and special design features to reduce risk of rupture.</p>	<p>CCWA</p>	<p>Prior to final design approval.</p>
<p>Potential for moderate to strong seismic shaking causing structural damage to structures.</p>	<p>Design structures for seismic zone 4 of UBC.</p>	<p>Include UBC requirements in final design.</p>	<p>CCWA</p>	<p>Prior to final design approval.</p>
<p>Potential for seismically induced liquefaction.</p>	<p>Perform site-specific studies to determine if soil conditions along the corridor are conducive to liquefaction. Where soils are potentially liquefiable, avoid or use best-available pipeline technology (e.g., densifying soils, or removing and recompacting soils) to eliminate the hazard.</p>	<p>Perform studies. Based upon results, include in final design avoidance routes around high-risk areas to extent feasible and state-of-the-art technology for reducing risk from liquefaction where high-risk areas cannot be avoided.</p>	<p>CCWA</p>	<p>Prior to final design approval.</p>
<p>Potential for landslides.</p>	<p>Perform site-specific studies to determine if soil conditions along the pipeline corridor are conducive to landslides. If unstable slopes are present, avoid areas where possible; where avoidance not possible, use standard engineering practices (e.g., construction of earth buttresses to stabilize slope or removal of the potential slide mass) to eliminate the hazard.</p>	<p>Perform studies. Based upon results, include in final design avoidance routes around high-risk areas to extent feasible and state-of-the-art technology for reducing risk from landslides where high-risk areas cannot be avoided.</p>	<p>CCWA</p>	<p>Prior to final design approval.</p>

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
(page 2 of 16)

Impact	Mitigation	Monitoring Action	Responsibility	Timing
Potential for soil contamination due to fuel spills and vehicle maintenance.	Maintenance and refueling of construction vehicles should comply with the project-specific spill response and maintenance plan.	Prepare and implement measure to avoid spills and ensure vehicle maintenance. Prepare and implement spill response plan that assures immediate clean-up of spills. Include compliance requirement in construction contracts. On-site field supervisor monitor to ensure compliance.	CCWA	Prior to and during construction.
Water Resources Potential degradation of water resources by accidental spills.	Prohibit vehicle/equipment refueling, maintenance, and oil changing activities near streams. Oil and fuel stored away from streams.	Include in spill avoidance measures described above. On-site field supervisor monitor to ensure compliance.	CCWA	Prior to and during construction.
Potential degradation of water resources during construction across streams.	Prepare plan for disposing of cleaning water in accordance with CRWQCB requirements. Construct stream crossings during periods of low or no flow. Divers flow in year round streams and direct flow and seepage pumped from reach into sedimentation basin. Restore surface to pre-construction condition. Suspend pipe over San Antonio Creek crossing. Adjust alignment to avoid standing pools of water, control erosion and dust strictly to minimize turbidity potential.	On-site field supervisor monitor to ensure compliance. Construction contracts to include compliance requirement.	CCWA	Prior to and during construction.
Potential degradation of streams due to erosion of disturbed areas near streams.	Restore pipeline corridor to pre-construction conditions as soon as possible after completion of construction.	Include compliance requirement in construction contracts. On-site field supervisor monitor to ensure compliance.	CCWA	During construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

(page 3 of 16)

Impact	Mitigation	Monitoring Action	Responsibility	Timing
Air Quality				
NO _x emissions during construction will potentially cause temporarily significant impacts.	An air quality monitoring program will be established at site-specific locations.	Monitor result and implement additional feasible mitigation measures as appropriate under APCD guidelines, based upon monitoring results.	APCD	During construction.
	Construction equipment operating on-site will be equipped with low NO _x -emitting engines (engine timing retard, precombustion chambers, or gasoline or propane-fueled equipment). Where feasible, combustion control techniques (e.g., engine timing retard) shall be used on construction vehicles and equipment.	Submit proof of low NO _x -emitting engines to CCWA. Construction contracts to include requirement. On-site field supervisor to verify.	CCWA	Prior to and during construction.
	The engine size of construction equipment will be the minimum size feasible.	Engine size will be specified in the bid for the job and verification of size checked by on-site field supervisor.	CCWA	Prior to and during construction.
	The number of pieces of construction equipment operating simultaneously will be minimized through efficient management practices to ensure that the smallest practical number are operated at any one time. Limit idling time when feasible.	Construction contracts to include requirement and on-site field supervisor check daily to ensure compliance.	CCWA	During construction.
	Construction equipment will be maintained in tune per manufacturer's specifications and will be equipped with approved air pollution control devices.	Construction contracts to include requirement. Specify in bid and field supervisor to verify.	CCWA	During construction.
		Construction contracts to include requirement of compliance. Contractors to submit tune up records for equipment to on-site field supervisor.	CCWA	Prior to and during construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
(page 4 of 16)

Impact	Mitigation	Monitoring Action	Responsibility	Timing
Particulate (P.M. ₁₀) emissions during construction.	<p>Implement idling, watering, and tarping for construction workers.</p> <p>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.</p> <p>Haul roads and construction site roads will be watered regularly. Haul trucks will be covered. Fabric filters will be placed on potentially friable materials.</p> <p>Vehicle speeds in construction corridor will be enforced at no greater than 15 miles per hour, except in areas where water and other particulate regulation techniques are used to control dust generation.</p> <p>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 paved 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.</p> <p>Dip troughs will be used to wash dirt off truck tires before leaving the construction site.</p>	<p>Include compliance requirement in construction contracts. On-site field supervisor to monitor compliance.</p> <p>Construction contracts to include requirement of compliance. On-site field supervisor to check.</p> <p>Construction contracts to include requirement of compliance. On-site field supervisor to check.</p> <p>Construction contracts to include requirement of compliance. On-site field supervisor to check.</p> <p>Construction contracts to include requirement of compliance. On-site field supervisor to verify compliance.</p>	<p>CCWA</p> <p>CCWA</p> <p>CCWA</p> <p>CCWA</p> <p>CCWA</p> <p>CCWA</p>	<p>During construction.</p> <p>During construction.</p> <p>During construction.</p> <p>During construction.</p> <p>During construction.</p> <p>During construction.</p>

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
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Impact	Mitigation	Monitoring Action	Responsibility	Timing
Biological Resources				
Loss of Barton Mesa chaparral.	Narrow construction corridor to less than 120 feet in Barton Mesa chaparral, mark edge of corridor with survey stakes.	Include in final design plans. Include penalties for going outside marked corridor in construction contracts. On-site field supervisor and biologist verify that stakes properly located and maintained prior to and during construction and to ensure that marked corridor limits are respected by contractors.	CCWA	Prior to and during construction.
	Reroute pipeline to avoid sensitive plant species to extent feasible.	Include in final design plans. On-site field supervisor and biologist monitor to ensure compliance.	CCWA	Prior to final design and approval and during construction.
	Comply with revegetation and oak tree preservation requirements attached.	Biologist monitor to ensure compliance.	CCWA	During construction and upon completion of reforestation.
	Vegetation clearing for construction corridor shall avoid disturbance to roots of shrub species.	Biologist monitor to ensure compliance.	CCWA	During construction.
	Narrow width of permanent corridor to approximately 40 feet and maintain vegetation clear zone within 10 of 20 feet or less through Barton Mesa chaparral.	Include in final design plans.	CCWA	During and upon completion of construction.
	Grubbing shall be limited to designated areas to reduce potential for wildfires.	Include in construction contracts. On-site field supervisor monitor to ensure compliance.	CCWA	During construction.
	All construction equipment and worker vehicles shall be equipped with appropriate spark arresters.	Include in construction contracts. On-site field supervisor monitor to ensure compliance.	CCWA	During construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

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Impact	Mitigation	Monitoring Action	Responsibility	Timing
	Replace on at least an acre-for-acre basis (1:1) all Burton Mesa chaparral that is not restored.	CCWA acquire cda Neg areas of undisturbed Burton Mesa chaparral and act aside for preservation into perpetuity, or CCWA contribute funds adequate to restore disturbed Burton Mesa chaparral and to ensure that, once restored, said lands will be preserved into perpetuity. If funds are contributed, CCWA shall ensure that said restoration and preservation actually occurs. A combination of these mitigation measures may be used, so long as at least a 1:1 ratio of restoration to project loss results.	CCWA	During and upon completion of construction.
	Routine inspections of the pipeline shall be by airplane to minimize disturbance of soils and vegetation recononizing the corridor. Vehicles shall be used only when closer inspection is appropriate.	Include in contract with Inspectors.	CCWA	After construction.
	If repair and maintenance activities necessitate vegetation to be disturbed or removed, all of the above mitigation requirements shall be implemented as to the disturbed and removed vegetation upon completion of the maintenance and repair activity.	Include in contract with maintenance/repair contractors. Hire biologist to monitor compliance at time repairs and maintenance occur.	CCWA	Future.
	The biological monitor shall have authority to halt and remove construction, subject to override or modification by CCWA on-site field supervisor.	Include in construction contracts and in biologist's contract.	CCWA	Prior to and during construction.
Lane of riparian and wetland vegetation.	Vegetation clearing for the construction corridor shall avoid disturbances to roots of shrub species.	Biologist monitor ensures compliance.	CCWA	During construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
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Impact	Mitigation	Monitoring Action	Responsibility	Timing
	Narrow construction corridor as much as possible through riparian and wetland areas.	Include corridor width for each area in final design plans. On-site field supervisor and biologist monitor to ensure compliance.	CCWA	Prior to final design approval and during construction.
	Reroute pipeline wherever possible to minimize or avoid impact to riparian and wetland vegetation.	Include in final design plans. On-site field supervisor and biologist monitor to ensure compliance.	CCWA	Prior to final design and approval and during construction.
	Comply with oak tree preservation requirements attached.	Biologist monitor to ensure compliance.	CCWA	During construction.
	Revegetate per attached revegetation requirements.	Biologist monitor to ensure compliance.	CCWA	During and after construction.
	Narrow width of permanent corridor through riparian and wetland habitats to approximately 40 feet and maintain vegetation clear zone within it of 20 feet or less.	Included in final plans. Biologist monitor to ensure compliance.	CCWA	Prior to final design approval and after construction.
	Trees cut inside the construction corridor shall be left intact at the edge of the construction corridor as deadfall after cutting, except where this would create a fire hazard, or stacked for use in root protection and revegetation. Cut trees shall not be placed in a pile but left individually. Stumps lying outside permanent corridor shall not be killed with herbicides, but allowed to sprout and grow.	Biologist monitor to ensure compliance.	CCWA	During construction.
	Construction adjacent to the Campbell vernal ponds shall be completed and soils stabilized prior to the rainy season. Construction across creeks and Santa Ynez River shall occur during periods of low or no flow whenever feasible.	Include in final design plans and construction contracts. Biologist monitor to ensure compliance.	CCWA	Prior to final design approval and during construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

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Impact	Mitigation	Monitoring Action	Responsibility	Timing
	Streambeds and banks shall be restored to pre-project contours.	Include in final design plans and construction contracts. Biologist monitor to ensure compliance.	CCWA	Prior to final design approval and during construction.
	Adjacent to vernal pools, all disturbed areas (from construction) shall be restored to pre-construction contours so that runoff to the pools is not diverted or impeded.	Include in final design plans and construction contracts. Biologist monitor to ensure compliance.	CCWA	Prior to final design approval and during construction.
	Adopt mitigated Route B and D. In areas where listed or candidate bird species are present, construction shall not occur during the nesting season for those species.	Include in final design.	CCWA	Prior to final design approval.
	Groundwater encountered during reaching across streams shall be tested for hydrogen sulfide. If hydrogen sulfide is found, water shall be aerated before discharge into stream bed.	Include in construction contracts. On-site field supervisor monitor to ensure compliance.	CCWA	During construction.
	During construction in and near the Santa Ynez River and Channel vernal pools, construction post turtles shall be monitored and protected.	Prior to commencement of construction in these areas, a biologist shall conduct a survey of the existing population. The biologist shall monitor the turtles throughout construction and habitat restoration activity in these areas. If the biologist deems it appropriate, a program shall be implemented to capture and hold pond turtles until they can be safely released.	CCWA	Prior to and during construction.
	During construction in Santa Ynez River, monitor and protect breeding habitat of willow (whether to extent feasible; see Mitigated Route B) to affect previously disturbed area.	Prior to commencement of construction in these areas, biologist shall conduct a survey of the existing population and shall monitor the birds throughout construction and habitat restoration activity.	CCWA	Prior to and during construction; during revegetation.

...
 Fr: Susan Petovich
 go Hatchery Forest

To: Bob Lynch

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SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
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Impact	Mitigation	Monitoring Action	Responsibility	Timing
	During construction in Santa Ynez River near Barchon, monitor and protect red-legged frogs. Use same mitigation measures as recommended for southwestern pond turtle.	Same as for southwestern pond turtle.	CCWA	Prior to and during construction; during revegetation.
	Replace on at least an acre-for-acre basis (1:1) all riparian and wetland vegetation that is not restored.	CCWA enhance and preserve existing degraded or disturbed riparian or wetland (or both) areas on a ratio of at least 1:1 restoration or replacement to project loss.	CCWA	During and after construction.
	Washing of concrete and oil equipment shall be closely regulated to avoid polluting streams, wetlands, and related habitat areas.	Require contractor to submit to CCWA a plan for controlling polluted wash water and for preventing discharge into streams and wetland areas. On-site field supervisor to monitor compliance.	CCWA	Prior to and during construction.
	If repair and maintenance activities necessitate vegetation to be disturbed or removed, all of the above mitigation requirements shall be implemented as to the disturbed and removed vegetation upon completion of the maintenance and repair activity.	Include in contract with maintenance repair contractor. Hire biologist to monitor compliance at time repair and maintenance occur.	CCWA	Future.
	Biological monitors shall have authority to halt and reroute construction, subject to override or modification by CCWA on-site field supervisor.	Include in construction contracts and in biologist's contract.	CCWA	Prior to and during construction.
	Narrow construction corridor to less than 125 feet, wherever feasible, in oak woodlands.	Include in final design plans. On-site field supervisor and biologist monitor to ensure compliance.	CCWA	Prior to and during construction.
	Reroute pipeline to minimize and avoid oak tree removal and damage.	Include in final design plans. On-site supervisor and biologist monitor to ensure compliance.	CCWA	Prior to final design approval and during construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
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Impact	Mitigation	Monitoring Actions	Responsibility	Timing
Comply with oak tree preservation requirements attached.	Biologist monitor to ensure compliance.	CCWA	During construction.	
Revegetate per revegetation requirements attached.	Biologist monitor to ensure compliance.	CCWA	After construction.	
Narrow width of permanent corridor through oak woodlands to approximately 48 feet or less.	Include in final design plans. Biologist monitor to ensure compliance.	CCWA	After construction.	
Trees cut inside the construction corridor shall be left intact at the edge of the construction corridor as dead fall after cutting, except where this would create fire hazard, or snatched for use in root protection and revegetation. Cut trees shall not be placed in a pile but left individually. The stems of trees outside the permanent corridor shall not be killed with herbicides but allowed to sprout and grow.	Biologist monitor to ensure compliance.	CCWA	During construction.	
Replace or at least an acre-foot size beds (11) all oak woodlands that are not restored (including but not limited to the permanent corridor over the pipeline).	Plant new oak trees outside the permanent corridor and restore and preserve oak woodlands that have been degraded and disturbed, or contribute funds adequate to restore oak woodlands in existing permanent corridors. If funds are contributed, CCWA shall ensure that said restoration and preservation actually occurs. A combination of these mitigation measures may be used so long as at least a 1:1 ratio of restorations or replacement to project loss occurs.	CCWA	After construction.	

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

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Impact	Mitigation	Monitoring Action	Responsibility	Timing
Temporary loss of non-native grassland, crops, and landscape trees.	If repair and maintenance activities necessitate vegetation to be disturbed or removed, the above mitigation requirements, as applicable, shall be implemented as to the disturbed and removed vegetation upon completion of the maintenance and repair activity.	Included in contract with maintenance repair contractors. Hire biologist to monitor compliance at time repairs and maintenance occur.	CCWA	Future
Loss of wildlife habitat from vegetation clearing.	Biological monitors shall have authority to halt and remove construction, subject to override or modification by on-site field supervisor.	Include in construction contracts and in biologist's contract.	CCWA	Prior to and during construction.
Loss of sensitive plants.	Recreate corridor.	Final design plans to include revegetation. Biologist monitor to verify that revegetation occurs after completion of construction.	CCWA	Prior to final design approval. Implementation upon completion of construction.
Loss of riparian habitat from vegetation clearing.	Habitat restoration/compensation same as for vegetation restoration described above.	Final design plans to include revegetation. Biologist monitor to verify that revegetation occurs after completion of construction.	CCWA	Prior to final design approval. Implementation upon completion of construction.
Loss of sensitive plants.	Site pipeline to avoid and repair any losses through revegetation as described above.	Final design plans to include avoidance routes to avoid any losses. Biologist monitor to verify replacement of lost vegetation as described above.	CCWA	Prior to final design approval. Implementation upon completion of construction.
Loss of riparian habitat from vegetation clearing.	Construction through riparian woodlands to occur other than during nesting season for candidate and listed species found to be present; use mitigated routes B and D.	Include mitigated routes B and D in final design plans. Include timing of construction in construction contracts. Biologist monitor to ensure compliance.	CCWA	Prior to final design approval. Implementation upon completion of construction.
Loss of riparian habitat from vegetation clearing.	Construct across drainages at times of low and no flow whenever feasible; restore stream bed and banks.	Include mitigated routes B and D in final design plans. Include timing of construction in construction contracts. Biologist monitor to ensure compliance.	CCWA	Prior to final design approval. Implementation upon completion of construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
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Impact	Mitigation	Monitoring Action	Responsibility	Timing
Effects of accidents.	Refuel vehicles away from streams and sensitive species.	Adopt and implement spill avoidance and cleanup plan described above. Include in construction contracts. On-site field supervisor monitor to ensure compliance.	CCWA	Prior to and during construction.
Wood dispersal.	Rapid revegetation with native species after completion of construction. Biological inspections and manual weed control annually until native vegetation is well established.	Biologist monitor timely implementation of revegetation plan and annual inspection and manual weed control program.	CCWA	After completion of construction.
Archaeological Resources Construction impacts to archaeological sites.	Perform a cultural resource reconnaissance on all areas of the corridor and all routes not previously inspected. Clear areas of poor visibility and recovery.	Qualified archaeologist and Native American representatives to monitor all construction near known cultural resources. Final design to include avoidance of identified sites to extent feasible. If sites cannot be avoided, design route shall minimize impacts to extent feasible. If complete avoidance and minimization are not feasible, recovery and preservation measures shall be implemented consistent with state guidelines.	CCWA	Prior to final design approval. Inspection upon completion of construction.
	If previously unknown cultural resources are encountered during construction, all work in area of discovery shall halt and a qualified archaeologist consulted to assess significance of the discovery. Construction shall commence only on orders of on-site supervisor.	None required if no sites present. On-site field supervisor monitor to ensure that work halted and archaeologist called. Include compliance requirement in construction contracts.	CCWA	During construction.
	Stake sites near construction corridor.	On-site field supervisor and archaeologist ensure stakes located and maintained. Include compliance requirement in construction contracts.	CCWA	Prior to and during construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

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Impact	Mitigation	Monitoring Action	Responsibility	Timing
Increased public access may lead to vandalism of sites during construction.	Instruction of construction personnel. Posting signs to public along construction corridor. Security during excavation of trench barriers.	On-site field supervisor and archaeologist monitor to ensure compliance.	CCWA	Prior to and during construction.
Land Use				
Winters trees along Santa Rosa Road removed.	Use Mitigated Route B.	Final design to include rerouting.	CCWA	Prior to final design approval.
Two homes on Santa Rosa Road adjacent to trench excavation.	Use Mitigated Route B.	Final design to include rerouting.	CCWA	Prior to final design approval.
Vineyard on Highway Road located by pipeline.	Reroute pipeline parallel to Highway Road.	Final design to include rerouting.	CCWA	Prior to final design approval.
Santa Ynez Indian Reservation crossed by pipeline.	Use Mitigated Route D.	Final design to include rerouting.	CCWA	Prior to final design approval.
Agricultural activities disrupted by construction.	Restoration of topsoil and re-planting of most agricultural activities after construction. Locate pipelines along fences, roads, and edges of fields, orchards, and vineyards, where possible. Where possible, schedule construction through cultivated agricultural areas for a time when they are not in production or being harvested. Where feasible, adjust pipeline alignment to avoid producing agricultural fields, orchards, and vineyards.	Include compliance requirements in construction contracts. On-site field supervisor ensure compliance.	CCWA	During and upon completion of construction.
Homeowners and occupants relocated due to house demolition.	Provide relocation assistance; compensation to owners; monitor expenses to occupants.	CCWA implement mitigation measures.	CCWA	Prior to construction.
Homeowners and occupants unable to move during construction.	Implement air quality, noise and traffic mitigation measures.	As listed for each such mitigation measure.	CCWA	During construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

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Impact	Mitigation	Monitoring Action	Responsibility	Timing
<p>Construction noise effects on noise-sensitive receptors.</p>	<p>Require contractors to use equipment that generates least noise possible. Require that equipment be kept tuned to minimize noise and that equipment be placed as far as possible from noise-sensitive receptors. Limit construction and materials deliveries to weekdays 7 A.M. to 6 P.M. in areas near noise-sensitive receptors. Route materials transport trucks to avoid noise-sensitive receptors.</p>	<p>Include compliance requirements in construction contracts. Specify low noise-generating equipment in bids. On-site field supervisor monitor to ensure compliance.</p>	<p>CCWA</p>	<p>Prior to and during construction.</p>
<p>Truck queues</p>	<p>Carpooling and van pools, where feasible.</p>	<p>Include compliance requirements in construction contracts. On-site field supervisor monitor to ensure compliance.</p>	<p>CCWA</p>	<p>During construction.</p>
<p>Increased traffic during construction.</p>	<p>Deliveries of pipe will be spread over a 9-month period.</p>	<p>On-site field supervisor monitor to ensure compliance.</p>	<p>CCWA</p>	<p>Prior to final design approval and during construction.</p>
<p>Safety hazard due to increased heavy truck traffic.</p>	<p>Provide detours around trench crossings and use jacked crossings under major roads.</p>	<p>Include in final design and require compliance in construction contracts. On-site field supervisor monitor to ensure compliance.</p>	<p>CCWA</p>	<p>Prior to final design approval and during construction.</p>
<p>Trucks queueing to cross secondary surfaces.</p>	<p>Restore all roads and driveways to preconstruction specifications.</p>	<p>Include in final design and require compliance in construction contracts. On-site field supervisor monitor to ensure compliance.</p>	<p>CCWA</p>	<p>Prior to final design approval and during construction.</p>

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM
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Aspect	Mitigation	Monitoring Action	Responsibility	Timing
<p>Aesthetics</p> <p>Potential aesthetic impacts from construction where the pipeline would pass through riparian woodlands, oak woodlands, and chaparral and where steep slopes would require substantial grading.</p>	<p>After construction, revegetate exposed areas by planting vegetation that is consistent with the pre-project community type, monitor health and survival of replacement native vegetation for 3 years; narrow corridor at stream crossings where trees are present.</p>	<p>Include in final design plans most narrow corridor feasible for stream erosion. Implement monitor replacement of vegetation and 3-year evaluation. Replace vegetation that does not survive during 3-year period and continue to monitor until replaced vegetation established.</p>	CCWA	Prior to final design approval and during construction.
<p>Potential aesthetic impacts during operations where facilities would be located within scenic views of other areas of high scenic value (e.g., proposed natural recreational trails near the proposed pumping plant and near the Bullhead farmstead; existing recreational trail along Highway 246 near Tank 7; the proposed reconstruction plant at the Valley Dam on Lake Mendocino).</p>	<p>Design plans to include mitigated routes A and D.</p> <p>Design grading plan to minimize erosion.</p> <p>Shield new structures behind trees and other vegetation that are compatible with surrounding land uses and vegetation; use materials that are aesthetically pleasing and compatible with surrounding areas; use natural colors compatible with surrounding terrain; building exterior would be painted to woodlands; locate distribution facility at north end of Strawberry Dam where new development would be least noticeable.</p>	<p>Include revegetate in final design plans.</p> <p>Include erosion control plan in final design.</p> <p>Include mitigation measures in final design plans. On-site field supervisory ensure compliance.</p>	CCWA CCWA CCWA	Prior to final design approval. Prior to final design approval. Prior to final approval and during construction.
<p>Construction equipment consumption during construction.</p>	<p>Carpooling and van pool, where feasible. Efficient use of well-maintained construction equipment.</p>	<p>Include compliance requirements in construction contracts. On-site field supervisor monitor to ensure compliance.</p>	CCWA	During construction.

SANTA YNEZ EXTENSION AND MISSION HILLS EXTENSION

MITIGATION MONITORING PROGRAM

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Impact	Mitigation	Monitoring Action	Responsibility	Timing
<p>Growth Inducement Potential for growth inducement if Cond. #3 is disregarded by a Contractor without appropriate environmental review.</p>	<p>Contractors to keep records of supply, demand, and groundwater conditions and submit copies on request.</p>	<p>Annually review Contractor records pertaining to supply and demand and groundwater extractions.</p>	<p>CCWA</p>	<p>After delivery.</p>

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EXHIBIT "J"

SECTION 00010 - TITLE PAGE

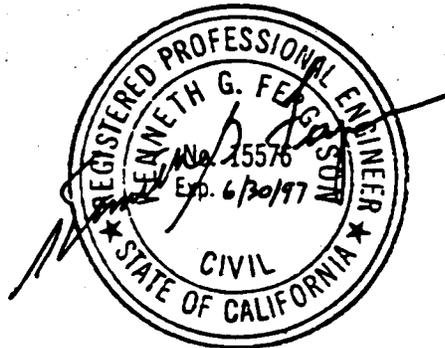
CENTRAL COAST WATER AUTHORITY

MISSION HILLS AND SANTA YNEZ AQUEDUCT EXTENSIONS

BID PACKAGE 1: PIPELINE SCHEDULES A and B
BID PACKAGE 2: TANK 7

CONTRACT DOCUMENTS
VOLUME I - BIDDING REQUIREMENTS, CONTRACT FORMS,
CONDITIONS OF THE CONTRACT, AND
TECHNICAL SPECIFICATIONS

Montgomery Watson America, Inc.
301 North Lake Avenue, Suite 600
Pasadena, California 91101-7009



Bids will be received at the office of the Central Coast Water Authority located at 1933 Cliff Drive, Suite 12, Santa Barbara, California 93109 until 2:00 PM on February 28, 1994.

MW-051093
3256.2300 - CCWA AQUEDUCT EXTENSION

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ARTICLE 1 -- DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof. Where an entire word is in upper case in the definitions and is found in lower case in the Contract Documents it has the ordinary dictionary definition.

Addenda - Written or graphic instruments issued prior to the opening of Bids which make additions, deletions, or revisions to the Contract Documents.

Agreement - The written contract between the OWNER and the CONTRACTOR covering the WORK to be performed; other documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form furnished by the ENGINEER which is to be used by the CONTRACTOR to request progress or final payment and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

Asbestos - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the price or prices for the WORK.

Bonds - Bid, Performance, and Payment Bonds and other instruments which protect against loss due to inability or refusal of the CONTRACTOR to perform its Contract.

Change Order - A document recommended by the ENGINEER, which is signed by the CONTRACTOR and the OWNER, and authorizes an addition, deletion, or revision in the WORK, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

Clarification - A document issued by the ENGINEER to the CONTRACTOR that interprets the requirement(s) and/or design intent of the Contract Documents, may not represent an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times.

Contract Documents - The Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates and affidavits), Agreement, Performance Bond, Payment Bond, General Conditions, Supplementary General Conditions, Technical Specifications, Drawings, all addenda, and change orders executed pursuant to the provisions of the Contract Documents.

Contract Price - The total monies payable by the OWNER to the CONTRACTOR under the terms and conditions of the Contract Documents.

Contract Times - The number or numbers of successive calendar days or dates stated in the Contract Documents for the completion of the WORK.

CONTRACTOR - The individual, partnership, corporation, joint-venture, or other legal entity with whom the OWNER has executed the Agreement.

Day - A calendar day of 24 hours measured from midnight to the next midnight.

MW-070693
3256.2300 - CCWA AQUEDUCT EXTENSION

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GENERAL CONDITIONS

PAGE 00700-1

Defective Work - Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or work that has been damaged prior to the ENGINEER's recommendation of final payment.

Design Consultant - The legal entity responsible for the design of the project, named as such by the OWNER as set forth in the Supplementary General Conditions.

Drawings - The drawings, plans, maps, profiles, diagrams, and other graphic representations which indicate the character, location, nature, extent, and scope of the WORK and which have been prepared by the ENGINEER and are referred to in the Contract Documents. Shop Drawings are not Drawings as so defined.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER - The individual, partnership, corporation, joint-venture, or other legal entity named as such by the OWNER as set forth in the Supplementary General Conditions.

Field Order - A written order issued by the ENGINEER which may or may not involve a change in the WORK.

General Requirements - Division 1 of the Technical Specifications.

Hazardous Waste - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 690) as amended from time to time.

Laws and Regulations; Laws or Regulations - Any and all applicable laws, rules, regulations, ordinances, codes, and/or orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

Mechanic's Lien - A form of security, an interest in real property, which is held to secure the payment of an obligation. When related to public works construction, "Mechanic's Lien" or "lien" means "Stop Notice".

Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date of a separately identifiable part of the WORK or a period of time within which the separately identifiable part of the WORK should be performed prior to Substantial Completion of all the WORK.

Notice of Award - The written notice by the OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein within the time specified, the OWNER will enter into an Agreement.

Notice of Completion - A form signed by the ENGINEER and the CONTRACTOR recommending to the OWNER that the WORK is Substantially Complete and fixing the date of Substantial Completion. After acceptance of the WORK by the OWNER's governing body, the form is signed by the OWNER and filed with the County Recorder. This filing starts the 30 day lien filing period on the WORK.

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Notice to Proceed - The written notice issued by the OWNER to the CONTRACTOR authorizing the CONTRACTOR to proceed with the WORK and establishing the date of commencement of the Contract Times.

OWNER - The public body or authority, corporation, association, firm, or person with whom the CONTRACTOR has entered into the agreement and for whom the WORK is to be provided.

Partial Utilization - Use by the OWNER of a substantially completed part of the WORK for the purpose for which it is intended prior to Substantial Completion of all the WORK.

PCBs - Polychlorinated biphenyls.

Petroleum - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

Project - The total construction of which the WORK to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

Radioactive Material - Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

Resident Project Representative - The authorized representative of the ENGINEER who is assigned to the site or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for the CONTRACTOR and submitted by the CONTRACTOR to illustrate some portion of WORK and all illustrations, brochures, schedules, performance charts, instructions, and diagrams to illustrate material or equipment for some portion of the WORK.

Specifications - (Same definition as for Technical Specifications hereinafter).

Stop Notice - A legal remedy for subcontractors and suppliers who contribute to public works, but who are not paid for their work, which secures payment from construction funds possessed by the OWNER. For public property, the Stop Notice remedy is designed to substitute for mechanic's lien rights.

Subcontractor - An individual, partnership, corporation, joint-venture, or other legal entity having a direct contract with the CONTRACTOR or with any other Subcontractor for the performance of a part of the WORK at the site.

Substantial Completion - Refers to when the WORK (or specified part) has progressed to the point where, in the opinion of the ENGINEER as evidenced by Notice of Completion as applicable, it is sufficiently complete, in accordance with the Contract Documents, so that the WORK (or specified part) can be utilized for the purposes for which it is intended; or if no such notice is issued, when final payment is due in accordance with Paragraph 14.8. The terms "substantially complete" and "substantially completed" as applied to any work refer to substantial completion thereof.

Supplementary General Conditions - The part of the Contract Documents which make additions, deletions, or revisions to these General Conditions.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman, or vendor.

Technical Specifications - Divisions 1 through 17 of the Contract Documents consisting of the General Requirements and written technical descriptions of products and execution of the WORK.

Utilities - All pipelines, conduits, ducts, cables, wires, tracks, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground or above the ground to furnish any of the following services or materials: water, sewage, sludge, drainage, fluids, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic control, or other control systems.

WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. WORK is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

ARTICLE 2 -- PRELIMINARY MATTERS

2.1 DELIVERY OF BONDS AND INSURANCE CERTIFICATES

- A. When the CONTRACTOR delivers the signed Agreement to the OWNER, the CONTRACTOR shall also deliver to the OWNER such Bonds and Insurance Policies and Certificates as the CONTRACTOR may be required to furnish in accordance with the Contract Documents.

2.2 COPIES OF DOCUMENTS

- A. The OWNER will furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Supplementary General Conditions.

2.3 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

- A. The Contract Times will start to run on the commencement date stated in the Notice to Proceed.

2.4 STARTING THE WORK

- A. The CONTRACTOR shall begin to perform the WORK on the commencement date stated in the Notice to Proceed, but no work shall be done at the site prior to said commencement date.
- B. Before undertaking each part of the WORK, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The CONTRACTOR shall promptly report in writing to the ENGINEER any conflict, error, or discrepancy which the CONTRACTOR may discover and shall obtain a written interpretation or clarification from the ENGINEER before proceeding with any work affected thereby.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

GENERAL

These Supplementary General Conditions make additions, deletions, or revisions to the General Conditions as indicated herein. All provisions which are not so added, deleted, or revised remain in full force and effect. Terms used in these Supplementary General Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SGC-1 DEFINITIONS

Add the following definitions to Article 1:

Certificate of Substantial Completion - A form signed by the ENGINEER and the CONTRACTOR recommending to the OWNER that the WORK is Substantially Complete and fixing the date of Substantial Completion.

DESIGN CONSULTANT - The DESIGN CONSULTANT is further defined as the firm of Montgomery Watson Americas, Inc., located at 301 North Lake Avenue, Suite 600, Pasadena, California 91101.

ENGINEER - The ENGINEER is further defined as the firm of CH₂M Hill, located at 2510 Red Hill Avenue, Suite A, Santa Ana, California 92705.

OWNER - The OWNER is further defined as the Central Coast Water Authority, located at 1933 Cliff Drive, Suite 12, Santa Barbara, California 93109.

In the definition of Notice of Completion, delete the first sentence.

In the definition of Substantial Completion, change "Notice of Completion" to "Certificate of Substantial Completion," and change "notice" to "certificate."

SGC-2.2 COPIES OF DOCUMENTS

The OWNER shall furnish to the CONTRACTOR 5 copies of the Contract Documents which will include bound reduced drawings. Additional quantities of the Contract Documents will be furnished at reproduction cost.

SGC-4.1 AVAILABILITY OF LANDS

Add the following to Paragraph 4.1A of the General Conditions:

In order to assure compliance with environmental mitigation requirements, any additional lands proposed for the CONTRACTOR's use relative to this Contract shall be reviewed and approved by the ENGINEER prior to their use.

SGC-4.2 REPORTS OF PHYSICAL CONDITIONS

In the preparation of the Contract Documents, the DESIGN CONSULTANT has relied upon:

- A. The following reports of explorations and tests of subsurface WORK:

conditions at the site of the
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SECTION 01030 - ENVIRONMENTAL MITIGATION

PART 1 - GENERAL

1.1 GENERAL

- A. This Section 01030 identifies the environmental mitigation measures to be performed by the CONTRACTOR for compliance with the OWNER'S project Mitigation Program, Biological Resources Mitigation Plan, Cultural Resources Mitigation Plan, Paleontological Resources Mitigation Plan, Memorandum of Agreement and Management Agreement with the California Department of Fish and Game (CDFG), Programmatic Agreement with the State Historic Preservation Office, Biological Opinion issued by the U.S. Fish and Wildlife Service, Corps of Engineers 404 permit, and Streambed Alteration Agreements with CDFG. The CONTRACTOR shall obtain these documents from the OWNER and shall conduct construction activities so as not to conflict with requirements in these plans.
- B. In the event of conflict or inconsistency between this Section 01030 and any provisions of the project drawings, plans, and specifications, this Section 01030 shall prevail.
- C. The CONTRACTOR shall be generally responsible for conducting all operations in such a way as to minimize environmental impacts and comply with all laws, regulations, permits, plans, and agreements applicable to the project. One of the primary goals of this Section 01030 and the documents referenced in subparagraph A above is to minimize the removal and disturbance of natural vegetation, particularly oak trees and large shrubs that are difficult and costly to replace. For animal or plant species that are listed or are candidates for listing as threatened or endangered under state and federal laws, the mitigation goal will be no net loss of habitat or species viability. Specific protection measures are described below in subsections 1.14 and 1.15.
- D. Many of the specifications contained in this section are based on conditions attached to environmental permits and agreements obtained by the OWNER. Violation of these conditions can result in monetary fines, requirements for restoration or compensation for damage, or stoppage of work. The CONTRACTOR shall be responsible to confine activity within the pipeline construction and staging areas (hereinafter called the ROW) as shown on the Drawings, access roads, and established facility sites. Approval shall be obtained from the OWNER before any work can be conducted outside these designated areas. The CONTRACTOR shall be held fully responsible for any damage, resulting from CONTRACTOR operations, to natural vegetation, wildlife, cultural resources, and any other environmental resources located either (a) outside the work areas permitted in the Contract Documents or (b) inside the work areas but clearly marked by the OWNER to indicate that avoidance of that resource is required (referred to as Exclusion Areas). The CONTRACTOR shall assume full responsibility for all costs associated with restoration, revegetation, mitigation and monitoring to ensure successful restoration, and for all other measures necessary to repair or compensate for any such damage incurred. The OWNER shall deduct from payments to the CONTRACTOR an amount equal to twice the compensation values presented below in subsection 1.15 for oak trees and chaparral areas outside the ROW or inside areas marked for avoidance that are disturbed or degraded by the CONTRACTOR. Damages for other unallowed disturbances to natural vegetation, wildlife, or cultural resources shall be determined based on the OWNER'S actual costs to mitigate, monitor and administer such mitigation. Administration costs will be approximately 25 percent of mitigation cost.

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The OWNER, working through the ENGINEER, may require that the CONTRACTOR remove construction personnel that cause flagrant and/or repeated (for example, more than once in a week or four times in any 4-week period) violations of the mitigation specifications. The OWNER will monitor CONTRACTOR compliance with the environmental mitigation specifications and record compliance, or non-compliance, on Environmental Quality Control Report (EQCR) forms. Copies of these forms will be given to the CONTRACTOR on a regular basis as appropriate for the work being performed (e.g., weekly during peak pipeline construction activity). For serious non-compliance incidents, the OWNER shall give immediate notification (within 24 hours) of the incident to the CONTRACTOR. The OWNER may require remedial actions of the CONTRACTOR including, but not limited to, additional training of CONTRACTOR personnel (see subsection 1.4C below).

The CONTRACTOR shall not sell the wood from trees cut or pruned during construction. Limbs cut from trees shall not be further cut into pieces less than 10 feet in length nor shall small branches be removed from the limbs unless otherwise directed by the OWNER. The cut wood shall be stored within the edge of the ROW with minimal stacking to provide wildlife habitat or to be used by the revegetation contractor as protection for oak seedlings.

- E. Private landowners may request the CONTRACTOR to perform maintenance work as compensation for access. Such work may require federal, state, or local permits and could have environmental impacts that the CONTRACTOR may be responsible for. No work shall be permitted outside the designated project boundaries without prior approval of the OWNER and all appropriate regulatory agencies. This includes disposal of excess spoils material.
- F. The CONTRACTOR shall designate an environmental coordinator. This individual(s) shall have knowledge of environmental issues, biology, cultural resources, soil erosion, dust control, topsoil preservation, topsoil restoration, and biological and cultural sensitivity training. This individual(s) shall coordinate the CONTRACTOR'S work related to compliance with environmental mitigation measures. This person shall work closely with the OWNER and its representatives to ensure that the CONTRACTOR thoroughly understands the mitigation requirements and implements them.
- G. The CONTRACTOR shall be aware that some environmental mitigations result in construction windows (periods during which construction is permitted), restricted start-up of work pending removal of sensitive animals, move-arounds, and other actions. Construction windows are shown on the Drawings. The beginning and end dates for these windows are dependent on factors such as rainfall and bird nesting that can vary from year to year. Thus, the dates for commencement of construction windows may be adjusted by the OWNER according to specific conditions at the time of construction and could allow for larger windows. In no event shall the construction window be shorter than shown on the Drawings. If actual conditions permit longer construction windows than those indicated on the Drawings, the additional days during which the CONTRACTOR is able to work shall serve to offset any days on the critical path lost due to differing site conditions, unforeseeable environmental constraints, OWNER-caused delays, or other compensable delays.

1.2 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit the following plans for approval by the OWNER in accordance with Section 01300 - Contractor Submittals within 30 days of award of contract:

1. Dust Control Plan (1.5 D)
2. Stormwater Pollution Prevention Plan, including Erosion Control Plan (1.6), and Wastewater Disposal Plan (1.12 D)
3. Hazardous Materials Spill Response Plan (1.12 A)
4. NO_x Control Plan (1.12 E)
5. Fire Prevention Plan (1.13)

All of these plans must be approved by the OWNER and appropriate regulatory agencies prior to the beginning of any construction activity.

Each plan shall describe the methods proposed for compliance with the environmental mitigations as well as alternative methods, where feasible. Required components of the plans, as appropriate, include:

1. Schedule for implementing plan
2. Types of equipment to be used
3. Installation and maintenance methods
4. Decommissioning (for temporary measures)
5. Enforcement/verification methods (self monitoring)
6. Format and schedule for reporting to the OWNER
7. Problem solving methods
8. Feasibility studies
9. Individuals responsible for coordination and implementation of plan

1.3 QUALITY CONTROL

A. The CONTRACTOR shall submit to the OWNER documentation of compliance with environmental mitigation measures as required and specified in the plans listed in subsection 1.2A above.

The plans shall contain specific means for enforcement of mitigation requirements and for verification that the requirements have been met. At a minimum, verification shall include written reports to the OWNER at intervals appropriate for each requirement. For example, dust control reporting shall occur every 2 to 4 weeks if no problems or violations are reported by either the CONTRACTOR or the OWNER, and every week if such problems

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occur. Reporting for hazardous materials spills shall occur immediately after every spill. For the NO_x Reduction Plan, most reporting will be associated with selection of equipment and shall occur prior to construction activities. Reporting shall also occur within 1 week of occurrence to document reductions in construction activity during Stage 2 air pollution alerts, if any occur. CONTRACTOR reports shall specify the environmental mitigation addressed, how compliance was met, what problems were encountered, and any remedial actions taken or planned to prevent further occurrences.

1.4 NOISE, TRAFFIC, AND ACCESS CONTROLS

A. NOISE

The CONTRACTOR shall use the following measures at the locations marked for noise control on the Drawings as appropriate and applicable for that location:

1. All equipment and vehicles shall be properly equipped with mufflers and silencers in accordance with OSHA requirements.
2. All equipment and vehicles shall receive the necessary preventative maintenance to assure minimum noise levels in accordance with manufacturer specifications. When the OWNER informs CONTRACTOR that OWNER has reason to suspect that a piece of equipment does not comply with these specifications, the CONTRACTOR must provide OWNER with a copy of the appropriate test results or certification from an approved licensed mechanic.
3. Construction activities shall be limited to between 7 a.m. and 6 p.m. during weekdays at noise control locations shown on the Drawings. No construction shall occur during weekends at these locations. Exceptions may be approved by the OWNER.
4. Use blast mats as determined by the OWNER.
5. Locate noise-generating stationary equipment outside of the noise control areas shown on the Drawings, where feasible. When such equipment cannot be so located, noise shall be controlled, to the extent feasible, using measures such as noise deflector barriers (straw bales or other materials that are effective in reducing noise) around the equipment as approved by the ENGINEER.
6. Reroute materials transport trucks to avoid noise control areas shown on the Drawings, where feasible.
7. Speed up construction through noise control areas shown on the Drawings, where feasible.

B. TRAFFIC

The CONTRACTOR shall meet all applicable safety requirements, reduce traffic to the extent feasible, and obtain any required permits or approvals. The measures to be considered include:

1. Use carpooling and van pools for construction workers.
2. Disperse deliveries of pipe along the ROW.

3. Schedule pipe delivery for non-peak traffic hours.
4. Have escort vehicles in front and behind pipe delivery trucks.
5. Use flagmen wearing orange vests.
6. Post signs before access points.
7. Coordinate with California Highway Patrol, Caltrans, County Department of Transportation, and local police or sheriff.

Section 01550 - Site Access and Storage, contains additional traffic control requirements.

C. ACCESS

1. Training

The CONTRACTOR shall designate a training coordinator. The coordinator shall ensure that all workers requiring training are identified to the OWNER and scheduled for training and that a facility for such training is provided at the construction yard. The coordinator shall participate in training meetings, identify workers that need escort, and provide contractor information that needs to be presented at these meetings, including, but not limited to, environmental mitigation measures, fire suppression, hazardous materials, safety requirements, etc. All construction personnel working on the site shall attend an Environmental Training Program course provided by the OWNER to become familiar with the sensitive environmental resources and regulations for their protection. This training program will take approximately 1 hour and must be completed within 5 days of reporting to the job site. Persons taking the training course shall sign a statement verifying that they have read and understand the environmental requirements and shall follow the procedures. Hard hat decals shall be issued to each person completing the course and shall be worn at all times on the site. The OWNER shall keep a log of all persons completing the course. The OWNER may elect to conduct additional mandatory training and tailgate sessions for CONTRACTOR'S workers as necessary.

All CONTRACTOR management personnel shall attend a one-day or less training meeting with key OWNER management personnel and environmental staff. The purpose of the meeting will be to provide additional training and coordinate implementation of the Environmental Mitigation Program with the CONTRACTOR'S staff.

Persons entering sensitive resource areas infrequently or for brief periods, such as to deliver materials or supplies, shall be advised of environmental requirements and be escorted during their visit by someone who has completed the training. The escort shall be responsible for the actions of the visitor and for the consequences of any violations by the visitor of environmental requirements.

2. Vehicle Access

Project-related vehicle traffic, construction activities, and equipment storage shall be restricted to established roads (as approved by the OWNER), project access roads, the construction ROW, and staging areas for material and equipment storage and

vehicle parking. No other access routes shall be used without prior approval of the OWNER.

3. Staging Areas

All staging areas shown on the Drawings shall be marked with flagging by the OWNER and shall be fenced (using orange plastic construction fencing or other materials as approved by OWNER) and maintained by the CONTRACTOR.

1.5 CLEARING, GRUBBING, GRADING, AND DUST CONTROL

A. GENERAL

Existing trees, shrubbery, and other vegetation are generally shown on the Drawings. The CONTRACTOR shall not disturb trees and other vegetation (including root systems) that are specifically noted on the Drawings to be preserved. This vegetation will be flagged in red by the OWNER prior to commencement of construction in an area. The CONTRACTOR shall place a different color of flagging on those trees that he deems can be saved in exchange for compensation. All OWNER flagging (see subsection 1.15) shall be left in place. No work shall occur within the dripline of vegetation to be preserved, as described below under Clearing and Grubbing, unless approved by the OWNER.

B. CLEARING AND GRUBBING

The CONTRACTOR shall conduct clearing and grubbing operations only within the marked limits of the ROW, access roads, and facility sites. No filling, excavating, trenching, or stockpiling of materials shall be permitted in Exclusion Areas or within the dripline of the protected vegetation within the work area (including a 5-foot buffer around the dripline of oak trees), except as approved by the OWNER. The drip line is defined as a circle drawn by extending a line vertically to the ground from the outermost branches of the vegetation. To prevent soil compaction within the drip line area, no equipment or materials storage shall occur within this area, except as approved by the OWNER.

When trees to be protected are close together, entry to the area within the drip line shall be restricted by fencing placed by the CONTRACTOR under the direction of the OWNER. In areas where no fence is erected, the CONTRACTOR shall protect the trunks of trees to be protected 2 inches or greater in diameter by encircling the trunk entirely with straw bales, tires, or other materials (as approved by the OWNER) held securely by 6-foot 101 T-posts and 12 gauge wire or other appropriate material. This protection shall extend from ground level to a height of 6 feet. Specific measures for protection of oak trees are given in 1.15 A below.

Special clearing methods shall be used by the CONTRACTOR where indicated on the Drawings. These include:

1. Do not disturb trees, large shrubs, and other sensitive resources that have been red flagged by the OWNER within the ROW and at the staging areas, Tank 7 site, and the pump station.
2. Cut brush and trees at or above soil surface level to preserve root systems, except in areas to be trenched for the pipeline or where permanent structures (vaults, tanks, and buildings) will be located. All trees to be removed shall be felled into the ROW.

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and away from any drainages or sensitive areas. See subsection 1.15 B below for clearing in Burton Mesa chaparral.

3. Pruning of vegetation, where necessary to complete construction activities, shall occur only after prior consultation with the OWNER.
4. Mulch and save woody vegetation (trees and shrubs) cleared from the ROW; spread over ROW after site restoration but prior to application of permanent erosion control measures that do not require grading. Limbs and trees too large to mulch as well as all mulch and slash shall be stored within the ROW as described above in subsection 1.1D.

Within the limits of clearing for the pipeline trench and permanent facilities, the areas below the natural ground surface shall be grubbed to a depth necessary to remove all stumps, roots, buried logs, and all other objectionable material. Any other underground structures, debris, or waste shall be totally removed if they are found in areas to be excavated. All objectionable material from the clearing and grubbing process shall be removed from the site and wasted in approved safe locations.

The CONTRACTOR shall remove trees, snags, stumps, shrubs, brush, limbs, and other vegetative growth to the minimum extent necessary to allow construction of the pipeline and permanent facilities. All trash piles, rubbish, and fencing shall be removed from all construction areas to locations approved by the OWNER; they cannot be stored outside the ROW. Fencing removed from the designated work area because it interferes with construction of new facilities, unless shown on the Drawings to be removed, shall be reconstructed in kind using new materials. If the fencing is not to be replaced, the removed materials shall be disposed of off site. All items within the work area shall be protected from damage where so designated on the Drawings.

Any trees, shrubs, fences, or other improvements outside of the ROW deemed necessary to be removed by the CONTRACTOR may be removed and replaced by the CONTRACTOR at its expense, only with permission from the landowner and only after approval by the OWNER.

C. GRADING

1. Grading shall be limited to the area necessary to permit movement and operation of equipment within the flagged ROW.
2. Topsoil salvage and handling shall occur prior to grading according to subsection 1.7 below.

D. DUST CONTROL

The CONTRACTOR shall prepare a Dust Control Plan to be approved by the OWNER. This plan shall be designed to prevent dust in visible amounts from leaving the work site, including dust from mud deposited on paved roads by project vehicles. The CONTRACTOR shall be financially responsible for dust cleanup and repair of and/or compensation for any damage resulting from any dust originating from its operations. The dust abatement measures described in the approved plan shall be continued until the CONTRACTOR is relieved of further responsibility by the OWNER.

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The following measures will be required in the plan:

1. Haul roads, construction site roads, staging areas, and the ROW shall be kept damp enough to prevent visible dust from leaving the site.
2. Haul trucks traveling off the site shall be covered. Haul trucks traveling on the site shall be covered as necessary to prevent visible dust from leaving the site.
3. Grading activities shall cease when the ENGINEER determines that wind speeds are such that the application of water and other dust regulation techniques are ineffective in controlling dust.
4. Dust control techniques, such as soil binders, shall be used to minimize dust generation from stockpiles.
5. Vehicle speeds in the ROW and on all unpaved access roads shall be no greater than 25 mph, except where approved by the OWNER.
6. After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately by watering, spreading of soil binders, or use of other dust and erosion control measures to prevent wind pick-up of dust until the area is restored or otherwise developed so that dust generation will not occur. Organic mulches or other soil stabilizers shall be applied to exposed ground areas that will be left in a disturbed state for a period of more than one month.
7. Water shall not be taken from local aquatic habitats or drainages, but water from existing water supply systems or treated (reclaimed) wastewater is acceptable when appropriate arrangements are made.
8. Mud deposited on paved roads as a result of CONTRACTOR vehicles or equipment traffic shall be cleaned up immediately.

The CONTRACTOR shall designate a person or persons to monitor the dust control program and to work with OWNER to order increased watering as necessary to prevent transport of dust off site and to implement methods for mud control on pavement. 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 OWNER.

1.6 EROSION CONTROL

- A. Erosion and sediment controls shall be provided in accordance with Section 02250 - Temporary Erosion Control.

1.7 TOPSOIL SALVAGE AND HANDLING

- A. The pipeline CONTRACTOR shall remove, store, and replace topsoil from all graded or excavated areas that support or could support vegetation. Several topsoil handling methods are available and shall be applied to the ROW as called out on the Drawings. The pump station and Tank 7 CONTRACTORS shall also remove, store, and replace topsoil from all areas to be graded that will not be covered with permanent facilities such as roadways, vaults, tanks, or buildings.

The CONTRACTOR shall submit shop drawings to the OWNER showing the methods for trenching and soil handling within 30 days of contract award. Both plan and cross section diagrams showing equipment work areas, stock piles, and pipe laydown shall be included in the shop drawings. Submittals shall include shop drawings for each area where construction methods, including topsoil handling, change. For example, construction methods may differ for locations where the construction corridor is a 120-foot wide grassland area, is a 120-foot wide agricultural area, has a 60-foot permanent easement with 30-foot construction easement on each side, has a 60-foot permanent easement with 60-foot construction easement on one side, contains a constrained Burton Mesa chaparral area, is on steep hillside areas, has a constrained road right-of-way, or contains a creek/drainage crossing. The type of construction method shall be submitted for each portion of the pipeline. Applicable station numbers for each method shall be provided on the shop drawings.

- B. Salvaged topsoil shall always be segregated and stored separately in such a manner that the topsoil is not damaged or mixed with subsoil. All spoil must be stored in the staked limits of the ROW unless otherwise approved by the OWNER. Topsoil storage areas shall be protected from loss through wind and/or water erosion, especially during the rainy season.
- C. All areas shall be restored to within 6 inches of the original contours except where specified otherwise on the Drawings or where directed otherwise by the OWNER. Excess backfill material from below the topsoil layer shall not be spread over any areas of existing topsoil in the ROW. This material shall be placed within the area where the topsoil has been removed and then covered with the topsoil, or it can be disposed of off site in accordance with all local regulations and by approval of the OWNER to minimize environmental damage.
- D. Topsoil shall not be compacted during or after replacement over the trench and any graded areas, except where necessary to prevent erosion.
- E. Locations where the following specific topsoil salvage and handling methods shall be used are shown on the Drawings.

Method 1 – Disturbed with no Vegetation

In areas that are identified as disturbed (D) and are covered with pavement or gravel, no special topsoil handling is required.

Method 2 – Deep Soils with No Seed Bank Salvage

In areas identified on the Drawings, generally shown as disturbed (D) or grassland (G) but also including other categories that have some vegetation present, the available topsoil up to 18 inches of soil, or as otherwise directed by the OWNER, shall be excavated first and saved separately from the remainder of the excavated materials. In some areas, the topsoil layer will be less than 18 inches thick. When bedrock is present within this layer, only the soil above bedrock needs to be saved. The topsoil shall be replaced on top of the trench fill after compaction so that a layer the same thickness as that removed covers the fill and the grade is substantially the same as before construction. Compaction of topsoil shall be to the minimum level that will prevent wind or water erosion. This is particularly important on slopes of greater than 10 percent. Any over-compacted areas shall be loosened with a harrow.

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Method 3 – Agricultural Fields

In areas of cultivated fields (shown as A on the Drawings), the topsoil depth to be excavated and saved separately from the remainder of the excavated materials shall be as specified by the OWNER and shown on the Drawings. This topsoil shall be placed on top of the compacted trench fill to approximately the same depth as prior to construction. Rocks greater than 4 inches in diameter shall be removed from the top 18 inches of backfill.

Method 4 – Natural Vegetation with Deep Soil

In specific sensitive areas identified on the Drawings, the following steps shall be taken in topsoil removal, storage, and replacement:

Step 1. Scrape the top 2 to 6 inches of soil (seed bank layer) from the area to be graded or trenched during site preparation and store separately from all of the excavated materials. This layer shall be kept dry if storage occurs during the rainy season (about 1 November through 1 April) to preserve the seeds.

Step 2. Excavate the next 12 to 18 inches of topsoil (where present or as directed by the OWNER) from the trench and store separately from the seed bank layer and subsoils. In some areas, the topsoil layer will be less than 12 to 18 inches thick. When bedrock is present within this layer, only the soil above bedrock needs to be saved.

Step 3. Excavate the remainder of the material (subsoils and rock) from the trench and store so that no mixing with the other two layers occurs. The layers can be stored on opposite sides of the trench.

Step 4. After placement of the pipe in the trench, backfill in accordance with Section 02200 - Earthwork to within 12 to 18 inches below the preconstruction grade level.

Step 5. Replace the topsoil layer and compact it to the minimum level that will prevent wind or water erosion. This is particularly important on slopes of greater than 10 percent. Any over-compacted areas shall be loosened with a harrow.

Step 6. Spread the seed bank layer evenly over the topsoil. Any erosion control measures over the trench that require grading shall be completed prior to spreading of the seed bank layer.

Method 5 – Natural Vegetation with Shallow Soil

In areas where topsoil is very shallow, generally in areas of Burton Mesa chaparral (identified on the Drawings as BMC) or scrub (identified as CS or VS), use steps 1, 3, 4, and 6 of Method 4; steps 2 and 5 do not apply; and in Step 4, trench zone backfill shall be increased to within 2 to 6 inches of final grade.

Method 6 – Stream Crossings and Wetlands or Marsh

In stream channels or wetlands (identified on the Drawings as M or WS), the top 12 inches of material shall be excavated and saved separately from the remainder of the excavated materials (Step 2 in Method 4). All excavated materials shall be placed so that they will not enter a flowing stream through wind or water erosion.

through wet soil drainage. The top 12 inches of material saved shall be replaced over the trench backfill to a depth of 12 inches and so that the original contours are restored. Where marsh vegetation is present, as indicated on the Drawings, and soils are wet or moist, the topsoil material shall be maintained moist during storage and appropriate erosion control measures shall be installed to prevent soil movement.

Any well defined clay layers within the top 24 inches of soils shall be replaced so as to maintain the local, subsurface hydrology.

1.8 TRENCHING, BLASTING, AND BACKFILLING

A. TRENCHING

In sensitive resource habitat (as shown on the Drawings or as directed by the OWNER), trenches with side slopes steeper than 0.5 to 1 (0.5:1) that are not filled by day's end shall have escape ramps for wildlife installed by the pipeline CONTRACTOR at distances no greater than 0.25 mile apart. The slope of the ramps shall not exceed 0.5 to 1. The CONTRACTOR shall not begin work each day in these locations until the OWNER has cleared the trench. Any animals found will be allowed to escape or be removed by the OWNER.

B. BLASTING

When blasting is required for trench excavation, the CONTRACTOR shall place mats, shields, or earth padding as necessary and appropriate to protect shrubs and trees outside the ROW.

C. BACKFILLING

1. The CONTRACTOR shall backfill the trench as soon as feasible following installation of the pipe. The CONTRACTOR shall make every effort to backfill from the top of the spoil working down in order to make the backfill approximate conditions prior to when it was removed.
2. The CONTRACTOR shall not backfill the trench until the OWNER has inspected the trench when left open overnight. Any animals found shall be allowed to escape or be removed by the OWNER.
3. The CONTRACTOR's equipment shall not move outside the ROW while placing spoil and topsoil back into the trench.
4. Except in agricultural fields, the CONTRACTOR shall compact the backfill, except topsoil, and grade the surface to preproject levels except a slight crown (less than 6 inches) can be left over the trench to compensate for subsidence. This crown shall not cause ponding or otherwise alter surface water runoff so as to cause erosion or reduce water flow to vegetation down slope.
5. The CONTRACTOR shall dispose of materials unsuitable for backfill in accordance with all regulations (federal, state, and local) and as approved by the affected landowner and the OWNER. Excess fill shall not be placed in any drainage or on unstable slopes but shall be spread within the ROW (but not over topsoil) or hauled

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off site to an approved disposal area. Excess subsoils shall not be spread over existing topsoil.

1.9 MATERIAL AND EQUIPMENT STORAGE

- A. All open construction pipes, culverts, or similar structures stored in stockpile areas or in the ROW shall be inspected for sensitive animals (such as badger and horned lizard) before the pipe is buried, capped, or otherwise used or moved, except as directed by the OWNER. All in-place pipeline segments shall be capped daily until buried to prevent entry of animals.

1.10 PETS, CAMPING, FIREARMS, AND USE OF AREA

- A. No camping shall be allowed on the ROW or at any construction site. Only authorized off site, established camping areas may be used by construction personnel.
- B. No pets shall be allowed on the ROW, staging areas, access roads, or any other construction sites.
- C. Possession of firearms shall be prohibited in the ROW or any construction site. This includes firearms displayed in gun racks.
- D. Construction workers and other project personnel, equipment, materials, spoil, and all activities shall stay within the marked ROW or facility site. Exceptions that will not cause environmental impacts may be granted only after permission by the property owner and only after approval by the OWNER.

1.11 TRASH CONTROL

- A. All food waste shall be placed in closed containers and disposed of at an authorized disposal site as necessary to avoid attracting animals. The ROW and other construction areas shall be policed daily by the CONTRACTOR, and any garbage shall be collected and removed by the end of each day.
- B. The CONTRACTOR shall keep the ROW and other areas used by it in a neat and clean condition, and free from any accumulation of rubbish. The CONTRACTOR shall dispose of all rubbish and waste materials of any nature (including cigarette butts) occurring at the construction site, and shall establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of all rubbish and surplus materials shall be off the construction site in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

1.12 HAZARDOUS MATERIALS AND POLLUTION CONTROL

The following applies to materials used by the CONTRACTOR during construction. It does not apply to any known or unknown existing hazardous materials that may be within the ROW. Section 00700 - General Conditions, Article 4 covers buried hazardous materials.

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- A. The CONTRACTOR shall prepare a hazardous material (including fuels, hydraulic fluids, and lubricants) spill response plan for review and approval by the OWNER. This plan shall specify 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. The plan shall also describe methods for preventing spills and for containing any spills that do occur (for example, use of plastic sheeting under vehicles during maintenance). Storage or use of hazardous materials in or near streams shall be consistent with California Department of Fish and Game regulations and other federal or state laws. The CONTRACTOR shall be responsible for implementing the measures in the approved plan.
- B. All chemicals used during project construction or pipeline testing, including disinfectants, polymers, reactants, or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer and all applicable federal, state, and local regulations. In addition, see the requirements set forth in paragraph 6.11 of the General Conditions.
- C. Servicing and refueling of mobile equipment is permitted within the ROW or at staging areas but shall not be allowed within 600 feet of any sensitive resource or streambed as shown on the Drawings or flagged by the OWNER unless approved by the OWNER. For stationary equipment, such as pumps or generators, that must be located within 600 feet of a streambed or sensitive resource, the CONTRACTOR shall place the equipment on a plastic liner within a berm sized to contain the maximum potential fuel spill. The CONTRACTOR shall maintain sorbent materials and equipment on site for use in cleaning up spills. Any such spills shall be cleaned up immediately.
- D. The CONTRACTOR shall prepare and submit a Wastewater Disposal Plan to the OWNER for review and approval prior to construction that addresses containment and disposal of water used for equipment washing and for pipeline testing and disinfection. The CONTRACTOR shall carry out the approved plan. The plan shall include methods for the following:
1. Debris removal from the water used for flushing the pipeline.
 2. Removal of toxic chlorine residual from the water used for pipeline disinfection. This can be accomplished by retaining the water in the pipeline until the residual declines to below acceptable discharge levels (0.019 mg/liter), by holding the water in a lined bermed area approved by the OWNER, or by other method approved by the OWNER.
 3. Containment and disposal of water used to wash concrete, vehicles, and other equipment.
 4. Disposal of water from dewatering required at stream crossings or where perched groundwater is encountered, in accordance with Section 02140 - Dewatering. The CONTRACTOR shall notify the OWNER a minimum of 3 days prior to any discharge.
 5. Meeting National Pollutant Discharge Elimination Permit (NPDES) General Permit for Construction Activities of the Regional Water Quality Control Board.

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E. The CONTRACTOR shall prepare and submit a NO_x Reduction Plan to be reviewed and approved by the OWNER prior to construction. The CONTRACTOR shall implement the approved plan. This plan will address the following:

1. Maintenance of 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 the OWNER. If equipment is observed to be out of tune, the CONTRACTOR will be required to cease using the equipment until after it has been tuned up and approved for use by the ENGINEER.
2. Where the contractor has a choice among several pieces of equipment for the job, the contractor shall obtain emissions data for each piece and 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 OWNER.
3. Reformulated diesel fuel shall be used in all diesel powered equipment if reformulated diesel fuel is available locally at a commercially reasonable rate and reliability of supply.
4. The feasibility of implementing 2-degree engine timing retard.
5. The feasibility of installing high pressure fuel injectors on all equipment for which these injectors are available.
6. The feasibility of installing catalytic converters on gasoline-powered equipment.
7. Reduction of construction activity during Stage 2 alerts.

1.13 FIRE CONTROL

A. The CONTRACTOR shall submit a Fire Prevention Plan for approval by the OWNER. The plan shall address the items discussed below and other requirements developed in consultation with the OWNER and local fire protection agencies. The CONTRACTOR shall be responsible for implementing the approved plan.

1. No fires shall be permitted in the construction area. This includes lunch fires, warming fires, and barbecues.
2. Smoking shall be allowed only in areas cleared of vegetation or in enclosed vehicles. Methods for enforcement shall be included in CONTRACTOR'S plan.
3. All construction equipment and workers' vehicles shall be equipped with appropriate spark arrestors. The CONTRACTOR shall provide fire extinguishers (minimum of 2 lb) at all work areas and on all construction-related vehicles. Welding rigs shall be equipped with a minimum 20 lb (or 2 10-lb) fire extinguisher and a 5-gallon water bladder bag full of water. Equipment will be subject to OWNER inspection.
4. Precautions shall be taken for any welding and torch cutting that occurs on the project to prevent starting wildfires.

5. The CONTRACTOR shall maintain contact with local firefighting agencies during the dry season to be updated on fire conditions. The CONTRACTOR shall communicate fire conditions to all construction personnel.

1.14 COLLECTION AND HARASSMENT OF SPECIES

- A. The CONTRACTOR'S attention is directed to the federal Endangered Species Act (16 USC 1531, as amended), the California Endangered Species Act (California Fish and Game Code 2050-2098, as amended), and the California Native Plant Protection Act (California Fish and Game Code 1900-1913) that provide protection of threatened, endangered, and rare species of plants and animals. The CONTRACTOR shall comply with these and any other applicable federal and state laws that provide protection to plants and animals.
- B. The CONTRACTOR shall not intentionally "take" (meaning harm, harass, pursue, hunt, shoot, wound, trap, kill, capture, or collect) any species that are listed as threatened, endangered, or special status (see Management Agreement for list of species). Protection extends to animals, dead or alive, and all their body parts. The exceptions are those incidentally taken during normal clearing of the ROW in conformance with the above acts and all permits or agreements obtained for this project under these acts. In addition, the CONTRACTOR shall not intentionally "take" any other species of plant or wildlife at or around the construction site. This includes all snakes, lizards, frogs, turtles, birds, and mammals.
- C. In the event that any threatened or endangered species, or other special status wildlife, are found in or near the project where they could be affected by construction activities, the CONTRACTOR shall notify the OWNER and proceed with construction after the OWNER has removed these species. The CONTRACTOR must immediately report to the OWNER any accidental "takings," as defined above, of any animals or plants listed in the Management Agreement. The protocol for dealing with listed and candidate species has been established in the Management Agreement with the California Department of Fish and Game and in the Biological Opinion issued by the U.S. Fish and Wildlife Service.

1.15 OAK TREE AND CHAPARRAL PROTECTION

- A. Incentives to Minimize Loss of Oak Trees and Chaparral

The OWNER will pay the CONTRACTOR for selected oak trees and designated chaparral habitat not destroyed within the ROW shown on the Drawings. Oak trees that qualify for compensation are defined as trees (a) whose trunks are within the ROW, (b) that are not red-flagged by the OWNER, and (c) that have either no visible signs of construction damage to the roots or canopy, or have more than 50 percent of both the canopy and roots remaining following construction. The approximate locations and numbers of oak trees for which compensation opportunities apply are shown on the Drawings. A tree may have more than one trunk giving it the appearance of a clump of trees.

1. For undamaged eligible oak trees, compensation shall be \$2,500 for each tree greater than 12 inches in diameter at breast height (DBH); \$1,750 for trees of 6 to 12 inches DBH; and \$750 for trees 2 to 6 inches DBH. DBH is measured at 4 feet above ground level. Classification for compensation purposes is strictly at the discretion of the OWNER.

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2. For trees that are pruned by the CONTRACTOR, compensation shall be reduced, at the sole discretion of the OWNER, in proportion to the amount of canopy and/or roots remaining. For example, compensation shall be reduced 25 percent (payment = 75 percent of maximum) when 25 percent of the tree is removed by the CONTRACTOR. Trees with less than 50 percent remaining may not qualify for compensation.
3. Oak trees within the ROW, but outside the trench zone, that are not saved by the CONTRACTOR for compensation shall be cleanly cut within 2 to 6 inches of the ground surface.

Chaparral qualifying for compensation is defined as those areas within the ROW classified as Burton Mesa chaparral (BMC) on the Drawings that the CONTRACTOR has not further disturbed by cutting, thinning, driving through, or otherwise altering the plants present. Three categories of chaparral are present within the ROW, and these are shown on the Drawings: prime (BMC1), previously disturbed (BMC2), and previously very disturbed (BMC3). All or part of the chaparral within the ROW on Vandenberg Air Force Base (VAFB) may be cleared by the OWNER prior to construction.

4. Chaparral compensation shall be \$25,000 for each acre of prime (BMC1 on Drawings) remaining undisturbed by CONTRACTOR after completion of CONTRACTOR'S construction activities; \$20,000 for each acre of previously disturbed (BMC2 on Drawings) remaining undisturbed by CONTRACTOR after construction; and \$15,000 for each acre of previously very disturbed (BMC3 on Drawings) remaining undisturbed by CONTRACTOR after construction.

Disturbance of chaparral within the ROW by the CONTRACTOR that reduces the category, for example from BMC1 to BMC2, shall reduce the compensation to that appropriate for the category remaining after construction. The OWNER shall determine the category of the chaparral after construction.

The number and size of oak trees saved shall be recorded by the OWNER on the Drawings. Oak trees within areas shown as Burton Mesa chaparral (BMC) on the Drawings are considered part of the chaparral and do not qualify for separate compensation as oak trees. The OWNER shall also map the chaparral remaining after completion of CONTRACTOR'S construction activities on the Drawings as soon as surface restoration and cleanup are completed. The area shall be calculated by the ENGINEER.

- B. Oak trees shall be protected by the CONTRACTOR throughout the construction period. The following measures shall be used, as applicable, in addition to those described above in subsection 1.5 B – Clearing and Grubbing.

1. No work, including the movement of vehicles, shall be permitted within the protected zone of red flagged oak trees, except as approved by the OWNER. The protected zone of a tree includes the soil under the dripline (defined in 1.5 B) and a 5-foot buffer outside of that area.
2. Where work is necessary within the protected zone of oak trees, the trunks shall be protected from damage as described under Clearing and Grubbing (1.5 B). Removal of these protective structures shall not occur until after all equipment movement within the protected zone of the tree is complete. Removal shall be done by hand. Any trenching required within the protected zone shall be conducted using a method

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that prevents pulling and tearing roots and results in a clean cut root at the edge of the trench.

3. Activities that could compact soils shall not be allowed under oak trees except as approved by the OWNER. Where vehicle or equipment movement under a tree is approved by the OWNER, a layer of weed-free wheat or barley straw about 2 inches thick shall be placed on the ground surface as a marker and covered with at least 12 inches of soil, or a layer of wood chips (weed-free if imported, or use chipped limbs pruned from trees for access) 12 or more inches thick shall be placed on the ground, prior to vehicle movement but after trunk protection is in place.
 4. If necessary, limbs may be pruned off trees, after prior approval of the OWNER, to allow equipment movement. Pruning shall be done only by personnel having completed a training course provided by the CONTRACTOR and approved by the OWNER. CONTRACTOR shall provide OWNER with the course schedule for approval and with a list of trained workers. Limbs shall be cut just outside the branch bark ridge and the branch collar; for large limbs, a three-cut method shall be used (see Figure 1). No more than 30 percent of the tree canopy shall be removed except as approved by the OWNER. Sealing of the cut surface is not required.
 5. The CONTRACTOR is not permitted to operate vehicles and equipment or store materials outside the ROW except at locations shown on the Drawings as approved by the landowner and OWNER, and then only to the extent necessary to avoid oak trees within the ROW.
 6. Where soil under trees is compacted by vehicle movement, a layer of weed-free mulch 6 inches thick shall be placed over the compacted soils.
 7. Spoils may be placed under oak trees where necessary, as approved by the OWNER. The trunk shall be cushioned, as described above. A layer of weed-free wheat or barley straw shall be placed a minimum of 2 inches deep over the protected zone where spoils are to be piled. All spoils shall be removed when construction in the vicinity of that particular tree is complete. Care to remove only the spoils and leave the straw shall be undertaken.

 8. Any roots within the trenching zone, greater than 2 inch in diameter, shall be cleanly cut. The cut surface shall be sealed with a standard root sealant on the day of cutting or treated as otherwise directed by the OWNER.
- C. Where Burton Mesa chaparral (shown as BMC on Drawings) cannot be avoided, the CONTRACTOR shall implement the following measures to enhance the potential of restoring this habitat:
1. All Burton Mesa chaparral shrubs shall be cut just above the ground surface in a manner that avoids disturbance of or damage to the root system and any associated burls, except in the area to be excavated.
 2. Cut vegetation shall be mulched, if not cut by a flail mower, and spread over the area from which it was cut unless otherwise directed by OWNER.
 3. Topsoil salvage and handling shall be as described in subsection 1.7 D. The mulched vegetation shall be included in the topsoil during salvage.

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4. Prior to driving any equipment in the ROW, a layer of straw (weed-free wheat or barley) a minimum of 4 inches thick shall be spread over the construction easement where spoils will be stored or equipment will be driven. In areas where equipment will be driven, excavated material (excluding topsoil) shall be spread over the straw to form a layer (minimum of 12 inches thick) to protect the burls and roots of vegetation from damage by equipment traffic.
5. During backfilling, replacement of the excavated materials shall be conducted in a manner that ensures that the original ground surface, marked with the straw layer, is not disturbed.

1.16 COLLECTION OF CULTURAL ARTIFACTS

- A. The CONTRACTOR'S attention is directed to the National Historic Preservation Act of 1966 (16 USC 470) and 36 CFR 800 that provide for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").
- B. The CONTRACTOR shall conform to the applicable requirements of the National Historic Preservation Act as it relates to the preservation of cultural resources. This prohibits collection of prehistoric or historic cultural resource artifacts along the ROW or at project facilities.
- C. In the event that potential cultural resources are discovered during subsurface excavations at the site of construction, the protocol for dealing with cultural resources will be followed as established in the Programmatic Agreement with the State Historic Preservation Office. In addition, the following procedures shall be instituted:
 1. The OWNER shall be notified immediately.
 2. The CONTRACTOR shall cease all construction operations at the location of such a potential cultural resources find when directed by the ENGINEER. The work may be redirected to a location beyond the cultural resource site.
- D. If the archaeologist determines that the potential find is an eligible site requiring further evaluation according to the Programmatic Agreement, at the direction of the OWNER, the CONTRACTOR shall suspend work at the location of the find under the provisions for changes contained in Articles 10, 11, and 12 of the General Conditions.

1.17 CLEANUP

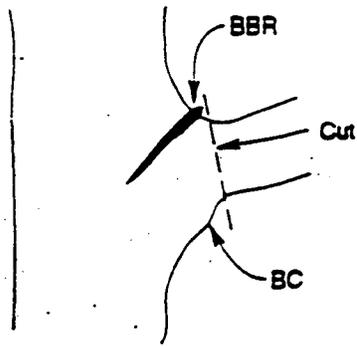
- A. The CONTRACTOR shall clean up the ROW and all temporary use areas (staging areas and access roads) promptly after construction is complete. This includes removal of stakes, lath, flagging, barrels, cans, drums, temporary fencing, accidental spills (not covered under subsection 1.12 above), hazardous 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.
- B. The CONTRACTOR shall remove all temporary erosion control and water diversion structures that are no longer needed.

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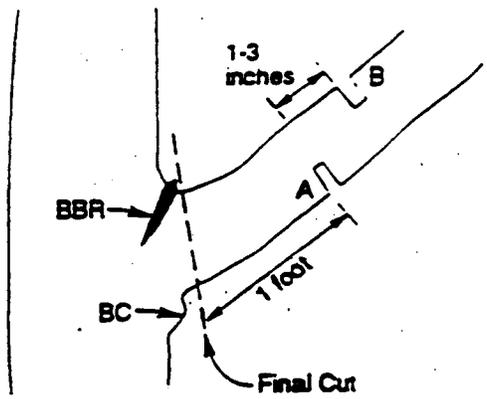
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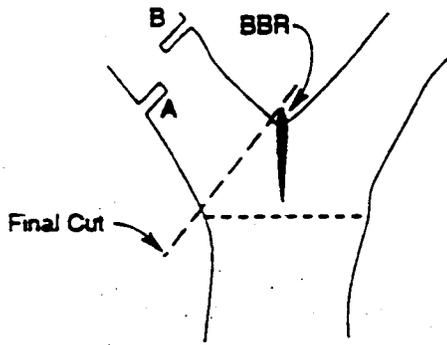
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SMALL LIMB



LARGE LIMB



CO-DOMINANT STEM

LEGEND	
BBR	Branch Bark Ridge
BC	Branch Collar
A	First cut, 1/3 branch diameter
B	Second cut, limb should split away cleanly

Figure 1
TREE PRUNING METHODS

1.18 SURFACE RESTORATION

- A. The CONTRACTOR shall contour the ROW, staging areas, and other temporary construction sites to within 6 inches of the original topography, except where otherwise shown on the Drawings or directed by the OWNER, in a timely manner after the pipe is installed. CONTRACTOR shall include the restoration and cleanup schedule in the project schedule submitted to the OWNER.
- B. The CONTRACTOR shall loosen surface soils (top 2 to 4 inches) heavily compacted during construction using a cultivator or similar device. No cultivation shall occur under oak trees.
- C. The CONTRACTOR shall replace stockpiled topsoil on the surface of the excavation as described above in subsection 1.7. With replacement of topsoil, rock and natural plant debris shall be replaced in areas where such material was originally found to the degree practical.
- D. Contouring to natural grade must be done without disruption of 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.
- E. Waterbars and any other new erosion control structures shall be installed as required and covered with topsoil where appropriate.

1.19 GRASSLAND RESEEDING

- A. The CONTRACTOR shall apply 10 lbs/acre pure live seed (PLS) of grassland seed mix for drill seeding, or 20 lbs/acre PLS for other application methods, to the entire work area, prior to spreading mulch or weed-free straw for erosion control, at locations shown on the Drawings. Acceptable methods of seed application include hydroseeding, drill seeding, and hand broadcasting with raking to mix into soil surface. Seed mixes to be used are commercially available. CONTRACTOR shall submit proposed source and type of weed-free straw to OWNER for approval.
 - 1. Grassland seed mix shall be 65 percent (by weight) Blandobrome (*Bromus hordeaceus* = *B. mollis*), 25 percent Zorrofescue *Vulpia myuros* = *Festuca megalura*), and 10 percent rose or crimson clover (*Trifolium hirtum* or *T. incarnatum*).
- B. Erosion control mulching shall be applied as soon as feasible after surface restoration and cleanup are completed. CONTRACTOR may apply seeding just before mulching or wait until the beginning of the rainy season (1 November). Topsoil shall not be compacted during seeding, and erosion control mulch removed or lost during seeding shall be replaced by the CONTRACTOR. When seeding is scheduled to occur between 1 January and 1 November methods other than hydroseeding, unless approved by the OWNER, shall be used. For seeding scheduled between 1 November and 1 January, hydroseeding is an appropriate method.
- C. The CONTRACTOR shall guarantee the revegetation success, in all areas to be reseeded by the CONTRACTOR, for one year after construction is complete. Revegetation success in grasslands is defined as complete cover of the reseeded areas in grasses to a density similar to that adjacent to the ROW. If the OWNER determines within one year of reseeded, that any areas seeded by the CONTRACTOR have a substantially lower density of grasses or a higher density of noxious weeds than the areas on either side of

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the construction area, the CONTRACTOR shall apply additional seed in the fall (October - November) and/or remove weeds prior to seed set (timing to be determined by OWNER'S field monitoring, as it varies by species). Herbicides shall not be used except as approved and directed by the OWNER. Where such remedial measures are necessary, the one-year period of CONTRACTOR responsibility shall start over.

Noxious weeds are defined as plants not native to the area that can reproduce in the wild and that grow in such abundance as to exclude the growth of native or desirable non-native species. Noxious weeds include, but are not limited to, non-native thistles, castor bean, pampas grass, veldt grass, black mustard, fennel, and poison hemlock.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

- END OF SECTION -