
SUPPLEMENT TO STANDARD
OPERATION AND MAINTENANCE
MANUAL

SACRAMENTO RIVER
FLOOD CONTROL PROJECT

UNIT NO. 117

EAST LEVEE SACRAMENTO RIVER
THROUGH THE CITY OF SACRAMENTO
FROM
TOWER BRIDGE TO SUTTERVILLE ROAD



SACRAMENTO DISTRICT

CORPS OF ENGINEERS

U. S. ARMY

SACRAMENTO, CALIFORNIA

CORPS OF ENGINEERS

U. S. ARMY

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

UNIT NO. 117
EAST LEVEE SACRAMENTO RIVER
THROUGH THE CITY OF SACRAMENTO
FROM
TOWER BRIDGE TO SUTTERVILLE ROAD

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

June 10, 1998

Central Valley Section

Mr. Peter D. Rabbon, General Manager
The Reclamation Board
State of California
1416 9th Street, Room 1601
Sacramento, California 95814

Dear Mr. Rabbon:

The Old Sacramento Floodwall work was transferred to the State by letter dated March 17, 1998. Enclosed are two copies of the revisions and additions to the Operation and Maintenance Manual, Unit Number 117, of the Sacramento River Flood Control Project associated with that work.

Copies of the as constructed drawings can be provided by contacting the Project Manager, Mr. John Brown, at (916) 557-7801.

Sincerely,

Brian W. Doyle
Chief, Engineering Division

Enclosure

Copy Furnished:

Mr. Donald Yeoman
Department of Water Resources
State of California
1801 6th Street
Sacramento, California

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

UNIT NO. 117

EAST LEVEE SACRAMENTO RIVER
THROUGH THE CITY OF SACRAMENTO
FROM
TOWER BRIDGE TO SUTTERVILLE ROAD

LOCATION	ADDITION OR REVISION	DATE
1-03	Add subparagraph a.	Sep 1983
Section II, page 15	Add paragraph 2-05	Sep 1983
Exhibit B	Added drawing no. 50-4-5347	Sep 1983
Exhibit F	Add copy of letter of transfer dated 19 Jan 1981	Sep 1983
1-03	Add subparagraph b.	Aug 1993
2-04	Add subparagraph (4)	Aug 1993
Exhibit A-2	Add location map of observation wells	Aug 1993
Exhibit B	Add drawing no. 50-4-5834	Aug 1993
Exhibit F	Add copy of letter of transfer dated 30 Apr 1993	Aug 1993
2-02	Revise paragraph 2-02 heading and paragraph 2-02 a. description	Apr 1998
2-02 b.	Revise the following subparagraphs	Apr 1998
2-02 b.	Add subparagraphs xiii, xiv, xv, and xvi	Apr 1998
2-02 c.	Add subparagraph 4	Apr 1998
Exhibit B	Add drawing no. 50-04-5886	Apr 1998
Exhibit F	Add copy of letter of transfer dated 17 Mar 1998	Apr 1998
Exhibit F	Add copy of letter of transfer dated 31 Dec 1953	21 Dec 2010
1-03	Add subparagraph c	21 Dec 2010
Exhibit F	Add copy of letter of transfer dated 17 Dec 1993	21 Dec 2010
1-03	Add subparagraph d	21 Dec 2010
Exhibit F	Add copy of letter of transfer dated 17 Mar 1998	21 Dec 2010

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

UNIT NO. 117

TABLE OF CONTENTS

<u>Paragraph</u>	<u>Subject</u>	<u>Page</u>
------------------	----------------	-------------

SECTION I - INTRODUCTION

1-01	Location	1
1-02	Protection provided	1
1-03	Project works,	1
1-04	Flood flows	1
1-05	Assurances provided by local interests	1
1-06	Acceptance by the State Reclamation Board.	2
1-07	Superintendent	2

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

2-01	Channels	3
2-02	Levees	7
2-03	Drainage structures	10
2-04	Miscellaneous facilities	13
2-05	Environment Protection	15

*

SECTION III - REPAIR OF DAMAGE TO PROJECT
WORKS AND METHODS OF COMBATING FLOOD CONDITIONS

3-01	Repair of damage	16
3-02	Applicable methods of combating floods	16

EXHIBITS

A	Flood-Control Regulations	Unattached (contained in Standard Manual)
A-1	Location Map	1 sheet
B	"As Constructed" Drawings	Detached
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 - Levees, Channels and Structures	7 sheets
F	Letter of Acceptance by State Reclamation Board	2 sheets
G	Semi-Annual Report Form	2 sheets

*Revised April 1983

SUPPLEMENT TO STANDARD
OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER FLOOD CONTROL PROJECT
UNIT NO. 117

EAST LEVEE SACRAMENTO RIVER
THROUGH THE CITY OF SACRAMENTO
FROM
TOWER BRIDGE TO SUTTERVILLE ROAD

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 east levee of the Sacramento River through the City of Sacramento from the Tower Bridge to Sutterville Road. The location of this unit is as shown on Exhibit A-1 of this manual.

1-02. Protection Provided. - The levee of this unit provides direct protection to the city of Sacramento against high water in the Sacramento River. The grade of the adopted flood plane along this reach varies from elevation 34.3 at the Tower Bridge to elevation 33.2 at Sutterville Road (all elevations are referred to U.S. Corps of Engineers datum). The levee grade provides a freeboard of 3 feet or more above the flood plane profile and the project design capacity is 110,000 cubic feet per second in this reach of the Sacramento River.

1-03. Project Works. - No project work was necessary on the east levee of the Sacramento River within this unit, having been built by local interests at various times and in various parts, and at present equals or exceeds the adopted grade and section. This unit is now a part of the Sacramento River Flood Control Project and consists of the following: The east levee of the Sacramento River extending from the Tower Bridge downstream to Sutterville Road within the City of Sacramento.

a. Bank sloping, stone protection and selective clearing on the left bank of the Sacramento River at Site Mile 56.6 (a portion of Unit 33) was accomplished under Contract No. DACW05-77-C-0101 by Dutra Construction Company, Inc. Construction was completed on 12 October 1980, specification No. 5267, Drawing No. 50-4-5347.

b. Construction of a slurry cutoff wall in the City of Sacramento levee between Miller Park and Sutterville Road. 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-0114, Specification No. 8849, Drawing No. 50-4-5834.

c. Excavation, embankment construction, stone protection, clearing and grubbing, and erosion control revegetation at four sites on the left bank of the Sacramento River, downstream of the Garcia Bend Park, between River Miles 48 and 51 was completed on 7

December 1993 under Contract No. DACW05-92-C-0087. Specification No. 9219, Drawing No. 50-04-5862.

d. Construction of the Old Sacramento Floodwall along the left bank of the Sacramento River between River Miles 58.6 and 58.9 was completed on 26 March 1997 under Contract No. DACW05-95-B-0095. Specification No. 9644, Drawing No. 50-04-5886

1-04. Flood flows. – For the purposes of this manual, the term “flood” or “High water period” shall refer to flows when the water surface in the Sacramento River reaches, or exceeds the reading of 25.0 of the U.S. Weather Bureau recording gage at the “I” Street bridge.

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).

1-06. Acceptance by the State Reclamation Board. - Responsibility for operating and maintaining the complete works officially accepted by the Reclamation Board of the State of California on 2 January 1952, 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

SECTION II

FEATURES OF THE PROJECT SUBJECT TO FLOOD-CONTROL REGULATIONS

2-01. Channels. -

a. Description. The principal features consist of:

(1) A channel. In this unit of the Sacramento River, only a small portion of the total flood waters is carried by the Sacramento River proper. The Yolo Bypass, which parallels and lies west of the Sacramento River in the vicinity of the City of Sacramento has a project design capacity of 480,000 cubic feet per second, whereas, the Sacramento River within this unit has a project design capacity of 110,000 cubic feet per second.

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 or trespass.

(3) 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 inclosed 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 reinforced 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 evidences 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 jamsof 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 towalls, 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 flood in excess of a reading of 25.0 on the U. S. Weather Bureau recording gage at the "I" Street Bridge, as indicated in paragraph 1-04 of this manual.

SECTION II

2-02. Levees and floodwall.

a. Description. The levee described in this manual is located along the east bank of the Sacramento River and extends from the Tower Bridge downstream to Sutterville Road. A concrete retaining wall has been built on the riverside of the levee to accommodate wharf facilities. The wall extends from Station 21+80 at the Tower Bridge downstream to Station 43+50 at the foot of R Street, a distance of 0.41 miles. At the lower end of this unit a concrete slab paving was laid on the river slope of the levee to protect it from erosion between Stations 150+70 and 177+93, as shown on Drawings No. 6-13-110 sheets 1, 2 and 3, Exhibit B.

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 and floodwall – (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 of the riverside of the levee and floodwall which might affect 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 on riprap has been displaced, washed out, or removed.
- vii. No action is being taken, such as burning grass and weeds, during inappropriate season 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.
- xiii. No unusual settlement or lateral movement of the floodwall which might affect the integrity of the levee section and wall or the freeboard criteria.
- xiv. No cracks in the flood wall which might expose the tell reinforcing bars, concrete expansion anchors and ground anchors.
- xv. That the concrete caps and the concrete patches provide a watertight seal for the ends of the steel bars and anchors.
- xvi. No additional loading, excavation, or pile driving adjacent to the floodwall which might affect the stability of the wall.

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 levee 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, grades 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 and floodwall, 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 and floodwall.
- (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, sod or other unsuitable material. If of larger extent, the fill should be made in the same manner as the original construction, of selected material from borrow pits approved for the project, placed in uniform layers of loose material and not more than 6 inches in depth and compacted in accordance with the specifications under which the work was completed or compacted according to approved construction practices.

(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 the 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) Floodwall. All evidence of settlement or lateral movement of the floodwall should be referred to the State Engineer for analysis and recommendation of remedial measures. All cracks in the concrete wall that expose or potentially could expose the steel reinforcing bars or anchors shall be repaired. For this purpose it is recommended that the repair be made by thoroughly cleaning the crack, sandblasting the area, and filling the crack with pneumatically-placed Portland Cement mortar. Damage to the concrete caps and the concrete patches should also be referred to the State Engineer for recommendation of repairs.

d. Operation.

- (1) Pertinent Requirements of the Code of Federal Regulations. Flood control regulations, Par. 208.10 (b)(2) are quoted in part as follows:

(2) Operation. During flood periods, the levee shall be patrolled continuously to locate possible sand boils or unusual wetness of the landward slope or 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 might endanger the structures.
- (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 structures. -

a. Description. Drainage structures located along the east levee of the Sacramento River within the city of Sacramento from the Tower Bridge to Sutterville Road are shown on Drawing No. 6-13-1100, sheets 1, 2, and 3 and are listed in the following table:

(3) Access roads. Access roads to the levee shall be maintained in such a way that they will be available at all times for use to transport equipment and supplies for maintenance of the levee.

Location : Station :	Pipe, size and kind :	Other Structure Description :	Elevation of Invert at pipe :
54 + 48	6" steel	Gate valve -- landside	26.0
54 + 49	6" steel	" " "	22.7
54 + 50	4" steel	" " "	22.6
54 + 51	10" steel	" " "	20.0
55 + 03	18" steel	" " "	16.4
55 + 30	12" steel	With Gate Valve	31.7
55 + 30	3-6" steel	3-6+ pipes into manifold	32.0
55 + 30	2-8" steel	P.G.&E. Co. Gas Line Crossing with two regulating valves	32.0
56 + 03	6" steel	Gate Valve in valve box	32.6
56 + 13	10" cast iron	Gate Valve -- landside	7.6
56 + 33	60" riveted steel	Sewer Outfall with slide gate on riverside of crown	12.0
151 + 85	84" steel	Sewer Outfall	12.0
152 + 00	90" concrete	Sewer Outfall with slide gate on riverside crown of levee	8.0
156 + 00	16" CMP	Valve in box -- landside	9.2
156 + 40	12" CMP	Valve in box -- landside	9.0
157 + 80	2" steel	With gate valve	31.0

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, rip-rap 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 structures 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 inspection."

(2) At each inspection required by paragraph 4-02 (b) 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.

b. Maintenance.

(1) All eroded concrete shall be repaired as soon as any 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 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 gates in the side 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 low-lying 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), are 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.

a. Description. 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) Bridge. (For further detail see Exhibit "B".)

a. The Tower Bridge located at station 21+80 is a lift span (not a swing span as shown on Dwg. 6-13-1100, sheet 1) which carries the traffic of U. S. Highway No. 40 and the main line of the Sacramento Northern Railroad.

(2) Wharves.

a. Wharfs owned by the River Lines, City of Sacramento and the Western Pacific Railroad extending from Station 22+00 to approximately station 41+00.

b. Pacific Gas and Electric wharf located at approximately station 54+50.

c. Three wharfs for discharging oil products from oil barges - Standard Oil Company wharfe, Associated Oil Company wharf, and Union Oil Company wharf extending from station 71+00 to station 77+00.

(3) Railroad tracks.

a. Tracks of the Southern Pacific Railroad occupy a portion of the crown of the levee between the Tower Bridge and R Street.

b. Tracks of the Western Pacific Railroad occupy a portion of the crown of the levee between the Tower Bridge and R Street.

(4) *see next page*

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

2-04. Miscellaneous Facilities.

⁴
(4) 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. 14a

Addition Aug. 1993

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 equipment. 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."

2-05. 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.

*

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
Centr Vy Section for action

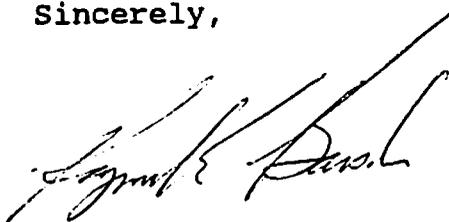
Colonel John N. Reese

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

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 conditions or other causes, and which may be beyond the capability of local interests to repair, the Superintendent will contact the 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.

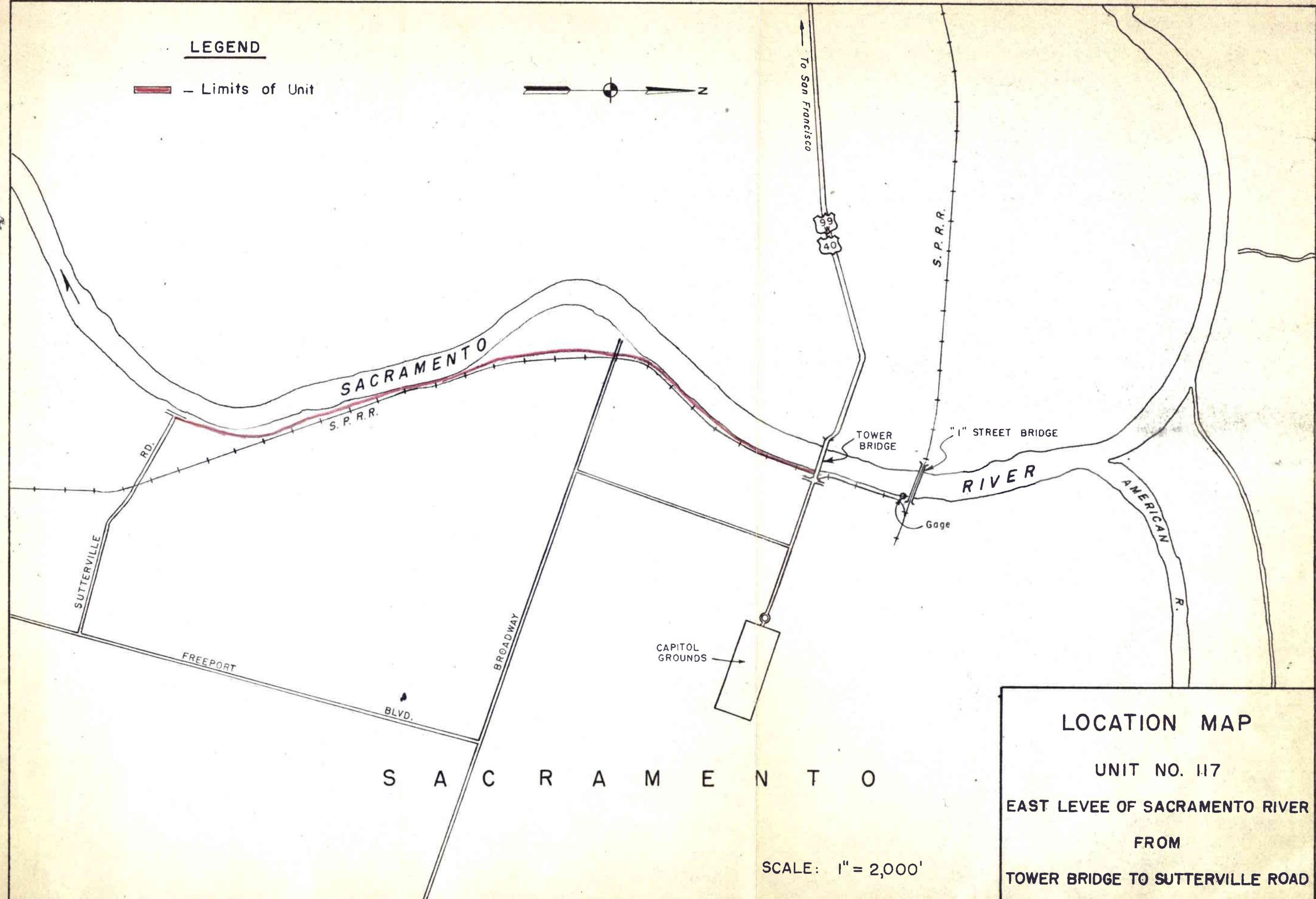
EXHIBIT A

FLOOD CONTROL REGULATIONS

(See Standard Manual)

LEGEND

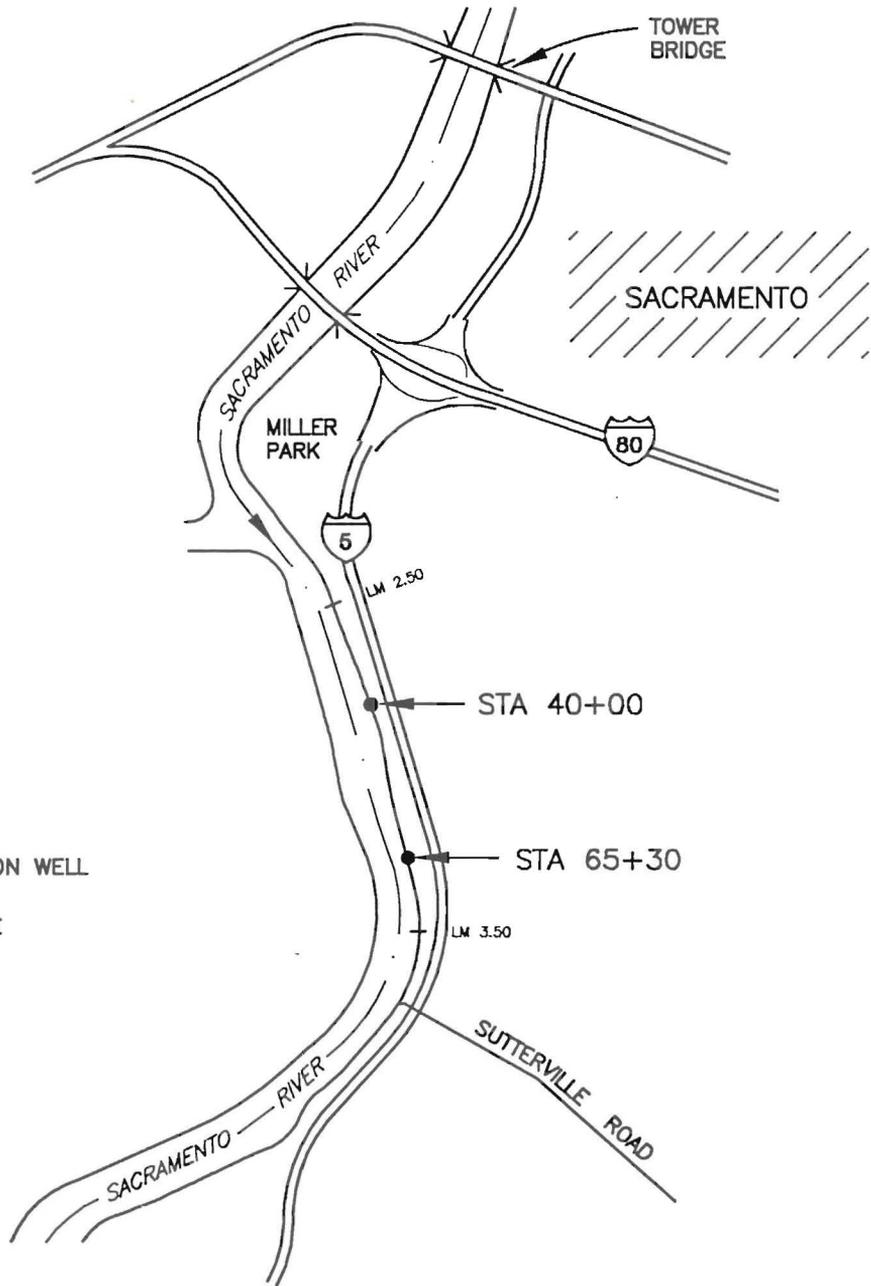
 - Limits of Unit



LOCATION MAP
UNIT NO. 117
EAST LEVÉE OF SACRAMENTO RIVER
FROM
TOWER BRIDGE TO SUTTERVILLE ROAD

SCALE: 1" = 2,000'

↑
N
NO SCALE



LEGEND

• OBSERVATION WELL

LM LEVEE MILE

NOTE

Station of Observation Wells
are as per Contract Drawings

SACRAMENTO URBAN AREA
GREENHAVEN-POCKET PHASE II

LOCATION MAP
of
OBSERVATION WELLS

EXHIBIT B

“AS CONSTRUCTED” DRAWINGS

See separate folder for the following drawings:

<u>File No.</u>	<u>Title</u>
6-13-1100	PLAN – sheets 1, 2, and 3
50-10-2840	PROFILE – 1 sheet
50-10-2839	CROSS SECTIONS – sheets 1, 3, 4, 5, 9, and 10
50-4-5347	Bank Protection, Various Locations, Right and Left Banks, Sacramento River Mile 15.0 to Mile 60.0, in 33 sheets.
50-4-5834	Sacramento Urban Area Levee Reconstruction Project, Greenhaven-Pocket, Phase II in 59 sheets.
50-04-5886	Levee Reconstruction (Old Sacramento Floodwall)

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

EXHIBIT E

Sheet 1 of 7

UNIT NO. 117

CHECK LIST NO. 2

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 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. 117

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

v Item	Remarks
(a) Name of channel and location by stations	
(b) Vegetal 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	

DRAINAGE AND IRRIGATION STRUCTURES

UNIT NO. 117

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

(a) Location by Station	(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 structures	(g) Repair Measures Taken since last Inspection	(h) Comments
54+48	left						
54+49	"						
54+50	"						
54+51	"						
55+03	"						
55+30	"						
55+30	"						
55+30	"						
56+03	"						
56+13	"						
56+30	"						
151+85	"						
152+00	"						
156+00	"						
156+40	"						
157+80	"						

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. Record observations under Column (d).
- (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

THE RECLAMATION BOARD
OF THE
STATE OF CALIFORNIA

C
O
P
Y

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 (Sacramento R. F.C.P.) 13 December 1951, (2) your letter SPKKO-P 824.3 (Sacramento R. F.C.P.) 19 December 1951, and (3) your letter SPKKA 824.3 (Sacramento R.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 _____
A. M. BARTON
Chief Engineer and General Manager

January 2, 1952

C
O
P
Y

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>
1 3	----- 13 Dec. 1951	----- d.(46)East levee Sacra- mento River Mile 56.1 to American River.	----- Constructed and main- tained by City of Sacra- mento.

NOTE: Only item pertaining to Operation and Maintenance Manual No. 117 is included in the above copy.

SPKKO-P 824.3 (Sac. Riv. F.C.P.)

*Prepared
29 Dec. 1953*

*Mailed
31 Dec. 1953*

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

Gentlemen:

Reference is made to District Engineer's letter dated 22 October 1953, suggesting a joint inspection of two sections of levee, pertaining to the Sacramento River Flood Control Project, for the purpose of transferring them to the jurisdiction of the State of California for operation and maintenance. Reference is also made to joint inspection made of these two sections of levee on 4 December 1953.

The levee sections referred to above have been completed recently in accordance with Specifications No. 1704 and drawings No. 50-4-2907, 50-4-2908, and 50-4-2909, under Contract No. DA-04-167-eng-910. They are located along the left bank of the Sacramento River between Mile 45.3 and 56.1, form an integral part of the Sacramento River Flood Control Project, and meet with the requirements of the project. Therefore, said levee sections together with the waterway banks contiguous thereto are hereby transferred to the State of California for operation and maintenance. The location of these sections of levee is further described as follows:

<u>Location</u>	<u>Description</u>	<u>River Mile</u>
1.	Left Bank-Sacramento River	From 45.3 to 55.4
2.	Left Bank-Sacramento River	From 55.5 to 56.1

*Unit No. 376
Unit No. 377*

In this connection your attention is invited to the fact that the section of levee from Mile 55.4 to 55.5, joining these two sections, was transferred to the State of California on 13 December 1951, therefore action by the Board, at this time, should include the acceptance of the levee in this reach of the river continuously from Mile 45.3 to 56.1 to cover all three sections.

Note: See Bardale "Resume of Reclamation Board Meeting" dated 20 January 1954, under Paragraph 11.

Units 15+117

*Posted
Letter No. 49*

376 and 377

DeArrieta
12/29/53

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

The maintenance work required under the provisions of the Sacramento River Flood Control Project shall be performed in accordance with existing Flood Control Regulations, inclosed herewith, 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 these sections of levee is in process of preparation and will be furnished to you upon completion.

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

- 1 Incl
- 1. Flood Control Regulations

Copy Furnished:
 State Engineer
 Dept. of Public Works
 1120 N Street
 Sacramento, California

cc: O.C.E. w/o incl
 So. Pac. Div. w/o incl
 Engr. Div. w/o incl
 Sacto. Proj. Ofc. w/o/ incl
 C. DeArrieta (2)

376 and 377



C
O
P
Y

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

C
O
P
Y

REPLY TO
ATTENTION OF SPKCO-0

19 January 1981

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

Gentlemen:

This is in regard to the joint inspection of 15 January 1981 made for the purpose of transferring a portion of the Sacramento River Bank Protection Project (Unit 33), 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 Mile 56.9 and left bank at Site Mile 56.6. The sites described in the inclosure were completed on 15 January 1981 in accordance with Contract No. DACW05-77-C-0101, Specification No. 5269 and Drawing No. 50-4-5347.

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 15 January 1981 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. 116 and 117, 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 33

PAUL F. KAVANAUGH
Colonel, CE
District Engineer

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

EXHIBIT F

April 30, 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 Greenhaven-Pocket Phase II 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 ten miles of seepage cutoff slurry wall in the City of Sacramento levee between approximately levee mile 2.1 and Sutterville Road and the Maintenance Area 9 levee between Sutterville Road and approximately 2600 feet south of the Freeport Bridge.

The work was completed on March 30, 1993, in accordance with Contract Number DACW05-91-C-0114, Specification Number 8849, and Drawing Number 50-4-5834.

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 Manuals, Supplement Number 115 and 117, 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-O
CDR, USACE, ATTN: DAEN-CECW-OM

SAIA

cc:

KASPRISIN

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

SADOFF

LU/T0042.LT

EXHIBIT F

Summary of Sacramento River
Bank Protection Project
Portion of Unit 33
Sacramento River

<u>Site Mile</u>	<u>Stone Protection</u>	<u>L.F.</u>
56.9 Right	7+50 to 13+00	550
56.6 Left	1+55 to 4+60	305

December 17, 1993

Navigation and Flood Control Unit

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

ms

Members of the Board:

You are hereby notified that the Corps of Engineers has completed the repair of levee erosion at four different sites on the left bank of the Sacramento River. The location of this work is just downstream of the Garcia Bend Park between approximate River Miles 48 and 51. The repair work consisted of minor clearing and grubbing, excavation, embankment construction, placement of stone protection, and erosion control revegetation of the slopes.

The work was completed on December 7, 1993, in accordance with Contract Number DACW05-92-C-0087, Specification Number 9219, and Drawing Number 50-04-5862. This work is a follow up repair work that was needed following the completion of the Greenhaven-Pocket Phase II Contract, completed on March 30, 1993, and transferred to your Board with a letter dated April 30, 1993.

The repaired portion of 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. This work will be added by amendment to the Operation and Maintenance Manual, Supplement Numbers 115 and 117, Sacramento River Flood Control Project.

Sincerely,

ms
TAVANA/ms
PK
KELLY
HELM
WINTON *F*
DENNIS *D*
JOHNSON *A*
ms
CHILDS
SARA *Stull*
REESE
LU/T0067

of Engineers
r
3201 S Street,
ey, 1416 Ninth

81151117

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge)
2. Restricted Delivery (Extra charge)

3. Article Addressed to: The Reclamation Board State of California 1416-9th Street, Room 455-6 Sacramento, California 95814	4. Article Number 792133
	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>Pauline Amoro</i>	
7. Date of Delivery DEC 27 1993	

File: Transfer bills;
Sacramento River Flood
Control Project

~~#A~~ # 13d

March 17, 1998

Operations Technical Branch

Mr. Peter D. Rabbon, General Manager
The Reclamation Board
State of California
1416-9th Street, Room 1601
Sacramento, California 95814

Dear Mr. Rabbon:

You are hereby notified that the Corps of Engineers has completed the Old Sacramento Floodwall work along the left bank of the Sacramento River between River Miles 58.6 and 58.9. The work was accomplished as an essential portion of the Sacramento Urban Levee Reconstruction Project, pursuant to the Sacramento River Flood Control Act of 1917, as amended, and the Local Cooperation Agreement and associated Amendment Number 1 signed June 4, 1990, and September 20, 1995 respectively. The work included the installation of steel reinforcing bars, prestressed concrete expansion anchors, and ground anchors along a 1500-foot segment of the embankment and wall.

The final inspection was completed on March 26, 1997, in accordance with Contract Number DACW05-95-B-0095, Specification Number 9644, and Drawing File Number 50-04-5886. The existing levee embankment and wall along with the new reinforcing bars and anchors will continue to be maintained in accordance with the Local Cooperation Agreement between the Department of the Army and the State of California. The new work will be added by amendment to the Operation and Maintenance Manual, Unit Number 117, of the Sacramento River Flood Control Project. Copies will be forwarded to your office at a later date.

Sincerely,

Dorothy F. Klasse
Colonel, Corps of Engineers
District Engineer

Unit 117

cc:

CESPK-PPMD (Johnson)

CESPK-ED-D

CESPK-RE

CESPK-CO

CESPK-CO-O

CESPK-CO-RV

[Signature]
TAVANA/dm

[Signature]
SANDNER

WINTON *[Signature]*

[Signature]
NOLAN

[Signature]
WHITNEY

[Signature]
MUNCY

[Signature]
KLASSE

'98 MAR 24 P 3 42

Unit 117

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__) Sacramento River Unit No. 117 the east levee of the Sacramento River from Tower Bridge to the Sutterville Road, 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 our 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 level at 25.0 on the U. S. Weather Bureau recording gage at the "I" Street Bridge) 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