

Appendix C

Mitigated Negative Declaration for the Robles Diversion Dam Fish Screen and Fishway

**MITIGATED NEGATIVE DECLARATION
FOR THE ROBLES DIVERSION DAM
FISH SCREEN AND FISHWAY**

Prepared for:

CASITAS MUNICIPAL WATER DISTRICT
Oak View, California

Prepared by:

ENTRIX, INC.
Walnut Creek, California

Project No. 351401

December 4, 2000

**MITIGATED NEGATIVE DECLARATION
FOR THE
ROBLES DIVERSION DAM
FISH SCREEN AND FISHWAY**

Prepared for:

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December 4, 2000

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1.1 BACKGROUND

Casitas Municipal Water District (CMWD) is a special district formed in 1952 (under its previous name of the Ventura River Municipal Water District) to develop water supply for growers and residents of the Ojai and Ventura areas (Figure 1). The entire City of San Buenaventura boundary as it existed in 1952 was included in the CMWD's service area. Upon its formation, CMWD entered into an agreement with the Bureau of Reclamation (USBR) that led to the construction of Casitas Dam and associated facilities (the Ventura River Project) which were completed in 1959. The facilities were built by the USBR under a repayment contract to CMWD; repayment will be complete in 2012. The facilities are presently owned by the USBR, but CMWD operates and maintains these facilities under contract to the USBR.

CMWD serves an area of approximately 150 square miles. The District supplies water to a current population of approximately 63,000 people, and to approximately 6,000 acres of agricultural lands. The CMWD water supply consists of runoff from the Coyote Creek watershed above Lake Casitas and runoff from the Ventura River, which is diverted at the Robles Diversion Facilities and conveyed to Lake Casitas (Figure 1). Approximately 55 percent of CMWD's water supply is diverted from the Ventura River. CMWD diverts water from the Ventura River at the Robles Diversion Dam, which is located approximately 1.4 miles downstream of the confluence of Matilija and North Fork Matilija creeks. The Robles Canal diverts water from the upstream portion of the Ventura River into Casitas Reservoir on Coyote Creek, a tributary to the Ventura River. These diversions take place under a water right license issued by the State Water Resources Control Board. Ninety percent of the diversions each year occur during the period from December through April.

The Robles Diversion Dam and its access road present barriers to upstream and downstream migration of southern steelhead trout (*Oncorhynchus mykiss*), a federally listed endangered species. The purpose of the proposed project is to facilitate the up- and downstream migration of steelhead past the Robles Diversion Dam to access spawning and rearing habitat in the upper watershed.

1.2 PROJECT NEED

In August of 1997, southern California anadromous steelhead were listed as endangered under the federal Endangered Species Act. The Ventura River steelhead are included in this listing decision. Robles Diversion Facility and Matilija Dam were identified by the California Department of Fish and Game (CDFG) as the most significant impediments to steelhead migration in this system. According to CDFG, "restoring steelhead runs in this river will be crucial to restoring southern steelhead stocks" and "recovering these stocks... will be the highest priority for CDFG steelhead management" (McEwan and

Jackson 1996). Provision of a fish ladder and fish screens at this site is a high priority for CDFG and is the single most significant restoration action for Southern California steelhead (Dennis McEwan, CDFG, pers. comm.).

The Ventura River Steelhead Restoration and Recovery Plan (SRRP) was developed in December 1997. The SRRP and the Federal Register (Volume 65, No. 32, pages 7764 – 7787, February 16, 1999) identify portions of the Ventura River as critical habitat for steelhead. The lower reaches of the river exhibit low flow to subsurface flow conditions during certain times of year that do not support steelhead rearing conditions. Therefore, although identified as critical steelhead habitat, there is little potential to increase production in the mainstem downstream of the Robles Diversion because the rearing habitat is limited. Historically, over 50 percent of the available spawning and rearing habitat in this system were above the Robles Diversion Dam (Moore 1980; McEwan and Jackson 1996). The SRRP identifies fish passage modifications to the Robles Diversion Facilities as absolutely essential to increase and maintain viable populations of steelhead within the Ventura River watershed (SRRP 1997).

To benefit listed steelhead, CMWD is proposing construction of a fish ladder to allow fish access to important spawning and rearing habitat upstream of the Robles Diversion Dam. Much of the important steelhead spawning and rearing habitat upstream of the Robles Diversion is located in Los Padres National Forest. Aquatic habitat in North Fork Matilija Creek is in good condition. Fish population and habitat surveys conducted by the U.S. Forest Service (USFS) (Chubb 1997) and the CDFG (Steve Parmenter and Dennis McEwan, CDFG, pers. comm.) indicate resident rainbow trout production in North Fork Matilija Creek is high, demonstrating existing habitat conditions are suitable for steelhead. Constructing fish passage structures at the Robles Diversion Facilities will provide adult steelhead migrating upstream with access to approximately eight miles of spawning and rearing habitat in North Fork Matilija Creek and will provide downstream access to adult and juvenile steelhead.

The County of Ventura in coordination with state and federal agencies are currently conducting geologic, engineering, and environmental studies to determine the feasibility of removing Matilija Dam, located above the Robles Diversion Facilities on Matilija Creek. Decommissioning and removal of the dam are actively being pursued. The removal of Matilija Dam would restore access to about 26.4 miles of headwater spawning and rearing habitat in Matilija Creek and its tributaries (Moore, 1980; SRRP 1997). The availability of these historic spawning grounds will not benefit steelhead of the Ventura River if upstream and downstream passage is not provided at the Robles Diversion Facility.

1.3 PROJECT OVERVIEW

CMWD is the project applicant and has prepared the project plan with design assistance from Borcalli and Associates' engineers and ENTRIX biologists. Guidance in refining the design was provided by CDFG, National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), USBR and Friends of the Ventura River.

The project would modify the existing Robles Diversion Facilities to provide for the safe upstream passage of adult steelhead and the safe downstream passage of juvenile. Proposed for installation are a fishway, fish screen, high and low flow fish exit channels, a spillway energy dissipater, and a series of low-head stone weirs and an at grade low flow channel crossing. The weirs allow for removal of the existing concrete road crossing downstream of the diversion spillway. The project is essential to provide and maintain access to good spawning and rearing habitat located upstream of Robles Diversion Facilities in the mainstem of the Ventura River, North Fork Matilija Creek, and the mainstem of Matilija Creek below Matilija Dam. The best habitat is available in North Fork Matilija and in Matilija Creek, upstream of Matilija Dam. Additionally, the provision of fish passage at the Robles Diversion Facilities would be a prerequisite to providing passage to the headwaters of the main Matilija Creek and tributaries following planned removal of the Matilija Dam.

The County of Ventura in cooperation with state and federal agencies is currently developing a plan for the removal of Matilija Dam. Achieving passage at Robles is of paramount importance for recovery of steelhead stocks in the Ventura River and essential for realizing full benefit from the removal of Matilija Dam. As such, the passage features at Robles have been designed with consideration of changes that may occur if Matilija Dam is removed and the watershed experiences an increase in sediment loading.

1.4 REPORT ORGANIZATION

The remainder of this document is organized as follows:

- Section 2.0 provides a detailed description of the project, including a site map and construction drawing.
- Section 3.0 provides the environmental checklist with explanations for each of the environmental factors.
- Section 4.0 provides a detailed list of mitigation measures.
- Section 5.0 provides a list of preparers.
- Section 6.0 provides a list of the literature cited.

2.1 PROJECT SITE/EXISTING CONDITIONS

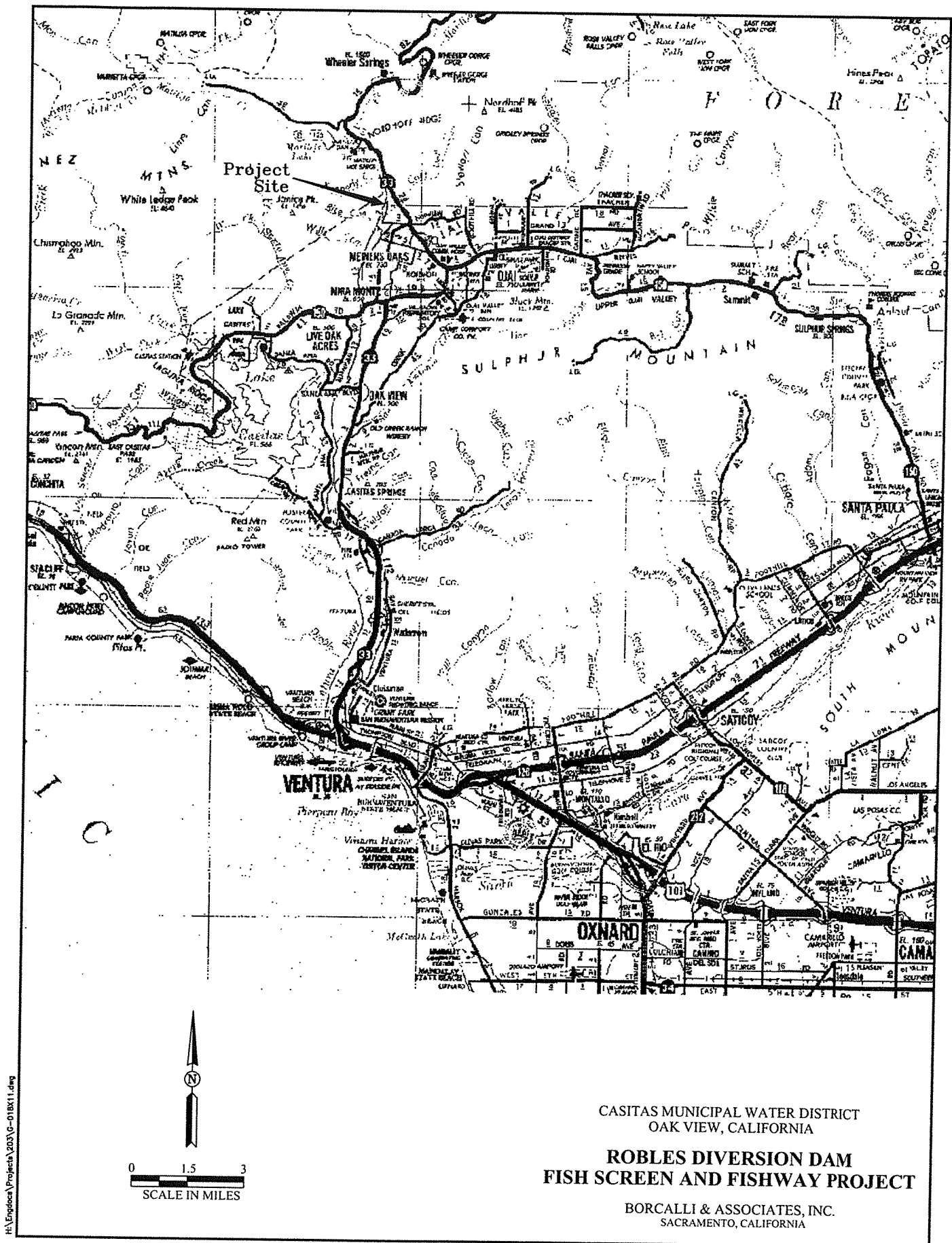
The proposed project is located at Robles Diversion Facilities in Ventura County within SE1/4 of Section 33, Township 5N, Range 23W, and the NE1/4 of Section 4, Township 4N, MDB&M. The water control and diversion headworks are located on the right bank of the Ventura River approximately 13.5 miles upstream from the Pacific Ocean and 2.0 miles downstream from Matilija Dam (Figure 1 and 2). The existing Robles Diversion Facilities consist of an earthen dam with a timber cutoff wall, a reinforced concrete spillway structure with three 16-foot-wide and one 10-foot-wide radial gates, and a headworks structure with three 11.5-foot-wide radial gates at the entrance to the concrete-lined canal used to convey water from the Ventura River to Lake Casitas. The canal includes a Parshall flume to measure the flow diverted from the Ventura River.

The radial gates in the spillway structure are operated to maintain a "forebay" pool during periods when water is being diverted through the headworks structure for conveyance to Lake Casitas. At all other times, the spillway gates are raised. The headworks is operated to control the amount of water diverted into the conveyance canal for delivery to Lake Casitas. Under current operations, adult or juvenile steelhead migrating downstream could be entrained in the diverted water, and would not be returned to the Ventura River.

The water rights permit under which CMWD operates, provides for diversion of up to 107,800 AF per year at the Robles Facility to storage in Lake Casitas. There is no instantaneous diversion limit established by the permit. However, there is a structural limit on the instantaneous diversion, as the canal that carries water from the Robles Diversion Dam to Lake Casitas has a maximum capacity of 600 cubic feet per second (cfs). Currently, when water is available, CMWD diverts up to 500 cfs to Lake Casitas. This provides additional capacity within the diversion canal for any additional inputs from sources such as rain and runoff.

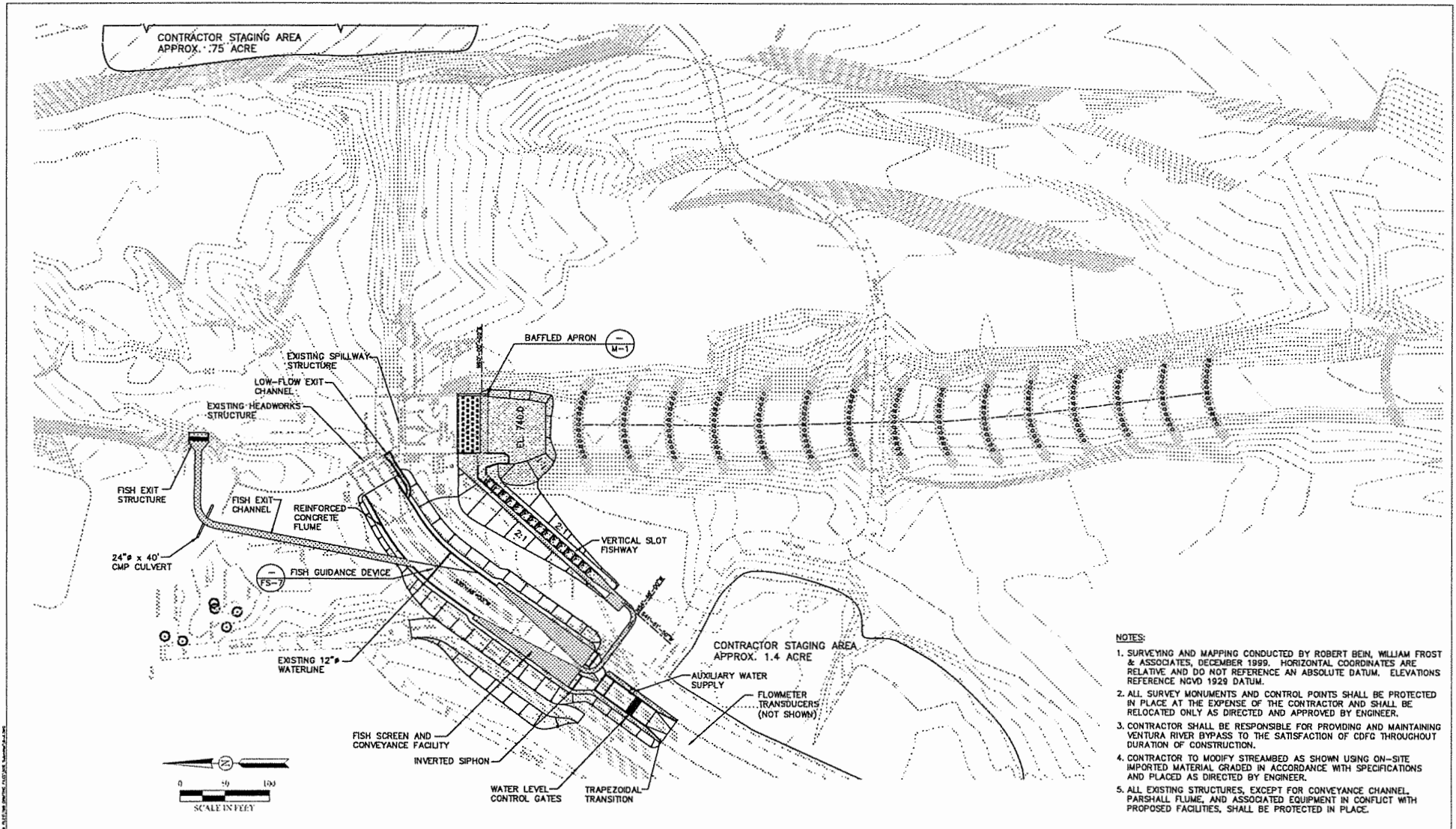
When the water level in Lake Casitas is at 2 feet below the spillway crest, CMWD does not divert water. The spillway gates at these times are raised, and all flows, up to approximately 7,000 to 8,000 cfs, pass through the spillway structure. When flows exceed the capacity of the spillway structure, water overtops the earthen dam and passes through the overflow channel. The confluence of the spillway channel and overflow channel is approximately 1,500 feet downstream of the Robles Diversion Facilities.

Approximately 450 feet downstream from the spillway is a concrete weir/roadway that functions as a low flow measuring station and provides vehicular access to the headworks when the flow is less than 15 cfs. The weir/roadway is impassable to fish when flows are less than 100 cfs. The spillway structure is impassable to upstream migrating steelhead



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Figure 1: Vicinity Map



REV	DATE	BY	CHK	APPR	DESCRIPTION
1	8/29/00	TMB	TMB	FLB	SEE SUPPLEMENTAL

DESIGNED BY:
T. BULLER
DRAWN BY:
T. BULLER
CHECKED BY:
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IN CHARGE:
F. BORCALLI
DATE:
8/18/00

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SUBMITTED _____ APPROVED _____

CASITAS MUNICIPAL WATER DISTRICT
 RATTLES DIVERSIONS DAM FISH SCREEN AND FISHWAY PROJECT

SITE PLAN

SCALE OF ORIGINAL
1"=50'

DRAWING NO: G-1 SHEET: 1

Figure 2

under all flow regimes. The existing Robles structures prevent steelhead from migrating upstream and spawning in North Fork Matilija Creek. Matilija Dam, located on Matilija Creek just upstream from the confluence with North Fork Matilija Creek, prevents access to suitable habitat upstream in Matilija Creek, Murietta Creek and the Upper North Fork Matilija Creek.

The habitat downstream of the Robles Diversion was surveyed by Mark Capelli in 1995. According to that survey, the river section between the Robles Diversion downstream to Highway 150, "consisted principally of a series of pools and glides through a boulder field with little or no riparian cover." Shade cover was provided by rocks or boulders and deep-water habitat. During the survey, this reach contained a greater number of steelhead captured per unit time effort, compared to reaches further downstream (Capelli 1997).

2.2 GENERAL PROJECT DESCRIPTION

The purpose of the proposed project is to facilitate the up- and downstream migration of southern steelhead trout (federally listed as endangered), and provide them access to suitable spawning and rearing habitat upstream of Robles Diversion Dam. The proposed project is also likely to improve the movement of any other native fish species. The project will result in the temporary removal of some of the riparian vegetation and disturbance of the associated wildlife immediately downstream of the Robles Diversion during grading and installation of the low-head stone weirs and low-flow crossing. The project is not expected to interfere with any other native and/or sensitive wildlife species, corridors, nursery sites, or other sensitive natural communities.

Construction is scheduled to begin in August 2001 and is expected to take 8 months to complete. Delay in obtaining the necessary permits or funding for the project will result in a delay in implementation. In such a case, it is anticipated that construction would begin in August 2002. Work taking place in the channel, such as construction of the fish ladder entrance, the upstream end of the exit channel, and streambed modification, will be limited to no flow conditions (*i.e.*, August 1 to October 31), when the channel is naturally dry. Priority will be given to completing instream work while the channel is dry. All construction activities taking place outside of the wetted channel (*e.g.*, fish screen, fish ladder, and auxiliary water supply) can generally be accomplished during most months.

2.3 PROJECT ENGINEERING DESCRIPTION

The primary project features include a fish screen, flow control structure, flow measurement section, fish guidance device, fishway, auxiliary water supply, high and low flow fish exit channels, a baffled apron, and a series of low-head stone weirs allowing for the removal of the existing concrete road crossing downstream of the spillway (Figure 2).

The project components are further described as follows:

1. Fish Screen and Diversion Structure – The fish screen structure will consist of vertical, stainless steel, wedge-wire screen panels aligned horizontally in series in a chevron configuration within the diversion flume. The fish screen assembly,

approximately 120 feet long, will be installed to prevent entrainment of adult and juvenile steelhead within the water diverted to Lake Casitas. The fish screen panels will be continuously cleaned using mechanical traveling brush mechanisms. The brush cleaning system will be operated via electric motors, activated manually or automatically, at preset time intervals.

The fish screen surface area was designed according to CMWD's historic maximum diversion rate of 500 cfs plus an additional 100 cfs for the auxiliary water supply pipeline, for a combined total of 600 cfs. In order to account for inefficiency in the fish screen system (*e.g.*, potentially non-uniform flow, debris, *etc.*), the system was over-designed for a maximum capacity of 726 cfs. Given the proper hydrologic and climatic conditions, CMWD may divert more than 500 cfs, up to either the fish screen limit or the diversion canal limit, whichever is less. The fish screen capacity will be determined during operation of the system. In practice, it is anticipated that CMWD will not divert more than 550 cfs. The design will comply with the criteria of the CDFG and NMFS. The approach velocity will not exceed 0.4 feet per second, and the sweeping velocity will be at least two times greater.

Adjustable, perforated plate baffle assemblies will be installed behind the fish screen panels to uniformly distribute approach velocities throughout the screen face. The porosity control devices will be implemented to prevent the occurrence of "hot spots" or areas where the approach velocity exceeds 0.4 feet per second.

The screen will be located between the existing headworks structure and concrete-lined diversion canal. The entire screen assembly will be installed within a new reinforced concrete flume with a width and height of 40.0 and 11.7 feet, respectively. Installation of the fish screen assembly will require excavation of 10,800 cubic yards of material, of which 5,600 cubic yards will be used as backfill and 5,200 cubic yards spoiled at CMWD's existing spoil area.

Approximately 350 lineal feet of the existing concrete-lined diversion canal, including a 74-foot-long Parshall flume, will be removed for construction of the fish screen and diversion structure. Approximately 75 cubic yards of reinforced concrete from demolishing the Parshall flume will be disposed at a facility appropriately licensed to accept the material. Approximately 950 cubic yards of new reinforced concrete will be placed to construct the new flume.

2. Flow Control Structure – The flow control structure will consist of a 20-foot wide rectangular flume section containing a single-leaf, overshot gate. The "overshot" gate will be electronically actuated to maintain a design forebay water surface elevation, and to provide the desired rate of diversion. The overshot gate will function as an adjustable weir. The gate will be operated manually or automatically according to a predetermined control logic subroutine.

When the gate is fully raised, the diversion process will be discontinued. Under normal operation, the radial gates at the headworks structure will be fully opened, and diversion control will be provided by the flow control structure.

Under current operation, if CMWD is not diverting water to Lake Casitas, the spillway gates are fully raised. The proposed project requires CMWD to modify its

current operation of the spillway gates and to use them to create a forebay pool, during the entire diversion season. In order to avoid trapping steelhead in the forebay pool at the end of the season, the low-flow fish exit channel gate will be raised to release water and fish. The low-flow fish exit will remain open during the summer and fall when CMWD is not diverting water. During brief periods of high runoff, the spillway gates will open as necessary to maintain the designated water surface elevation in the forebay.

Construction of the flow control structure will require excavation of 3,000 cubic yards of material, of which 1,600 cubic yards will be used as backfill and 1,400 cubic yards will be spoiled at CMWD's existing spoil area. Approximately 250 cubic yards of new reinforced concrete will be placed to construct the new flume.

3. Flow Measurement Structure – A section of the canal downstream of the flow control structure will be equipped with multi-path, ultrasonic velocity and water level measurement transducers. The measured data will be relayed to a central programmable logic controller (PLC) for flow monitoring and flow control/gate actuation purposes.

The structure instrumentation will document and record the amount of water diverted from the Ventura River to Lake Casitas.

4. Fish Guidance Device – The fish guidance device will be located within the diversion flume downstream of the headworks structure. The device will be aligned at approximately 25 degrees to the flume centerline, and will span almost its entire length. The fish guidance device consists of a series of slotted panels constructed of evenly spaced, vertically aligned, profiled louver vanes.

The primary objective of the guidance device is to direct adult upstream migrants toward the entrance of the high-flow exit channel. The project feature will ensure that upstream-migrants do not exit through the existing headworks structure, risk being captured within transverse velocities and swept downstream through the spillway structure. The high-flow exit channel is aligned to relocate the point of exit in the river or forebay approximately 200 feet upstream of the spillway structure where velocities are much less. The downstream end of the fish guidance device will include a covered slot, or fyke, enabling downstream migrants to negotiate past the fish guidance device while preventing upstream migrants from passing through. The fish guidance device will be configured to accommodate the safe passage of downstream migrating adult and juvenile steelhead.

5. Fishway – The fishway will be a vertical slot type, designed to function at flows of 10 to 50 cfs. It will facilitate upstream passage of adult steelhead around Robles Diversion Dam. The fishway will function for upstream migrating steelhead as well as downstream migrating juvenile and adult steelhead. Flow into the fishway will be self-regulating according to forebay and tailwater surface fluctuation. The entrance into the fishway will be located adjacent to the existing spillway abutment and immediately downstream of the spillway structure.

The fishway design flow is 1,500 cfs. Using accepted criteria, an attraction flow of 10 percent or 150 cfs is required and will be maintained during migration periods.

The fishway will be designed to convey up to 50 cfs, and the auxiliary water supply pipeline will contribute the balance of 100 cfs. The control slide gate will be adjusted automatically according to measured flow in the Ventura River and the pipeline to maintain the proper flow relationship.

The fishway will be approximately 360 feet long and consist of a sloped, rectangular flume partitioned by vertical slot baffles that are located at equal increments, creating a step-like arrangement of resting pools. The flume will be 8.0 feet wide with 16.0-foot high walls. The structure will be constructed of reinforced concrete, and entirely covered with galvanized steel grating for operational access, support and debris fallout protection. The fishway entrance will contain five vertical slots aligned perpendicular, 30 degrees to, and parallel with the streamflow. The slots can be manipulated to generate optimum fish attraction and will be equipped with stoplog channels to allow for closure during periods when the ladder is non-operational. The fishway exit will interface the fish screen via a rectangular channel and full-height vertical slot.

Construction of the fishway will require excavation of approximately 7,000 cubic yards of material, of which 5,000 cubic yards will be used as backfill and 2,000 cubic yards placed at CMWD's existing spoil area. Approximately 700 cubic yards of reinforced concrete will be required for construction of the fishway.

An entrance pool will be located at the fishway entrance to aid migrating fish into the fishway. One thousand cubic yards of material will be excavated to create the pool, all of which will be placed at the above-mentioned facility.

6. Auxiliary Water Supply Pipeline – The auxiliary water supply pipeline will introduce supplemental flow into the fishway at the entrance pool to enhance fish “attraction.” As noted previously, the fish passage design flow is 1,500 cfs. Using accepted criteria, an attraction flow of 10 percent or 150 cfs is required. With the fishway designed for a maximum of 50 cfs, the auxiliary water supply flow will be designed for 100 cfs. The auxiliary supply flow will be conveyed through an HDPE pipeline and introduced through the sidewall of the initial entrance pool of the fishway. To avoid the capture and entrainment of migrating fish at the pipeline inlet, the auxiliary water will be diverted downstream of the fish screen. Accordingly, the fish screen will be designed to accommodate both CMWD's historic maximum diversion rate of 500 cfs plus the additional auxiliary water supply flow of 100 cfs.

The auxiliary water supply will consist of an inlet control slide gate, a high-density polyethylene pipeline, a flowmeter, and an outlet diffuser structure. The diffuser will placidly introduce the supplemental flow into the entrance pool to avoid flows that could be injurious or confusing to fish. The inlet will be located downstream of the fish screen to avoid the risk of entrainment, and upstream of the proposed flow control structure to maintain submergence under all diversion conditions. The pipeline will be installed adjacent to the fishway. The 325-foot HDPE pipeline and concrete diffuser structure will utilize the open trench excavated for the fishway, therefore no additional excavation will be required.

7. Fish Exit Channels – Two fish exit channels are included in the proposed project. The high-flow exit channel will function as the primary migration route throughout

the diversion season. The high-flow exit channel is included, as previously mentioned, to prevent "fall-back" through the spillway structure by relocating the point of exit further upstream where conditions will be more favorable. The high-flow exit channel will operate at a flow rate of 40 cfs to 50 cfs. A low-flow exit channel is also included to circumvent the ambiguity of assigning a specific cut-off point at which the fish passage facilities are to be taken off-line. The purpose of the low-flow exit channel is two-fold. The channel will allow the forebay to self-drain at the end of the diversion season, thereby eliminating the forebay, which creates an attraction nuisance. The low-flow channel will also provide a means for fish passage during lower flows (less than cfs).

The low-flow channel will be opened at the end of the diversion season to drain the forebay. It will remain open until CMWD decides to begin diverting during the following rainy season, allowing any fish and water to bypass the system. Historically, CMWD allows the first few storms to move through the Robles Facility without diverting any water. These storms flush debris out of the system and act to recharge the alluvial groundwater basin. At the beginning of the diversion season, the low-flow fish exit will be closed to allow the forebay to fill in preparation for diversions. Once the forebay is full, the headworks of the diversion structure can be opened to provide a fish exit.

The high-flow exit channel will transition into an exit structure with a 54" slide gate, electric actuator, and steel trash rack, terminating at the Ventura River approximately 200 feet upstream of the spillway structure. The high-flow exit channel, including the exit structure, will be approximately 330 feet long. The high-flow exit channel will consist of a 5-foot wide by 12-foot deep rectangular reinforced concrete flume that interfaces with the fish screen structure just downstream of the guidance device. The low-flow exit channel inlet will be located between the existing headworks and spillway structures and will tie into the diversion flume downstream of the headworks structure. The low-flow exit channel will consist of a 3-foot wide by 17-foot high by 40-foot long concrete channel with a 60-inch slide gate and electric actuator. The channel walls will be constructed to existing grade and covered with galvanized steel grating.

Construction of the fish exit channels will require excavation of 5,000 cubic yards of material, of which 4,000 cubic yards will be used as backfill and 1,000 cubic yards placed at the above-mentioned facility. Approximately 600 cubic yards of reinforced concrete will be required for construction of the fish exit channels.

8. Streambed Modifications – A baffled apron structure and a series of low-head stone weirs will be included in the project to provide effective fish passage to the fishway entrance while maintaining a stable riverbed. The construction zone for the proposed streambed modifications is immediately downstream of the Robles Diversion spillway. This area is likely considered part of the designated critical habitat for steelhead in the lower Ventura River.

The baffled apron structure will be constructed immediately downstream of the existing spillway apron. The baffled apron will be a reinforced concrete sill with baffle blocks on a sloping concrete slab. The baffle blocks will be distributed over

the sloping concrete slab in accordance with the criteria of the U.S. Bureau of Reclamation (USBR) to dissipate energy and limit the extent of turbulent flow in to the entrance pool. The USBR's criteria have been widely applied for energy dissipation at hydraulic structures. This will function to minimize competing attraction flows from the spillway and obscuring the fishway entrance by flows from the spillway. The sill and baffled apron structure will dissipate excess energy by creating a hydraulic jump within the existing spillway structure throughout the design flow range (0 cfs to 1,500 cfs). The structure will tie into the downstream end of the existing spillway apron with an abrupt invert offset, or sill, and will descend into the entrance pool at the base of the fishway at a 2:1 slope. The apron will be embedded approximately 10 feet into the entrance pool to control the extent of scour.

The channel below the spillway is straight, approximately 40 to 60 feet wide with banks at a 2:1 slope. The streambed and bank substrate consists of large cobble and boulders 1 to 2 feet in diameter. The top of the banks are covered with a relatively young stand of three to five-year-old willows.

Approximately 450 feet downstream from the spillway structure, a concrete low flow measuring weir/roadway is constructed across the spillway channel. The crossing currently functions as a grade stabilization structure, generating a drop of approximately 5 feet in the water surface profile and obstructing steelhead migration at low flows. To correct this, a series of fifteen (15) low-head stone weirs will be installed within the channel at uniformly spaced increments throughout a reach of approximately 800 feet downstream of the existing spillway structure. The series of weirs is designed to produce a step-pool arrangement conducive to upstream fish passage through the spillway channel up to the fishway entrance. In addition, the system will stabilize the streambed, provide the necessary submergence of the fishway entrance, and help maintain a consistent low-flow channel.

The weirs are designed to be approximately 40 feet wide in an arc with the low point in the center, and will be keyed into the embankments a minimum of 4 to 6 feet. Native stone (*i.e.*, cobbles and boulders) will be embedded in a grouted stone footing to a depth of 1/3 of the stone's diameter. Boulders will be anchored to and embedded into the weir footings to prevent undermining the structural support of the weirs, and to prevent erosion of the banks. The center of the low-head stone weirs will be approximately 1 foot lower than the outer edges, thus concentrating the flow towards the center and creating a consistent low flow channel, and reducing the potential for bank scour. Step-pools will exist on the downstream side of each weir. The low-head stone weirs will have a maximum height of 18 inches from the bottom of the downstream pool to the top of the weir. When water is present, this should result in passable conditions for both adult and juvenile fish. The streambed downstream of the weirs will be armored with native material (*i.e.*, cobbles and boulders) to prevent the development of excessively large scour holes.

The existing concrete road crossing will be removed and replaced with grouted rock constructed at the grade of the new riverbed at the location of the existing road crossing. The new road crossing will have the same dimensions as the existing road crossing (12 feet wide), but will be at the new riverbed elevation through the entire width of the channel. The road on either side of the channel will be cut into the bank

to eliminate the need for any elevation increase within the channel. The low-flow crossing will be placed immediately upstream of a low-head stone weir (Figure 2). This will ensure that the crossing will not become a fish passage barrier. This crossing will only be usable at flows under 15 cfs, when steelhead are likely to be absent from this reach.

A 30-foot area along the top of both banks will be cleared and graded to provide access for modifying the gradient of the channel and construction of the weirs. This will result in the temporary removal or disturbance of riparian vegetation during construction. The impacted area is approximately 24,000 square feet or 0.55 acres.

Installation of the low-head stone weirs will impact approximately 1.7 acres of the streambed. Approximately 15,000 cubic yards of material will be excavated, of which 11,000 will be spoil. Approximately 4,000 yards of graded and processed material will be screened from the spoil and will be used to construct the weirs and armor the pool inverts. Approximately 1,000 yards of lean concrete (*i.e.*, concrete with reduced Portland cement content) will be used to anchor the stone weirs into the embankments and streambed.

Maintenance of the stone weirs should be minimal and limited to debris removal, and will occur only during dry conditions when the channel is dewatered. Since the gradation and boulder size is large in relation to conventional design standards, scour of the restoration area should be nominal. Inspections will be conducted early in the service life of the system and on an ongoing basis immediately following significant flood events. The inspections will involve identifying undercutting or flanking around the weirs and repairing, as necessary. Significant movement of the boulders or armoring material will be restored following the guidance of NMFS and USFWS. If removal or disturbance of the riparian vegetation is required, appropriate restoration will be conducted.

The successful passage of fish requires using the physical structures described above. Regardless of flow within the Ventura River, a forebay must be maintained upstream of the existing spillway structure for the fish passage facilities to function properly.

Earthwork for the above-mentioned facilities will involve the use of hydraulic excavators and loaders, bulldozers, and off-road earth-hauling trucks. All construction equipment will be well maintained to ensure that exhaust is minimized. All equipment, while not in use, will be stored at two staging areas, one on each side of the river (Figure 2). The main staging area will be located southwest of the Robles Diversion Dam, between the existing access road and the Robles Diversion Canal on a large flat approximately 1.4 acres in size. An additional staging area, of approximately 0.75 acres in size, will be located east of the spillway channel.

The concrete supply will probably be accomplished with placements ranging from approximately 50 to 150 cubic yards per day. The existing concrete canal lining will be broken, crushed, and placed with the excavation spoil. Approximately 75 cubic yards of reinforced concrete from demolishing the Parshall flume will be disposed at a facility appropriately licensed to accept the material. All excess excavated material for the entire project will be spoiled at CMWD's existing spoil area on the right bank approximately

500 feet upstream from the Robles Diversion Facilities. This spoil basin is located completely outside the high flow channel, and separated from the river channel by a raised berm. The spoil material will be used by CMWD at a later time for construction of road basins and/or slope and embankment maintenance, and will not affect the capacity of the existing spoil area. A qualified archeologist will be present during all necessary excavations to ensure that no cultural resources will be damaged.

Work within or adjacent to the waterway includes the fish exit structure on the right bank approximately 200 feet upstream of the existing spillway structure, excavation for construction of the fish ladder entrance on the right bank just downstream of the spillway structure, incorporation of the baffled apron into the existing spillway structure, and modification of approximately 800 feet of the existing spillway channel via incorporation of low-head stone weirs and the low-flow crossing. Work within the forebay or spillway channel, downstream of the existing spillway structure, will be performed during periods of no flow. This will ensure the absence of steelhead, that water quality is maintained, and erosion minimized.

Environmental Checklist Form

1. Project title:

Robles Diversion Dam Fish Screen and Fishway

2. Lead agency name and address:

Casitas Municipal Water District

1055 Ventura Avenue

Oak View, CA 93022

3. Contact person and phone number:

John J. Johnson, (805) 649-2251

4. Project location:

Robles Diversion Dam, Ventura River, Ventura County

5. Project sponsor's name and address:

John J. Johnson

(805) 649-2251

1055 Ventura Avenue, Oak View, CA 93022

6. General plan

designation: Mult (multi use/water facility)

7. Zoning:

Mult (multi use/water facility)

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

See Section 2.0 of this report.

9. Surrounding land uses and setting (briefly describe the project's surroundings):

Los Padres National Forest to the north, west and east. Rural mountainous setting. The fishway to be installed on the west (right when looking downstream) streambank of the existing Robles Diversion Dam, operated by CMWD.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement).

US Army Corps of Engineers, Section 404 and Section 10 permits. National Marine Fisheries Service and US Fish and Wildlife Service, Compliance with the Endangered Species Act, Section 7 Consultation. California Department of Fish and Game, Streambed Alteration Agreement. Regional Water Quality Control Board, 401 Water Quality Certification Waiver.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation / Traffic |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a Potentially significant impact" or Potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed name

For

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources which a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (*e.g.*, the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (*e.g.*, the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) Negative Declaration: "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, the program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where these are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of work, and were adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (*e.g.*, general plans, zoning ordinances).

Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question, and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significant.

3.2 ISSUES

3.2.1 AESTHETICS

	Potentially Significant Impact	Less-than- significant with Mitigation Incorporated	Less-than- significant Impact	No Impact
Would the proposal:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed fish screen structure will consist of vertical, stainless steel, wedge-wire screen panels installed in a chevron configuration within a rectangular concrete flume which replaces a section of the existing diversion canal. The proposed fish guidance device will be located within the rectangular flume upstream of the fish screen structure and will guide in-migrants toward the proposed high-flow exit channel. The high-flow fish exit channel, a rectangular concrete flume covered with steel grating, will be aligned to terminate approximately 200 feet upstream of the headworks structure. The low-flow exit channel, a concrete channel covered with steel grating, will be located between the existing headworks and spillway structures and will tie into the diversion flume downstream of the headworks structure. The fish screen structure and fish exit channels will be

embedded and recessed within existing grade and will not be very visible. The fish guidance device will consist of a steel-grating walkway and adjustable louver panels aligned across the proposed concrete flume. The proposed features will be integral and will subtly merge with the existing diversion facilities. Due to the existing visual character of the project area (an existing diversion dam), the proposed facilities will not further degrade the aesthetic quality of the area.

The flow control structure will be housed within a rectangular concrete flume integral with the existing diversion canal. The flow measurement structure will be located in a relined section of the canal downstream of the flow control structure. Since the flow control and flow measurement structures will be incorporated within facilities emulating the existing canal, they will not present a dissimilar appearance and will not contrast with the existing visual character of the river and the surrounding terrain.

The proposed streambed modifications will consist of a baffled apron structure and a series of low-head stone weirs installed at uniform increments across the existing spillway channel, generating a natural riffle hydraulic gradient. The existing concrete road crossing located approximately 450 feet downstream of the spillway structure will be removed by the implementation of the stone weir system. The low-head stone weir system will include an at grade low-flow crossing that will be placed immediately upstream of one of the weirs. The construction will utilize native material (*i.e.*, cobbles and boulders) and concrete for spatially positioned weirs along a channel reach of approximately 800 feet. The proposed baffled apron structure, consisting of a descending concrete apron and baffle blocks, will be a simple extension of the existing spillway structure and will present no negative aesthetic appearances.

3.2.2 AGRICULTURAL RESOURCES

	Potentially Significant Impact	Less-than- significant with Mitigation Incorporated	Less-than- significant Impact	No Impact
<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are no farmlands within the immediate vicinity of the proposed project. The routing of flow through the fish passage facilities will have no adverse effect on upstream or downstream water availability or adjudicated water right allotments for agricultural lands, or other water uses.

3.2.3 AIR QUALITY

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the proposal:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

During construction, there could be some minor air emissions from construction equipment and dust generated from the necessary earthwork, material import operations, hauling, and concrete surface preparation (sandblasting). Construction equipment will be maintained to ensure exhaust is minimized. Water trucks may be used within the limits of the construction zone for dust control as necessary. No spraying or painting will be conducted at the project site. During project operations, no air emissions would be generated.

3.2.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Dept. of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Dept. of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Dams have been constructed on most streams that sustain steelhead in California. A major impact of dams has been the hindrance and/or complete prevention of upstream and downstream migration of anadromous species, consequently prohibiting steelhead access to historical spawning habitat. The proposed project was developed to facilitate steelhead passage beyond the Robles Diversion Dam. The proposed passage facilities will allow fish to access the upper portion of the Ventura River and North Fork Matilija Creek, which would allow access to good rearing and spawning habitat. The proposed fish screen structure will allow juvenile and spawned adult steelhead to migrate downstream without risk of entrainment within the water conveyed to Lake Casitas. The proposed fishway will allow outmigrants to circumvent the existing spillway structure at low flows so they can successfully reach the ocean. The proposed project will benefit federally listed steelhead.

The proposed project will not have an adverse impact on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS. California red-legged frogs, southwestern pond

turtles and Least Bell's vireo have been reported in the Ventura River watershed, but no individuals of these species, nor their habitat occur in the project area. No federally protected wetlands will be disturbed. The proposed project will not conflict with any habitat or natural community conservation plan.

The proposed project components will impact riparian vegetation in the area immediately downstream of the Robles Diversion Facilities during the proposed streambed modifications. This work will be performed when the river is dry. Riparian vegetation will be cleared to create 30-foot wide access lanes along each side of the spillway channel. This will temporarily displace the riparian wildlife community. These impacts will be mitigated by replanting and monitoring of vegetation where it has been disturbed (see Section 4.0).

The proposed project includes a component to restrict streambed construction timing to the dry season (periods of no flow). In most water year types, the river is dry at the project site during the proposed streambed construction period (August through October), so there will be no potential for sedimentation of downstream habitats. It is anticipated that subsurface water will be exposed during streambed excavation. Dewatering excavations may be necessary during construction. Excavation water containing fine-grained silt or sand will be pumped to an infiltration trench outside of the spillway channel. Under dry summer conditions the potential for sedimentation of downstream live river habitats is considered negligible because the live river is several miles downstream.

The proposed project will improve movement of steelhead in the Ventura River. With the exception of the removal and replacement of the riparian vegetation and temporary disturbance of the associated wildlife community, the project will not interfere with any other native wildlife species, corridors and/or nursery sites.

3.2.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the proposal:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Construction of the diversion and fish screen structure, flow control structure, fishway, fish exit channels, low-head stone weirs, and baffled apron will involve the excavation of approximately

43,000 cubic yards of streambed, adjacent embankment, and concrete and bank material from the existing diversion canal. The area to be excavated is spatially isolated and limited to the respective components of the subject project. The actual surface area of earthwork impact will be approximately 3.9 acres. Depths of excavation will vary and may range from less than 1.0 foot to 28.0 feet below ground surface. Cultural resources could potentially be unearthed by the excavations. The California State Historic Preservation Officer (SHPO) has been notified in writing to ensure that the presence of any cultural resources in the areas to be excavated are identified. The SHPO indicates that no prehistoric or historic resources have been identified within the project area (see attached Records Search, Attachment 2). A qualified archeologist will be present during the necessary excavations to ensure that no cultural resources will be damaged, as suggested by the SHPO.

The fish guidance device and flow measurement structure will not involve excavation.

3.2.6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risk to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The construction of the proposed facilities will not jeopardize the structural integrity of the existing diversion structures. The excavations required for construction of the proposed components will take place during periods of no flow, when the excavation areas are dry. This will eliminate the potential for erosion. The proposed structures will not be used by people, but will require nominal operation and maintenance by qualified owner personnel, as is being practiced now. Therefore, the proposed project would not increase the risk of loss, injury, or death from seismic ground shaking, landslides, soil erosion, or flooding.

3.2.7 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the proposal:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will not utilize, or emit hazardous materials, interfere with an adopted emergency response plan, or expose people or structures to a significant risk involving wildfires.

3.2.8 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The flow of the Ventura River has been significantly altered by water diversions and is currently regulated by releases from the Matilija Dam and Robles Diversion. Historically, a flow of 20 cfs has been released through the spillway during diversions up to 500 cfs at the Robles Diversion, and the natural flow has been bypassed when not diverting. The implementation of the proposed fish ladder will include operational changes that may increase the flow conveyed downstream of the Robles Diversion. Water bypassed during diversion operations will be sufficient to provide for the safe passage flow requirements for upstream and downstream adult migrants and downstream juvenile migrants in the reach between the confluence with San Antonio Creek and the Robles Facility. This will ensure that migrating adult steelhead in the mainstem Ventura River will be able to reach the proposed fishway.

When not diverting to Lake Casitas, the natural flow will be bypassed through the a combination of the fishway, auxiliary pipeline and the spillway depending upon flow volume and conditions. Priority will be given to the fishway when flows are 50 cfs or less.

The proposed facilities will be automated to ensure that during diversions fish attraction flows equaling 10 percent of the total flow conveyed by the Ventura River will be passed downstream of the spillway through the fishway and auxiliary flow pipeline. This relationship will be maintained up to 1,500 cfs in the Ventura River or 150 cfs within the fishway and auxiliary flow pipeline. At flows greater than approximately 650 cfs, the spillway gates will be opened. The actual flow at which the gates are opened depends on how much water is being diverted. The 650 cfs value assumes a diversion of 500 cfs, although the system can divert slightly more.

The increased bypass flows during low flow periods will not alter the drainage patterns of the Ventura River, increase the rate or amount of surface runoff, or result in flooding on- or off-site. The project will not impede or redirect flood flows.

The project will influence groundwater recharge during low flow diversion periods when as much as 50 cfs would be released for operation of the fishway and passage of fish in the downstream reach. This will result in some increase in groundwater recharge because the proposed range of bypass flow exceeds the 20 cfs historically released during diversions. Areas where recharge will occur downstream of the fishway are not expected to change significantly. Although the increased volume of recharge is not expected to be significant, any increase in groundwater recharge during drought years would be considered a beneficial effect.

The proposed project includes a component to restrict construction timing to the dry season (July to October). In most water year types, the river will be dry at the project site during the proposed streambed construction period (August to October), so there will be no potential for sedimentation of downstream habitats.

1.1.9 LAND USE PLANNING

	Potentially Significant Impact	Less-than- significant with Mitigation Incorporated	Less-than- significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with applicable environmental plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is located outside of any established community. The project does not conflict with any environmental, habitat or natural community conservation plan.

3.2.9 MINERAL RESOURCES

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are no mineral extraction sites within the project area. The proposed project would have no affect on mineral resources.

3.2.10 NOISE

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Noise will be generated during the construction of the proposed project. Noise will be associated with that of typical heavy equipment used for construction (*i.e.*, excavators, loaders, trucks) and use of miscellaneous tools. There are no residents or other sensitive noise receptors within close proximity to the project site. Following installation, the structure will not generate noise. Therefore, noise effects are considered to be insignificant.

3.2.11 POPULATION AND HOUSING

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the proposal:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will not affect population trends in the project area. There will be no permanent employees associated with the project's operation on a full-time basis.

3.2.12 PUBLIC SERVICES

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will have no affect on public services.

3.2.13 RECREATION

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The immediate project area does not provide recreational opportunities. Therefore, the proposed project will not affect recreational resources in the area.

3.2.14 TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (<i>i.e.</i> , result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated road or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (<i>e.g.</i> , sharp curves or dangerous intersections) or incompatible uses (<i>e.g.</i> , farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (<i>e.g.</i> , bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

During construction, traffic to the project area is expected to increase slightly. Once earthmoving equipment is mobilized, the traffic into and out of the project area will be limited to construction personnel, equipment deliveries, and concrete trucks. The largest concrete placement within a 24-hour period is anticipated to be approximately 700 cubic yards. Concrete deliveries will typically be accomplished with placements ranging from approximately 50 to 150 cubic yards per day.

The proposed project will have no direct or indirect affect on transportation and traffic once construction is completed.

3.2.15 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will have no affect on utilities and service systems. Excess excavation material will be spoiled at CMWD's existing spoil area on the right bank, approximately 500 feet upstream from the Robles Diversion Facility. This spoil basin is located completely outside the high flow channel, and separated from the river channel by a raised rim. The spoiled material will be used by CMWD at a later time for construction of road basins and/or slope and embankment maintenance, and will not affect the capacity of the existing spoil area.

3.3 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less-than-significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Mandatory Findings of Significance:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Issues (and Supporting Information Sources):				
a) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will assist in the restoration and recovery of steelhead in the Ventura River. The project will not adversely affect any resources.

The following list of mitigation measures is recommended to protect sensitive species and their habitat from potential short-term impacts due to construction of the Robles Diversion fish screen and fishway.

1. In-channel construction will be restricted to the summer dry season when there will be no flow in the river.
2. Refueling of heavy equipment and vehicles will occur only within a designated, paved, bermed area where potential spills can be readily contained. Equipment and vehicles operated in or in close proximity to the river shall be checked and maintained to prevent leaks of fuels, lubricants or other fluids into the river. Construction equipment will be well maintained to ensure that exhaust is minimized.
3. All construction personnel will be informed of the potential for sensitive species to be present (and cursory identification) and will be instructed to inform the on-site biological monitor if suspected sensitive species are located.
4. A qualified archeologist will be present during the necessary excavations to ensure that no cultural resources will be damaged, as suggested by the SHPO.
5. Revegetation will be conducted to replace riparian trees and shrubs that will be removed or destroyed by construction work. All replacement vegetation will be native and could include arroyo or red willow, mulefat, sycamore or cottonwood. The revegetated area(s) will be monitored for five years.
6. River banks will be re-established to a 2:1 slope following construction of the low-head stone weirs to minimize erosion.

Francis Borcalli, Borcalli & Associates, Project Description

Tim Buller, Borcalli & Associates, Project Description

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Lina Hofmann, ENTRIX, Inc., Biological Sciences, Physical Sciences, Social Sciences

Brenda Peters, ENTRIX, Inc., Social Sciences

Jamie Tull, ENTRIX, Inc., Natural Resources Management

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