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SUPPLEMENT TO STANDARD
OPERATION AND MAINTENANCE
MANUAL

SACRAMENTO RIVER
FLOOD CONTROL PROJECT

UNIT NO. 124

NORTH LEVEE OF AMERICAN RIVER
FROM
NATOMAS EAST CANAL TO THE SACRAMENTO RIVER
AND
EAST LEVEE OF THE SACRAMENTO RIVER
FROM
NATOMAS CROSS CANAL TO AMERICAN RIVER



SACRAMENTO DISTRICT
CORPS OF ENGINEERS
U. S. ARMY
SACRAMENTO, CALIFORNIA

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15 March 1954

SUBJECT: Operation and Maintenance Manuals

MEMORANDUM TO: CHIEF, CONSTRUCTION-OPERATIONS DIVISION

A Supplement to the Standard Operation and Maintenance Manual for the Sacramento River Flood Control Project, Unit No. 124, entitled, "North Levee of the American River from Natomas East Canal to the Sacramento River and East Levee of the Sacramento River from Natomas Cross Canal to the American River," is submitted herewith.

1. Incl

1. O & M Manual

cc: Levees


F. KOCHIS
Chief, Engineering Division

Copies furnished: —

| | |
|-------------------------|----------|
| State Reclamation Board | 2 copies |
| Water Resources | 2 " |
| Division Engineer | 2 " |

15 March 1954

SPRING

SUBJECT: Operation and Maintenance Manual

MEMORANDUM FOR: CHIEF, CONSTRUCTION-OPERATIONS DIVISION

A Supplement to the Standard Operation and Maintenance Manual for the Sacramento River Flood Control Project, Unit No. 134, entitled, "North levee of the American River from National West Canal to the Sacramento River and East levee of the Sacramento River from National Cross Canal to the American River," is submitted herewith.

E. MOORE
Chief, Engineering Division

I. O. & M Manual
I. O. & M Manual

cc: Levese

Levese Manual

State Department, Bureau of Reclamation, Division of Operations

CORPS OF ENGINEERS
U. S. ARMY

SUPPLEMENT TO STANDARD
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SACRAMENTO RIVER FLOOD CONTROL PROJECT

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FROM
NATOMAS CROSS CANAL TO AMERICAN RIVER

Prepared by the Sacramento District
Corps of Engineers, U. S. Army
Sacramento, California, dated June 1953

**SUPPLEMENT TO STANDARD
OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER FLOOD CONTROL PROJECT**

UNIT NO. 124

NORTH LEVEE OF AMERICAN RIVER FROM
NATOMAS EAST CANAL TO THE SACRAMENTO RIVER
AND EAST LEVEE OF THE SACRAMENTO RIVER FROM
NATOMAS CROSS CANAL TO AMERICAN RIVER

| LOCATION | ADDITION OR REVISION | DATE |
|---------------------|--|-------------|
| 1-03 | Add contract no. 57-43 | Nov 1963 |
| Exhibit B | Add drawing no. 50-4-3285 | Nov 1963 |
| 1-03 | Add contract no. 66-50 | Dec 1966 |
| Exhibit B | Add drawing no. 50-4-4004 | Dec 1966 |
| Exhibit F | Add letter of acceptance dated 28 Jun 1966 | Dec 1966 |
| 1-03 c. | Add contract no. DACW05-68-C-0014 | Dec 1968 |
| Exhibit B | Add drawing no. 50-4-4078 | Dec 1968 |
| Exhibit F | Add letter of acceptance dated 23 Dec 1968 | Dec 1968 |
| 1-03 d. | Add contract no. DACW05-70-C-0008 | Mar 1971 |
| Exhibit B | Add drawing no. 50-4-4310 | Mar 1971 |
| Exhibit F | Add copy of letter of acceptance dated 2 Oct 1970 | Mar 1971 |
| 1-03 | Add subparagraph e. | Nov 1975 |
| 2-02 | Add subparagraph e. | Nov 1975 |
| Exhibit B | Add drawing no. 50-4-4713 | Nov 1975 |
| Exhibit F | Add copy of letter of acceptance dated 30 May 1974 | Nov 1975 |
| 1-03 | Add subparagraph f. | Nov 1983 |
| Section II, page 16 | Add paragraph 2-05 | Nov 1983 |
| Exhibit B | Add drawing no. 50-4-5433 | Nov 1983 |
| Exhibit F | Add copy of letter of transfer dated 14 Dec 1979 | Nov 1983 |
| 1-03 | Add subparagraph g. | Sep 1990 |
| Exhibit B | Add drawing no. 50-4-5714 | Sep 1990 |
| Exhibit F | Add letter of transfer dated 22 Dec 1986 | Sep 1990 |
| Exhibit F | Add letter of transfer dated 30 Nov 1987 | Sep 1990 |
| 1-03 | Add subparagraph h. | Jul 1993 |
| Exhibit B | Add drawing no. 50-4-5820 | Jul 1993 |
| Exhibit F | Add copy of letter of transfer dated 16 Apr 1993 | Jul 1993 |
| 1-03 | Add subparagraph i. | Aug 1993 |
| 2-04 | Add subparagraph (7) | Aug 1993 |
| Exhibit A-2 | Add location map of observation wells | Aug 1993 |
| Exhibit B | Add drawing no. 50-4-5833 | Aug 1993 |
| Exhibit F | Add copy of letter of transfer dated 28 Apr 1993 | Aug 1993 |
| Exhibit F | Add letter of acceptance dated 27 Dec 1993 | 22 Dec 2010 |

| LOCATION | ADDITION OR REVISION | DATE |
|-----------------|--|-------------|
| Exhibit F | Add copy of letter of acceptance 19 Mar 1951 | 22 Dec 2010 |
| Exhibit F | Add copy of letter of acceptance dated 20 Apr 1951 | 22 Dec 2010 |
| Exhibit F | Add copy of letter of transfer dated 8 Dec 1951 | 22 Dec 2010 |
| 1-03 | Add subparagraph j | 22 Dec 2010 |
| Exhibit F | Add copy of letter of transfer dated 30 June 1987 | 22 Dec 2010 |
| Exhibit B | Add drawing no. 50-4-5768 | 22 Dec 2010 |
| Exhibit F | Add copy of letter of transfer dated 5 Nov 1968 | 2 Feb 2011 |
| Exhibit F | Add copy of letter of transfer dated 28 Sep 1970 | 2 Feb 2011 |
| Exhibit F | Add copy of letter of transfer dated 20 May 1974 | 8 Mar 2011 |
| Exhibit F | Add copy of letter of acceptance dated 9 Jan 1980 | 8 Mar 2011 |
| Exhibit F | Add copy of letter of transfer dated 29 Nov 2016 | 29 Dec 2016 |

SUPPLEMENT TO STANDARD
OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER FLOOD CONTROL PROJECT
UNIT NO. 124

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| C | Plates of Suggested Flood Fighting Methods | Unattached (Contained in Standard Manual) |
| D | Check List No. 1 - levee Inspection Report | Unattached (Contained in Standard Manual) |
| E | Check Lists - Levee, Channells, and Structures | Sheet 1 thru 7 |
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SECTION I - INTRODUCTION

1-01. Location. - The improvement covered by this manual is that part of the Sacramento River Flood Control Project which includes the North levee of the American River from Natomas Canal to the Sacramento River and the East levee of the Sacramento River from Natomas Cross Canal to the mouth of the American River. The levees of this unit form a portion of the boundary of Reclamation District No. 1000 and are located in Sacramento and Sutter Counties, California. The location of the completed unit covered by this manual is shown on Exhibit A-1 and is in the general vicinity of the Town of Verona and the City of Sacramento.

1-02. Protection provided. - The levees of this unit provide direct protection to agricultural lands against high water of the Sacramento River and the American River. The grade of the adopted flood plane profile along the main channel of the Sacramento River varies from elevation 41.0 at Natomas Cross Canal to elevation 34.7 at the mouth of the American River. The grade of the adopted flood plane profile in the American River varies from elevation 36.0 at Natomas East Canal to elevation 34.7 at the junction with the Sacramento River. Allowance for freeboard along both levees is in excess of 3 feet. The project design flood for the Sacramento River is 107,000 cubic feet per second and the project design flood for the American River is 180,000 cubic feet per second within the limits of this levee unit. In the event of high water as reflected on the U. S. Weather Bureau gage at the "I" Street Bridge, the Sacramento Weir is opened in order to control the flood stage in the river to 29.0 insofar as possible. With the Sacramento Weir in operation, flows in that portion of the Sacramento River from Sacramento Weir to the American River may vary from 107,000 cubic feet per second in a downstream direction to as much as 80,000 cubic feet per second in an upstream direction.

1-03. Project Works. Levees Within this unit have been built by local interests and equal or exceed the adopted section and grade requirements. For this reason, no new construction was necessary. A surfaced County Road has been built on the crown of the levees throughout their entire length, as shown on Drawing No. 50-13-2810, sheets 1 to 10, inclusive. (See Exhibit "B").

a. Emergency levee repairs, left bank Sacramento River, R.D. 1000-mile 75.5 was accomplished under Contract No. DA-04-167-CIVENG-57-43 by Claude L. Youngs, contractor, during the period from 20 September 1956 to 23 October 1956. Specification No. 2209, Drawing No. 50-4-3285.

b. Bank protection on the left bank of the Sacramento River at Mile 77.6 (Unit No. 8) was accomplished under Contract No. DA-04-167-CIVENG-66-50 by H. Earl Parker, Inc. during the period from 18 October 1965 to 14 June 1966. Specification No. 3154, Drawing No. 50-4-4004.

c. Bank protection on the left bank of the Sacramento River at Mile 61.5 (Unit No. 12) was accomplished under contract No. DACW05-68-C-0014 by A. Teichert and Son, Inc. and completed in November 1968. Specification No. 3288, Drawing No. 50-4-4078.

d. Bank protection on the left bank of the Sacramento River at Mile 61.0 (Unit No. 16) was accomplished under contract No. DACW05-70-C-0008 by H. Earl Parker during the period from 25 July 1969 to 23 September 1970. Specification No. 3390, Drawing No. 50-4-4310.

e. Bank protection and selective clearing on the left bank of the Sacramento River at Site Miles 77.4, 77.6, and 78.5 (Unit No. 24) was accomplished under Contract No. DACW05-73-C-0038 by Claude C. Wood during the period from 11 October 1972 to 6 January 1975. Specification No. 4169, Drawing No. 50-4-4713.

f. Bank sloping, stone protection and selective clearing on the left bank of the Sacramento River at Site Miles 77.8, and 78.4 (a portion of Unit 34) was accomplished under Contract NO. DACW05-78-C-0046 by Claude C. Wood. Construction was completed on 7 November 1979. Specification No. 5403, Drawing No. 50-4-5433.

g. Bank sloping, stone protection and selective clearing on the right bank of the Sacramento River at Site Mile 78.2 (a portion of Contract 38B) was accomplished under Contract No. DACW05-86-C-0079. Specification No. 7082, Drawing No. 50-4-5714.

h. Construction of approximately 12.2 miles of levee berm and drain construction on the landside slope of the Reclamation District 1000 levee between the Natomas Cross Canal and Powerline Road. This was accomplished under Contract No. DACW05-91-C-0029, Specification No. 8846, and Drawing No. 50-4-5820.

i. Construction of a slurry cutoff wall in the Reclamation District Number 1000 levee between Powerline Road and the Natomas Main Drainage Canal. Observation wells

were placed at various locations along the slurry cutoff wall (EXHIBIT A-2). This work was accomplished under Contract No. DACW05-91-C-0103, Specification No. 8872, Drawing No. 50-4-5833.

j. Emergency repairs on the left bank of the Sacramento River, Miles 2.38 to 12.48 in Reclamation District 1000 was completed on 8 June 1987 under Contract No. DACW05-87-C-0016. Drawing No. 50-4-5768.

k. Site R1: Construction of slurry cutoff wall and CLSM, 282 foot long, 75 foot deep. Located in the left bank levee of the Sacramento River (Garden Highway), between Natomas Main Drain Canal Pumping Plant 1A and the Reclamation District 1000 office. See as-built sheets C-103 and C-104 for additional improvement location details. Construction was completed in November 2009 in accordance with American River Common Features Remaining Sites - WRDA 1996 Project Phase 1 –Contract A, Specification Number 1682, Design File Number 1-04-0536, Contract Number W91238-09-R-0037.

l. Right (North) Bank Levee Strengthening: Slurry cutoff wall construction contract. Contract Number DACW05-99-0048, Specification Number 9985, Design File Number AMI-4-793. Construction was performed by Soletanche Inquip and completed in November 2000.

1-04. Flood Flows. For purposes of this manual, the term "flood" or "high water period" shall refer to flows when the water surface near Verona reaches or exceeds a reading of 35.0 on the U.S.G.S. gage or when the water surface at the "I" street Bridge in Sacramento reaches or exceeds 25.0 on the U. S. Weather Bureau gage, or when the water surface reaches or exceeds the reading of 40.0 on the Division of Water Resources gage at the American River Bridge at "H" street.

1-05. Assurances provided by local interests. Assurance of cooperation by local interests is provided by state legislation, as contained in Chapter 3, Part 2, Division 5 of the State Water Code (see paragraph 2-02a of the standard Manual).

a. American River Watershed, Common Features - Project Cooperation Agreement and Amendments. EXHIBIT H

1-06. Acceptance by State Reclamation Board. Responsibility for operating and maintaining the completed works was officially accepted by the Reclamation Board of the state of California on 18 December 1951, as shown on the attached letter of acceptance, Exhibit F.

1-07. Superintendent. The name, address and telephone number of the Superintendent appointed by local interests to be responsible for the continuous inspection, operation, and maintenance of the project works shall be furnished the District Engineer, and in case of any change of Superintendent, the District Engineer shall be so notified.

SECTION II - FEATURES OF THE PROJECT SUBJECT
TO FLOOD CONTROL REGULATIONS

2-01. Channels. -

a. Description. The principal structures consist of:

(1) Channels. Flood flows along the reach of the Sacramento River from Natomas Cross Canal to the mouth of the American River are relieved at Fremont Weir on the Northerly end. Likewise, flood flows of the American River are partially relieved at the Sacramento Weir when placed in operation at a gage reading of 29.0 at the "I" Street Bridge.

Since the channel of the Sacramento River from Natomas Cross Canal to the American River is utilized for navigable purposes, the responsibility of local interests for inspection, maintenance and operation of the channel shall be limited to flood control and the requirements of subparagraphs 2-01b, c, and d, which follow, shall be observed only to that extent.

The channel of the American River within this unit shall be inspected, maintained and operated as outlined in the following subparagraphs 2-01b, c and d.

b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, Par. 208.10(g)(1) are quoted in part as follows:

"(g) Channels and Floodways (1) Maintenance. Periodic inspections of improved channels and floodways shall be made by the Superintendent to be certain that:

- (i) The channel or floodway is clear of debris, weeds, and wild growth;
- (ii) The channel or floodway is not being restricted by the depositing of waste materials, building of unauthorized structures or other encroachments;
- (iii) The capacity of the channel or floodway is not being reduced by the formation of shoals;
- (iv) Banks are not being damaged by rain or wave wash, and that no sloughing of banks has occurred;
- (v) Riprap sections and deflection dikes and walls are in good condition;

- (vi) Approach and egress channels adjacent to the improved channel or floodway are sufficiently clear of obstructions and debris to permit proper functioning of the project works. Such inspections shall be made prior to the beginning of the flood season and otherwise at intervals not to exceed 90 days. Immediate steps will be taken to remedy any adverse conditions disclosed by such inspections....."

(2) The purpose of the flood-flow channels inspection is to insure that conditions which affect the channel capacity will remain the same, as far as possible, as those considered in the design assumptions and that no new conditions develop that may affect the stability of the project structures. At each inspection required by Par. 208.10(g) (1) of the Flood Control Regulations, particular attention will, therefore, be given the following:

- (a) Location, extent and size of vegetal growth.
- (b) Unauthorized operations within the flood-flow channel right-of-way, such as excavations, buildings, and other structures, levees, bank protection, or training dikes.
- (c) Rubbish and industrial waste disposal.
- (d) Changes in the channel bed such as aggradation or degradation, which would interfere with free-flow from side drainage structures or induce local meanders that would scour the banks.
- (e) Operations of any nature upstream from the project that would affect flow conditions within the limits of the flood control project.
- (f) Condition of project structure.
 - 1. Channel walls:
 - a. Deviation from alignment and grade.
 - b. Development of cracks and spalls.
 - c. Mechanical injuries.
 - 2. Fencing:
 - a. Injuries to posts, fencing or barbed wire.
 - b. Damage to galvanizing.

3. Earth fills:

- a. Settlement.
- b. Erosion of levee slopes.
- c. Excessive seepage or saturation area back of fills.
- d. Condition of bank protection - concrete or stone blanket.

4. Right-of-way:

- a. Presence of dumped refuse.
- b. Encroachment of trespass.

(3) No excavation within the limits of the Sacramento River Channel from Natomas Cross Canal to the American River or along the American River Channel from Natomas East Canal to the Sacramento River will be permitted unless an excavation permit has been approved by the State Reclamation Board.

(4) If any work is done to improve flow conditions in subject channels, it should be coordinated with the District Engineer to insure that proper provisions are made for channel alignment and capacity to conform to the existing project.

(5) The intent of these inspections is to disclose all conditions which in any way affect the stability of the structures and their functioning for the control of floods. Each inspection report should note and comment on any repair measures that have been taken since the last inspection. In making these inspections, the check sheets included as Exhibit E shall be explicitly followed.

c. Maintenance.

(1) Pertinent Requirements of the Code of Federal Regulations, Flood Control Regulations, Par. 208.10(g)(1) are quoted in part as follows: ".... Immediate steps will be taken to remedy any adverse conditions disclosed by such inspection"

(2) Shoaling or aggradation at the inlets or outlets of side drainage structures may render them inoperative. It is, therefore, imperative that all drains be kept open and unobstructed at all times.

(3) Dumped rock or other suitable types of protection should be placed at locations found by experience to be critical trouble points, with a view to stabilizing the channel alignment and preserving the general uniformity of the bank lines.

(4) Sediment and debris plugs or other obstructions should be removed from the channel to prevent any tendency for the flows to be deflected within the channel. The heavy material likely to accumulate in the new channel at the mouths of tributaries should be removed to keep the channel clear.

(5) The channel and right-of-way shall be kept reasonably clear of debris, refuse matter, or industrial wastes.

(6) Weeds and other vegetal growth in the channel shall be cut in advance of the flood season and together with all debris, removed from the channel.

(7) All eroded concrete shall be repaired as soon as reinforcing steel is exposed or erosion reaches a depth of 4 inches. For this purpose, it is recommended that the repair be made by thoroughly cleaning the surface by sandblasting and building up the section with pneumatically placed Portland cement mortar. All evidence of settlement, uplift, or failure of concrete structures shall be referred to the State Engineer for analysis and remedial measures.

(8) All damage to fencing, whether resulting from accidental or willful injuries or from corrosion, shall be promptly repaired with new material in order to maintain satisfactory protection to the public.

(9) All subdrainage structures which have become cemented due to the evaporation of ground water or other causes, shall be thoroughly cleaned out and repacked with fresh gravel.

d. Operation.

(1) Pertinent Requirements of the Code of Federal Regulations. Par. 208.10(g)(2), are quoted in part as follows:

"(g) Channels and floodways..... (2) Operation. Both banks of the channel shall be patrolled during periods of high water Appropriate measures shall be taken to prevent the formation of jams of debris. Large objects which become lodged against the bank shall be removed. The improved channel or floodway shall be thoroughly inspected immediately following each major high water period. As soon as practicable thereafter all snags and other debris shall be removed and all damage to walls, drainage outlets or other flood control structures repaired."

(2) It shall be the duty of the Superintendent to maintain a patrol of the project works during all periods of flow in excess of a reading of 25.0 on the U. S. Bureau gage at "I" Street Bridge in the City of Sacramento or above a reading of 40.00 on the Division of Water Resources gage at the American River Bridge at "H" Street.

2-02. Levees. -

a. Description. The levees described in this manual are located along the north bank of the American River from Natomas East Canal to the Sacramento River and along the east bank of the Sacramento River from Natomas Cross Canal downstream to its junction with the American River. For more complete details of items included in construction of above-mentioned levees, refer to the "as constructed" drawings of Exhibit B. Structures affecting levee maintenance are listed in Exhibit E. Records of construction of levees within this unit are not available but it is probable that the bulk of the fill required to construct the levees was obtained by dredging the adjacent stream channel.

b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations Flood Control Regulations, paragraph 208.10(b)(1), are quoted in part as follows:

"(b) Levees - (1) Maintenance Periodic inspection shall be made by the Superintendent to be certain that:

(i) No unusual settlement, sloughing, or material loss of grade of levee cross section has taken place;

(ii) No caving has occurred on either the landside or the riverside of the levee which might affect the stability of the levee section;

(iii) No seepage, saturated areas, or sand boils are occurring;

(iv) Toe drainage systems and pressure relief wells are in good working condition, and that such facilities are not becoming clogged;

(v) Drains through the levees and gates on said drains are in good working condition;

(vi) No revetment work or riprap has been displaced, washed out, or removed;

- (vii) No action is being taken, such as burning grass and weeds, during inappropriate seasons, which will retard or destroy the growth of sod; (see Note (a) at end of subparagraph (1).)
- (viii) Access roads to and on the levee are being properly maintained;
- (ix) Cattle guards and gates are in good condition;
- (x) Crown of levee is shaped so as to drain readily, and roadway thereon, if any, is well shaped and maintained.
- (xi) There is no unauthorized grazing or vehicular traffic on the levees.
- (xii) Encroachments are not being made on the levee right-of-way which might endanger the structure or hinder its proper and efficient functioning during times of emergency.

Such inspections shall be made immediately prior to the beginning of the flood season, immediately following each major high water period, and otherwise at intervals not exceeding 90 days; and such intermediate times as may be necessary to insure the best possible care of the levee ..."

Note (a)

Since the growth of sod on the slopes of the levees of this project is not practicable and as the nature of the levee growth warrants burning thereof to facilitate inspection, the provisions of subparagraph b(1) of the regulations inconsistent therewith shall not apply. In place of item (vii), therefore, the following shall be observed:

Weeds, grasses and debris on the levee are burned during appropriate seasons, where not dangerous or impracticable, in order to permit the detection of cracks, holes, burrows, slips, and other damage and to permit the detection and extermination of burrowing animals and that grass and weeds on levee slopes be mowed where removal by burning is dangerous or impracticable, such as peat levees or where burning would constitute a hazard.

(2) To insure the taking of such maintenance measures as will be required for proper functioning of the levee, the following items shall be specifically covered in each inspection:

- (a) Aggradation or degradation of the stream bed along the toe.
- (b) Settlement of levee fill.
- (c) Erosion of levee slopes; both sides of levees.
- (d) Presence of seepage; saturated areas, or sand boils back of levee.
- (e) Condition of access roads and roadway on levee.

c. Maintenance.

(1) Repairs to levee embankment. Methods used for repair or reconstruction of the levee fill will depend on the extent of the damaged section. If of small extent, the most suitable method will be to bring the levee back to line and grade by a fill made in 6-inch layers of earth free from brush, roots, or other unsuitable matter. If of greater extent the fill should be made of selected materials from suitable borrow pits placed in accordance with modern approved construction methods.

(2) Depredations of burrowing animals. Dens and runways formed within the levee by burrowing animals are frequently the causes of levee failures during flood stages. Burrowing animals such as muskrats, ground hogs, ground squirrels, moles and gophers, found in the levee should be exterminated. The dens and runways should be opened up and thoroughly compacted as they are backfilled. Levees kept properly cleared are not seriously menaced by burrowing animals as they prefer areas where a protective cover, such as high grass, weeds, and brush, is found. Several methods of extermination are found effective, such as trapping, baiting, and poison gases, depending on the type of animal present and the time of year the work is done. Advice concerning the best methods in each locality can be obtained from County Agricultural Agent.

(3) Access roads. Access roads to the levees shall be maintained in such condition that they will be accessible at all times to trucks used to transport equipment and supplies for maintenance of flood fighting.

(4) Cutoff Walls and CLSM. Penetrations into the slurry wall are not allowed. Any future through-the-levee encroachments, including pipes and conduits, shall be installed above the slurry wall top elevation.

d. Operation.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10(b)(2) are quoted in part as follows:

e. Environmental values. Vegetation preserved as a part of selective clearing on the waterside berm or slope above the bank protection during prosecution of the contract shall not be removed as a part of normal maintenance as long as it remains alive and in a healthy state.

"(2) Operation. During flood periods, the levee shall be patrolled continuously to locate possible sand boils or unusual wetness of the landward slope to be certain that:

- (i) There are no indications of slides or sloughs developing;
- (ii) Wave wash or scouring action is not occurring.
- (iii) No low reaches of levee exist which may be overtopped.
- (iv) No other conditions exist which might endanger the structures.

Appropriate advance measures will be taken to insure the availability of adequate labor and materials to meet all contingencies. Immediate steps will be taken to control any condition which endangers the levee and to repair the damaged section."

2-03. Drainage and irrigation structures. -

a. Description. Drainage and irrigation structures provided in project works are located and described as follows:

(1) Structures located along the easterly bank of the Sacramento River from Natomas Cross Canal to the American River and along the northerly bank of the American River from Natomas East Canal to the Sacramento River, as shown on drawing No. 50-13-2810, in 10 sheets, and drawing No. 1-4-391 are listed as follows:

| Location (River Mile) | Steel Pipe | Other Structure Description | Elev. of Invert at pipe |
|------------------------------------|------------|-------------------------------------|-------------------------|
| <u>SACRAMENTO RIVER EAST LEVEE</u> | | | |
| 78.27 | 10" | Pump and check valve on riverside | 40.0 |
| 77.74 | 12" | Pump and valve on riverside | 21.5 |
| 77.32 | 24" | | 31.0 |
| 75.18 | 40" | Slide gate on riverside | 25.5 |
| 75.17 | 36" | Slide gate on landside | 21.5 |
| 75.15 | 48" | Slide gate and 3 pumps on riverside | 24.8 |
| 73.17 | 48" | Slide gate and pumps on riverside | 24.8 |
| 71.40 | 2" | | 32.04 |
| 69.70 | 12" | Riverside pump on incline | 33.0 |
| 69.15 | 14" | Pump and gate valve on riverside | 26.0 |

| Location (River Mile) | Steel Pipe | Other Structure Description | Elev. of Invert at pipe |
|---|------------|---|-------------------------|
| 68.835 | 18" | Pump and gate valve on riverside | 35.0 |
| 67.03 | 12" | Pump and valve on riverside | 34.6 |
| 66.94 | 10" | Pump and valve on riverside | 20.0 |
| 66.67 | 14" | Pump and gate valve on riverside | 35.8 |
| 65.39 | 2-24" | Pump and valves on riverside | 26.6 |
| 62.78 | | Gas Line Crossing, Steel pipe and regulating valves | |
| 62.14 | 10" | | |
| 61.28 | 3" | Gate valve on riverside | 29.0 |
| 61.25 | 10" | Pump on riverside | 34.2 |
| | | 4 - 5' x 9' concrete tunnels with wooden flap gates and 4 - 5' x 9' slide gates - Outlet from R.D. #1000 Drainage Pump. | |
| 61.09 | 10" | Pump and valve on riverside | 27.4 |
| | | <u>NORTH LEVEE AMERICAN RIVER</u> | |
| 0.425 mi. upstream from Jibboom Street Bridge | 12" | Gate valve and pump on riverside | 32.9 |

b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10(d)(1), are quoted in part as follows:

"(d) Drainage Structures (1) Maintenance. Adequate measures shall be taken to insure that inlet and outlet channels are kept open and that trash, drift, or debris is not allowed to accumulate near drainage structures. Flap gates and manually operated gates and valves on drainage structures shall be examined, oiled and trial operated at least once every 90 days Periodic inspections shall be made by the Superintendent to be certain that;

- (i) Pipes, gates, operating mechanism, riprap and headwalls are in good condition;
- (ii) Inlet and outlet channels are open;
- (iii) Care is being exercised to prevent the accumulation of trash and debris near the structures and that no fires are being built near bituminous coated pipes;
- (iv) Erosion is not occurring adjacent to the structure which might endanger its water tightness or stability.

Immediate steps will be taken to repair damage, replace missing or broken parts, or remedy adverse conditions disclosed by such inspections."

(2) At each inspection required by paragraph 4-02(b)(2) of the Standard Manual, the following items, if applicable, shall be particularly noted:

- (a) Debris or other obstructions to flow.
- (b) Condition of pipes and gates.
- (c) Damage or settlement of pipe.
- (d) Condition of concrete—cracks, spalls, erosion.

c. Maintenance.

(1) All eroded concrete shall be repaired as soon as erosion reaches a depth of 4 inches on any reinforcing steel is exposed. For this purpose it is recommended that the repair be made by thoroughly cleaning the surface by sandblasting and building up the concrete to its original section with pneumatically-placed Portland cement mortar. All evidences of settlement, uplift, or failure of concrete structures should be referred to the State Engineer for analysis and recommendation of remedial measures.

(2) If the inspection shows that the automatic drainage structures have been jammed in an open position by debris or other obstructions, they shall be thoroughly cleaned so that they swing freely to a true closure. If any parts of the gates have been damaged or broken, they shall be replaced by new parts.

(3) Compliance with the provisions prescribed above pertaining to drainage structures is essential for proper maintenance of the levee system covered by this manual. Levee failures caused by neglected drainage structures are of common occurrence; it is, therefore, of utmost importance that these structures always be kept in perfect working condition in accordance with the regulations.

(4) Care should be taken not to bury any of the side drainage inlets in the event that it becomes necessary to fill any of the lowlying pockets in back of the levee. Plans for the maintenance of drainage facilities at any such points should be submitted to the State Engineer for approval before such work is started.

d. Operation.

(1) Pertinent Regulations of the Code of Federal Regulations. Flood Control Regulations, paragraph 208.10(d)(2), is quoted in part as follows:

"(2) Operation. Whenever high water conditions impend, all gates will be inspected a short time before water reaches the invert of the pipe and objects which might prevent closure of the gate shall be removed. Automatic gates shall be closely observed until it has been ascertained that they are securely closed..... All drainage structures in the levees shall be inspected frequently during floods to ascertain whether seepage is taking place along the lines of their contact with the embankment. Immediate steps shall be taken to correct any adverse conditions."

(2) The outlets of side drainage structures inundate at relatively low river stages. They should, therefore, be inspected at the first sign of a rise in the river to make certain that the gates are not jammed in an open position and thus allow flood waters to enter behind the levee.

2-04. Miscellaneous Facilities.

Miscellaneous structures or facilities which were constructed as a part of, or existed in conjunction with, the protective works, and which might affect their functioning, include the following:

(1) Bridges:

(a) A bridge crossing the American River and adjacent overflow area near its junction with the Sacramento River at Jibboom Street.

(b) A bridge crossing Natomas Cross Canal near the junction of Natomas Cross Canal and the Sacramento River at mile 78.8.

(2) Wharf.

(a) A U. S. Military wharf on the east bank of the Sacramento River at mile 61.2.'

(3) County Highway. A surfaced county highway has been built along the crown of the levee and extends the entire length of this unit.

(4) Ferry Crossing. The Elkhorn Ferry over the Sacramento River is located approximately at river mile 70.8. This ferry operates on a cable which is laid across the river and which is normally submerged except in the vicinity of the ferry when it is under way.

(5) Hydrographic Facilities. Provisions have been made at several locations within this unit for hydrographic facilities. These facilities are listed as follows:

(a) U. S. Geological Survey continuous water stage recorder and staff gage located on the bridge over the mouth of the Natomas Cross Canal. Maintenance of this station is a responsibility of the U. S. Geological Survey.

(b) Staff gage located on the left bank of the Sacramento River at the pumping plant of Reclamation District No. 1000, five miles downstream from Verona. Maintenance of the gage is a responsibility of Reclamation District No. 1000.

(c) State Division of Water Resources continuous water stage recorder and staff gage located on the left bank of the Sacramento River opposite the center of Sacramento Weir. This station is used to estimate the discharge over Sacramento Weir. Maintenance of the gage is a responsibility of the State of California.

(d) Staff gage located on the left bank of the Sacramento River at the drainage pumping plant of Reclamation District 1000 one mile upstream from the mouth of the American River. Maintenance of this gage is a responsibility of Reclamation District No. 1000.

(e) Continuous water stage recorder and staff gage located at the highway bridge over the American River and adjacent overflow area at the confluence with the Sacramento River

(6) Utility Relocations. Because of the nature of the construction of the levee by local interests, no records of any utility relocations are available.

(7) Slurry Cutoff Wall and Observation Wells:

(a) All observation well readings shall be referenced from the top of the PVC riser pipe.

(b) Observation well readings should be collected monthly for at least a one year period and plotted along with the river stage. After the first year of data collection, readings should only be collected during high river stage.

(c) High water monitoring of the observation wells should begin 48 to 72 hours before river stage is forecasted to be at elevation 20 and continue until 48 to 72 hours following the return of river stage to that elevation. Observations should be made at 12 hour intervals.

(d) If any of the following conditions are noted, they should be reported immediately to the Chief, Emergency Management Division (916-557-6919), and the Chief, Geotechnical Branch (916-557-7197), U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento, CA 95814.

- (1) Visual signs of levee distress, such as cracking, sloughing, settlement, etc.
- (2) Seepage emerging at or above the landside levee toe.
- (3) Saturation and/or development of boils near the landside toe.
- (4) Sudden or rapid rise of water level in the landside observation wells (i.e., ≥ 6 inches in 12 hours)

(e) The data should be tabulated and furnished in report form annually before 1 September of each year to the Chief, Geotechnical Branch, U.S. Army Corps of Engineers, Sacramento District, 1325 J Street, Sacramento, CA 95814.

(f) The General Manager, Reclamation Board, shall be responsible for performing or having performed evaluation of the adequacy of the cutoff wall performance to include comparison with expected or previous years cutoff wall performance. This analysis will be included in the annual data report and will include a statement of the adequacy of cutoff wall performance and any recommendations, such as placement of additional observation wells.

(g) Maintenance of the observation wells shall include determining individual sediment levels annually, by measuring from the top of the PVC riser pipe to the sediment in the slotted interval. Ensure that the well is capped between readings and the cap is vented with a 1/8-inch diameter air hole. No fluids such as antifreeze or preparations designed to lubricate the inside of the riser pipe shall be introduced into any observation well. These types of fluids can damage the water tight joints, promote clogging of the slotted interval, and introduce contaminants into the groundwater. Any well observed with signs of tampering or vandalism should be measured for depth and checked for obstructions.

b. Inspection and Maintenance.

(1) Pertinent Requirements of the Code of Federal Regulations.
Flood Control Regulations, paragraph 208.10(h)(1) are quoted in part as follows:

"(h) Miscellaneous Facilities. (1) Maintenance. Miscellaneous structures and facilities constructed as a part of the protective works and other structures and facilities which function as a part of, or affect the efficient functioning of the protective works, shall be periodically inspected by the Superintendent and appropriate maintenance measures taken. Damaged or unserviceable parts shall be replaced without delay"

(2) Inspection of the miscellaneous facilities shall be made at the same time that the inspection of the other features of the project are made, and shall be reported on check list No. 3, sheet No. 4 of EXHIBIT E.

(3) The interest of the Corps of Engineers and the responsibility of the local interests in the existing highway and railroad bridges is confined to their effect on the safety and functioning of the flood control channel, but any conditions noted in the inspections that may affect them in any way should, as a matter of courtesy, be brought to the attention of the agencies maintaining and operating them. If the inspection of any miscellaneous structure, either existent or constructed in the future under permit, discloses any condition that indicates the probability of failure during periods of high water, the Superintendent shall address a letter to the owner of the structure, quoting this manual as authority and inviting attention to the conditions observed and requesting that immediate steps be taken to correct them. A copy of such letter shall be forwarded to the District Engineer for his information. A report on the action taken by the owner shall be submitted to the District Engineer to accompany the next semi-annual report under provisions of paragraph 3-03c of the Standard Manual. A suggested report form is included as EXHIBIT G of this manual.

(4) The purpose of maintenance work is to insure continuous satisfactory operation of miscellaneous facilities. It is, therefore, important in such work that all possible causes of future trouble be found and corrected. Particular attention should be given to minor weaknesses which may be an indication of future trouble.

c. Operation.

(1) Requirements of the Code of Federal Regulations.
Flood Control Regulations, paragraph 208.10(h)(2) are quoted as follows:

"(2) Operation. Miscellaneous facilities shall be operated to prevent or reduce flooding during periods of high water. Those facilities constructed as a part of the protective works shall not be used for purposes other than flood protection without approval of the District Engineer unless designed therefor."

"(2) Operation. Miscellaneous facilities shall be operated to prevent or reduce flooding during periods of high water. Those facilities constructed as a part of the protective works shall not be used for purposes other than flood protection without approval of the District Engineer unless designed therefor."

2-05. Environment Protection.

a. Vegetation left during construction on the waterside berm or slope above the bank protection shall not be removed under normal maintenance. Dead trees with wildlife value will be retained except where they are a hazard to existing flood control works. *

SECTION III

REPAIR OF DAMAGE TO PROJECT WORKS AND METHODS OF COMBATING FLOOD CONDITIONS

3-01. Repair of Damage. In the event of serious damage to the project works, whether due to flood control conditions or other causes, and which may be beyond the capability of local interests to repair, the Superintendent will contact a representative of the Division of Water Resources, State of California, who coordinates maintenance of project works of the Sacramento River Flood Control Project. The state representative will give assistance or advice, or will determine appropriate action to be taken.

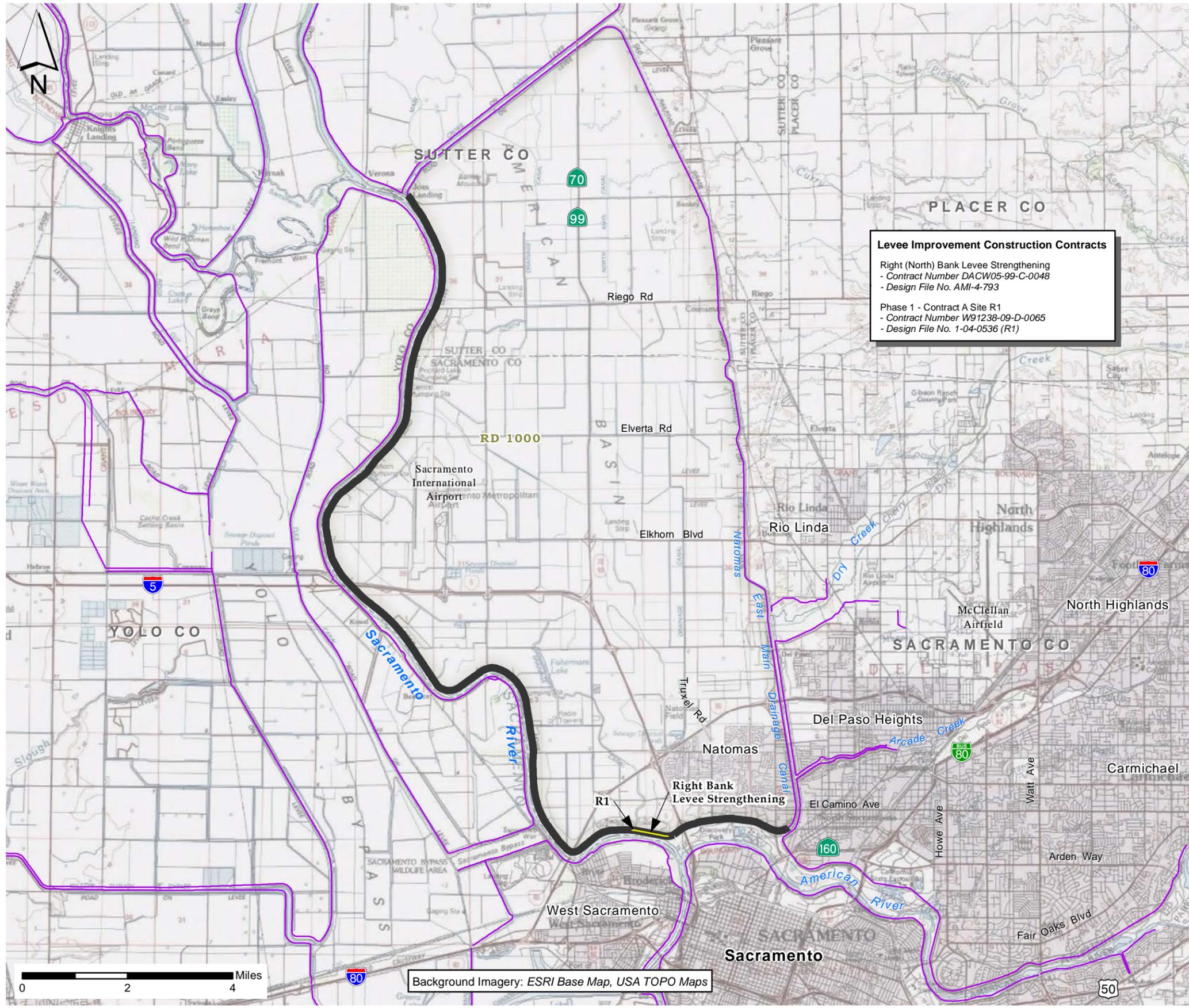
3-02. Applicable Methods of Combating Floods. For applicable methods of combating flood conditions, reference is made to Section V of the Standard manual, where the subject is fully covered.

3-03. Emergency Action Plan. The Superintendent shall maintain documentation of levee system-specific emergency procedures and emergency contact personnel

EXHIBIT A

FLOOD CONTROL REGULATIONS

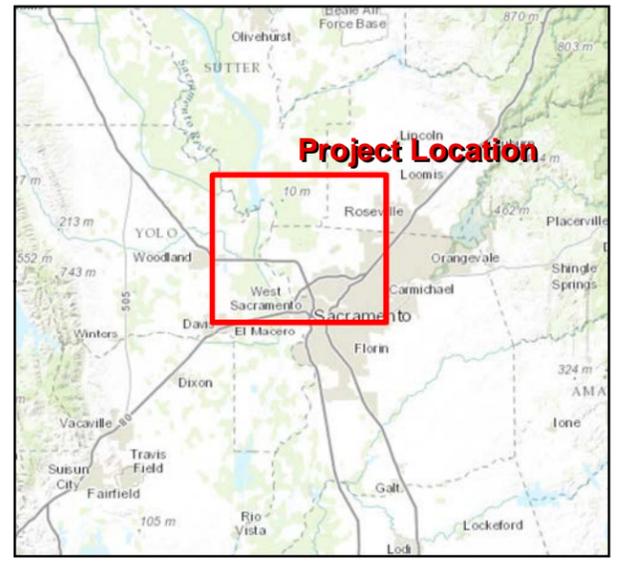
(See Standard Manual)



Levee Improvement Construction Contracts

Right (North) Bank Levee Strengthening
 - Contract Number DACW05-99-C-0048
 - Design File No. AMI-4-793

Phase 1 - Contract A Site R1
 - Contract Number W91238-09-D-0065
 - Design File No. 1-04-0536 (R1)



Map Legend

- Levee Extents of Project
- Construction Improvement
Slurry Cutoff Wall
- Other Federal Levee

**FEDERAL LEVEE PROJECTS
LOCATION MAP**

**SACRAMENTO RIVER
FLOOD CONTROL PROJECT
UNIT 124 - NATOMAS**

**U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT**

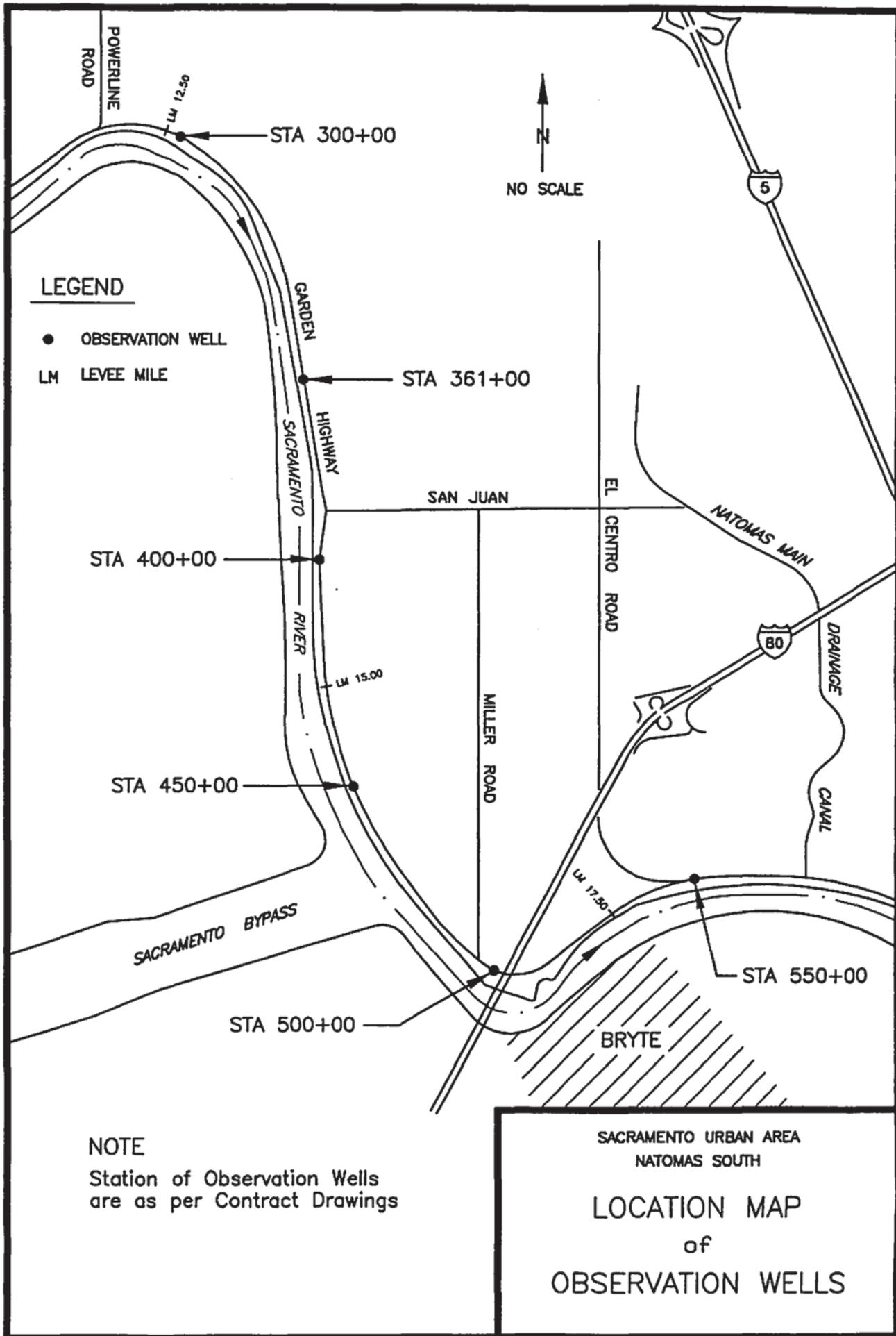


EXHIBIT B

“AS CONSTRUCTED” DRAWINGS

See separate folder for the following drawings:

DRAWINGS NO. 50-13-2810, in 10 sheets

DRAWING NO. 52-10-2813, District No. 1000. Levee Profile Sheets 1, 2, & 4

DRAWING NO. 50-4-2936/1, Typical Cross Sections

DRAWINGS No.1-4-391, N. Levee Am. River

| <u>File No.</u> | <u>Title</u> |
|-----------------|---|
| 50-4-3285 | Emergency levee repairs, left bank Sacramento River, R.D. 1000, Mile 75.5, in 1 sheet |
| 50-4-4004 | Bank Protection, Various Locations, Rt. and Lt. Banks Sacramento River, and Bear River, and Rt. Bank Feather River, in 33 sheets. (Unit No. 8). |
| 50-4-4078 | Bank Protection, Various Locations Right and Left Banks Sacramento River and Feather River, in 30 sheets. |
| 50-4-4310 | Bank Protection, Various Locations Right and Left Banks Sacramento River between Tisdale Weir and Sacramento, in 26 sheets. |
| 50-4-4713 | Bank Protection, Various Locations Right and Left Banks, Sacramento River Mile 60.0 to Mile 111.0, in 20 sheets. |
| 50-4-5433 | Bank Protection, Various Locations, Right and Left Banks, Sacramento River Mile 61.0 to Mile 102.0, in 33 sheets. |
| 50-4-5714 | Bank Protection, Contract 38B, Right and Left Banks, Sacramento River Mile 62.6 to Mile 117.7, in 57 sheets. |
| 50-4-5820 | Sacramento Urban Area Levee Reconstruction Project, Natomas – North in 89 sheets |
| 50-4-5833 | Sacramento Urban Area Levee Reconstruction Project, Natomas – South in 30 sheets |
| 1-04-0536 | American River Common Features Remaining Sites – WRDA 1996 Project Phase 1 – Contract A – Site R1 in 32 sheets |

EXHIBIT C

PLATES OF SUGGESTED FLOOD FIGHTING METHODS

(See Standard Manual)

EXHIBIT D

CHECK LIST NO. 1

LEVEE INSPECTION REPORT

(See Standard Manual)

EXHIBIT E

CHECK LISTS OF LEVEES,

CHANNEL AND STRUCTURES

For definition of "flood" or "high water period", see paragraph 1-04 of this manual

CHECK LIST NO. 2

LEVEES OF UNIT NO. 124

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

| Item | Remarks |
|--|---------|
| (a) Location by Station | |
| (b) Settlement, sloughing, or loss of grade | |
| (c) Erosion of both slopes of levee | |
| (d) Condition of roadways, including ramps | |
| (e) Evidence of seepage | |
| (f) Condition of farm gates and fencing | |
| (g) Maintenance measures taken since last inspection | |
| (h) Comments | |

INSTRUCTIONS FOR COMPLETING SHEET 2, EXHIBIT E

(TO BE PRINTED ON BACK OF SHEET 2)

- Item (a) Indicate levee station of observation, obtained by pacing from nearest reference point; indicate right or left bank.
- Item (b) If sufficient settlement of earthwork has taken place to be noticeable by visual observation, indicate amount of settlement in tenths of a foot. If sloughing has caused a change in slope of the embankment sections, determine the new slope. Note areas where erosion or gulying of the section has occurred.
- Item (c) If sufficient erosion or gulying of back face of back toe of levee has taken place to be noticeable by visual inspection, indicate area affected and depth.
- Item (d) Note any natural change in any section of roadway or ramps. Indicate any inadequacy in surface drainage system.
- Item (e) Indicate any evidence of seepage through the embankment section.
- Item (f) Indicate the serviceability of all farm gates across the embankments and roadway, and indicate if repainting is required.
- Item (g) Indicate maintenance measures that have been performed since last inspection and their condition at the time of this inspection.
- Item (h) Record opinion, if any, of contributory causes for conditions observed and also any observations not covered under other columns.

NOTE: One copy of the Inspector's Report is to be mailed to the District Engineer immediately on completion, and one copy is to be attached to and submitted with the Superintendent's semi-annual report.

CHECK LIST NO. 3

CHANNEL AND RIGHT-OF-WAY

UNIT NO. 124

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

| Item | Remarks |
|--|---------|
| (a) Name of channel and location by stations | |
| (b) Vegetable growth in channel | |
| (c) Debris and refuse in channel | |
| (d) New construction within right-of-way | |
| (e) Extent of aggradation or degradation | |
| (f) Condition of riprapped section | |
| (g) Condition of bridges | |
| (h) Measures taken since last inspection | |
| (i) Comments | |

INSTRUCTIONS FOR COMPLETING SHEET 4, EXHIBIT E

(TO BE PRINTED ON THE BACK OF SHEET 4)

- Item (a) Indicate station of observation obtained by pacing from nearest reference point.
- Item (b) Note nature, extent, and size of vegetal growth within the limits of flood flow channel.
- Item (c) Note nature and extent of debris and refuse that might cause clogging of the conduits of the irrigation intake works, or the bridges over the channel.
- Item (d) Report any new construction along the diversion channel that might affect the functioning of the project.
- Item (e) Indicate any change in grade or alignment of the channels, either by deposition or sediment or scour, that is noticeable by visual inspection. Estimate amount and extent.
- Item (f) Indicate any change that has taken place in the riprap such as disintegration of the rock, erosion, or movement of the rock. Note the presence of vegetal growth through the riprap.
- Item (g) Note any damage or settlement of the footings of the bridges. Indicate condition of wooden structures and if repainting is required. Indicate condition of bridge approaches, headwalls, and other appurtenances.
- Item (h) Indicate maintenance measures that have been performed since the last inspection and their condition at time of this inspection.
- Item (i) Record opinion, if any, of contributory causes for conditions observed, also any observations not covered under other columns.

NOTE: One copy of the Inspector's Report is to be mailed to the District Engineer immediately on completion, and one copy is to be attached to and submitted with the Superintendent's semi-annual report.

CHECK LIST NO. 4
DRAINAGE AND IRRIGATION STRUCTURES
UNIT NO. 124

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

| (a) Location by River Mileage | (b) Bank | (c) Debris or other obstruction to flow | (d) Damage or settlement of pipe or conduit | (e) Condition of concrete headwall or invert paving | (f) Condition of right-of-way adjacent to structure | (g) Repair Measures taken since last inspection | Comments |
|-------------------------------|----------|---|---|---|---|---|----------|
| 78.27 | left | | | | | | |
| 77.74 | left | | | | | | |
| 77.32 | left | | | | | | |
| 75.18 | left | | | | | | |
| 75.17 | left | | | | | | |
| 75.15 | left | | | | | | |
| 73.17 | left | | | | | | |
| 71.40 | left | | | | | | |
| 69.70 | left | | | | | | |
| 69.15 | left | | | | | | |
| 68.84 | left | | | | | | |
| 67.03 | left | | | | | | |
| 66.94 | left | | | | | | |
| 66.67 | left | | | | | | |
| 65.39 | left | | | | | | |
| 62.78 | left | | | | | | |
| 62.14 | left | | | | | | |
| 61.28 | left | | | | | | |
| 61.25 | left | | | | | | |
| 61.09 | left | | | | | | |
| 0.43 | Right | | | | | | |

INSTRUCTIONS FOR COMPLETING SHEET 6, EXHIBIT E

(TO BE PRINTED ON BACK OF SHEET 6)

- (1) Enter station of all structures under Column (a) for check list.
- (2) Inspect inlet, barrel, and outlet for accumulation of sediment, rubbish, and vegetal matter. Note condition under Column (c).
- (3) If any settlement or damage to the pipe, barrel, or invert of the drain has occurred, estimate the location and amount. Note particularly if any backfill has come into the pipe or been disturbed.
- (4) Inspect the concrete portions of the structures for evidence of settlement, cracks, "pop-outs", spaces, abrasive wear, or other deterioration. Record conditions under Column (e).
- (5) Inspect backfill area adjacent to structure for evidence of erosion caused by overflow of the drainage structure and note conditions in Column (f).
- (6) Under Column (g) indicate physical measures that have been taken to correct conditions reported in last inspection, and their condition at time of this inspection.
- (7) Under Column (h) record opinion, if any, of contributory causes for conditions observed, also any observations not covered under other columns.
- (8) A copy of the inspector's report is to be mailed to the District Engineer immediately on completion, and a record copy shall be attached to the Superintendent's semi-annual report.

EXHIBIT F
LETTER OF ACCEPTANCE
BY STATE RECLAMATION BOARD



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

NOV 29 2016

Ms. Leslie M. Gallagher
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Dear Ms. Gallagher:

The purpose of this letter is to notify the Central Valley Flood Protection Board of the completion of an effort to update the Operation and Maintenance Manual Supplements for the Sacramento River Flood Control Project and the Lower San Joaquin River Levees and Lower San Joaquin River and Tributaries Project. These updates are a compilation of revisions made to the project over time and where we had record of a transfer letter to the Board. These updated supplements are the most current version and should be utilized as the baseline version for any future project modifications.

This process and the compiled updates have been coordinated with the Central Valley Flood Protection Board and Department of Water Resources staffs for review and comment. All comments have been addressed or incorporated into the manuals.

The Board staff has been provided a copy of the manuals in electronic format. Future updates will include entire unit supplements so updates can be seen in context with the entire unit supplement. The list of completed supplements, by the unit number and title, are attached. If you have any questions regarding this transmittal, please contact Gary Kamei at 916-557-6845.

Sincerely,

A handwritten signature in black ink, appearing to read "D. G. Ray", written over a horizontal line.

David G. Ray, P.E.
Colonel, U.S. Army
District Commander

Enclosures

| Standard O&M Manual Sacramento River Flood Control Project | |
|---|---|
| Unit No. | Project Name |
| 101 | RD 341 Sherman Island |
| 102 | E. Levee of Sac River, Isleton to Threemile Slough & N. Levee of Threemile Slough from Sac River to SJ River |
| 103 | Both Levees of Georgiana Slough & E. Levee of Sac River from Walnut Grove to Isleton |
| 104 | Levees around Grand Island |
| 105 | Levees Around Reyer Island |
| 106 | S. Levee Lindsey Slough & W. Levee of Yolo BP from Lindsey Slough to Watson Hollow and N. Levee of Watson Hollow Drain |
| 107 | Levees Around Hastings Tract |
| 108 | Levees Around Peters Tract |
| 109 | West Levee of Yolo Bypass & E. Levee of Cache Slough |
| 110 | Levees Around Sutter Island |
| 111 | E. Levee of Sac River from Freeport to Walnut Grove |
| 112 | Levees Around Merritt Island |
| 113 | E. Levee Yolo Bypass, N. Levee Miner Slough, W. Levees Sutter Slough, Elkhorn Slough & Sac River, All Bordering RD 999 |
| 114 | W. Levee of Sac River from Northern Boundary of RD 765 to Southern Boundary of RD 307 |
| 115 | E. Levee of Sac River from Sutterville Rd to Northern Boundary of RD 744 |
| 116 | W. Levee of Sac River from Sac Weir to Mi 51.2 & S. Levee of Sac Bypass & E. Levee of Yolo Bypass from Sac Bypass to Southern Boundary of RD 900 |
| 117 | E. Levee Sac River through City of Sac from Tower Bridge to Sutterville Rd |
| 118.1 | E. Levee of Sac River from American River to Tower Bridge & S. Levee of American River from Mayhews Downstream to Sac River |
| 118.2 | N. Levee American River, E. Levee Natomas Canal, Both Levees Arcade Creek, S. Levee Linda Creek, & Magpie Creek Diversion Channel |
| 118.2 Sup | Vegetation on Mitigation Sites E. Levee of Sac River from American River to Tower Bridge & S. Levee of American River from Mayhews Downstream to Sac River |
| 119 | Putah Creek Channel & Levees & W. Levee of Yolo Bypass from Yolo Causeway Downstream 3 mi. Includes O&M manual for the Yolo Basin wetlands, and South Fork Putah Creek Preserve Restoration Section 1135 Authorization. |
| 120 | Relocated Willow Slough Channel & Levees & W. Levee Yolo Bypass from mouth of Relocated Willow Slough to Yolo Causeway |
| 121 | R. Levee of Yolo Bypass from Willow Slough Bypass to Woodland Rd RD2035 |
| 122.1 | W. Levee of Sac River from Mi 70.8 to Sac Weir & N. Levee of Sac Bypass & E. Levee of Yolo Bypass from Woodland Hwy to Sac Bypass |
| 123 | W. Levee of Sac River from East End of Fremont Weir to Mi 70.8 & E. Levee of Yolo Bypass from East End Fremont Weir to Woodland Hwy RD 1600 |

| | |
|-------|--|
| 124 | N. Levee of American River from Natomas E. Canal to Sac River & E. Levee of Sac River from Natomas Cross Canal to American River. Includes supplement, Vegetation on Mitigation Sites. |
| 125 | Back Levee of RD 1000 |
| 126 | Cache Creek Levees & Settling Basin Yolo Bypass to High Ground |
| 127 | Knights Landing Ridge Cut & Sac River & Yolo BP Levees of RD's 730 and 819 & S. Levee of Sycamore Slough |
| 128 | E. Levee of Sac River from Sutter Bypass to Tisdale Weir all within RD 1500 |
| 129 | S. Levee of Tisdale By-Pass from E. Levee Sac River to W. Levee Sutter BP & W. Levee of Sutter BP Downstream to E. Levee of Sac River |
| 130 | W. Levee Sac River from Sycamore Slough to Wilkins Slough (Mi. 89.9 to Mi. 117.8) |
| 131 | W. Levee Sac River from Wilkins Slough to Colusa (Mi. 117.8 to Mi. 143.5) |
| 132 | Back Levees of RD 108 |
| 133 | E. Levee of Sac River from Winship School to Tisdale BP & N. Levee of Tisdale BP & W. Levee of Sutter BP from Long Bridge to Tisdale BP |
| 134 | Levees of RD 70, E. Levee of Sac River from Butte Slough Outfall Gates to Winship School & W. Levee of Sutter BP from Butte Slough Outfall Gates to Long Bridge |
| 135 | E. Levee of Sutter BP from Sutter Buttes Southerly to Junction with Feather River & E. & W. Levees of Wadsworth Canal & Levee of Intercepting Canals |
| 136 | E. Levee of Sac River from Butte Slough Outfall Gates to the Princeton-Afton Rd (Mi. 138.3 to Mi. 164.4) |
| 137 | W. Levee of Sac River from North End of Princeton Warehouse to Colusa Bridge |
| 138 | E. Levee of Sac River from Parrott-Grant Line to Princeton-Afton Rd |
| 139 | W. Levee of Sac River from N. Boundary of LD 2 to North End of Princeton Warehouse |
| 140 | W. Levee of Sac River in LD 1 (Mi. 170.5 to Mi. 184.7). Includes mitigation site O&M manual, Yuba County |
| 141.1 | E. Levee of Feather River from Bear River to Natomas CC & S. Levee of Bear River & Both Levees of Yankee Slough. Parts 1 and 2 |
| 141.2 | E. Levee of Feather River from Bear River to Natomas CC & S. Levee of Bear River & Both Levees of Yankee Slough. Parts 1 and 2 |
| 142 | Back Levee of RD 1001 |
| 143 | W. Levee of Feather River from North Boundary of RD 823 to E. Levee of Sutter Bypass |
| 144 | W. Levee of Feather River from North Boundary of LD 1 to North Boundary of RD 823 |
| 145 | E. Levee of Feather River, S. Levee of Yuba River, Both Levees of WPRR Intercepting Channel, W. Levee of South Dry Creek & N. Levee of Bear River |
| 146 | N. Levee of Bear River & S. Levee of South Dry Creek RD 817 & Vicinity of Wheatland |
| 147 | Levee Around the City of Marysville & N. Levee of Yuba River to a Point 1.8 Mi. Upstream from Marysville |

| | |
|-----|---|
| 148 | W. Levee of Feather River from North Boundary of RD 777 to North Boundary of LD 1 |
| 149 | S. Levee of Yuba River Maintenance Area No. 8 |
| 151 | E. Levee Feather River from Honcut Creek to Marysville & S. Levee of Honcut Creek & E. Levee of RD 10 |
| 152 | W. Levee of Feather River from N. Boundary of RD 777 to Western Canal Intake (Levee of Drainage District No. 1) |
| 153 | Lower Butte Creek Channel Improvement, Colusa, Glenn & Butte Counties |
| 154 | Moulton Weir & Training Levee Sacramento River |
| 155 | Colusa Weir & Training Levee Sacramento River |
| 156 | Tisdale Weir & Bypass |
| 157 | Fremont Weir, Sacramento River |
| 158 | Sacramento Weir, Sacramento River |
| 159 | Pumping Plants No. 1, 2 & 3, Sutter Bypass |
| 160 | Sutter Butte Canal Headgate |
| 161 | Butte Slough Outfall Gates |
| 162 | Knights Landing Outfall Gates, Sacramento River |

Standard O&M Manual San Joaquin River

| Unit No. | Project Name |
|-----------------|--|
| 1 | Right Bank Levee of the San Joaquin River & French Camp Slough within RD 404 |
| 2 | Right Bank Levee of the San Joaquin River & French Camp Slough within RD 17 |
| 3 | North Levee of Stanislaus River & East Levee of the San Joaquin River within RD 2064, 2075, 2094 and 2096 |
| 4 | East Levee of San Joaquin River within RD 2031 |
| 5 | East Levee of the San Joaquin River Within RD No. 2092 |
| 6 | East Levee of the San Joaquin River in RD Nos. 2063 & 2091 |
| 7 | West Levee of San Joaquin River & North Levee of Old River RD Nos. 524 & 544 |
| 8 | Right Banks of Old River & Salmon Slough Within RD No. 1 & RD No. 2089 |
| 9 | Levees Around RD No. 2062 & San Joaquin County Flood Control District Area No.2 |
| 10 | West Levee of Paradise Cut RD No. 2058 & SJ County Flood Control District, Area No.2 |
| 11 | West Levee of San Joaquin River from Durham Bridge to Paradise Dam Within RD No. 2085 & 2095 |
| 12 | West Levee of San Joaquin River From Opposite Mouth of Tuolumne River Downstream to Stanislaus County Line Within RD Nos. 2099, 2100, 2101, & 2102 |
| 13 | West Levee of the San Joaquin River in RD No. 1602 |



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

JUL 17 2013

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

Dear Mr. Punia:

This letter is to transfer the U.S. Army Corps of Engineers (Corps) completed portions of work for six contracts: Left (South) Bank Levee Strengthening Contract 1, Left (South) Bank Levee Strengthening Contract 2, Right (North) Bank Levee Strengthening Howe Avenue to Watt Avenue, Right (North) Bank Levee Strengthening, Jet Grout Sections Contract 1 and Jet Grout Sections Mod Contract 1 and Levee Strengthening Alternative Methods Contract A performed under the authority of the Water Resources Development Act of 1996 (WRDA 96) and WRDA 99. American River (Common Features) as authorized by WRDA 96 and 99 consists of lower American River levee strengthening of 8.9 miles of the right (north) bank and 10.6 miles of the left (south) bank levees, and 12.1 miles of Sacramento River east levee and berm raising.

These contracts included installation of cutoff walls along reaches of the aforementioned levees and closures of "windows," constructed between 1998 and 2004, approximately. Cutoff wall construction left "windows" in the seepage cutoff wall in the vicinity of bridge abutments, deep underground utilities and under low overhead utility lines. The cutoff wall is continuous along the levee alignment through the execution of the construction contracts described herein along with previously constructed and transferred work. Other design/construction contracts are currently underway and that work will be transferred upon completion.

The six completed construction projects are further described as follows:

Left (South) Bank Levee Strengthening Contract 1: Slurry cutoff wall construction contract. Contract Number DACW05-00-C-0022, Specification Number 9824A, Design File Number 1-04-466.

Left (South) Bank Levee Strengthening Contract 2: Slurry cutoff wall construction contract. Contract Number DACW05-00-C-0023, Specification Number 1140, Design File Number 1-04-477.

Right (North) Bank Levee Strengthening Howe Avenue to Watt Avenue, Contract Number DACW05-98-C-0053, Specification Number 9866, Design File Number 1-04-467.

Right (North) Bank Levee Strengthening, Contract Number DACW05-99-0048, Specification Number 9985, Design File Number AMI-4-793.

Jet Grout Sections Contract 1 and Jet Grout Sections Mod Contract 1, Contract Number DACW05-02-C-0004, Specification Number 1034, Design File Number 1-04-474.

Levee Strengthening Alternative Methods Contract A, Contract Number DACW05-03-C-0005, Specification Number 1294, Design File Number 1-04-488.

Record drawings and revised operation and maintenance (O&M) manuals are enclosed. Both hard-copy and electronic versions (CD) are provided.

This work meets the requirements of the Operation and Maintenance Manual, American River Flood Control Project, American River – Part No. 1 Levee Construction from Carmichael Bluffs Downstream 8.3 Miles and the following three Supplements to the Sacramento River Flood Control Project Operation and Maintenance Manual:

- a. Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit No. 118 – Part No. 1 East Levee of Sacramento River from American River to Tower Bridge and South Levee of American River 0.8 Miles Above Mayhew Drain Downstream to Sacramento River
- b. Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit No. 118 – Part No. 2 North Levee of the American River East Levee of Natomas Canal Both Levees of Arcade Creek South Levee of Linda Creek and Magpie Creek Diversion Channel
- c. Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit No. 124 North Levee of American River from Natomas East Canal to the Sacramento River and East Levee of the Sacramento River from Natomas Cross Canal to American River

Therefore, the above flood control work is transferred as of the date of this letter to the State of California for operation, maintenance, repair, replacement, and rehabilitation (OMRR&R).

This letter should not be construed as an endorsement for inclusion in to the National Flood Insurance Program as outlined in Title 44 of the Code of Federal Regulations Section

65.10 of the National Flood Insurance Regulations (44 CFR Section 65.10). The State of California or its designee shall prepare an Emergency Action Plan per the Manual.

If you have any questions regarding this project, please contact the Project Manager, Mr. John Hoge, at (916) 557-5304. If you have any questions regarding this transfer, please contact Mr. Ryan Larson at (916) 557-7568, Flood Protection and Navigation Section. A copy of this letter is being furnished to Mr. Rick Johnson, Sacramento Area Flood Control Agency, 1007 7th Street, 7th Floor, Sacramento, CA 95814.

Sincerely,


MICHAEL J. FARRELL
COL, EN
Commanding

Enclosures



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

SEP 29 2011

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

Dear Mr. Punia:

This letter is to transfer the U.S. Army Corps of Engineers (Corps) recently completed portion of work (R1) performed under the authority of the Water Resources Development Act of 1996 (WRDA 96). American River (Common Features) as authorized by WRDA 96 consists of lower American River levee strengthening of 8.9 miles of the right (north) bank levees, 10.6 miles of the left (south) bank levees, 12.1 miles of Sacramento River east bank levees, and berm raising. "Windows" exist where construction of separate cutoff walls and appurtenant structures around bridge abutments, deep underground utility lines and under low overhead utility lines for both right and left bank levees are required to ensure complete closure of the previously constructed cutoff wall. This turnover letter is for Site R1 only. R1 is the only Sacramento River "window" site.

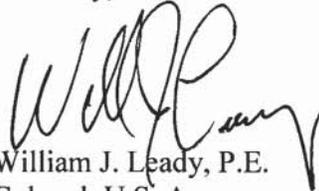
Site R1 is located on the Garden Highway between the Natomas Main Drain Canal Pumping Plant 1A and the Reclamation District 1000 office, on the left bank levee (Levee Station 573+00 ±) of the Sacramento River. It is one of the "windows" in the levee system created during the 2004 Corps cutoff wall remediation project. Project improvements for turnover include approximately 282-feet of cutoff wall and controlled low strength material (CLSM) installation. The cutoff wall is 75-feet deep. The cutoff wall was not constructed under the existing twin 6-foot by 8-foot concrete conduits based on a seepage analysis indicating that remediation was not required. To create a seepage barrier above the conduit, CLSM was placed and connects with the previously constructed cutoff walls located immediately upstream and downstream of the aforementioned conduit. Construction was completed in November 2009. Please see as-built sheets C-103 and C-104 for additional improvement location details.

The construction was completed in accordance with American River Common Features Remaining Sites - WRDA 1996 Project Phase 1 – Contract A, Specification Number 1682, Design File Number 1-04-0536, Contract Number W91238-09-R-0037. As-built drawings and revisions to the Operation and Maintenance Manual are enclosed. Also, a copy of the "Written Notice of Acceptance of Completed Work" is included as required by the Project Cooperation Agreement (PCA). Both hard-copy and electronic versions (CD) are provided.

This work meets the requirements of the existing Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit No. 124, North Levee of American River from Natomas East Canal to the Sacramento River and East Levee of the Sacramento River from Natomas Cross Canal to the American River. Therefore, said flood control work is transferred as of the date of this letter to the State of California for operation, maintenance, repair, replacement, and rehabilitation (OMRR&R). This letter of acceptance into the Federal flood control system should not be construed as an endorsement for inclusion in to the National Flood Insurance Program as outlined in Title 44 of the Code of Federal Regulations Section 65.10 of the National Flood Insurance Regulations (44 CFR Section 65.10).

If you have any questions regarding this project, please contact the Project Manager, Mr. John Hoge, at (916) 557-5304. If you have any questions regarding this transfer, please contact Mr. Ryan Larson at (916) 557-7568, Flood Protection and Navigation Section. A copy of this letter is being furnished to Mr. Rick Johnson, Sacramento Area Flood Control Agency, 1007 7th Street, 7th Floor, Sacramento, CA 95814.

Sincerely,

A handwritten signature in black ink, appearing to read "William J. Leady". The signature is fluid and cursive, with a large initial "W" and "L".

William J. Leady, P.E.
Colonel, U.S. Army
District Commander

Enclosures

THE RECLAMATION BOARD

16 Ninth Street, Room 455-6
Sacramento, CA 95814-5594
(916) 653-5434 FAX: (916) 653-5805



FFR 1 5 1994

Colonel John N. Reese
District Engineer
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Dear Colonel Reese:

This is in reference to additions to the supplements of the Standard Operation and Maintenance Manual for the Sacramento River Flood Control Project for Units 115, 117, and 124. These additions address the reconstruction work completed as part of the Sacramento Urban Area Levee Reconstruction Project.

The Reclamation Board requests the additions to the Standard Operation and Maintenance Manual for Item C, subparagraph 7, Paragraph 2.04, Miscellaneous Facilities, within Section II be modified. The requirement to begin well observations 48 to 72 hours prior to the river stage being forecasted to reach 20 feet is incompatible with current practice. Reclamation District 1000, local maintaining agency for unit 124, and the City of Sacramento, local maintaining agency for unit 117, commence highwater inspections when the "I" Street gage on the Sacramento River measures approximately 25 feet. The Department of Water Resources' Sacramento Maintenance Yard, local maintaining agency for unit 115, commences highwater inspections when the "I" Street gage measures at least 23 feet and the Sacramento River is forecasted to rise. Therefore, to combine the highwater inspections and observation well readings into a more efficient task, the Board recommends that observation well readings begin once the gage at "I" Street reaches 25 feet and readings shall be taken as close to 12-hour intervals as possible. The Board and local maintaining agencies believe the following draft of Item C is reasonable and within their ability to perform:

(c) Highwater monitoring of the observation wells should begin when the river stage at the I Street gage is forecasted to reach an elevation of 25 feet and should continue until the river stage recedes below elevation 25 as conditions permit. Observations should be made as reasonably close to 12-hour intervals as possible.

3/28/94 - Orig sent to
Cent. Vy Section for
action

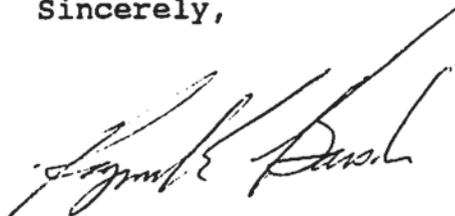
Colonel John N. Reese

FEB 15 1994

Page Two

For further information, please contact me at (916) 653-5434 or have your staff contact Ricardo Pineda at (916) 327-1596 or Victor Pacheco at (916) 327-1532.

Sincerely,



Raymond E. Barsch
General Manager

cc: Mr. John P. Saia
Programs and Project Management
Division
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Mr. Larry Johnson
Programs and Project Management
Division
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

THE RECLAMATION BOARD

1416 Ninth Street, Room 455-6
Sacramento, CA 95814-5594
(916) 653-5434 FAX: (916) 653-5805



DEC 27 1993

Colonel John N. Reese
District Engineer
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Dear Colonel Reese:

This is in reference to the Sacramento Urban Area Levee Reconstruction Project.

At its December 20, 1993 meeting, The Reclamation Board acknowledged completion of the reconstruction work of this public safety project. The completed work consists of the construction of approximately 10 miles of seepage cutoff wall within the east levee of the Sacramento River between Miller Park and Morrison Creek, 6 miles of levee berm and drain along the landside slope of the west levee of the Sacramento River in Reclamation District 900, 6 miles of seepage cutoff wall, and 12 miles of levee berm and drain along the landside slope of the east levee of the Sacramento River in Reclamation District 1000, as well as miscellaneous utility relocations and appurtenant work. In addition, the reconstruction work included removal and restoration of four levee sections along the east levee of the Sacramento River in the Greenhaven/Pocket area. Staff from the Corps and the Board inspected the completed work on December 3, 1993.

Attached are copies of letters to the local maintaining agencies notifying them of contract work completion in their area and of their responsibility to continue to operate and maintain their respective areas in accordance with the local cost-sharing agreement between the Board and agencies dated May 10, 1990, and in accordance with Title 33, Code of Federal Regulations, Part 208 - Flood Control Regulations.

The Board understands that modification of the installed berm section along the east levee of the Sacramento River in Reclamation District 1000 to improve drainage and to improve access for maintenance requirements is scheduled to be completed next year in a follow-up contract for the Cache Creek Settling Basin Enlargement Project. Staff will coordinate activities between the Board, the Corps, and RD 1000 to complete the design, cost estimate, and agreements for this work.

Units 115, 124

Colonel John N. Reese

DEC 27 1993
Page Two

For further information, please contact me at above address or have your staff contact Ricardo Pineda at (916) 327-1596 or Victor Pacheco at (916) 327-1532.

Sincerely,



for Raymond E. Barsch
General Manager

Attachments

cc: Mr. John P. Saia
Programs and Project Management
Division
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Mr. Larry Johnson
Planning Division
Sacramento District
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

WAS-S 115, 1024

April 28, 1993

Navigation and Flood Control Unit

The Reclamation Board
State of California
1416-9th Street, Room 455-6
Sacramento, California 95814

Members of the Board:

You are hereby notified that the Corps of Engineers has completed the Sacramento Urban Area Levee Reconstruction Project (Natomas South) work on the Sacramento River left bank levee under authority of the Flood Control Act of 1917 as amended and modified. The work consisted of the construction of approximately six miles of seepage cutoff slurry wall in the Reclamation District Number 1000 levee between the Powerline Road and the Natomas Main Drainage Canal.

The work was completed on March 30, 1993, in accordance with Contract Number DACW05-91-C-0103, Specification Number 8872, and Drawing Number 50-4-5833.

The levee will continue to be maintained in accordance with the Local Cooperation Agreement between the Department of the Army and the State of California dated June 14, 1990. The new work will be added by amendment to the Operation and Maintenance Manual, Supplement Number 124, Sacramento River Flood Control Project. Copies will be furnished to your office at a later date.

TAVANA/ms

Sincerely,

KELLY

Laurence R. Sadoff
Colonel, Corps of Engineers
District Engineer

HELM

Copies Furnished:

WINTON

Department of Water Resources, ATTN: G. Snow, 3201 S Street,
Sacramento, California 95816-7017

DENNIS

Department of Water Resources, ATTN: G. Qualley, 1416 Ninth
Street, Sacramento, California 95814

CDR, SPD, ATTN: CESPd-CO-0
CDR, USACE, ATTN: DAEN-CECW-OM

SAIA

cc:

KASPRISIN

> Central Valley Sec
PM (Childs)
Prog Dev
F&A Br
Valley Res Ofc

SADOFF

LU/K0077. *ft*

EXHIBIT F

April 16, 1993

Navigation and Flood Control Unit

The Reclamation Board
State of California
1416-9th Street, Room 455-6
Sacramento, California 95814

Members of the Board:

You are hereby notified that the Corps of Engineers has completed the North Natomas work on the Sacramento River left bank levee under authority of the Flood Control Act of 1917 as amended and modified. The work consisted of the construction of approximately 12.2 miles of levee berm and drain construction on the landside slope of the Reclamation District 1000 levee between the Natomas Cross Canal and Powerline Road.

The work was completed on December 15, 1992, in accordance with Contract Number DACW05-91-C-0029, Specification Number 8846, and Drawing Number 50-4-5820.

The existing levee along with the new berm and drain will continue to be maintained in accordance with the Local Cooperation Agreement between the Department of the Army and the State of California, dated June 14, 1990. The new work will be added by amendment to the Operation and Maintenance Manual, Supplement Number 124, Sacramento River Flood Control Project. Copies will be furnished to your office at a later date.

Sincerely,

KELLY/ms

Laurence R. Sadoff
Colonel, Corps of Engineers
District Engineer

HELM

WINTON

Copies Furnished:

Department of Water Resources, ATTN: G. Snow, 3201 S Street, DENNIS
Sacramento, California 95816-7017

Department of Water Resources, ATTN: G. Qualley, 1416 Ninth
Street, Sacramento, California 95814 CHILDS

CDR, SPD, ATTN: CESPDP-CO-O
CDR, USACE, ATTN: DAEN-CECW-OM

SAIA

cc:

>Central Valley Sec
PM (Childs)
Prog Dev
F&A Br
Valley Res Ofc

SADOFF *file*

20
LU/K0069 *100*

November 30, 1987

Navigation and Flood Control Unit

The Reclamation Board
State of California
1416 - 9th Street, Room 455-6
Sacramento, California 95814

Members of the Board:

This is in regard to the joint inspections of November 24 and 25, 1987, made for the purpose of transferring a portion of the Sacramento River Bank Protection Project (Unit 38B), to the State of California for operation and maintenance. The flood control work consists of bank sloping and placement of stone protection on the Sacramento River's right bank at Site Miles 62.6, 70.2, 71.2, 72.1, 76.6, 76.9, 89.8 (two sites on the left and right banks below Colusa Basin Outfall) and 98.7, and left bank at Site Miles 78.2, 101.5 and 105.5.

The work was completed on November 15, 1987, in accordance with Contract Number DACW05-86-C-0079, Specification Number 7082 and Drawing Number 50-4-5714. A 100-foot section of bank protection was deleted on the right bank at Site Mile 62.6 to accommodate a water intake facility for the City of West Sacramento.

The work was performed under general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session (PL 86-645, July 14, 1960), and Section 2304(a), Title 10, and the Water Resources Development Act of 1986 (PL 99-662, October 17, 1986), and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway bank contiguous, thereto, is transferred as of November 25, 1987 to the State of California for operation and maintenance.

This portion of the work will be added by amendment to the Operation and Maintenance Manual, Supplement Numbers 116, 122, Part-1, 123, 124, 127, 128 and 130, Sacramento River Flood Control Project. Copies will be furnished to your office at a later date.

Sincerely,

Wayne J. Scholl
Colonel, Corps of Engineers
District Engineer

(1145)

ROMPALA/m

Copies Furnished:

KELLY

DWR, ATTN: G. Snow
DWR, ATTN: G. Qualley

A. SMITH

cc:
Commander, South Pacific Division, ATTN: CESP-0
Commander, USACE, ATTN: DAEN-CECW-OM
Flood Control Unit
Civ Des Sec D (Pahl)
Prog Dev
F&A Br
Valley Res Ofc (dupe)
C-0 Div
Reading

HELM

FAST

DENNIS

CZARZASTY

SCHOLL

WANG #885

June 30, 1987

Navigation and Flood Control Unit

CERTIFIED
No. **789313**
RETURN RECEIPT REQUESTED

The Reclamation Board
State of California
1416 - 9th Street, Room 435-6
Sacramento, California 95814

Members of the Board:

You are hereby notified that the Corps of Engineers has completed emergency repairs to project levees under authority of Section 3 of the Flood Control Act of August 18, 1941, as amended (Public Law 99, 84th Congress, 1st Session). The work was completed as of June 8, 1987, and consisted of restoring portions of the Sacramento River left bank levee, between levee miles 2.38 to 12.48 in Reclamation District Number 1000, in accordance with Contract Number DACW03-87-C-0016 and Drawing Number 30-4-3768. This work shall be maintained in accordance with the assurances which your Board provided for the Sacramento River Flood Control Project. This portion of the work will be added by amendment to the Operation and Maintenance Manual, Supplement Number 124, Sacramento River Flood Control Project. Copies will be furnished to your office at a later date.

Sincerely,

mt

UNIT 124
COMMUNICATIONS SECTION
JUN 30 1987
DISPATCHED

L. Cloyd III
Lieutenant Colonel, Corps of Engineers
Acting District Engineer

Copies Furnished:

DIR, ATTN: J. Angel
DIR, ATTN: G. Snow
Commander, South Pacific Division, ATTN: SEDCO-0

cc:
E.M. (Garrett)
Ops Br
Engr Div, Civ Des Sec C(Pahl)
Valley Res Ofc (Cameron)

Unit 124

(C)

6-24
KOMPALA/jg

RCK
KELLY

[Signature]
A. SMITH

[Signature]
HEM

[Signature]
FAST

[Signature]
DENNIS

[Signature]
CLOYD

WANG #7453a

**DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD**

1416 - 9th Street, Room 335-18
Sacramento, CA 95814
(916) 445-9454



JAN 0 - 1980

Colonel Paul F. Kavanaugh
District Engineer
Sacramento District
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Dear Colonel Kavanaugh:

The Reclamation Board at its regular meeting of December 14, 1979, authorized me to accept the completed flood control work from the Corps of Engineers. This work is a portion of Unit No. 34 of the Sacramento River Bank Protection Project. The work was transferred to the State of California by your letter of December 14, 1979.

The flood control work was constructed in a workmanlike manner and in conformance with File No. 50-4-5433, Specification No. 5403, and Contract No. DACW05-78-C-0046, insofar as could be determined visually, at Sites Miles 71.0, 73.2, 74.1, 74.6, 75.0, 75.5, 76.0, 78.1 Right Bank, and 77.8, 78.4 Left Bank, Sacramento River.

Sincerely,

A handwritten signature in blue ink that reads "Eldon E. Rinehart".

ELDON E. RINEHART
General Manager

CERTIFIED MAIL
RETURN RECEIPT REQUESTED



Units 123, 124
7/1/80
1/1/80



C
O
P
Y

DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
650 CAPITOL MALL
SACRAMENTO, CALIFORNIA 95814

C
O
P
Y

REPLY TO
ATTENTION OF SPKCO-0

14 December 1979

The Reclamation Board
State of California
1416 - 9th Street, Room 335
Sacramento, CA 95814

Gentlemen:

This is in regard to the joint inspection of 6 December 1979 made for the purpose of transferring a portion of the Sacramento River Bank Protection Project (Unit 34), to the State of California for Operation and Maintenance. The flood control work consists of levee bank sloping and placement of stone protection on the Sacramento River right bank at Site Miles 71.0, 73.2, 74.1, 74.6, 75.0, 75.5, 76.0, and 78.1 and left bank at Site Miles 77.8 and 78.4. The sites described in the inclosure were completed on 6 December 1979 in accordance with Contract No. DACW05-78-C-0046, Specification No. 5403 and Drawing No. 50-4-5433.

The work was performed under general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session (PL 86-645, 14 July 1960), and Section 2304 (a), Title 10, and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway bank contiguous, thereto, is transferred as of 6 December 1979 to the State of California for operation and maintenance.

This portion of the work will be added by amendment to the Operation and Maintenance Manual, Supplements Nos. 123 and 124, Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely,

1 Incl
1. Summary Sac Rv Bk
Prot Proj Unit 34

PAUL F. KAVANAUGH
Colonel, CE
District Engineer

Copy furnished:
DWR,ATTN: R. Franson
DWR,ATTN: D. Meixner

EXHIBIT F

SUMMARY OF SACRAMENTO RIVER
BANK PROTECTION PROJECT
PORTION OF UNIT 34

SACRAMENTO RIVER RIGHT BANK

| Site Mile | Stone Protection | L.F. |
|-----------|-----------------------|------|
| 71.0 | STA. 63+00 to 69+00 | 600 |
| 73.2 | STA. 168+00 to 178+00 | 1000 |
| 74.1 | STA. 120+60 to 129+00 | 840 |
| 74.6 | STA. 100+00 to 108+00 | 800 |
| 75.0 | STA. 79+00 to 90+00 | 1100 |
| 75.5 | STA. 45+00 to 53+00 | 800 |
| 75.0 | STA. 26+00 to 31+00 | 500 |
| 78.1 | STA. 0+00 to 2+30 | 598 |
| | STA. 8+00 to 11+67.8 | |

SACRAMENTO RIVER LEFT BANK

| | | |
|------|---------------------|-----|
| 77.8 | STA. 68+00 to 74+50 | 650 |
| 78.4 | STA. 35+50 to 42+00 | 650 |

C
O
P
Y

THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
O
P
Y

May 30, 1974

District Engineer
Sacramento District
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Refer to: 4130.60.206

Dear Sir:

The Reclamation Board at its regular meeting of May 24, 1974, formally accepted the completed flood control work from the District Engineer for operation and maintenance. The completed work is a portion of the Sacramento River Bank Protection Project, Unit No. 24, and includes those sites referred to in your May 20, 1974 letter.

The flood control work consisted of selective clearing, levee bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 77.4, 77.6, and 78.5 Left Bank and 73.1, 74.7, 75.7, 100.7 and 101.7 Right Bank, Sacramento River.

The flood control work was constructed in a workmanlike manner. This flood control work has been constructed in conformance with Drawings Nos. 50-4-4713, Specification No. 4169, and Contract No. DACW05-73-C-0038, insofar as could be determined visually.

Sincerely yours,

/s/ A. E. McCollam
A. E. McCOLLAM
Chief Engineer and
General Manager

20 May 1974

The Reclamation Board
State of California
1416 - 9th Street, Room 335
Sacramento, California 95814

done

Gentlemen:

Reference is made to the joint inspection of 16 May 1974, made for the purpose of transferring a portion of the Sacramento River Bank Protection Project Work (Unit No. 24), to the State of California for operation and maintenance. This portion of flood control work consists of levee and bank sloping, and placement of stone bank protection on the Sacramento River left bank at Site Miles 77.4, 77.6 and 78.5 and right bank at Site Miles 73.1, 74.7, 75.7, 100.7 and 101.7. The sites, as listed on the enclosure, were completed on 16 May 1974 in accordance with Specification No. 4169, Contract No. DACW05-73-C-0038, Drawing No. 50-4-4713.

The work was performed under the general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session and Section 2304(a), Title 10 and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway banks contiguous thereto, is transferred as of 20 May 1974 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Supplements Nos. 123, 124 and 130 Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

F. G. ROCKWELL, JR.
Colonel, CE
District Engineer

1 Incl
As stated

Copy furnished:
DWR, ATTN: John Wright and Carl King
OCE
SPD

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

Valley
F & A (Jones)

Engr (Lev & Chan)
Engr (Prog Dev)

cc:

W
ROMPALA/dc
Redac

W
COLEMAN
[Signature]
HENSON

[Signature]
MCKENNEY
[Signature]
POTAMOS

K
ROCKWELL
h

*Units 1231
1241130*

SUMMARY OF PORTION OF SACRAMENTO RIVER
BANK PROTECTION UNIT NO. 24

Sacramento River Left Bank

| <u>Site Mile</u> | <u>Stone Protection</u> | <u>L.F.</u> |
|------------------|-------------------------|-----------------------|
| 77.4 | 60+15 to 72+00 | 1185 |
| 77.6 | 49+60 to 56+00 | 640 |
| 78.5 | 4+00 to 12+00 | 800 |
| | | <u>2625</u> <i>ck</i> |

Sacramento River Right Bank

| | | |
|-------|------------------|-------------------------------------|
| 73.1 | 176+00 to 181+21 | 521 |
| *74.7 | 87+25 to 99+00 | 1175 <i>= see records show 1120</i> |
| 75.7 | 34+00 to 44+00 | 1000 |
| 100.7 | 19+22 to 23+00 | 378 |
| 101.7 | 14+65 to 24+00 | 935 |
| | | <u>4009</u> <i>ck</i> |

*Extended upstream 75'±
20'

Total 6634 *ck*

Units 123, 124, 130

C
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THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
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November 12, 1973

District Engineer
Sacramento District
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Refer to: 4130.60.206

Dear Sir:

Reference is made to your letter of October 18, 1973, concerning the transfer of a portion of the Sacramento River Bank Protection Project, Unit No. 24, to the State of California for operation and maintenance.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Site Miles 105.0, 103.0, 100.7, 86.6 and 85.5 all on the Left Bank, Sacramento River.

The flood control work has been completed and was constructed in a workman-like manner. This flood control work has been constructed in conformance with Drawing No. 50-4-4713, Specification No. 4169, and Contract No. DACW05-73-C-0038, insofar as could be determined visually.

The Reclamation Board at its regular meeting of November 9, 1973, formally accepted for operation and maintenance, the completed flood control work on the above referenced sites.

Sincerely yours,

/s/ A. E. McCollam
A. E. McCOLLAM
Chief Engineer and
General Manager

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DEPARTMENT OF WATER RESOURCES
STATE OF CALIFORNIA

C
O
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October 2, 1970

District Engineer
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Subject: 4130.60.204
Your Contract 70-C-0008
Sacramento River Bank Protection
Project, Unit No. 16

Dear Sir:

Reference is made to the precompletion inspection of a portion of the above referenced project made on September 23, 1970.

The work sites inspected were as follows:

Site Mile 61.0, Left Bank, Sacramento River
Site Mile 70.4, Right Bank, Sacramento River
Site Mile 71.5, Right Bank, Sacramento River
Site Mile 71.9, Right Bank, Sacramento River
Site Mile 77.0, Right Bank, Sacramento River
Site Mile 77.85, Right Bank, Sacramento River
Site Mile 84.5, Right Bank, Sacramento River
Site Mile 96.8, Right Bank, Sacramento River
Site Mile 83.45, Left Bank, Sacramento River
Site Mile 89.6, Left Bank, Sacramento River
Site Mile 95.4, Left Bank, Sacramento River
Site Mile 95.6, Left Bank, Sacramento River

The work appeared to be completed in an acceptable manner and, insofar as could be determined visually, in conformance with the plans and specifications for the project. No deficiencies were noted.

Sincerely yours,

/s/ Clyde E. Shields
Clyde E. Shields, Chief
Construction Branch
Division of Design and Construction

EXHIBIT F

SPKCO-0

28 September 1970

The Reclamation Board
State of California
1416 - 9th Street, Room 1335
Sacramento, California 95814

Gentlemen:

Reference is made to the joint inspection of 23 September 1970, made for the purpose of transferring a portion of the Sacramento River Bank Protection Project Work (Unit #16), to the State of California for operation and maintenance.

83.45

The flood control work consists of levee setback, bank sloping and placement of stone bank protection on the Sacramento River left bank at Site Miles 61.0, 89.6, 95.4 & 95.6, and right bank at Site Miles 70.4, 71.5, 71.9, 77.0, 77.85, ~~82.4~~, 84.5 & 96.8. A list covering the completed work is inclosed. The work was completed on 23 September 1970 in accordance with Specification No. 3390, Contract No. DACW05-70-C-0008, Drawing No. 50-4-4310.

The work was performed under the general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session and Section 2304(a), Title 10 and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway banks contiguous thereto, is transferred as of 23 September 1970 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Supplements Nos. 122, 123, 124, 127, 128 & 130, Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

JAMES H. HIGMAN
Lieutenant Colonel, CE
Acting District Engineer

1 Incl (in dupe)
as stated

Copy furnished:
DWR, ATTN: John Wright

OCE
SPD

cc: Engr-Lev&Chan; Engr-Prog Dev; Valley; F&A(Cordano)

WAIT/pp

COLEMAN

NENSON

HART

HIGMAN

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Units 122, 123, 124, 127, 128, 130

SUMMARY OF SACRAMENTO RIVER BANK PROTECTION PROJECT - UNIT 16, SACRAMENTO

LEFT BANK

| <u>SITE MILE</u> | <u>LEVEE SETBACK STATION</u> | <u>L.F.</u> | <u>STONE PROTECTION STATION</u> | <u>L.F.</u> | <u>STONE TOE WALL STATION</u> | <u>L.F.</u> |
|------------------|------------------------------|-------------|---------------------------------|-------------|-------------------------------|-------------|
| 61.0 | | | 34+00 to 43+00 | 900 | 34+00 to 35+40 | 140 |
| 89.6 | | | 0+00 to 5+00 | 500 | | |
| 95.4 | | | 10+00 to 18+00 | 800 | | |
| 95.6 | | | 0+00 to 6+57 | 657 | | |

RIGHT BANK

| | | | | | | |
|-------|---------------|-----|------------------|------|----------------|-----|
| 70.4 | | | -0+25 to 1+00 | 125 | -0+25 to 1+00 | 125 |
| 71.5 | | | 45+00 to 64+00 | 1900 | 51+80 to 52+20 | 40 |
| 71.9 | | | 34+00 to 41+00 | 700 | 59+30 to 60+83 | 153 |
| 77.0 | | | 166+00 to 172+00 | 600 | | |
| 77.85 | | | 130+00 to 133+00 | 300 | | |
| 83.45 | | | 491+61 to 481+93 | 968 | | |
| 84.5 | | | 0+00 to 7+45 | 745 | 1+78 to 5+90 | 312 |
| 96.8 | 9+00 to 16+00 | 700 | 9+00 to 15+00 | 600 | | |

*Units 122, 123, 124,
127, 128, 130*

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

DEC 23 1968

4130.60.203

District Engineer
Corps of Engineers
U. S. Army
650 Capitol Mall
Sacramento, California 95814

Dear Sir:

Reference is made to your letter of November 5, 1968 concerning transfer to the State of California of a portion of the Sacramento River Bank Protection Project, Unit No. 12, consisting of Sites Mile 100.9, 100.3, 95.3, 89.2 and 87.0, right bank, Sacramento River and Sites Mile 88.7 and 61.5, left bank, Sacramento River for maintenance and operation.

This work was constructed in accordance with Specification No. 3288, Contract No. DACW05-68-C-0014, Drawing No. 50-4-4078.

The Reclamation Board, at its meeting of December 20, 1968, formally accepted the above referred to work for operation and maintenance.

Sincerely yours,

/s/ A. E. McCOLLAM
A. E. McCOLLAM
Chief Engineer and
General Manager

EXHIBIT F

SPKCO-0

5 November 1968

The Reclamation Board
State of California
1416 - 9th Street, Room 1335
Sacramento, California 95814

Gentlemen:

Reference is made to the joint inspection of 4 November 1968, made for the purpose of transferring a portion of the Sacramento River Bank Protection Work (Unit #12), to the State of California for operation and maintenance.

The flood control work, consisting of levee enlargement, bank sloping, levee setback and placement of stone bank protection on the Sacramento River at Site Miles 100.9, 100.3, 95.3, 89.2 and 87.0, right bank; and Site Miles 88.7 and 61.5, left bank, is listed on the attached inclosure. The work was completed on 4 November 1968, in accordance with Specification No. 3288, Contract No. DACW05-68-C-0014, Drawing No. 50-4-4078.

The work was performed under the general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session; and Section 2304(a), Title 10, and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work, together with the waterway banks contiguous thereto, is transferred to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Supplement Nos. 124, 127, 128 & 130, Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

CRAWFORD YOUNG
Colonel, CE
District Engineer

✓ 1 Incl.
as stated

✓ Copy furnished:
DWR
OCE & SPD

cc: Engr-Lev&Chan; Engr-Prog Dev; F&A(Cordano); Valley Area Ofc

*Units 124
127, 128
130*

JK
ROMPAIA/p

[Signature]
COLEMAN

McB
HENSON

[Signature]

[Signature]
YOUNG
7

SUMMARY OF SACRAMENTO RIVER BANK PROTECTION PROJECT
PORTION OF UNIT #12

| LEVEE UNIT SITE MILE | LEVEE SETBACK STATION | L.F. | SACRAMENTO RIVER RIGHT BANK: STONE PROTECTION STATION | L.F. | STONE TOE WALL STATION | L.F. |
|-------------------------|--------------------------------|------------|---|------------|---------------------------|------------|
| 100.9 | 5+00 20+00 | 1500 | 3+00 20+00 | 1700 | 3+00 4+40 13+50 14+60 | 140 110 |
| 100.3 | | | 0+00 7+00 | 700 | | |
| 95.3 | 5+00 16+00 | 1100 | 3+00 17+30 | 1430 | | |
| 89.2 | 4+08 25+00 | 2092 | 0+00 25+00 | 2500 | | |
| 87.0 | 2+00BK 7+00BK 0+00AH 2+00AH | 500 200 | 3+00BK 7+00BK 0+00AH 2+00AH | 400 200 | | |
| 88.7 | 13+00 19+75 | 675 | SACRAMENTO RIVER LEFT BANK: 5+00 19+00 | 1400 | | |
| 61.5 | | | 3+83 11+20 | 737 | 4+53 5+25 8+55 11+20 | 72 265 |

*02/18/1981
HCP/AMM*

4930

2177

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
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28 Jun 1966

Refer to: 4130.60.302
Contract 66-50

District Engineer
Corps of Engineers
U. S. Army
650 Capitol Mall
Sacramento, California

Dear Sir:

Reference is made to your letter of June 20, 1966 concerning transfer to the State of California of the Sacramento River Bank Protection Project, Unit No. 8, Site Mile 77.6, left bank, Sacramento River; Site Mile 24.5, right bank, Feather River; Sites Mile 2.98 and 1.76, right bank, Bear River; and Sites Mile 11.6, 7.12 and 4.90, left bank, Bear River, in accordance with Specification No. 3154.

The Reclamation Board, at its meeting of June 23, 1966, formally accepted the above referred to work for operation and maintenance.

Sincerely yours,

/s/A. E. McCollam
A. E. McCOLLAM
General Manager

EXHIBIT F

RECEIVED MAIL
Receipt Receipt
Requested

Letter No. 12

12

SPKKA 824.3(Sac. Riv. F.C.P.)

8 DEC 1951

The Reclamation Board
State of California
1100 "O" Street
Sacramento 16, California

Gentlemen:

Reference is made to your letter of 22 June 1951 acknowledging that certain reaches of the levees of the Sacramento River Flood Control Project and the waterway bank contiguous to said levee reaches meet the requirements of the project as authorized prior to the Flood Control Act of 1944.

The levee reaches in question are located as follows:

140. a. Northerly levee of the American River from Jibboom Street Bridge to Sacramento River. 118.2 (?)

b. Easterly levee of the Sacramento River.

Reach 15 141. (1) American River to Natones Out. 60.25 to 79.0 124

Reach 16 142. (2) At Moulton Weir. (Man 2) 154

143. (3) Mile 158.5 (North End Moulton Weir) to Mile 164.4 (Princeton Ferry). (Man 2) ? 134

144. (4) Mile 168.5 to Mile 168.9 (at Dutch City). (Man 2) ? 138

c. Westerly levee of the Sacramento River.

145. (1) Mile 59.9 to Mile 60.75. 116

146. (2) Mile 61.8 to Mile 62.65 (at Drye Bend) 116

62.65

Accepted by letter dated 9 March 1953

Reach 15
Reach 16

Letter 12 Items 140 to 198

12

Letter No. 12

12

c. Westerly levee of the Sacramento River. (cont'd)

- Reach No. 5
- ✓ 147. (8) Mile 62.65 to Mile 65.1 (South End Sacramento Weir). 116
 - ✓ 148. (4) At Sacramento Weir. 158
 - ✓ 149. (5) Mile 65.5 (North End Sacramento Weir) to Mile 67.11. 122
 - ✓ 150. (6) Mile 68.42 to Mile 70.9. 122
 - ✓ 151. (7) Mile 76.5 to Mile 81.7 (East End Fremont Weir). 123
 - ✓ 152. (8) Along Fremont Weir. 157
 - ✓ 153. (9) Mile 84.0 (West End Fremont Weir) to Mile 85.3. 128
 - ✓ 154. (10) Mile 85.5 to Mile 85.9. 128
 - ✓ 155. (11) Mile 87.6 to Mile 88.4. 128
 - ✓ 156. (12) Mile 89.2 to Mile 89.8 (Knights Landing Highway Bridge). 128
 - Reach No. 4
 - ✓ 157. (13) Mile ^{89.2} 89.8 (Knights Landing Highway Bridge) to Sycamore Slough. 89.9 128
 - ✓ 158. (14) Mile ^{100.6} 100.6 to Mile 101.4. 128
 - ✓ 159. (15) Mile 110.0 to Mile 111.2. 128

d. Westerly Levee of the Feather River.

- Reach 39
- ✓ 160. (1) Sutter Bypass to Nicolaus Bridge. 143
 - ✓ 161. (2) From a point 3.31 miles northerly from Nicolaus Bridge to the Fifth Street Bridge between Marysville and Yuba City. 143, 144
- Reach 38
- ✓ 162. (3) From a point 1,400 feet northerly from the Fifth Street Bridge between Marysville and Yuba City to Station 774+00 "Y.C.N.B." Traverse. 144
 - ✓ 163. (4) From a point east of Station 1188+00 "Y.C.N.B." Traverse to high ground just northerly from the Western Canal Headgate. 144
- Reach 42
- ✓ 164. a. Easterly levee of the Sacramento River from Natomas Cut to Feather River. 141.1

12

Letter No. 12

12

f. Easterly levee of the Feather River.

- Reach 42 ✓ 165. (1) Sacramento River to a point 2.37 miles southerly from Nicolaus Bridge. 141 Pt 1
- Reach 41 ✓ 166. (2) Bear River to Mile 14.6. } 145
- ✓ 167. (3) Mile 14.4 to Mile 14.7.
- ✓ 168. (4) Mile 14.7 to Mile 21.5.
- ✓ 169. (5) Mile 21.5 to Mile 22.75.
- ✓ 170. (6) Mile 22.75 to Mile 26.5 (Point where levee and S.N.R.R. meet). 145

g. Levees protecting the City of Marysville. All 147

- Reach 43 ✓ 171. (1) From the W.P.R.R. at Simerly Slough easterly to the Yuba River.
- ✓ 172. (2) Along the Yuba River from the "D" Street Bridge to the back levee near the Valley Meat Company.

h. Levees protecting Reclamation District No. 10.

- Reach No. 40 ✓ 173. (1) Northerly levee of Simerly Slough from the W.P.R.R. to the S.P.R.R. 151
- ✓ 174. (2) Easterly levee of the Feather River from Simerly Slough to a point 4.3 miles northerly from Simerly Slough. 151

Reach 46 ✓ 175. i. Northerly levee of the Yuba River from the back levee of the City of Marysville to a point 1.3 miles easterly from said back levee. 147

Reach 47 ✓ 176. j. Southerly levee of the Yuba River from Feather River (i.e. S.N.R.R.) easterly to the S.P.R.R. Main Line. 147

45 ✓ 177. k. Northerly levee of Bear River from Feather River easterly to the W. P.R.R. Interceptor. 145

45 ✓ 178. l. Westerly levee of the W.P.R.R. Interceptor and Clark Slough Interceptor (i.e. back levee of Reclamation District No. 784) from Bear River to the southerly end of the Clark Slough Interceptor. 145

12

SPEKA 924.3(Sac.Riv.F.C.P.)
The Reclamation Board

Letter No. 12

12

m. Southerly levee of the American River.

Reach
No. 25 ✓

- ✓ 179. (1) Sixteenth Street Bridge to the S.P.R.R. 118.1
- ✓ 180. (2) From a point 800 feet easterly from the S.P.R.R. to Mayhew Station. 118.1

n. Westerly levee of the Yolo Bypass.

- ✓ 181. (1) Sacramento River to Knights Landing Ridge Cut. 127
- ✓ 182. (2) Knights Landing Ridge Cut to the northeast corner of the Cache Creek Settling Basin. 126
- 28 ✓ 183. (3) S.P.R.R. Woodland Branch to a point 1.6 miles southerly from said railroad. 121
- 28 ✓ 184. (4) From a point 1.6 miles southerly from the S.P.R.R. Woodland Branch to the Willow Slough Pipes. 121
- 28 ✓ 185. (5) From a point 1.48 miles southerly from the Willow Slough Pipes to a point 1.9 miles southerly from said pipes. 121
- 28 ✓ 186. (6) From a point 1.9 miles southerly from the Willow Slough Pipes to the Willow Slough Interceptor. 121
- 28 ✓ 187. (7) From the Willow Slough Interceptor to Highway U.S. 40. 120
- ✓ 28 ✓ 188. (8) From Highway U.S. 40 to Putah Creek. 119

27 ✓ 189 o. Easterly and Westerly training levees of Cache Creek Settling Basin from Cache Creek southerly. 126

28 ✓ 190 p. Northerly and Southerly levees of the Willow Slough Interceptor from the S.P.R.R. to the Yolo Bypass. 120

29 ✓ 191 q. Northerly levee of Putah Creek from Yolo Bypass westerly to high ground. 119

✓ 192 r. Southerly levee of Putah Creek from high ground on Dixon Ridge westerly to high ground. 119

s. Southerly levee of Knights Landing Ridge Cut. 127

- 26 ✓ 193 (1) From Yolo Bypass westerly 600 feet. Also covered under Unit 96-A
- 26 ✓ 194 (2) { From a point 2,500 feet westerly from Yolo Bypass to a point 2,900 feet westerly from Yolo Bypass. 127
Also covered under 96-A

12

SPKKA 824.3(Sac.Riv.F.C.P.)
The Reclamation Board

Letter No. 12

12

s. Southerly levee of Knights Landing Ridge Cut. (cont'd)

- 26 ✓ 195 (3) { From a point 3,500 feet westerly from Yolo Bypass to a point 7,100 feet westerly from Yolo Bypass. 127
Also covered under Unit No. 96-A
- 35 ✓ 196 t. That portion of the back or westerly levee of Hastings Tract which runs east and west along the County Road for a distance of approximately one mile. 107
- ✓ 197 u. Northerly levee of Sycamore Slough from Sacramento River to Knights Landing Outfall Gates. 130
- ✓ 198 v. Southerly levee of Sycamore Slough from Sacramento River to Knights Landing Outfall Gates. 132

The records of this office show that your Board has accepted the levees and/or works covered by Items b₁(1), b₁(2), b₁(3), c₁(2), c₁(4), c₁(8), c₁(11), c₁(12), c₁(14), d₁(1), d₁(3), d₁(4), f₁(3), f₁(5), g₁, h₁, i₁, l₁, m₁, n₁(1), n₁(2), n₁(3), n₁(5), n₁(7), n₁(8), o₁, p₁, q₁, r₁ and s₁(1) above, as complete. Accordingly the waterway bank contiguous to said Items is hereby transferred to the State of California for maintenance and operation.

The levee covered by Items a₁, b₁(4), c₁(1), c₁(3), c₁(5), c₁(6), c₁(7), c₁(9), c₁(10), c₁(13), c₁(15), d₁(2), e₁, f₁(1), f₁(2), f₁(4), f₁(6), j₁, k₁, n₁(4), n₁(5), s₁(2), s₁(3), t₁, u₁ and v₁, above, although complete has not been formally transferred as contemplated by the Project documents. Accordingly the levee covered by said Items, together with the waterway bank contiguous thereto, is hereby transferred to the State of California for maintenance and operation.

The maintenance work required under the provisions of the Sacramento River Flood Control Project shall be performed in accordance with existing Flood Control Regulations which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress approved 22 June 1936, as amended and supplemented. As provided under paragraph 206.10(10) of these regulations, a maintenance manual covering these works is in process of preparation and will be furnished your Board upon completion.

A copy of this letter is being transmitted to the State Engineer.

FOR THE DISTRICT ENGINEER:

Sincerely yours,

Copy Furnished:
Office, Chief of Engrs.
So. Pac. Div. Engr.
State Engineer
Engr. Div. (2)
C. de Arrieta

H. R. Reifsnnyder
Lt. Colonel, Corps of Engineers
Executive Officer

12

EARL WARREN
GOVERNOR

M. R. GALLAWAY, JR., SACRAMENTO
PRESIDENT

GROVER SHANNON, YUBA CITY
VICE PRESIDENT

GEO. H. HOLMES, CLARKSBURG
SECRETARY

W. P. HARKEY, GRIDLEY
GEO. R. WILSON, WALNUT GROVE
GEO. E. LODI, ARBUCKLE
DOUGLAS B. COHEN, BANTA

THE RECLAMATION BOARD
OF THE
STATE OF CALIFORNIA

1100 O STREET
SACRAMENTO 14, CALIFORNIA

TELEPHONE: GILBERT 3-4671

April 20, 1951

A. M. BARTON
CHIEF ENGINEER AND GENERAL MANAGER

FRED N. HOWSER, ATTORNEY GENERAL
LEGAL ADVISER

G. F. MELLIN
ASSISTANT ENGINEER AND APPRAISER

S. A. HONAKER
ASSISTANT SECRETARY

District Engineer
Sacramento District
U. S. Corps of Engineers
P. O. Box 1739
Sacramento, California

Dear Sir:

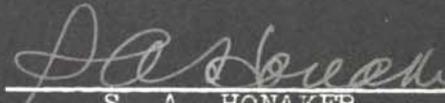
Reference your file PSKKO-P 824.3 (Sac. Riv.)
19 March 1951.

The Reclamation Board at its meeting April 18,
1951, accepted from the United States the levee along
the left bank of the Sacramento River from the mouth
of the American River to Natomas Cut, along Reclamation
District No. 1000, for maintenance and operation by
the State of California.

Yours very truly

THE RECLAMATION BOARD
A. M. BARTON
Chief Engineer and General Manager

By


S. A. HONAKER
Assistant Secretary

SAH:emw

Unit No. 55-A

124

4/20/51
824.3 (Sac. R. FCP) 1112

*Prepared
16 March 1951*

Mailed 19 March 1951

*Accepted by the Board
18 April 1951*

The Reclamation Board
State of California
1100 "O" Street
Sacramento, California

Gentlemen:

Reference is made to recent conferences held with your Board and representatives of your staff on the status of the Sacramento River Flood Control Project. During these discussions it was established that those locally constructed levees which meet present standards and which form a part of the project works would be turned over to the State for maintenance and operation.

Pursuant to the above, investigation has been made of the levee along the left bank of the Sacramento River from the mouth of the American River to Natomas Cut and it has been found that this section of levee conforms to present standards.

Accordingly, the levee unit referred to above, which forms an integral part of the Sacramento River Flood Control Project, is hereby turned over to the State of California for maintenance and operation. Acknowledgement of acceptance at an early date would be appreciated.

The required maintenance work shall be performed in accordance with existing Flood Control Regulations which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress approved 22 June 1936, as amended and supplemented. As provided under paragraph 208.10 (10) of these regulations a maintenance manual covering this levee unit is in process of preparation and will be furnished your Board upon completion.

A copy of this letter is being transmitted to the State Engineer.

cc: Engineering Div. (2)
Office, Chief of Engr.
Div. Engr.
State Engr.
Sacto. Field Office
Service Sect.
Barsdale
Chas. de Arieta

*Not covered by
reference on the map.
C. de A.*

124

Unit 55-A

141

C
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P
Y

The Reclamation Board
of the
State of California

C
O
P
Y

March 11, 1953

District Engineer
Sacramento District
Corps of Engineers, U. S. Army
P. O. Box 1739
Sacramento 8, California

Dear Sir:

Reference your letters, file number SPKKO-P 824.3 (Sac R.F.C.P.) dated 1 December 1951, 3 December 1951, 4 December 1951; three letters dated 6 December 1951, 7 December 1951, and six letters dated 8 December 1951. Subject letters transferred to the Reclamation Board for operation and maintenance, various levee units of the Sacramento River Flood Control Project.

The Reclamation Board at its 18 December 1951 meeting, on behalf of the State of California, accepted certain of the transferred units together with their contiguous waterway banks for operation and maintenance, and rejected others. A tabulation of the units so accepted or rejected is attached hereto.

Yours very truly,

THE RECLAMATION BOARD

A. M. BARTON
Chief Engineer and General Manager

By /s/ D. M. Carr
D. M. CARR

EXHIBIT F
Sheet 1 of 4

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December 18, 1951

The Board accepted the transfer from the Corps of Engineers, in letters of dates listed below, the following reaches of levees and their contiguous waterway banks where applicable for flood control operation and maintenance, as complete and meeting the requirements of the Sacramento River Flood Control Project.

| <u>No.</u> | <u>Date of Letter</u> | <u>Levee Location</u> | <u>Remarks</u> |
|------------|-----------------------|---|-------------------------------|
| 1. | 1 Dec 1951 | - - - - - | - - - - - |
| 11. | 8 Dec 1951 | N. levee American River from Jibboom St. Bridge to Sacramento River | Maintained by R. D. No. 1000. |
| 11. | 8 Dec 1951 | E. levee Sacramento River, American River to Natomas Cut. | Maintained by R. D. No. 1000. |

Note: Only items pertaining to Operation and Maintenance Manual No. 124 are included in the above copy.

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The Reclamation Board
of the
State of California

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May 22, 1952

District Engineer
Sacramento District
Corps of Engineers, U. S. Army
P. O. Box 1739
Sacramento 8, California

Dear Sir:

Reference is made to your letter (1) SPKKO-P 824.3 (Sac. Riv. F.C.P.) 13 December 1951, (2) your letter SPKKO-P 824.3 (Sac. Riv. F.C.P.) 19 December 1951, and (3) your letter SPKIA 824.3 (Sac. Riv. F.C.P.) 13 December 1951, transferring 101 reaches of levee and contiguous banks to the Reclamation Board for flood control operation and maintenance.

On January 2, 1952, the Reclamation Board accepted the transfer of the reaches of levee listed in first tabulation attached and did not accept those reaches of levee and contiguous bank in the second tabulation.

Yours very truly,

THE RECLAMATION BOARD

By /s/ A. M. Barton
A. M. BARTON

Encl.

Chief Engineer and General Manager

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January 2, 1952

The Board accepted the transfer from the Corps of Engineers, in letters as listed below, the following reaches of levees and their contiguous waterway banks, where applicable, for flood control operation and maintenance, as complete and meeting the requirements of the Sacramento River Flood Control Project:

| <u>No.</u> | <u>Date of Letter</u> | <u>Levee Location</u> | <u>Remarks</u> |
|------------|-----------------------|--|---|
| 3. | 13 Dec 1951 | (j) North levee American River from Jibboom St. Bridge to El Camino Avenue | Constructed by and maintained by R. D. No. 1000 |

Note: Only item pertaining to Operation and Maintenance Manual No. 124 is included in the above copy.

TO: The District Engineer
Sacramento District
Corps of Engineers
1209-8th Street
Sacramento, California

(1 May 19__)
(1 Nov. 19__)

Dear Sir:

The semi-annual report for the period (1 May 19__ to 31 October 19__)
(1 November 19__ to 30 April 19__) on the North Levee of the American
River from Natomas East Canal to the Sacramento River and East Levee of the
Sacramento River from Natomas cross canal to the American River (Unit No.
124 of the Sacramento River Flood Control Project), is as follows:

a. The physical condition of the protective works is indicated by the
inspector's report, copies of which are inclosed, and may be summarized as
follows:

(Superintendent's summary of conditions)

It is out intention to perform the following maintenance work in
order to repair or correct the conditions indicated:

(Outline the anticipated maintenance operations for the following
6 months.)

b. During this report period, major high water stages (water
surface at the "I" Street Bridge in Sacramento reached or exceeded 25.0
on the U. S. Weather Bureau gage or above a reading of 40.00 on the
Division of Water Resources gage on the American River Bridge at "H"
Street) occurred on the following dates:

| <u>Dates</u> | <u>Maximum Elevation</u> |
|--------------|--------------------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Comments on the behavior of the protective works during such high water periods are as follows:

(Superintendent's log of flood observations)

During the high water stages when the water level reached a height of _____, on the gage or excess thereof (dates) _____, it was necessary to organize and carry out flood operations as follows:

(See Maintenance Manual _____.)

c. The inspections have indicated (no) or (the following) encroachments or trespasses upon the project right-of-way.

d. (No) (_____) permits have been issued for (the following) improvements or construction within the project right-of-way.

Executed copies of the permit documents issued are transmitted for your files.

e. The status of maintenance measures, indicated in the previous semi-annual report as being required or as suggested by the representatives of the District Engineer, is as follows:

(Statement of maintenance operations, item by item with percent completion.)

f. The fiscal statement of the Superintendent's operations for the current report period is as follows:

| | <u>Labor</u> | <u>Material</u> | <u>Equipment</u> | <u>Overhead</u> | <u>Total</u> |
|---------------------------------|--------------|-----------------|------------------|-----------------|--------------|
| 1. Inspection | | | | | |
| 2. Maintenance | | | | | |
| 3. Flood fighting operations | | | | | |
| TOTAL | | | | | |

Respectfully submitted,

Superintendent of Works

EXHIBIT G

SUGGESTED SEMI-ANNUAL REPORT FORM

TO: The District Engineer
Sacramento District
Corps of Engineers
1209-8th Street
Sacramento, California

(1 May 19__)
(1 Nov. 19__)

Dear Sir:

The semi-annual report for the period (1 May 19__ to 31 October 19__)
(1 November 19__ to 30 April 19__) on the North Levee of the American
River from Natomas East Canal to the Sacramento River and East Levee of the
Sacramento River from Natomas cross canal to the American River (Unit No.
124 of the Sacramento River Flood Control Project), is as follows;

a. The physical condition of the protective works is indicated by the
inspector's report, copies of which are inclosed, and may be summarized as
follows:

(Superintendent's summary of conditions)

It is out intention to perform the following maintenance work in
order to repair or correct the conditions indicated:

(Outline the anticipated maintenance operations for the following
6 months.)

b. During this report period, major high water stages (water
surface at the "I" Street Bridge in Sacramento reached or exceeded 25.0
on the U. S. Weather Bureau gage or above a reading of 40.00 on the
Division of Water Resources gage on the American River Bridge at "H"
Street) occurred on the following dates:

Dates

Maximum Elevation

Comments on the behavior of the protective works during such high water periods are as follows:

(Superintendent's log of flood observations)

During the high water stages when the water level reached a height of _____, on the gage or excess thereof (dates) _____, it was necessary to organize and carry out flood operations as follows:

(See Maintenance Manual _____.)

c. The inspections have indicated (no) or (the following) encroachments or trespasses upon the project right-of-way.

d. (No) (_____) permits have been issued for (the following) improvements or construction within the project right-of-way.

Executed copies of the permit documents issued are transmitted for your files.

e. The status of maintenance measures, indicated in the previous semi-annual report as being required or as suggested by the representatives of the District Engineer, is as follows:

(Statement of maintenance operations, item by item with percent completion.)

f. The fiscal statement of the Superintendent's operations for the current report period is as follows:

| | <u>Labor</u> | <u>Material</u> | <u>Equipment</u> | <u>Overhead</u> | <u>Total</u> |
|---------------------------------|--------------|-----------------|------------------|-----------------|--------------|
| 1. Inspection | | | | | |
| 2. Maintenance | | | | | |
| 3. Flood fighting operations | | | | | |
| TOTAL | | | | | |

Respectfully submitted,

Superintendent of Works

EXHIBIT H
AMERICAN RIVER WATERSHED, COMMON FEATURES -
PROJECT COOPERATION AGREEMENT AND AMENDMENTS



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CECW-AR (1110-2-1150a)

15 July 1998

PAT 21 JUL 98
MEMORANDUM THRU COMMANDER, SOUTH PACIFIC DIVISION

FOR COMMANDER, SACRAMENTO DISTRICT, ATTN: CESPCK-PM-C (Mr. Childs)

SUBJECT: American River Watershed, Common Features - Project Cooperation Agreement

1. The subject project cooperation agreement (PCA) and financing plan have been approved by the Assistant Secretary of the Army (Civil Works) (ASA(CW)). Signature authority is delegated to the district commander. A copy of the approval memorandum (enclosure 1) and the approved PCA are enclosed (enclosure 2).
2. Under delegated signature authority, you must ensure that the PCA is executed as approved by OASA(CW), without deviation, not later than 21 calendar days after the date of this memorandum. The Sacramento District should prepare four final PCA originals and have them signed by the sponsor. The district will retain two copies of the PCA upon execution. A copy of the signed PCA and an electronic copy of the PCA should be forwarded to CECW-AR (Mr. James Scott) not later than 14 days after signature.
3. If any deviations to the approved PCA are required, prior to PCA signature by the sponsor, the district will transmit a memorandum notifying CECW-A of the reasons for the deviations and requesting approval of the deviations. Only after receipt of written approval from CECW-A will the deviations be incorporated into the approved PCA.
4. If the 21-day suspense will not be met, prior to PCA signature by the sponsor, the district will transmit a memorandum notifying CECW-A of the reasons for the slip or identifying changed conditions and the recommended course of action.
5. Any questions should be directed to James Scott, Review Manager, 703-428-8373.

FOR THE COMMANDER:

2 Encls
as


DAVID B. SANFORD, JR.
Chief, Policy Division
Directorate of Civil Works



**DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
CIVIL WORKS
108 ARMY PENTAGON
WASHINGTON DC 20310-0108**

REPLY TO
ATTENTION OF

10 JUL 1998

MEMORANDUM FOR THE DIRECTOR OF CIVIL WORKS

**SUBJECT: American River Watershed, Common Features, California - Project
Cooperation Agreement**

This is in reply to Mr. Sanford's Memorandum of July 9, 1998, concerning the subject. The financing plan and draft agreement are approved. Execution of the agreement is delegated to the District Commander.

A handwritten signature in black ink, appearing to read "Joe Westphal", written over a light gray rectangular background.

Joseph W. Westphal
Assistant Secretary of the Army
(Civil Works)

Enclosure 1

PROJECT COOPERATION AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE STATE OF CALIFORNIA
FOR CONSTRUCTION OF THE
AMERICAN RIVER WATERSHED (COMMON FEATURES), CALIFORNIA PROJECT

THIS AGREEMENT is entered into this 13th day of July, 1998, by and between the DEPARTMENT OF THE ARMY (hereinafter the "Government"), represented by the District Engineer, U.S. Army Engineer District, Sacramento, and the State of California acting by and through The Reclamation Board (hereinafter the "Non-Federal Sponsor"), as represented by the General Manager of The Reclamation Board.

WITNESSETH, THAT:

WHEREAS, construction of the American River Watershed (Common Features), California Project at Sacramento, California was authorized by the Water Resources Development Act of 1996;

WHEREAS, the Government and the Non-Federal Sponsor desire to enter into a Project Cooperation Agreement for construction of the American River Watershed (Common Features), California Project (hereinafter the "Project", as defined in Article I.A. of this Agreement);

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, specifies the cost-sharing requirements applicable to the Project;

WHEREAS, Section 221 of the Flood Control Act of 1970, Public Law 91-611, as amended, and Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, provide that the Secretary of the Army shall not commence construction of any water resources project, or separable element thereof, until each non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element;

WHEREAS, Section 101(a)(1)(B) of the Water Resources Development Act of 1996, Public Law 104-303 provides that the Non-Federal Sponsor shall receive credit toward its share of project costs for expenses that it incurs for design or construction of the Project which is performed before the date on which Federal funds are made available for construction of the Project, and provides further that the amount of the credit shall be determined by the Government:

WHEREAS, the Non-Federal Sponsor does not qualify for a reduction of the maximum non-Federal cost share pursuant to the guidelines that implement Section 103(m) of the Water Resources Development Act of 1986, Public Law 99-662, as amended;

WHEREAS, Section 902 of Public Law 99-662 establishes the maximum amount of costs for the American River Watershed (Common Features), California Project and sets forth procedures for adjusting such maximum amount; and

WHEREAS, the Government and Non-Federal Sponsor have the full authority and capability to perform as hereinafter set forth and intend to cooperate in cost-sharing and financing of the construction of the Project in accordance with the terms of this Agreement.

NOW, THEREFORE, the Government and the Non-Federal Sponsor agree as follows:

ARTICLE I -DEFINITIONS AND GENERAL PROVISIONS

For purposes of this Agreement:

A. The term "Project" shall mean the construction of approximately 24 miles of slurry wall in the existing levees along the American River, modifying and raising approximately 12 miles of levee on the east side of the Sacramento River from Powerline Road to the Natomas Cross Canal, installation of three telemetered stream flow gages upstream of Folsom Dam, and modification of the existing flood warning system that exists at the Bureau of Reclamation's Nimbus Dam as generally described in the Supplemental Information Report, American River Watershed Project, California dated March 1996, and approved by the Chief of Engineers on June 27, 1996, and modified by the August 1997 SIR Addendum, approved on July 10, 1998. The Project includes the Section 101(a)(1)(B) work described in Article I.K. of this Agreement.

B. The term "total project costs" shall mean all costs incurred by the Non-Federal Sponsor and the Government in accordance with the terms of this Agreement directly related to construction of the Project. Subject to the provisions of this Agreement, the term shall include, but is not necessarily limited to: continuing planning and engineering costs incurred after October 1, 1985; advanced engineering and design costs; preconstruction engineering and design costs; engineering and design costs during construction; the costs of investigations to identify the existence and extent of hazardous substances in accordance with Article XV.A. of this Agreement; costs of historic preservation activities in accordance with Article XVIII.A. of this Agreement; actual construction costs, including the costs of alteration, lowering, raising, or replacement and attendant removal of existing railroad bridges and approaches thereto; the credit amount for the Section 101 (a)(1)(B) work performed by the Non-Federal Sponsor afforded in accordance with Article II.D.5. of this Agreement; supervision and administration costs; costs of participation in the Project Coordination Team in accordance with Article V of this Agreement; costs of contract dispute settlements or awards; the value of lands, easements, rights-of-way, relocations, and suitable borrow and dredged

or excavated material disposal areas for which the Government affords credit in accordance with Article IV of this Agreement; and costs of audit in accordance with Article X of this Agreement. The term does not include any costs for operation, maintenance, repair, replacement, or rehabilitation; any costs due to betterments; or any costs of dispute resolution under Article VII of this Agreement.

C. The term "financial obligation for construction" shall mean a financial obligation of the Government or a financial obligation of the Non-Federal Sponsor for Section 101(a)(1)(B) work, other than an obligation pertaining to the provision of lands, easements, rights-of-way, relocations, and borrow and dredged or excavated material disposal areas, that results or would result in a cost that is or would be included in total project costs.

D. The term "non-Federal proportionate share" shall mean the ratio of the Non-Federal Sponsor's total cash contribution required in accordance with Articles II.D.1. and II.D.3. of this Agreement to total financial obligations for construction, as projected by the Government.

E. The term "period of construction" shall mean the time from the date the Government first notifies the Non-Federal Sponsor in writing, in accordance with Article VI.B. of this Agreement, of the scheduled date for issuance of the solicitation for the first construction contract to the date that the U.S. Army Engineer for the Sacramento District (hereinafter the "District Engineer") notifies the Non-Federal Sponsor in writing of the Government's determination that construction of the Project is complete.

F. The term "highway" shall mean any public highway, roadway, street, or way, including any bridge thereof.

G. The term "relocation" shall mean providing a functionally equivalent facility to the owner of an existing utility, cemetery, highway or other public facility, or railroad (excluding existing railroad bridges and approaches thereto) when such action is authorized in accordance with applicable legal principles of just compensation; providing a functionally equivalent facility to the owner of an existing utility, or other public facility that is located in, on, under, or along the existing levee when the owner of such utility or facility is the State of California, or a political subdivision thereof; or as otherwise provided in the authorizing legislation for the Project or any report referenced therein. Providing a functionally equivalent facility may take the form of alteration, lowering, raising, or replacement and attendant removal of the affected facility or part thereof.

H. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

I. The term "functional portion of the Project" shall mean a portion of the Project that is suitable for tender to the Non-Federal Sponsor to operate and maintain in advance of completion of the entire Project. For a portion of the Project to be suitable for tender, the District Engineer must notify the Non-Federal Sponsor in writing of the Government's determination that the portion of the

Project is complete and can function independently and for a useful purpose, although the balance of the Project is not complete.

J. The term "betterment" shall mean a change in the design and construction of an element of the Project resulting from the application of standards that the Government determines exceed those that the Government would otherwise apply for accomplishing the design and construction of that element.

K. The term "Section 101(a)(1)(B) work" shall mean construction of the three telemetered stream flow gages as described in Supplemental Information Report, American River Watershed Project, California dated March 1996. The Section 101(a)(1)(B) work includes construction of the authorized improvements as well as planning, engineering, design, supervision and administration, and other activities associated with construction, but does not include the construction of betterments or the provision of lands, easements, rights-of-way, relocations, or suitable borrow and dredged or excavated material disposal areas associated with the Section 101(a)(1)(B) work.

ARTICLE II -OBLIGATIONS OF THE GOVERNMENT AND THE NON-FEDERAL SPONSOR

A. The Government, subject to receiving funds appropriated by the Congress of the United States (hereinafter, the "Congress") and using those funds and funds provided by the Non-Federal Sponsor, shall expeditiously construct the Project (including alteration, lowering, raising, or replacement and attendant removal of existing railroad bridges and approaches thereto), applying those procedures usually applied to Federal projects, pursuant to Federal laws, regulations, and policies.

1. The Government shall afford the Non-Federal Sponsor the opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the Government's issuance of such solicitations. The Government shall not issue the solicitation for the first construction contract until the Non-Federal Sponsor has confirmed in writing its willingness to proceed with the Project. To the extent possible, the Government shall afford the Non-Federal Sponsor the opportunity to review and comment on all contract modifications, including change orders, prior to the issuance to the contractor of a Notice to Proceed. In any instance where providing the Non-Federal Sponsor with notification of a contract modification or change order is not possible prior to issuance of the Notice to Proceed, the Government shall provide such notification in writing at the earliest date possible. To the extent possible, the Government also shall afford the Non-Federal Sponsor the opportunity to review and comment on all contract claims prior to resolution thereof. The Government shall consider in good faith the comments of the Non-Federal Sponsor, but the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, resolution of contract claims, and performance of all work on the Project (whether the work is performed under contract or by Government personnel), shall be exclusively within the control of the Government.

2. Throughout the period of construction, the District Engineer shall furnish the Non-Federal Sponsor with a copy of the Government's Written Notice of Acceptance of Completed Work for each contract for the Project.

3. Notwithstanding paragraph A.1. of this Article, if, upon the award of any contract for construction of the Project, cumulative financial obligations for construction would exceed \$66,500,000, the Government and the Non-Federal Sponsor agree to defer award of that contract and all subsequent contracts for construction of the Project until such time as the Government and the Non-Federal Sponsor agree to proceed with further contract awards for the Project, but in no event shall the award of contracts be deferred for more than three years. Notwithstanding this general provision for deferral of contract awards, the Government, after consultation with the Non-Federal Sponsor, may award a contract or contracts after the Assistant Secretary of the Army (Civil Works) makes a written determination that the award of such contract or contracts must proceed in order to comply with law or to protect life or property from imminent and substantial harm.

B. The Non-Federal Sponsor may request the Government to accomplish betterments. Such requests shall be in writing and shall describe the betterments requested to be accomplished. If the Government in its sole discretion elects to accomplish the requested betterments or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In the event of conflict between such a writing and this Agreement, this Agreement shall control. The Non-Federal Sponsor shall be solely responsible for all costs due to the requested betterments and shall pay all such costs in accordance with Article VI.C. of this Agreement.

C. When the District Engineer determines that the entire Project is complete or that a portion of the Project has become a functional portion of the Project, the District Engineer shall so notify the Non-Federal Sponsor in writing and furnish the Non-Federal Sponsor with an Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual (hereinafter the "OMRR&R Manual") and with copies of all of the Government's Written Notices of Acceptance of Completed Work for all contracts for the Project or the functional portion of the Project that have not been provided previously. Upon such notification, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the entire Project or the functional portion of the Project in accordance with Article VIII of this Agreement.

D. The Non-Federal Sponsor shall contribute a minimum of 25 percent, but not to exceed 50 percent, of total project costs in accordance with the provisions of this paragraph.

1. The Non-Federal Sponsor shall provide a cash contribution equal to 5 percent of total project costs in accordance with Article VI.B. of this Agreement.

2. In accordance with Article III of this Agreement, the Non-Federal Sponsor shall provide all lands, easements, rights-of-way, and suitable borrow and dredged or excavated material

disposal areas that the Government determines the Non-Federal Sponsor must provide for the construction, operation, and maintenance of the Project, and shall perform or ensure performance of all relocations that the Government determines to be necessary for the construction, operation, and maintenance of the Project.

3. If the Government projects that the value of the Non-Federal Sponsor's contributions under paragraphs D.1. and D.2. of this Article and Articles V, X, and XV.A. of this Agreement will be less than 25 percent of total project costs, the Non-Federal Sponsor shall provide an additional cash contribution, in accordance with Article VI.B. of this Agreement, in the amount necessary to make the Non-Federal Sponsor's total contribution equal to 25 percent of total project costs.

4. If the Government determines that the value of the Non-Federal Sponsor's contributions provided under paragraphs D.2. and D.3. of this Article and Articles V, X, and XV.A. of this Agreement has exceeded 45 percent of total project costs, the Government, subject to the availability of funds, shall reimburse the Non-Federal Sponsor for any such value in excess of 45 percent of total project costs. After such a determination, the Government, in its sole discretion, may provide any remaining Project lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas and perform any remaining Project relocations on behalf of the Non-Federal Sponsor.

5. The Section 101(a)(1)(B) work has been determined to be compatible with the Project and has an estimated cost in the amount of \$30,000 for construction of such work by the Non-Federal Sponsor. The Congress, in authorizing the Project, included authority for the Government to afford credit for Section 101(a)(1)(B) work. The Non-Federal Sponsor shall receive credit toward the non-Federal share of project costs for expenses that the Non-Federal Sponsor incurs for design or construction of these features before the date on which Federal funds are made available for construction of the Project. The affording of such credit shall be subject to an on-site inspection by the Government to verify that the work was accomplished in a satisfactory manner and is suitable for inclusion in the Project. The actual amount of credit shall be subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs. To afford such credit, the Government shall apply the credit amount toward any additional cash contribution required under paragraph D.3. of this Article. If the credit amount exceeds the amount of such additional cash contribution, the Government, subject to the availability of funds, shall, on behalf of the Non-Federal Sponsor, provide Project lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas, or perform Project relocations, equal in value to such excess credit amount. As an alternative, and in its sole discretion, the Government may make a payment to the Non-Federal Sponsor in an amount equal to such excess credit amount, up to the value of contributions under paragraph D.2. of this Article and Articles V, X, and XV.A. of this Agreement. In no event shall the credit amount afforded exceed the lesser of 45 percent of total project costs or the value of the Non-Federal Sponsor's contributions required under paragraphs D.2. and D.3. of this Article and Articles V, X, and XV.A. of this Agreement.

E. The Non-Federal Sponsor may request the Government to provide lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or perform relocations on behalf of the Non-Federal Sponsor. Such requests shall be in writing and shall describe the services requested to be performed. If in its sole discretion the Government elects to perform the requested services or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In the event of conflict between such a writing and this Agreement, this Agreement shall control. The Non-Federal Sponsor shall be solely responsible for all costs of the requested services and shall pay all such costs in accordance with Article VI.C. of this Agreement. Notwithstanding the provision of lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or performance of relocations by the Government, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response in accordance with Article XV.C. of this Agreement.

F. The Government shall perform a final accounting in accordance with Article VI.D. of this Agreement to determine the contributions provided by the Non-Federal Sponsor in accordance with paragraphs B., D., and E. of this Article and Articles V, X, and XV.A. of this Agreement and to determine whether the Non-Federal Sponsor has met its obligations under paragraphs B., D., and E. of this Article.

G. The Non-Federal Sponsor shall not use Federal funds to meet the Non-Federal Sponsor's share of total project costs under this Agreement unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

H. The Non-Federal Sponsor agrees to participate in and comply with applicable Federal floodplain management and flood insurance programs.

I. The Non-Federal Sponsor shall prevent future encroachments on project lands, easements, and rights-of-way which might interfere with the proper functioning of the project.

J. The Non-Federal Sponsor shall not less than once each year inform affected interests of the limitations of the protection afforded by the Project.

K. The Non-Federal Sponsor shall publicize flood plain information in the area concerned and shall provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the flood plain and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the Project.

ARTICLE III -LANDS, RELOCATIONS, DISPOSAL AREAS, AND PUBLIC LAW 91-646 COMPLIANCE

A. The Government, after consultation with the Non-Federal Sponsor, shall determine the lands, easements, and rights-of-way required for the construction, operation, and maintenance of the Project, including those required for relocations, borrow materials, and dredged or excavated material disposal. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of the lands, easements, and rights-of-way that the Government determines the Non-Federal Sponsor must provide, in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with acquisition of such lands, easements, and rights-of-way. Prior to the end of the period of construction, the Non-Federal Sponsor shall acquire all lands, easements, and rights-of-way set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each construction contract, the Non-Federal Sponsor shall provide the Government with authorization for entry to all lands, easements, and rights-of-way the Government determines the Non-Federal Sponsor must provide for that contract. For so long as the Project remains authorized, the Non-Federal Sponsor shall ensure that lands, easements, and rights-of-way that the Government determines to be required for the operation and maintenance of the Project and that were provided by the Non-Federal Sponsor are retained in public ownership for uses compatible with the authorized purposes of the Project.

B. The Government, after consultation with the Non-Federal Sponsor, shall determine the improvements required on lands, easements, and rights-of-way to enable the proper disposal of dredged or excavated material associated with the construction, operation, and maintenance of the Project. Such improvements may include, but are not necessarily limited to, retaining dikes, wasteweirs, bulkheads, embankments, monitoring features, stilling basins, and de-watering pumps and pipes. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions of such improvements in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with construction of such improvements. Prior to the end of the period of construction, the Non-Federal Sponsor shall provide all improvements set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the Non-Federal Sponsor shall prepare plans and specifications for all improvements the Government determines to be required for the proper disposal of dredged or excavated material under that contract, submit such plans and specifications to the Government for approval, and provide such improvements in accordance with the approved plans and specifications.

C. The Government, after consultation with the Non-Federal Sponsor, shall determine the relocations necessary for the construction, operation, and maintenance of the Project, including those necessary to enable the removal of borrow materials and the proper disposal of dredged or excavated material. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such relocations in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-

Federal Sponsor with a written notice to proceed with such relocations. Prior to the end of the period of construction, the Non-Federal Sponsor shall perform or ensure the performance of all relocations as set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the Non-Federal Sponsor shall prepare or ensure the preparation of plans and specifications for, and perform or ensure the performance of, all relocations the Government determines to be necessary for that contract.

D. The Non-Federal Sponsor in a timely manner shall provide the Government with such documents as are sufficient to enable the Government to determine the value of any contribution provided pursuant to paragraphs A., B., or C. of this Article. Upon receipt of such documents the Government, in accordance with Article IV of this Agreement and in a timely manner, shall determine the value of such contribution, include such value in total project costs, and afford credit for such value toward the Non-Federal Sponsor's share of total project costs.

E. The Non-Federal Sponsor shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 C.F.R. Part 24, in acquiring lands, easements, and rights-of-way required for the construction, operation, and maintenance of the Project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and shall inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

ARTICLE IV -CREDIT FOR VALUE OF LANDS, RELOCATIONS, AND DISPOSAL AREAS

A. The Non-Federal Sponsor shall receive credit toward its share of total project costs for the value of the lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the Non-Federal Sponsor must provide pursuant to Article III of this Agreement, and for the value of the relocations that the Non-Federal Sponsor must perform or for which they it must ensure performance pursuant to Article III of this Agreement. However, the Non-Federal Sponsor shall not receive credit for the value of any lands, easements, rights-of-way, relocations, or borrow and dredged or excavated material disposal areas that have been provided previously as an item of cooperation for another Federal project. The Non-Federal Sponsor also shall not receive credit for the value of lands, easements, rights-of-way, relocations, or borrow and dredged or excavated material disposal areas to the extent that such items are provided using Federal funds unless the Federal granting agency verifies in writing that such credit is expressly authorized by statute.

B. For the sole purpose of affording credit in accordance with this Agreement, the value of lands, easements, and rights-of-way, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, shall be the fair market value of the real property interests, plus certain incidental costs of acquiring those interests, as determined in accordance with the provisions of this paragraph.

1. Date of Valuation. The fair market value of lands, easements, or rights-of-way owned by the Non-Federal Sponsor on the effective date of this Agreement shall be the fair market value of such real property interests as of the date the Non-Federal Sponsor provide the Government with authorization for entry thereto. However, for lands, easements, or rights-of-way owned by the Non-Federal Sponsor on the effective date of this Agreement that are required for the construction of the Section 101(a)(1)(B) work, fair market value shall be the value of such real property interests as of the date the Non-Federal Sponsor awards the first construction contract for the Section 101(a)(1)(B) work, or, if the Non-Federal Sponsor perform the construction with its own labor, the date that the Non-Federal Sponsor begins construction of the Section 101(a)(1)(B) work. The fair market value of lands, easements, or rights-of-way acquired by the Non-Federal Sponsor after the effective date of this Agreement shall be the fair market value of such real property interests at the time the interests are acquired.

2. General Valuation Procedure. Except as provided in paragraph B.3. of this Article, the fair market value of lands, easements, or rights-of-way shall be determined in accordance with paragraph B.2.a. of this Article, unless thereafter a different amount is determined to represent fair market value in accordance with paragraph B.2.b. of this Article.

a. The Non-Federal Sponsor shall obtain, for each real property interest, an appraisal that is prepared by a qualified appraiser who is acceptable to the Non-Federal Sponsor and the Government. The appraisal must be prepared in accordance with the applicable rules of just compensation, as specified by the Government. The fair market value shall be the amount set forth in the Non-Federal Sponsor's appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the Non-Federal Sponsor's appraisal, the Non-Federal Sponsor may obtain a second appraisal, and the fair market value shall be the amount set forth in the Non-Federal Sponsor's second appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the Non-Federal Sponsor's second appraisal, or the Non-Federal Sponsor chooses not to obtain a second appraisal, the Government shall obtain an appraisal, and the fair market value shall be the amount set forth in the Government's appraisal, if such appraisal is approved by the Non-Federal Sponsor. In the event the Non-Federal Sponsor does not approve the Government's appraisal, the Government, after consultation with the Non-Federal Sponsor, shall consider the Government's and the Non-Federal Sponsor's appraisals and determine an amount based thereon, which shall be deemed to be the fair market value.

b. Where the amount paid or proposed to be paid by the Non-Federal Sponsor for the real property interest exceeds the amount determined pursuant to paragraph B.2.a. of this Article, the Government, at the request of the Non-Federal Sponsor, shall consider all factors

relevant to determining fair market value and, in its sole discretion, after consultation with the Non-Federal Sponsor, may approve in writing an amount greater than the amount determined pursuant to paragraph B.2.a. of this Article, but not to exceed the amount actually paid or proposed to be paid. If the Government approves such an amount, the fair market value shall be the lesser of the approved amount or the amount paid by the Non-Federal Sponsor, but no less than the amount determined pursuant to paragraph B.2.a. of this Article.

3. Eminent Domain Valuation Procedure. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted after the effective date of this Agreement, the Non-Federal Sponsor shall, prior to instituting such proceedings, submit to the Government notification in writing of its intent to institute such proceedings and an appraisal of the specific real property interests to be acquired in such proceedings. The Government shall have 60 days after receipt of such a notice and appraisal within which to review the appraisal, if not previously approved by the Government in writing.

a. If the Government previously has approved the appraisal in writing, or if the Government provides written approval of, or takes no action on, the appraisal within such 60-day period, the Non-Federal Sponsor shall use the amount set forth in such appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

b. If the Government provides written disapproval of the appraisal, including the reasons for disapproval, within such 60-day period, the Government and the Non-Federal Sponsor shall consult in good faith to promptly resolve the issues or areas of disagreement that are identified in the Government's written disapproval. If, after such good faith consultation, the Government and the Non-Federal Sponsor agree as to an appropriate amount, then the Non-Federal Sponsor shall use that amount as the estimate of just compensation for the purpose of instituting the eminent domain proceeding. If, after such good faith consultation, the Government and the Non-Federal Sponsor cannot agree as to an appropriate amount, then the Non-Federal Sponsor may use the amount set forth in its appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

c. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted in accordance with sub-paragraph B.3. of this Article, fair market value shall be either the amount of the court award for the real property interests taken, to the extent the Government determined such interests are required for the construction, operation, and maintenance of the Project, or the amount of any stipulated settlement or portion thereof that the Government approves in writing.

4. Incidental Costs. For lands, easements, or rights-of-way acquired by the Non-Federal Sponsor within a five-year period preceding the effective date of this Agreement, or at any time after the effective date of this Agreement, the value of the interest shall include the documented incidental costs of acquiring the interest, as determined by the Government, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and

allowability of costs. Such incidental costs shall include, but not necessarily be limited to, closing and title costs, appraisal costs, survey costs, attorney's fees, plat maps, and mapping costs, as well as the actual amounts expended for payment of any Public Law 91-646 relocation assistance benefits provided in accordance with Article III.E. of this Agreement.

C. After consultation with the Non-Federal Sponsor, the Government shall determine the value of relocations in accordance with the provisions of this paragraph.

1. For a relocation other than a highway, the value shall be only that portion of relocation costs incurred by the Non-Federal Sponsor that the Government determines is necessary to provide a functionally equivalent facility, reduced by depreciation, as applicable, and by the salvage value of any removed items.

2. For a relocation of a highway, the value shall be only that portion of relocation costs that would be necessary to accomplish the relocation in accordance with the design standard that the State of California would apply under similar conditions of geography and traffic load, reduced by the salvage value of any removed items.

3. Relocation costs shall include, but not necessarily be limited to, actual costs of performing the relocation; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with performance of the relocation, but shall not include any costs due to betterments, as determined by the Government, nor any additional cost of using new material when suitable used material is available. Relocation costs shall be subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

D. The value of the improvements made to lands, easements, and rights-of-way for the proper disposal of dredged or excavated material shall be the costs of the improvements, as determined by the Government, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs. Such costs shall include, but not necessarily be limited to, actual costs of providing the improvements; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with providing the improvements, but shall not include any costs due to betterments, as determined by the Government.

ARTICLE V -PROJECT COORDINATION TEAM

A. To provide for consistent and effective communication, the Non-Federal Sponsor and the Government, not later than 30 days after the effective date of this Agreement, shall appoint named senior representatives to a Project Coordination Team. Thereafter, the Project Coordination Team shall meet regularly until the end of the period of construction. The Government's Project Manager and a counterpart named by the Non-Federal Sponsor shall co-chair the Project Coordination Team.

B. The Government's Project Manager and the Non-Federal Sponsor's counterpart shall keep the Project Coordination Team informed of the progress of construction and of significant pending issues and actions, and shall seek the views of the Project Coordination Team on matters that the Project Coordination Team generally oversees.

C. Until the end of the period of construction, the Project Coordination Team shall generally oversee the Project, including issues related to design; plans and specifications; scheduling; real property and relocation requirements; real property acquisition; contract awards and modifications; contract costs; the Government's cost projections; final inspection of the entire Project or functional portions of the Project; preparation of the proposed OMRR&R Manual; anticipated requirements and needed capabilities for performance of operation, maintenance, repair, replacement, and rehabilitation of the Project; and other related matters. This oversight shall be consistent with a project management plan developed by the Government after consultation with the Non-Federal Sponsor.

D. The Project Coordination Team may make recommendations that it deems warranted to the District Engineer on matters that the Project Coordination Team generally oversees, including suggestions to avoid potential sources of dispute. The Government in good faith shall consider the recommendations of the Project Coordination Team. The Government, having the legal authority and responsibility for construction of the Project, has the discretion to accept, reject, or modify the Project Coordination Team's recommendations.

E. The costs of participation in the Project Coordination Team shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE VI -METHOD OF PAYMENT

A. The Government shall maintain current records of contributions provided by the parties and current projections of total project costs and costs due to betterments. By April 1 of each year and at least quarterly thereafter, the Government shall provide the Non-Federal Sponsor with a report setting forth all contributions provided to date and the current projections of total project costs, of total costs due to betterments, of the maximum amount of total project costs determined in accordance with Article XIX of this Agreement, of the components of total project costs, of each party's share of total project costs, of the Non-Federal Sponsor's total cash contributions required in accordance with Articles II.B., II.D., and II.E. of this Agreement, of the non-Federal proportionate share, and of the funds the Government projects to be required from the Non-Federal Sponsor for the upcoming fiscal year. On the effective date of this Agreement, total project costs are projected to be \$66,500,000, and the Non-Federal Sponsor's cash contribution required under Article II.D. of this Agreement is projected to be \$7,390,000. Such amounts are estimates subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Non-Federal Sponsor.

B. The Non-Federal Sponsor shall provide the cash contribution required under Articles

II.D.1. and II.D.3. of this Agreement in accordance with the provisions of this paragraph.

1. Not less than 30 calendar days prior to the scheduled date for issuance of the solicitation for the first construction contract, the Government shall notify the Non-Federal Sponsor in writing of such scheduled date and the funds the Government, after consideration of any credit afforded pursuant to Article II.D.5. of this Agreement, determines to be required from the Non-Federal Sponsor to meet the non-Federal proportionate share of projected financial obligations for construction through the first fiscal year of construction on a quarterly basis, including the non-Federal proportionate share of financial obligations for construction incurred prior to the commencement of the period of construction. Not later than such scheduled date, the Non-Federal Sponsor shall provide the Government with the full amount of the required funds by delivering a check payable to "FAO, USAED, Sacramento District" to the District Engineer.

2. For the second and subsequent quarters of construction, the Government shall notify the Non-Federal Sponsor in writing, no later than 60 calendar days prior to the beginning of that quarter year, of the funds the Government, after consideration of any credit afforded pursuant to Article II.D.5. of this Agreement, determines to be required from the Non-Federal Sponsor to meet the non-Federal proportionate share of projected financial obligations for construction for that quarter. No later than 30 calendar days prior to the beginning of the quarter, the Non-Federal Sponsor shall make the full amount of the required funds for that quarter available to the Government through the funding mechanism specified in Article VI.B.1. of this Agreement.

3. The Government shall draw from the funds provided by the Non-Federal Sponsor such sums as the Government, after consideration of any credit afforded pursuant to Article II.D.5. of this Agreement, deems necessary to cover: (a) the non-Federal proportionate share of financial obligations for construction incurred prior to the commencement of the period of construction; and (b) the non-Federal proportionate share of financial obligations for construction as they are incurred during the period of construction.

4. If at any time during the period of construction the Government determines that additional funds will be needed from the Non-Federal Sponsor to cover the non-Federal proportionate share of projected financial obligations for construction for the current quarter, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required, and the Non-Federal Sponsor, no later than 60 calendar days from receipt of such notice, shall make the additional required funds available through the payment mechanism specified in Article VI.B.1. of this Agreement.

C. In advance of the Government incurring any financial obligation associated with additional work under Article II.B. or II.E. of this Agreement, the Non-Federal Sponsor shall provide the Government with the full amount of the funds required to pay for such additional work on a quarterly basis by delivering a check payable to "FAO, USAED, Sacramento District" to the District Engineer.

The Government shall draw from the funds provided by the Non-Federal Sponsor such sums as the Government deems necessary to cover the Government's financial obligations for such additional work as they are incurred. In the event the Government determines that the Non-Federal Sponsor

must provide additional funds to meet its cash contribution, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required. Within 30 calendar days thereafter, the Non-Federal Sponsor shall provide the Government with a check for the full amount of the additional required funds for that quarter.

D. Upon completion of the Project or termination of this Agreement, and upon resolution of all relevant claims and appeals, the Government shall conduct a final accounting and furnish the Non-Federal Sponsor with the results of the final accounting. The final accounting shall determine total project costs, each party's contribution provided thereto, and each party's required share thereof. The final accounting also shall determine costs due to betterments and the Non-Federal Sponsor's cash contribution provided pursuant to Article II.B. of this Agreement.

1. In the event the final accounting shows that the total contribution provided by the Non-Federal Sponsor is less than its required share of total project costs plus costs due to any betterments provided in accordance with Article II.B. of this Agreement, the Non-Federal Sponsor shall, no later than 90 calendar days after receipt of written notice, make a cash payment to the Government of whatever sum is required to meet the Non-Federal Sponsor's required share of total project costs plus costs due to any betterments provided in accordance with Article II.B. of this Agreement.

2. In the event the final accounting shows that the total contribution provided by the Non-Federal Sponsor exceeds its required share of total project costs plus costs due to any betterments provided in accordance with Article II.B. of this Agreement, the Government shall, subject to the availability of funds, refund the excess to the Non-Federal Sponsor no later than 90 calendar days after the final accounting is complete; however, the Non-Federal Sponsor shall not be entitled to any refund of the 5 percent cash contribution required pursuant to Article II.D.1. of this Agreement. In the event existing funds are not available to refund the excess to the Non-Federal Sponsor, the Government shall seek such appropriations as are necessary to make the refund.

ARTICLE VII -DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

ARTICLE VIII - OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION (OMRR&R)

A. Upon notification in accordance with Article II.C. of this Agreement and for so long as the Project remains authorized, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the entire Project or the functional portion of the Project, at no cost to the Government, in a manner compatible with the Project's authorized purposes and in accordance with applicable Federal and State laws as provided in Article XI of this Agreement and specific directions prescribed by the Government in the OMRR&R Manual and any subsequent amendments thereto. In the event OMRR&R of the Project pursuant to the manual would adversely affect any Federal endangered or threatened species or result in the destruction or adverse modification of critical habitat, at the request of the Non-Federal Sponsor, the District Engineer shall initiate Section 7 consultation and modify the Manual as necessary.

B. The Non-Federal Sponsor hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor owns or controls for access to the Project for the purpose of inspection and, if necessary, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the Project. If an inspection shows that the Non-Federal Sponsor for any reason is failing to perform its obligations under this Agreement, the Government shall send a written notice describing the non-performance to the Non-Federal Sponsor. If, after 30 calendar days from receipt of notice, the Non-Federal Sponsor continues to fail to perform, then the Government shall have the right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor own or control for access to the Project for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the Project. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Government shall operate to relieve the Non-Federal Sponsor of responsibility to meet the Non-Federal Sponsor's obligations as set forth in this Agreement, or to preclude the Government from pursuing any other remedy at law or equity to ensure faithful performance pursuant to this Agreement.

ARTICLE IX -INDEMNIFICATION

The Non-Federal Sponsor shall hold and save the Government free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the Project and any Project-related betterments, except for damages due to the fault or negligence of the Government or its contractors.

ARTICLE X -MAINTENANCE OF RECORDS AND AUDIT

A. Not later than 60 calendar days after the effective date of this Agreement, the Government and the Non-Federal Sponsor shall develop procedures for keeping books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative

Agreements to State and Local Governments at 32 C.F.R. Section 33.20. The Government and the Non-Federal Sponsor shall maintain such books, records, documents, and other evidence in accordance with these procedures and for a minimum of three years after the period of construction and resolution of all relevant claims arising therefrom. To the extent permitted under applicable Federal laws and regulations, the Government and the Non-Federal Sponsor shall allow the other to inspect such books, records, documents, and other evidence.

B. Pursuant to 32 C.F.R. Section 33.26, the Non-Federal Sponsor is responsible for complying with the Single Audit Act of 1984, 31 U.S.C. Sections 7501-7507, as implemented by Office of Management and Budget (OMB) Circular No. A-133 and Department of Defense Directive 7600.10. Upon request of the Non-Federal Sponsor and to the extent permitted under applicable Federal laws and regulations, the Government shall provide to the Non-Federal Sponsor and independent auditors any information necessary to enable an audit of the Non-Federal Sponsor's activities under this Agreement. The costs of any non-Federal audits performed in accordance with this paragraph shall be allocated in accordance with the provisions of OMB Circulars A-87 and A-133, and such costs as are allocated to the Project shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

C. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Non-Federal Sponsor is required to conduct under the Single Audit Act. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits performed in accordance with this paragraph shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE XI - FEDERAL AND STATE LAWS

In the exercise of their respective rights and obligations under this Agreement, the Non-Federal Sponsor and the Government agree to comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army and Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), requiring non-Federal preparation and implementation of flood plain management plans".

ARTICLE XII -RELATIONSHIP OF PARTIES

A. In the exercise of their respective rights and obligations under this Agreement, the Government and the Non-Federal Sponsor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

B. In the exercise of its rights and obligations under this Agreement, neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights such other party may have to seek relief or redress against such contractor either pursuant to any cause of action that such other party may have or for violation of any law.

ARTICLE XIII -OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV -TERMINATION OR SUSPENSION

A. If at any time the Non-Federal Sponsor fails to fulfill its obligations under Article II.B., II.D., II.E., VI, or XVIII.C. of this Agreement, the Assistant Secretary of the Army (Civil Works) shall terminate this Agreement or suspend future performance under this Agreement unless he determines that continuation of work on the Project is in the interest of the United States or is necessary in order to satisfy agreements with any other non-Federal interests in connection with the Project.

B. If the Government fails to receive annual appropriations in amounts sufficient to meet Project expenditures for the then-current or upcoming fiscal year, the Government shall so notify the Non-Federal Sponsor in writing, and 60 calendar days thereafter either party may elect without penalty to terminate this Agreement or to suspend future performance under this Agreement. In the event that either party elects to suspend future performance under this Agreement pursuant to this paragraph, such suspension shall remain in effect until such time as the Government receives sufficient appropriations or until either the Government or the Non-Federal Sponsor elects to terminate this Agreement.

C. In the event that either party elects to terminate this Agreement pursuant to this Article or Article XV of this Agreement, both parties shall conclude their activities relating to the Project and proceed to a final accounting in accordance with Article VI.D. of this Agreement.

D. Any termination of this Agreement or suspension of future performance under this Agreement in accordance with this Article or Article XV of this Agreement shall not relieve the parties of liability for any obligation previously incurred. Any delinquent payment shall be charged

interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3-month period if the period of delinquency exceeds 3 months.

ARTICLE XV - HAZARDOUS SUBSTANCES

A. After execution of this Agreement and upon direction by the District Engineer, the Non-Federal Sponsor shall perform, or cause to be performed, any investigations for hazardous substances that the Government or the Non-Federal Sponsor determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA"), 42 U.S.C. Sections 9601-9675, that may exist in, on, or under lands, easements, and rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for the construction, operation, and maintenance of the Project. However, for lands that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer provides the Non-Federal Sponsor with prior specific written direction, in which case the Non-Federal Sponsor shall perform such investigations in accordance with such written direction. All actual costs incurred by the Non-Federal Sponsor for such investigations for hazardous substances shall be included in total project costs and cost shared in accordance with the provisions of this Agreement, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

B. In the event it is discovered through any investigation for hazardous substances or other means that hazardous substances regulated under CERCLA exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for the construction, operation, and maintenance of the Project, the Non-Federal Sponsor and the Government shall provide prompt written notice to each other, and the Non-Federal Sponsor shall not proceed with the acquisition of the real property interests until both parties agree that the Non-Federal Sponsor should proceed.

C. The Government and the Non-Federal Sponsor shall determine whether to initiate construction of the Project, or, if already in construction, whether to continue with work on the Project, suspend future performance under this Agreement, or terminate this Agreement for the convenience of the Government, in any case where hazardous substances regulated under CERCLA are found to exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for the construction, operation, and maintenance of the Project. Should the Government and the Non-Federal Sponsor determine to initiate or continue with construction after considering any liability that may arise under CERCLA, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of clean-up and response, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination; Such costs shall not be

considered a part of total project costs. In the event the Non-Federal Sponsor fails to provide any funds necessary to pay for clean up and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under this paragraph upon direction by the Government, the Government may, in its sole discretion, either terminate this Agreement for the convenience of the Government, suspend future performance under this Agreement, or continue work on the Project.

D. The Non-Federal Sponsor and the Government shall consult with each other in accordance with Article V of this Agreement in an effort to ensure that responsible parties bear any necessary clean up and response costs as defined in CERCLA. Any decision made pursuant to paragraph C. of this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. Once the Government provides a written notification in accordance with Article II.C. and Article VIII of this Agreement, as between the Government and the Non-Federal Sponsor, the Non-Federal Sponsor shall be considered the operator of the Project for purposes of CERCLA liability. To the maximum extent practicable, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the Project in a manner that will not cause liability to arise under CERCLA.

ARTICLE XVI -NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and either delivered personally or by telegram or mailed by first-class, registered, or certified mail, as follows:

If to the Non-Federal Sponsor:

The Reclamation Board
1416 Ninth Street, Room 1601
Sacramento, California 95814-5594

If to the Government:

US Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed.

ARTICLE XVII -CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XVIII - HISTORIC PRESERVATION

A. The costs of identification, survey and evaluation of historic properties shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

B. As specified in Section 7(a) of Public Law 93-291 (16 U.S.C. Section 469c(a)), the costs of mitigation and data recovery activities associated with historic preservation shall be borne entirely by the Government and shall not be included in total project costs, up to the statutory limit of one percent of the total amount authorized to be appropriated for the Project.

C. The Government shall not incur costs for mitigation and data recovery that exceed the statutory one percent limit specified in paragraph B. of this Article unless and until the Assistant Secretary of the Army (Civil Works) has waived that limit in accordance with Section 208(3) of Public Law 96-515 (16 U.S.C. Section 469c-2(3)). Any costs of mitigation and data recovery that exceed the one percent limit shall not be included in total project costs but shall be cost shared between the Non-Federal Sponsor and the Government consistent with the minimum non-Federal cost sharing requirements for the underlying flood control purpose, as follows: 25 percent borne by the Non-Federal Sponsor, and 75 percent borne by the Government.

ARTICLE XIX -SECTION 902 PROJECT COST LIMITS

The Non-Federal Sponsor has reviewed the provisions set forth in Section 902 of Public Law 99-662, as amended, and understands that Section 902 establishes the maximum amount of total project costs for the American River Watershed (Common Features), California Project. Notwithstanding any other provision of this Agreement, the Government shall not make a new Project financial obligation, make a Project expenditure, or afford credit toward total project costs for the value of any contribution provided by the Non-Federal Sponsor, if such obligation, expenditure, or credit would result in total project costs exceeding this maximum amount, unless

otherwise authorized by law. On the effective date of this Agreement, this maximum amount is estimated to be \$66,500,000, as calculated in accordance with ER 1105-2-100 using October 1, 1997 price levels and allowances for projected future inflation. The Government shall adjust this maximum amount in accordance with Section 902.

ARTICLE XX -OBLIGATIONS OF FUTURE APPROPRIATIONS

Nothing herein shall constitute, nor be deemed to constitute, an obligation of future appropriations by the legislature of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the ~~Assistant Secretary of the Army (Civil Works)~~ District Engineer, U.S. Army Engineer District, Sacramento

7/13/98

THE DEPARTMENT OF THE ARMY

THE RECLAMATION BOARD

13501

BY: *Douglas R. Gault*
Douglas R. Gault
Lieutenant Colonel,
Corps of Engineers
Acting District Engineer

BY: *Peter D. Rabbon*
Peter D. Rabbon
General Manager
The Reclamation Board

DATE: *13 July 1998*

DATE: *July 9, 1998*

| | | |
|--------------------------------|----------------------|--------|
| FORM | POLICY | BUDGET |
| Department of General Services | | |
| APPROVED | | |
| JUL 10 1998 | | |
| <i>[Signature]</i> | | |
| BY | Ass't. Chief Counsel | |

Approved as to Legal Form and sufficiency for The Reclamation Board

Claire P. LeFlore
Counsel

CERTIFICATE OF AUTHORITY

I, Claire P. LeFlore, do hereby certify that I am the principal legal officer of The Reclamation Board, that The Reclamation Board is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army and The Reclamation Board in connection with the American River Watershed(Common Features), California, Project and to pay damages in accordance with the terms of this Agreement, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611 (42 U.S.C. Section 1962d-5b), and that the persons who have executed this Agreement on behalf of The Reclamation Board have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this
9th day of July 1998.



Claire P. LeFlore
Counsel to The Reclamation Board

CERTIFICATION REGARDING LOBBYING

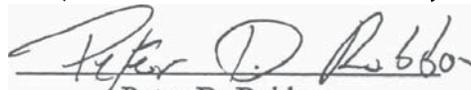
The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



Peter D. Rabbon

General Manager

The Reclamation Board
of the State of California

DATE: July 9, 1998

STATE OF CALIFORNIA
STANDARD AGREEMENT AMENDMENT
 (FD-212-A (Rev. 9/01))

| | | | |
|---|----------------|---------------------------------------|------------------------------|
| <input checked="" type="checkbox"/> CHECK HERE IF ADDITIONAL PAGES ARE ATTACHED | <u>7</u> Pages | AGREEMENT NUMBER 4600000651 | AMENDMENT NUMBER 1 |
|---|----------------|---------------------------------------|------------------------------|

1. This Agreement is entered into between the State Agency and Contractor named below:

STATE AGENCY'S NAME
 Department of Water Resources/The Reclamation Board

CONTRACTOR'S NAME
 Department of the Army

2. The term of this Agreement is July 10, 1998 through October 30, 2007

This Agreement shall not become effective until approved by the Department of General Services.

3. The maximum amount of this Agreement after this amendment is: \$120,600,000 thousand One hundred and twenty million six hundred dollars and no cents.

Initial
 [Signature]
 Date

4. The parties mutually agree to this amendment as follows. All actions noted below are by this reference made a part of the Agreement and incorporated herein:

i. The amendment to Agreement No. 4600000651 for the American River Watershed (Common Features) California Project updating the current project cost to \$120.6 million is based on a Schedule and Cost Change Request, SACCR No. 077522-02-01, dated October 24, 2001, from the Department of the Army to The Reclamation Board. Cost increases are attributed to the Water Resources Development Act of 1999 authorization, and design and construction changes associated with deep foundation slurry cutoff walls that added additional features to roads, utilities, and bridge crossings using the jet grouting method.

This amendment to the Project Cooperation Agreement adjusts the projected total project costs by \$54,100,000 from \$66,500,000 to \$120,600,000, as reflected in the aforementioned SACCR. This amount is slightly below the federal cap under Section 902 project cost limit. (Nonfederal costs of the project are capped at 50 percent of the Section 902 limit). This adjustment increases the nonfederal project share by \$13,525,000 from \$16,625,000 to \$30,150,000 and increases the Local project share by \$4,057,500 from \$4,987,500 to \$9,045,000. The maximum nonfederal share under the current estimate may not exceed \$60,300,000.

ii. This Agreement is amended as follows:
 1. Add Exhibit A to reflect changes in scope and costs due to redesign. The U.S. Army Corps of Engineers' Schedule and Cost Change Request, SACCR No. 077522-02-01, dated October 24, 2001, with the Table is attached as Exhibit A and made a part of this Agreement by this reference.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

| | | |
|---|---------------------------|--|
| CONTRACTOR | | CALIFORNIA Department of General Services Use Only <div style="border: 2px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> APPROVED JUN 13 2003 DEPT OF GENERAL SERVICES </div> |
| CONTRACTOR'S NAME (If other than an individual, state whether a corporation, partnership, etc.) Department of the Army | | |
| BY (Authorized Signature) | DATE SIGNED (Do not type) | |
| PRINTED NAME AND TITLE OF PERSON SIGNING Colonel Michael J. Conrad, Jr. | | |
| ADDRESS 1325 J Street Sacramento, California 95814 | | |
| STATE OF CALIFORNIA | | |
| AGENCY NAME Department of Water Resources | | Approved as to legal and sufficiency: Asst. Chief Counsel, DWR |
| BY (Authorized Signature) | DATE SIGNED (Do not type) | |
| PRINTED NAME AND TITLE OF PERSON SIGNING Peter D. Rabbon | | |
| ADDRESS 1416 9 th Street Sacramento, California 95814 | | |

AMERICAN RIVER (COMMON FEATURES) CALIFORNIA PROJECT

- II. This Agreement is amended as follows: (continued)
2. Extend the contract termination date from June 30, 2003 of the original contract to October 30, 2007 to coincide with current projected project completion date referenced in the aforementioned SACCR.
 3. Increase the cumulative financial obligation for construction from \$66,500,000 to \$120,600,000. Article II – Obligations of the Government and the Non-Federal Sponsor, Paragraph A. 3, the first sentence on page 5 of 24, of the original agreement is being replaced by the following language and amended to read: Notwithstanding paragraph A.1. of this Article, if, upon the award of any contract for construction of the Project, cumulative financial obligations for construction would exceed \$120,600,000 the Government and the Non-Federal Sponsor agree to defer award of that contract and all subsequent contracts for construction of the Project until such time as the Government and the Non-Federal Sponsor agree to proceed with further contract awards for the Project, but in no event shall the award of contracts be deferred for more than three years.
 4. As original stated in Article VI – Method of Payment, Page 14 of 24, Paragraph A is hereby amended to increase the estimated total project cost by \$54,100,000 from \$66,500,000 to \$120,600,000 and the Non-Federal Sponsor's cash contribution required under Article II.D of this Agreement is projected to be \$23,090,000. Such amounts are estimates subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Non-Federal Sponsor.
 5. Increase the maximum projected total Project cost limit by \$54,100,000 as reflected in the aforementioned SACCR. Article XIX – Section 902 Project Cost Limits, Page 22 of 24, is hereby amended to increase the maximum Project cost limit from \$66,500,000 to \$120,600,000. This increases the projected non-Federal Project share by \$13,525,000 from \$16,625,000 to \$30,150,000 and increases the projected Local Project share by \$4,057,500 from \$4,987,500 to \$9,045,000. The maximum nonfederal share under the current estimate may not exceed \$60,300,000.
 6. Add Exhibit B – Special Terms and Conditions for Department of Water Resources (Department of the Army Corps of Engineers).
 7. All other terms and conditions of Contract No. 4600000651 shall remain the same.

Schedule and Cost Change Request (SACCR)

Alternate Eng. Form 5040-1-R

Project Manager Name Richard Nishio Phone (916)-557-6645
Signature [Signature] Date Oct 28, 2001

From CESPK-PM-C
To CESPK-DD-P

Section I - Request

Description of Change Request:

Request approval to increase the current project cost to \$120.6 million (fully funded, Oct 01 price level). The sponsor requests that this cost change be compared to the original authorized project cost estimate of \$65.5 million (fully funded, Oct 95 price level) as authorized by WRDA 1996 to justify the sponsor increasing the sponsor's cost ceiling clause in the PCA (Article II A.3.) to the current project cost estimate of \$120.6 million. Subsequent to WRDA 1996 authorization, the sponsor through SAFCA got the authorized project cost increased to \$91.9 million in WRDA 1999 authorization. The project cost estimate change comparison is shown on the attached continuation sheet.

Justification for Change: Cost increases are mainly attributed to construction and engineering & design and are described below. Cost increases for other items are shown on the attached sheet and detailed in the footnotes.

- (1) Adopting a complete cutoff wall closure design requirement and additional geotechnical explorations resulted in construction of deeper slurry walls down to impermeable material and required the more expensive jet grout method of slurry wall construction around bridges and deep utility crossings.
- (2) Adding cement to soil-bentonite slurry wall mixture increased both material cost and construction operation costs.
- (3) Issuance of a number of high cost contract modifications. The more significant modifications resulted from unexpected slurry leaks during construction of the slurry wall that required emergency repair and restoration of the levee and at times extended work hours. Contract modifications to comply with EPA notice of violation and to accelerate Garden Highway slurry wall construction before the flood season were also very costly contract modifications.

Justification for Change (continues).

(4) Construction of a short 1.5 mile slurry reach from Howe Avenue to Watt Avenue to meet project goal of initiation of slurry wall construction in 1998 resulted in a very costly slurry wall. Also the original project cost estimate assumed all the slurry walls would be constructed under one contract which is generally less costly to construct than multiple contracts. Due to design schedule constraints and the jet grouting requirement, 6 contracts are needed to complete slurry wall construction (4 construction contracts have been completed and 2 more are scheduled for award in 2001 and 2002).

(5) Engineering and design cost increases are due to increased effort to prepare an additional 5 slurry wall and jet grout construction contracts and added effort required to conduct additional exploration and design work required to refine the for the Sacramento River East Levee and Natomas Cross Canal Levee modifications.

(6) Price escalation from Oct 95 to Oct 2001 price levels has increased construction and engineering & design costs. The current project cost estimate of \$120.6 million is under the Federal cost ceiling as calculated in accordance to Section 902 of WRDA 1986 as based on the current authorized project cost of \$91.9 million as authorized by WRDA 1999.

Section II - Impact Assessment

| Organization | Description |
|--------------|---|
| N/A | No impacts to District team since workload was budgeted for the current project cost estimate of \$120.6 million. |

| Section III - Project Manager's Evaluation | |
|---|---|
| Category | Resources Required |
| Costs (\$000) | Current project cost of \$120.6 million is under Sec 902 limit |
| Schedule | Project completion date of Oct 2007 remains unchanged from SACCR #07522-01-01 |
| Manpower | Workload was budgeted for the project current cost estimate of \$120.6 million. |

Section IV - Coordination with Partner

Partner's Position and Acknowledgement

concur

Signature *[Handwritten Signature]*

Date *12/2/01*

Section V - PRB Action & Resolution

CESPK-DE-P Recommendation and Signature

Concur

[Handwritten Signature]
15 Jan 02

- District PRB Recommendation
- Approval
- Approval with Modifications
- Disapproval
- Returned to PM w/o Action
- Referred to Division

Reason

AMERICAN RIVER WATERSHED, CA
(COMMON FEATURES)

10/24/01

Project Cost Estimate Comparison
(S1000)

| | Past Project Cost Estimate Based WRDA 1996 Authorization (Fully Funded, Oct 95 Price Level) (1) | Estimated Increase | Current Project Cost Estimate Based on WRDA 1999 Authorization (Fully Funded, Oct 01 Price Level) (5) |
|---------------------------|---|--------------------|---|
| Federal RE In-house Labor | 40 | 900 | 940 |
| F&W Mitigation (2) | 0 | 1660 | 1660 |
| Cultural Resources | 430 | 170 | 600 |
| Construction (3) | 45150 | 37450 | 82600 |
| Engineering & Design (4) | 6830 | 14670 | 21500 |
| Supervision & Admin | 6850 | -460 | 6390 |
| LERRDs | 6200 | 710 | 6910 |
| TOTAL | \$65,500 | \$55,100 | \$120,600 |

- (1) - Cost estimates as reported in the (First) Addendum to the 1996 Supplemental Information Report (SIR), dated September 2, 1997.
- (2) - At the time the authorized cost estimate was prepared F&W mitigation costs were not considered since construction would be within the existing project right of way.
- (3) - \$82.6 million reflects actual slurry wall construction contract costs and funds required to complete two jet grout construction contracts along the lower American River as authorized by WRDA 1996. Construction contract expenditures to date amount to approximately \$45 million. Cost increases are due to deeper slurry wall requirement, need for jet grout method of slurry wall construction, adding cement to the slurry wall, significant contract modifications, high cost to construct the Howe to Watt Ave slurry wall contract and price escalation.
- (4) - Engineering and design cost increases are due to increased effort to prepare an additional 5 slurry wall and jet grout construction contracts and added effort required to conduct additional exploration and design work required to refine the plans for the Sacramento River East Levee and Natomas Cross Canal Levee modifications.
- (5) - The current project cost estimate of \$120.6 million is under the Federal cost ceiling as calculated in accordance to Section 902 of WRDA 1986 and based on the current authorized cost of \$91.9 million as authorized by WRDA 1999.

**EXHIBIT B—Special Terms and Conditions for
Department Of Water Resources
(Department of the Army Corps of Engineers)**

1. AVAILABILITY OF FUNDS: Work to be performed under this contract is subject to availability of funds through the State's normal budget process.
2. AUDIT CLAUSE: For contracts in excess of \$10,000, the contracting parties shall be subject to the examination and audit of the State Auditor for a period of three years after final payment under the contract (Government Code Section 8546.7).
3. CONFLICT OF INTEREST:
 - a. Current and Former State Employees: Contractor should be aware of the following provisions regarding current or former state employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.
 - (1) Current State Employees: (PCC §10410)
 - (a) No officer or employee shall engage in any employment, activity or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any state agency, unless the employment, activity or enterprise is required as a condition of regular state employment.
 - (b) No officer or employee shall contract on his or her own behalf as an independent contractor with any state agency to provide goods or services.
 - (2) Former State Employees: (PCC §10411)
 - (a) For the two-year period from the date he or she left state employment, no former state officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements or any part of the decision-making process relevant to the contract while employed in any capacity by any state agency.
 - (b) For the twelve-month period from the date he or she left state employment, no former state officer or employee may enter into a contract with any state agency if he or she was employed by that state agency in a policy-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving state service.

b. Penalty for Violation:

- (a) If the Contractor violates any provisions of above paragraphs, such action by Contractor shall render this Agreement void. (PCC §10420)

c. Members of Boards and Commissions:

- (a) Members of boards and commissions are exempt from this section if they do not receive payment other than payment of each meeting of the board or commission, payment for preparatory time and payment for per diem. (PCC §10430 (e))

d. Representational Conflicts of Interest:

The Contractor must disclose to the DWR Program Manager any activities by contractor or subcontractor personnel involving representation of parties, or provision of consultation services to parties, who are adversarial to DWR. DWR may immediately terminate this contract if the contractor fails to disclose the information required by this section. DWR may immediately terminate this contract if any conflicts of interest cannot be reconciled with the performance of services under this contract.

e. Financial Interest in Contracts:

Contractor should also be aware of the following provisions of Government Code §1090:

"Members of the Legislature, state, county district, judicial district, and city officers or employees shall not be financially interested in any contract made by them in their official capacity, or by any body or board of which they are members. Nor shall state, county, district, judicial district, and city officers or employees be purchasers at any sale or vendors at any purchase made by them in their official capacity."

f. Prohibition on Contracts for End Product of Contract:

Pursuant to the provisions of Public Contract Code §10365.5, the Contractor and subcontractors (except for subcontractors who provide services amounting to 10 percent or less of the contract price) may not submit a bid/SOQ, or be awarded a contract, for the provision of services, procurement of goods or supplies or any other related action which is required, suggested, or otherwise deemed appropriate in the end product of this contract. This prohibition does not apply to contracts pursuant to Government Code Section 4525 et seq., to local assistance or subvention contracts with non-profit entities, or Federal, state and local public entities.



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

CESPK-PM-C

SEP 05 2006

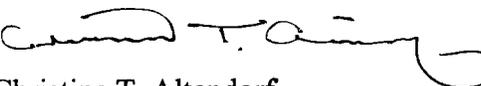
MEMORANDUM FOR Commander, CESPK-DE

me
9/5/06

SUBJECT: American River Watershed (Common Features), California Project, Project Cooperation Agreement Amendment Number 2

1. Purpose: The purpose of this memorandum is to request signature of all four copies of the attached Project Cooperation Agreement (PCA) Amendment Number 2 by the District Engineer (DE).
2. Authority: The American River Watershed (Common Features) Project was authorized by the Water Resources Development Act of 1996, as supplemented by the Water Resources Development Act of 1999 and the Energy and Water Development Appropriations Act of 2004. The project consists of constructing various flood protection improvements along both the Sacramento and American Rivers in the Sacramento Metropolitan Area. A PCA was executed between the Department of the Army and the State of California on 13 July 1998.
3. Project: The primary objective of the PCA Amendment Number 2 is to formally ratify a Schedule and Cost Change Request (SACCR) endorsed by the State on 26 May 2004. This SACCR revises the estimate total project cost from \$120.6M to \$205.0M and the project completion date to 30 October 2008. The scope of this amendment is compliant with all current law, regulations, and policy; and furthermore, the amendment only serves to formally adjust the estimated project cost and the completion date included in the original PCA.
4. Coordination: The enclosed PCA Amendment Number 2 was coordinated and approved for local signature by the enclosed email from CESPD-PD-C (Paul Bowers) dated 20 August 2006, American River Watershed (Common Features) Project, CA – Approval to execute Amend. No. 2.
5. Please feel free to contact the Project Manager, Ms. Veronica Petrovsky, at 557-7245 with any questions or concerns you may have regarding this cost-sharing agreement.

Encls


Christine T. Altendorf
Deputy for Project Management

AMENDMENT NUMBER 2
TO
PROJECT COOPERATION AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE STATE OF CALIFORNIA
FOR CONSTRUCTION OF THE
AMERICAN RIVER WATERSHED (COMMON FEATURES), CALIFORNIA PROJECT

This amendment is entered into on this 5th day of September, 2006, by and between the Department of the Army (hereinafter the "Government") and The State of California, acting by and through The Reclamation Board (hereinafter the "Non-Federal Sponsor") to amend the Contract B81560/4600000651, a Project Cooperation Agreement (PCA), between the Non-Federal Sponsor and the Government dated July 13, 1998.

RECITALS:

1. The Energy and Water Development Appropriations Act, 2004 increased the authorized project cost to a total of \$205,000,000 for the Project.
2. On May 26, 2004, the Government issued a Schedule and Cost Change Request (SACCR) for the Project and requested the Non-Federal Sponsor's approval to (a) increase the total Project cost to \$205,000,000, (b) delay the Project completion date by one year.
3. The Non-Federal Sponsor desires to approve the Government's request in accordance with the SACCR.

IT IS HEREBY AGREED to amend the PCA as follows:

1. Delete the contract termination date from October 30, 2007 shown in Amendment No. 1 Article II.2 and recognize the Project completion date of October 30, 2008 referenced in the SACCR, included as Exhibit A, Attachment 1.
2. Article II, A.3. shall read as follows:
 - "3. Notwithstanding paragraph A.1. of this Article, if, upon award of any contract for construction of the Project, cumulative financial obligations

for construction would exceed \$205,000,000, the Government and the Non-Federal Sponsor agree to defer award of that contract and all subsequent contracts for construction of the Project until such time as the Government and the Non-Federal Sponsor agree to proceed with further contract awards for the Project, but in no event shall the award of contracts be deferred for more than three years. Notwithstanding this general provision for deferral of contract awards, the Government, after consultation with the Non-Federal Sponsor, may award a contract or contracts after the Assistant Secretary of the Army (Civil Works) makes a written determination that the award of such contract or contracts must proceed in order to comply with law or to protect life or property from imminent and substantial harm.”

3. Article IV.A. shall read as follows:

“A. The Government shall maintain current records of contributions provided by the parties and current projections of total project costs and costs due to betterments. By April 1 of each year and at least quarterly thereafter, the Government shall provide the Non-Federal Sponsor with a report setting forth all contributions provided to date and the current projections of total project costs, of total costs due to betterments, of the maximum amount of total project costs determined in accordance with Article XIX of this agreement, of the components of total project costs, of each party’s share of total project costs, of the Non-Federal Sponsor’s total cash contributions required in accordance with Articles II.B, II.D., and II.E. of this Agreement, of the Non-Federal proportionate share, and of the funds the Government projects to be required from the Non-Federal Sponsor for the upcoming fiscal year. On the effective date of this Agreement, total project costs are projected to be \$205,000,000, and the Non-Federal Sponsor’s cash contribution required under Article II.D. of this Agreement is projected to be \$47,800,000. Such amounts are estimates subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Non-Federal Sponsor.”

4. Article XIX should read as follows:

“The Non-Federal Sponsor has reviewed the provisions set forth in Section 902 of Public Law 99-662, as amended, and understands that Section 902 establishes the maximum amount of total project costs for the American River Watershed (Common Features), California Project. Notwithstanding any other provision of this Agreement, the Government shall not make a new Project

financial obligation, make a Project expenditure, or afford credit toward total project costs for the value of any contribution provided by the Non-Federal Sponsor, if such obligation, expenditure, or credit would result in total project costs exceeding this maximum amount, unless otherwise authorized by law. On May 26, 2004, this maximum amount is estimated to be \$246,000,000, as calculated in accordance with ER 1105-2-100 using October 2001 price levels and allowances for projected future inflation. The Government shall adjust this maximum amount in accordance with Section 902."

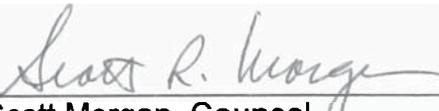
IN WITNESS THEREOF, the Parties hereto have executed this amendment as of the day and year first above written.

THE RECLAMATION BOARD OF THE
STATE OF CALIFORNIA

By 
Benjamin Carter, President

Date: 6/22/06

APPROVED AS TO LEGAL FORM
AND SUFFICIENCY:

By 
Scott Morgan, Counsel

Date: 6/23/06

DEPARTMENT OF THE ARMY

By 
Colonel Ronald N. Light, District Engineer

Date: 9/5/06

Schedule and Cost Change Request (SACCR)

Alternate Eng. Form 5040-1-R

Project: American River Watershed; CA (Common Features)

SACCR #07752204-01
Date: May 26, 2004

From: CESP-K-PM-C To: CESP-K-DD

Project Manager: Mark Ellis Phone: (916) 557-6892

Signature: *Mark A. Ellis* Date: May 26, 2004

Section I - Request

Description of Change Request:

Change project cost estimate to reflect the current total project cost of \$205 million. The sponsor requests that this cost change be compared to the original authorized project cost estimate of \$56.9 million as authorized by WRDA 1996 (PL 104-303) for partner's use in increasing the sponsor's cost ceiling clause in the PCA (Article II A.3.) to the current project cost estimate of \$205 million. The authorized project cost was increased to \$91.9 million in WRDA 1999 authorization (PL 106-53). The Energy and Water Development Appropriations Act, 2004 (PL 108-37) increased the total project cost to \$205 million. The current estimated maximum amount of total project cost under Section 902 of PL99-662 is \$246,000,000 as calculated using October 2001 price levels. The Non-Federal Sponsor's estimated cash contribution under Article II.D. of the PCA is \$47,800,000.

Justification for Change:

The following table summarizes the incremental cost changes to the project cost estimate. Cost increases are primarily attributed to unanticipated use of jet grout technology to meet the design criteria, increases in slurry wall depths, support from Architect Engineer firms, and increased in-house labor.

| Common Features | WRDA 99 Cost | Incremental Change | Revised Project Cost |
|-------------------------------|--------------|--------------------|----------------------|
| Slurry Wall | 40,380 | 24,280 | 64,660 |
| Jet Grout | 0 | 55,040 | 55,040 |
| Flood Warning System | 400 | 60 | 460 |
| Levee Modifications | 7,940 | 910 | 8,850 |
| Sac River East Levee | 10,050 | 3,700 | 13,750 |
| Cross Canal | 9,860 | 1,140 | 11,000 |
| Planning, Engineering, Design | 9,450 | 25,920 | 35,370 |
| Supervision and Admin. | 7,750 | -580 | 7,170 |
| Fed Lands and Damages | 40 | 810 | 850 |
| Non Fed LERRDs | 5,590 | -220 | 5,370 |
| Fish and Wildlife | 0 | 1,730 | 1,730 |
| Cultural Resources | 440 | 310 | 750 |
| Total | 91,900 | 113,100 | 205,000 |

Project: American River Watershed, CA (Common Features) SACCR #077522-04-01
 Date: May 26, 2004

Section II - Impact Assessment

| | |
|--------------|---|
| Organization | Description |
| N/A | No overall impact to any specific organizational structure. Engineering division will continue to provide the core technical resources for soils, hydraulics, and civil design. Additional district resources will continue to be provided on an as-needed basis at the request of the project manager. |

Section III - Project Manager's Evaluation

| | |
|---------------|---|
| Category | Resources Required |
| Costs (\$000) | The increased funds will allow full completion of all project tasks previously identified in WRDA 96 and WRDA 99. |
| Schedule | Project completion date has been delayed one year to October 2008. |
| Manpower | The District is committed to provide labor resources to keep this project on schedule. |

Section IV - Coordination with Partner

Partner's Position and Acknowledgement

Section V - PRB Action & Resolution

CESPK-DE-P Recommendation and Signature

Signature F. D. Palko Date 6/21/04

Signature M. W. Connelly III, EA Date 22 Jun 04

| | |
|--|--------|
| District PRB Recommendation | Reason |
| <input type="checkbox"/> Approval <input type="checkbox"/> Approval with Modifications <input type="checkbox"/> Disapproval <input type="checkbox"/> Returned to PM w/o Action <input type="checkbox"/> Referred to Division | |

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



July 19, 2006

Ronald N. Light
Colonel, Corps of Engineers
District Engineer
1325 J Street
Sacramento, California 95814

Dear Mr. Light:

Enclosed you will find four copies of the Standard Agreement number 4600000651, AM-3. Please sign all copies of the attached agreement and return **two copies** to me at the following address:

Department of Water Resources
Contract Services Office
1416 Ninth Street, Room 354
Sacramento, California 95814
Attn: Maria Gomez

Inquiries concerning the processing of this agreement should be directed to me at the number listed below.

Sincerely,

A handwritten signature in black ink that reads "Maria Gomez". The signature is written in a cursive style and is underlined.

Maria Gomez
Contracts Analyst
Contract Services Office
(916) 653-7201

Enclosures

AMENDMENT NUMBER 3
TO THE
PROJECT COOPERATION AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE STATE OF CALIFORNIA, THE RECLAMATION BOARD
FOR CONSTRUCTION OF THE
AMERICAN RIVER WATERSHED (COMMON FEATURES), CALIFORNIA PROJECT

THIS AMENDMENT is entered into this 20th day of JULY, 2006, by and between the DEPARTMENT OF THE ARMY (hereinafter the "Government"), represented by the U.S. Army Engineer, Sacramento District, and the STATE OF CALIFORNIA, represented by the President of THE RECLAMATION BOARD (hereinafter the "Non-Federal Sponsor").

WITNESSETH, THAT:

WHEREAS, construction of the American River Watershed (Common Features), California Project was authorized by the Water Resources Development Act of 1996, Public Law 104-303, as amended (hereinafter the "Project");

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, specifies the cost-sharing requirements applicable to the Project;

WHEREAS, the Government and the Non-Federal Sponsor entered into a Project Cooperation Agreement on July 13, 1998 (hereinafter referred to as the "Agreement") for construction of the Project;

WHEREAS, the Government's engineering documentation for the Project describes work urgently needed to assure the flood control benefits of the Project up to a 100-year level of protection;

WHEREAS, the Non-Federal Sponsor proposes to accelerate its provision of funds to the Government in an amount not to exceed the current estimate of the Non-

Federal Sponsor's required cash contribution for the Project, less any funds previously contributed, for the immediate use by the Government for construction of the Project;

WHEREAS, the parties agree that such acceptance shall not represent or give rise to an obligation of the United States, including any obligation to provide reimbursement of the funds the Non-Federal Sponsor elects to provide or any obligation to request future funds to match the amount the Non-Federal Sponsor elects to provide, and that such funds will be credited against the Non-Federal Sponsor's future cost share only if additional Federal funds are appropriated.

NOW, THEREFORE, the Government and the Non-Federal Sponsor agree that the Agreement is hereby amended in the following particulars but in no others:

1. ARTICLE II – OBLIGATIONS OF THE GOVERNMENT AND THE NON-FEDERAL SPONSOR

Article II is amended by adding the following paragraphs at the end thereof:

"L. The Non-Federal Sponsor may offer in writing to accelerate a portion or all of its required cash contribution pursuant to Article II. D. of this Agreement during the period of construction for immediate use by the Government. This offer shall be limited to an amount that does not exceed the most current estimate of the total of the Non-Federal Sponsor's required cash contribution pursuant to Article II. D. of this Agreement, as determined by the Government in coordination with the Non-Federal Sponsor, less any funds previously contributed by the Non-Federal Sponsor. Upon receipt of such offer or offers, the Government, subject to receiving such approvals and concurrences as customarily are required to accept such funds, may accept the funds, or such portion thereof as the Government determines to be necessary to meet the costs of construction of the Project. If the Government elects to accept such funds, it shall notify the Non-Federal Sponsor of such acceptance in a writing that sets forth any applicable terms and conditions. In the event of a conflict between this Agreement and any such writing, this Agreement shall control. Such funds shall be used by the Government for construction of the Project.

M. As Federal appropriations are made available to pay the Federal share of construction of the Project, the Government shall afford credit for funds provided during the period of construction in accordance with Article II L. of this Agreement. The Government shall credit this amount, provided during the period of construction, toward the Non-Federal Sponsor's cash contribution required by Article II. D. of this Agreement. If after the final accounting at the end of the period of construction, it is

determined that the Non-Federal Sponsor has provided funds in excess of its required cash contribution pursuant to Article II.D. of this Agreement, the Government shall proceed in accordance with Article VI.D.2. of this Agreement to determine whether a refund is applicable. However, if in the event of a final accounting due to termination pursuant to Article XIV.C. of this Agreement prior to the end of the period of construction, it is determined that the Non-Federal Sponsor has provided funds in excess of its required cash contribution pursuant to Article II.D. of this Agreement, the Government shall not reimburse the Non-Federal Sponsor for any such excess funds, except that any such excess funds which have not been obligated by the Government on the Project shall be refunded to the Non-Federal Sponsor, subject to the availability of funds."

2. ARTICLE VI – METHOD OF PAYMENT

a. The second sentence of Article VI.A. is amended by inserting the phrase: "of the credit to be afforded in accordance with Article II.M. of this Agreement," after "of the non-Federal proportionate share," and before "and of the funds the Government projects to be required from the Non-Federal Sponsor for the upcoming fiscal year."

b. The first sentence of Article VI.B.2. is amended by inserting the phrase: "after consideration of any credit afforded pursuant to Article II.M..of this Agreement," after "of construction," and before "the Government."

c. Article VI.B.3. is amended by adding at the end thereof: "; and (c) to the extent of funds accepted in accordance with Article II. L. of this Agreement, any other financial obligations for construction in excess of the non-Federal proportionate share as they are incurred during the period of construction."

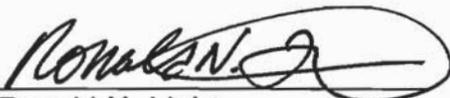
d. Article VI.B.4. is amended by adding a comma after "the Government" in the first line and inserting the phrase: "after consideration of any credit afforded pursuant to Article II. M. of this Agreement," before "determines that additional funds will be needed from the Non-Federal Sponsor."

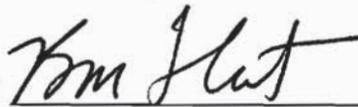
e. The first sentence of Article VI.D.2. is amended by adding the following phrase at the end thereof: ", and, if the final accounting results from termination pursuant to Article XIV.C. of this Agreement, the amount of excess contribution that was provided in accordance with Article II. L. of this Agreement and for which credit was not afforded pursuant to Article II.M. of this Agreement shall not be reimbursed." The second sentence of Article VI.D.2. is amended by adding the parenthesis: "(not including the non-reimbursable amounts referenced in the preceding sentence)" after "refund the excess."

IN WITNESS WHEREOF, the parties hereto have executed this amendment to the Agreement, which shall become effective upon the date it is signed by the authorized representative of the Government.

THE DEPARTMENT OF THE ARMY

THE STATE OF CALIFORNIA
Represented by The Reclamation Board

BY: 
Ronald N. Light
Colonel, Corps of Engineers
District Engineer

BY: 
Benjamin F. Carter
President
The Reclamation Board

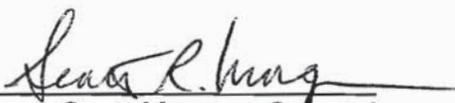
DATE: 7/20/06

DATE: 6/22/06

CERTIFICATE OF AUTHORITY

I, _____, do hereby certify that I am the principal legal officer of The Reclamation Board of the State of California, that The Reclamation Board is a legally constituted public body with full authority and legal capability to perform, on behalf of the State of California, the terms of the Agreement between the Department of the Army and the State of California, as amended by Amendment Number 3 to the Agreement, in connection with the American River Watershed (Common Features), California, Project, and to pay damages in accordance with the terms of the amended Agreement, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611 (42 U.S.C. Section 1962d-5b), and that the persons who have executed this Agreement on behalf of the State of California, acting by and through its Reclamation Board, have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification on this
23 day of June 2006.



Scott Morgan, Counsel
The Reclamation Board

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

BY: Dan A. Fua
Dan Fua
Acting General Manager
The Reclamation Board

DATE: 6/23/06

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



June 21, 2007

Col. Ronald N. Light, Colonel, Corps of Engineers
District Engineer
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814

Dear Mr. Light:

Enclosed you will find four copies of the Standard Agreement number 4600000651, Am-4. Please sign all copies of the attached agreement and return **two copies and the original executed agreement** to me at the following address:

Department of Water Resources
Contract Services Office
1416 Ninth Street, Room 354
Sacramento, California 95814

Inquiries concerning the processing of this agreement should be directed to me at the number listed below.

Sincerely,

A handwritten signature in cursive script that reads "Maria Gomez".

Maria Gomez
Contracts Analyst
Contract Services Office
(916) 653-7201

Enclosures

STATE OF CALIFORNIA
STANDARD AGREEMENT AMENDMENT
 STD. 213 A (Rev 6/03)

CHECK HERE IF ADDITIONAL PAGES ARE ATTACHED 5 Pages

| | |
|---------------------|------------------|
| AGREEMENT NUMBER | AMENDMENT NUMBER |
| 4600000651 | 4 |
| REGISTRATION NUMBER | |

1. This Agreement is entered into between the State Agency and Contractor named below:
 STATE AGENCY'S NAME
Department of Water Resources
 CONTRACTOR'S NAME
Department of the Army
2. The term of this Agreement is **July 10, 1998** through **Upon Completion of the Project** This Agreement shall not become effective until approved by the Department of the Army Corps of Engineers.
3. The maximum amount of this Agreement after this amendment is: **\$246,000,000.00** Two hundred and forty-six Million Dollars and No Cents.
4. The parties mutually agree to this amendment as follows. All actions noted below are by this reference made a part of the Agreement and incorporated herein:
 - A. Amending the Project Cooperation Agreement for the American River Watershed (Common Features) Project expands the Agreement's definition of "Project" and clarifies the scope of work to include certain improvements authorized in Section 366 of the Water Resources Development Act of 1999, Public Law 106-53. Article I.A under the Definitions and General Provisions is amended to add (1) Mayhew Drain, Raise Levee; (2) Mayhew Drain, Install Closure Structure; (3) Howe Avenue, Raise Levee; (4) Jacob Lane, Strengthen Levee; and (5) Lower American River near Natomas East Main Drainage Canal, Strengthen Levee.
 - B. All other terms and conditions of contract # 4600000651, including Amendments 1, 2, and 3 shall remain the same.

Signatures appear on pages 3 of 5 of the Agreement.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

| | | |
|---|---------------------------|---|
| CONTRACTOR | | CALIFORNIA Department of General Services Use Only  IF GENERAL SERVICE <i>Keyates</i> |
| CONTRACTOR'S NAME (If other than an individual, state whether a corporation, partnership, etc.) | | |
| BY (Authorized Signature) <i>[Signature]</i> | DATE SIGNED (Do not type) | |
| PRINTED NAME AND TITLE OF PERSON SIGNING | | |
| ADDRESS | | |
| STATE OF CALIFORNIA | | |
| AGENCY NAME | | |
| BY (Authorized Signature) <i>[Signature]</i> | DATE SIGNED (Do not type) | |
| PRINTED NAME AND TITLE OF PERSON SIGNING | | |

AMENDMENT NUMBER 4
TO THE
PROJECT COOPERATION AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
THE STATE OF CALIFORNIA, THE RECLAMATION BOARD
FOR CONSTRUCTION OF THE
AMERICAN RIVER WATERSHED (COMMON FEATURES), CALIFORNIA PROJECT

THIS AMENDMENT is entered into this 21st day of June, 2007, by and between the DEPARTMENT OF THE ARMY (hereinafter the "Government"), represented by the Assistant Secretary of the Army (Civil Works), and the STATE OF CALIFORNIA, represented by the President of THE RECLAMATION BOARD (hereinafter the "Non-Federal Sponsor").

WITNESSETH, THAT:

WHEREAS, construction of the American River Watershed (Common Features), California Project (hereinafter the "Project") was authorized by Section 101(a)(1) of the Water Resources Development Act of 1996, Public Law 104-303, at a total cost of \$56,900,000;

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, specifies the cost-sharing requirements applicable to the Project;

WHEREAS, the Government and the Non-Federal Sponsor entered into a Project Cooperation Agreement on July 13, 1998 (hereinafter the "Agreement") for construction of the Project;

WHEREAS, the Project authorization was modified by Section 366 of the Water Resources Development Act of 1999, Public Law 106-53, to include certain improvements as part of the overall Project, and was amended by Section 366 to increase the total cost of the Project to \$91,900,000;

WHEREAS, the Government and the Non-Federal Sponsor entered into Amendment Number 1 to the Agreement on June 13, 2003, to update the project cost to

\$120.6 million to accommodate the design and construction changes associated with deep foundation slurry cutoff walls required for the Project;

WHEREAS, the Project authorization was further modified by Section 129 of Public Law 108-137, the Energy and Water Development Appropriations Act, 2004, to increase the total cost of the Project to \$205,000,000, and the Government and the Non-Federal Sponsor entered into Amendment Number 2 to the Agreement on September 5, 2006 to update the project cost to \$205,000,000;

WHEREAS, the Government and the Non-Federal Sponsor entered into Amendment Number 3 to the Agreement on July 20, 2006 to allow for the Non-Federal Sponsor to accelerate its provision of funds to the Government; and

WHEREAS, the Government and the Non-Federal Sponsor wish to amend the Agreement's definition of "Project" to include certain improvements authorized in Section 366 of the Water Resources Development Act of 1999, Public Law 106-53.

NOW, THEREFORE, the Government and the Non-Federal Sponsor agree that the Agreement is hereby amended in the following particulars but in no others:

1. ARTICLE I – DEFINITIONS AND GENERAL PROVISIONS

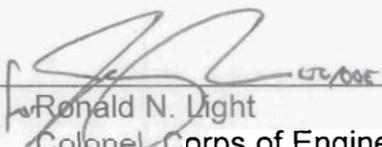
Article I.A. is amended by adding the following paragraph at the end thereof.:

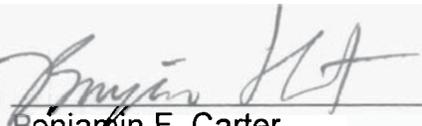
"The term Project shall also mean the following improvements: (1) Mayhew Drain, Raise Levee: raising the left bank of the non-federal levee upstream of the Mayhew Drain for a distance of 4,300 feet by an average of 2.5 feet; (2) Mayhew Drain, Install Closure Structure: constructing a closure structure with gates near mouth of Mayhew Drain; (3) Howe Avenue, Raise Levee: raising the right bank of the American River levee from 1,500 feet upstream to Howe Avenue to 12,000 feet downstream of Howe Avenue bridge (to Northrop Avenue) by an average of 1 foot; (4) Jacob Lane, Strengthen Levee: constructing a 4-foot-deep toe drain along the landside levee toe to control excessive exit gradient--repair work extending from 300 feet west of Jacob Lane to Harrington Way and from 800 feet upstream of River Walk Way to 700 feet downstream of Arden Way; (5) Lower American River near Natomas East Main Drainage Canal, Strengthen Levee: reshaping right bank landside levee side slope to provide a 2H to 1V slope from 500 feet upstream to 1,300 feet upstream of State Highway 160; as generally described in the American River Watershed Project (Common Features), California, Second Addendum to the Supplemental Information Report (SIR), dated March 2002 (revised July 2002), and approved by the Director of Civil Works on 21 October 2002.

IN WITNESS WHEREOF, the parties hereto have executed this amendment to the Agreement, which shall become effective upon the date it is signed by the authorized representative of the Government.

THE DEPARTMENT OF THE ARMY

THE STATE OF CALIFORNIA
Represented by the Reclamation Board

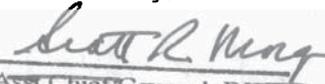
BY: 
Ronald N. Light
Colonel, Corps of Engineers
District Engineer

BY: 
Benjamin F. Carter
President
The Reclamation Board

DATE: 6/20/07

DATE: 5/30/07

Approved as to legal form
and sufficiency:


Asst Chief Counsel, BWR
Re Bd.

CERTIFICATE OF AUTHORITY

I, Scott R. Morgan, do hereby certify that I am the principal legal officer of the Reclamation Board of the State of California, that the Reclamation Board is a legally constituted public body with full authority and legal capability to perform, on behalf of the State of California, the terms of the Agreement between the Department of the Army and the State of California, as amended by Amendment Number 4 to the Agreement, in connection with the American River Watershed (Common Features), California, Project, and to pay damages in accordance with the terms of the amended Agreement, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611 (42 U.S.C. Section 1962d-5b), and that the persons who have executed this Agreement on behalf of the State of California, acting by and through its Reclamation Board, have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification on this 24 day of May 2007.

Scott R. Morgan
Scott R. Morgan, Counsel
The Reclamation Board

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

BY: Jay S. Punia
Jay S. Punia
General Manager
The Reclamation Board

DATE: 5/29/07

**SUPPLEMENT TO
STANDARD OPERATIONS AND MAINTENANCE MANUAL
SACRAMENTO RIVER FLOOD CONTROL PROJECT**

**UNIT NO. 124, NORTH LEVEE OF AMERICAN RIVER FROM NATOMAS EAST
CANAL TO THE SACRAMENTO RIVER AND EAST LEVEE OF THE SACRAMENTO
RIVER FROM NATOMAS CROSS CANAL TO AMERICAN RIVER,**

**PART NO. 2 for
VEGETATION ON MITIGATION SITES**

**Sacramento District
Corps of Engineers
U.S. Army
June 2002**

SUPPLEMENT TO
STANDARD OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER FLOOD CONTROL PROJECT

UNIT NO. 124, NORTH LEVEE OF AMERICAN RIVER FROM NATOMAS EAST
CANAL TO THE SACRAMENTO RIVER AND EAST LEVEE OF THE SACRAMENTO
RIVER FROM NATOMAS CROSS CANAL TO AMERICAN RIVER,

PART NO. 2 for
VEGETATION ON MITIGATION SITES

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SUPPLEMENT FORMAT & CONTENT

The organization and format of this exhibit is written to be consistent with the Standard Operations & Maintenance Manual for the Sacramento River Flood Control Project (Revised May 1955), and is intended to provide supplemental information that is not presently addressed.

TABLES

Table 1 Sac Bank - Separable Element 42, Lower American River Site 5, _____ 2
List of Site Acreage

EXHIBITS

| <u>Exhibit</u> | <u>Description</u> | <u>Location</u> |
|----------------|--|-----------------|
| A | Flood Control Regulation (contained in Standard Manual) | Unattached |
| A1 | Location Map | 1 Sheet |
| B | "As Constructed" Drawings | Unattached |
| C | Check List - Vegetation on Mitigation Area | 1 Sheet |
| D | Letter of Transfer to or Acceptance by the Reclamation Board | Unattached |
| E | Pest Ratings of Noxious Weed Species & Noxious Weed Seed | in 8 Sheets |
| F | "As-Built" Final Report - Mitigation Planting, LAR, Site 5 Offsite Mitigation | Unattached |
| G | Monthly Maintenance Log Form | 1 Sheet |
| H | Example of Sampling Transect Locations | 1 Sheet |
| I | Example of Rounding Out Plant Canopies for Line-Transect Measurements | 1 Sheet |
| J | Performance Standards and Goals | 1 Sheet |
| K | Table of Environmental Commitments | 1 Sheet |

SUPPLEMENT TO THE
STANDARD OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER FLOOD CONTROL PROJECT

UNIT NO. 124, NORTH LEVEE OF AMERICAN RIVER FROM NATOMAS EAST
CANAL TO THE SACRAMENTO RIVER AND EAST LEVEE OF THE SACRAMENTO
RIVER FROM NATOMAS CROSS CANAL TO AMERICAN RIVER,

PART NO. 2 for
VEGETATION ON MITIGATION SITES

SECTION I

INTRODUCTION

1-01 AUTHORITY

This work was performed under the Second Phase of the Sacramento River Bank Protection Project, authorized by the Flood Control Act of 14 July 1960, Eighty Sixth Congress, Second Session, Senate Document No. 103. Project authorization was supplemented by the River Basin Monetary Authorization Act of 1974, approved by the Second Session of the 93rd Congress as Public Law 93-251. In 1982, the project authorization was further supplemented by a joint resolution of Congress as Public Law 97-377.

Additional information pertaining to authority for this project, project works, and the protection to be provided by this project are provided in the Standard Operations and Maintenance Manual and the Supplement To Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit No. 124, North Levee of American River from Natomas East Canal to the Sacramento River and East Levee of the Sacramento River from Natomas Cross Canal to American River.

1-02 PURPOSE OF THIS SUPPLEMENT: This is a supplement, part 2, to the Sacramento River Flood Control Project Standard Operation and Maintenance Manual for the portion of the Sacramento River Flood Control Project, Unit No. 124, North Levee of American River from Natomas East Canal to the Sacramento River and East Levee of the Sacramento River from Natomas Cross Canal to American River. This supplement is intended to provide information and guidance to maintenance personnel to the mitigation sites described herein. This supplement addresses vegetation on mitigation areas, including vegetation placed in rock revetment on berms, and does NOT address vegetation on levees. These guidelines reflect a change in the value and acceptance of certain vegetation within the flood control channel in light of changed environmental values and regulations. These guidelines shall be used in place of the Standard Operation and Maintenance Manual (1955) when managing mitigation sites. The 1955 Standard Operation and Maintenance Manual will continue to provide primary guidance for all public safety issues and decisions.

1-03 LOCATION AND DESCRIPTION:

a. Description of Mitigation Planting Surfaces In general, the revegetation program at each site was designed to establish a self-sustaining, mixed-canopy riparian forest and riparian scrub habitat on waterside river bank berms. The revegetation program at each site also includes creating shaded riverine aquatic (SRA) habitat. Vegetation has been planted on a number of revetment planting surfaces and non-reveted planting surfaces. Each site and project may vary due to unique conditions and goals for each project or site.

(1) Site 5 Off-site Mitigation (river mile 0.9 RT) is located on the north bank between Interstate 5 and Highway 160. It is about 800 lineal feet in length. Mitigation features at Site 5 were constructed in September 2001 through January 2002 . Mitigation features include an excavated undulating low berm surface; woody and herbaceous planting on the low berm surface, biotechnical brush layer applications in the slope above; an excavated upper berm with woody overstory and understory plantings, a 15' wide barrier planting of thorny native species above the excavated area; riparian tree and native grass plantings 30' wide behind the barrier plantings. Existing large cottonwood trees are preserved in two "islands" of undisturbed bank which are protected by brush mattress biotechnical applications.

The following table constitutes project sites, their location and the reclamation district or maintenance area within which they are located.

| Table 1 Sac Bank - Site 5 Mitigation List of Site Acreage | | | | |
|---|---|----------------------|----------------------|---------|
| Unit No. | Site | Reclamation District | Existing vs New Berm | Acreage |
| | Site 5 offsite mitigation at Rm 0.9 Right | RD 1000 | New berm | 3.26 |
| TOTAL FOR ALL SITES | | | | 3.26 |

1-05 CONSTRUCTION DATA AND CONTRACTOR: The contractor and construction data for the project sites are listed in the following paragraphs.

a. Site 5, Offsite Mitigation at RM 0.9

(1) Excavation: Excavation of Sacramento River Bank Protection, Site 5, Phase 3, offsite mitigation at the location as shown on Exhibit A-1, was accomplished under contract No. DACW05-00- R-0021 by Geocon Inc., during the period from May 2001 to July 2001. File No. 1-04-477 and Specifications No. 1140.

(2) Mitigation Planting: Construction of Sacramento River Bank Protection Contract, Lower American River Site 5 Offsite Mitigation Revegetation at the location as shown on Exhibit A-1, was accomplished under contract No. DACW05-01-C-0002 by Sierra View Landscape

during the period from September 2001 to January 2002. File No. 1-25-475 and Specifications No. 1105.

SECTION II

LOCAL COOPERATION

2-01 FEDERAL REQUIREMENTS: Federal responsibility shall include the following:

a. Prepare the appropriate environmental documentation (EA or EIS), when requested by, and in cooperation with, the Non-Federal Sponsor. Coordinate with U.S. Fish & Wildlife Service and National Marine Fisheries Service and determine mitigation requirements in consultation with these agencies using the Habitat Evaluation Procedure or other methodology.

b. Prepare wildlife habitat mitigation design, oversee implementation, and ensure maintenance of plants has achieved root establishment and obtained other success criteria prior to turnover to Non-Federal Sponsor. Refer to Section 9-02 for exceptions.

c. Prepare a wildlife habitat mitigation report. This report shall document, with text, photographs and when appropriate, as built plans, existing conditions of site and plants at time of turnover to Non-Federal Sponsor. The report may be part of post construction reports required at the time of turnover to the Non-Federal Sponsor. The report shall be distributed to the Non-Federal Sponsor, the Corps' Environmental Resources Branch (CESPK-PD-R) and the Corps' Project Manager (CESPK-PM).

d. In joint responsibility with Non-Federal Sponsor, ensure that environmental commitments such as riparian mitigation measures and monitoring requirements are successfully implemented in accordance with National Environmental Policy Act (NEPA), Federal Endangered Species Act (ESA) and the California Environmental Quality Act (CEQA). (Refer to exhibit K for environmental commitments.)

e. Provide As-Constructed drawings.

f. Prepare project Operations & Maintenance Manual revisions as they apply to each mitigation project.

g. Coordinate appointment of a Mitigation Evaluation Team by the Army Corps of Engineers. The MET shall consist of representatives of the Army Corps of Engineers, the State of California Reclamation Board and the Sacramento Flood Control Agency in coordination with the U.S. Fish and Wildlife Service and the State Department of Fish and Game.

2-02 STATE LEGISLATION (NON-FEDERAL REQUIREMENTS): Non-Federal responsibility shall include the following:

a. Protect and preserve all mitigation vegetation on site that has been turned over to the Non-

Federal Sponsor, including desirable vegetative growth as it "volunteers" throughout the life of the project. Allow vegetation to grow to maturity within mitigation areas.

b. Make semi-annual inspections and submit annual reports (which shall include text and a photographic documentation of plant progress). Refer to section 3-09.

c. Perform all operations, maintenance, monitoring and remedial requirements as stated herein.

d. Over the life of the project (as defined in the EA), replant and replace all vegetation that has died as a direct result of vandalism, public use (accidental damage) and negligent maintenance practices, for example, herbicide overspray, lack of beaver cage maintenance, and fire damage, other than 'Acts of God' to plants. All 'Acts of God' damage shall be revisited by all concerned agencies and decisions, relative to replanting, made on a case by case basis.

e. Refer to section 9-02 for a list of projects/sites that the Non-Federal Sponsor has agreed to take responsibility for the plant establishment period.

f. The local sponsor for each site listed in table 1, pg 2 are as follows:

(1) Site 5 On-site Mitigation: Reclamation Board. Contact the General Manager of the Reclamation Board through the California State Department of Water Resources.

SECTION III

GENERAL

3-05 ANNUAL REPORT: The Non-Federal Sponsor shall prepare an annual report for the mitigation areas for submittal to the District Engineer. The Non-Federal Sponsor shall provide a copy of the report submitted to the District Engineer to the Corps' Environmental Resources Branch (CESPK-PD-R), and the Corps' Project Manager (CESPK-PM). The annual report shall compile information from the checklists that are prepared for the semi-annual inspections (refer to section 3-09). The annual report shall address all significant events that took place during the previous 12 months and shall include: the checklists for the semi annual inspections, a photographic record of overall conditions, a photographic record of specific significant damage and a summary statement of general vegetation conditions for the period of time from the preceding report. During monitoring years, the annual monitoring report may serve as the annual report.

3-09 PERIODIC SEMI-ANNUAL INSPECTIONS: Inspections of mitigation areas shall be initiated by the Non-Federal Sponsor and made with interested agencies at the times specified below to compare progress with the goals of the mitigation plans as stated in the environmental documentation and other project documents. Provide the Corps written notice 30 days prior to all inspections and invite the Corps to participate in the inspection.

a. Spring Inspection: At a minimum, inspection shall occur during April through June.

Leaves emerge from buds at this time making it a good time for visual plant identification, and a good time for evaluating general plant health and mortality.

b. **Fall Inspection:** At a minimum inspection shall occur during September through October, just prior to the rainy season, typically when plant stress is most prevalent. Some plants may appear dead during this time of the year, but are actually alive. These plants may be exhibiting a physiological response to stress, such as early leaf fall, during prolonged drought conditions. Therefore, survival counts taken during the spring inspection are generally more accurate.

3-10 CHECK LISTS: A specific check list form for reporting results of inspections of these mitigation areas is contained in this supplement as Exhibit C. These checklists shall be completed during each semi-annual inspection.

3-11 DRAWINGS: Exhibit B, As-built drawings (unattached).

3-12 FINAL REPORTS: Final Reports/Revegetation Project Summaries are provided as Exhibit F.

SECTION IX

VEGETATION ON MITIGATION AREAS

9-01 DESCRIPTION: This section addresses maintenance requirements for vegetation and associated items on the above mentioned mitigation areas. The contents in this exhibit are general in nature and apply to all mitigation project sites. Site-specific revisions to this exhibit addressing requirements unique to each site will be provided as new sites are completed. The format of revisions shall conform to, and be consistent with, this exhibit.

9-02 ESTABLISHMENT OF VEGETATION ON THE MITIGATION AREAS: For some projects the Non-Federal Sponsor has agreed to take on the "Establishment" responsibility of the vegetation. These projects shall include all effort, in addition to section 9-03 Plant Establishment Period (Short Term Operations and Maintenance), necessary to establish the vegetation. When required, the establishment of vegetation on the mitigation areas shall be specified in each revision to the exhibit. Refer to the following list for projects for which the Non Federal Sponsor has agreed to be responsible for the Plant Establishment Period:

- a. Site 5 offsite mitigation at RM 0.9 Right

9-03 PLANT ESTABLISHMENT PERIOD (PEP), OR SHORT-TERM OPERATIONS AND MAINTENANCE General. The PEP will start at the turnover of the project to the Non-Federal Sponsor and be a minimum of 36 months in duration if no significant replanting is required. Throughout this period, operations and maintenance requirements are expected to be relatively intense compared to the requirements of the following post-PEP. During the PEP, the Non-Federal Sponsor will be responsible for performing the operations and maintenance requirements listed below. At the end of the PEP, the mitigation sites will be considered

successful if they are self-sustaining (refer to section 9-04) and provide adequate compensation as outlined in the performance standards (Exhibit J) to offset habitat losses associated with the project. If the performance standards are not met the Non-Federal Sponsor will consult with the mitigation evaluation team on possible remedial measures [refer to paragraph 2-06, e]. The Non-Federal Sponsor will be responsible for determining maintenance methods and schedules needed to perform these maintenance requirements. Operations and maintenance requirements of revegetation features during the PEP will include but are not limited to the following:

a. Site assessments of overall planting areas to determine plant condition, weed growth, and other revegetation-related site conditions.

(1) Regular Inspections. The Non-Federal Sponsor will inspect mitigation areas. The inspections will be concurrent with maintenance activities during the PEP to ensure that plant materials are in a healthy and vigorous condition.

(2) Clean up. The Non-Federal Sponsor will maintain the site in a natural-appearing condition throughout the PEP. Site cleanup will occur at a minimum, at all scheduled irrigation events. All garbage, construction debris, excess plants, and dirt left over from replanting or site repair operations, other discarded materials, and extraneous equipment will be removed from the site in accordance with state and local regulations.

(3) Woody Debris and Felled Trees. Natural woody debris (i.e., logs, branches, or uprooted trees), whether from mitigation plantings or other sources, shall not be removed, unless it poses a threat to public safety, including river users, or if it promotes local scour (i.e., movement or loss of stone or mats along bank protection features, including the upper slope, the low berm and low berm face).

(4) Damage and Repair. Maintenance, repair, or replacement of all revegetation features will be the responsibility of the Non-Federal Sponsor through the duration of the PEP. This includes maintenance, repair, or replacement of rock structures and erosion control measures required for mitigation habitat creation. Repair of rock structures and erosion control measures required for flood protection and public safety shall be governed by the standard operations and maintenance manual and subsequent supplements. Refer to section 1-01 and 1-02.

b. Installation, maintenance, operation, and removal of the irrigation system at each site.

(1) Irrigation System. The Non-Federal Sponsor will be responsible for the installation, operation, maintenance, and removal of the irrigation system and application of irrigation as described in the following paragraphs. The system must be capable of providing an adequate and equivalent quantity of irrigation to each planting site.

(a) First Year irrigation schedule and Rate: Each plant shall receive a minimum of one (1) application every seven (7) days during the months of April through October. Each application shall include a minimum of five (5) gallons per plant, or a sufficient quantity of water applied by overhead spray to uniformly wet the soil in the entire planting area to a minimum depth of 18 inches. Additional applications shall be required during November

through March , if a minimum of 1/2 inch of precipitation does not fall on the plants during any six week period.

(b) Second Year irrigation schedule and Rate: Each plant shall receive a minimum of one (1) application every seven (7) days during the months of April through October. Each application shall include a minimum of fifteen (15) gallons per plant, or a sufficient quantity of water applied by overhead spray to uniformly wet the soil in the entire planting area to a minimum depth of 24 inches.. Additional applications shall be required during November through March , if a minimum of 1/2 inch of precipitation does not fall on the plants during any six week period.

(c) Third Year irrigation schedule and Rate: Each plant shall receive a minimum of one (1) application every fourteen (14) days during the months of April through October. Each application shall include a minimum of thirty (30) gallons per plant, or a sufficient quantity of water applied by overhead spray to uniformly wet the soil in the entire planting area to a minimum depth of 36 inches.. Additional applications shall be required during November through March , if a minimum of 1/2 inch of precipitation does not fall on the plants during any six week period.

If a new system is used, the Non-Federal Sponsor will install the entire system on the project site at the beginning of each irrigation season. At the end of each irrigation season, the Non-Federal Sponsor will remove the entire system from the project site. The Non-Federal Sponsor will be responsible for maintaining the irrigation system in a fully operational condition throughout the irrigation season defined herein. The Non-Federal Sponsor will hand water the plant materials when the irrigation system is not in place, if necessary, as determined by the Non-Federal Sponsor.

(2) Irrigation Season. The irrigation season will be April 1 through October 31 of each year of the PEP. The irrigation season may be adjusted at the Non-Federal Sponsor's discretion based on site-specific conditions (e.g., high or low water surface elevations, prolonged or delayed rainy seasons).

(3) Irrigation Applications. The beginning and shutdown dates for the irrigation schedule are dependent on weather conditions. If most of the plant material appears to be stressed (e.g., water stress [over-watering], stunted growth, wilting, premature leaf loss, and yellowing of leaves [deciduous spp.]) and in danger of perishing or becoming severely damaged, the Non-Federal Sponsor will adjust the frequency and duration of watering. The Non-Federal Sponsor will be responsible for applying irrigation at the rates specified in the original construction documents, or at a similar rate if a different irrigation system design is used.

c. Weed Control

(1) Requirements. Weed control will consist of hand-pulling, mechanical removal, or spot applications of herbicide to maintain a minimum 2-foot diameter weed-free zone around each individual planting location. Weeds will include all woody and herbaceous plants occurring within a 1-foot radius around each plant. Weed control may also involve the removal or control

of particularly invasive non-native species outside of the 2-foot diameter around each plant. Refer to exhibit E for guidance and a list of weeds to be controlled. Weeds will also be controlled on all access roads and ramps.

(2) **Herbicides.** If herbicides are used, they will be non-selective, broad-spectrum, post-emergent, translocating herbicides approved for use in and around aquatic habitats by the U.S. Environmental Protection Agency. Herbicides, fertilizer, or other chemical-based materials will not be stored on the project site. Herbicides will be applied to avoid drift outside the designated revegetation planting areas and will protect existing plants to remain or to be transplanted from herbicide drift. Herbicides shall be applied in accordance with all State and local regulations.

(3) **Elderberry (*Sambucus* sp.) plantings or naturally occurring elderberries.** At no time will herbicides be sprayed onto undesired vegetation within 100 feet of any elderberry plantings or naturally occurring Elderberry plants at onsite or offsite mitigation planting areas. Although these plantings are not considered to be in a designated elderberry shrub mitigation site they will provide valley elderberry longhorn beetle (VELB) habitat. Weeds must be mechanically or manually within 100 feet of elderberry plants. However, in order to control particularly invasive non-native weed species (e.g., *Arundo donax*), where herbicide application is the only viable means of weed eradication, herbicides may be applied by "painting" the cut stem or portions of the foliage. Minimal painting will occur to limit the quantity of applied herbicides. This method will be used as a means of preventing elderberry shrubs from competition from weed species.

(a) **Elderberry plantings at Site 5 offsite mitigation:** At the time of project construction, Site 5 offsite mitigation was not considered to be an elderberry replacement area. No elderberries were planted at the site 5 offsite mitigation site at RM 0.9R.

d **Replacement Planting.** Replacement of plant material, and/or implementation of other remedial measures, to meet performance standards in years 3 and 8. Replacement planting of woody or herbaceous plant material is required if there is high plant mortality and the site is not achieving, or is not trending toward achieving, the performance standards outlined in Section 9-05. Plant mortality may be the result of numerous factors, including but not limited to, acts of nature, site suitability for the species planted, or insufficient maintenance activities. The quantity of replacement plants during a given maintenance year, if necessary, will be determined based on the monitoring results and an estimation by the Non-Federal Sponsor of the quantity of plants required to meet the performance standards.

(1) **Woody Plant Species.** During the PEP, individual plant counts (summarized as percent survival values) will be performed for all woody tree species, with the exception of biotechnical installations of live cuttings for erosion control, such as brush layers and mattresses. If individual plant counts are infeasible based on site conditions (e.g., dense vegetative growth) a cover based monitoring method will be used. The target performance goals for survival of woody plant material during years 1, 2, and 3 of the PEP are 70 percent, 60 percent and 50 percent survival, respectively, based on original population at time of turnover to the Non-Federal Sponsor. If the recommended performance goal for plant survival is not met, the Non-Federal Sponsor may elect to replant all or a portion of the planting sites needed to increase the

percent survival to the required level.

Replacement planting will be performed in the fall or winter of each maintenance year. Plants of the same species and planting size as were originally installed will be installed unless it is determined that another species is better suited to a particular site condition. Replacement plants will be installed according to the original construction documents unless another viable alternative should be considered based on the cause of mortality or future site conditions. Dead plants will be completely removed before installation of replacement plants and will be removed from the site.

If replacement plants are required, all replacement plant propagation materials will be collected from local genetic stock from within the project site region as outlined in the original construction documents. Refer to Section 1-05 Construction Data and Contractor. Adjustments to the original planting design will be recorded on the as-maintained drawing and in the annual reports.

(2) Herbaceous Species on the Low Berm. Herbaceous species on the low berm surface with sparse cover or bare areas greater than 100 square feet in area will be re-seeded with the original seed mix and application rates as specified in the original construction documents, refer to section 1-05 Construction Data and Contractor, modified as necessary, or re-plugged with container stock of the herbaceous plants originally installed. If an area has sparse or bare areas, but has an overstory of woody plant growth (e.g., willows, blackberries, native roses) reseeding/replanting will occur at the discretion of Non-Federal Sponsor. If significant loss of vegetation or damage to the site occurs, the Non-Federal Sponsor will discuss potential remedial measures with the mitigation evaluation team.

e. Biotechnical plantings. The integrity of the biotechnical plantings, which are a feature of some of the mitigation planting surfaces, shall be maintained during the PEP. This will include regularly checking the integrity of the wooden stakes, ropes securing the brush mattress and ensuring that the edges of erosion control fabric are secure. The Non-Federal Sponsor will be responsible for repairing damage to the mat system caused by vandalism, fire, debris, or other causes during the PEP.

f. Maintenance of signs. The Non-Federal Sponsor will maintain the revegetation and VELB signs throughout the PEP. Maintenance will include replacing lost, stolen, or damaged signs; and performing any corrective actions required to maintain desired sign conditions.

g. Preparation of project documentation, including submittals. The Non-Federal Sponsor will be responsible for documenting project conditions and progress throughout the Plant Establishment Period (PEP). Documentation will include monthly maintenance logs, and annual monitoring reports, which are described in the following section.

(1) Plant Establishment Form (Monthly Maintenance Log). Throughout the PEP, the Non-Federal Sponsor will be responsible for daily (monthly logs) record keeping of the maintenance activities, including but not limited to irrigation, weed control (i.e., types of herbicides used, application rates, personnel performing work), and replacement planting. The

Non-Federal Sponsor will compile all data recorded during the plant establishment activities on a form similar to the example in Exhibit G. The Non-Federal Sponsor will compile and present the forms for that year (one form for each month) in the annual reports Refer to page 4 paragraph 3-05 for requirements of the Annual Report.

h. Providing site surveillance and other measures to protect vegetation from vandalism following installation and during the establishment period.

i. Some sites have been provided with temporary beaver barrier fencing. This fencing is intended to reduce but not completely eliminate beaver damage. For the duration of the PEP the fencing may be removed at the discretion of the local sponsor at the threat of inundation by high river flows in winter and spring and shall be reinstalled in late spring after the threat of high river flows are over. The posts on which the fences are installed are intended to remain in place until the fencing is permanently removed. Safety caps have been provided on the fence posts. The Non-Federal Sponsor shall promptly replace caps that are missing. The following sites have been provided with temporary beaver fencing.

(1). Site 5 offsite mitigation at RM 0.9 Right

9- 04 MAINTENANCE OF THE MITIGATION AREAS (LONG TERM OPERATION AND MAINTENANCE): Plants that have established themselves will continue to live without any artificial support by maintenance personnel. "Establishment" is defined herein as *"sustained self-sufficiency where the plant is able to sustain growth without additional artificial watering, fertilizing, herbicide spraying, weeding, pruning, cultivation, or other general maintenance practices normally associated with sustaining ornamental vegetation"*. The following items address impacts that shall be addressed by, and are the responsibility of, the Non-Federal Sponsor in maintaining acceptable site and plant conditions so that vegetative growth will not be impeded. All maintenance activities, outside of the mitigation site carried out by the Non-Federal sponsor such as spraying and debris removal, shall be carried out in a manner which avoids impact to threatened and endangered species.

a. General Plant Care: "Park-like" conditions shall be avoided in the mitigation areas. Greater habitat value is afforded by those conditions that might be unsightly in a park situation, for example, downed trees, broken branches, unmowed grass, etc. No removal of vegetation shall occur without prior written approval from the Federal Sponsor except as defined below in paragraph d. Weed Control.

b. Tree Preservation: Preserve ALL existing trees on mitigation areas except as defined below in paragraph d. Weed Control. Only those trees that directly interfere with levee or revetment maintenance shall be removed.

c. Volunteer Growth: Preserve all native volunteer growth that is consistent with requirements and objectives of mitigation site plans and environmental documentation. The design concept on most sites includes developing the upperstory, which provides a seed source for most "successional growth" understory vegetation. The upperstory reduces the air and soil temperature, which creates a microenvironment at the understory level that is more conducive to

volunteer growth. This design concept encourages, and is dependent upon, volunteer growth to achieve the objectives of the environmental documentation. Volunteer growth will achieve the regeneration of "successional growth" desired in mitigation plans required of most projects. Mowing these areas will suppress this growth and is not recommended. Ensure that all maintenance practices of adjoining lands owned or maintained by the Reclamation District, Flood Control Agency, State of California or County of Sacramento do not negatively affect the mitigation site.

d. **Weed Control:** General weed control on the mitigation sites is not desirable and could cause more destruction to the desirable vegetation than the benefits received by its eradication. Whenever weed control is permitted, care shall be taken to isolate the spray (or other method if used) so that only the targeted plant is affected. Ensure weed growth is controlled on the firebreaks at each site. The maintenance districts will be allowed to control noxious weeds within the guidelines of the State of California, Department of Food and Agriculture, Division of Plant Industry. The maintenance district shall notify the Department of Water Resources, Flood Control Project Branch before taking any action. For guidance refer to, Pest Ratings of Noxious Weed Species and Noxious Weed Seed, Exhibit E. Herbicides shall be applied in accordance with all State and local regulations.

e. **Selective Clearing/Pruning:** Downed trees and branches, dead limbs, and dead trees provide habitat for numerous wildlife species. Therefore, clearing and pruning shall not occur unless such materials restrict site access from the ramps, prove to be detrimental to the integrity of the bank protection structure, present a risk to public safety, or overhang firebreaks. Pruning is permitted to maintain design hydraulic flows. Due to the different physical characteristics of mitigation sites, visual access of the levees shall be maintained. Levee slopes shall be visible from the levee tops.

f. **Human Impacts:** Some sites are located near population centers and are impacted by both legitimate and non-legitimate uses. All damage as a result of these activities is the responsibility of the Non-Federal Sponsor and shall be repaired and replanted the by the Non-Federal Sponsor as required to meet environmental commitments. The following categorizes the greatest potential for damage from human impacts and shall be policed by the Non-Federal Sponsor:

(1) Public Use: The public's impact on a site will continue to be potentially disruptive to the vegetation. Ensure recreational activities do not impact the plants. If public use becomes destructive, the Non-Federal Sponsor shall take corrective measures to replace plants and to ensure their survival.

(2) Local Maintenance District Damage: Standard maintenance practices may pose a threat to the mitigation vegetation. Each district shall assess its present maintenance practices and determine if it can continue these practices or if it needs to adjust these methods to be less detrimental to the vegetation. Some traditional practices are not be appropriate for some sites and different methods shall be implemented. Local maintenance personnel are the people most involved with the sites on a day to day basis and therefore stand the greatest risk of inadvertently damaging them. Current levee maintenance practices, such as burning, can quickly destroy years of mitigation work, if maintenance procedures get out of control. The

most common methods used to control vegetative growth on the levee structure (not the berm) are evaluated as follows:

- * **Mowing:** Mowing is by far the safest method used to control vegetative growth and limit potential damage, and should be encouraged, where feasible.
- * **Discing:** Discing is another preferred method, but is not as widely used due to its limited application to levee maintenance. Discing is most effective in maintaining a firebreak along the toe of the levee structure.
- * **Spraying:** Chemical spraying is commonly used. Care shall be taken to prevent spray drift onto adjoining areas in accord with all applicable local, State and Federal laws.
- * **Burning:** Burning is the least preferred. The potential for damage is great.

(3) Vandalism: Vandalism is always a potential threat but generally decreases over time. Most vandalism involves the theft of planting stock while young (usually the first year after planting). As the plant root systems develop, the plants become hard to remove, and are no longer a desirable target. Cutting of trees for firewood is another long-term threat. Vandalism damage to signs, fences, gates, and beaver barrier cages are long term problems and shall be repaired or replaced by the Non-Federal Sponsor in a timely fashion.

(4) Trash: Trash is disruptive to plant growth and wildlife. Trash shall be promptly removed from the site and discarded properly.

g. Wildlife and Domestic Animal Caused Damage: Beaver, deer, rabbit, and gopher damage is an ongoing threat to the vegetation. Beaver damage is the most common of these. On some sites, beaver barrier cages and/or fences have been installed to protect a percentage of the highly susceptible species and shall be checked at each inspection. Repair of these items shall be made on a timely basis to ensure further damage does not continue. These cages provide additional protection from deer browse. Even though small trees are the beavers' preferred food, they will damage the larger trees as well. Cottonwood and willows are the beavers' preferred species, however beavers are also known to fell other species of trees. The beaver barrier cages shall not be removed at any time, except when it would girdle the plant. Deer, rabbit, and gopher damage are prevalent while the vegetation is young but will have less of an impact over time. Wildlife damage is considered as an 'Act of God' and shall be revisited by all concerned agencies and decisions, relative to replanting, made on a case by case basis. Cattle, horses, sheep and goats shall be kept off the site and damage caused by domestic animals shall be the responsibility of the Non-Federal Sponsor.

The Non-Federal Sponsor may elect to reduce herbivore browse by planting thorny native plants such as *Rubinus ursus* and *Rosa Californica* to provide a barrier to the susceptible plants. Cages should not be removed until this strategy has proved effective over a number of years at a particular site

h. **Natural Environmental Damage:** Natural processes are inevitable and could occur at any time during the course of re-establishing the vegetation. However, over time the damage will likely be less, due to the maturity of the vegetation. Windthrow of trees may increase over time as trees mature and provides beneficial habitat and should not be removed as a measure of routine maintenance, refer to paragraph J below for information regarding fallen trees and safety issues. All 'Acts of God' damage shall be revisited by all concerned agencies and decisions, relative to replanting, made on a case by case basis. Environmental damage caused by human impacts are events other than 'Acts of God' even though the results could be the same, i.e., a lightning fire versus a cigarette caused fire.

(1) Flood & Erosion: Flood and erosion damage could be an annual occurrence, such occurrences shall be documented in each annual report. Damage due to flooding will impact both vegetation and soil erosion.

(2) Fire & Wind: Fire and wind damage shall be documented in each annual report. Fire is a potential threat from both maintenance practices and public carelessness. Wind damage occasionally occurs but generally does not result in large-scale damage.

i. **Vegetation Free Zone:** Where applicable, the vegetation free zone is an area adjacent to the landside and/or waterside toe of the levee where no type of woody vegetation is permitted. This zone is required for maintenance and floodfighting activities and must be accessible at all times. Maintain a 15-foot-wide firebreak at the toe of the levee on all berm sites with average berm widths of 30 feet or greater and around perimeter of site where possible and so designated. Occasionally firebreaks have been provided on berms of less width and will be designated as such in the mitigation as-built drawings. Most berm sites less than 30 feet in width generally do not have a firebreak, due to lack of space. These firebreaks shall be kept clear of vegetative growth at all times. Tree limbs shall be pruned so that the air space above firebreak is also kept clear. Coordinate with and follow fire districts' recommendation for road maintenance and fire prevention.

j. **Woody Debris and Felled Trees:** Woody debris washing down the river during high flows tends to settle out as water levels recede. As a result, it is possible for debris or snags to accumulate in or around the bank protection features at the project sites. While there are certain advantages provided by such materials (e.g., wildlife habitat and shelter), the presence of woody debris can pose a threat to public safety. The issue of public safety will be the overriding consideration for deciding when to remove debris and woody debris or felled trees will be removed at Non-Federal Sponsor's discretion.

k. **Beaver Barrier Cage, Signage, Fencing, and Access Gate Maintenance:** Beaver barrier cages and/or fencing have been provided on some of the mitigation areas. All cages and fences shall be maintained in an effective condition, which will deter beavers from damaging the vegetation. Signs and access gates shall be maintained in a readable and operable condition, respectively. Signs shall be checked annually. Any sign found to be damaged or unreadable shall be replaced or repaired to its original condition.

l. **Public Health and Safety:** Vegetation will be managed to meet operation, maintenance,

repair, replacement and rehabilitation (OMRRR) requirements of authorized flood control and other authorized project features. Vegetative management may include partial or complete removal of vegetation for OMRRR purposes. Local maintenance entities shall coordinate with the Non-Federal Sponsor and receive the Non-Federal Sponsor's approval prior to undertaking any action. Contact the California State Department of Water Resources, Flood Control Project Branch.

m. Other Miscellaneous Items: Ensure access roads are kept in good passable order. Ensure that all other items associated with individual projects are maintained as per mitigation plans. Maintenance records of these items shall be presented as applicable in each annual report.

9-05 MANAGEMENT AND OPERATION OF THE MITIGATION SITES (Adaptive Management)

a. General. The operations and maintenance manual assumes the mitigation features will function as a self-sustaining established site, capable of natural regeneration and not requiring additional irrigation after the PEP. However, in the event of a structural failure, or if the vegetation fails to meet long-term performance standards or is otherwise in noncompliance with project requirements the procedures and standards required by this operations and maintenance manual may be insufficient or ineffective. In such cases, the mitigation evaluation team will be responsible for reviewing monitoring reports, evaluating results, and recommending remedial measures to be implemented by the Non-Federal Sponsor. This process is known as "Adaptive Management". The remedial measures would provide information for the repair, replacement, or rehabilitation of vegetation and structural features required for creation of mitigation habitat. Structural features required for flood control and public safety are governed by the standard operation and maintenance manual, refer to section 1-01 and 1-02..

Because the factors that might require remediation can not be identified specifically, some potential factors will be briefly summarized herein. If it should become necessary, more specific information pertaining to the cause of the problem and the proposed adaptive management technique will be prepared by the mitigation evaluation team.

b. Determination of the Need for Adaptive Management. The monitoring results and visual observations that are made during the annual and semi-annual inspections will determine noncompliance with long-term performance standards for all revegetation or problems regarding bank or other site features. The Non-Federal Sponsor will report this information to the mitigation evaluation team. Based upon review of the report, the current understanding about system dynamics, current site conditions, and the project's performance standards, the mitigation evaluation team will recommend what actions, if any, may be required.

c. Selection of Critical Areas. The project site may be affected by a number of natural events or human impacts. Remedial action may be necessary throughout the revegetation areas or in specific areas. The selection of specific or critical areas will be based on the following considerations, or other factors not listed below that may effect project performance:

(1) After remediation, is the area capable of achieving self-sufficiency in a reasonable period of time?

(2) If original mortality was a result of inappropriate species composition within a microhabitat condition, would modifying the plant palette result in greater plant survival rates?

(3) If original mortality was a result of berm or bank failure, would modifying the structures result in greater survival rates?

d. Potential Reasons for Implementing Adaptive Management Actions. There are a number of possible circumstances that may require adaptive management actions. Such circumstances may include the following:

(1) Berm or bank failure resulting from high flow events or other causes.

(2) Excessive wildlife damage.

(3) Competition with invasive, non-native weed species.

(4) Human impacts, including vandalism, arson or inadvertent impacts.

(5) Natural events, such as floods or wildfire.

(6) Unforeseen hazardous condition arising in association with mitigation features, practices or development.

9-06. VEGETATION MONITORING AND REPORTING

The goal of wildlife habitat mitigation projects is to create self-sustaining habitats per the specific requirements of the environmental documentation done in accordance with the National Environmental Policy Act (NEPA) and the U.S. Fish and Wildlife Service's biological opinion (if any) issued pursuant to the Federal Endangered Species Act (ESA) for that project. The mitigation will be considered self-sustaining if the site achieves, or is trending toward achieving, the performance standards at the end of the monitoring program and is determined successful in providing adequate compensation to offset losses from project construction. Vegetation monitoring will occur in June of each of the designated monitoring years.

Following mitigation project construction, the Corps will transfer the responsibilities for monitoring and reporting for the biological resources monitoring programs to the Non-Federal Sponsor. Monitoring shall be supervised or conducted by a qualified biologist, botanist or habitat restoration specialist having a minimum four year degree from an accredited university in the following subjects: biology, botany, environmental sciences, forestry or a minimum 10 years experience in habitat restoration. The Non-Federal Sponsor shall be responsible for attaining the performance standards (See exhibit J) for the monitoring program.

a. **Performance Standards and Goals.** Performance standards are minimum vegetation reestablishment objectives that must be achieved in monitoring years designated in the monitoring schedule to meet project objectives. Failure to achieve performance standards may necessitate implementation of additional remedial measures to mitigate project impacts. In addition to performance standards for the completion of the PEP and at the end of the designated monitoring period. Interim performance goals have been established for post PEP monitoring years as designated in the monitoring schedule to identify the need for management changes to improve the success of riparian vegetation and ensure compliance with performance standards at the end of the designated monitoring period. If implementation of remedial measures is required at, or towards the end of the monitoring period, monitoring would be performed for a least 5 years after measures are implemented. Refer to Exhibit J for performance standards.

b. **Monitoring Schedule.**

(1) **Site 5 offsite mitigation at RM 0.9 Right:** The site will be monitored in June in year 1, 2, 3, 5, and 8, which will begin the year following installation of the mitigation features. For offsite mitigation at RM 0.9 Right, the monitoring period is expected to begin in June 2002 and end in year 2009

(2) **Future Sites**

c. **Monitoring Methods.**

(1) **Site 5 offsite mitigation at RM 0.9 Right:** Individual plant counts will be used in monitoring years 1-3. In subsequent monitoring years tree canopy cover will be measured by aerial photography or, alternately by data collected along permanent transects to be established perpendicular to the riverbank. The transects will be sequentially numbered and established at 150-foot intervals starting from the upstream end of the project site and will extend the width of the project site (Exhibit H). The beginning and end of each transect will be permanently marked to allow replication of surveys in subsequent monitoring years. The monitors will measure the canopy width of trees and shrubs with foliage that intersects the transect line (Exhibit I). Percent tree canopy cover will be determined by measurement of the length of the transect intersected by overhanging tree cover.

(2) **Future Sites**

d. **Photographic Documentation.** A sufficient number of permanent photographic sampling points will be established by the Non-Federal Sponsor at each of the project sites so that a visual record of habitat development can be provided. The sampling points will be established during the first year monitoring surveys and the locations will be identified in the first year monitoring report. Photographs taken from each of these locations will be included in subsequent monitoring reports.

e. **Monitoring Reports.**

(1) Site 5 onsite mitigation and offsite mitigation: Annual monitoring reports for Site 5 onsite Mitigation and offsite mitigation shall be submitted to the Non-Federal Sponsor, the Corps' Environmental Resources Branch (CESPK-PD-R), and the Corps' Project Manager (CESPK-PM) by December 31 of each monitoring year. Monitoring is expected to begin in year 2000 and end in year 2007. Monitoring reports will include the following:

- (a) Aerial photographs taken for the survey (if used).
- (b) Percent tree canopy cover over each site.
- (c) Maps showing the survey transect locations (if used).
- (d) A summary of monitoring data for the project site by transects (if used).
- (e) Photographic documentation of site from permanent sampling points.
- (f) Qualitative description of the growth and vigor of vegetation.
- (g) A qualitative description of the low berm substrate and depositional features, if applicable.
- (h) A qualitative description of the establishment of volunteer vegetation.
- (i) A description of how plantings are performing relative to performance standards and goals.
- (j) A description of how each species planted is performing.
- (k) A description of environmental factors that may be adversely affecting planting success.
- (l) A description of proposed and implemented remedial measures.

(2) Future Sites

f. Remedial Measures. If riparian vegetation reestablished on the project site fails to meet performance standards, mitigation may be required. The Mitigation Evaluation team will advise the Non federal sponsor as to specific remedial measures. The level of effort required will be determined based on the magnitude and causes of failure. Potential remedial measures that may be implemented to achieve performance standards include the following:

- (1) Planting additional plants at the project site.
- (2) Extending the irrigation period.

(3) Planting additional riparian plants at off-site locations.

(4) Additional practices including but not limited to additional weed abatement and wildlife grazing measures.

If implementation of remedial measures is required, monitoring would be performed in the areas of the mitigation site affected by remedial measures for a 5-year period after measures are implemented.

EXHIBIT A

EXHIBIT A

FLOOD CONTROL REGULATIONS
(See Standard Manual)

EXHIBIT A1
LOCATION MAP

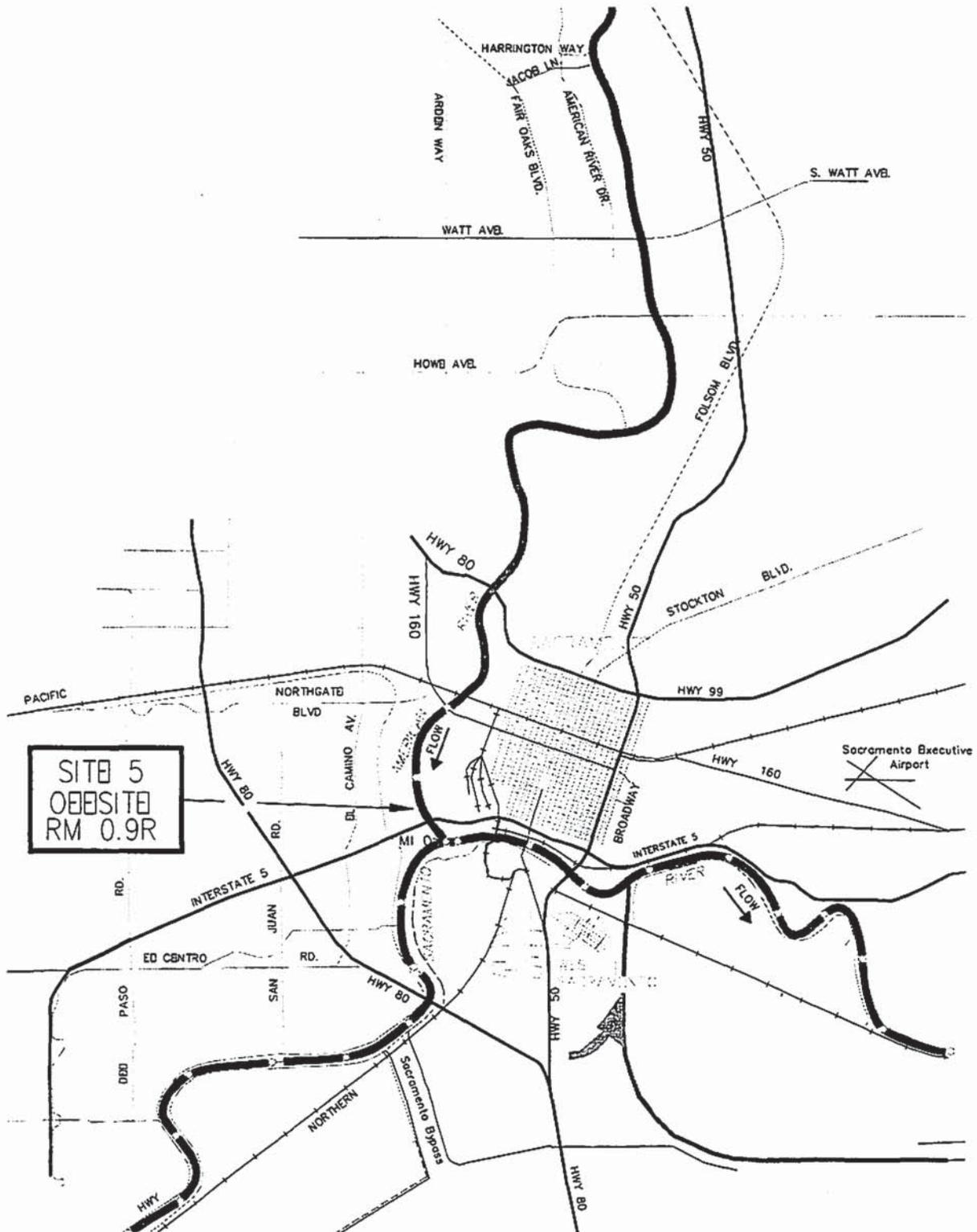


EXHIBIT B

EXHIBIT B

“AS CONSTRUCTED” DRAWINGS

SEE SEPARATE FOLDER FOR THE FOLLOWING DRAWINGS:

Title: Sacramento River Bank Protection Project, Lower American River Site 5 Offsite
Mitigation

File No. 1-25-475

ADDITIONAL DRAWINGS OF CROSS-SECTIONS, STRUCTURES, AND
MISCELLANEOUS FACILITIES ARE AVAILABLE IN THE OFFICE OF THE DISTRICT
ENGINEER.

EXHIBIT B

EXHIBIT B

“AS CONSTRUCTED” DRAWINGS

SEE SEPARATE FOLDER FOR THE FOLLOWING DRAWINGS:

Title: Sacramento River Bank Protection Project, Lower American River Site 5 Offsite
Mitigation

File No. 1-25-475

ADDITIONAL DRAWINGS OF CROSS-SECTIONS, STRUCTURES, AND
MISCELLANEOUS FACILITIES ARE AVAILABLE IN THE OFFICE OF THE DISTRICT
ENGINEER.

EXHIBIT C

CHECK LIST NO. 1

VEGETATION ON MITIGATION AREA
SEMI ANNUAL INSPECTION FORM

Location of Area Inspected: Part No. __, Unit No.'s: _____ Date: _____
(including river mile(s)) _____
Inspected by: _____

Report below the condition of the site and those items requiring maintenance work. Opposite each item listed, indicate the appropriate response, yes or no, in the area provided. Provide an attachment, if necessary, describing the negative significant conditions and any proposed/implemented maintenance work for each item. Note any changes, positive or negative, from the previous inspections.

Reference O&M Unit No.

| Item No. | Description | Response | Yes | No* |
|----------|--|----------|-------|-------|
| 1: | Mitigation area erosion free | _____ | _____ | _____ |
| 2: | Vegetation is free of fire damage | _____ | _____ | _____ |
| 3: | Vegetation is free of flood damage | _____ | _____ | _____ |
| 4: | Vegetation is free of wind damage | _____ | _____ | _____ |
| 5: | Vegetation is free of herbicide damage | _____ | _____ | _____ |
| 6: | Vegetation is free of wildlife damage | _____ | _____ | _____ |
| 7: | Vegetation & equipment is free of vandalism | _____ | _____ | _____ |
| 8: | Site is free of trash | _____ | _____ | _____ |
| 9: | Fire-break plowed and clear of growth | _____ | _____ | _____ |
| 10: | Access roads clear | _____ | _____ | _____ |
| 11: | Access gate barriers & locks in good working order | _____ | _____ | _____ |
| 12: | Beaver barrier cages or fencing in good condition | _____ | _____ | _____ |
| 13: | New volunteer growth (trees, shrubs) observed | _____ | _____ | _____ |
| 14: | Perimeter fencing in good working condition | _____ | _____ | _____ |
| 15: | Other items: _____ | _____ | _____ | _____ |

COMMENTS _____

*Requires explanation

EXHIBIT C

CHECK LIST NO. 1

VEGETATION ON MITIGATION AREA
SEMI ANNUAL INSPECTION FORM

Location of Area Inspected: Part No. __, Unit No.'s: _____ Date: _____
(including river mile(s)) _____
Inspected by: _____

Report below the condition of the site and those items requiring maintenance work. Opposite each item listed, indicate the appropriate response, yes or no, in the area provided. Provide an attachment, if necessary, describing the negative significant conditions and any proposed/implemented maintenance work for each item. Note any changes, positive or negative, from the previous inspections.

Reference O&M Unit No.

| Item No. | Description | Response | Yes | No* |
|----------|--|----------|-------|-------|
| 1: | Mitigation area erosion free | _____ | _____ | _____ |
| 2: | Vegetation is free of fire damage | _____ | _____ | _____ |
| 3: | Vegetation is free of flood damage | _____ | _____ | _____ |
| 4: | Vegetation is free of wind damage | _____ | _____ | _____ |
| 5: | Vegetation is free of herbicide damage | _____ | _____ | _____ |
| 6: | Vegetation is free of wildlife damage | _____ | _____ | _____ |
| 7: | Vegetation & equipment is free of vandalism | _____ | _____ | _____ |
| 8: | Site is free of trash | _____ | _____ | _____ |
| 9: | Fire-break plowed and clear of growth | _____ | _____ | _____ |
| 10: | Access roads clear | _____ | _____ | _____ |
| 11: | Access gate barriers & locks in good working order | _____ | _____ | _____ |
| 12: | Beaver barrier cages or fencing in good condition | _____ | _____ | _____ |
| 13: | New volunteer growth (trees, shrubs) observed | _____ | _____ | _____ |
| 14: | Perimeter fencing in good working condition | _____ | _____ | _____ |
| 15: | Other items: _____ | _____ | _____ | _____ |

COMMENTS _____

*Requires explanation

EXHIBIT D
Unattached

EXHIBIT D

LETTER(S) OF TRANSFER TO AND/OR ACCEPTANCE
BY THE RECLAMATION BOARD

EXHIBIT E

STATE OF CALIFORNIA
DEPARTMENT OF FOOD AND AGRICULTURE
DIVISION OF PLANT INDUSTRY

PEST RATINGS OF NOXIOUS WEED SPECIES
AND NOXIOUS WEED SEED

PURPOSE

To advise commissioners as to the Department's policy regarding any pest action.

DEFINITIONS

"A" An organism of known economic importance subject to state (or commissioner when acting as a state agent) enforced action involving: eradication, quarantine regulation, containment, rejection, or other holding action.

"B" An organism of known economic importance subject to: eradication, containment, control or other holding action at the discretion of the individual county agricultural commissioner.

OR

An organism of known economic importance subject to state endorsed holding action and eradication only when found in a nursery.

"C" An organism subject to no state enforced action outside of nurseries except to retard spread. At the discretion of the commissioner.

GUIDANCE

The district will be allowed to control noxious weeds classified as "A" and identified by the Department of Food and Agriculture as "(an) organism of known economic importance to state (or commissioner when acting as a state agent) enforced action involving: eradication, quarantine regulation, containment, rejection, or other holding action."

The district will be allowed to control noxious weeds classified as "B" and identified by the Department of Food and Agriculture as (an) organism of known economic importance subject to: eradication, containment, control or other holding action at the discretion to the individual county agricultural commissioner.

EXHIBIT E

Before the district eradicates any plant belonging to either class "A" or "B", the plant to be eradicated must be identified as a noxious weed in either class "A" or class "B" by a qualified biologist or a representative of the county agricultural commissioner's office. The district shall notify the Department of Water Resources, Flood Control Project Branch before taking action.

"A" SPECIES

***Eradication, containment, rejection or other holding action at the state-county level.
Quarantine interceptions to be rejected or treated at any point in the state.***

| | |
|---|-------------------------------------|
| <u>Acaena anserinifolia</u> | biddy biddy |
| <u>Acaena novae-zelandiae</u> (- <u>A anserinifolia</u> in part as used previously and of British and Australian authors.) | biddy biddy |
| <u>Acaena pallida</u> (- <u>A anserinifolia</u> in part as used previously.) | biddy biddy |
| <u>Achnatherum brachychaetum</u> (- <u>Stipa brachychaeta</u>) | punagrass |
| <u>Albagi maurorum</u> (- <u>A pseudalhagi</u>) | camelthorn |
| <u>Alternanthera philoxeroides</u> | alligatorwood |
| <u>Arctotheca calendula</u> | capeweed, as seed or fertile plants |

"A" - Pests Continued

| | |
|------------------------------|----------------------------|
| <u>Carduus acanthoides</u> | plumeless thistle |
| <u>Carduus nutans</u> | musk thistle |
| <u>Carthamus leucocaulos</u> | whitestem, distaff thistle |
| <u>Centaurea diffusa</u> | diffuse knapweed |
| <u>Centaurea iberica</u> | Iberian starthistle |
| <u>Centaurea maculosa</u> | spotted knapweed |
| <u>Centaurea squarrosa</u> | squarrosa knapweed |

| | |
|---|------------------------|
| <u>Chondrilla juncea</u> | skeletonweed |
| <u>Cirsium ochrocentrum</u> | yellowspine thistle |
| <u>Cirsium undulatum</u> | wavyleaf thistle |
| <u>Crupina vulgaris</u> | bearded creeper |
| <u>Cucumia melo</u> var. <u>dudain</u> | dudain melon |
| <u>Cuscuta reflexa</u> | giant dodder |
| <u>Euphorbia esula</u> | leafy spurge |
| <u>Euphorbia serrata</u> | serrate spurge |
| <u>Halimodendron halodendron</u> | Russian salttree |
| <u>Halogeton glomeratus</u> | halogeton |
| <u>Helianthus ciliaris</u> | blueweed |
| <u>Heteropogon contortus</u> | tanglehead |
| <u>Hydrilla verticillata</u> | hydrilla |
| <u>Linaria gonistifolia</u> spp. <u>dalmatica</u> (- <u>L. dalmatica</u>) | Dalmatian, toadflax |
| "A" - Pests Continued | |
| <u>Onopordum</u> spp. | onopordum thistles |
| <u>Orobanche ludoviciana</u> var. <u>cooperi</u> (- <u>O cooperi</u> (Gray) Heller, as used in Munz', A Flora of Southern California.) | Cooper's broomrape |
| (- <u>O multiflora</u> Nutt., as used in Correll and Johnston's Manual of the Vascular Plants of Texas.) | desert broomrape |
| <u>Orobanche ramosa</u> | branched, broomrape |
| <u>Peganum harmala</u> | harmel |
| <u>Physalis virginians</u> var. <u>sonorae</u> (- <u>p subglabrata</u> as used previously.) | smooth groundcherry |

EXHIBIT E

| | |
|---|----------------------|
| <u>Prosopis strombulifera</u> | creeping mesquite |
| <u>Salsola vermiculata</u> | wormleaf salsola |
| <u>Salvia virgata</u> (- <u>S pratensis</u> as used previously.) | meadow sage |
| <u>Scolymus hispanicus</u> | golden thistle |
| <u>Solanum cardiophyllum</u> nightshade | heartleaf |
| <u>Solanum dimidiatum</u> | Torrey's nightshade |
| <u>Sonchus arvensis</u> | perennial sowthistle |
| <u>Sphaerophysa salsula</u> | Austrian peaweed |
| <u>Striga lutea</u> (- <u>S asiatica</u>) | witchweed |
| <u>Tagetes minuta</u> | wild marigold |
| <u>Zygophyllum fabago</u> | Syrian beancaper |

"B" SPECIES

Eradication, containment, control or other holding action at the discretion of the commissioner.

| | |
|---|--------------------------------|
| <u>Acacia paradoxa</u> (- <u>A armata</u>) | kangaroothorn |
| <u>Acrontilon repens</u> (- <u>Centaurea repens</u>) | Russian knapweed |
| <u>Aegilops cylindrica</u> | jointed goatgrass |
| <u>Aegilops ovata</u> (- <u>A geniculata</u> and <u>A neglecta</u> in part) | ovate goatgrass |
| <u>Aegilops triuncialis</u> | barb goatgrass |
| <u>Aeschynomene rudis</u> | rough jointvetch |
| <u>Agropyron repens</u> | (see <u>Elytrigia repens</u>) |

| | |
|---|---------------------------------|
| <u>Allium paniculatum</u> | panicked onion |
| <u>Allium vineals</u> | wild garlic |
| <u>Ambrosia trifida</u> | giant ragweed |
| <u>Araujia sericofera</u> | bladderflower |
| <u>Cardaria chalepensis</u> | lens-podded hoarycress |
| <u>Cardaria drabs</u> | heart-poddedhoarycress |
| <u>Cardaria pubescens</u> | globe-podded hoarycress |
| <u>Carthamus baeticus</u> | smooth distaff thistle |
| <u>Carthamus lanatus</u> | woolly distaff thistle |
| <u>Centaurea calcitrapa</u> | Purple starthistle |
| <u>Centaurea repens</u> | (See <u>Acroptilon repens</u>) |
| "B" - Pests continued | |
| <u>Centaurea sulphurea</u> | Sicilian thistle |
| <u>Chorispora tenella</u> | purple mustard |
| <u>Cirsium arvense</u> | Canada thistle |
| <u>Coronopus squamatus</u> | swinecress |
| <u>Cucumis myriocarpus</u> | paddy melon |
| <u>Cynara cardunculus</u> | artichoke thistle |
| <u>Cyperus esculentus</u> | yellow nutsedge |
| <u>Cyperus rotundus</u> | purple nutsedge |
| <u>Elytrigia repens</u> (- <u>Agropyron repens</u>) | quackgrass |
| <u>Euphorbia oblongata</u> | oblong spurge |
| <u>Gaura coccinea</u> | scarlet gaura |
| <u>Gaura drummondii</u> | scented gaura |

(- G odorata)Gaura sinuata

wavyleaf gaura

Gypsophila paniculata

baby's breath

Imperata brevifolia

satintail

Isatis tinctoria

dyer's woad

Lepidium latifolium

perennial peppergrass

Lythrum salicaria

purple looseris

Muhlenbergia schreberi

nimblewill

Nothoscordum inodorum

false garlic

"B" - Pests continuedNymphaea mexicana

banana waterlily

Oryza rufipogon

red rice

Panicum antidotale

blue panicgrass

Physalis viscosa

grape groundcherry

Polygonum cuspidatum

Japanese

Polygonum polystachyum

Himalayan knotweed

Polygonum sachalinense

giant knotweed

Rorippa austriaca

Austrian fieldcress

Salvia aethiops

Mediterranean sage

Senecio Jacobaea

tansy ragwort

Senecio squalidus

Oxford ragwort

Sesbania punicea

Scarlet Wisteria, Rattlebox

Setaria faberi

giant foxtail

Solanum carolinense

Carolina horsenettle, knotweed

Solanum elaeagnifolium

white horsenettle

EXHIBIT E

| | |
|----------------------------|---------------------------|
| <u>Solanum lanceolatum</u> | lanceleaf nightshade |
| <u>Solanum marginatum</u> | white-margined nightshade |
| <u>Symphytum asperum</u> | rough comfrey |
| <u>Ulex europaeus</u> | gorse |
| <u>Viscum album</u> | European mistletoe |

"C" SPECIES

State endorsed holding action and eradication only when found in a nursery: action to retard spread outside of nurseries at the discretion of the commissioner: reject only when found in a cropseed for planting or at the discretion of the commissioner.

| | |
|---|--------------------|
| <u>Carduus pycnocephalus</u> | Italian thistle |
| <u>Carduus tenuiflorus</u> | Italian thistle |
| <u>Cenchrus echinatus</u> | Southern sandbur |
| <u>Cenchrus incertus</u> | coast sandbur |
| <u>Cenchrus longispinus</u> (- <u>C pauciflorus</u> as used previously) | mat sandbur |
| <u>Centaurea solstitialis</u> | yellow starthistle |

“As-Built”

Final Report

Sacramento River Bank Protection Contract, Lower American River
Site 5 Offsite Mitigation

Prepared for

U.S. Army corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814

Contract No. DACW05-01- C-0002

Prepared by

(____), Principal

(Contractor's Company Name
Address &
Phone No.)

(Date)

Exhibit G. Sample Format for Daily Log Form
 Plant Establishment Form to Record Irrigation, Weed Control, and Plant Mortality

Project: _____ Sheet no. _____ of _____

Note: Designate river and river mile for site location. Check or indicate the appropriate responses.

| | | | | | | | |
|---|---------------------|---------------------|-------------------|-----------------|----------------|----------------|--|
| Date _____ | | Site Location _____ | | | | | |
| Purpose of Visit | inspection | irrigation | weeding | mowing | repair | census | |
| weather conditions | cloudy | rainy | clear | hot | warm/mild | cool | |
| irrigation info | flushed system | repairs | duration/amount | personnel _____ | | | |
| Weed Control | chemical type _____ | | manual | personnel _____ | | | |
| Damage to | fences/gates | beaver cages | irrigation equip. | signs | plants | other _____ | |
| Damage from | vandalism | flood | fire | herbicide | wildlife _____ | | |
| | livestock | RD work _____ | | other _____ | | | |
| Plant Mortality | species _____ | quantity _____ | species _____ | quantity _____ | species _____ | Quantity _____ | |
| | species _____ | quantity _____ | species _____ | quantity _____ | species _____ | Quantity _____ | |
| Items to be addressed next visit _____ | | | | | | | |
| Problems, Observations, Comments: _____ | | | | | | | |

| | | | | | | | |
|---|---------------------|---------------------|-------------------|-----------------|----------------|----------------|--|
| Date _____ | | Site Location _____ | | | | | |
| Purpose of Visit | inspection | irrigation | weeding | mowing | repair | census | |
| weather conditions | cloudy | rainy | clear | hot | warm/mild | cool | |
| irrigation info | flushed system | repairs | duration/amount | personnel _____ | | | |
| Weed Control | chemical type _____ | | manual | personnel _____ | | | |
| Damage to | fences/gates | beaver cages | irrigation equip. | signs | plants | other _____ | |
| Damage from | vandalism | flood | fire | herbicide | wildlife _____ | | |
| | livestock | RD work _____ | | other _____ | | | |
| Plant Mortality | species _____ | quantity _____ | species _____ | quantity _____ | species _____ | Quantity _____ | |
| | species _____ | quantity _____ | species _____ | quantity _____ | species _____ | Quantity _____ | |
| Items to be addressed next visit _____ | | | | | | | |
| Problems, Observations, Comments: _____ | | | | | | | |

EXHIBIT H

**EXAMPLE OF SAMPLING
TRANSECT LOCATIONS**

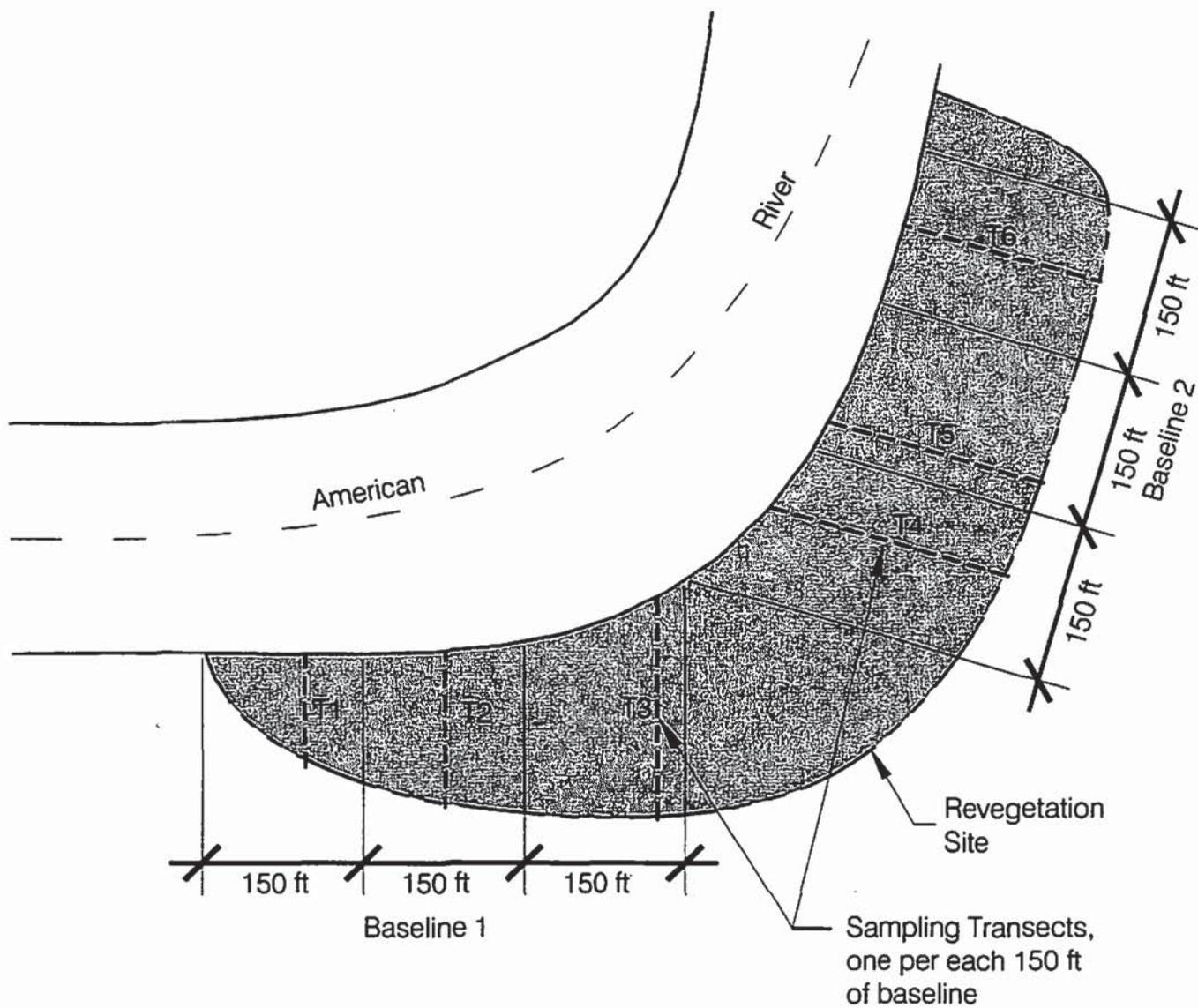


EXHIBIT I

EXAMPLE OF ROUNDING OUT PLANT CANOPIES FOR
LINE-TRANSECT MEASUREMENTS

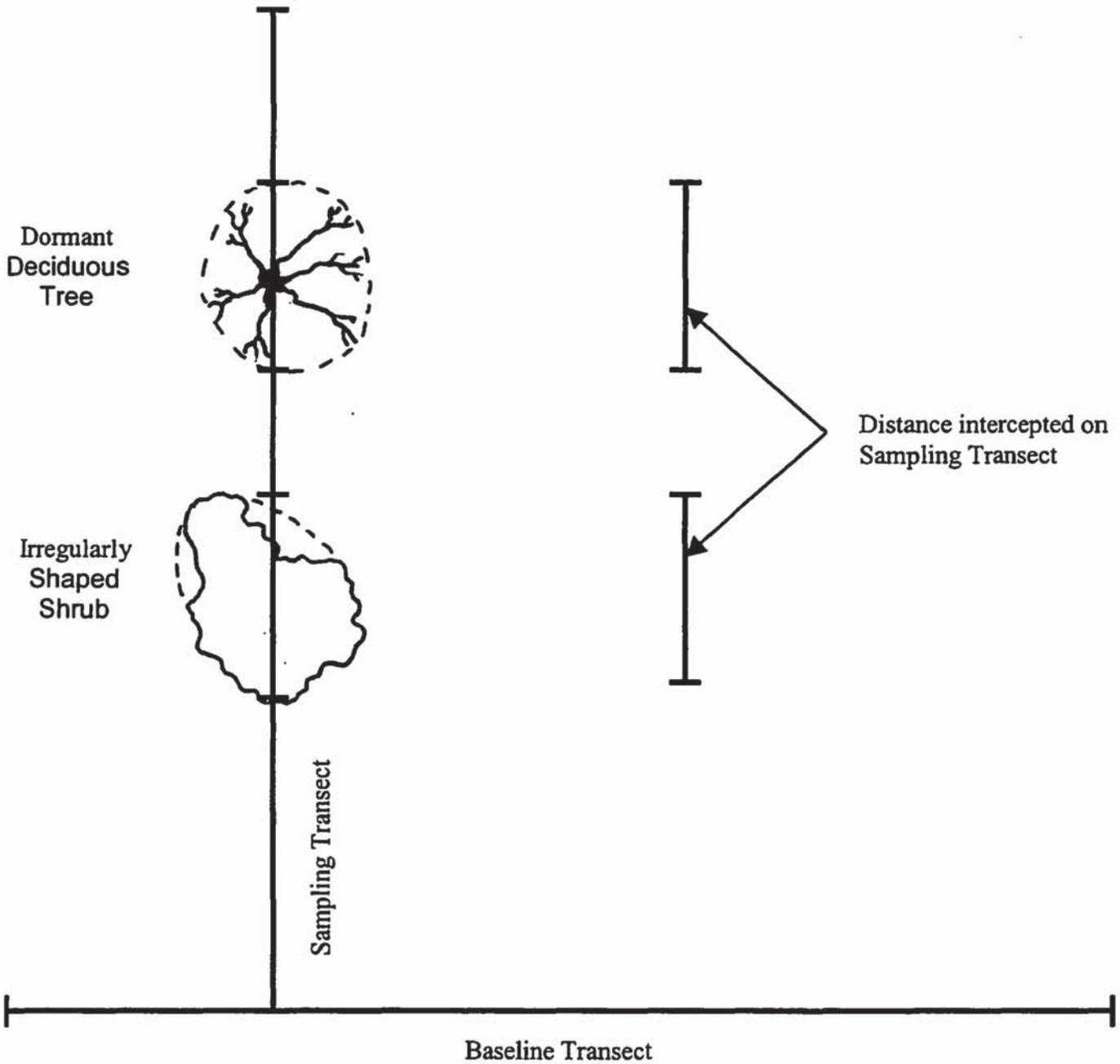


EXHIBIT J

**Performance Standards and Recommended Performance Goals for
Site 5 offsite mitigation at RM 0.9 Right**

Site 5 Mitigation Performance Standards

| monitoring regime | plant establishment period | | | post establishment period | |
|-----------------------------|-----------------------------------|--------|--------|----------------------------------|--------|
| performance criteria | survival rate | | | canopy cover | |
| monitoring year | year 1 | year 2 | year 3 | year 5 | year 8 |
| percentage required | 70% | 60% | 50% | 30% | 60% |

1. Survival rates are based on percentage of plants surviving based on the number of plants originally installed at final acceptance of project by the Federal Sponsor .
2. Canopy cover can be measured by percent of shoreline covered by vegetative canopy as measured from aerial photographs or by using sampling transects as shown on exhibit H &I;
3. Plant survival rates apply for tree species only, understory (shrub) and biotechnical plantings will not have survival rates measured.

EXHIBIT K

EXHIBIT K

**Table of Environmental Commitments
From
Stream bank Protection for the Lower American River
Final EIR and Supplemental EIR Statement V
for the Sacramento River Bank Protection Project**

Non-Federal Local Sponsor:

1. Ensure that revegetation meets objective criteria established in the Stream bank Protection for the Lower American River Final EIR and Supplemental EIR Statement V for the Sacramento River Bank Protection Project based on habitat evaluation procedures (HEP) analysis, for full mitigation of project impacts*. This includes protecting establishing plants, planting media and the irrigation system from vandalism using security patrols as necessary during a 3 year plant establishment period.

Federal Sponsor

1. Conducting post-construction assessment of expected impacts on riparian habitat and SRA cover over the project life, and providing compensating mitigation if substantial net losses onsite are predicted
2. Survey for nesting raptors and bank swallows prior to any activity during the nesting season
3. Avoid disturbance of existing vegetation at each bank protection site to the degree possible consistent with the selected alternative.
4. Replace elderberry stems that cannot be avoided at a ratio determined in consultation with the Endangered Species Office of USFWS.
5. Ensure compliance during construction with local ordinances governing daily hours of construction activity.
6. Employ contractual provisions to prevent traffic safety, noise and air quality impacts from occurring.
7. Ensure compliance during construction with state requirements for stream turbidity monitoring and control
8. Stop work if buried cultural resources are encountered.

This list is provided for the sake of convenience and is condensed and abbreviated for the subject at hand. Refer to the Stream bank Protection for the Lower American River Final EIR and Supplemental EIR Statement V for the Sacramento River Bank Protection Project for comprehensive coverage of environmental commitments.

*Site 5 on the Lower American River was constructed as part of emergency levee repair work and as such no base line hep study could be made. Mitigation for Site 5 is based on agreement between the Corps of Engineers and USFWS to fully mitigate impacts offsite.

REFERENCES

- Jones & Stokes Associates, Inc, 1996. Adopted final environmental assessment and initial study of streambank protection at River Park - lower American River. June. (JSA 96-099.) Sacramento, CA. Prepared for U.S. Army Corps of Engineers, Sacramento District, Sacramento, CA, and State of California, The Reclamation Board, Sacramento, CA. With technical assistance from Ayres Associates, Fort Collins, CO.
- U.S. Army Corps of Engineers, 1955. Standard operation and maintenance manual for the Sacramento River flood protection project. Revised version. May. Prepared by the U.S. Army Corps of Engineers, Sacramento District, Sacramento, CA.
- U.S. Army Corps of Engineers, 1996. Addendum to the Standard Operation and Maintenance Manual for the Sacramento River Flood Protection Project. Revised version. October. Prepared by the U.S. Army Corps of Engineers, Sacramento District, Sacramento, CA.
- U.S. Army Corps of Engineers and State of California Reclamation Board 1998. Final. Environmental Impact Report and Supplemental Environmental Impact Statement V for the Sacramento River Bank Protection Project. March. Prepared by the U.S. Army Corps of Engineers, Sacramento District, Sacramento, CA; and State of California, The Reclamation Board, Sacramento, CA.

EXHIBIT C

CHECK LIST NO. 1

VEGETATION ON MITIGATION AREA
SEMI ANNUAL INSPECTION FORM

Location of Area Inspected: Part No. __, Unit No.'s: _____ Date: _____
(including river mile(s)) _____
Inspected by: _____

Report below the condition of the site and those items requiring maintenance work. Opposite each item listed, indicate the appropriate response, yes or no, in the area provided. Provide an attachment, if necessary, describing the negative significant conditions and any proposed/implemented maintenance work for each item. Note any changes, positive or negative, from the previous inspections.

Reference O&M Unit No.

| Item No. | Description | Response | Yes | No* |
|----------|--|----------|-------|-------|
| 1: | Mitigation area erosion free | _____ | _____ | _____ |
| 2: | Vegetation is free of fire damage | _____ | _____ | _____ |
| 3: | Vegetation is free of flood damage | _____ | _____ | _____ |
| 4: | Vegetation is free of wind damage | _____ | _____ | _____ |
| 5: | Vegetation is free of herbicide damage | _____ | _____ | _____ |
| 6: | Vegetation is free of wildlife damage | _____ | _____ | _____ |
| 7: | Vegetation & equipment is free of vandalism | _____ | _____ | _____ |
| 8: | Site is free of trash | _____ | _____ | _____ |
| 9: | Fire-break plowed and clear of growth | _____ | _____ | _____ |
| 10: | Access roads clear | _____ | _____ | _____ |
| 11: | Access gate barriers & locks in good working order | _____ | _____ | _____ |
| 12: | Beaver barrier cages or fencing in good condition | _____ | _____ | _____ |
| 13: | New volunteer growth (trees, shrubs) observed | _____ | _____ | _____ |
| 14: | Perimeter fencing in good working condition | _____ | _____ | _____ |
| 15: | Other items: _____ | _____ | _____ | _____ |

COMMENTS _____

*Requires explanation

EXHIBIT D
Unattached

EXHIBIT D

LETTER(S) OF TRANSFER TO AND/OR ACCEPTANCE
BY THE RECLAMATION BOARD

EXHIBIT E

STATE OF CALIFORNIA
DEPARTMENT OF FOOD AND AGRICULTURE
DIVISION OF PLANT INDUSTRY

PEST RATINGS OF NOXIOUS WEED SPECIES
AND NOXIOUS WEED SEED

PURPOSE

To advise commissioners as to the Department's policy regarding any pest action.

DEFINITIONS

"A" An organism of known economic importance subject to state (or commissioner when acting as a state agent) enforced action involving: eradication, quarantine regulation, containment, rejection, or other holding action.

"B" An organism of known economic importance subject to: eradication, containment, control or other holding action at the discretion of the individual county agricultural commissioner.

OR

An organism of known economic importance subject to state endorsed holding action and eradication only when found in a nursery.

"C" An organism subject to no state enforced action outside of nurseries except to retard spread. At the discretion of the commissioner.

GUIDANCE

The district will be allowed to control noxious weeds classified as "A" and identified by the Department of Food and Agriculture as "(an) organism of known economic importance to state (or commissioner when acting as a state agent) enforced action involving: eradication, quarantine regulation, containment, rejection, or other holding action."

The district will be allowed to control noxious weeds classified as "B" and identified by the Department of Food and Agriculture as (an) organism of known economic importance subject to: eradication, containment, control or other holding action at the discretion to the individual county agricultural commissioner.