

Tehama-Colusa Canal Authority Development of Conveyance Alternatives for Tehama-Colusa Canal Authority Emergency Water Supplies

1. Project Description

<i>Project Type:</i>	System improvement
<i>Location:</i>	Tehama-Colusa Canal Authority (TCCA) member district service area from Red Bluff to Dunnigan including parts of Tehama, Glenn, Colusa, and Yolo counties
<i>Proponent(s):</i>	TCCA
<i>Project Beneficiaries:</i>	Agricultural water users of TCCA member districts, downstream
<u>Total Project Components:</u>	Short-term components, formalized water supply alternatives that can be taken to the preliminary design and environmental documentation phases, and then through final design, permitting, construction, and post-construction monitoring phases
<i>Potential Supply:</i>	Up to 38,293 acre-feet (ac-ft) of Central Valley Project (CVP) water in Stony Creek
<i>Cost:</i>	\$14 to \$93 million (long-term implementation, depending on results of feasibility study)
<i>Current Funding:</i>	None
<u>Short-term Components:</u>	Feasibility study of conveyance alternatives
<i>Potential Supply (by 2003):</i>	None – unless a non-structural alternative is feasible; existing Stony Creek constant head orifice (CHO) operations would use up to 38,293 ac-ft of CVP water when available, or possibly conserved Orland Unit Water Users' Association (OUWUA) water
<i>Cost:</i>	\$100,000
<i>Current Funding:</i>	None
<i>Implementation Challenges:</i>	Stony Creek fishery concerns, the use of modified OUWUA facilities, environmental impacts from pipeline construction or canal enlargement

Key Agencies:

TCCA, State Water Resources Control Board (SWRCB), California Department of Water Resources (DWR), OUWUA, U.S. Bureau of Reclamation (USBR), California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (COE)

Summary

The Red Bluff Diversion Dam (RBDD) was constructed in the 1960s to divert Sacramento River water into the Tehama-Colusa Canal (TC Canal) for agricultural uses. The original diversion and the TC Canal design provided the ability to divert by gravity and deliver up to 2,500 cubic feet per second (cfs) to the 15 TCCA member irrigation districts along the canal. Gravity diversion occurs when the gates are lowered to pool-up water upstream from the dam. After they were built, the lowered RBDD gates were found to be a significant and proven deterrent to the migration of winter-run chinook salmon and other species of concern. Starting in 1986, the time period when gates could be lowered was reduced from year-round to the current May 15 to September 15 requirement to improve fish migration. The current allowable 4-month gravity diversion period is governed by the Biological Opinion issued in 1993 by NMFS. To partially mitigate the reduced RBDD diversions, USBR installed a “permanent” research pumping plant and annually installs temporary pumps within the fish ladders. Together, these pumps provide only 400-cfs total water supply capacity when the gates are not in the water. This current capacity is less than one-third of the demand for peak agricultural deliveries before the RBDD gates are lowered into the Sacramento River on May 15. To partially offset this deficiency, TCCA diverts CVP water from Stony Creek.

TCCA intends to formalize emergency water supply conveyance alternatives to replace lost diversions caused by the re-regulation of RBDD. These alternatives will be explored regardless of the results of the current Fish Passage Improvement Project at RBDD. If a permanent solution to the supply reliability issue at RBDD is implemented, the proposed conveyance alternatives to utilize CVP water from Stony Creek would allow TCCA to utilize CVP water during critical times when it may be beneficial to leave water in the Sacramento River.

This proposed study would be focused on CVP supplies from Stony Creek diverted into the TC Canal by (1) the CHO turnout on the TC Canal and (2) existing and/or modified OUWUA facilities to convey water from Black Butte Reservoir. The area served by the TC Canal and the surrounding area, including the OUWUA, is shown on Figure 13C-1.

Stony Creek Central Valley Project Supply Alternatives

Stony Creek Diversion

A CHO turnout on the TC Canal Stony Creek Siphon was designed to release water from the TC Canal into Stony Creek to enhance fish and wildlife development in Stony Creek. This regulated fishery enhancement project was discontinued in 1975. However, water continued to be diverted into Stony Creek through 1985. In 1986, when restrictions on Sacramento River diversions through RBDD were limited because of fish passage

requirements, the diversion into Stony Creek ceased. Historically, the CHO was also used to divert Stony Creek water into the TC Canal for conveyance to Glenn-Colusa Irrigation District (GCID) facilities for subsequent delivery to wildlife refuges.

Since 1993, the CHO has been used to divert CVP water released from Black Butte Reservoir into TC Canal under the stipulations of an SWRCB permit for “re-diversion.” This permit was considered to be a temporary measure until fish passage issues were resolved at RBDD. In order to divert water through the CHO into the TC Canal, a seasonal dam is constructed across Stony Creek. Typical diversions from Stony Creek through the CHO into the TC Canal is about 700 cfs, but under certain hydraulic conditions the capacity has approached 800 cfs.

The permit was amended in 1996 and required, among other things, that the release of CVP water from Black Butte Reservoir not exceed 38,293 ac-ft annually (including losses between Black Butte Dam and the CHO), and water diversions may only occur from April 1 through May 15 and September 15 through October 29. The permit also requires a continuous flow of 40 cfs below the CHO in Stony Creek when the CHO is diverting water. The permit states that efforts shall be made to minimize entrainment of fish into TC Canal and that TCCA shall continue to participate in the Stony Creek Task Force to facilitate management of lower Stony Creek including fish and wildlife issues.

The Stony Creek Diversion alternative would use the CHO to divert CVP water released from Black Butte Reservoir into the TC Canal as a solution to increase supply reliability, especially in the spring when the temporary pumping capacity at RBDD is only 400 cfs. When the permanent solution to RBDD is implemented in 5 to 6 years, there should be sufficient capacity for all TCCA deliveries without the use of the CHO, but it could remain available as an operational option to improve water quality in the Sacramento River.

The 1996 SWRCB permit requires notification to SRWCB of any physical changes to the TC Canal crossing of Stony Creek for the purposes of modifying terms and conditions of the permit. It is anticipated that a re-issue of the permit may require a fish screen on the CHO to minimize potential fish entrainment into the TC Canal. Figure 13C-2 is a location map for the Stony Creek CHO and related facilities.

Orland Unit Water Users’ Association’s Facilities

TCCA is also proposing to examine the feasibility of using existing and/or modified facilities of OUWUA to convey Stony Creek and Black Butte Reservoir CVP water to the TC Canal. The Orland Project is one of the oldest USBR projects developed in California. It comprises two reservoirs in the upper Stony Creek watershed, 17 miles of canals, and 139 miles of laterals to serve approximately 19,000 acres of irrigated agriculture. The TC Canal runs from north to south through the Orland Project service area as shown on Figure 13C-2.

CVP water from Stony Creek could be conveyed to the TC Canal by diverting into a modified OUWUA North Canal or South Canal and providing a tie-in to the TC Canal. The OUWUA canals are currently operated near capacity during the heavy irrigation season, but excess capacity may exist during the time when TC Canal diversions are limited by fish passage requirements at RBDD. The proposed study would confirm existing capacities and evaluate expanding capacities for OUWUA facilities. Any modified OUWUA facilities could require up to a maximum of 700-cfs capacity for diversion into the TC Canal plus capacity to

satisfy Orland requirements. Losses in Stony Creek between Black Butte and the North Canal diversion and losses in the canals would be considered in the feasibility study.

Another option that would be considered is constructing a new pipeline from Black Butte Reservoir to replace the leaky and aging OUWUA South Canal to serve both the TCCA demands when RBDD diversions are limited and all demands in the southern part of the OUWUA service area. It is unlikely that this pipeline option would be constructed before the RBDD solution is implemented and thus, would have not any short-term value. However, the new pipeline would allow increased flexibility for TCCA to manage CVP supplies from both Stony Creek and the Sacramento River.

The pipeline concept could be combined in part with the proposed OUWUA Regional Water Use Efficiency Project (Sacramento Valley Water Management Agreement Project No. 9A). The OUWUA project is investigating the means to conserve Stony Creek water. These include modernizing the water conveyance facilities and improving on-farm efficiency. The conserved water could subsequently be transferred to water-short agricultural users or other users such as TCCA. The TCCA feasibility study should be coordinated with the OUWUA studies to examine the overall benefits of using a regional pipeline to convey either CVP water or conserved OUWUA water to the TCCA.

Short-term Component

The first phase of the project is a feasibility study with a duration of 1 year after funding. This study would focus on the alternatives for conveying CVP water in the Stony Creek watershed to the TC Canal. This proposed feasibility study is broken into three major tasks with the components described below.

Develop CVP Conveyance Alternatives

- **CVP water availability analysis**—The feasibility of utilizing the 38,293 ac-ft of potential CVP water in Stony Creek is highly dependent on actual water availability according to hydrologic conditions, flood control operations on Stony Creek, and OUWUA operations. A detailed analysis from existing system models and hydrology would be required to determine the actual yield of CVP water in normal and dry years. This step would be as critical as the evaluation of facilities to convey CVP water. Preliminary analyses in the RBDD Fish Passage Improvement Project have shown that CVP water may not be available 25 percent of the time on April 1, which begins the critical period for TCCA early-season deliveries. This study assumed a full delivery of 100,000 ac-ft to OUWUA. If a proposed OUWUA modernization project and/or conjunctive management project were implemented, additional surface water would potentially be available in the Stony Creek basin as a Sacramento River water quality management option or a TCCA supply. These proposed actions would need to be considered in a thorough CVP water availability analysis.
- **Conceptual design of facilities**—Improvements, modifications, and new facilities required for long-term use of CVP water in Stony Creek would be examined and conceptually designed in accordance with regulatory requirements. Three alternatives, in addition to the present CHO operations, have been identified for conveying CVP water:

- Utilize rehabilitated and upgraded OUWUA facilities or new joint facilities (canal or pipeline) for OUWUA and TCCA.
- Construct a fish screen on the CHO and make other modifications to the diversion per revised SWRCB permit.
- Combination of the above options with capacities to be determined.

A study of the existing capacity in OUWUA canals and OUWUA water needs would also be required for preliminary sizing of enlarged or new facilities. Costs and operations are other considerations. The timing of TCCA demands versus OUWUA demands would be examined to determine reasonable flow capacities that are economically feasible. The feasibility of constructing a large-scale fish screen intake for the CHO intake in the shallow and braided Stony Creek channel would be investigated.

- **Preliminary cost estimates**—The capital costs associated with each of the alternatives and potential OUWUA sub-alternatives would be estimated for planning purposes. Costs and associated regulatory requirements are key components of the chosen alternative.

Investigate a Short-term Solution

- **Short-term solution**—TCCA intends to investigate continuing the current CHO operations until the RBDD solution is completed in the next 5 to 6 years. Currently, the use of the CHO is an uncertain undertaking from year to year, and development of a formal solution is necessary to provide some level of reliability to TCCA farmers for early-season deliveries. This is a non-structural solution and more of an institutional agreement that would partially satisfy the TCCA demands when RBDD diversions are limited until the RBDD water delivery solution is determined and complete. Currently, the CHO is not screened, and the short-term solution may require a fish barrier.
- **Extension of the short-term solution**—If a short-term operating solution is reached for the CHO, the next step would be to maintain it as an emergency supply facility or to use it for increased operations flexibility. If problems or operational delays occur with the implementation of the RBDD solution, TCCA could get CVP water from the CHO on an “emergency basis.” The solution could also be maintained to provide full flexibility in TC Canal operations that potentially could provide environmental benefits to the Sacramento River and the Delta.

Agency Coordination and Initial Permit Planning

- **Initial planning for fishery agency requirements**—NMFS, USFWS, CDFG, and SWRCB are all allowed input on deciding what measures would be required for allowing the re-issue of the SWRCB re-diversion permit. Preliminary discussions and conceptual regulatory requirements would be discussed as part of the formal development of conveyance alternatives.
- **Investigation of opportunities and agreements with OUWUA**—Utilizing existing or modified OUWUA facilities to convey CVP water from Stony Creek to the TC Canal would require OUWUA agreement. A formal process for this cooperative project would need to be initiated to facilitate potential operating and cost-sharing agreements.

Certainly, the use of Orland facilities would be more attractive to OUWUA if there are mutual benefits to both (or more) parties.

Long-term Component

The primary purpose of this evaluation is to evaluate the potential for this project to provide water supply benefits in the short-term (by end of 2003). As part of this initial evaluation, potential long-term components of the proposed project (defined as any part of the project proceeding past or initiated after December 2003) have been considered on a conceptual level. Further consideration and technical evaluation of long-term component feasibility and cost will occur as the next level of review under the Sacramento Valley Water Management Agreement. Long-term-component project descriptions are included in these short-term project evaluations only as a guide to the reader to convey overall project intent.

The short-term feasibility study, which could be completed within 1 year of funding would lead to formalized water supply alternatives that can be taken to the preliminary design and environmental documentation phases and then through final design, permitting, construction, and post-construction monitoring phases. The long-term component depends on the preferred alternative determined in the feasibility study phase.

- Phase 1 Preliminary Design
- Phase 2 Environmental Documentation
- Phase 3 Final Design
- Phase 4 Permitting
- Phase 5 Construction
- Phase 6 Post-construction Monitoring

2. Potential Project Benefits/Beneficiaries

Water Supply Benefits

The agricultural water users of the TCCA member districts are the primary beneficiaries of a more reliable Stony Creek CVP supply. Conveying Stony Creek CVP water to TCCA member districts would return some of the water supply reliability that was lost from re-operation of RBDD for fish passage. This project would especially improve supply reliability in the spring and fall when RBDD capacity cannot keep pace with TCCA demands.

According to the SRWCB permit, 38,293 ac-ft is the maximum amount of CVP water available in the Stony Creek basin, but the average- and dry-year yield may be less because of system operations and hydrologic conditions. A portion of the proposed feasibility study would investigate the availability of CVP water under varied hydrologic conditions. The actual yield of CVP water in many years has been less than 38,293 ac-ft.

This project would also consider potential use of OUWUA water during times when CVP water allocations are reduced or when there are environmental benefits. OUWUA water may become available by modernizing conveyance facilities and improving in-farm use.

Water Management Benefits

Utilizing CVP supplies from Stony Creek would firm up supplies during the 8 months that RBDD can no longer operate as originally designed and would allow TCCA to fully manage their total CVP supply. The proposed project would also allow TCCA operational flexibility to use Stony Creek CVP supplies (if available) when additional in-stream flows are required in the Sacramento River.

Another potential benefit is that increasing the ability to convey Stony Creek water into the TC Canal could be an important element of the proposed Sites Reservoir project. Excess water in the winter could be diverted into the TC Canal and conveyed to the Sites facilities and/or other off-stream reservoirs.

Water Quality Benefits

The water quality effect to TCCA agricultural users would likely be negligible when comparing Sacramento River water to Stony Creek water. However, using CVP from the Stony Creek watershed rather than diversion from the Sacramento River could provide increased flow in the Sacramento River. Increased flow in the river could provide a higher quality of water for downstream users and inflow to the Delta. Increased flow in the Sacramento River during critical periods could also potentially be part of the temperature management in the river.

3. Project Costs

The cost opinions shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation from the information available at the time of the estimate. It is normally expected that cost opinions of this type, an order-of-magnitude cost opinion, would be accurate within +50 to -30 percent. Project costs were developed at a conceptual level only, using data such as cost curves and comparisons with bid tabs and vendor quotes for similar projects. The costs were not based on detailed engineering design, site investigations, and other supporting information that would be required during subsequent evaluation efforts.

The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. As a result, the final project costs will vary from the opinions presented here. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

The proposed feasibility study, which includes all tasks of the short-term component, is estimated to cost \$100,000. The work would be completed in approximately 1 year. TCCA is requesting funding from the Sacramento Valley Water Management Agreement process for the entire amount. Table 13C-1 shows an approximate breakdown of tasks for the study. Table 13C-2 is a rough estimate for costs associated with each of the CVP conveyance alternatives that would be considered in the feasibility study. No other sources of funding exist for this project.

TABLE 13C-1

Planning-level Project Costs: Feasibility Study

*Tehama-Colusa Canal Authority Development of Conveyance Alternatives for Tehama-Colusa Canal Authority
 Emergency Water Supplies*

Task	Quantity	Units	Unit Price (\$)	Total Cost (\$)	Assumptions
Feasibility Study					
Develop CVP Conveyance Alternatives	1	Each	50,000	50,000	
Investigate a Short-term Solution	1	Each	25,000	25,000	
Agency Coordination and Initial Permit Planning	1	Each	25,000	25,000	
Feasibility Study Total ->				100,000	
Feasibility Study Project Cost ->				100,000	

TABLE 13C-2

Planning-level Project Costs: Long-term Options

*Tehama-Colusa Canal Authority Development of Conveyance Alternatives for Tehama-Colusa Canal Authority
 Emergency Water Supplies*

Long-term Option	Quantity	Units	Unit Price (\$)	Total Cost (\$ X 1,000)	Assumptions
1. Continue Current CHO Operation					
				0	No additional cost to TCCA. Continue current O&M. May require formal agreement.
2. Modified or New OUWUA Facilities					
Enlarge and Line North or South Canal		Lump sum		25,000	700-cfs maximum increase in capacity.
Or New Pipeline from Black Butte	42,420	Linear feet	462	57,000	700-cfs maximum. Parallel 96-inch pipe for 8 miles. This may be physical maximum for realistic pipeline project.
3. Screen and Modify CHO					
Fish Screen	700	cfs	12,000	8,400	700-cfs capacity. Assume long and shallow screened intake.
4. Combination: OUWUA and CHO					
Orland South Canal – Enlarge and Line		Lump sum		14,500	300-cfs increase in capacity.
Fish Screen on CHO	400	cfs	12,000	4,800	
Sub-total Option 4				19,300	
Range of Sub-total Construction Costs (million \$) ->				8.4 to 57	Ranges not including Option 1.
Contingencies and Allowances (30%) ->				2.5 to 17	
Total Construction Costs ->				10.9 to 74	
Environmental Documentation, Design (25%) ->				2.7 to 19	
Potential Range of Implementation Costs ->				14 to 93	

4. Environmental Issues

Environmental Benefits

As noted in Section 2, this project would partially restore water supply reliability to the agricultural users, which was lost when the gate operations' change was implemented to improve fish passage at RBDD. Additionally, the alternative to use OUWUA facilities would eliminate the use of the currently unscreened CHO, thus eliminating potential fish entrainment at that location on Stony Creek. While this may be a more environmentally attractive option, it may be cost prohibitive.

Project implementation would also result in impacts to the environment, notably impacts to fishery issues on Stony Creek. Construction-related impacts would also occur prior to project implementation. Construction-related impacts would be similar to other, common construction projects that occur near seasonal drainages and waterways. It is likely that the appropriate level of environmental documentation necessary for this project would be an environmental impact statement/environmental impact report (EIS/EIR).

Implementation of the project would also require issuance of permits from various regulatory agencies. Following is a summary of the likely permitting requirements. Additional permitting requirements may be identified pending further project refinement.

- **State Water Resources Control Board**—Applications for new water rights and changes in point of diversion would be required.
- **Regional Water Quality Control Board**—Large amounts of earthwork would be required for the recharge basins. Depending upon project configuration and location, Water Quality Certification under the federal Clean Water Act may be required for construction.
- **Federal and State Endangered Species Act**—Consultation with state and federal resource agencies (e.g., USFWS, NMFS, CDFG) may be required to protect special-status species and their habitat.
- **U.S. Army Corps of Engineers (COE)**—The project may affect wetland habitat and require a permit for discharge of dredged or fill material pursuant to Section 404 of the federal Clean Water Act.
- **State Lands Commission**—Project would need to consult with State Lands Commission on the public agency lease/encroachment permitting for use of state lands.
- **State Reclamation Board**—The project may be subject to rules regarding encroachment into existing floodways.
- **Federal Emergency Management Agency (FEMA)**—Letters of map revision need to be filed with FEMA for projects that affect Flood Insurance Rate Maps.
- **Advisory Council on Historic Preservation**—Consultation under Section 106 of the National Historic Preservation Act may be necessary if historical resources are affected by construction of the project.

- **California Department of Fish and Game**—If alterations to streams or lakes are required as part of project implementation, a Streambed or Lakebed Alteration agreement may be required.
- **Local governments and special districts**—Specific agreements for rights-of-way, encroachments, use permits, or other arrangements may need to be made with local entities in the vicinity of the project.

A draft California Environmental Quality Act (CEQA) environmental checklist has been prepared for this proposed project and is included as an attachment to this evaluation. The checklist provides a preliminary assessment of the environmental areas of concern, as well as areas that are not likely to be of concern, associated with this project. The checklist would be finalized as part of the environmental compliance required for project implementation.

5. Implementation Challenges

Stony Creek Fishery

Any CVP supply option from Stony Creek would require consultation with CDFG, USFWS, and NMFS because of the listing of winter-run salmon and other fish species in Stony Creek. Altering operations of Stony Creek could change any ongoing or future fishery habitat restoration activities. The Stony Creek Task Force, which facilitates the long-term management of lower Stony Creek for fish habitat, would likely be involved. In particular, the long-term use of the CHO on Stony Creek potentially conflicts with establishing a sustainable fishery in Stony Creek. Using OUWUA facilities rather than the CHO may be more favorable in terms of fish passage.

The fishery issues related to the CHO include fish entrainment into the TC Canal. A permanent fish screen at the CHO for a potential capacity of 700 cfs would be a major undertaking with significant streambed construction. The temporary gravel dam constructed each spring also is a barrier to fish migration in Stony Creek. Since the recent construction of the GCID canal siphon under Stony Creek, the temporary gravel dam at the CHO is the only major barrier between the Sacramento River and the OUWUA North Diversion Dam. Either option may result in reduced in-stream flows in Stony Creek. There has been some recent disagreement on the purpose of the 38,293 ac-ft of CVP water because fishery agencies have proposed to use this supply for fishery enhancement.

State Water Resources Control Board Permitting

SWRCB would need to be notified if a physical change is made at the Stony Creek CHO on the TC Canal as required by Condition 11 of their current permit. The stipulation further requires a modification as appropriate of the terms and conditions governing the re-diversion of water at the CHO. This new permit from SWRCB may include provisions related to fish screen requirements on the CHO. Using the temporary gravel dam on Stony Creek at the CHO also presents a challenge for fish and project implementation.

Orland Unit Water Users' Association Facilities

A project to convey the Stony Creek CVP using existing or modified OUWUA facilities would require formal operating agreements and possibly modification to OUWUA rights-

of-way. A potential cooperative project between TCCA and OUWUA could possibly facilitate the use of OUWUA facilities. Modification to OUWUA facilities would require enlargement of canals for the entire length.

Central Valley Project Supply Availability

The CVP water in Stony Creek and stored in Black Butte Reservoir is a low priority in the basin. Preliminary studies have shown that CVP water may not be available 25 percent of the time on April 1. The CVP yield would be further modeled in the proposed feasibility study.

Key Stakeholders

The implementation issues would require coordination among beneficiaries, cooperators, and regulatory agencies. Table 13C-3 lists stakeholders and their potential role in the project.

TABLE 13C-3
Stakeholder Roles and Issues
Tehama-Colusa Canal Authority Development of Conveyance Alternatives for Tehama-Colusa Canal Authority Emergency Water Supplies

Stakeholder	Role	Issues
TCCA	Lead agency	<ul style="list-style-type: none"> Water supply for TCCA when RBDD diversions are restricted. Utilize CVP water from Stony Creek watershed.
OUWUA	Potential cooperating agency	<ul style="list-style-type: none"> Use of OUWUA facilities.
USBR	CVP operator	<ul style="list-style-type: none"> CVP issues.
COE	Black Butte Dam owner and river construction permit	<ul style="list-style-type: none"> Re-operation of reservoir and possible re-issue of 404 Permit.
NMFS and USFWS	Federal environmental regulations	<ul style="list-style-type: none"> Fishery enhancement on Stony Creek, fish screen requirements, minimum in-stream flows.
CDFG	State environmental regulations	<ul style="list-style-type: none"> Fishery enhancement on Stony Creek, fish screen requirements, minimum in-stream flows.
SWRCB	Re-issue Stony Creek diversion permit	<ul style="list-style-type: none"> Develop conditions to re-issue the Re-diversion Order.

6. Implementation Plan

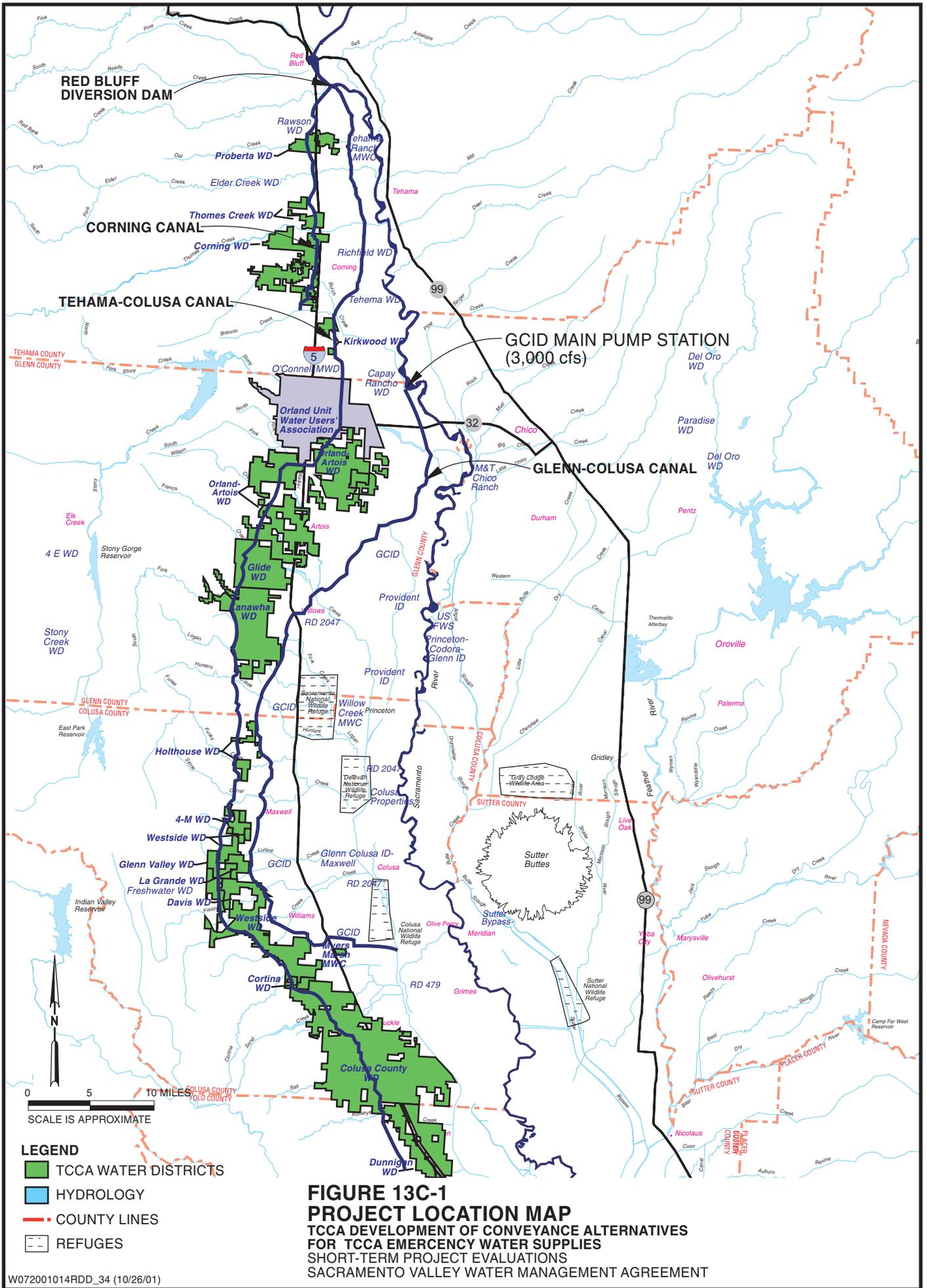
Implementation of the short-term component essentially requires funding and selection of a qualified consulting engineer to complete the proposed \$100,000 feasibility study in about 1 year. The study would require coordination with the proposed OUWUA water efficiency and modernization project (Project No. 9A) and continued environmental and fishery issues on Stony Creek. The feasibility study should result in a formal decision to proceed with an option for utilizing the CVP supply in Stony Creek. Potentially, the OUWUA could supply Stony Creek water to TCCA by transferring conserved water resulting from a proposed

modernization project. The four options are listed below. The preliminary implementation schedule is shown on Figure 13C-3 for the short-term component.

1. Continue the existing operations at the CHO until a solution is implemented at RBDD to increase Sacramento River diversion capacity. Develop and formalize agreements as needed.
2. Utilize modified OUWUA facilities or new joint facilities for OUWUA and TCCA from Black Butte Reservoir.
3. Construct fish screen on the CHO and make other modifications to the diversion per new revised SWRCB permit for entire 700 cfs.
4. Combine options 2 and 3 and optimally divide capacity into each option. The split would be determined according to engineering and economic factors. For example, the OUWUA South Canal could be enlarged to convey an additional 200 cfs, and the CHO could be modified to divert 500 cfs with fish screening and fish passage modifications.

Option 1 implementation would ideally require minimal or no design or construction, depending on permitting agencies and Stony Creek fishery requirements. The general steps required for the long-term implementation of options 2, 3, or 4 follow.

- **Preliminary design**—The preliminary design would involve engineering design of the major facilities to a fairly detailed level including sizes and locations of a pipeline or improvements required for canals. A fish screen structure on the CHO, if required, would be investigated in greater detail than the short-term feasibility study. This information would support key implementation steps such as right-of-way acquisition, soils testing, mapping, and permitting and environmental studies.
- **Environmental assessment/environmental impact report**—The Environmental Assessment/Environmental Impact Report (EA/EIR) would derive from the preliminary design and would confirm the potential impacts and required mitigation, if any, for the project.
- **Final design**—Final design would proceed following the EA/EIR work, focusing on the preferred alternative. This would involve producing engineering drawings, specifications, and other final contract documents suitable to bid and construct the project facilities.
- **Permitting**—The various permits would be obtained using the final design as the basis for permitting requirements.
- **Construction**—Construction would potentially be phased over several years, given the size and complexity of the project.
- **Operation and monitoring**—Long-term operations and monitoring of the project would begin following completion of construction.



RED BLUFF DIVERSION DAM

CORNING CANAL

TEHAMA-COLUSA CANAL

GCID MAIN PUMP STATION (3,000 cfs)

GLENN-COLUSA CANAL

LEGEND

- TCCA WATER DISTRICTS
- HYDROLOGY
- COUNTY LINES
- REFUGES

0 5 10 MILES
SCALE IS APPROXIMATE

**FIGURE 13C-1
PROJECT LOCATION MAP
TCCA DEVELOPMENT OF CONVEYANCE ALTERNATIVES
FOR TCCA EMERGENCY WATER SUPPLIES
SHORT-TERM PROJECT EVALUATIONS
SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT**

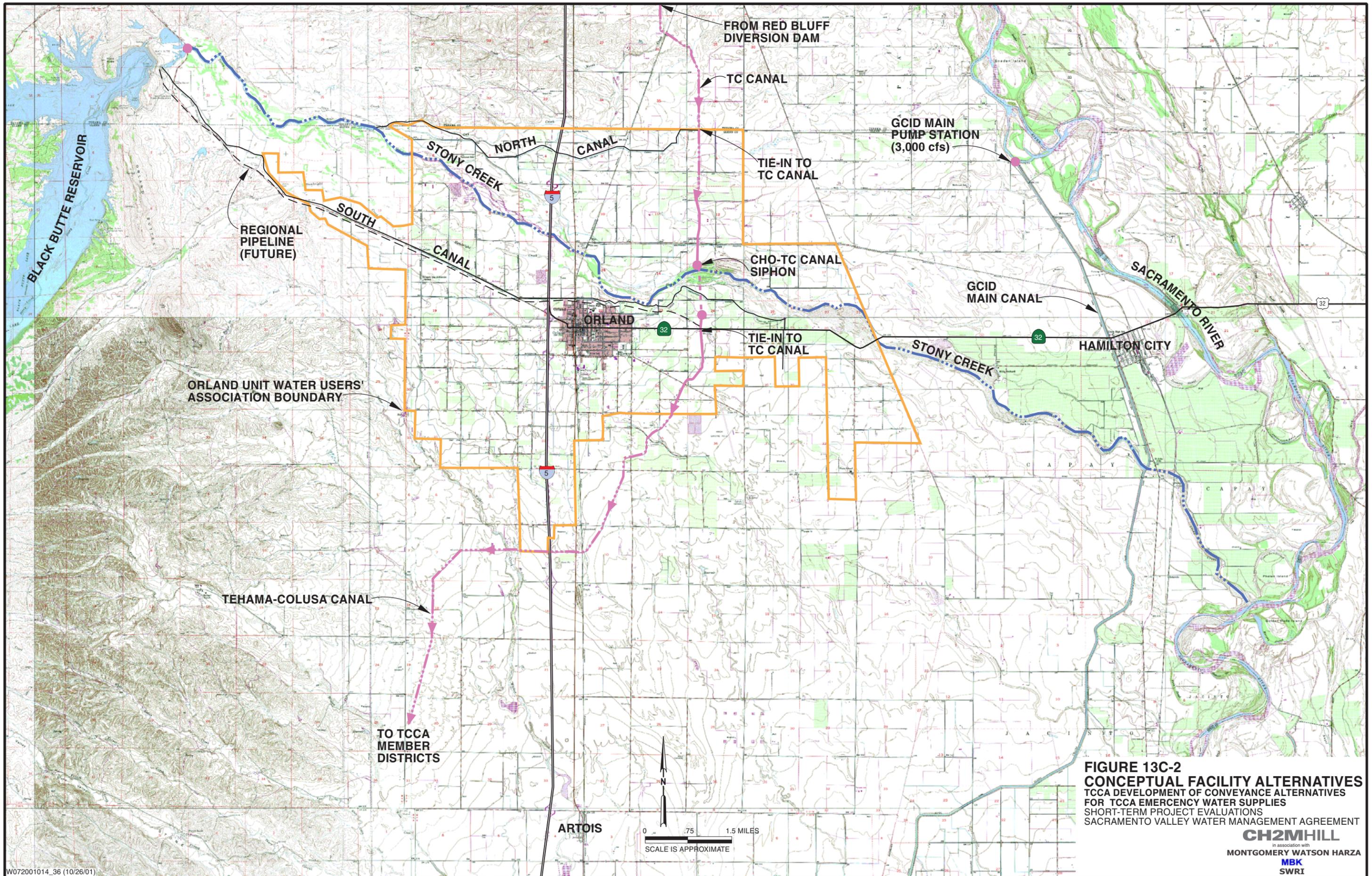


FIGURE 13C-2
CONCEPTUAL FACILITY ALTERNATIVES
 TCCA DEVELOPMENT OF CONVEYANCE ALTERNATIVES
 FOR TCCA EMERGENCY WATER SUPPLIES
 SHORT-TERM PROJECT EVALUATIONS
 SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

CH2MHILL
 in association with
MONTGOMERY WATSON HARZA
MBK
SWRI

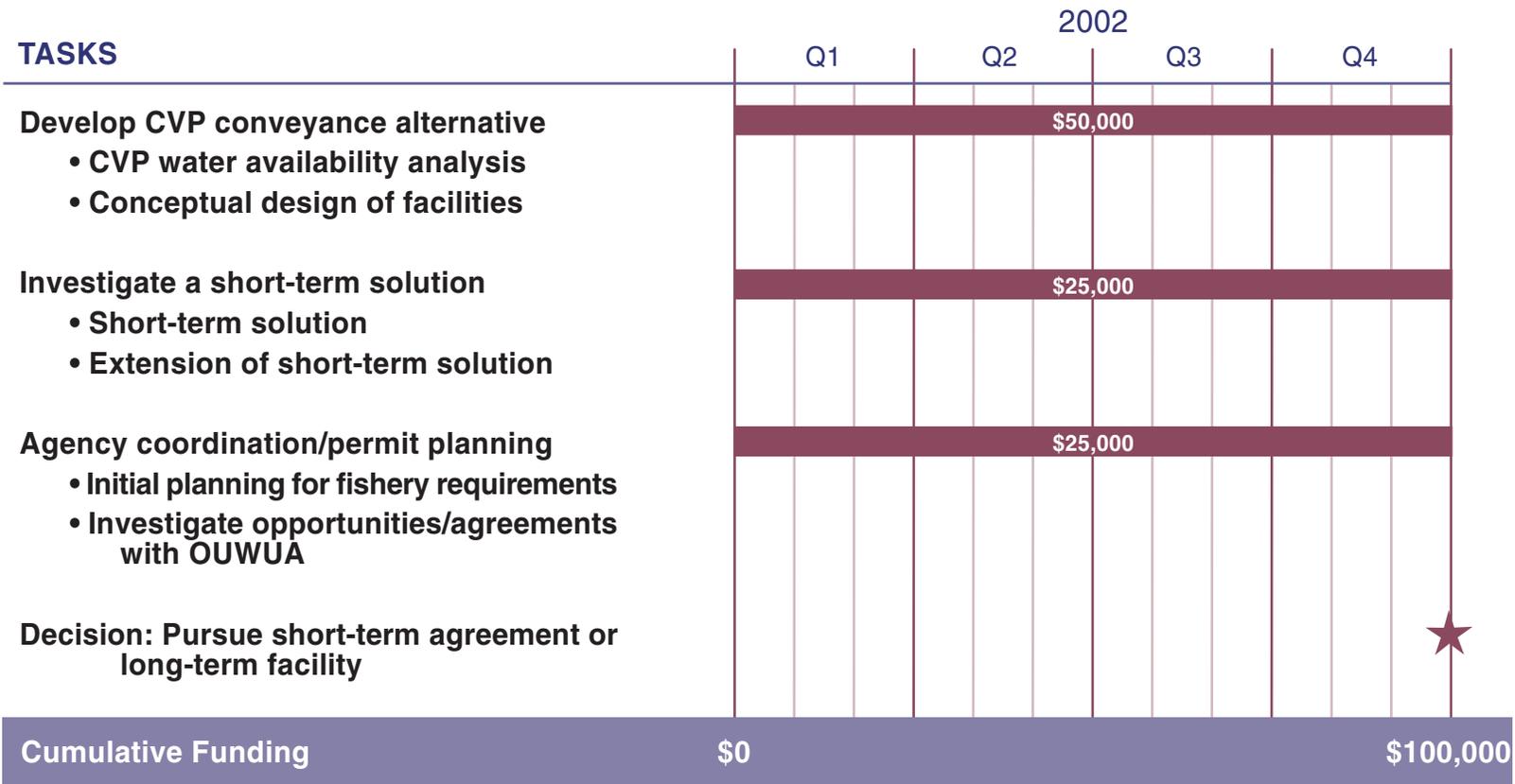


FIGURE 13C-3
PRELIMINARY IMPLEMENTATION SCHEDULE
 TCCA DEVELOPMENT OF CONVEYANCE ALTERNATIVES
 FOR TCCA EMERGENCY WATER SUPPLIES
 SHORT-TERM PROJECT EVALUATIONS
 SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

**Project 13C—Draft CEQA
Environmental Checklist**

Project 13C—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 type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input 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

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS —Would the project:				
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? <i>Short-term impacts from increased noise and dust emissions could occur as a result of construction. Mitigation measures implemented for noise and air quality would reduce any impacts to a less than significant level.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>
II. AGRICULTURE RESOURCES —Would the project:				
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? <i>This project would include the installation of a new pipeline, enlarging an existing canal, and installing fish screens. The majority of land around these locations is used for agricultural purposes. The canal and pipelines may require a permanent conversion of potential Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? <i>See response to II (a) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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? <i>See response to II (a) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
III. AIR QUALITY —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 project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? <i>Increased air emissions could result from construction of the project. Implementation of best management practices (BMPs) during construction would reduce the amount of emissions, and reduce the impact to a less than significant level.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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). <i>See response to III (b) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IV. BIOLOGICAL RESOURCES—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 Department of Fish and Game or U.S. Fish and Wildlife Service? <i>Known Endangered Species Act (ESA)-listed species such as the valley elderberry longhorn beetle and the giant garter snake are within the area. In addition, ESA-listed winter-run chinook salmon occur in Stony Creek. Sensitive riparian habitat exists in and around the project site. Potential conversion of habitat could occur as a result of the project, and would have to be mitigated. Additionally, project construction scheduling would have to reflect environmental regulatory requirements including any limitation on windows of construction.</i>	<input checked="" type="checkbox"/>	<input 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 Department of Fish and Game or US Fish and Wildlife Service? <i>See response to IV (a) above.</i>	<input checked="" type="checkbox"/>	<input 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? <i>See response to IV (a) above.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or, impede the use of native wildlife nursery sites? <i>See response to IV (a) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? <i>Removal of vegetation would inevitably be required as part of the project construction and implementation. Mitigation measures would be implemented to replace any vegetation removed for the project, which would attempt to reduce the impact.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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? <i>See response to IV (e) above.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V. CULTURAL RESOURCES —Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? <i>A significant impact would occur if a cultural resource were to be disturbed by activities associated with project development. In the event that an archaeological resource was discovered, appropriate measures would be undertaken to minimize any impacts</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? <i>See response to V (a) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? <i>See response to V (a) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries? <i>See response to V (a) above.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VI. GEOLOGY AND SOILS —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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks 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 waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS—				
Would the project:				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Construction equipment would require the use of potentially hazardous materials. The potential for significant hazardous material spill would be unlikely because of the limited amount of such materials that would be used onsite. If a spill or release of such materials were to occur, it could potentially be significant unless BMPs were implemented.</i>				
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 checked="" type="checkbox"/>	<input type="checkbox"/>
<i>See response to VII (a) above.</i>				
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 checked="" type="checkbox"/>	<input 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"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<u>VIII. HYDROLOGY AND WATER QUALITY—</u>				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Increases in turbidity would be likely to occur during any potential in-stream construction work. Additionally, there is a potential for an increase of erosion and sedimentation from construction activity. This could be a significant impact and would require an erosion control plan, and the implementation of BMPs to reduce any impacts to waterways in and around the project area.</i>				
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, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) 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 checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) 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"/>
h) 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"/>
i) 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 checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>IX. LAND USE AND PLANNING—</u> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<p>b) Conflict with any applicable land use 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?</p> <p><i>Short-term impacts from increased noise and dust emissions could occur as a result of construction. Mitigation measures implemented for noise and air quality would reduce any impacts to a less than significant level.</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</p> <p><i>See response to IV (e) above.</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
X. MINERAL RESOURCES —Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of 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"/>
XI. NOISE —Would the project result in:				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Short-term noise levels are expected to increase for the duration of construction. These noise increases would be temporary, and mitigation measures would be implemented to reduce any impact to a less than significant level.</i>				
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>See response to XI (a) above.</i>				
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"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<u>XII. POPULATION AND HOUSING</u> —Would the project:				
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"/>
<u>XIII. PUBLIC SERVICES</u> —Would the project:				
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"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>XIV. RECREATION</u> —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"/>
<u>XV. TRANSPORTATION/TRAFFIC</u> —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.e., 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 roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., 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"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. UTILITIES AND SERVICE SYSTEMS—				
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 storm water 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) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) 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 checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
XVII. 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>