Attachment D

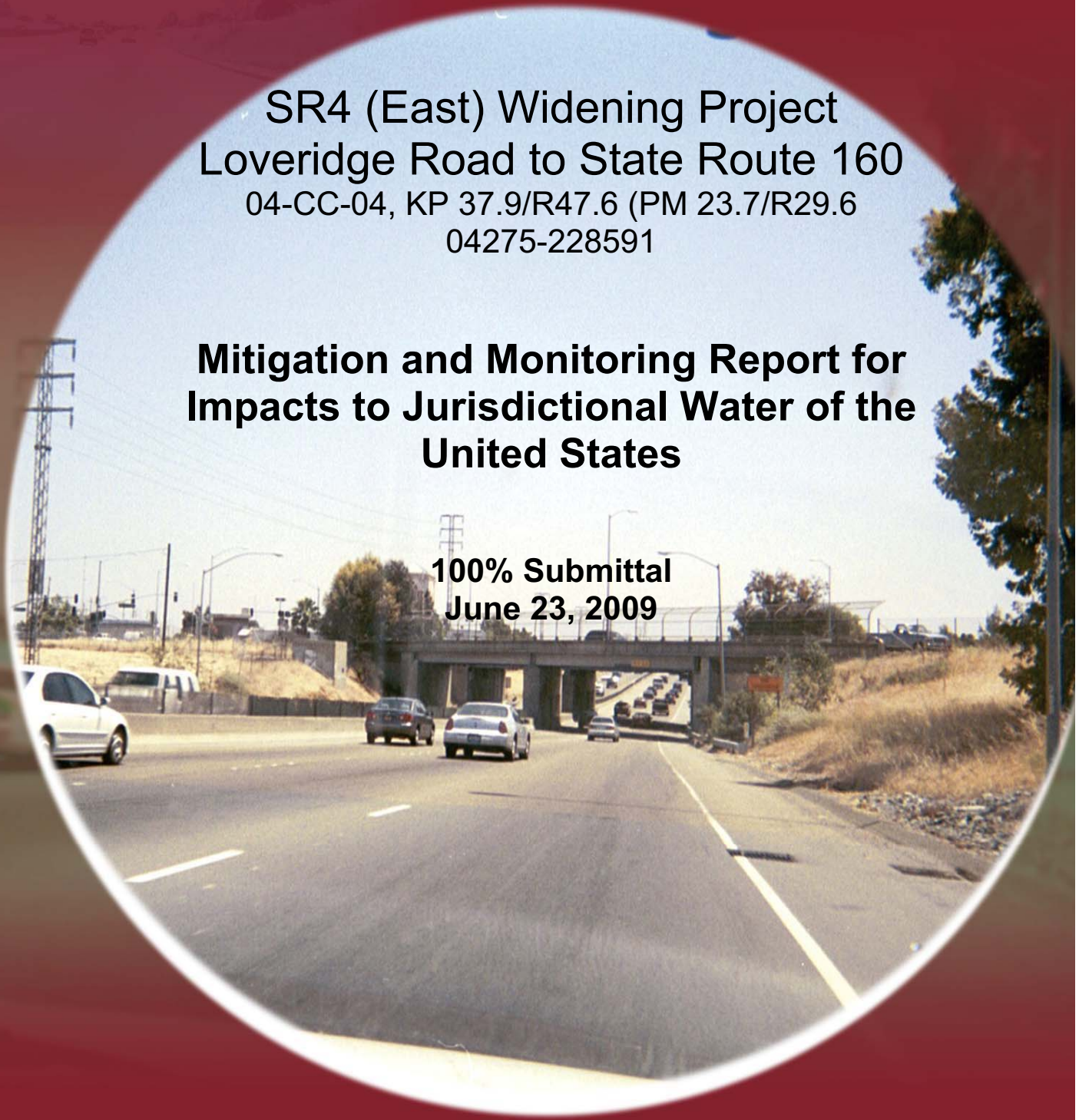
CONTRA COSTA TRANSPORTATION AUTHORITY

California Department of Transportation

Caltrans

SR4 (East) Widening Project
Loveridge Road to State Route 160

04-CC-04, KP 37.9/R47.6 (PM 23.7/R29.6
04275-228591



Mitigation and Monitoring Report for Impacts to Jurisdictional Water of the United States

100% Submittal
June 23, 2009

URS

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Acronyms and Abbreviations

Caltrans	California Department of Transportation
CCTA	Contra Costa Transportation Authority
CHP	California Highway Patrol
CRLF	California Red-Legged Frog
CWUS	Culvert waters of the U.S.
ESA fencing	Environmentally Sensitive Area fencing
FHWA	Federal Highway Administration
HOV	High Occupancy Vehicle
Km	Kilometers
OWUS	Other waters of the U.S.
OWUS	Other Waters of the U.S.
SR4	State Route 4
USACE	U.S. Army Corps of Engineers
WL	Wetlands
WL/WUS	Wetland Waters
WS	Waters of the State (California)
WUS	Waters of the United States

This document describes the proposed off-site mitigation for impacts to jurisdictional wetlands and other waters of the U.S. from potential impacts of the proposed State Route 4 Widening Project. The purpose of the proposed project is to reduce existing congestion, improve traffic operations, encourage high occupancy vehicle (HOV) use, and accommodate anticipated travel demand through the year 2030 by providing sufficient right-of-way to accommodate multi-modal transportation.

The project is estimated to permanently impact 0.139 acre of wetlands/waters (WL/WUS), 0.089 acre of other waters of the U.S. (OWUS) and 0.008 acre of waters of the state (WS). In addition, there will be temporary impacts to 0.009 acre of OWUS, as well as to 0.140 acre of culvert waters of the U.S. (CWUS). This mitigation report provides the project background as well as compensation possibilities that are appropriate for the losses of jurisdictional WL/WUS, OWUS, and WS.

2.1 PROJECT DESCRIPTION

The California Department of Transportation (Caltrans), in cooperation with the Federal Highway Administration (FHWA) and Contra Costa Transportation Authority (CCTA), proposes to widen State Route 4 (SR4), its interchanges, and affected local roadways from approximately 0.84 mile west of Loveridge Road to approximately 0.70 mile east of Hillcrest Avenue. The SR4 corridor is currently facing severe problems which include traffic congestion and inefficient energy use, as well as deteriorating air quality and traffic safety. Correcting conditions on SR4 is a necessary component of the overall program to improve transportation through Contra Costa County. The project will require reconstruction of all interchanges within the project limits and would include the addition of auxiliary lanes between interchanges to facilitate on and off traffic movements.

The proposed project will consist of the following actions:

- Widen SR4 from the existing four lanes to eight lanes. The widened freeway would consist of an HOV lane and three mixed-flow lanes in each direction.
- Preserve sufficient width in the SR4 median through the Loveridge Road Interchange to accommodate the possibility of future public transit improvements.
- Eliminate partial interchange at G Street and reconstruct the overcrossing.
- Add auxiliary lanes on SR4 between interchanges from the on-ramps to the off-ramps.
- Provide capability to create ramp metering facilities, including high occupancy vehicle (HOV) preferential lanes and California Highway Patrol (CHP) enforcement areas, where feasible.
- Widen Roosevelt Lane pedestrian undercrossing and the Cavallo Road undercrossing.
- Extend drainage facilities that cross SR4 in the project area.
- Reconstruct SR4 interchanges to accommodate the freeway widening at:
    - Loveridge Road
    - Somersville Road
    - Contra Loma Boulevard- L Street
    - Lone Tree Way –A Street
    - Hillcrest Avenue

The proposed project would conform to improvements currently being constructed to the west of the project area as part of the Route 4/ Railroad Avenue Interchange Project (by others) as well as improvements proposed to the east of the project as part of the SR4 Bypass Project (by others).

Caltrans is undertaking final design of the first segment of the project, Loveridge Road to Somersville Road. Considerations for the remainder of the SR4 East corridor from Somersville Road to the eastern project limit (0.70 mile east of Hillcrest Avenue) is based on project design plans.

2.2 PROJECT AREA

The project area is defined as the area that may be disturbed during project construction, located on the Route 4 corridor in Contra Costa County, 0.84 mile west of Loveridge Road (PM 23.7) to approximately 0.7 mile east of Hillcrest Avenue (PM 29.7). The SR4 project area is slightly more than 6.1 miles in length (9.8 kilometers). The project area extends slightly beyond the anticipated 8-lane area of the proposed highway, to accommodate for construction equipment. The proposed project location is depicted in Figure 1.

State Route 4 (East) Widening Project Loveridge Road to State Route 160	Project Location Map	Figure 1

Scale: 0, 0.5, 1, 1.5, 2 Miles

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Caltrans

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3.1 DESCRIPTION OF BIOLOGICAL COMMUNITIES

The project corridor includes the SR4 roadway from approximately 1.33 kilometers (km) west of Loveridge Road to East Antioch in Contra Costa County. The project corridor encompasses approximately 6.1 miles (9.8 km) of highway and ranges in elevation from 12 feet (3.66 meters) to 35 feet (10.67 meters) above sea level. Current land use in the project area is primarily commercial, but also includes residential developments and some open agricultural fields.

The project corridor traverses four vegetation communities and a number of jurisdictional waters. Biological communities identified within the project corridor include freshwater emergent wetland, non-native grassland, ruderal/disturbed, and windrow. A brief description of each community and its associated wildlife assemblage is provided below.

3.1.1 Freshwater Emergent Wetland

Freshwater marshes are found throughout California and are among the most productive wildlife habitats within the state. These marshes are found in various land depressions or at the edges of rivers and lakes. They provide food, cover, and water for more than 160 species of birds, and a variety of mammals, reptiles, and amphibians. California Red Legged Frogs (*Rana aurora draytonii*) are among the species that could utilize these freshwater communities in the greater project area.

3.1.2 Non-Native Grassland

This community, primarily composed of non-native grasslands, occurs intermittently along SR4. It is typically found on fine-textured, usually clay soils, which may range from moist, possibly even waterlogged, during the rainy season to very dry during the dry season. Grasslands provide foraging and nesting habitat for a wide variety of wildlife species including raptors, small mammals, amphibians and reptiles.

3.1.3 Ruderal/Disturbed and Croplands

This community type encompasses urban development, highly disturbed vegetation communities, highly eroded/disturbed areas, and erosion control areas, and active or fallow croplands. The ruderal areas observed in the SR4 corridor occur intermittently and have a high incidence of exotic plant invasion. This is the most common community type found within this highly developed urban environment.

3.1.4 Windrow

Windrows occur in SR4 intermittently along the road, both within and adjacent to the project right-of-way. This community consists of various tree species that have been planted for ornamental or commercial purposes. Windrows may provide roost, perches, and nest sites for various bird species, particularly raptors. Its litter layer may provide cover for small vertebrate species.

4.1 SUMMARY OF IMPACTS TO WETLANDS AND OTHER WATERS OF THE U.S.

There are eight jurisdictional drainages found within the project corridor. These are primarily stream channels that cross underneath State Route 4. Because the project involves the widening of an existing roadway, opportunities to avoid wetlands that run along or cross the roadway are limited. Still, only four of these drainages are impacted by the SR4 widening project.

4.1.1 Wetland Regulations

As established in Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (USACE) has final authority over the identification of wetlands and other waters of the U.S. in the project vicinity, including their jurisdiction, determination of areas affected by the project, and the type of permits and conditions required. A "no net loss" of wetland acreage or value policy is established within both the state and federal executive branches.

The project area was originally delineated and approved by USACE in 2002. A wetland re-verification of the study area has been completed and was submitted to USACE on January 29, 2008, along with this mitigation report.

4.1.2 Affected Environment

Habitat values and functions of the wetland sites in the SR4 corridor are of low quality and limited value due to several factors such as fragmentation, small size, isolation from other wetland areas, and lack of ecotones or riparian vegetation. Plant and animal species observed in the project area are recorded as generalist species that inhabit a broad spectrum of habitats.

Based on the URS reverification of the existing wetland delineation, the sum of 2.216 acres of wetland and other waters of the U.S. (including 1.599 acres of CWUS) were delineated at the following locations along the project corridor:

- Kirker Creek
- Old Kirker Creek
- An unnamed drainage channel (tributary to Kirker Creek) located west of Loveridge Road and north of SR4.
- Los Medanos Wasteway
- West Antioch Creek

The project will permanently affect 0.236 acre of WL/WUS, OWUS, and WS. In addition, 0.009 acre of OWUS and 0.140 acre of CWUS will be temporarily impacted by the proposed project. A summary of permanent (construction phase) impacts are presented in Table 4-1, a detailed breakdown of impacts and mitigation is provided in Appendix A. These values were acquired from the Wetland Reverification for State Route 4 (East) Widening Project: Loveridge Road to State Route 160 (URS, 2007). This reverification was verified by USACE on January 5, 2009 (File Number: 2002-26746S) Impacts to wetlands and other jurisdictional waters are shown in Sheets 1-5.

Mahogany Way

West Antioch Creek

L St.

Buchanan Rd.

owus 7a: 0.015 ac (Permanent Impact)

wl/wus 5a: 0.008 ac (Permanent Impact)

wl/wus 5b: 0.013 ac (Permanent Impact)

owus 8: 0.004 ac (Permanent Impact)

wl/wus 6: 0.011 ac (Permanent Impact)

owus 7b: 0.031 ac (Permanent Impact)

cwus 12: 0.014 ac (Permanent Impact)

wl/wus 7: 0.003 ac (Permanent Impact)

cwus 11: 0.044 ac (Permanent Impact)

wl/wus 8: 0.005 ac (Permanent Impact)

owus 9: 0.004 ac (Permanent Impact)

- Project Boundary
- Culvert/Waters of the U.S. (cwus) - Permanent Impact
- Waters of the State (ws) - Permanent Impact
- Other Waters of the U.S. (owus) - Permanent Impact
- Other Waters of the U.S. (owus) - Temporary Impact
- Wetland/Waters of the U.S. (wl/wus) - Permanent Impact
- Wetland/Waters of the U.S. (wl/wus) - Temporary Impact

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Feet

State Route 4 (East) Widening Project
Loveridge Road to State Route 160

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Impacts to Jurisdictional Waters (Rapanos Reach 4)

Sheet 4 of 5

December 2008

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State Route 4 (East) Widening Project Loveridge Road to State Route 160	Impacts to Jurisdictional Waters (Rapanos Reach 3)	Sheet 3 of 5
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State Route 4 (East) Widening Project Loveridge Road to State Route 160	Impacts to Jurisdictional Waters (Rapanos Reach 2)	Sheet 2 of 5	
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State Route 4 (East) Widening Project
Loveridge Road to State Route 160

26814914

Impacts to Jurisdictional Waters (Rapanos Reach 1)

Sheet 1 of 5

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State Route 4 (East) Widening Project Loveridge Road to State Route 160	Impacts to Jurisdictional Waters (Rapanos Reach 5)	Sheet 5 of 5
26814914		December 2008

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The project will temporarily impact 0.005 acre of other waters of the U.S. (OWUS 1) within Kirker Creek (Sheet 1), and 0.004 acre (OWUS 5) within the Los Medanos Wasteway (Sheet 3). These impacts will be caused by the restructuring of these engineered sections of the channels as a result of road widening. OWUS 1 will be slightly widened, and the concrete lined channel will be replaced with a rock-slope protection (RSP) lined channel, as shown in the Kirker Creek Drainage Plans (Appendix B). OWUS 5 will be temporarily impacted due to relocation of the existing culvert outfall apron as the roadway is widened. OWUS 5 is an unvegetated sandy channel that will be regraded to its original shape following construction. There will be no impacts to wetland vegetation as a result of either of these two temporary impacts. As a result, no mitigation, beyond regrading, will be necessary for these impacts. No other temporary impacts occur as a result of this project.

Table 4-1 Permanent Impacts to Wetlands and Other Waters of the U.S. and the State from Proposed SR4 Widening Project

Affected Features	Permanently Affected by Project (Acres)	Suggested Mitigation Ratio	Proposed Offsite Mitigation (Acres)
Kirker Creek, Old Kirker Creek, and Los Medanos Wasteway			
Wetland/ Waters of the U.S.	0.079	4:1	0.316
Other Waters of the U.S.	0.023	4:1	0.092
Waters of the State	0.008	4:1	0.032
West Antioch Creek			
Wetlands/ Waters of the U.S.	0.060	4:1	0.240
Other Waters of the U.S.	0.066	4:1	0.264
Waters of the State	NA	4:1	
Total	**0.236**		**0.944**

5.1 WETLANDS AND OTHER WATERS OF THE U.S. AND THE STATE

Impacts to wetland/waters, other waters of the U.S, culvert waters of the U.S., and waters of the State will be avoided and minimized during construction through the following on-site measures.

Water Quality Impact Avoidance Measures

Contractors will be required to implement a SWPPP as part of the NPDES General Construction Activity Storm Water Permit. Measures in the plan would include:

- Excessive siltation and sedimentation will be avoided by not working during the rainy season (October 16 – May 31 at the Contra Loma Interchange (West Antioch Creek); October 16 – March 31 at all other locations);
- Conducting all construction work according to site-specific construction plans that minimize the potential for sediment input to the aquatic system. Erosion control procedures will be implemented to prevent discharge of soil and backfill material into adjacent sensitive habitats, waterways, or wetlands. These measures will include:
  - silt fences;
  - biodegradable soil stabilization blankets;
  - mulching;
  - vegetated upland buffers;
  - hydroseeding with tackifiers; and
  - seeding with native species.

  All non-cultivated bare ground will be treated with appropriate erosion control measures according to the SWPPP;
- Minimizing the areas to be cleared, graded, and recontoured;
- Grading and shaping of disturbed areas to restore natural topography;
- Avoiding riparian and wetland vegetation outside the construction zone by installing Environmentally Sensitive Area fencing (ESA fencing);
- Covering bare areas with mulch and revegetating all cleared areas using native species;
- Providing areas located outside the OHWM for staging, refueling, and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants;
- Preventing raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses;
- Establishing a spill prevention and countermeasure plan before project construction that includes strict onsite handling rules to keep construction and maintenance materials out of drainages and waterways. This includes cleaning up all spills immediately according to the spill prevention and countermeasure plan; and
- Avoiding operation of equipment in flowing water.

Stream Diversion Limits

Caltrans proposes to implement the following stream diversion measures, in order to avoid impacts to stream channels during construction work:

- Temporary creek diversion systems will be established for all creek channels affected by the project. These creek channels are Kirker Creek, Old Kirker Creek, Los Medanos Wasteway, and West Antioch Creek (Contra Loma Interchange).

- A possible option that is being investigated at Contra Loma Interchange is to establish 2 separate temporary water diversion systems at West Antioch Creek. For the first system, a cofferdam will need to be placed upstream of the open 120-inch reinforced concrete pipe (RCP), underneath Fitzuren Road, southwest of the G Street interchange. Base flows traveling down West Antioch Creek toward the freeway would collect behind this cofferdam and eventually drain westerly along their historic path and eventually enter the upstream end of the triple 5 x 3 foot reinforced concrete box (RCB) at Contra Loma Boulevard. The triple 5 x 3 foot RCB outfalls into the open channel portion of West Antioch Creek further downstream. The second temporary water diversion system would have to be applied upstream of the triple 5 x 3 foot RCB while it is being replaced at its downstream end. A City of Antioch 6 x 3 foot RCB empties into this system which means there will be a significant base flow to contend with during the summer months. A water-filled cofferdam would be temporarily installed at this location to deal with these base flows.

- Corrugated steel pipe (CSP), sized at about 48 inches in diameter for dry-season flows, will be utilized wherever pipe is necessary. Clean gravel and filter fabric would also be installed. The cofferdams, filter fabric, and corrugated steel pipe will be removed from the creek bed after completion of the project.

- These creek diversion systems are only to be used between April 1st and October 15th for the Kirker Creek, Old Kirker Creek, and Los Medanos Wasteway creek diversion systems, and between June 1st and October 15th for the West Antioch Creek diversion system.

- Caltrans will ensure that a biologist is on site prior to dewatering to ensure no sensitive aquatic species are stranded.

- A gravel cofferdam wrapped with an impermeable plastic liner will be placed upstream of the work area to direct base flows through an appropriately sized diversion pipe. The diversion pipe will extend through the Contractor's work area and outlet through a sandbag dam at the downstream end.

- Once the temporary creek diversion systems are no longer required, the CSP, the sandbags, the gravel dam, and the impermeable plastic liner will all be removed and the creek returned to its natural condition.

- Constructing sediment catch basins across stream channels immediately below the project site will be implemented when performing in-channel construction to prevent silt- and

sediment-laden water from entering the main stream flow. Accumulated sediments will be periodically removed from the catch basins.

Revegetation of Upland Areas

Upland plant communities will be temporarily affected by construction. Revegetation of upland area in the vicinity of aquatic features will reduce erosion and sedimentation into receiving bodies. Non-native grassland and ruderal plant communities will be replaced with native plant species. Revegetation of the temporarily impacted areas outside of wetland habitats will be conducted with a commercially available native seed mix. To minimize erosion, seeding and planting activities will be completed by the end of December of the final construction year for each respective construction segment.

Caltrans proposes to implement off-site mitigation for permanent impacts to jurisdictional waters. This section describes the long-term goals of the proposed mitigation. These goals include the types of habitats to be restored, enhanced, or compensated.

6.1 WETLAND MITIGATION GOALS

The proposed wetland mitigation plan has two primary goals:

- Avoidance and minimization of impacts to wetlands and other jurisdictional waters; and
- Provide compensation for permanent losses of wetlands and other waters.

Specific goals related to performance of the wetland mitigation are referenced in the performance criteria associated with the off-site mitigation proposal.

6.1.1 Avoidance and Minimization of Impacts to Wetlands and OWUS

Whenever possible, impacts to jurisdictional waters will be avoided. The avoidance and minimization techniques described in Section 5 (Avoidance and Minimization) reduce negative impacts to WL/WUS and OWUS. This goal serves to reduce the amount of on-site restoration and off-site mitigation required.

6.1.2 Provide Compensation for Permanent Impacts to Jurisdictional Waters

Caltrans proposes to provide off-site compensation for the permanent loss of WL/WUS (0.139 acre of permanent impacts) as well as the permanent loss of OWUS (0.089 acre of permanent impacts). The goal of the proposed mitigation is to provide compensation for the loss of jurisdictional waters that will be appropriate ecologically (same wetland and/or ecosystem type) and geographically (in proximity to the project). As wetlands will be provided as compensation for impacts to OWUS, a mitigation ratio of 4:1 is proposed to compensate for out of kind replacement of jurisdictional aquatic features. Providing high-quality wetland compensation for the loss of low-quality OWUS areas is expected to satisfy mitigation requirements. Based on mitigation ratios provided in Table 4-1, 0.944 acre of jurisdictional waters will be obtained to complete off-site mitigation. The off-site mitigation will occur at the mitigation bank identified in Section 8 (Proposed Off-Site Mitigation).

7.1 SELECTION OF OFF-SITE MITIGATION

Locations for off-site mitigation were evaluated to acquire the most suitable habitat replacement based on the following criteria:

- Compatibility with target wetland types (freshwater emergent)
- Compatibility with sensitive species target habitat as well as habitat values
- Lands or projects available for enhancement, restoration, and/or creation of wetland or sensitive species habitat in close proximity to proposed project site, within Contra Costa County

All possible mitigation or conservation banks, as well as sites for habitat enhancement and/or creation, in the Contra Costa County region were investigated as possible mitigation opportunities for this project. Potential sites were found in listings from the USFWS and CDFG websites, web searches, and other potential sources. Table 7-1 presents the organizations and projects identified and contacted as potential options for the off-site mitigation project, as well as a description of their mitigation potential.

Table 7-1 Summary of Mitigation Opportunities Considered for the Proposed SR4 Widening Project

Site/Organization	Species/Habitat	Acres/Credits Available	Location	Description/Project Status
Elsie N. Gridley Mitigation Bank	WL	Yes	Contra Costa County	Several restoration projects available for wetlands.
Wildlands Inc. Holland Tract Preserve	WL	No*	Contra Costa County	Located 3 miles east of project site, potential for restoration and creation of freshwater marsh. Mitigation bank not yet operational.
Muir Heritage Land Trust	CRLF, WL	No*	Contra Costa County	Several potential projects available for restoration, protection and preservation purposes. Nothing concrete specified.
Life Garden	WL	No*	Contra Costa County	Iron Horse Corridor in Walnut Creek Watershed. Project is not currently established.
Nature Conservancy	WL	No*	California	No current projects available for mitigation or easements.
American Land Trust	WL	No*	Contra Costa County	Awaiting approval for land use as mitigation bank
French Camp	WL	No*	Contra Costa County	Not yet approved by USACE to sell mitigation credits
San Joaquin Valley Mitigation Bank	WL	No*	San Joaquin County	No current projects available for mitigation

Table 7-1 Summary of Mitigation Opportunities Considered for the Proposed SR4 Widening Project

Site/Organization	Species/Habitat	Acres/Credits Available	Location	Description/Project Status
California State Parks, Cowell Ranch	WL, CRLF	No*	Contra Costa County	No current projects available for mitigation
Trust for Public Lands	WL	No*	Contra Costa County	No current projects available for mitigation
TARC, Trails for Richmond	WL	No*	Contra Costa County	No current projects available for mitigation
Bryte Ranch Mitigation Bank	WL	No*	El Dorado, Placer, Sacramento Counties	No current projects available for mitigation near Contra Costa County
East Bay Regional Parks	WL, CRLF	No*	Contra Costa County	An HCP covers the restoration of a riparian channel near CRLF habitat.

CRLF = California Red-Legged Frogs
USFWS = US Fish and Wildlife Service
USACE = US Army Corps of Engineers
WL = Wetlands
HCP = Habitat Conservation Plan

*Denotes organizations which do not currently have available programs (As of Nov. 2007), but may become open in the future.

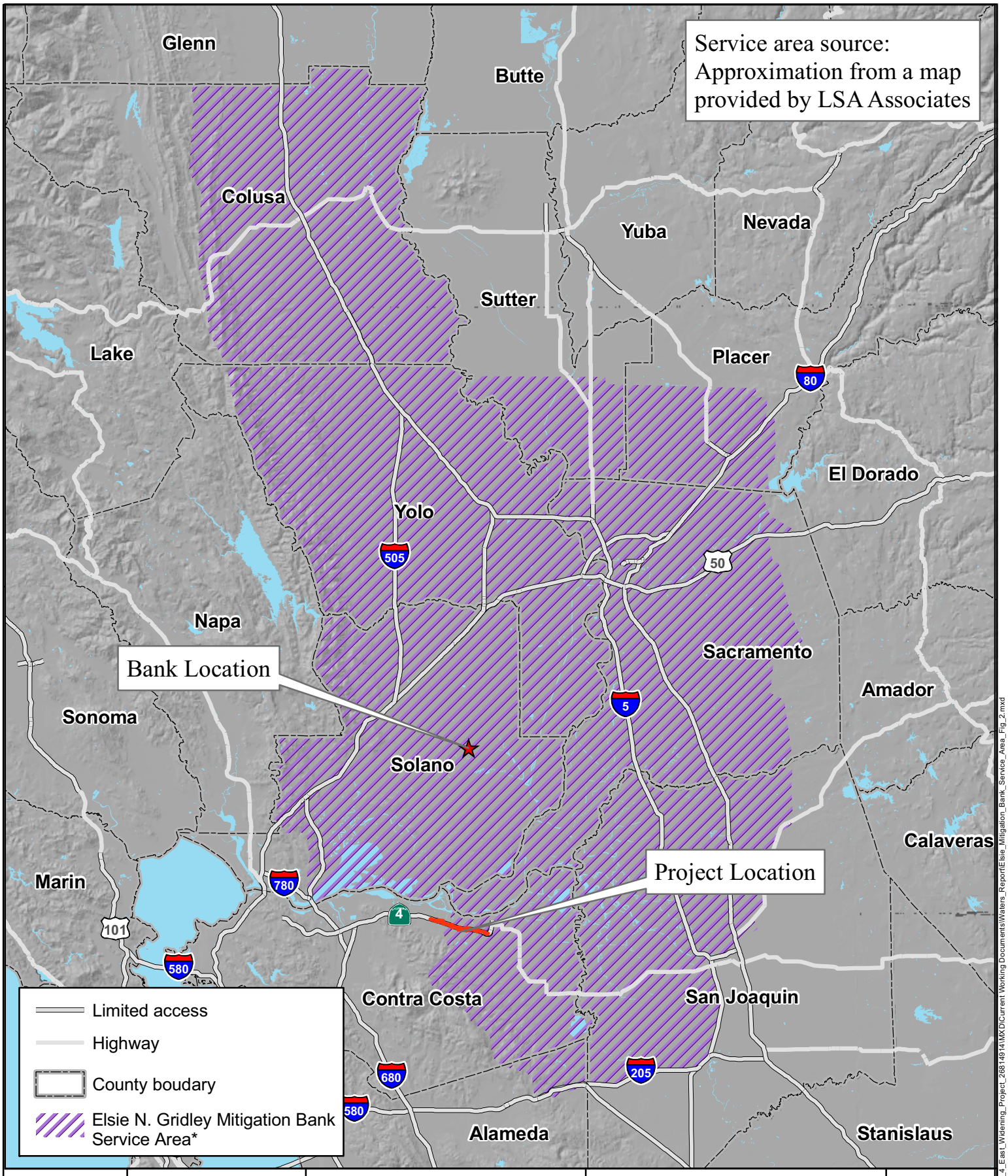
7.2 PROPOSED OFF-SITE MITIGATION FOR JURISDICTIONAL WATERS

Mitigation will take effect for both permanently and temporarily impacted jurisdictional waters following USACE 2002 no-net-loss guidelines. Although most jurisdictional waters onsite constitute poor habitat quality, wetlands will be mitigated at the ratios presented in Table 4-1 and discussed above in Section 6.1.2. Following these recommendations, Caltrans will purchase wetland credits equivalent to 0.944 acres.

7.2.1 Elsie N. Gridley Mitigation Bank

The Elsie N. Gridley Mitigation Bank (EGMB) is approved by USACE to sell wetlands and vernal pools for recreation, restoration, and preservation credits. This particular bank service area extends into eastern Contra Costa County, in close proximity to the SR4 project area. The purchase of mitigation credits at the Elsie N. Gridley Mitigation Bank would offer the best fit for project mitigation, since these are the best available high quality wetlands in the SR4 proximity.

The established habitat presented at EGMB offers the best potential mitigation within the Bay Area. The Elsie N. Gridley Bank has several projects, and serves the area in east Contra Costa County, as is outlined in Figure 2.


Service area source: Approximation from a map provided by LSA Associates
Glenn
Butte
Colusa
Yuba
Nevada
Sutter
Lake
Placer
El Dorado
Yolo
Napa
Bank Location
Sacramento
Amador
Sonoma
Solano
Calaveras
Project Location
Marin
Contra Costa
San Joaquin
Alameda
Stanislaus
505
50
80
5
780
4
101
580
680
205
Limited access
Highway
County boudary
Elsie N. Gridley Mitigation Bank Service Area*
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Caltrans
State Route 4 (East) Widening Project
Loveridge Road to State Route 160
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Figure 2
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8.1 PRESERVATION OF HABITAT AT ELSIE N. GRIDLEY MITIGATION BANK

Wetland preservation credits will be purchased at the Elsie N. Gridley Mitigation Bank (EGMB) to compensate for the project's permanent impacts to wetlands and other waters of the U.S. Documentation to USACE will need to be provided stating the correct number of credits allocated to the EGMB before the start of construction, scheduled for May 2009.

9.1 OFF-SITE MITIGATION MONITORING

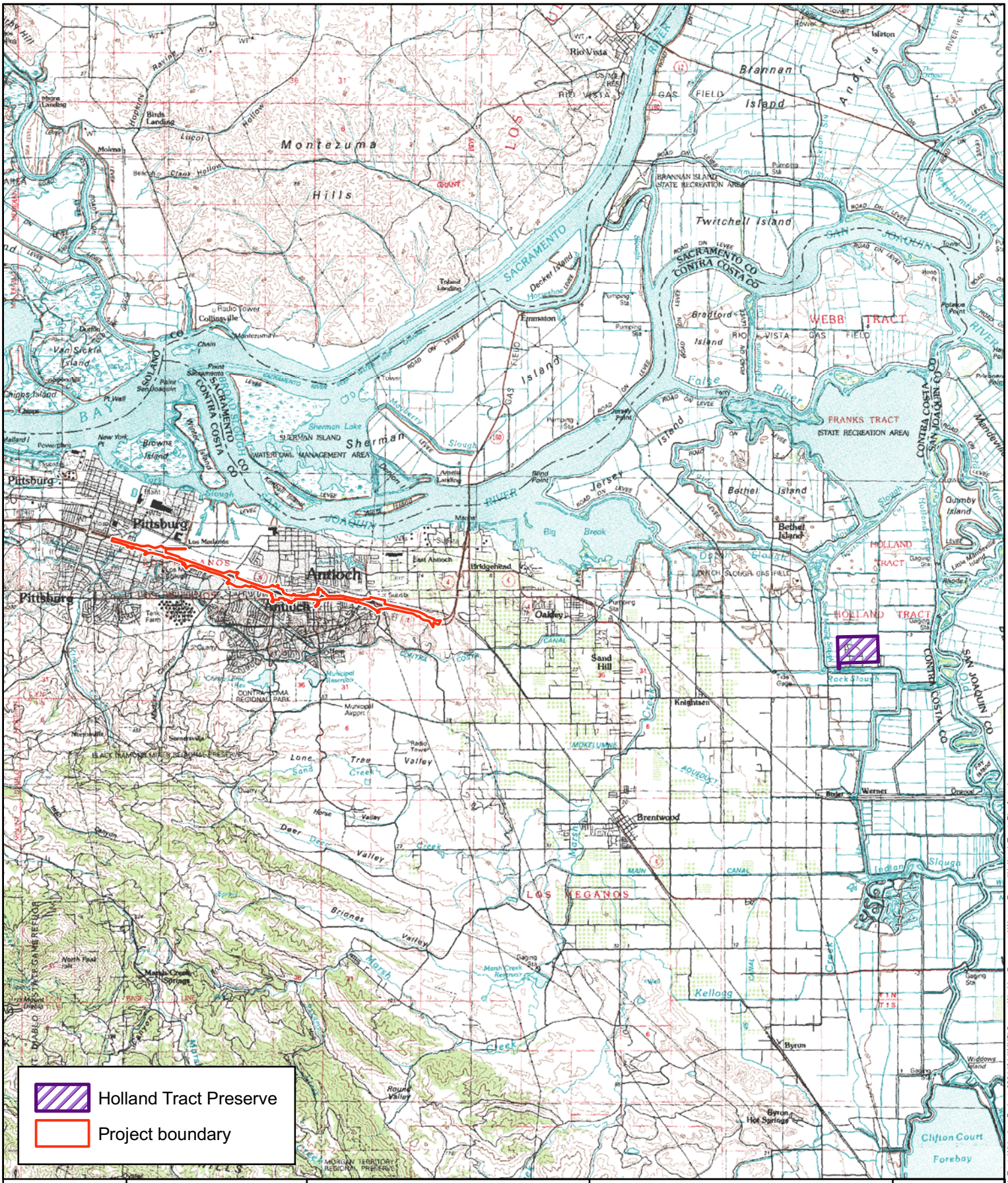
Purchased Mitigation Bank Credits and Conservation Easements

Prior to initiation of ground disturbing activities on the SR4 project, Caltrans shall provide evidence to USACE, CDFG, and RWQCB that the appropriate number of credits for jurisdictional waters have been dedicated at EGMB. All monitoring and performance standards shall be the responsibility of the mitigation bank, species fund, or conservation easement managers.

10.1 JURISDICTIONAL WATERS CONTINGENCY PLANS

10.1.1 Wildlands, Inc. Holland Tract Preserve

If it is not possible to purchase credits from the Elsie N. Gridley Mitigation Bank before the initial start of construction, credits will be pursued at Wildlands Inc. Holland Tract Preserve. Wildlands Inc. has recently purchased approximately 263 acres of land, known as the Holland Tract, located in East Contra Costa County near Oakley, about 16 miles east of the SR4 project. The preserve is bordered by sloughs and rivers feeding the Sacramento-San Joaquin Delta. The preserve plans on establishing or enhancing 107.5 acres of wetlands and open water habitat. These wetland environments will include both freshwater and tidally influenced wetlands. Although the Holland Tract Preserve is an excellent opportunity for SR4 mitigation purposes, as it provides credits for wetland habitat restoration and creation, this project is in the planning stages. The project site is outlined in Figure 3.


Holland Tract Preserve
Project boundary
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Caltrans
State Route 4 (East) Widening Project
Loveridge Road to State Route 160
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Miles
Wildlands Inc.
Holland Tract Preserve
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URS Corporation. 2007. Wetland Reverification for SR4 (East) Widening Project Loveridge Road to Somersville Road - 04-CC-04, KP 37.9/41.3 (PM 23.7/25.8). Prepared for Caltrans/Contra Costa Transportation Authority. December 2007.

U.S. Army Corps of Engineers. 2002. Regulatory Guidance Letter No. 02, December 24,2004. Guidance Compensatory Mitigation Projects for Aquatic Resource Impacts Under the Corps Regulatory Program Pursuant to Section 407 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899.

Appendix A
Impacts to Jurisdictional Features

Appendix A: Impacts to Jurisdictional Features

Feature Name	Impact Sheet	Segment	Impact Type	Feature Type	Impact Acres	Linear Feet Impact	Mitigation Ratio
owus 1	1	Loveridge-Somersville	Temporary	Other Waters of the U.S.	0.005	82	NA
owus 4	**2**	**Loveridge-Somersville**	**Permanent**	**Other Waters of the U.S.**	**0.005**	**66**	**4:1**
owus 5	**3**	**Loveridge-Somersville**	**Permanent**	**Other Waters of the U.S.**	**0.011**	**51.3**	**4:1**
owus 5	3	Loveridge-Somersville	Temporary	Other Waters of the U.S.	0.004	10	NA
owus 6	**3**	**Loveridge-Somersville**	**Permanent**	**Other Waters of the U.S.**	**0.007**	**13.5**	**4:1**
		Loveridge-Somersville	**Total Temporary OWUS**		**0.009**		
		Loveridge-Somersville	**Total Permanent OWUS**		**0.023**		
owus 10a	**5**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.002**	**20**	**4:1**
owus 10b	**5**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.007**	**100**	**4:1**
owus 11	**5**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.003**	**10**	**4:1**
owus 7a	**4**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.015**	**85**	**4:1**
owus 7b	**4**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.031**	**295**	**4:1**
owus 8	**4**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.004**	**44**	**4:1**
owus 9	**4**	**Somersville- Route 160**	**Permanent**	**Other Waters of the U.S.**	**0.004**	**80**	**4:1**
		Somersville- Route 160	**Total Permanent OWUS**		**0.066**		
ws 1	**1**	**Loveridge-Somersville**	**Permanent**	**Waters of the State**	**0.008**	**698**	**4:1**
		Loveridge-Somersville	**Total Permanent WS**		**0.008**		
wl/wus 1	**1**	**Loveridge-Somersville**	**Permanent**	**Wetland/Waters of the U.S.**	**0.048**	**98**	**4:1**
wl/wus 2	**2**	**Loveridge-Somersville**	**Permanent**	**Wetland/Waters of the U.S.**	**0.010**	**10**	**4:1**
wl/wus 3	**2**	**Loveridge-Somersville**	**Permanent**	**Wetland/Waters of the U.S.**	**0.021**	**66**	**4:1**
		Loveridge-Somersville	**Total Permanent WL/WUS**		**0.079**		

Appendix A: Impacts to Jurisdictional Features (continued)

Feature Name	Impact Sheet	Segment	Impact Type	Feature Type	Impact Acres	Linear Feet Impact	Mitigation Ratio
wl/wus 10	5	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.002	20	4:1
wl/wus 11	5	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.009	40	4:1
wl/wus 5a	4	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.008	65	4:1
wl/wus 5b	4	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.013	90	4:1
wl/wus 6	4	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.011	44	4:1
wl/wus 7	4	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.003	24	4:1
wl/wus 8	4	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.005	72	4:1
wl/wus 9a	5	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.002	20	4:1
wl/wus 9b	5	Somersville- Route 160	Permanent	Wetland/Waters of the U.S.	0.007	30	4:1
		Somersville- Route 160	Total Permanent WL/WUS		0.060		

	Temporary Impacts	Permanent Impacts	Total Impacts
Total ws	0.000	0.008	0.008
Total owus	0.009	0.089	0.098
Total wl/wus	0.000	0.139	0.139
Grand Total	0.009	0.236	0.245

Appendix B
Drainage Plans

NOTES:
FOR LEGEND, NOTES AND ABBREVIATIONS
SEE SHEET D-1.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4	37.9/41.3		

Caltrans Metric

REGISTERED CIVIL ENGINEER Joseph E. Peterson DATE

REGISTERED PROFESSIONAL ENGINEER
J.E. Peterson
No. 42777
Exp. 3-31-08
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

CONTRA COSTA
TRANSPORTATION AUTHORITY
3478 Buskirk Ave. Suite 100
Pleasant Hill, CA 94523

CALTRANS
111 Grand Avenue
Oakland, CA 94612

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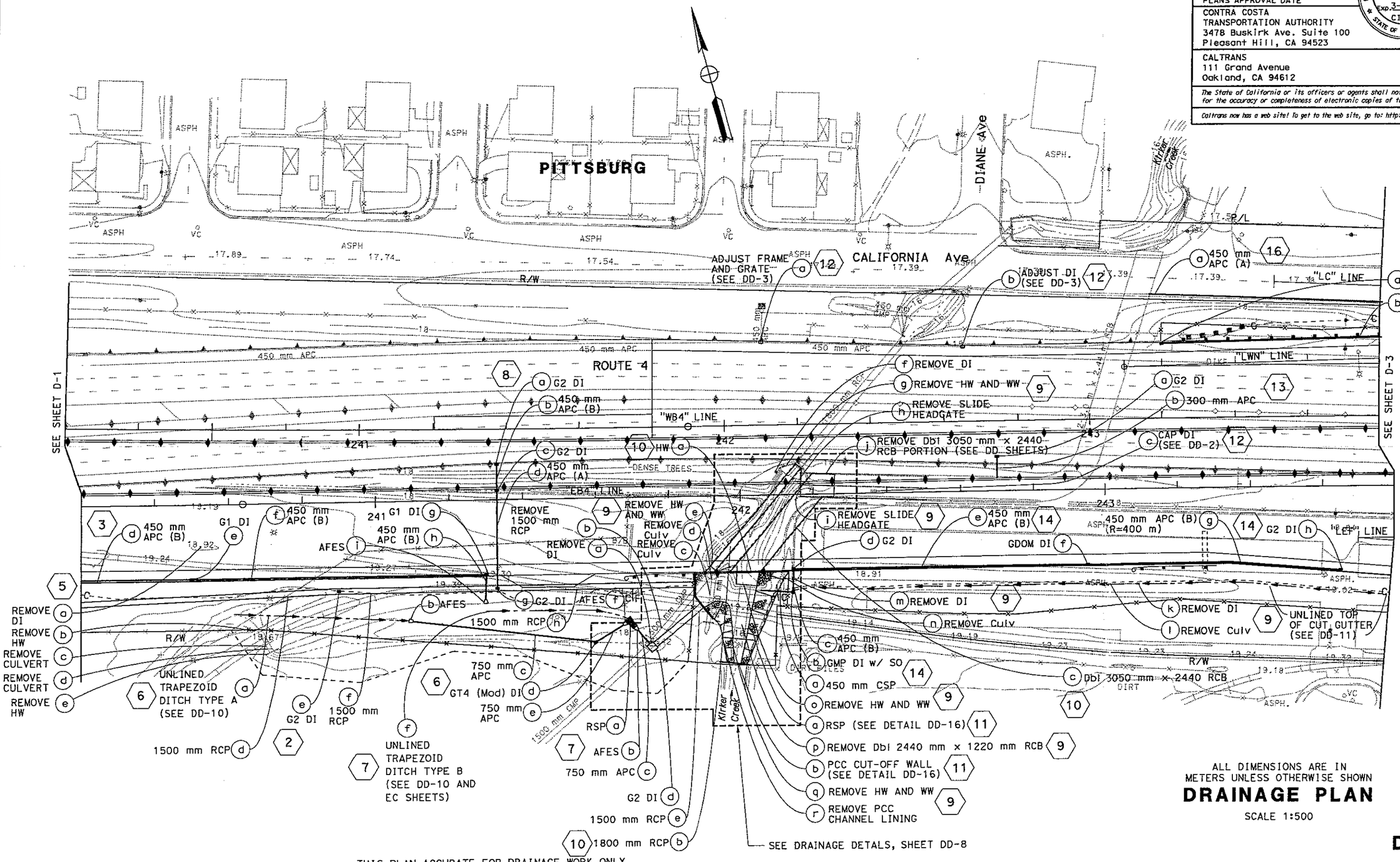
DATE	REVISED BY	DATE REVISED
11-07	KMR	11-07 SLP

CALCULATED/DESIGNED BY
CHECKED BY

DESIGN OVERSIGHT
JOSEPH PETERSON

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans



THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY.

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DRAINAGE PLAN

SCALE 1:500

D-2

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 10 20 30 40

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DGN FILE => $FILE$

CU 04275 EA 228591

LAST REVISION 00-00-00 DATE PLOTTED => $DATE$ TIME PLOTTED => $TIME$

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4	37.9/41.3	210	960

Caltrans Metric

Joseph E. Peterson
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
J.E. Peterson
No. 42777
Exp. 3-31-08
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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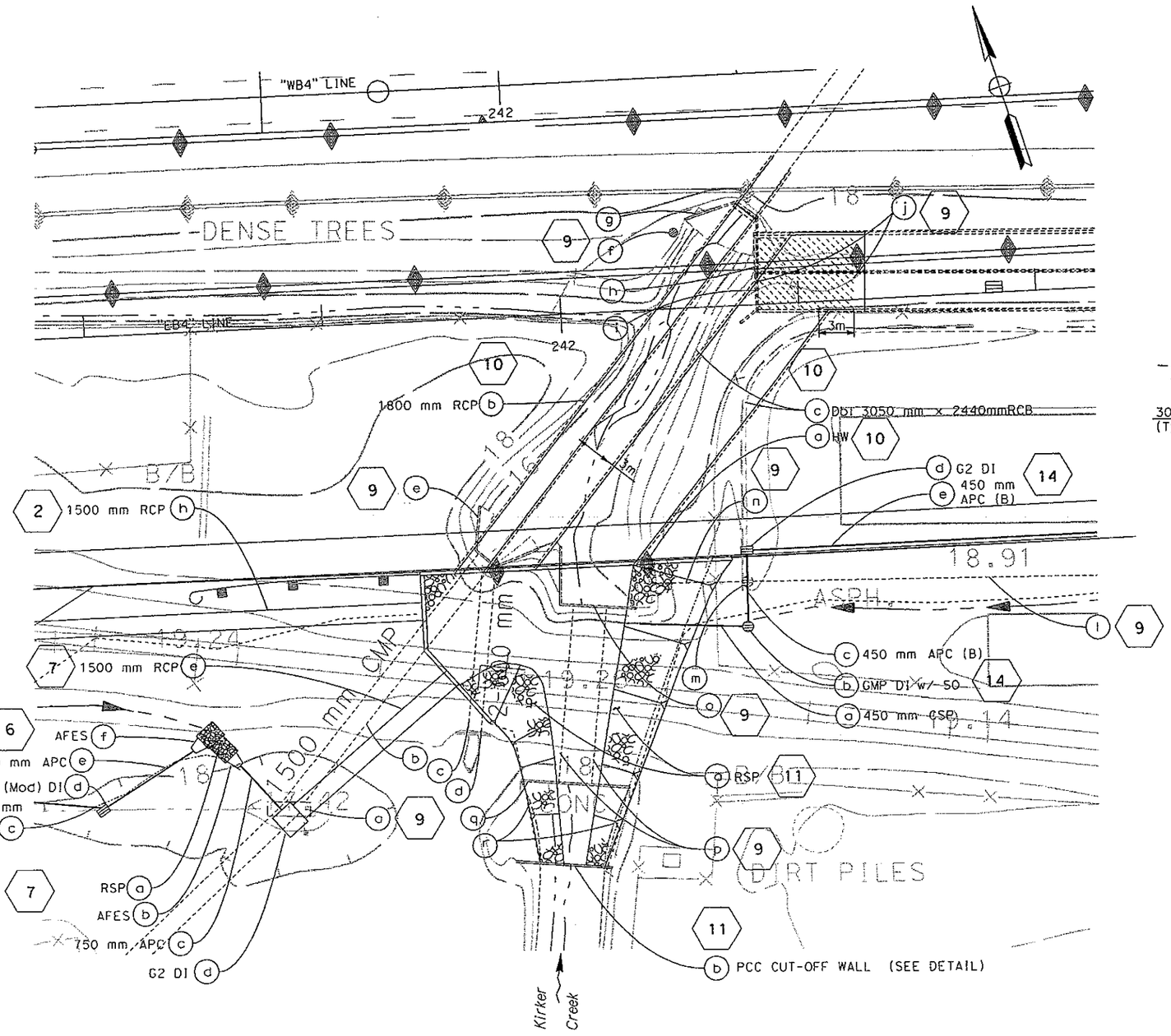
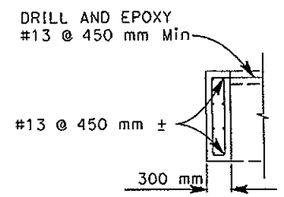


KIRKER CREEK MODIFICATION

SCALE: 1:200

NOTE: FOR ADDITIONAL INFORMATION SEE DD-21



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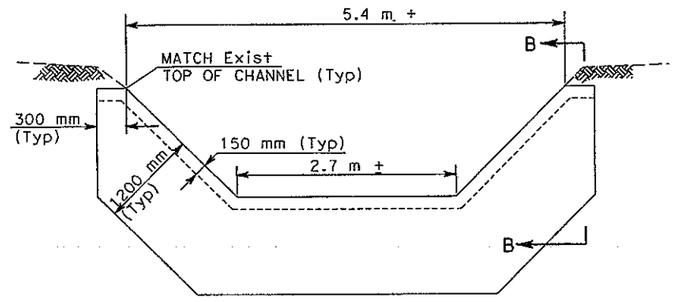

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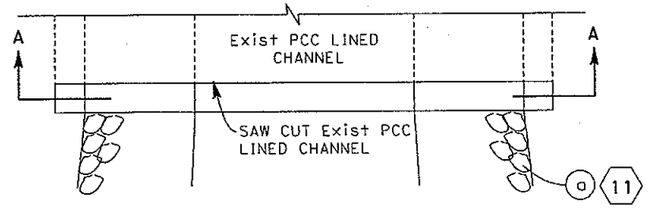

PCC CHANNEL CUT-OFF WALL

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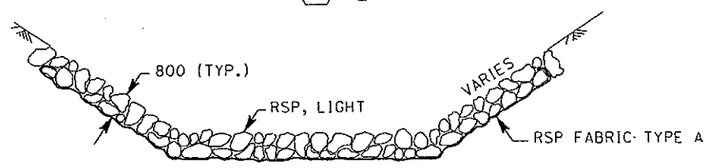

RSP DETAIL

NO SCALE

(11) (a)

DRAINAGE DETAILS

SCALE AS SHOWN

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MILLIMETERS UNLESS OTHERWISE SHOWN

DD-16

CALCULATED/ DESIGNED BY	CHECKED BY	DATE REVISED	REVISED BY
KMR	SLP	11-07	11-07

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JOSEPH PETERSON

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DATE PLOTTED => 08 NOV 107
TIME PLOTTED => 10:18:17

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 10 20 30 40

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DGN FILE => ...\p0433dd16.dgn

CU 04275

EA 228591

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4	37.9/41.3	215	960

REGISTERED CIVIL ENGINEER _____ DATE _____

REGISTERED PROFESSIONAL ENGINEER
CHAO GONG
No. C53837
Exp. 09/30/09
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE _____

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3478 BUSKIRK AVENUE, SUITE 100
PLEASANT HILL, CA 94523

URS
3440 VINCENT ROAD
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JOSEPH PETERSON

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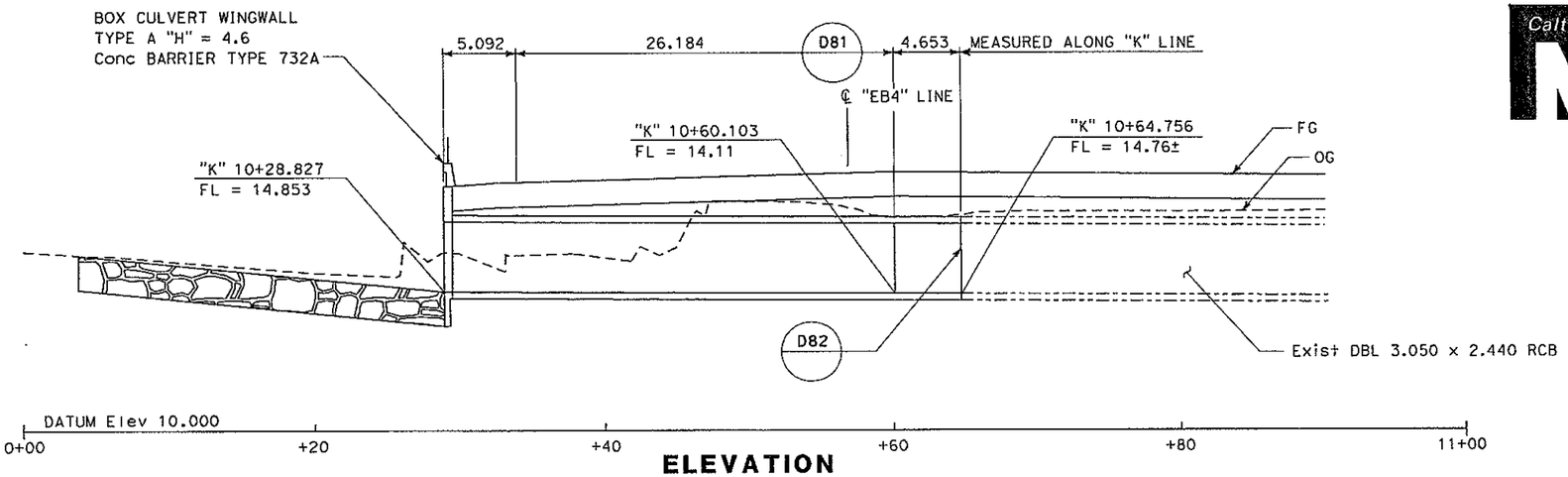
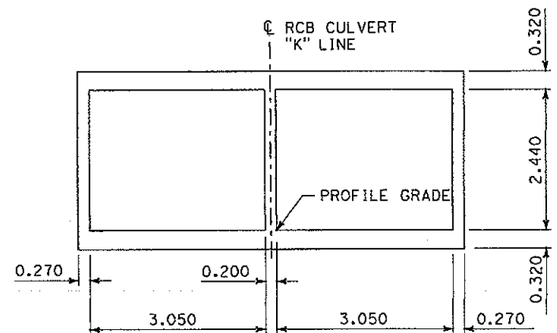


ELEVATION

Horiz 1:200
Vert 1:100



TYPICAL SECTION D81

SEE NOTE 5
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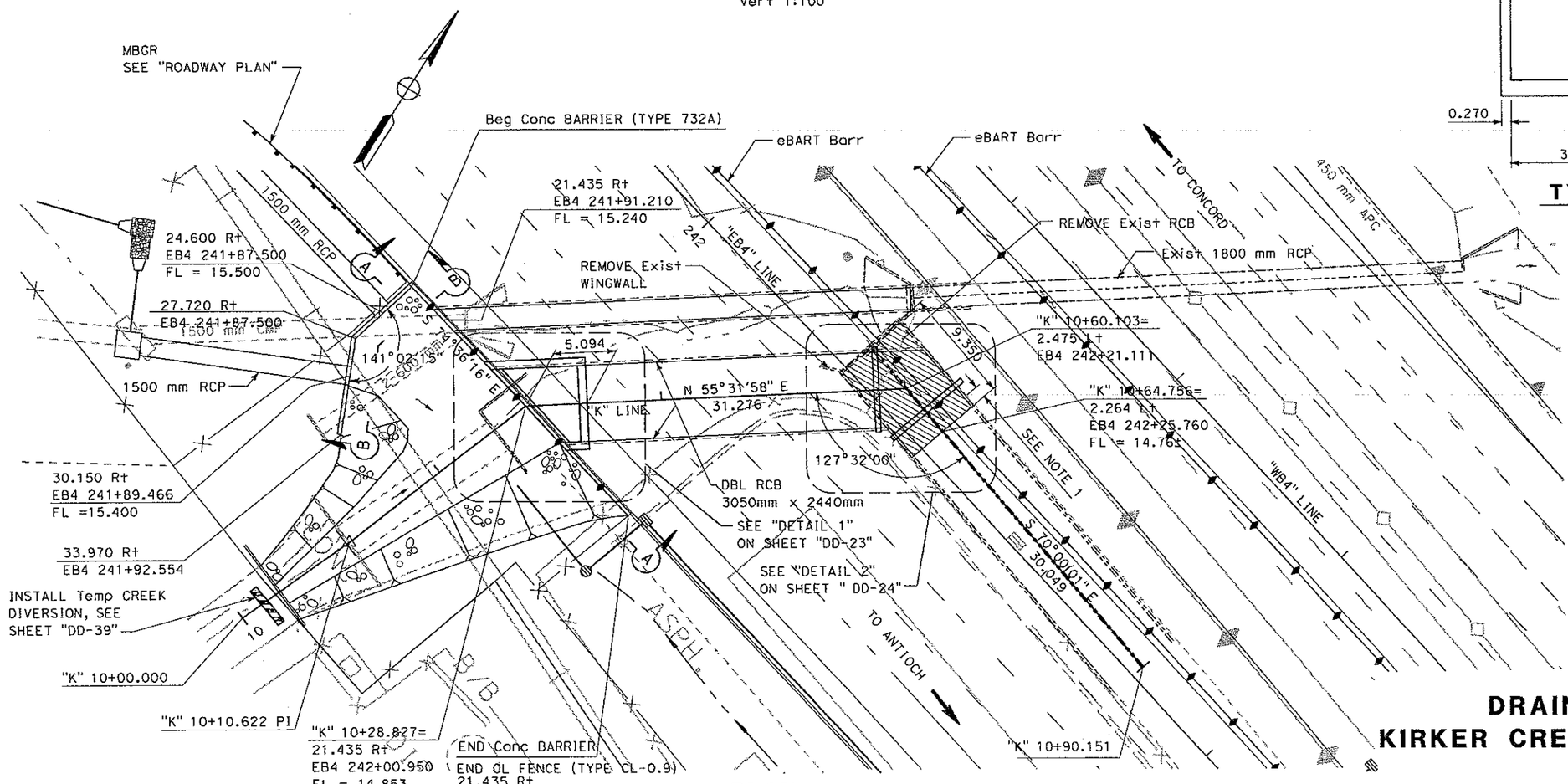

PLAN

1:200

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NOTES:

1. SEE (D82) FOR RCB EXTENSION DETAILS.
2. SEE "DD-22" SHEET FOR SECTION A-A AND SECTION B-B.
3. SEE "DD-23" SHEET FOR "DETAIL 1".
4. SEE "DD-24" SHEET FOR "DETAIL 2".
5. FOR REINFORCEMENT DETAILS SEE Std PLANS D81, BOX 3.050 x 2.440 WITH 6 m Max COVER

LEGEND:

REMOVE RCB (PARTIAL)

INDICATES EXISTING STRUCTURE

DRAINAGE DETAILS
KIRKER CREEK RCB EXTENSION

SCALE AS SHOWN

DD-21

LAST REVISION DATE PLOTTED => 11/9/2007
00-00-00 TIME PLOTTED => 12:38:37 PM

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 10 20 30 40

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CU 04275 EA 228591