

**Meeting of the Central Valley Flood Protection Board  
March 23, 2012**

**Staff Report  
Butte County Association of Governments  
Big Chico Creek Bridge at State Route 99 Re-vegetation Project, Butte County**

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**1.0 – ITEM**

Consider approval of Permit No. 18581-REV (Attachment B).

**2.0 – APPLICANT**

Butte County Association of Governments

**3.0 – LOCATION**

The project is located in along State Route 99, in Chico California.  
(Big Chico Creek, Butte County, see Attachment A).

**4.0 – DESCRIPTION**

In order for the applicant to include the revegetation plantings to mitigate for project impacts, the project description was modified, to the following:

To widen State Route 99 at two viaduct structures crossing Big Chico Creek and Bidwell Park, located in Chico, California. Within and immediately adjacent to the creek, six (6) new piers will be added to support the structure widening. The piers will be founded on spread footings below existing grade. Approximately 64 linear-feet of rock slope protection will be placed within the channel to protect the bridge foundation, approximately 250-sf of existing paved bike path will be realigned (removed and replaced) just downstream of the piers on each bank, and plant approximately 950 various species of riparian vegetation within the project area.

**5.0 – PROJECT SPECIFICS**

The applicant is proposing a revised permit, including revegetation, be issued to supersede Permit No. 18581 (issued on December 13, 2010). Due to funding restraints the original bridge project was approved without the inclusion of the revegetation for construction impacts because supporting documentation (planting plan, species count, and Mitigation and Monitoring Plan) were not yet available. It was determined that the

applicant would submit these additional documents and a hydraulic statement regarding the revegetation within one year of permit issuance. This condition was met and all supplemental information was provided to staff. For detailed changes from approved Permit No. 18581 to Draft Permit No. 18581-REV please refer to Section 5.3.

### **5.1 – Hydraulic Summary**

No additional hydraulic information was provided for application 18581-REV. The plantings proposed under this application do not modify the originally proposed hydraulics, as the plantings were already included and the revegetation is based on replacing the plantings that will be lost during construction activities (see Attachment C). Therefore the approved hydraulics under Permit No. 18581 is still applicable to this application (see Attachment E for the approved staff report and attachments).

### **5.2 – Geotechnical Summary**

The revegetation plantings included in this proposed revision to Permit No. 18581 will have no detrimental effects to the floodway, stream bank, or channel and all earthwork to be completed under Permit No. 18581 for the construction of the bridge will apply to the entire project under the proposed revised Permit No. 18581-REV. All work will still be completed in compliance with California Code of Regulations (CCR), Title 23.

### **5.3 – 18581-REV changes to Issued Permit No. 18581**

Within 6 months of the permit being issued staff received the required supplemental documentation to fulfill the intentions of the permit to complete the last component of the project, which consists of revegetation of the project construction area (See Exhibit C to Permit No. 18581-REV and Attachments C and D for supplemental material).

The Revegetation letter (Attachment C) acknowledges that the proposed plantings are intended to be of kind and quantity to replace what existed prior to construction and states that the planting plan (Exhibit C to Permit No. 18581-REV) shall be modified per staffs request to remove the wild grape from the planting list. The plan also states that all elderberry mitigation was handled offsite.

The hydraulic analysis approved under Permit No. 18581 was attached to show that the original hydraulics (found in Attachment E) was evaluated to include the impacts of revegetation. The analysis used a conservative Manning's roughness coefficient of 0.1 for the entire overbank area. Therefore staff has determined that the proposed revegetation plantings are accurately evaluated and the negligible hydraulic impacts are still applicable to include the revegetation.

Based on the information provided staff is recommending to modify the permit conditions as follows:

*Modify Special Condition FOURTEEN: There shall be no plantings within the project area that are not included at the location and in the quantity provided in the Planting Plans, which is attached to this permit as Exhibit C and incorporated by reference, or as otherwise restricted by conditions contained herein. The revegetation plantings do not authorize the planting of wild grape within the project area.*

*Add Special Condition FORTY-TWO: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers dated February 22, 2012 which supersedes the letter attached as Exhibit A, and is attached to this permit as Exhibit B and is incorporated by reference.*

*Add Special Condition FORTY-THREE: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board, Department of Water Resources, or local maintaining agency. If the permittee does not remove such vegetation or trees upon request the Central Valley Flood Protection Board reserves the right to remove such at the permittee's expense.*

*Add Special Condition FORTY-FOUR: The landscaping, appurtenances, and maintenance practices shall conform to standards contained in Section 131 of the Central Valley Flood Protection Board's Regulations.*

*Add Special Condition FORTY-FIVE: This permit shall run with the land and all conditions are binding on permittee's successors and assigns.*

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with this project from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers comment letter was received on February 22, 2012 and supersedes the letter received on November 10, 2010. The new letter will be incorporated into the permit as Exhibit B to Permit No. 18581-REV and the superseded letter will remain incorporated into Permit No. 18581-REV as Exhibit A.

## **7.0 – PROPOSED CEQA FINDINGS**

Board staff has prepared the following CEQA Findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Draft Environmental Impact Report (DEIR, September 2003), Final Environmental Impact Report (FEIR, December 2003), Addendum to an Environmental Impact Report (June 2009) and Butte County Association of Governments Resolution 2003/04-10, January 22, 2004 (which includes a Statement of Facts, Findings, and Mitigation Measures, Statement of Overriding Considerations, and Mitigation Monitoring Program) for the State Route 99 Auxiliary Lane Project Between State Route 32 and East 1<sup>st</sup> Avenue (SCH No. 2002112002) prepared by the lead agency, the Butte County Association of Governments. These documents including project design and County resolutions may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2012/03-23-2012.cfm> under a link for this agenda item.

### **7.1 – Impacts that can be Mitigated**

The following are the significant impacts and the mitigation measures to reduce them to less than significant:

- **Aesthetics and Visual Resources:** The project proponent will install temporary visual barriers between construction zones and residences, implement project landscaping to replace trees that are removed, and construct sound walls with low-sheen and non-reflective surface material.
- **Land Use and Socioeconomics:** The project proponent will provide an exit driveway and 10 additional parking spaces for displaced businesses, compensate displaced land uses in conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, and implement a transportation management plan.
- **Earth Resources:** Implement recommendations related to hazardous materials contained in the project initial site assessment.
- **Hydrology and Water Quality:** Implement construction-related and permanent post-construction Best Management Practices. Additionally, Best Management Practices (BMPs), as described in the Storm Water Pollution Prevention Plan (SWPPP), will also be implemented, as appropriate, to retain, treat, and dispose of groundwater.
- **Biological Resources:** Prior to construction, conduct a biological resources education program for construction crews and enforce construction restrictions. Conduct preconstruction surveys for northwestern pond turtle and nesting Swainson's hawk. The project proponent will retain a biologist to monitor construction activities on and around Big Chico Creek, as well as inspecting buffer area fences around blue elderberry shrubs and other sensitive biological resources. During construction,

water will be used to control dust and limit effects to the blue elderberry shrubs. Compensation for direct and indirect effects on Valley elderberry longhorn beetle habitat will be in compliance with USFWS-approved guidelines and conditions of the biological opinion. A riparian restoration plan was developed and will be implemented to restore riparian habitat along Big Chico Creek as part of this permit.

- **Air Quality:** Fugitive dust and emissions during construction will be controlled with best available measures so that the amount of such dust and emissions are reduced, as required by Butte County Air Quality Management District.
- **Noise:** The project proponent will employ noise-reduction design features in the design of the proposed project. Implement equipment noise reduction measures in compliance with the City of Chico's noise ordinance.
- **Cultural Resources:** Work shall be stopped in affected areas if cultural resources are discovered during project construction and appropriate measures will be implemented. The lead agency will consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist and/or paleontologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards and CEQA Guidelines, Section 15064.5.
- **Transportation:** The project proponent will relocate the Class III bicycle route to Sherman Avenue/Mildred Avenue.

Based on its independent review of the DEIR, FEIR, Addendum, and the Butte County Association of Governments Resolution 2003/04-10, the Board finds that for each of the significant impacts described above, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR. Moreover, such changes or alterations are within the responsibility and jurisdiction of another public agency, the Butte County Association of Governments, and such changes have been adopted by that agency.

## **7.2 – Significant Unavoidable Adverse Impacts of the Project**

- The short-term impacts of the removal of native trees measuring 12 inches diameter at breast height or greater from the project area.

The Board further finds that none of the significant unavoidable adverse impacts of the project are within the Board's jurisdiction. The Board also finds that the specific economic, legal, social, technological or other benefits of the project, as listed above, outweigh the unavoidable adverse environmental effects, which are thus considered to be "acceptable."

### **7.3 – Statement of Overriding Considerations**

The Butte County Association of Governments adopted Resolution 2003/04-10 including the Statement of Overriding Considerations. The Board concurs with this Statement.

The Board has independently considered the significant and unavoidable environmental impacts of the proposed project. The Board has also considered the benefits of the project, including improving the safety and traffic operations of southbound and northbound SR 99 traffic within the project limits, thereby reducing the currently high traffic accident rate along this segment. The proposed project will reduce traffic delays within the project limits by improving access across Bidwell Park, by improving the SR 32 and East 1<sup>st</sup> Avenue ramp merge areas, and by reducing congestion at the SR 99/East 1<sup>st</sup> Avenue intersections. These improvements promote safe and efficient vehicle circulation, an important goal of the City of Chico General Plan. The Board finds that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects of the project, and the adverse environmental effects are considered acceptable when these benefits of the project are considered.

The documents and other materials which constitute the record of the Central Valley Flood Board's proceedings in this matter are in the custody of Jay Punia, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

### **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

This project has no negative impacts on the State Plan of Flood Control. Both hydraulic and structural impacts from the project construction are negligible.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

There are no other foreseeable projected future events that would impact this project.

## **9.0 – STAFF RECOMMENDATION**

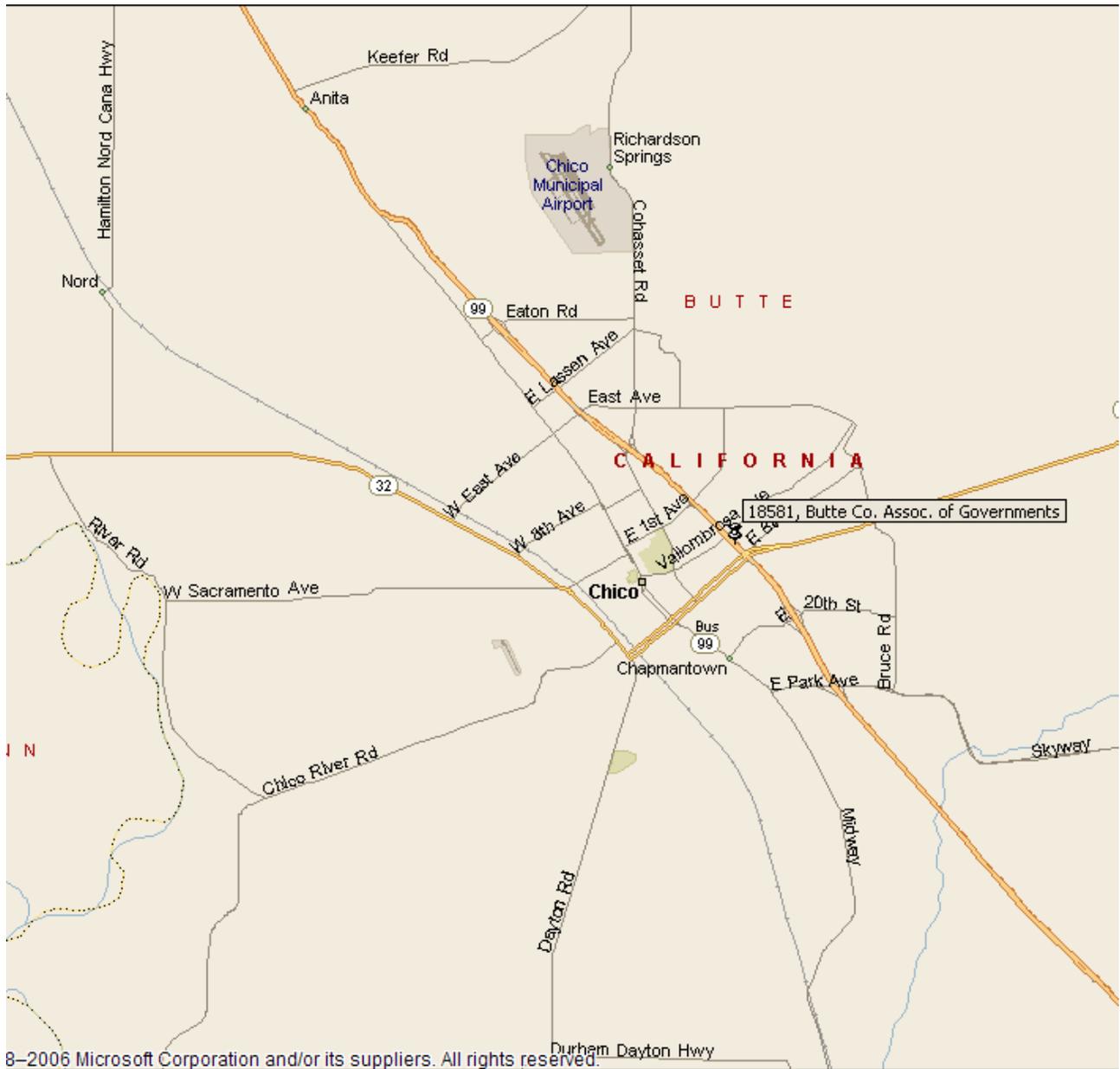
Staff recommends that the Board adopt the CEQA findings, approve Permit No. 18581-REV, and direct the Executive Officer to take necessary actions to execute the permit and to file a Notice of Determination with the State Clearinghouse.

## **10.0 – LIST OF ATTACHMENTS**

- A. Location Maps and Photos
- B. Draft Permit No. 18581-REV
  - Exhibit A: Superseded USACE Comment Letter, dated November 10, 2010
  - Exhibit B: USACE Comment Letter, dated February 22, 2012
  - Exhibit C: Approved Planting Plans
- C. Revegetation letter, date November 15, 2011
- D. Mitigation and Monitoring Plan
- E. Approved staff report and attachments for Issued Permit No. 18581 (for reference)

Design Review:	Sergio Guillen, Atkins Consultant Nancy C. Moricz, P.E.
Environmental Review:	James Herota, E.S. Andrea Mauro, E.S.
Document Review:	David R. Williams, P.E. – Senior Engineer, WR Eric R. Butler, P.E. – Supervising Engineer, WR

### Vicinity Map





**Photos from Bidwell Park (Big Chico Creek floodplain) at State Route 99  
March 3, 2008**



Facing south. Northbound SR 99 viaduct structure (above) southbound viaduct structure (right). Pedestrian Bridge across Big Chico Creek in background (right)



Facing south-southeast. Southbound viaduct structure (above). Pier 6 (left) Pier 5 and 4 (center) span Big Chico Creek



Facing east (upstream) from southbound viaduct structure



Typical vegetation in Bidwell Park (just upstream of SR 99)

**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18581-REV BD**

**This Permit is issued to:**

Butte County Association of Governments  
2580 Sierra Sunrise Terrace, Suite 100  
Chico, California 95928

To widen State Route 99 at two viaduct structures crossing Big Chico Creek and Bidwell Park, located in Chico, California. Within and immediately adjacent to the creek, 6 new piers will be added to support the structure widening. The piers will be founded on spread footings below existing grade. Approximately 64 linear-feet of rock slope protection will be placed within the channel to protect the bridge foundation, approximately 250-sf of existing paved bike path will be realigned (removed and replaced) just downstream of the piers on each bank, and plant approximately 950 various species of riparian vegetation within the project area. The planting phase for the State Route 99 Auxiliary Lane is located in Chico along Big Chico Creek within Bidwell Park, underneath the Bidwell Viaduct (Section 26, T22N, R1E, MDB&M, Sutter Maintenance Yard, Big Chico Creek, Butte County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any

other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18581-REV BD**

**THIRTEEN:** All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

**FOURTEEN:** There shall be no plantings within the project area that are not included at the location and in the quantity provided in the Planting Plans, which is attached to this permit as Exhibit C and incorporated by reference, or as otherwise restricted by conditions contained herein. The revegetation plantings do not authorize the planting of wild grape within the project area.

**FIFTEEN:** The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**SIXTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards,

commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion

SEVENTEEN: The Central Valley Flood Protection Board and Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

NINETEEN: Prior to start of any demolition and/or construction activities within the Big Chico Creek Project Channel, the applicant shall provide the Central Valley Flood Protection Board with two sets of layout plans for any and all temporary, in channel cofferdam(s), gravel work pad(s), work testle(s), scaffolding, piles and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15.

TWENTY: Debris that may accumulate on the permitted encroachment(s) and/or any temporary falswork within the project channel shall be cleared off and disposed of outside the floodway after each period of high water.

TWENTY-ONE: The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

TWENTY-TWO: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-THREE: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FOUR: Fill material shall be placed only within the area indicated on the approved plans.

TWENTY-FIVE: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

TWENTY-SIX: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the Big Chico Creek Project Channel.

TWENTY-SEVEN: The soffit of the bridge shall provide a minimum freeboard of 3-feet above the design flood elevation.

TWENTY-EIGHT: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

TWENTY-NINE: Revetment shall be quarry stone and shall meet the following grading:

## Quarry Stone

Stone Size	Percent Passing
15 inches;	100
8 inches;	80-95
6 inches;	45-80
4 inches;	15-45
2 inches;	0-15

THIRTY: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

THIRTY-ONE: The recommended minimum thickness of revetment, measured perpendicular to the bank or levee slope, is 18 inches below the usual water surface and 12 inches above the usual water surface.

THIRTY-TWO: All debris generated by this project shall be disposed of outside the Big Chico Creek Project Channel.

THIRTY-THREE: The work area shall be restored to the condition that existed prior to start of work.

THIRTY-FOUR: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section upon completion of the project.

THIRTY-FIVE: If the project result(s) in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

THIRTY-SIX: In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

THIRTY-SEVEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

THIRTY-EIGHT: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

THIRTY-NINE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

FORTY: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

FORTY-ONE: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers dated November 10, 2010, which is attached to this permit as Exhibit A and is incorporated by reference.

FORTY-TWO: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers dated February 22, 2012, which supersedes the letter attached as Exhibit A, and is attached to this permit as Exhibit B and is incorporated by reference.

FORTY-THREE: Any vegetative material, living or dead, that interferes with the successful execution, functioning, maintenance, or operation of the adopted plan of flood control must be removed by the permittee at permittee's expense upon request by the Central Valley Flood Protection Board, Department of Water Resources, or local maintaining agency. If the permittee does not remove such vegetation or trees upon request, the Central Valley Flood Protection Board reserves the right to remove such at the permittee's expense.

FORTY-FOUR: The landscaping, appurtenances, and maintenance practices shall conform to standards contained in Section 131 of the Central Valley Flood Protection Board's Regulations.

FORTY-FIVE: This permit shall run with the land and all conditions are binding on permittee's successors and assigns.



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. Army Engineer District, Sacramento  
Corps of Engineers  
1325 J Street  
Sacramento, California 95814-2922

Flood Protection and Navigation Section (18581)

NOV 10 2010

Mr. Jay Punia, Executive Officer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the Butte County Association of Governments (application number 18581). This project includes widening State Route 99 at two viaduct structures crossing Big Chico Creek and Bidwell Park. The project also includes installing 6 new piers within and immediately adjacent to the creek, placing rock protection around the piers, and realigning the existing paved bike path on Big Chico Creek. This project is located in Chico, at 39.7386°N 121.8219°W NAD83, in Butte County, California.

The District Engineer has no objection to approval of this application by the Board from a flood control standpoint, subject to the following conditions:

- a. That no work shall be performed and no stockpiles of materials or equipment shall remain in the floodway during the flood season of November 1 to April 15, unless otherwise approved in writing from your Board.
- b. That in the event trees and brush are cleared, they shall be properly disposed of outside the limits of the project right-of-way.
- c. That backfill material for any excavations shall be placed in 4 to 6 inch layers and compacted to at least the same density of the adjacent undisturbed embankment.
- d. That the proposed bridge widening shall allow for at least the same channel flow capacity, vertical clearance, and waterway area as existed prior to new construction.
- e. That the soffit of the widened bridge shall be no lower than the existing bridge.
- f. That the proposed work shall not interfere with the integrity or hydraulic capacity of the flood damage reduction project; easement access; or maintenance, inspection, and flood fighting procedures.

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g. That in the event erosion occurs at the site, adequate revetment shall be placed to repair the eroded areas.

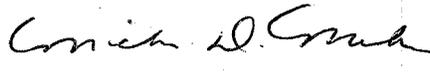
h. That the proposed piers for the bridges shall be aligned parallel to the direction of flow.

i. That drainage for the proposed bridge widening shall not direct water toward the banks without ensuring adequate erosion protection.

A Section 10 and/or Section 404 permit (SPK-2003-00803) has been issued for this work.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821.

Sincerely,



Michael D. Mahoney, P.E.  
Chief, Construction-Operations Division



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. Army Engineer District, Sacramento  
Corps of Engineers  
1325 J Street  
Sacramento, California 95814-2922

Flood Protection and Navigation Section (18581)

**FEB 22 2012**

Mr. Jay Punia, Executive Officer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

Dear Mr. Punia:

This letter supersedes our letter dated November 10, 2010, for this application to now include plants in the project description. We have reviewed a permit application by the Butte County Association of Governments (application number 18581). This project includes widening State Route 99 at two viaduct structures crossing Big Chico Creek and Bidwell Park. The project also includes installing 6 new piers within and immediately adjacent to the creek, placing rock protection around the piers, realigning the existing paved bike path on Big Chico Creek, and planting 950 plants within the project area. This project is located in Chico, at 39.7386°N 121.8219°W NAD83, in Butte County, California.

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- a. That no work shall be performed and no stockpiles of materials or equipment shall remain in the floodway during the flood season of November 1 to April 15, unless otherwise approved in writing from your Board.
- b. That in the event trees and brush are cleared, they shall be properly disposed of outside the limits of the project right-of-way.
- c. That backfill material for any excavations shall be placed in 4 to 6 inch layers and compacted to at least the same density of the adjacent undisturbed embankment.
- d. That the proposed bridge widening shall allow for at least the same channel flow capacity, vertical clearance, and waterway area as existed prior to new construction.
- e. That the soffit of the widened bridge shall be no lower than the existing bridge.
- f. That the proposed work shall not interfere with the integrity or hydraulic capacity of the flood damage reduction project; easement access; or maintenance, inspection, and flood fighting procedures.

-2-

g. That in the event erosion occurs at the site, adequate revetment shall be placed to repair the eroded areas.

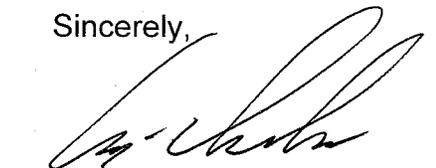
h. That the proposed piers for the bridges shall be aligned parallel to the direction of flow.

i. That drainage for the proposed bridge widening shall not direct water toward the banks without ensuring adequate erosion protection.

A Section 10 and/or Section 404 permit (SPK-2003-00803) has been issued for this work.

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Sincerely,

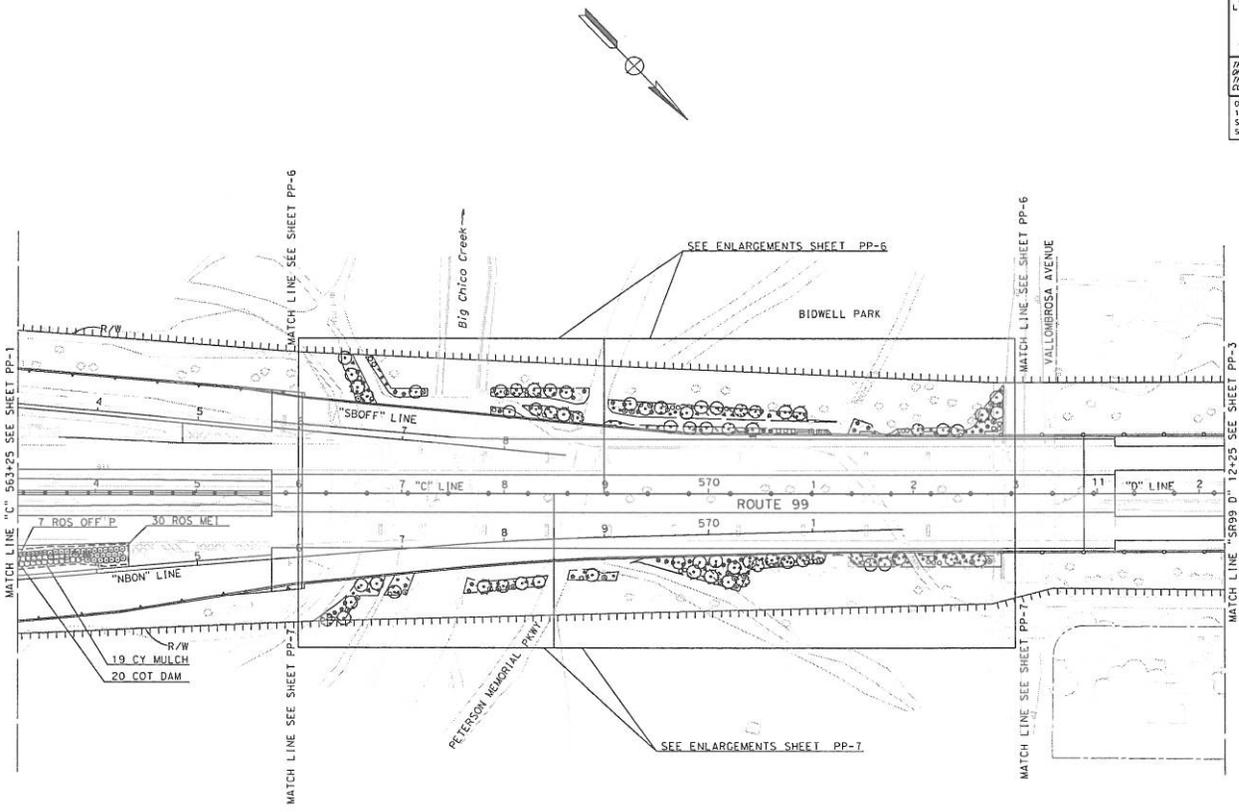


for Rick L. Poeppelman, P.E.  
Chief, Engineering Division

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
<b>P. Gibbons</b>	CAROLYN DAVIS	D. TILLSON T. HIRAOKA	
		CHECKED BY	DATE REVISED

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	R32.4/R33.3		
LICENSED LANDSCAPE ARCHITECT DATE					
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA ON ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
ORSEE DESIGN ASSOCIATES 10365 OLD PLACERVILLE ROAD SUITE 240 SACRAMENTO, CA 95827			BUTTE COUNTY ASSOCIATION OF GOVERNMENTS 2560 SIERRA SARISSE TERRACE, SUITE 100 CHICO, CA 95928		

1" = 50'

PP-2

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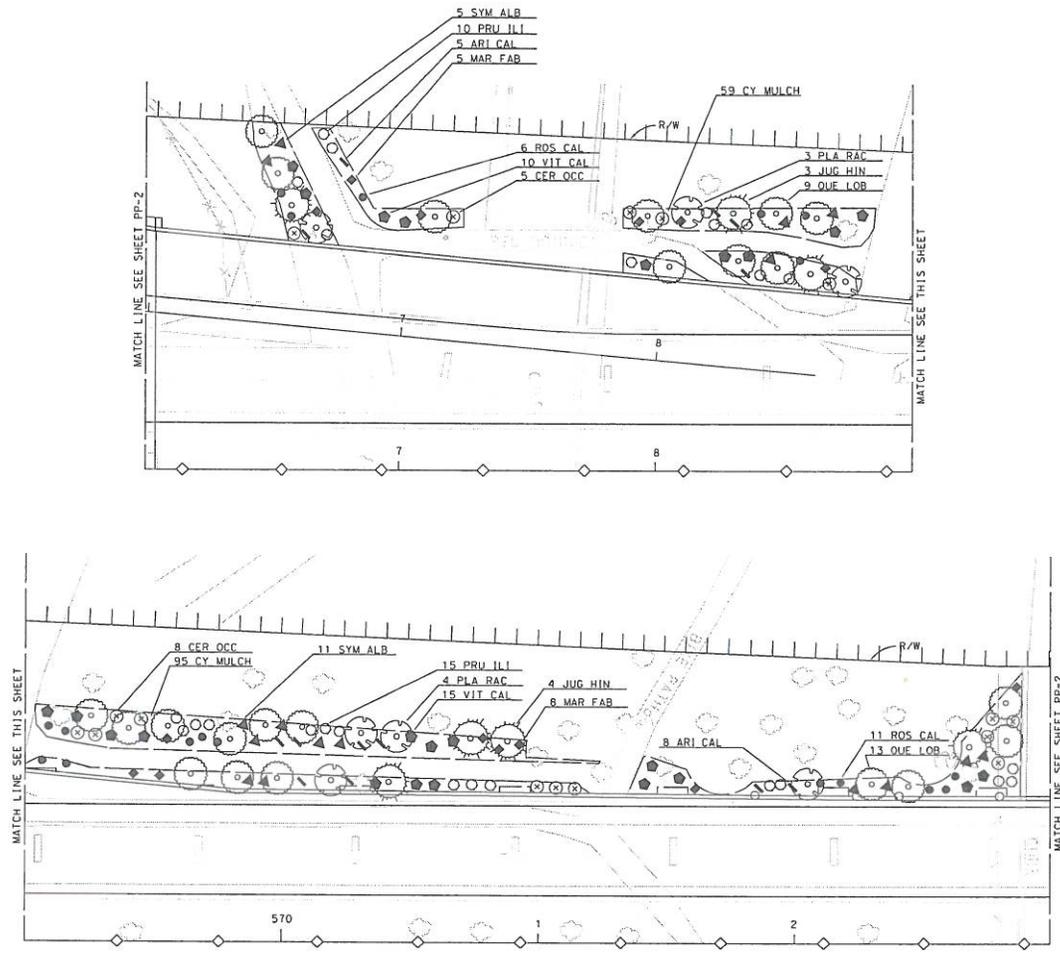
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Figure 2-1a Approved Planting Plan

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		D. TILSON	
		T. HIRAGA	



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	R32.4/R33.3		
LICENSED LANDSCAPE ARCHITECT DATE					
PLANS APPROVAL DATE					
ORSEE DESIGN ASSOCIATES 10365 OLD PLACERVILLE ROAD SUITE 240 SACRAMENTO, CA 95827					
BUTTE COUNTY ASSOCIATION OF GOVERNMENTS 2500 SEVEN SANGRE TERACE, SUITE 100 CHICO, CA 95928					

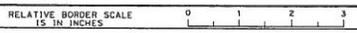


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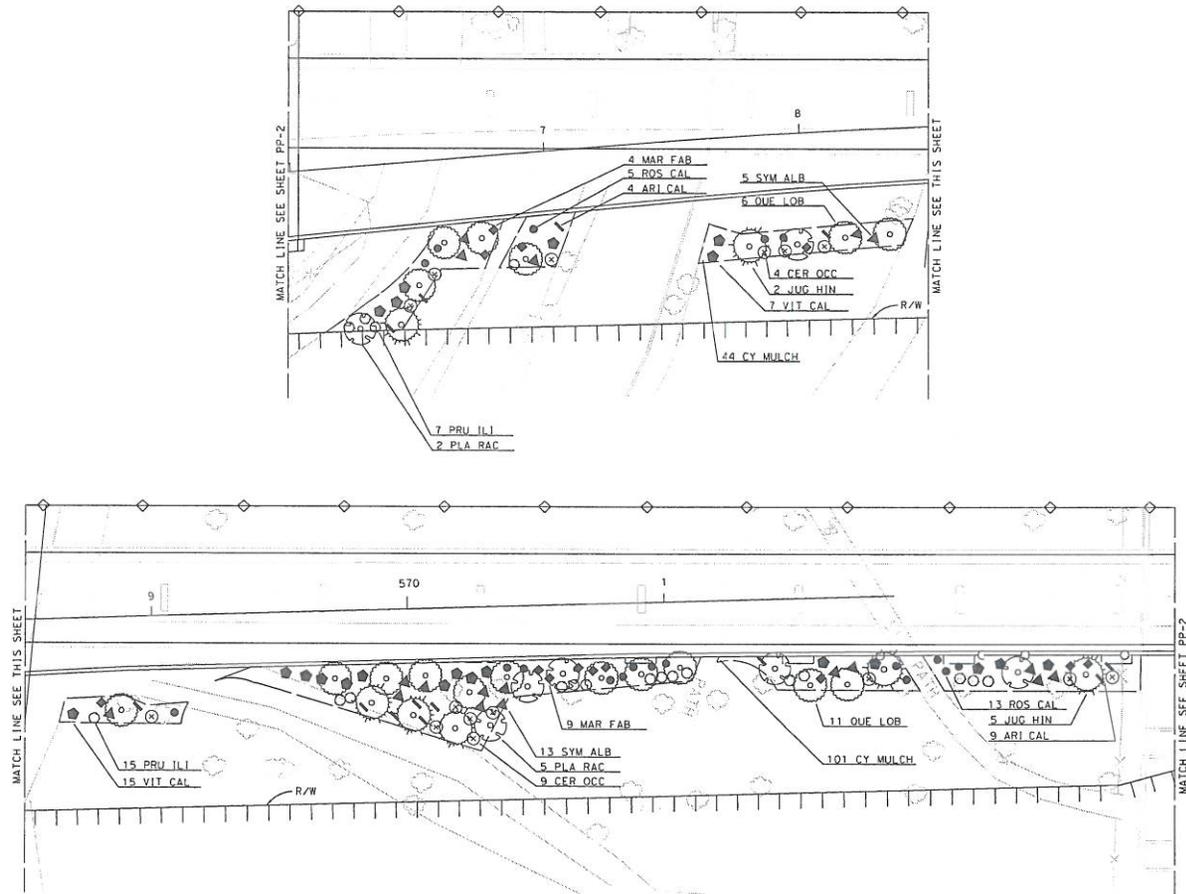
CU 03-199 EA 3A0421

Figure 2-1b  
Planting Plan

ATTACHMENT B: Exhibit C - Approved Planting Plans

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<b>Caltrans</b>	CAROLYN DAVIS			D. TILLSON T. HIRAKA	



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	R32.4/R33.3		

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PLANS APPROVAL DATE: \_\_\_\_\_

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ORISE DESIGN ASSOCIATES  
10365 OLD PLACERVILLE ROAD  
SUITE 240  
SACRAMENTO, CA 95827

BUTTE COUNTY ASSOCIATION OF GOVERNMENTS  
230 SEBASTIAN TERRACE, SUITE 100  
DUNSMITH, CA 95928

1" = 20'

PP-7

DATE PLOTTED => 2/16/2009  
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BORDER LAST REVISED 4/11/2008

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CU 03-199

EA 3A0421

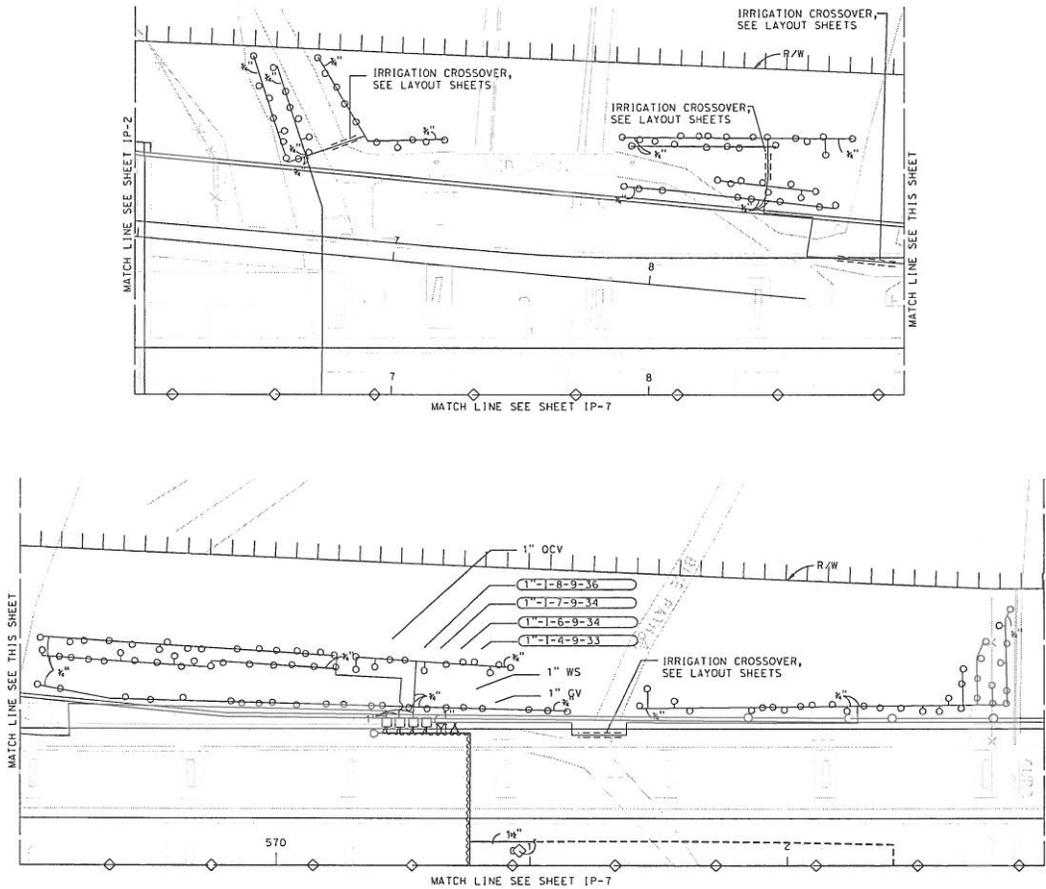
Figure 2-1c  
Planting Plan

ATTACHMENT B: Exhibit C - Approved Planting Plans

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CHECKED BY	DESIGNED BY	REVISIONS
<b>H. Gibbons</b>	CAROLYN DAVIS		D. TILLSON T. HIRSHKA	
				REVISED BY DATE REVISED

BORDER LAST REVISED 4/11/2008



RELATIVE BORDER SCALE 15 1/4 INCHES

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03	But	99	R32.4/R33.3		
LICENSED LANDSCAPE ARCHITECT DATE					
PLANS APPROVAL DATE					
ORSEE DESIGN ASSOCIATES 10365 OLD PLACERVILLE ROAD SUITE 240 SACRAMENTO, CA 95827					
DATE COUNTY ASSOCIATION OF SURVEYORS 2500 SIERRA SUMMIT TERRACE, SUITE 100 DUNSMITH, CA 95928					



1" = 20' IP-6

DATE PLOTTED: 3/17/10 11:46:50 AM  
TIME PLOTTED: 00:00

Figure 2-2a  
Irrigation Plan

ATTACHMENT B: Exhibit C - Approved Planting Plans



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	R32.4/R33.3	213	473

2/3/10  
 LICENSED LANDSCAPE ARCHITECT DATE  
 6-7-10  
 PLANS APPROVAL DATE  
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ORSEE DESIGN ASSOCIATES  
 10365 OLD PLACERVILLE ROAD  
 SUITE 240  
 SACRAMENTO, CA 95827

BUTTE COUNTY ASSOCIATION OF GOVERNMENTS  
 2580 SIERRA SUNRISE TERRACE, SUITE 100  
 CHICO, CA 95928

**ABBREVIATIONS**

AMEND — amendment	Max — maximum
B & B — baled and burlapped	Min — minimum
Dia — diameter	NCN — no common name
EA — each	No. — number
LB — pound	Pkt — packet
Oz — ounce	PLT ESTB — plant establishment
Ft — foot/feet	Pvmt — pavement
SQFT — square feet	R/W — right of way
SQYD — square yard	SF — state furnished
CF — cubic feet	TRVD — traveled

**APPLICABLE WHEN CIRCLED:**

- Quantities shown are "per plant" unless shown as SQFT or SQYD application rates.
- Sufficient to receive root ball.
- Does not apply to mulch areas.
- As shown on plans.
- Unless otherwise shown on plans.
- See detail.
- See Special Provisions.

**PLANT LIST AND PLANTING SPECIFICATIONS**

PLANT GROUP	PLANT No.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE (INCH)		BASIN TYPE	IRON SULFATE ①	SOIL AMEND ①	COMMERCIAL FERTILIZER ① ⑦		BASIN MULCH	STAKING	PLANTING LIMITS							REMARKS	
							Dia	DEPTH				PLANTING	PLT ESTB			MINIMUM DISTANCE (Ft) FROM				ON CENTER (Ft)				
																TRVD WAY	PVMT	FENCE	WALL		PAVED DITCH	EARTH DITCH		
A	1	⊥	ARISTOLOCHIA CALIFORNICA	CALIFORNIA PIPE VINE	No. 1	26	12	9	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	-	4	15	④	REQUIRES FOLIAGE AND ROOT PROTECTORS	
	2	■	MARAH FABACEUS	WILD CUCUMBER	No. 1	26	12	9	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	-	4	15	④	REQUIRES FOLIAGE AND ROOT PROTECTORS	
	3	●	ROSA CALIFORNICA	WILD ROSE	No. 1	35	12	9	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	-	10	12	④	REQUIRES FOLIAGE AND ROOT PROTECTORS	
	4	▲	SYMPHORICARPOS ALBA	SNOWBERRY	No. 1	34	12	9	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	-	10	12	④	REQUIRES FOLIAGE AND ROOT PROTECTORS	
	5	◆	VITIS CALIFORNICA	WILD GRAPE	No. 1	45	12	9	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	-	10	12	④	REQUIRES FOLIAGE AND ROOT PROTECTORS	
B	6	○	COTONEASTER DAMMERI 'LOWFAST'	BEARBERRY COTONEASTER	No. 5	66	18	12	II	-	0.4 CF	3 Pkt	1 Oz	.5 CF	-	-	8	3	8	8	10	④		
	7	◎	MAHONIA AQUIFOLIUM	OREGON GRAPE	No. 5	124	18	12	II	-	0.4 CF	3 Pkt	1 Oz	.5 CF	-	-	6	3	6	6	8	-		
	8	▨	RHAPHIOLEPIS INDICA 'JACK EVANS'	INDIAN HAWTHORN	No. 5	50	18	12	II	-	0.4 CF	3 Pkt	1 Oz	.5 CF	-	-	8	10	0	8	10	4		
	9	⬡	ROSA MEIDLAND 'FLOWER CARPET'	CARPET ROSE (MIXED COLORS)	No. 5	190	18	12	II	-	0.4 CF	3 Pkt	1 Oz	.5 CF	-	-	8	8	8	8	10	-		
	10	⊙	ROSMARINUS OFFICINALIS PROSTRATUS	CREeping ROSEMARY	No. 5	216	18	12	II	-	0.4 CF	3 Pkt	1 Oz	.5 CF	-	-	6	6	6	6	8	-		
M	11	⊕	CERCIS OCCIDENTALIS	WESTERN REDBUD	LINER ⑦	28	8	14	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	15	15	15	15	④	⑦ REQUIRES FOLIAGE AND ROOT PROTECTORS
	12	⊙	JUGLANS HINDSII	CALIFORNIA BLACK WALNUT	LINER ⑦	14	8	14	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	15	15	15	17	④	⑦ REQUIRES FOLIAGE AND ROOT PROTECTORS
	13	⊙	PLATANUS RACEMOSA	WESTERN SYCAMORE	LINER ⑦	14	8	14	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	20	20	10	12	④	⑦ REQUIRES FOLIAGE AND ROOT PROTECTORS
	14	○	PRUNUS ILICIFOLIA	HOLLYLEAF CHERRY	LINER ⑦	44	8	14	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	15	15	15	17	④	⑦ REQUIRES FOLIAGE AND ROOT PROTECTORS
	15	⊙	QUERCUS LOBATA	VALLEY OAK	LINER ⑦	39	8	14	II	-	0.2 CF	1 Pkt	1 Oz	.25 CF	-	-	-	-	20	20	20	22	④	⑦ REQUIRES FOLIAGE AND ROOT PROTECTORS

**LEGEND:**

 EXISTING TREE TO REMAIN AND PROTECT, SYMBOL ONLY REFLECTS TREE LOCATIONS AND DOES NOT REFLECT ACTUAL TREE SIZE OR DRIPLINE.

 MULCH

**PLANT LIST**  
NO SCALE  
**PL-1**

ATTACHMENT B: Exhibit C - Approved Planting Plans

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 CONSULTANT FUNCTIONAL SUPERVISOR CAROLYN DAVIS  
 CHECKED BY  
 DESIGNED BY  
 L. JUAREZ  
 C. GIBSON  
 REVISIONS:  
 REVISED BY  
 DATE REVISED

- NOTES:
- FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W MAPS AT DISTRICT OFFICE.
  - FOR UTILITY INFORMATION, SEE UTILITY SHEETS.
  - FOR RETAINING WALL INFORMATION, SEE RETAINING WALL SHEETS.
  - FOR LINES "P1", "P2", "P3", AND "P4", SEE CONSTRUCTION DETAILS SHEETS.
  - FOR SOUND WALL INFORMATION, SEE SOUND WALL SHEETS.
  - FOR BRIDGE WORK, SEE STRUCTURE PLANS.
  - FOR ADDITIONAL IRRIGATION CROSSOVERS, SEE CONSTRUCTION DETAILS.
  - ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	R32.4/R33.3	7	473

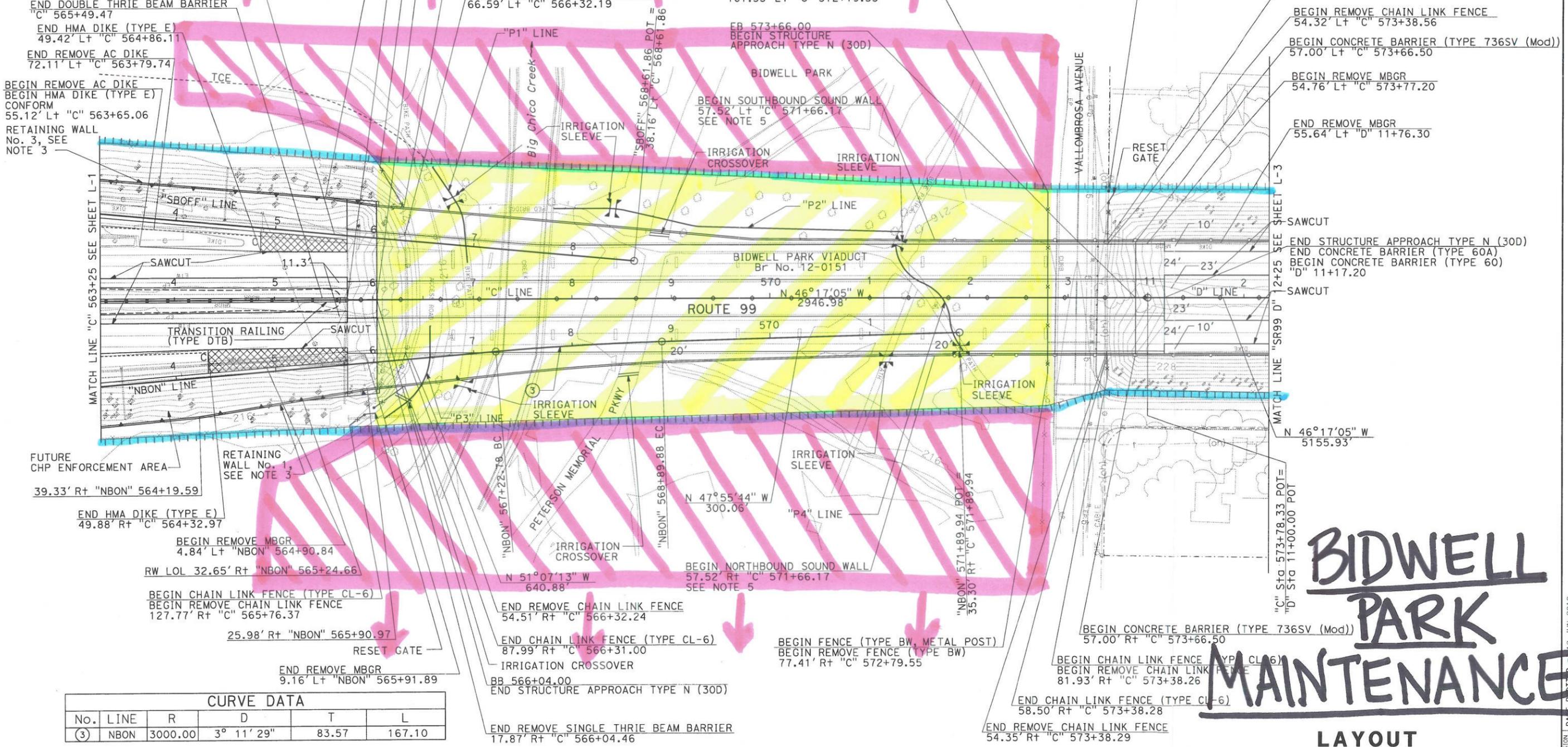
REGISTERED CIVIL ENGINEER  
 DATE 2/3/10  
 6-7-10  
 PLANS APPROVAL DATE

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QUINCY ENGINEERING INC  
 3247 RAMOS CIRCLE  
 SACRAMENTO, CA 95827-2501

BUTTE COUNTY ASSOCIATION OF GOVERNMENTS  
 2580 SIERRA SUNRISE TERRACE, SUITE 100  
 CHICO, CA 95928

Lindsay J. Juarez  
 No. C68432  
 Exp. 9/30/11  
 CIVIL  
 STATE OF CALIFORNIA



No.	LINE	R	D	T	L
(3)	NBON	3000.00	3° 11' 29"	83.57	167.10

# BIDWELL PARK MAINTENANCE

LAYOUT  
 SCALE: 1" = 50'  
 L-2

ATTACHMENT B: Exhibit C - Approved Planting Plans



3247 Ramos Circle  
Sacramento, CA  
95827-2501  
(916) 368-9181  
Fax: (916) 368-1308

200 Hawthorne Ave., SE  
Suite E-530  
Salem, OR 97301-4996  
(503) 763-9995  
Fax: (503) 763-9981

Central Valley Flood Protection Board  
3310 El Camino Ave, LL40  
Sacramento, CA 95821

Attention: Nancy Moricz, Flood System Improvement Section

November 15, 2011

Re: Encroachment Permit 18581 Addendum - SR 99, Auxiliary Lane Project (EA 03-3A0421)

Per our recent phone conversation last Wednesday November 9<sup>th</sup>, Quincy Engineering is submitting additional information to support the request for addendum to encroachment permit 18581. The requested addendum is to include replacement/mitigation planting within the floodplain of Big Chico Creek in Chico California. The addendum was first requested in November of 2010.

The planting phase includes mitigation/replacement planting within Bidwell Park, along Big Chico Creek. As a requirement of the California Department of Fish and Game permit, a mitigation and monitoring plan (MMP) was prepared for the project which includes a planting plan. Plantings will be similar to existing vegetation and are intended to mitigate disturbances within the park and along the creek due to construction of the Bidwell Park Viaduct widening. The intent of the planting plan is not to modify the existing vegetation within the floodplain, but to emulate the vegetative conditions prior to construction.

The existing Bidwell Park Viaduct consists of two separate structures (northbound and southbound) each structure is 14 spans and crosses Bidwell Park. Big Chico Creek runs roughly perpendicular to the structure and flows to the west. Bidwell Park contains the floodplain for the creek. The two existing viaduct structures will be connected by a median widening. The structures will also be widened to either side. Due to the structure widening, many trees and shrubs will need to be removed from the floodplain. Approximately 30 established trees will be removed from the currently open median and surrounding edges of deck, while another 25 will require at a minimum significant trimming. The planting plan calls for 139 tree plantings to be placed within the park to mitigate impacts. A total of 11 elderberry shrubs have also been removed from the floodplain and relocated offsite.

Shrubs (other than elderberry) and ground cover vegetation were not individually counted, as such the exact number of plants removed for construction cannot be determined. We can however, compare the total vegetation coverage before and after construction. Enclosed, you will find several photos showing the current vegetative coverage within the park. It is estimated that the current vegetative coverage within the area of interest is approximately 50% to 60%. The project planting plans show a vegetative coverage of approximately 70%. The intent is that after the 3 year plant establishment period some plants will not succeed and the final vegetative coverage will be roughly the same as the original condition.

The current proposed planting plan includes wild grape or "vitis californica" within the floodplain. As requested by the Board, this plant will be deleted from the proposed planting plan and not used. The plantings designated to be wild grape can be replaced with other plants from the same plant group (Plant Group A on Plant List PL-1, attached).

Also enclosed is a copy of the 3 year MMP prepared by Jones & Stokes in March of 2010 as well as a display showing the maintenance jurisdictions within Bidwell Park.

If you have any questions, please do not hesitate to contact me at 916-368-9181.

Sincerely,  
Quincy Engineering, Inc.



Carolyn D. Davis, PE  
Project Manager

Enclosures

cc (with enclosures): Martin Villanueva, Caltrans  
Andy Newsum, BCAG

# **RIPARIAN MITIGATION AND MONITORING PLAN FOR THE STATE ROUTE 99 AUXILIARY LANE PROJECT**

**PREPARED FOR:**

Butte County Association of Governments  
2580 Sierra Sunrise Terrace, Suite 100  
Chico, CA 95928  
Contact: Andy Newsum  
(530) 879-2468

**PREPARED BY:**

ICF International  
630 K Street, Suite 400  
Sacramento, CA 95814  
Contact: Debbie Loh  
(916) 737-3000

**IN COORDINATION WITH:**

Quincy Engineering  
3247 Ramos Circle  
Sacramento, CA 95827  
Contact: Carolyn Davis  
(916) 368-9181

**March 2010**



ICF International. 2010. *Riparian Mitigation and Monitoring Plan for the State Route 99 Auxiliary Lane Project*. March. (ICF 02022.02) Sacramento, CA. Prepared for Butte County Association of Governments, Chico, CA.

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## Acronyms and Abbreviations

---

BCAG	Butte County Association of Governments
BMPs	best management practices
CDFG	California Department of Fish and Game
City	City of Chico
County	Butte County
MMP	mitigation and monitoring plan
Project	State Route 99 Auxiliary Road
RSP	rock slope protection

## Chapter 1

# Project Description

---

This document describes the onsite riparian mitigation and monitoring plan (MMP) for impacts associated with implementation of the State Route 99 Auxiliary Road (Project). This document was prepared to fulfill the requirement stated in the California Department of Fish and Game's (CDFG) Streambed Alteration Agreement requirement to prepare a conceptual riparian restoration plan for riparian habitat temporarily impacted by the Project (California Department of Fish and Game 2009—pending). The Butte County Association of Governments (BCAG), in conjunction with Caltrans is concurrently preparing mitigation construction documents (i.e., plans and specifications) describing riparian restoration at Big Chico Creek. Project implementation will affect the riparian habitat adjacent to Big Chico Creek. All mitigation requirements for riparian habitat temporarily impacts as a result of the project will be fulfilled within project limits.

Riparian habitat permanently impacted as a result of the project will be mitigated through the purchase of riparian credits at the Fremont Landing Conservation Bank at a ratio of 2:1.

This chapter identifies responsible parties for the on-site mitigation project, describes the location and nature of the project, and discusses the types, functions, and values of riparian habitat and other waters of the United States to be affected by the project.

## Responsible Parties

The BCAG, in conjunction with Caltrans, proposes to construct the Project. The project applicants and the parties with financial responsibility for implementing the MMP and attaining the success criteria are the BCAG and Caltrans. The BCAG will oversee the revegetation contract for the riparian revegetation plan.

The Lead Agency under the California Environmental Quality Act is:

Butte County Association of Governments  
2580 Sierra Sunrise Terrace, Suite 100  
Chico, CA 95928  
Contact: Andy Newsum  
Phone: (530) 879-2468

The Lead Agency under the National Environmental Policy Act is:

Federal Highway Administration  
California Division  
650 Capitol Mall, Suite 4-100  
Sacramento, CA 95814  
Contact: Leland Wong  
Phone: (916) 498-5860

This MMP was prepared by:

ICF International  
630 K Street, Suite 400  
Sacramento, CA 95814  
Contact: Harry Oakes  
Phone: (916) 737-3000

In association with:

Quincy Engineering  
3247 Ramos Circle  
Sacramento, CA 95827  
Contact: Carolyn Davis  
Phone: (916) 368-9181

## Location of Project

The proposed project is located on SR 99 between the SR 32 and East 1<sup>st</sup> Avenue interchanges and on East 1<sup>st</sup> Avenue in the vicinity of the SR 99/East 1<sup>st</sup> Avenue interchange, in the City of Chico (City), in Butte County (County) (Figure 1-1). SR 99 is an important interregional route that runs north to south, connecting Bakersfield to Red Bluff and other points north. For the Chico area, SR 99 serves as one of the few crossings through Bidwell Park and over Big Chico Creek, and serves as a local connection between the northern and southern halves of the city.

## Project Description

The proposed project would improve the operational characteristics of SR 99 between SR 32 and East 1<sup>st</sup> Avenue by providing an auxiliary lane in each direction (Figures 1-2a, and 1-2b). The project would involve the following components:

- widening the two Bidwell Park Viaduct bridges;
- widening SR 99, including the southbound SR32 off-ramp and northbound SR 32 on-ramp;
- widening East 1<sup>st</sup> Avenue;
- widening East 1<sup>st</sup> Avenue on-ramp;
- widening Palmetto Avenue undercrossing;
- realignment of the existing bike path;
- constructing 33 new bridge piers, including the footings and columns; in Bidwell Park;
- constructing 6 new bridge piers, including the footings and columns; within the ordinary high water mark of Big Chico Creek; and
- installing rock slope protection (RSP) for each of the 6 new piers within the ordinary high water mark of Big Chico Creek.

## Project Objectives

Caltrans and BCAG are proposing this project to meet the following objectives:

- Improve existing safety and traffic operations and reduce traffic delays and congestion;
- Provide improved access across Bidwell Park for local traffic from the SR 32 interchange to the East 1st Avenue interchange;
- Improve ramp merge areas that currently cause vehicles to have difficulty entering SR 99 in the northbound and southbound directions; and
- Reduce congestion on SR 99 at the northbound off-ramp to East 1st Avenue.

## Project Schedule

Because of funding constraints, the adopted project alternative will be constructed in two phases.

### Phase 1: East 1<sup>st</sup> Avenue

The Phase 1 was constructed in 2008 and included the following components.

- Widening the lower half of the northbound off-ramp at East 1st Avenue to provide two left-turn lanes and one right-turn lane;
- widening East 1st Avenue; and
- improving ramp intersections or construct roundabouts.

### Phase 2: State Route 99 Improvements

The Phase 2 will be constructed in 2010 - 2012 and will include the following components.

- Widening northbound and southbound on-ramps at SR 32 to two lanes;
- constructing SR 99 northbound and southbound auxiliary lanes;
- widening upper half of northbound off-ramp at East 1st Avenue
- widening southbound on-ramp at East 1st Avenue to two lanes; and
- constructing retaining walls, concrete barriers, and soundwalls, as required.

## Land Cover Types in the Project Area

The project area is located in an urban setting within the City of Chico and is shown in Figures 1-2a and 1-2b. The project area consists of the area within the SR 99 right-of-way, the portions of 8<sup>th</sup> Street and East 1<sup>st</sup> Avenue where interchange improvements are proposed, and the portion of Bidwell Park between 8<sup>th</sup> Street and Vallombrosa Avenue. The project area is defined as the area proposed for any ground-disturbing activities, such as construction activities, construction staging areas, and construction access. Although the terrain is generally level, the freeway is elevated approximately 6.1 meters (20 feet) above the surrounding land, with steep side slopes. Big Chico

Creek is a natural stream that flows through Bidwell Park. No other streams or wetlands are present in the project area.

## Biological Conditions

Much of the project area is paved roadway. Vegetation present in the central median and side slopes of SR 99 consists primarily of ruderal vegetation and landscaping trees and shrubs. Floristically, Chico is in the Sacramento Valley subdivision of the Great Central Valley region of the California Floristic Province (Hickman 1993). Historically, the project area was likely to have supported valley oak woodland, grasslands, and riparian forest. Although little natural vegetation remains in the vicinity of the project area, the present project area has a well-developed tree canopy and shrubby understory associated with the Big Chico Creek floodplain. The plant community is best characterized as urban habitat, although Bidwell Park preserves a semi-natural riparian forest. Figures 1-3a and 1-3b present the biological communities in the project area. This MMP has been prepared to address only the impacts and mitigation for the riparian habitat associated with Big Chico Creek.

## Urban Habitat

Urban habitat occurs in areas where the native vegetation has been replaced with turf grass and ornamental plantings, including tree groves, street trees, shade trees, and shrubbery (McBride and Reid 1988). Approximately 6.4 hectares (15.8 acres) of urban habitat is present in the project area. Urban habitat is present along the SR 99 median strip, the unpaved shoulders, and side slopes, and in the private parcels adjacent to the right-of-way.

The median strip is planted with a hedgerow of oleander (*Nereum oleander*). The unpaved shoulders are bare or vegetated by low-growing ruderal species. The side slopes are vegetated with a dense woody overstory of trees and shrubs with little herbaceous understory. The trees include both native and ornamental trees planted for landscaping and that have become established from seeds dispersed into the project area by birds. Six hundred forty-one trees of 15 centimeters (6 inches) or greater dbh are present on the side slopes and median strip; of these, 279 have 30 centimeters (12 inches) or greater dbh. The most common trees in the right-of-way include glossy privet (*Ligustrum lucidum*), valley oak (*Quercus lobata*), western sycamore (*Platanus racemosa*), coast redwood (*Sequoia sempervirens*), Chinese pistachio (*Pistacia chinensis*), and an unidentified species. The understory is dominated by saplings and many shrub and vine species, including pomegranate (*Punicum granatum*), English ivy (*Hedera helix*), and pokeweed (*Phytolacca americana*). Little herbaceous understory is present except in light gaps.

Vegetation in the private parcels adjacent to the right-of-way consists of shade and street trees, hedges and shrubs, lawns and gardens. The composition of the woody vegetation is similar to that in the right-of-way, although the canopy cover is much more open. The growth of vegetation in these parcels is typically managed by trimming or mowing.

## Great Valley Valley Oak Riparian Forest

Great Valley Valley Oak Riparian Forest is a closed-canopy riparian forest dominated by valley oak (Holland 1986). Approximately 1.5 hectares (3.8 acres) of this plant community are present in the project area, the majority of which occurs in Caltrans right-of-way adjacent to Bidwell Park. A narrow strip of Great Valley Valley Oak Riparian Forest is also present to the west of the SR 32 off-

ramps; this strip is located within the boundaries of Bidwell Park. (This strip is included within the project area because the existing paved access road within this strip would be used for construction access. No vegetation removal would occur within this strip with project implementation.)

The dominant tree is valley oak, but other native trees include western sycamore and Northern California black walnut (*Juglans hindsii*). Nonnative trees are also present, including a large eucalyptus tree (*Eucalyptus* sp.) and several large Aleppo pines (*Pinus halepense*). The understory is composed primarily of nonnative perennials, including glossy privet saplings, English ivy, greater periwinkle (*Vinca major*), and Himalaya blackberry (*Rubus discolor*). The herbaceous ground layer is dominated by ripgut brome (*Bromus diandrus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), wild oat (*Avena fatua*), and hedge-parsely (*Torilis arvensis*). Under the viaduct, shading has inhibited plant growth, and the ground is mostly bare. (Therefore, the area under the viaduct is not included in the area estimate provided above.)

### Great Valley Mixed Riparian Forest

Great Valley Mixed Riparian Forest is a moderately closed-canopy riparian forest dominated by a mixture of broadleaved, deciduous trees (Holland 1986). In the project area, this habitat is restricted to a narrow strip immediately adjacent to Big Chico Creek. Approximately 0.1 hectare (0.3 acre) of this plant community is present in the project area. The species composition is similar to that of the adjacent Great Valley Valley Oak Riparian Forest but characterized by species not present away from the banks of Big Chico Creek, such as white alder (*Alnus rhombifolia*) and Oregon ash (*Fraxinus latifolia*). Riparian vegetation is absent directly under the viaduct because the supporting piers are present on the stream banks and because of the viaduct's shading effects. (Therefore, the area under the viaduct is not included in the area estimate provided above.)

### Creek Channel

Creek channel habitat is present in the project area only in Big Chico Creek. Within the project area, approximately 0.1 hectare (0.2 acre) occurs within the OHWM of Big Chico Creek. This habitat includes the vegetated and unvegetated part of a permanent or intermittent stream corridor including the bed, channel, and banks. Big Chico Creek is a perennial stream with flowing water during most years. The stream flow is regulated by a water diversion structure upstream of the project area near the One Mile Recreation Area of Bidwell Park, so that flows are at a similar level year-round. Within the project area, vegetation is present only on the upper channel bank and is described in the two sections above. Rock riprap is present along the banks under the viaduct to protect the bridge piers. Streambeds are recognized as sensitive natural communities by DFG, the Corps, and USFWS.

## California Department of Fish and Game Regulated Areas that will be Affected

The proposed action would result in temporary impacts to approximately 0.36 acres of riparian forest. Riparian habitat permanently impacted as a result of the project will be mitigated through the purchase of riparian credits at the Fremont Landing Conservation Bank. Figure 1-4 identifies the permanent and temporary impacts to riparian habitat in the project area. Temporary impacts are associated with construction staging and relocation of the bike paths. Riparian vegetation

within the limits of work necessary to construct the project will be removed to facilitate construction. Temporarily impacted riparian areas will be restored to original grade and then planted with native trees, shrubs, and vines.

## Chapter 2

# Implementation Plan

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This chapter describes the implementation plan for restoring the riparian habitat associated with Big Chico Creek. The BCAG, in conjunction with Caltrans is concurrently preparing mitigation construction documents (i.e., plans and specifications) describing riparian restoration at Big Chico Creek. The construction documents will be amended, if necessary, based CDFG comments and/or approval of the MMP.

## Mitigation Goals and Objectives

The primary goal of the MMP is to restore the riparian vegetation associated with temporary impact areas near Big Chico Creek. The BCAG has developed the following goals for the restoration of temporary riparian impact areas:

- Restore 0.36 acre of temporarily impacted riparian habitat; and
- Protect existing habitats to be preserved by installing protection fencing.

The BCAG has developed the following objectives for the Project to achieve the restoration goals identified above.

- place bark mulch over riparian planting areas to serve as an erosion control measure and a weed control measure;
- Planting native riparian tree, shrub, and vine species; to stabilize restored surfaces; and
- Avoid and minimize impacts on riparian habitat by implementing best management practices (BMPs) stated in the environmental documents and the permits to avoid riparian and wetland vegetation.

## Schedule

Phase 1 of highway construction was completed in 2008. Phase 2 construction is scheduled to begin in 2010 and be completed in 2012. Restoration of temporarily impacted riparian habitat in Phase 2 will occur in within the area of temporary impacts and therefore will not be implemented until bridge construction is complete. It is anticipated that riparian plantings would be installed in fall/winter 2012. A three year maintenance and performance monitoring program will commence following completion of the mitigation implementation phase.

## Site Preparation

Site preparation within Big Chico Creek will include staking the limits of existing riparian habitat to be avoided and placing vegetation protection fencing and silt fencing, as appropriate, around the resources to be preserved and avoided. Work that would occur in the mitigation planting areas would include site preparation, planting, and plant maintenance.

Prior to construction, the mitigation contractor, under supervision by the BCAG, will install protective fencing and/or silt fencing around sensitive resources to be preserved. Protective fencing will consist of orange plastic-mesh fencing that is secured to metal T-posts. Protective fencing will be installed according to the specifications provided in the construction documents. Silt fencing will be installed along any portion of the planting areas where erosion could lead to direct water quality impacts. Silt fencing may be used in combination of protective fencing and will be installed in accordance with the SWPPP that will be prepared by the selected contractor and the BMPs identified in the construction documents.

The bridge construction contractor will use the temporary riparian impact areas for staging and construction activities and will be responsible for restoring the surface elevation within each area to preproject conditions and elevations. The mitigation contractor will be responsible for clearing all ruderal vegetation and nonnative woody species, if present, from the planting areas prior to planting. This vegetation will be cut to the ground surface elevation and invasive weeds may be treated with herbicides.

## Grading

Grading will not be required to implement the mitigation program.

## Planting Plan

The planting plan will consist of installing native trees, shrubs, and vines as container plants in the riparian restoration area. The plant material will be obtained from a native plant nursery and will be propagated from plant material within the Big Chico Creek watershed or surrounding areas. The plant palette and the spacing concepts are presented in the following sections.

**Table 2-1. Riparian Plant Palette**

Plant Form	Scientific Name	Common Name	Container Size
Tree	<i>Juglans hindsii</i>	California black walnut	Treepot
	<i>Platanus racemosa</i>	Western sycamore	Treepot
	<i>Quercus lobata</i>	Valley oak	Treepot
Shrub/Small Tree	<i>Cercis occidentalis</i>	Western redbud	Treepot
	<i>Prunus ilicifolia</i>	Hollyleaf Cherry	Treepot
Vines	<i>Aristolochia californica</i>	California pipe vine	1 gallon
	<i>Marah fabaceus</i>	Wild cucumber	1 gallon
	<i>Rosa californica</i>	Wild rose	1 gallon
	<i>Symphoricarpos alba</i>	Snowberry	1 gallon
	<i>Vitis californica</i>	Wild grape	1 gallon

## Planting Area Design and Layout

Figures 2-1a, 2-1b, and 2-1c identify the planting area design and layout of the Big Chico Creek riparian restoration area as well as the roadside planting plan. The revegetation contractor will install grade stakes (e.g., lath) to delineate the boundary of planting zones to facilitate planting activities. Each planting location will be identified using pin flags. Each species will be assigned a specific flag color to ensure that plant material is installed at the proper location.

## Riparian Planting Areas

The plant palette, described in Table 2-1, for the riparian planting areas will consist of native riparian tree, shrub, and vine species that occur in or adjacent to the disturbed areas, as described in Chapter 1 “Description of the Biological Communities”. Riparian tree and shrub container plant materials may be grown as seedlings in Tree-pot and 1-gallon containers. These are common container sizes used for native plant propagation. Tree-pot containers measure 4.0 inches square at the top and are 14 inches deep. Herbaceous plant materials may be grown in tree band, 1-gallon, or similar sized containers. Tree bands typically measure 2.25 inches square at the top and 5 inches deep.

Plants will be spaced randomly throughout the planting areas approximately 8 – 10 feet on center (Figures 2-1a, 2-1b, and 2-1c). The riparian plants will be planted preferably in late fall or winter following completion of mitigation area site preparation (i.e., November–February). Planting holes will be dug manually, and excavated soil will be used as backfill around the installed plant. Any remaining soil will be used to create water retention basins around individual plants. Bark mulch will be placed within each planting basin and throughout the entire planting area.

## Seeding

The riparian planting areas will not be seeded. Instead the entire planting area will be covered with bark mulch and the plants will be maintained to develop a riparian tree and shrub canopy.

## Watering

A bubbler irrigation system would be established prior to plant installation at the mitigation sites. Plants would be watered monthly for the first 2-3 years. Potable water lines would be the water source for the irrigation system. Figures 2-2a, 2-2b, and 2-2c show the irrigation system layout at the restoration area.

## Construction Inspections

Progress inspections and other interim inspections of the wetland and riparian mitigation operations will be conducted by the BCAG or its authorized representative to ensure that the mitigation site is fully and properly installed to meet performance standards. Areas not meeting the implementation standards identified in this MMP will be reevaluated and replanted. The BCAG will inspect mitigation construction and planting operations at the following critical phases of the implementation:

- layout of proposed boundaries prior to construction,
- placement and installation of protection fencing or silt fencing,
- site preparation/vegetation clearing operations, and
- planting operations.

## As-Built Drawings

As-built drawings of the mitigation site will be prepared by the BCAG following completion of the project. The BCAG will provide a copy of the as-built drawings to CDFG at that time. The as-built drawings will be prepared at the same scale as the construction drawings and will indicate the:

- extent of restored habitat (in plan view);
- location of any permanent markers (e.g., photodocumentation stations); and
- other pertinent features.

Any changes from the original mitigation construction plans will be indicated in indelible, red ink. The BCAG may elect to have the contractor prepare the as-built drawings in design-based software.

## Chapter 3

# Maintenance Period

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The BCAG will oversee maintenance of the restoration site for a period of 3 years. The contractor maintenance period will begin when the planting phase

is completed and approved by BCAG. The *maintenance period*, described in this chapter, coincides with the *performance monitoring period* described in Chapter 4.

## Maintenance Activities for Riparian Habitat

Routine maintenance will be required for the riparian plantings during the maintenance period. Maintenance activities will include weed control, plant watering (if applicable), and replacement planting.

### Weed Control

Weed control will be required in the riparian planting areas to control weeds in and around the plantings. The BCAG will remove weeds from within the plant watering basins as needed and will remove and control invasive nonnative weeds (e.g., Himalayan blackberry) in the riparian restoration area. Weed removal may employ manual or mechanical methods. Herbicides may be used to spot spray invasive weeds as they occur.

### Plant Watering

A bubbler irrigation system would be established prior to plant installation at the mitigation sites. Plants would be watered monthly for the first 2-3 years. Potable water lines would be the water source for the irrigation system. Figures 2-2a, 2-2b, and 2-2c show the irrigation system layout at the restoration area.

### Supplemental Planting

The plantings will be inspected during the performance monitoring visits to determine whether replacement plantings will be required to meet the performance standards. Replacement plantings may be the same species or another native species that is determined to be more suitable for microsite conditions, based on the performance monitoring surveys.

Any replacement plantings required based on the results of the annual vegetation monitoring surveys will be provided, installed, and maintained by the BCAG during each year of the maintenance period. The annual monitoring reports will identify the causes of plant mortality and any remedial measures that may be required. For example, if a particular species has a high mortality rate, a determination will be made about the cause of plant mortality and whether replacement by another species is warranted.

Plant replacement will include planting a sufficient number of seedlings so that the total number of living plants meets or exceeds the performance standards. Replacement plants will be installed according to the original plant installation methods.

## Remedial Measures

Riparian planting areas will be monitored during the maintenance period. If remedial measures are identified as a result of performance monitoring, BCAG will implement those measures during the maintenance period, in coordination with the resource agencies.

## Chapter 4

# Monitoring Plan

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This chapter describes the monitoring plan for the riparian restoration area, including performance standards and success criteria, monitoring schedule, monitoring methods, and reporting and documentation requirements. Monitoring and reporting will be performed by a qualified biologist or ecologist.

Vegetation will be monitored for a 3-year period after the initial restoration actions occur. The BCAG will monitor the site for 3 years, or 2 years following the end of all remediation and maintenance activities, other than weeding, whichever is longer.

## Monitoring Schedule

The riparian restoration area will be monitored annually during years 1–3. Riparian vegetation will be monitored in August or September.

If the riparian vegetation achieves the success criteria in year 3, the BCAG will submit a final report to CDFG for review and approval. If it is determined after 3 years that the mitigation sites are self-sustaining (i.e., can survive without further human intervention and meet the identified success criteria), no further monitoring will be required. If the mitigation does not achieve the success criteria by the end of year 3, the BCAG will consult with CDFG to develop a supplemental remediation monitoring plan.

## Performance Standards and Success Criteria

For this MMP, a *performance standard* is a measure of a habitat characteristic used to assess the progress of the restored habitat toward meeting a success criterion. A *success criterion* is a measure that indicates whether the mitigation goals have been achieved at the end of the performance monitoring period. Performance standards are applied during the first 2 years of the monitoring period, and success criteria are applied at the end of the monitoring period. The wetland and riparian mitigation will be evaluated annually using the annual performance standards.

Table 4-1 summarizes performance standards and success criteria. Performance standards and success criteria for riparian habitats are based on survival rates and vigor of riparian plants.

**Table 4-1. Vegetation Monitoring Performance Standards and Success Criteria**

Monitored Characteristic	Performance Standards		Success Criteria	
	Monitoring Year	Standards	Monitoring Year	Standards
Tree and shrub survival: minimum percentage survival of original number planted, by species	1	90%	3	75%
	2	80%		
Plant vigor: average vigor of plants, by species	1-2	Greater than 2.0.	3	Greater than 2.0.

## Monitoring Methods

Monitoring will be qualitative and/or quantitative coupled with landscape photodocumentation at permanent stations. The monitoring methods that will be used during the annual performance monitoring are described below by habitat and/or mitigation category.

## Riparian Vegetation

Vegetation monitoring in the riparian restoration areas will focus on plant survival and plant vigor. The revegetation component of the riparian areas will be considered successful if the riparian areas meet or exceed the performance standards and success criteria outlined in Table 4-1.

### Plant Survival

Census monitoring will assess riparian plant survival rates and vigor by species. Identifying individual species' survival rates will ensure that the surviving plants are healthy and not dominated by a single species. Survival rates will be determined based on the total number of plants of that species originally planted in each planting area. Plants will be recorded as dead if there is no viable aboveground growth visible. For example, if all the leaves on a tree are brown, but an examination of the stems and branches shows viable stem vigor, the plant will be considered alive, although it may be given a low vigor rating.

### Plant Vigor

The determination of vigor will consider disease symptoms, low-density foliage, atypical leaf color, stem and foliar vigor (e.g., signs of desiccation, leaf curl), browsing or other wildlife-related damage, and vandalism. A vigor rating of *good*, *fair*, or *poor* (values of 3.0, 2.0, and 1.0, respectively) will be assigned to each planting. Dead plants will not be assigned a vigor rating. These ratings are defined below.

- **Good (3.0):** a seedling with less than 25% of its aboveground growth exhibiting one or more of the factors listed above
- **Fair (2.0):** a seedling with 25–75% of its aboveground growth exhibiting one or more of the factors listed above
- **Poor (1.0):** a seedling with more than 75% of its aboveground growth exhibiting one or more of the factors listed above

- **Dead:** a seedling that is no longer visible or does not appear capable of growth.

## Photodocumentation

The progress of the restoration area will be documented photographically. Permanent and reproducible photodocumentation stations will be established at several locations in the restoration area. The locations of photodocumentation stations will be determined during the first year of the monitoring period, and the locations will be identified in the field and mapped. Photodocumentation stations will also be recorded using a hand-held GPS receiver.

The number of photographs taken at a given photodocumentation station will vary, depending on the area and habitat. A sufficient number of stations will be established to ensure that the photographs provide a visual record of the mitigation sites. Vegetative site conditions will be photographed during the annual plant monitoring surveys. Additional representative photographs may be taken at other times of the year at the BCAG's discretion.

## Annual Reports

The BCAG will prepare an annual monitoring report and submit it to CDFG by December 31 of each monitoring year. Each monitoring report will include:

- a summary of the project location and description;
- a summary of the monitoring methods;
- a list of the names, titles, and companies of the people who prepared the content of the annual report or participated in monitoring activities that year;
- a reference of the resource agency permits and any subsequent letters of modification, as an appendix;
- a summary and analysis of the monitoring results, including an evaluation of site conditions in the context of the performance standards and success criteria;
- a discussion of the monitoring results;
- management recommendations, including discussion of areas with inadequate performance and recommendations for remedial action;
- a discussion of modifications made to the monitoring methods;
- a discussion of the previous year's maintenance efforts; and
- photodocumentation of the created, enhanced, and restored Big Chico Creek channel and riparian areas using photographs taken during the monitoring surveys.

A final monitoring report will be submitted for the review and approval of CDFG. Final monitoring for success will take place at the end of the 3-year monitoring period or 2 years following the end of all remediation and maintenance activities, other than weeding, whichever is longer. The final report will be prepared by a qualified biologist familiar with native plant materials and restoration practices. The biologist will evaluate whether the restoration site has achieved the goals and success criteria set forth in the approved MMP.

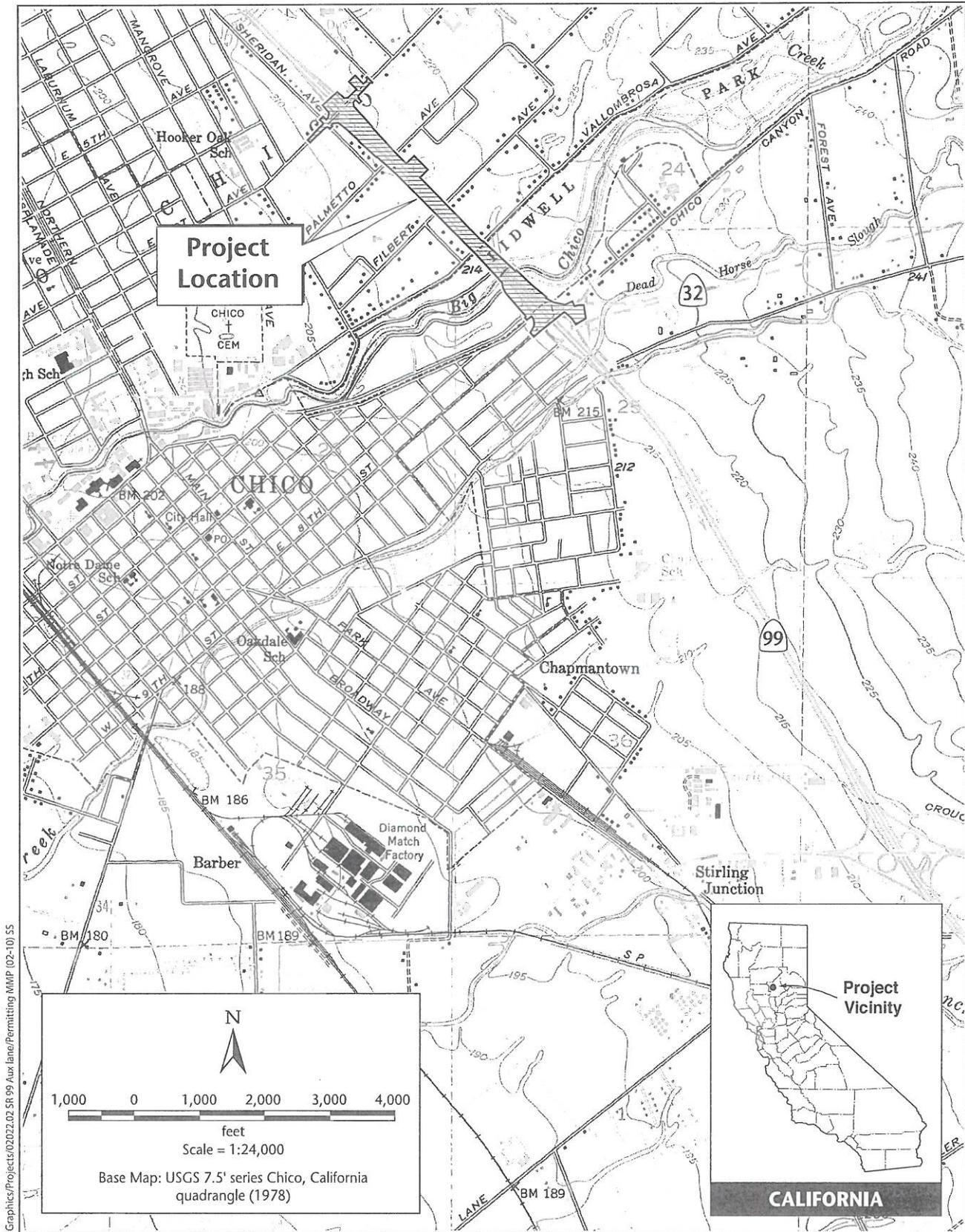
## Remedial Measures

If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the BCAG will submit a revised or supplemental restoration program within 90 days for the review and approval of CDFG to compensate for those portions of the original program that did not meet the approved success criteria.

## Chapter 5 References

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- Hickman, J. C. (ed.). 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. Berkeley, CA.
- Holland, R. 1986. *Preliminary Description of the Terrestrial Natural Communities of California*. Unpublished report. California Department of Fish and Game. Sacramento, CA.
- McBride, J. R., and C. Reid. 1988. Urban. Pages 142-143 in K. E. Mayer and W. F. Laudenslayer, Jr. (eds.), *A guide to wildlife habitats of California*. October. California Department of Forestry and Fire Protection. Sacramento, CA.



Graphics/Projects/02/02.02.SR.99.Aux.lane/Permitting/MMP\_02-10).SS

Figure 1-1  
Project Vicinity

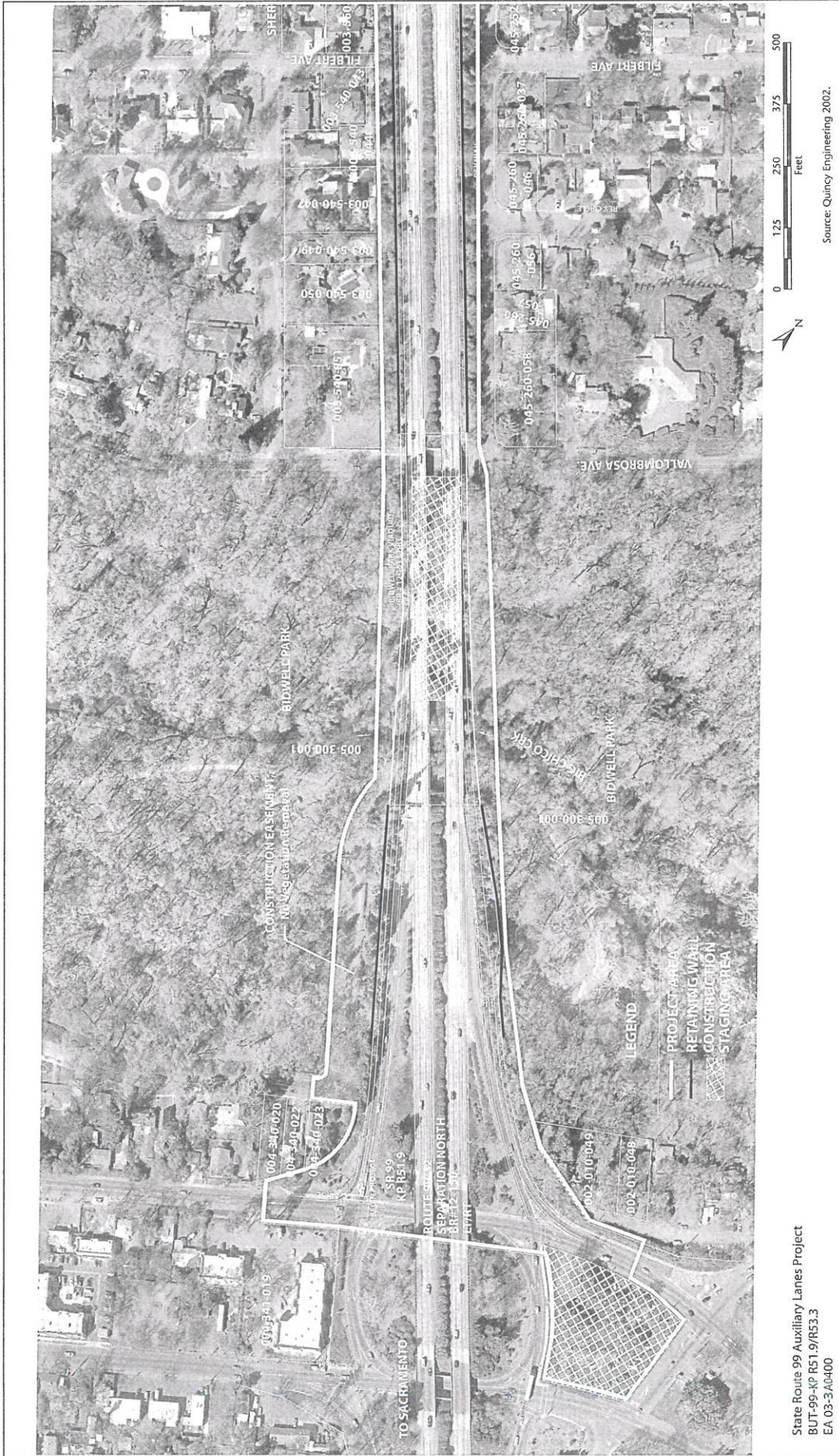


Figure 1-2a  
Project Area

State Route 99 Auxiliary Lanes Project  
 BUT-99-KP R51.9/R53.3  
 EA 03-3A0400







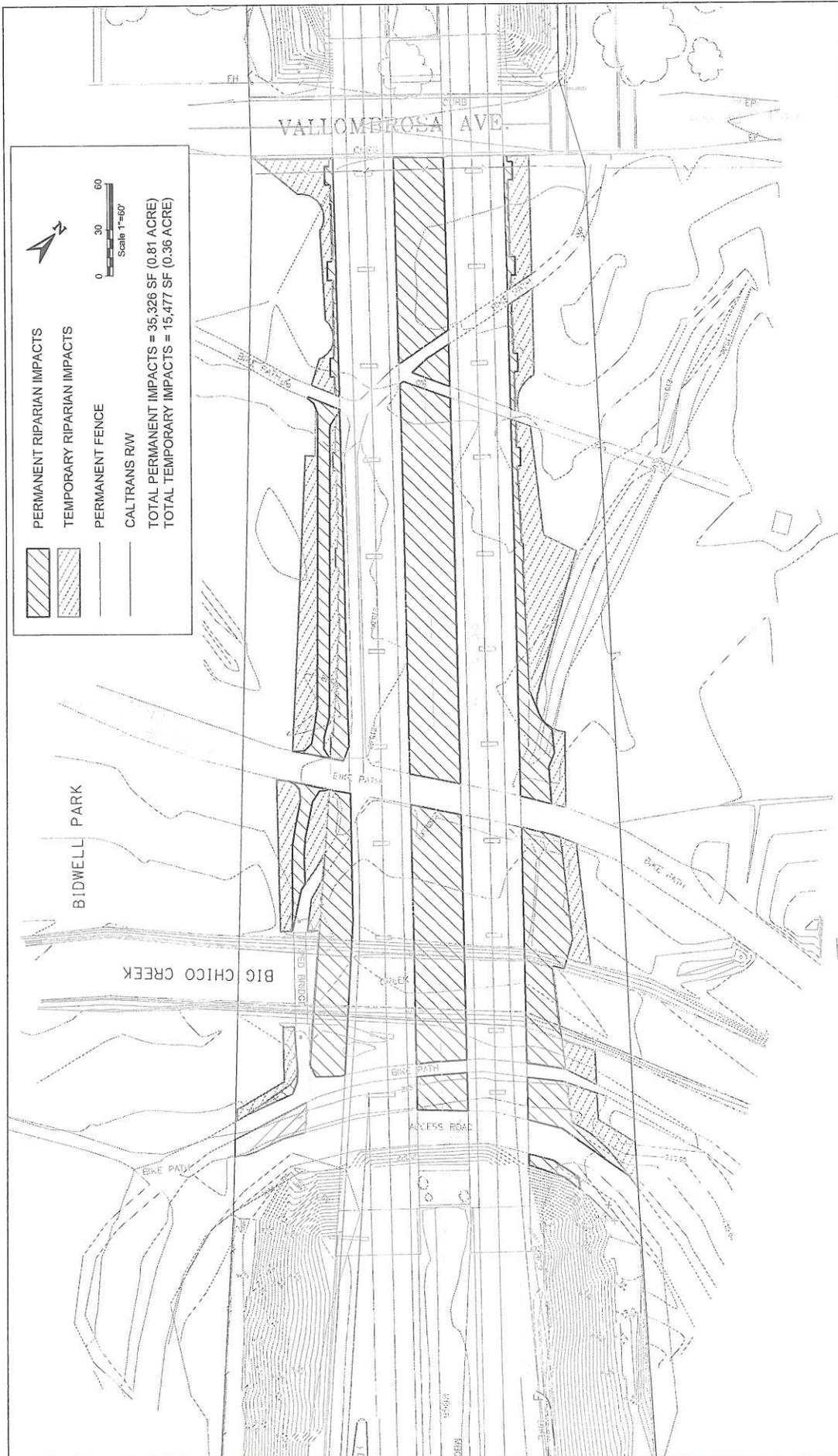


Figure 1-4  
SR99 Auxiliary Lane Project  
Riparian Impacts

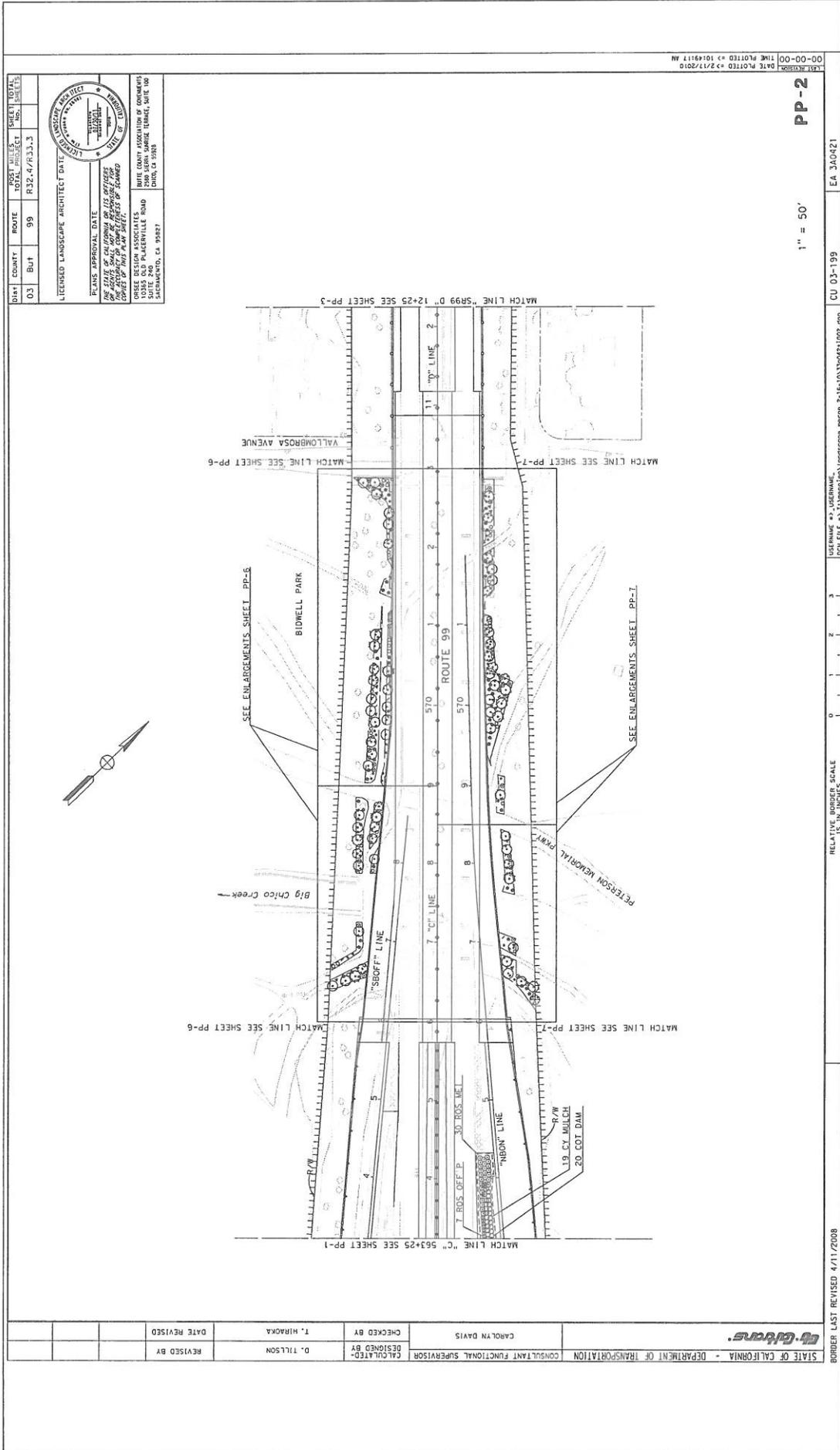


Figure 2-1a  
Planting Plan

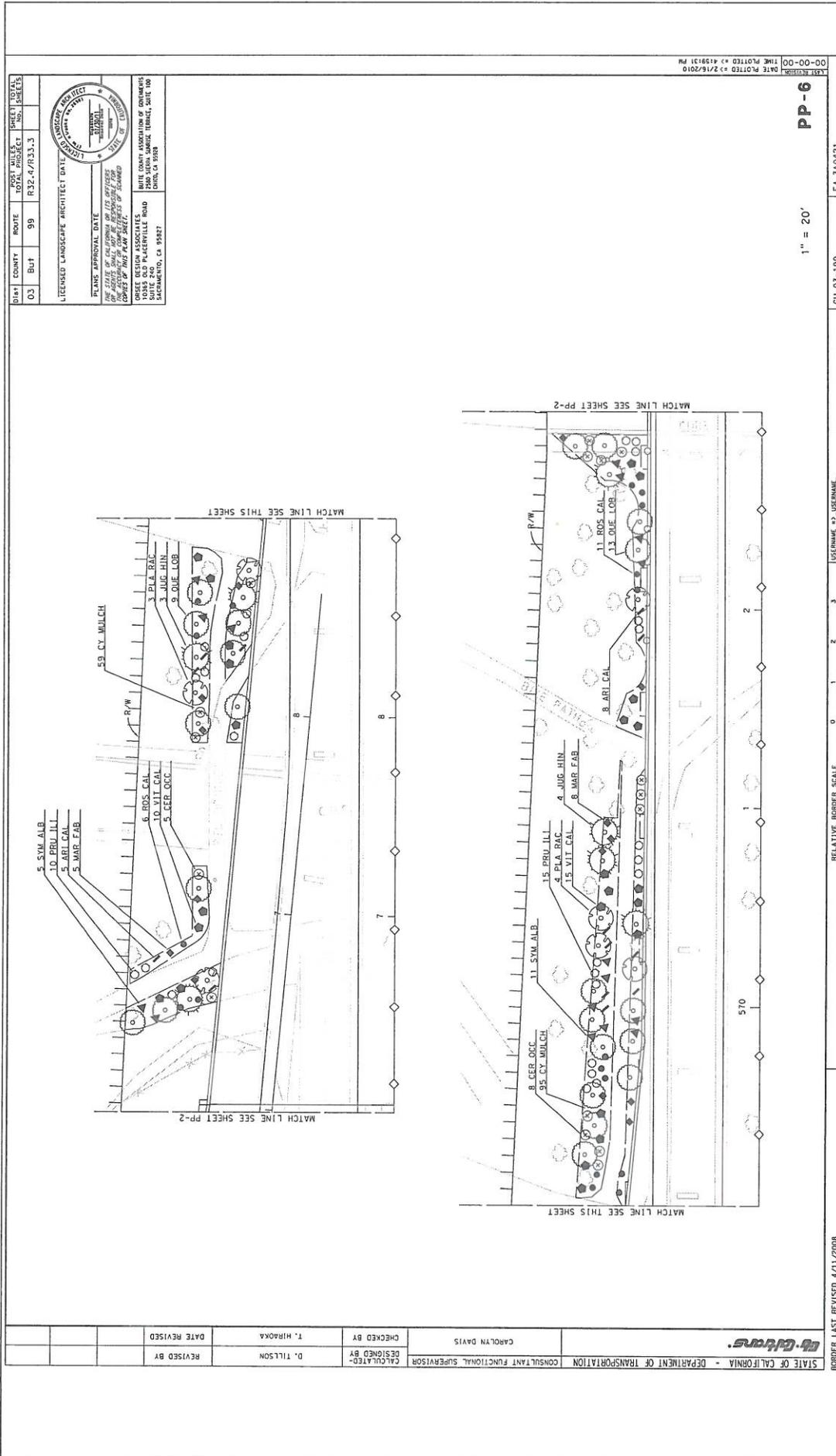


Figure 2-1b  
Planting Plan

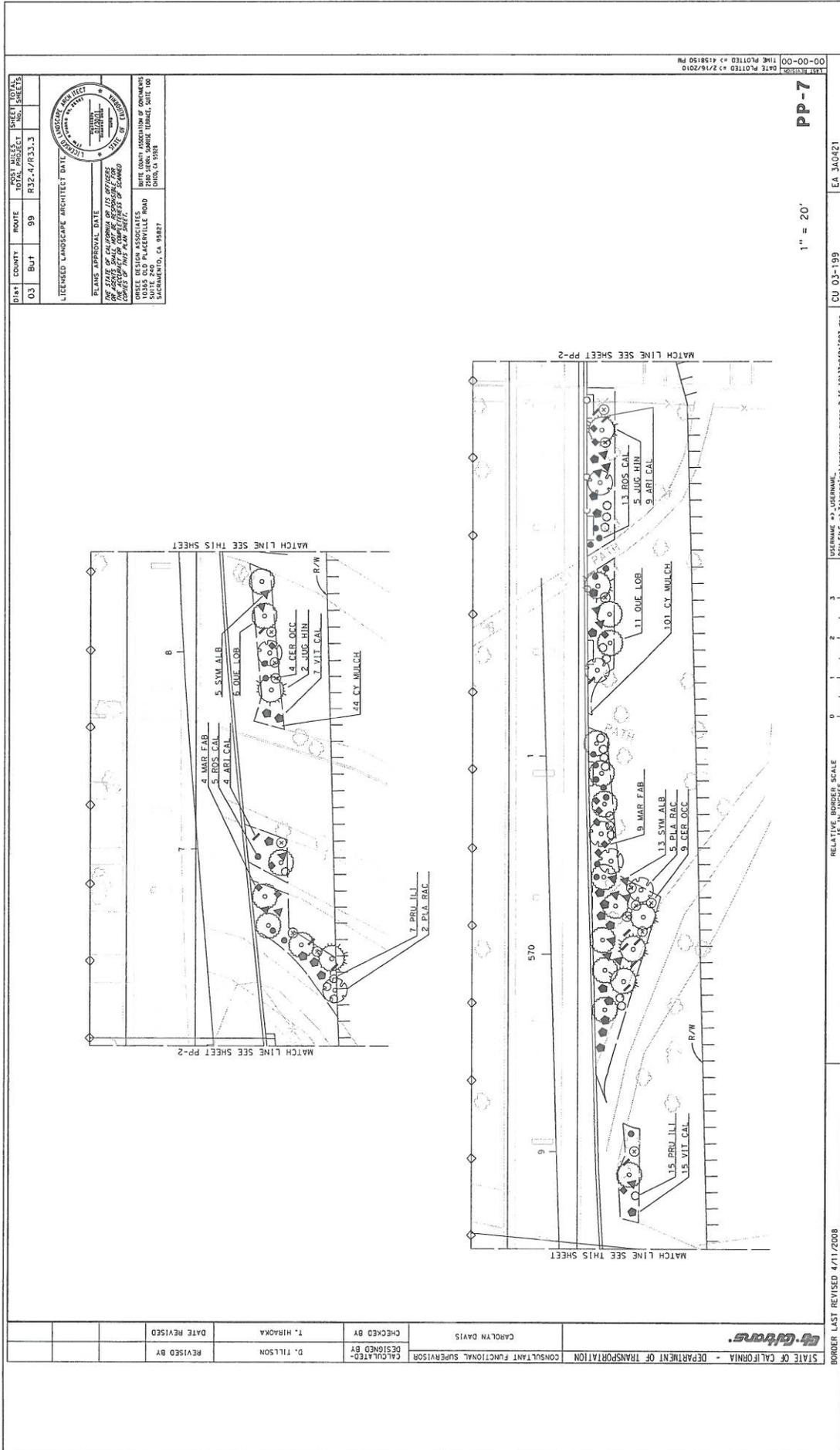


Figure 2-1c  
Planting Plan

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CAROLYN DAVIS	CHECKED BY	T. HIRAKA	DATE REVISION	
	DESIGNED BY	D. TILSON	REVISION			
BORDER LAST REVISED 4/11/2008						



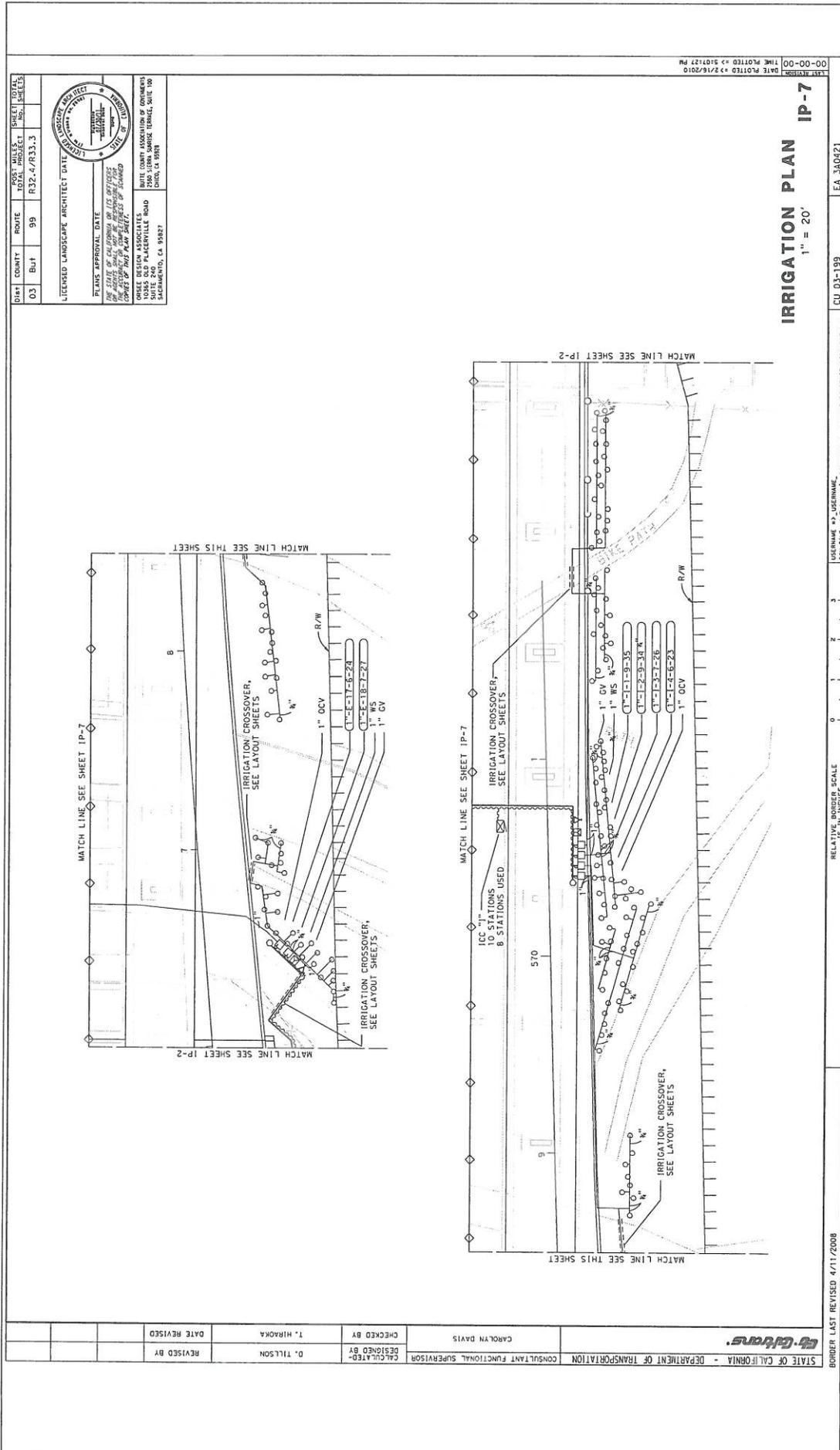


Figure 2-2b  
Irrigation Plan

**Meeting of the Central Valley Flood Protection Board  
June 25, 2010**

**Staff Report  
Butte County Association of Governments  
Big Chico Creek Bridge**

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**1.0 – ITEM**

Consider approval of Permit No. 18581 (Attachment A).

**2.0 – APPLICANT**

Butte County Association of Governments

**3.0 – LOCATION**

The project is located in along State Route 99, in Chico California.  
(Big Chico Creek, Butte County, see Attachment B).

**4.0 – DESCRIPTION**

To widen State Route 99 at two viaduct structures crossing Big Chico Creek and Bidwell Park, located in Chico, California. Within and immediately adjacent to the creek, 6 new piers will be added to support the structure widening. The piers will be founded on spread footings below existing grade. Approximately 64 linear-feet of rock slope protection will be placed within the channel to protect the bridge foundation. Approximately 250-sf of existing paved bike path will be realigned (removed and replaced) just downstream of the piers on each bank.

**5.0 – PROJECT SPECIFICS**

The applicant is proposing to widen two existing viaduct bridges, 762-foot-long, with a median widening of approximately 37-feet and an exterior widening ranging from approximately 25 to 35-feet (see Attachment C). The median widening will be supported by 6 additional piers 12-foot-long and 2.5-foot wide. The exterior widening will be supported by both pier walls and columns with footing sizes ranging from 14-foot x 14-foot to 18-foot x 18-foot and pier sizes ranging from 8 to 10-feet-long and 2.5-foot-wide. On the southern end of the bridge, there will be a flared approach that will require fill to be placed on the natural stream bank. Rock slope protection will be placed around the piers and approximately along 64 linear feet on both banks within the channel.

Approximately 2975-cy will be excavated from the floodway for footing and rip-rap placement, as well as minor surface grading to rip-rap line and protect natural swales occurring within the floodway. Also, approximately 250-square-feet of paved bike path on each bank of Big Chico Creek will be removed, re-aligned, and replaced.

### **5.1 – Hydraulic Summary**

The project described in Section 5.0 is located in a Federal Project Channel in the City of Chico, California. HEC-RAS and a 200-year design storm was used to determine the hydraulic effects of the project. This project has negligible hydraulic impacts associated with the above construction. The hydraulic reports by WRECO dated November 2002 and March 22, 2010, show a maximum water surface elevation (WSE) increase of 0.02-feet (see Attachment D) and a maximum velocity change of -0.03-feet-per-second.

The soffit of the bridge for this project will be lowered by approximately 8-inches; however, the freeboard on project channel is 18.6-feet above the design flood. Therefore, the project is compliant with Title 23, Section 128(10)(A).

### **5.2 – Geotechnical Summary**

This project has no significant geotechnical impacts to the existing streambank or the floodway, and the geotechnical report supports the design. Excavation within the floodway occurs at locations that are not critical to the integrity of the natural stream bank or channel. All fill, rock placement, excavation, and temporary structures will be completed in compliance with Permit No. 18581 (see Attachment A) and Title 23.

### **5.3 – Staff Comments**

The impacts of this project require vegetative mitigation that has been dropped from this application in order to meet project time constraints. It will be required of the applicant, as shown in Special Condition FOURTEEN of Permit No. 18581, to provide a detailed planting plan and hydraulic study to show that there are no negative impacts to the project channel with the proposed plantings in-place. This application will have to be submitted within one year of issuance of this permit.

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS:**

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has not yet been received for this application. Upon receipt of a favorable letter and review by Board staff it will be incorporated into the permit as Exhibit A.

## **7.0 – PROPOSED CEQA FINDINGS:**

Board staff has prepared the following CEQA Findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Draft Environmental Impact Report (DEIR, September 2003), Final Environmental Impact Report (FEIR, December 2003), Addendum to an Environmental Impact Report (June 2009) and Butte County Association of Governments Resolution 2003/04-10, January 22, 2004 (which includes a Statement of Facts, Findings, and Mitigation Measures, Statement of Overriding Considerations, and Mitigation Monitoring Program) for the State Route 99 Auxiliary Lane Project Between State Route 32 and East 1<sup>st</sup> Avenue (SCH No. 2002112002) prepared by the lead agency, the Butte County Association of Governments. These documents including project design and County resolutions may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2010/6-25-2010agenda.cfm> under a link for this agenda item.

### **7.1 – Impacts that can be Mitigated**

The following are the significant impacts and the mitigation measures to reduce them to less than significant:

- **Aesthetics and Visual Resources:** The project proponent will install temporary visual barriers between construction zones and residences, implement project landscaping to replace trees that are removed, and construct sound walls with low-sheen and non-reflective surface material.
- **Land Use and Socioeconomics:** The project proponent will provide an exit driveway and 10 additional parking spaces for displaced businesses, compensate displaced land uses in conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, and implement a transportation management plan.
- **Earth Resources:** Implement recommendations related to hazardous materials contained in the project initial site assessment.
- **Hydrology and Water Quality:** Implement construction-related and permanent post-construction Best Management Practices. Additionally, Best Management Practices (BMPs), as described in the Storm Water Pollution Prevention Plan (SWPPP), will also be implemented, as appropriate, to retain, treat, and dispose of groundwater.
- **Biological Resources:** Prior to construction, conduct a biological resources education program for construction crews and enforce construction restrictions. Conduct preconstruction surveys for northwestern pond turtle and nesting Swainson's hawk. The project proponent will retain a biologist to monitor construction activities on and around Big Chico Creek, as well as inspecting buffer area fences around blue elderberry shrubs and other sensitive biological resources. During construction,

water will be used to control dust and limit effects to the blue elderberry shrubs. Compensation for direct and indirect effects on Valley elderberry longhorn beetle habitat will be in compliance with USFWS-approved guidelines and conditions of the biological opinion. A riparian restoration plan will be developed and implemented to restore riparian habitat along Big Chico Creek.

- Air Quality: Fugitive dust and emissions during construction will be controlled with best available measures so that the amount of such dust and emissions are reduced, as required by Butte County Air Quality Management District.
- Noise: The project proponent will employ noise-reduction design features in the design of the proposed project. Implement equipment noise reduction measures in compliance with the City of Chico's noise ordinance.
- Cultural Resources: Work shall be stopped in affected areas if cultural resources are discovered during project construction and appropriate measures will be implemented. The lead agency will consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist and/or paleontologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards and CEQA Guidelines, Section 15064.5.
- Transportation: The project proponent will relocate the Class III bicycle route to Sherman Avenue/Mildred Avenue.

Based on its independent review of the DEIR, FEIR, Addendum, and the Butte County Association of Governments Resolution 2003/04-10, the Board finds that for each of the significant impacts described above, changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR. Moreover, such changes or alterations are within the responsibility and jurisdiction of another public agency, the Butte County Association of Governments, and such changes have been adopted by that agency.

## **7.2 – Significant Unavoidable Adverse Impacts of the Project**

- The short-term impacts of the removal of native trees measuring 12 inches diameter at breast height or greater from the project area.

The Board further finds that none of the significant unavoidable adverse impacts of the project are within the Board's jurisdiction. The Board also finds that the specific economic, legal, social, technological or other benefits of the project, as listed above, outweigh the unavoidable adverse environmental effects, which are thus considered to be "acceptable."

### **7.3 – Statement of Overriding Considerations**

The Butte County Association of Governments adopted Resolution 2003/04-10 including the Statement of Overriding Considerations. The Board concurs with this Statement.

The Board has independently considered the significant and unavoidable environmental impacts of the proposed project. The Board has also considered the benefits of the project, including improving the safety and traffic operations of southbound and northbound SR 99 traffic within the project limits, thereby reducing the currently high traffic accident rate along this segment. The proposed project will reduce traffic delays within the project limits by improving access across Bidwell Park, by improving the SR 32 and East 1<sup>st</sup> Avenue ramp merge areas, and by reducing congestion at the SR 99/East 1<sup>st</sup> Avenue intersections. These improvements promote safe and efficient vehicle circulation, an important goal of the City of Chico General Plan. The Board finds that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects of the project, and the adverse environmental effects are considered acceptable when these benefits of the project are considered.

The documents and other materials which constitute the record of the Central Valley Flood Board's proceedings in this matter are in the custody of Jay Punia, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

### **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

This project has no negative impacts on the State Plan of Flood Control. Both hydraulic and structural impacts from the project construction are negligible.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

Climate change issues have not been taken into account in the hydraulic analysis for this project; however, it is assumed to be inland past the point tidal influence raises in WSE, and due to the excessive amount of freeboard in the channel at this location, the project would have an ample factor of safety built into it. Climate change WSE raises are only estimated from 6-inches to 1-foot of impact and would be well within the freeboard of this project in the event that tidal influences did reach further inland than expected. There are no other foreseeable projected future events that would impact this project.

### **9.0 – STAFF RECOMMENDATION**

Staff recommends that the Board adopt the CEQA findings, approve the permit conditioned upon receipt and review of a favorable U.S. Army Corps of Engineers 208.10 comment letter and direct staff to file a Notice of Determination with the State Clearinghouse.

### **10.0 – LIST OF ATTACHMENTS**

- A. Draft Permit No. 18581
- B. Location Maps and Photos
- C. Construction Plan and Details
- D. HEC-RAS Hydraulic Section

**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18581 BD**

**This Permit is issued to:**

Butte County Association of Governments  
2580 Sierra Sunrise Terrace, Suite 100  
Chico, California 95928

To widen State Route 99 at two viaduct structures crossing Big Chico Creek and Bidwell Park, located in Chico, California. Within and immediately adjacent to the creek, 6 new piers will be added to support the structure widening. The piers will be founded on spread footings below existing grade. Approximately 64 linear-feet of rock slope protection will be placed within the channel to protect the bridge foundation. Approximately 250-sf of existing paved bike path will be realigned (removed and replaced) just downstream of the piers on each bank. The project is located in Chico along Highway 99 (Section 26, T22N, R1E, MDB&M, Big Chico Creek, Butte County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18581 BD**

**THIRTEEN:** All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

**FOURTEEN:** There shall be no plantings within the project area under this permit, except that of native grasses that may be required for slope protection of the fill placement. However, within 1-year from the date of this permit, the applicant must submit an application for a proposed vegetative mitigation plan to include a detailed planting plan and a corresponding hydraulic analysis.

**FIFTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend and hold harmless the State of California, or any departments thereof, from any liability or claims of liability associated therewith.

**SIXTEEN:** The Central Valley Flood Protection Board and Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

**SEVENTEEN:** No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

**EIGHTEEN:** Prior to start of any demolition and/or construction activities within the Big Chico Creek Project Channel, the applicant shall provide the Central Valley Flood Protection Board with two sets of layout plans for any and all temporary, in channel cofferdam(s), gravel work pad(s), work testle(s),

scaffolding, piles and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15.

NINETEEN: Debris that may accumulate on the permitted encroachment(s) and/or any temporary falswork within the project channel shall be cleared off and disposed of outside the floodway after each period of high water.

TWENTY: The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

TWENTY-ONE: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-TWO: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-THREE: Fill material shall be placed only within the area indicated on the approved plans.

TWENTY-FOUR: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

TWENTY-FIVE: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the Big Chico Creek Project Channel.

TWENTY-SIX: The soffit of the bridge shall provide a minimum freeboard of 3-feet above the design flood elevation.

TWENTY-SEVEN: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

TWENTY-EIGHT: Revetment shall be quarry stone and shall meet the following grading:

#### Quarry Stone

Stone Size	Percent Passing
15 inches;	100
8 inches;	80-95
6 inches;	45-80
4 inches;	15-45
2 inches;	0-15

TWENTY-NINE: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

THIRTY: The recommended minimum thickness of revetment, measured perpendicular to the bank or levee slope, is 18 inches below the usual water surface and 12 inches above the usual water surface.

THIRTY-ONE: All debris generated by this project shall be disposed of outside the Big Chico Creek Project Channel.

THIRTY-TWO: The work area shall be restored to the condition that existed prior to start of work.

THIRTY-THREE: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section upon completion of the project.

THIRTY-FOUR: If the project result(s) in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

THIRTY-FIVE: In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

THIRTY-SIX: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

THIRTY-SEVEN: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

THIRTY-EIGHT: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

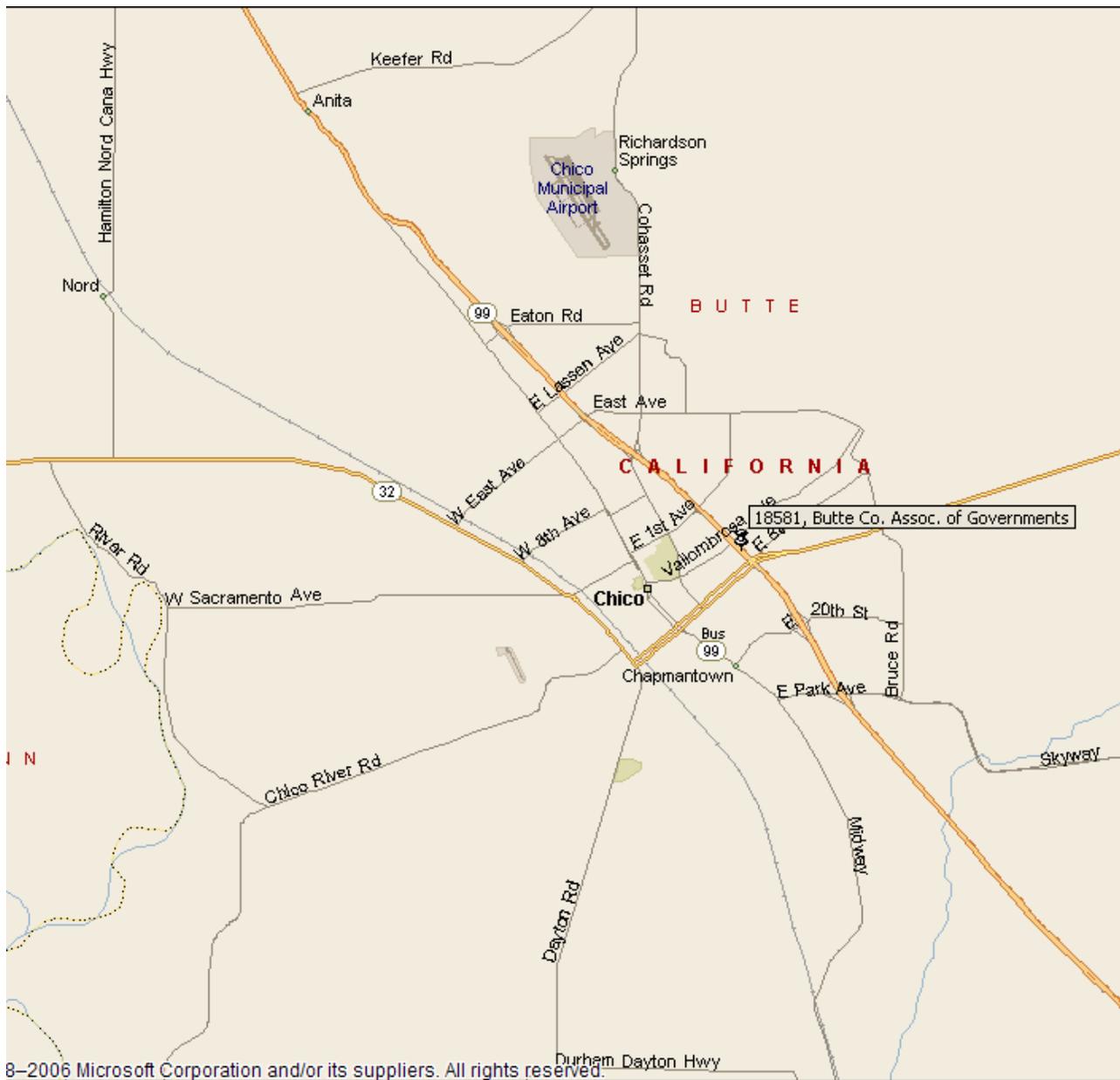
THIRTY-NINE: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

FORTY: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers dated XXXX, which is attached to this permit as Exhibit A and is incorporated by reference.

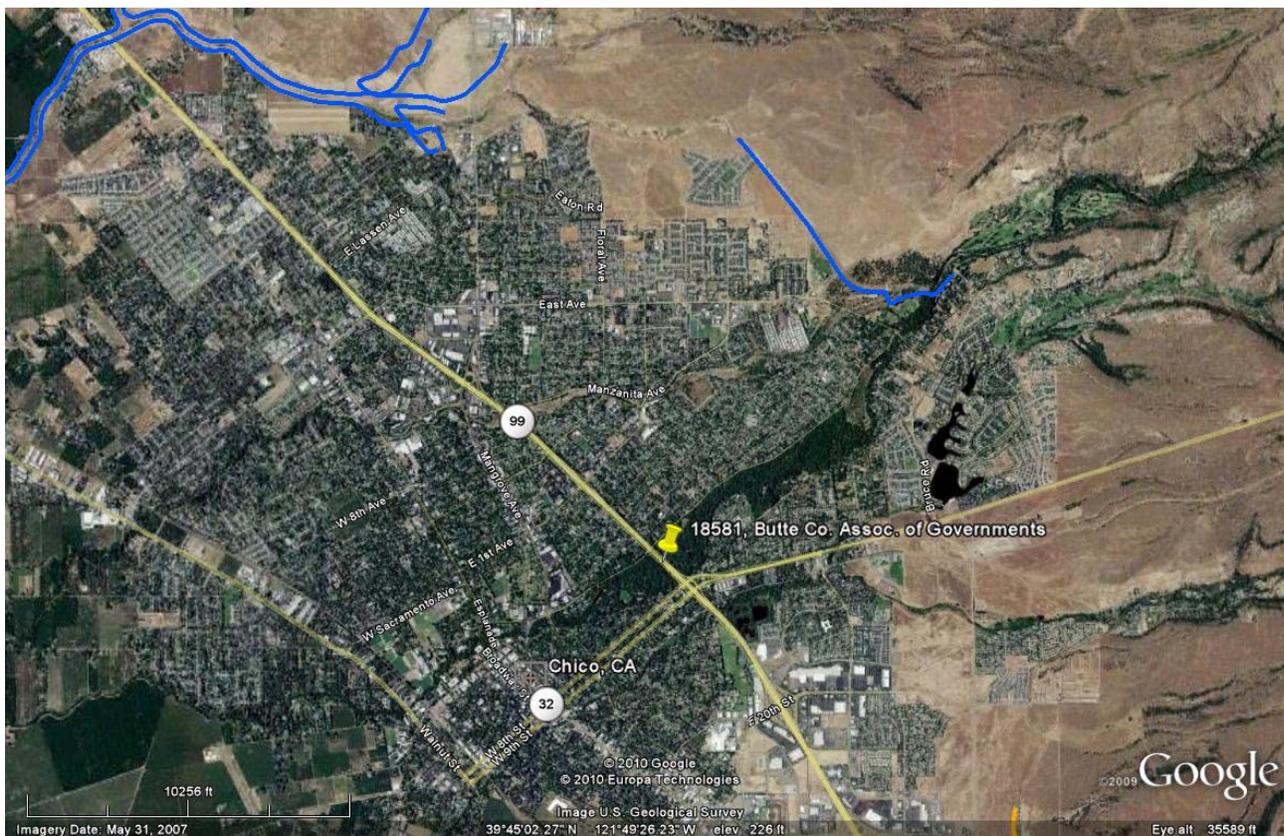
## **ATTACHMENT A – Exhibit A: Corps 208.10 Letter**

This letter has not been received by Board staff; however, it is expected to arrive prior to the Board Meeting on June 25, 2010

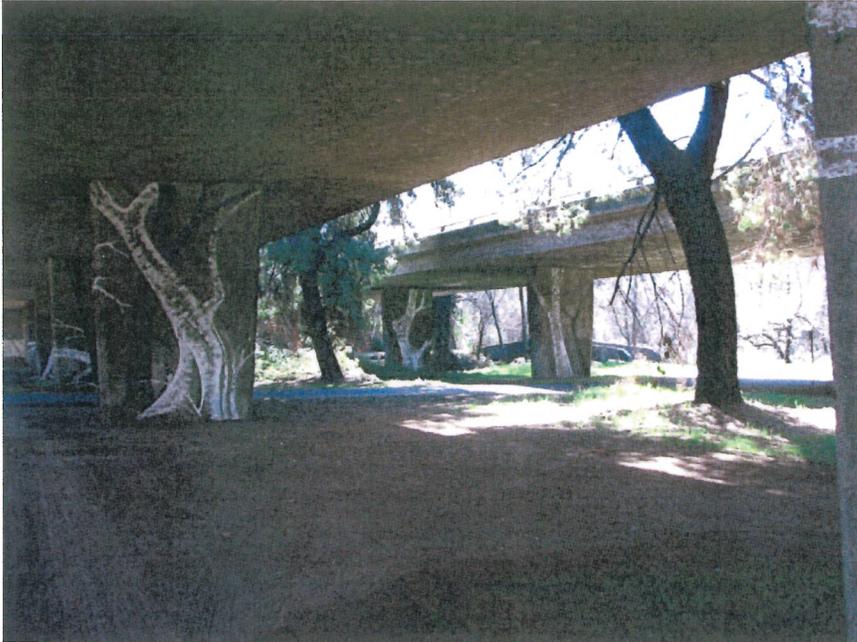
### Vicinity Map



### Project Location Map



**Photos from Bidwell Park (Big Chico Creek floodplain) at State Route 99  
March 3, 2008**



Facing south. Northbound SR 99 viaduct structure (above) southbound viaduct structure (right). Pedestrian Bridge across Big Chico Creek in background (right)



Facing south-southeast. Southbound viaduct structure (above). Pier 6 (left) Pier 5 and 4 (center) span Big Chico Creek



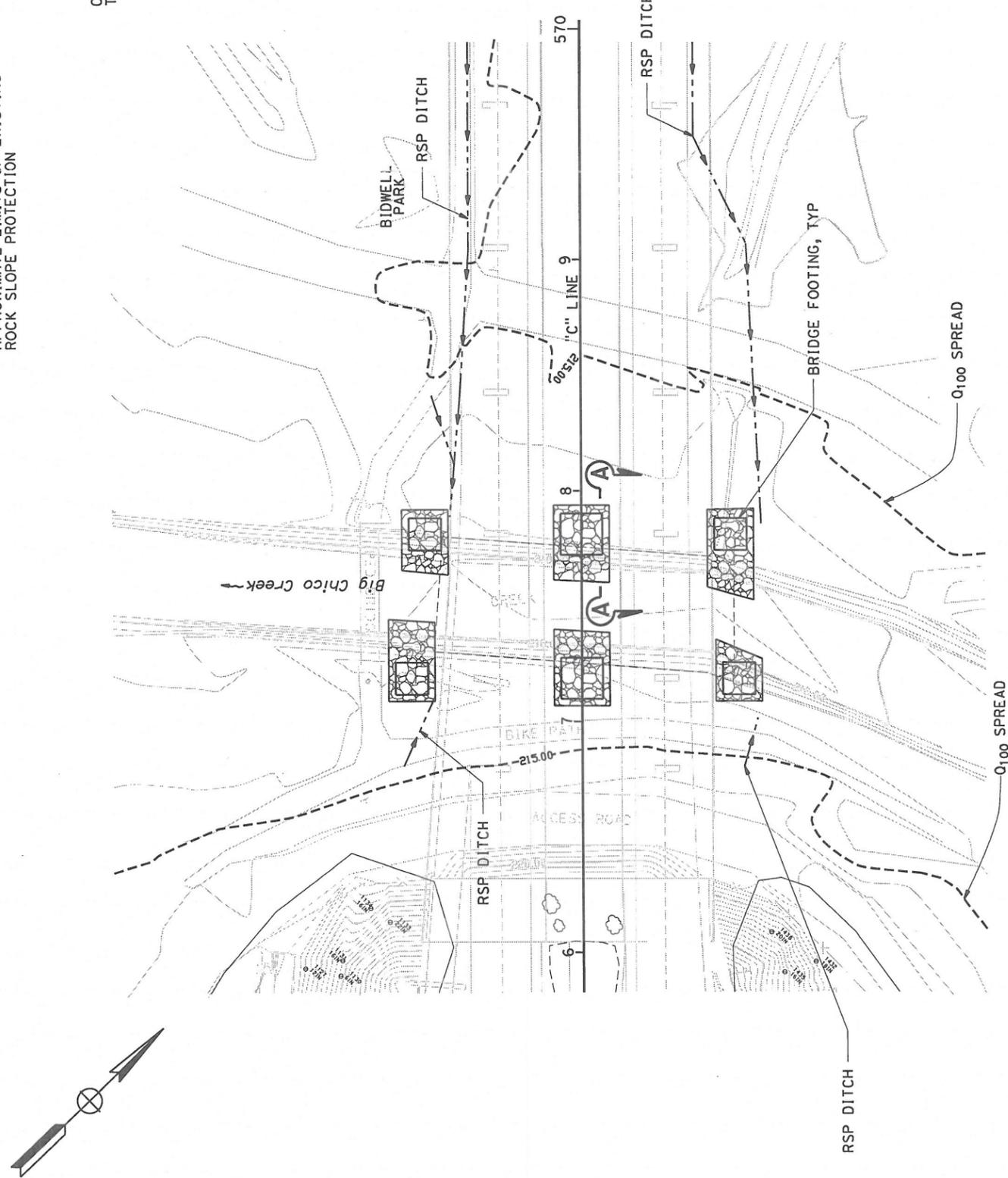
Facing east (upstream) from southbound viaduct structure



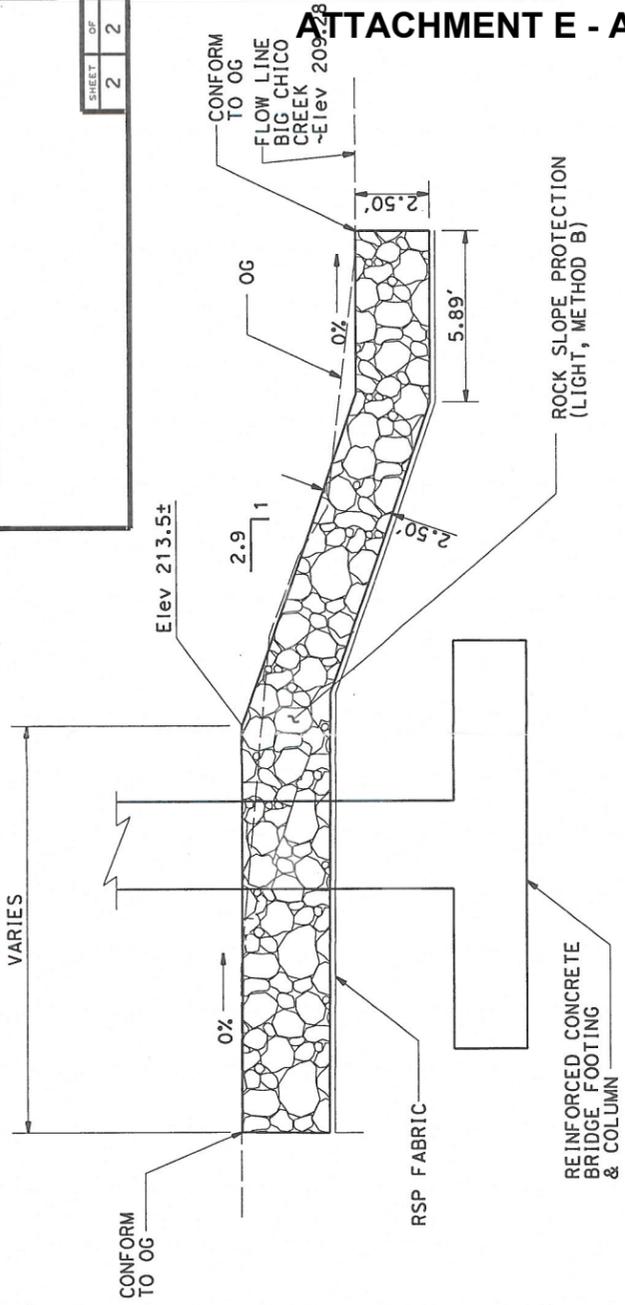
Typical vegetation in Bidwell Park (just upstream of SR 99)

- NOTES:
1. THIS PLAN ACCURATE FOR ROCK SLOPE PROTECTION ONLY.
  2. SECTION A-A IS TYPICAL AT NEW BRIDGE FOOTING LOCATIONS.

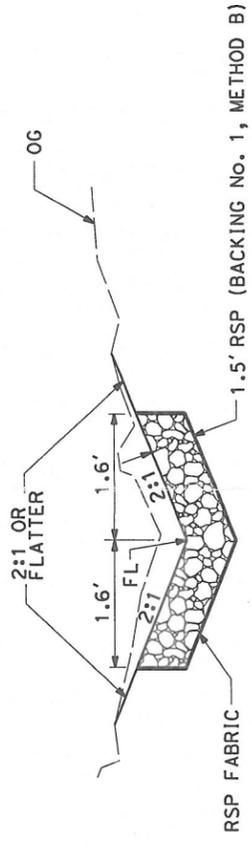
- LEGEND:
- ROCK SLOPE PROTECTION (RSP)
  - APPROXIMATE LIMITS OF EXISTING ROCK SLOPE PROTECTION



ROCK SLOPE PROTECTION PLAN  
SCALE 1"=30'



SECTION A-A  
NO SCALE  
(SEE NOTE 3)



RSP LINED DITCH  
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CAROLYN DAVIS	CHECKED BY	C. GIBSON	DATE REVISID	REVISID BY	R. FERGUSON

Auxiliary Lanes and Ramp Improvements  
in Butte County on SR 99 for BCAG

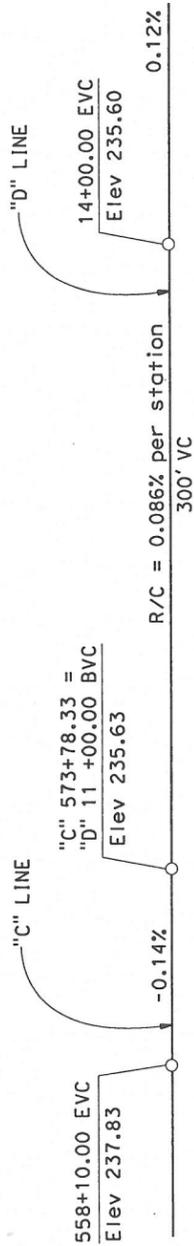
QUINCY ENGINEERING, INC

2-25-10  
Date Prepared

SHEET OF  
1 2

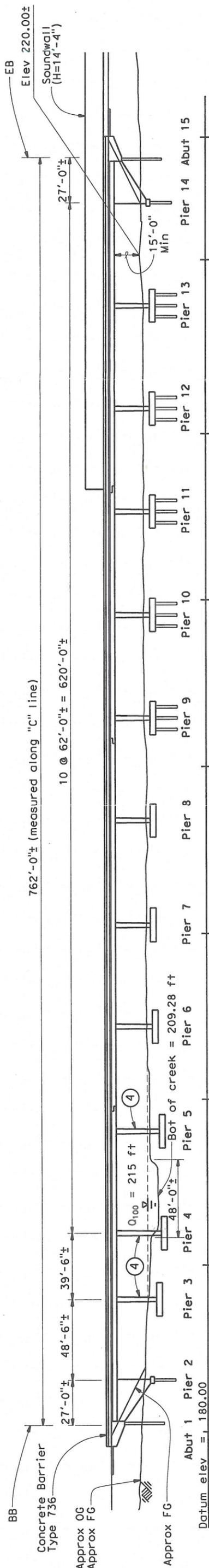
Legend:

- ① Indicates Min Vert Clearance
- ① Concrete Barrier, Type 60A
- ② Exist Structure Approach Type N(30D)
- ③ New Structure Approach Type N(30D)
- ④ New Columns constructed with Reinforced Concrete
- ⑤ Rock Slope Protection (Light Grading, Placement Method B)

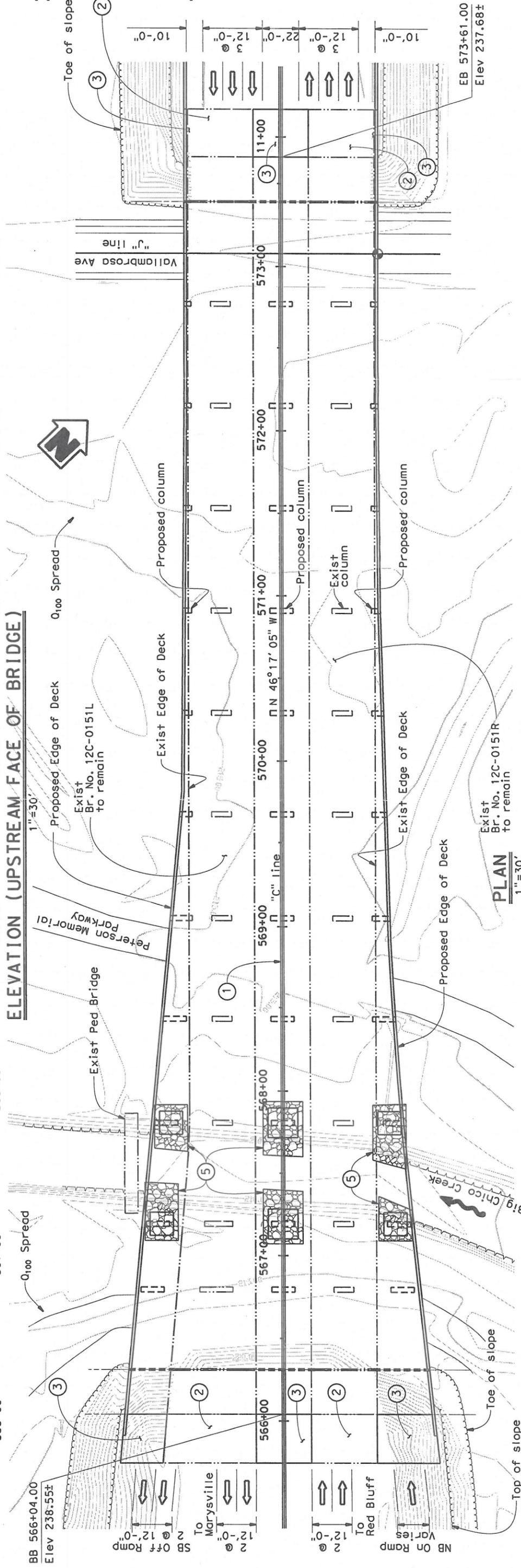


**PROFILE GRADE (BRIDGE DECK)**

NO SCALE



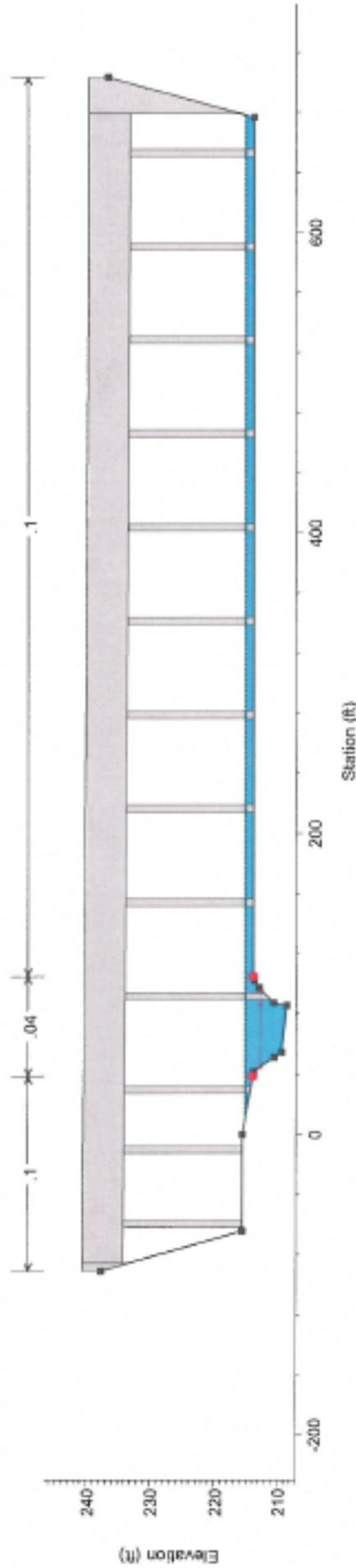
**ELEVATION (UPSTREAM FACE OF BRIDGE)**



**PLAN**  
1" = 30'

DESIGN OVERSIGHT	DESIGN BY M. Kott	CHECKED T. Osterkamp	LOAD AND FACTOR DESIGN BY M. Kott	LIVE LOADING: HL-93 WITH "LOW-BOY" AND PERMIT DESIGN VEHICLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 12-151R/L	BIDWELL PARK VIADUCT WIDEN
DESIGN DETAILS	BY J. Blong	CHECKED T. Osterkamp	LAYOUT BY M. Kott	CHECKED T. Osterkamp	PROJECT ENGINEER	POST MILES	
DESIGN QUANTITIES	BY M. Kott	CHECKED V. Doctolero	SPECIFICATIONS BY	CHECKED	CU 03-199 EA 03-3A0421	REVISION DATES (PRELIMINARY STAGE ONLY)	GENERAL PLAN
DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 5/9/00)							

Proposed Inside Widen SR99 Butte County Plan: Proposed Minus Widening 3/22/2010



Legend
EG Q200
WS Q200
Crit Q200
Ground
Bank Sta