

SUPPLEMENT TO STANDARD
OPERATION AND MAINTENANCE
MANUAL

SACRAMENTO RIVER
FLOOD CONTROL PROJECT

UNIT NO. 106

SOUTH LEVEE OF LINDSEY SLOUGH
AND
WEST LEVEE OF YOLO BY-PASS
FROM
LINDSEY SLOUGH TO WATSON HOLLOW
AND
NORTH LEVEE OF WATSON HOLLOW DRAIN



SACRAMENTO DISTRICT

CORPS OF ENGINEERS

U. S. ARMY

SACRAMENTO, CALIFORNIA

FILE COPY

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LOCATION	ADDITION OR REVISION	DATE
1-05	Add contract no. 64-97	Jun 1965
Exhibit B	Add drawing no. 50-4-3811	Jun 1965
Exhibit F	Add letter of acceptance dated 31 Aug 1964	Jun 1965
1-05	(June 1965 addition) - changed to 1-05 b.	Dec 1971
Exhibit A1	Add levee extension to W. Levee Yolo Bypass	Dec 1971
1-05 c.	Add contract no. 72-C-0006	Dec 1971
Exhibit B	Add drawing no. 50-4-4707	Dec 1971
Exhibit F	Add letter of acceptance dated 9 Dec 1971	Dec 1971
1-03	Add subparagraph d	Nov 2010
1-04	Add subparagraph d	Nov 2010
Exhibit B	Add drawing no. 50-25-6275	Nov 2010
Exhibit F	Add copy of letter of transfer dated 24 Nov 2010	Nov 2010
Exhibit F	Add copy of letter of transfer dated 6 Dec 1951	16 Dec 2010
Exhibit F	Add copy of letter of acceptance dated 18 Dec 1951	16 Dec 2010
Exhibit F	Add copy of letter of transfer dated 4 Feb 1953	16 Dec 2010
Exhibit F	Add copy of letter of transfer dated 31 Jul 1962	16 Dec 2010
Exhibit F	Add copy of letter of conditional acceptance dated 2 Oct 1962	16 Dec 2010
Exhibit F	Add copy of Corps letter of response dated 19 Oct 1962	16 Dec 2010
Exhibit F	Add copy of letter of transfer dated 15 Jul 1964	16 Dec 2010
Exhibit F	Add copy of letter of transfer dated 10 Nov 1971	16 Dec 2010
1-04	Combine sections 1-04 (Construction data) and 1-05 (Contractor)	24 May 2011
Table of Contents	Update Table of Contents	24 May 2011

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

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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 south levee of Lindsey Slough from Yolo Bypass upstream (westerly) to high ground, the west levee of Yolo Bypass from Lindsey Slough to Watson Hollow Drain and the north levee of Watson Hollow Drain. The Yolo Bypass is a leveed floodway which conveys excess flood waters from the Sacramento River and backwater due to tidal action within this unit.

The levees of Unit No. 106 are located in Reclamation District No. 536, in Solano County, California, and about 2 miles north of the town of Rio Vista. The location of the completed unit covered by this manual is shown on Exhibit A-1.

1-02. Protection provided. The project works within this unit are designed to protect adjacent agricultural lands from a flood flow of 43,500 cubic feet per second in Lindsey Slough and 500,000 cubic feet per second in Yolo Bypass. In addition to flood flows, tidal action at flood stages is active within this area. The grade of the adopted flood plane along the south levee of Lindsey Slough, is a constant level elevation of 19.6 at Yolo Bypass to end of levee (high ground). The grade of the adopted flood plane along the west levee of Yolo Bypass varies from elevations 19.6 at Lindsey Slough to elevation 17.6 at Watson Hollow Drain. And the grade of the adopted flood plane along the north levee of Watson Hollow Drain is a constant level elevation of 16.0 from the Yolo Bypass westerly to the upstream end of the levee. (All elevations are referred to U.S.C.E. datum). The levee grade along this portion of the Yolo Bypass provides for a freeboard of 6 feet above the flood plane profile; along Lindsey Slough the freeboard provided is in excess of 3 feet and along the north levee of Watson Hollow Drain the freeboard is 3 feet or greater. The project design capacity of Yolo Bypass is 500,000 cubic feet per second within this portion of the unit.

1-03. Project works. The project works covered by this manual include the following:

a. South levee of Lindsey Slough from high ground easterly (downstream) 5.64 miles to its junction with the west levee of Yolo Bypass as constructed by local interests and as enlarged by the Corps of Engineers to adopted grade and section.

b. West levee of Yolo Bypass from Lindsey Slough downstream 3.51 miles to Watson Hollow Drain as constructed by the Corps of Engineers to adopted grade and section.

c. North levee of Watson Hollow Drain from high ground easterly (downstream) 1.50 miles to the west levee of Yolo Bypass constructed by the Corps of Engineers to adopted grade and section.

d. The right (south) bank levee of Lindsey Slough has been widened by 14 feet on the landside at the location shown in Table 1. The slope along this widened section is 3H:1V. The existing agricultural ditch at the landside toe was relocated 20 feet landward from the new toe.

1-04. Construction data and Contractor. Unit No. 106 of the flood control works described in this manual forms an integral part of the Sacramento River Flood Control Project. The work involved in bringing levees of Unit No. 106 to adopted grade and section was performed under Contract No. W-04-167-eng-49 by Morrison & Knudsen Co., Inc. contractor. Reconstruction of the South levee of Lindsey Slough was performed under Contract No. DA-04-167-eng-819 by Herringer & Co., Contractor. The construction required to bring levees of this unit, as built by local interests, to project standards was completed in three sections described as follows:

a. Enlargement to adopted grade and section of the south levee of Lindsey Slough and the west levee of the Yolo Bypass from Lindsey Slough to Watson Hollow Drain. Work on this unit was completed 15 December 1943.

Construction to adopted grade and section of the north levee of Watson Hollow Drain from high ground easterly (downstream) 1.50 miles to its junction with Yolo Bypass, enlargement of the existing diversion canal and the excavation of 2,800 feet of new canal parallel and adjacent to the toe of the levee. Work in this area was completed on 20 January 1944.

Enlargement to adopted grade and section of the south levee of Lindsey Slough from high ground easterly (downstream) 5.64 miles to the west levee of Yolo Bypass. Due to settlement of peat foundations within this area, the portion of Lindsey Slough as referred to in Section I above, was reconstructed. Work was started on 7 August 1952 and completed on 3 February 1953.

b. Pipe removal on the west levee of Yolo Bypass was accomplished under Contract No. DA-04-167-CIVENG-64-97 by J.W. Richards during the period from 25 May 1964 to 9 July 1964, Specification No. 3043, Drawing No. 50-4-3811.

c. The work involving extension of the Yolo Bypass levee of Unit 106 to adopted grade and section was performed under Contract No. DACW05-72-C-0006 by Wayne L. Grist during the period from 31 July 1971 to 13 October 1971. Specification No. 4118, Drawing No. 50-4-4707.

d. PL 84-99 rehabilitation work to the right bank levee of Lindsey Slough, under Contract No. W91238-08-D-0020 (Task Order No. 0002) by JAG Construction, Inc., was completed on October 16, 2008. Specifications: P.L. 84-99 CY 2008 levee Rehabilitation Repairs. Drawings: “Lindsey Slough, Sacramento River – Levee Rehabilitation Repairs, Orders 3-5, Reclamation District 536, sites 4 and 5”.

TABLE 1: RECLAMATION DISTRICT 536

SITE	COORDINATES (NAD 83)			
	(N)	(W)	(N)	(W)
4&5	38.257800, -121.739739 to 38.254631, -121.736944			

1-05. Flood flows. For purposes of this manual, the term “flood” or “high water period” shall refer to flows when the water surface in Lindsey Slough reaches or exceeds the reading of 12.0 on the State of California, Division of Water Resources continuous water stage recorder and staff gage with zero set at elevation 0.00 feet U.S.C.E. datum and minus 2.92 feet U.S.G.S. datum. Said gaging station is located on the right bank of Lindsey Slough at California Packing Corporation Headquarters, 1.1 miles upstream from Cache Slough.

1-06. Assurances provided by local interests. Assurances 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).

1-07. 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 and 4 March 1953, as shown on the attached letter of acceptance, Exhibit F.

1-08. Superintendent. The name and address 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 features consist of:

(1) Channels and Floodways. The channel of Lindsey Slough, is confined by levees on both sides, has a project design capacity of 43,500 cubic feet per second and to a nominal degree is subject to ebb and flow of tides. The channel of Yolo Bypass has a project design capacity of 500,000 cubic feet per second and is about 2 miles wide in the reach extending from Lindsey Slough to Watson Hollow Drain. Ordinary high water in this reach is confined to Cache Slough and does not extend to the west levee of Yolo Bypass until such times as the west tidal levee of Cache Slough is over-topped. Watson Hollow Drain carries intercepted local drainage during the rainy season.

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 both slopes of levees.
- 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) No excavation within the limits of Lindsey Slough or Watson Hollow Drain 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 Lindsey Slough or Watson Hollow Drain above the project, it should be coordinated with the District Engineer through the State Reclamation Board 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 erosion approaches 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 or a reading of 12.0 feet on the staff gage located on the south side

(right bank) of Lindsey Slough at California Packing Corporation headquarters, as indicated in paragraph 1-06 of this manual. The Superintendent shall dispatch a message by the most suitable means to the District Engineer whenever the water surface in the channel reaches the reading of 12.0 feet. The Superintendent shall also arrange for staff readings to be taken at the gage at intervals of one or two hours during the period when the water surface is above the flood-flow stage indicated above and record the time of the observations. One copy of the readings shall be forwarded to the District Engineer immediately following the flood, and a second copy transmitted as an inclosure to the semi-annual report in compliance with paragraph 3-03c of the Standard Manual.

2-02. Levees.

a. Description. The levees of this unit extend from the westerly end of Lindsey Slough at high ground, downstream along the south side (right bank) of Lindsey Slough to the west levee of Yolo Bypass; thence downstream along the right bank of Yolo Bypass to Watson Hollow Drain; thence upstream along the bank of Watson Hollow Drain about 1.50 miles to high ground. The crown width of subject Lindsey Slough levee is 20 feet from its upper end to the California Packing Headquarters; thence 30 feet wide to the west levee of Yolo Bypass. The crown width of the west levee of Yolo Bypass is 20 feet and the crown width of Watson Hollow Drain is 12 feet. Crushed rock surfacing was applied to the crown of the levees and required turnouts and approaches were provided; all as shown on drawings of 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- (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), below).
- (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, sod or other unsuitable matter. 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 or flood fighting.

d. Operation.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, Part 208.10(b)(2) is 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 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 over-topped;
- (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 the project works are located and described as follows:

STRUCTURES AFFECTING LEVEE MAINTENANCE

Location : station :	Pipe size : and kind :	Other Structure Description :	Elev. of Invert of pipe
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YOLO BYPASS

54/00	20" Steel	Pump and gate valve R.S.	7.0
183/00	2-36" Steel	2 Concrete Cut-off-walls, standpipe with No. 1001 gate near riverside crown, outlet structure R.S. with 1001 gate. R.D. #536 drainage pumps.	2.0

LINDSEY SLOUGH

33/16 "R"	3" Galv.	Catwalk and pumphouse on R.S.	19.0
87/70 "R"	54" C.M.P.	Riser pipe unit, saddle, apron, headwall, 2 C.M. Cut-off walls, 1 No. 101 gate and 1 No. 102 gate	-2.0
238/36 "A"	42" C.M.P.	2 concrete headwalls, slide gate R.S.	1.5
272/00 "A"	12" Steel	Pump R.S., Concrete distribution box L.S.	20.5
274/00 "A"	24" C.M.P.	2 headwalls, No. 100 gate R.S.	15.8
293/60 "A"	18" C.M.P.	Alfalfa valve L.S.	21.0
294/49 "A"	1-36" C.M.P.	In drainage ditch, one No. 100 gate	14.4
294/49 "A"	1-60" C.M.P.	In drainage ditch, one No. 100 gate	14.4

Notes pertaining to gates and abbreviations.

(a) Gate Model No. 100 is a Calco automatic drainage gate on outlet end of pipe. It closes against face pressure and opens automatically to permit outflow when pressure is released.

Gate Model No. 101 is a Calco slide gate which operates by handscrew on steel frame.

Gate Model No. 102 is a Calco automatic drainage flap gate which closes against face pressure and opens to permit outflow when pressure is released.

Gate Model No. 1001 is a combination flap gate and slide gate.

(b) Abbreviations are as follows:

C. M. = corrugated metal

C. M. P. = corrugated metal pipe

L. S. = landside

R. S. = riverside

C. I. P. = cast iron pipe

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 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 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 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 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 Reclamation Board 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.

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

(1) Bridge.

(a) An 18'x40' timber bridge across Watson Hollow Drain at approximate station 36⁺/₅₀.

(2) Utility Relocation.

(a) None.

(3) Hydrographic facilities.

(a) Division of Water Resources continuous water stage recorder and staff gage located on the right bank of Lindsey Slough at the California Packing Corporation headquarters.

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 structures, 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 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."

SECTION III

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

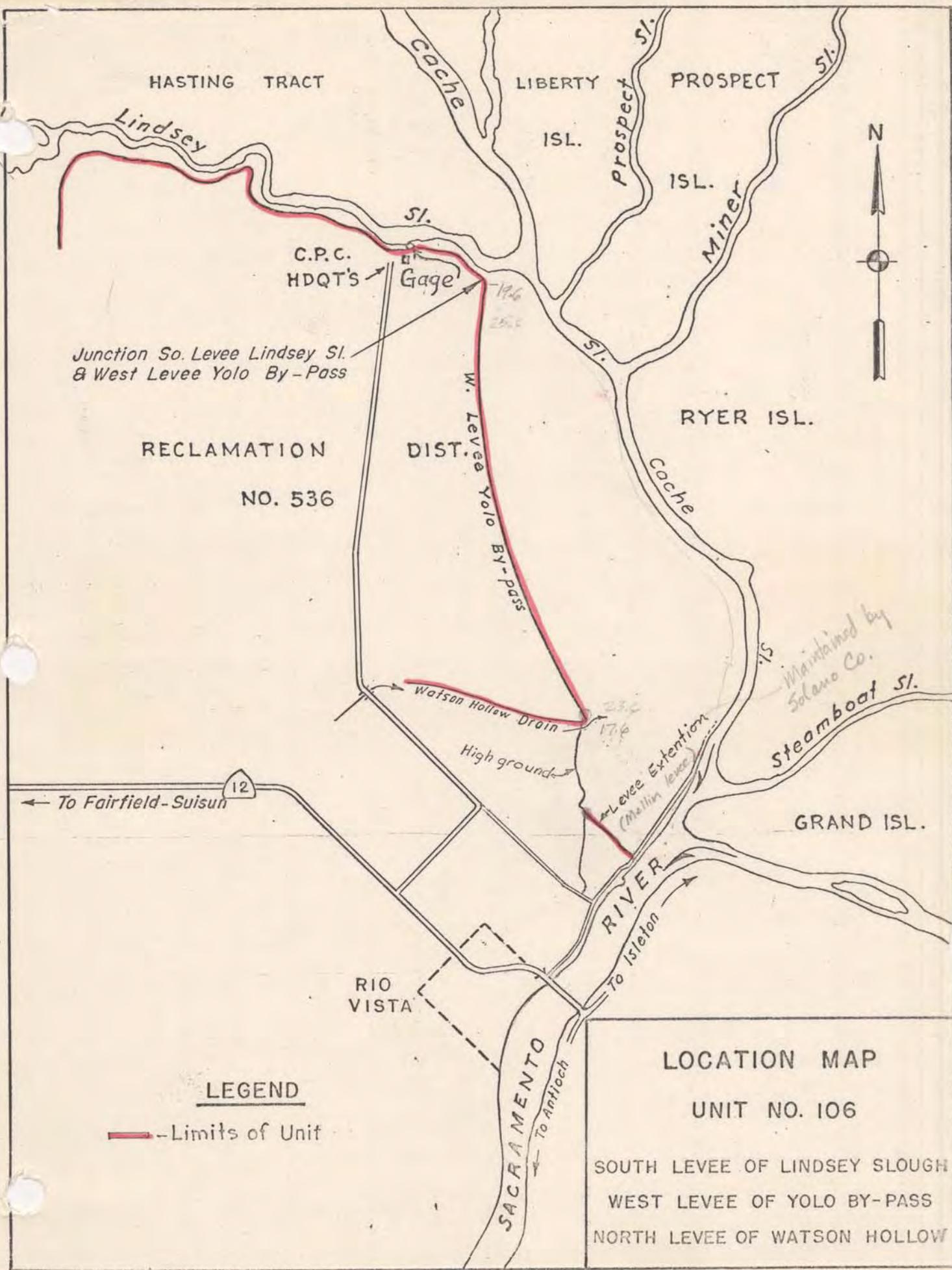
3-01. Repair of damage. In the event of serious damage to the project works, whether due to flood conditions or other causes, and which may be beyond the capability of local interests to repair, the Superintendent will contact a representative of the Division of Water Resources, State of California, 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.

EXHIBIT A

FLOOD CONTROL REGULATIONS

(See Standard Manual)



HASTING TRACT

LIBERTY ISL.

PROSPECT ISL.

Lindsey Sl.

Sl.

C.P.C. HDQT'S
Gage

Junction So. Levee Lindsey Sl. & West Levee Yolo By-Pass

RECLAMATION

NO. 536

DIST.

W. Levee Yolo By-Pass

RYER ISL.

Watson Hollow Drain

High grounds

Levee Extension
(Mallin Levee)

Maintained by Solano Co.
Steamboat Sl.

GRAND ISL.

← To Fairfield-Suisun

12

RIO VISTA

SACRAMENTO RIVER

To Isleton

SACRAMENTO RIVER
To Antioch

LEGEND

— Limits of Unit

LOCATION MAP

UNIT NO. 106

SOUTH LEVEE OF LINDSEY SLOUGH

WEST LEVEE OF YOLO BY-PASS

NORTH LEVEE OF WATSON HOLLOW

EXHIBIT "B"

"AS CONSTRUCTED"
DRAWINGS

(See Separate Folder for the following Drawings)

<u>File No.</u>	<u>Title</u>
50-4-2151	Levee Construction Enlargement along West Levee Yolo Bypass and South Levee of Lindsey Slough, Sheets 1 to 7, incl.
50-4-2157	Drainage Pipes under South Levee of Lindsey Slough at Station 183+00, 1 sheet.
50-4-2158	Watson Hollow Drain, sheets 1 and 2.
50-4-2878	Levee Enlargement and Bank Protection, South Levee Lindsey Slough, sheets 1 to 3, incl.
50-4-3811	Georgiana Slough and West Levee Yolo Bypass, Levee Reconstruction and Pipe Removal, in 1 sheet.
50-4-4707	Levee Construction, West Levee Yolo Bypass at Rio Vista (for the State of California).
50-25-6275	Lindsey Slough Sacramento River – Levee Rehabilitation Repairs Orders 3-5 Reclamation District 536 Sites 4 and 5, Solano County, California, in 7 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 1-06 of this manual

CHECK LIST NO. 2
LEVEES OF UNIT NO. 106

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 gullyng of the section has occurred.
- Item (c) If sufficient erosion or gullyng 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 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. 106

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

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	

Instructions for Completing Sheet 4, Exhibit E

(To be printed on back of sheet No. 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, fouling of the tainter gates, or the bridges over the channel.
- Item (d) Report any construction along the diversion channel or above the diversion channel or above the diversion works that has come to the attention of the inspector and 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. 106

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 structure	(g) Repair measures taken since last inspection	(h) Comments
<u>Yolo Bypass</u> 54/00 183/00 <u>Lindsey Slough</u> 33/16"R" 87/70"R" 238/36"A" 272/00"A" 274/00"A" 293/60"A" 294/49"A"	Right Right Right Right Right Right Right 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 backfull 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

C
O
P
Y

State Reclamation Board Letterhead

C
O
P
Y

April 2, 1952

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

Dear Sir:

1. Reference is made to your letter of 6 December 1951, file SPKKA 824.3 (Sac. Riv. F.C.P.) transferring to the Reclamation Board levee reaches the contiguous waterway banks as follows:

a. Back levee Egbert Tract, Lindsey Slough to high ground.

b. Westerly levee Yolo Bypass.

(1) Lindsey Slough southerly to Watson Hollow Drain.

(2) - - - - -

c. Levees of Watson Hollow Drain.

(1) North levee, Yolo Bypass to high ground.

(2) - - - - -

2. There are no levees and no levees are required under items "b (2)" and "c (2)" above. The embankments here evident are part of a suction dredger spoil area, of some 1200 acres used by the United States in the excavation of the enlarged channel of the Sacramento River from Junction Point to Collinsville. The land was purchased and is owned by the Sacramento San Joaquin Drainage District. Spoil disposal rights have been preserved on this area for use of the United States in enlargement and maintenance of this channel.

3. There are no water banks contiguous to any of the other above reaches of levee except adjacent land areas. The west levee of the Yolo Bypass from Lindsey Slough to Watson Hollow Drain is completed to the final authorized cross section

C
O
P
Y

Ltr, State Recl Board
April 2, 1952

C
O
P
Y

4. The Reclamation Board formally accepted levee and bypass areas adjacent to levees covered by items "a" "b,(1)" and "c'(1)" on December 18, 1951.

Yours very truly,

THE RECLAMATION BOARD

By /s/ A. M. Barton

A. M. BARTON

Chief Engineer and General Manager

C
O
P
Y

Note: Only items pertaining to Operation and Maintenance Manual No. 106 are included in above copy.

State Reclamation Board Letterhead

C
O
P
Y

March 9, 1953

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

Dear Sir:

Reference your letters, file No. SPKKO-P 824.3 (Sac. R.F.C.P) dated 3 December 51, 8 December 51, 4 February 1953 and 13 February 1953, wherein the following levee units were transferred to the State of California:

3 Dec 51 - - - - -

4 Feb 53 The southerly levee of Lindsey Slough, from the westerly levee of the Yolo Bypass to the back levee of Egbert tract, (a distance of approximately 4 miles).

The Reclamation Board on behalf of the State of California, in meeting held March 4, 1953, accepted the above-mentioned levee units, together with their contiguous waterway banks, for operation and maintenance.

Yours very truly,

THE RECLAMATION BOARD

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

Note: Only item pertaining to Operation and Maintenance Manual No. 106 is included in the above copy.

REGISTERED MAIL
Return Receipt
Requested

Letter No. 6

6

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

6 DEC 1951

The Reclamation Board
State of California
1100 "O" Street
Sacramento 14, California

Refer. Recl. Board letter of 2 April 1953

Items 21a, 22 and 24

were formally accepted by the Board
on 18 Dec. 1951.

Items 23 and 25 are considered by the
Board as non-existent an un-necessary.

Refer. Recl. Board letter 6 Jan. 1944:

Item 22 was accepted by the Board on 23 Dec. 1943

Gentlemen:

Reference is made to your letter of 6 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:

- ✓✓ 21a. a. Back levee of Egbert Tract from Lindsey Slough southwesterly to high ground. 106
- b. Westerly levee of Yolo Bypass.
 - ✓✓ 22. (1) Lindsey Slough southerly to Watson Hollow Drain. 106
 - ✓ 23. (2) Watson Hollow Drain southerly to Sacramento River at Mile 13.0. 106
- c. Levees of Watson Hollow Drain.
 - ✓✓ 24. (1) Northerly levee from Yolo Bypass westerly to high ground. 106
 - ✓ 25. (2) Southerly levee from Yolo Bypass westerly to high ground. 106

Mile 0 to 50

The records of this office show that on 23 December 1943 your Board accepted the levee covered by Item b.(1) above as complete. Accordingly,

Reach No. 31
Items 21a to 25

SPEKA 324.3(Sac.Riv.F.C.P.)
The Reclamation Board

Letter No 6

6

the waterway bank contiguous to said Item b.(1) is hereby transferred to the State of California for maintenance and operation.

The levee covered by Items a., b.(2) and c., above although complete has not been formally transferred as contemplated by the Project documents. Accordingly the levee covered by said Items a., b.(2) and c., 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 5 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 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. Reifsnyder
Lt. Colonel, Corps of Engineers
Executive Officer



6

2

This copy was
furnished on
24 Feb. 1953
B. A.

Accepted
Items

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.

No.	Date of Letter	Levee Location	Remarks
①-②	1 Dec. 1951	N. and S. Training* Levees Moulton Weir*	Maintained by State
③-④	Do	N. and S. Training* Levees Colusa Weir*	Maintained by State
⑥	3 Dec. 1951	W. Levee Sacramento River, Mile 177.5 Mile 174.1	Maintained as Maintenance Area No. 2
⑨	4 Dec. 1951	E. Levee Yolo By-pass Fremont* Weir to Miner Slough*	N. 2 mi. maintained by State. Remainder by local districts. Conditioned upon completion of levee section and no acceptance of banks of Sacramento Deep Water Channel.
⑩ ⑪	Do	N.&S. Levees Sacra- mento By-pass*	Maintained by State. Waterward slopes on 4 to 1 not required.
21a	6 Dec. 1951	Back levee Egbert District*	Maintained by R. D. No. 536
22	6 Dec. 1951	W. Levee Yolo By-pass Lindsey* Slough to Watson Hollow Drain*	Maintained by R. D. No. 536
24	Do	N. Levee Watson Hollow Drain*	Do
16	6 Dec. 1951	W. Levee Sacramento River Mile 59.0 to Lake Wash- ington Barge Canal	Maintained by R. D. No. 900
18	Do	W. Levee Sacramento Riv. Mile 50.8 to 50.5	Bank protection contract. Maintained by R. D. No. 765

Copy to USED.

①

Accepted Items

No. Date of Letter

Levee Location

Remarks

6 6 Dec. 1951

Levees of Wadsworth Canal*
South levees of E. and W.
Intercepting Canals.

Maintained by State. Water-
ward slopes on 4 to 1 not
required.

(12) (13) (14) (15)

7 7 Dec. 1951

Site 2 Part A. W. Levee
Sacramento River-Mile
28.5 -Grand Island.

Maintained by R.D. No. 3.
Completed contract.

= 329 (87-A)

Site 1, Part B. E. levee
Sacramento River-Mile 15.0
Brannan Island.

Maintained by R.D.No. 2067
Completed contract.

= 331 (89-A)

8 8 Dec. 1951

W. levee Sacramento River
Mile 163.8 to Mile 143.5
except 320 ft. at Colusa
Warehouse & Mile 146.1
to Mile 146.4.

Maintained as Maintenance
Area No. 1.

(51) (52) (53) (54) (55) (56) (57)

8 Do

E. levee Sacramento River,
Mile 153.3 to Mile 152.7;
Mile 149.9 to Mile 149.7;
Mile 149.4 to Mile 149.0;
at Colusa Weir; Mile 143.3
to Mile 140.2; Mile 139.3
to Mile 138.2.

Maintained by State
Separate completed contracts.

(58) (59) (60) (61) (62) (63)

8 Do

E. levee Sacramento River
Mile 138.2 to Mile 137.9;
Mile 136.9 to Mile 133.8;
Mile 133.2 to Mile 132.3;
Mile 131.8 to Mile 125.9;
Mile 125.8 to Mile 123.1;
Mile 122.6 to Mile 122.0.

Maintained by R.D.No. 70,
Completed contracts.

(64) (65) (66) (67) (68) (69) (70)

8 Do

West levee, Sutter By-pass*

Maintained by R.D.Nos. 70,
1660, 1500. Condition upon
completion of remaining
part to standard section.

(71) (72) (73)

8 Do

North levee Tisdale
By-pass†

Maintained by R.D.No. 1660.
Waterward slope of 4 to 1
not required.

(74)

8 Do

South levee Tisdale
By-pass†

Maintained by R.D.No. 1500.
Waterward slope of 4 to 1
not required.

(75)

8 Do

East levee Sutter
By-pass*.

Maintained by State.

(76)

9 Do

W. levee Sacramento River
Mile 35.15 to 35.86.

Maintained by R.D.No. 150
(Merritt Island). Completed
contract bank protection.

(81)

Accepted Items

No.	Date of Letter	Levee Location	Remarks
(91) 10	8 Dec. 1951	Cross levee Steamboat Slough to Sacramento River.*	Maintained by R.D. No. 3 (along U.S.spoil bank).
(140) 11	Do	N. levee American River from Jibboom St. Bridge to Sacramento River.	Maintained by R.D. No. 1000.
(141) 11	Do	E. levee Sacramento River American River to Natomas Cut.	Maintained by R.D.No. 1000.
(142) 11	Do	E. bank Sacramento River At Moulton Weir.	Maintained by State.
(143) 11	Do	E. Levee Sacramento River Mile 158.5 to Mile 164.4.	Maintained partly by State; remainder by Levee District.No. 3, Glenn County, Completed Contract.
(146) 11	Do	W. levee Sacramento River Mile 61.8 to Mile 62.65.	Maintained by Maintenance Area No. 4. Completed contract.
(147) 11	Do	W. Levee Sacramento River Mile 62.65 to Mile 63.1.	Maintained by R.D. No. 537 Completed contract.
(148) 11	Do	Sacramento Weir.	Maintained by State.
(152) 11	Do	Fremont Weir.	Maintained by State.
11	Do	W. Levee Sacramento River Mile 87.6 to Mile 88.4; Mile 89.2 to Sycamore Slough	Maintained by R.D. No. 730 Completed contracts.
(155) (156) (157) 11	Do	W. Levee Sacramento River Mile 100.6 to Mile 101.4	Maintained by Sacramento River West Side Levee District. Completed contract.
11	Do	W. Levee Feather River except: 3.31 Mi. North from Nicolaus Bridge; 1400 ft. in Yuba City; from Sta.774+80 to Sta. 1188+00 of "Y.C.H.B" Traverse.	Maintained by Maintenance Area No. 3, Levee Dist. Nos. 1 & 9 of Sutter Co. Recl. Dist.No. 777 and State.
(160) (161) (162) (163) 11	Do	E. Levee Sacramento River, Natomas Cut to Feather River	Maintained by Recl.Dist.No.1001.
(164) 11	Do	E. Levee Feather River from mouth to Mile 26.5, except from 2.37 miles of Nicolaus Bridge to Bear River	Maintained by R.D. Nos. 1001 and 784.
(165) (166) (167) (168) (169) (170) 11	Do		

Accepted
Items

5

No.	Date of Letter	Levee Location	Remarks
(171) (172) 11	8 Dec. 1951	Marysville levees from W.P.R.R. at Simmerly Slough E. to Yuba River and from D St. Bridge on Yuba River upstream to Valley Meat Co.	Maintained by Marysville Levee Commission.
(173) (174) 11	Do	N. Levee Simmerly Slough from W.P.R.R. to S.P.R.R. and E. Levee Feather River from Simmerly Slough upstream 4.8 miles	Maintained by R.D. No. 10 Completed contract.
(175) 11	Do	N. Levee Yuba River from back levee of Marysville upstream 1.8 miles	Maintained by Marysville Levee Commission.
(176) 11	Do	S. Levee Yuba River from S.N.R.R. to S.P.R.R.	Maintained by R.D. No. 784.
(177) 11	Do	N. Levee Bear River from Feather River to W.P.R.R. Interceptor	Maintained by R.D. No. 784.
(178) 11	Do	E. Levee R.D. 784 (W. Levee W.P.R.R. Interceptor) Bear River to intersection with W.P.R.R. in S $\frac{1}{2}$ Sec. 17, T. 14 N., R. 4 E.	Maintained by R.D. No. 784.
(179) (180) 11	Do	S. Levee American River from 16th St. Bridge to Mayhew except from S.N.R.R. to a point 800 ft. E. of W.P.R.R.	Maintained by American River Flood Control District.
(181) (182) (183) (184) (185) (186) (187) (188) 11	Do	W. Levee Yolo By-pass from Sacramento River to Putah Creek except from N. line Cache Cr. Settling Basin to S.N.R.R. & from old Willow Slough pipes south 1.48 mi.*	Maintained by State and R. D. #2035.
(190) 11	Do	N.&S. levees Willow Slough Interceptor*	Maintained by State and R. D. No. 2035.
(191) (192) 11	Do	N.&S. levees of Putah Creek	Maintained by State.
(197) (198) 11	Do	N.&S. levees Sycamore Slough from Sacramento River to Knights Landing Outfall Gates	Maintained by R.D. 730 and Sacramento River West Side Levee District.

(21)

4

Accepted
Items

No. Date of Letter Levee Location Remarks

12 8 Dec. 1951

Five reaches of Ryer Island levee along Miner Slough as follows:

a. Junction Miner and Sutter Sloughs westerly 5000 feet.

b. From State Highway Bridge West. 3035 ft.

c. Spec. 1473, Sta. 53+00 to 64+00 about one mi. No. of Ryde Road. *Mile 29.4 to 29.6*

d. Spec. 1473, Sta. 0+00 to 12+00 being 600 ft. each side of Ryde Road. *Mile 30.4 to 30.6*

e. Ryer Island cut-off levee beginning at east bank of Cache Slough and extending upstream 3,300 feet at junction of Cache and Miner Sloughs.

Maintained by R.D. No. 501. All are completed separate contracts.

Covered by letter dated 16 Nov. 1951

321 → (79A) ✓

303 Covered by letter dated

(53A) ✓

304 17 Nov. 1951

(54A) ✓

(23) ✓

(50) ✓

*No waterway banks contiguous to these levees.

REGISTERED MAIL
Return Receipt
Requested

4 FEB 1953

SPKRO-F 824.3 (Sac. R.
F. C. Project)

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

Gentlemen:

Reference is made to District Engineer's letter dated 12 November 1952, wherein it was suggested that a joint inspection be made for the purpose of transferring to the jurisdiction of the State of California, when completed, a levee unit of the Sacramento River Flood Control Project. Reference is also made to the joint inspection of this levee unit which was made on 25 November 1952.

In accordance with the above, you are hereby advised that the unit of work referred to above was completed on 3 February 1953. Said work consisted of levee enlargement and bank protection work along the southerly bank of Lindsey Slough from the westerly levee of Yale By-Pass to the back levee of Ebert Tract, a distance of approximately 4 miles. This work was performed in accordance with Specification No. 1633 and Drawing, File No. 50-4-2878.

The completed levee unit referred to above, together with the patrol road thereon, form an integral part of the Sacramento River Flood Control Project and meet with the requirements of the project. Therefore, said levee unit, together with the waterway bank contiguous thereto, is hereby transferred to the State of California for operation and maintenance.

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

SERVICE SECTION

2/4/53

342
No. 101-A
37
A2

SPKRD-P 824.3 (Sac. R. F. C. Project)
The Reclamation Board

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 to you upon completion.

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

FOR THE DISTRICT ENGINEER

Copy furnished:
State Engineer
1120 "H" Street
Sacramento, Calif.

EARL G. PEACOCK
Lt. Col, CE
Executive Officer

cc: Office of C. of E.
So. Pac. Div. Eng.
Eng. Div.
Sacto. Project Eng.
Service Section
C. de A.

SERVICE SECTION

2/4/53

Supplement #1

31 JUL 1962

SPKGO-C

The Reclamation Board
State of California
1215 "O" Street
Sacramento 14, California

Gentlemen:

Reference is made to the joint inspection made on 26 July 1962 of flood control work on a unit of the Sacramento River Flood Control Project for the purpose of transferring it to the State of California for operation and maintenance. Reference is also made to Supplement dated 29 November 1957 to the Memorandum of Understanding entered into with the State of California under date of 30 November 1953, covering added items of work required to complete the Sacramento River Flood Control Project.

The flood control work, consisting of raising the levee crown and application of gravel surface on the right bank of Lindsey Slough, beginning at a point approximately one-half mile above Hastings Ferry and thence westerly a distance of 900 feet, was completed on 12 July 1962. This item is indicated in the referenced supplement as follows: Item 23b -- Correct large riverside slip on right levee Lindsey Slough in R. D. 536.

The foregoing supplemental work having been completed to current standards for the Sacramento River Flood Control Project, is hereby transferred to the State of California for operation and maintenance. A manual for this portion of the project has already been furnished which adequately covers operation and maintenance requirements for the above item.

Unit 106

SUPP ITEM 23b

SPKKO-C
The Reclamation Board

31 JUL 1962

A copy of this letter is being transmitted to the Department of
Water Resources.

Sincerely yours,

1 Incl
F.C. Reg.

C. R. TEAGLE
Major, CE
Acting District Engineer

Copy furnished:
Dept Water Resources w/o incl

O. C. E. w/o incl
S. P. D. w/o incl

cc: Eng Div-Levees & Channels w/o incl
Eng Div-Program Devel Branch w/o incl
Finance & Acctg Br. w/o incl
Northern Area Ofc w/o incl

OPERATIONS BRANCH
CHANNELS & LEVEES SECTION

LJK
7/30/62
KRISTOF/pnp

THOMPSON

JOHNSON

TEAGLE

Unit 106

B...

STANLEY H. ...
PRESIDENT
J. J. ... CHIEF
VICE PRESIDENT
WALLACE MCCORMACK, 210 VISTA
SECRETARY

THE RECLAMATION BOARD
OF THE
STATE OF CALIFORNIA
1216 O STREET
SACRAMENTO 14, CALIFORNIA
TELEPHONE: NI 2-4711

October 2, 1962

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

Dear Sir:

Reference is made to your letter of July 31, 1962 concerning transfer to the State of California of flood control work consisting of raising the levee crown and the application of gravel surfacing on the right bank of Lindsey Slough, beginning at a point approximately one-half mile above Hastings Ferry and thence westerly a distance of 900 feet, within the boundaries of Reclamation District 536. This item of work was contained in the Supplement to the Memorandum of Understanding concerning the Sacramento River Flood Control Project and was listed as Item 23b, "Correct large riverside slip on right levee Lindsey Slough in Reclamation District 536."

The Reclamation Board at its meeting of September 20, 1962 conditionally accepted this work from the Corps of Engineers with the understanding that the Corps would reconstruct any substantial settlement that occurs within the next three years.

Sincerely yours,



A. N. MURRAY
General Manager and Chief Engineer

HSH:jc

Unit 7106

Place in
Transfer File
Sac Riv Suppl

LK
File

J. H. Mason
2/10/62

SPKGD-L

19 October 1962

The Reclamation Board
State of California
1215 "O" Street
Sacramento 14, California

Gentlemen:

Reference is made to your letter of 2 October 1962, accepting on a conditional basis, the work completed by the Sacramento District along the right bank levee of Lindsey Slough in Reclamation District No. 536.

The work performed on the Lindsey Slough levee consisted of building up the levee with borrow material taken from the slough by means of a clamshell dredge. The levee was subsequently shaped to provide an adequate section, built up to project grade, and provided with a gravel patrol road on the crown. This work corrected the deficiency which made it necessary to include this section of levee in the work outlined in the Supplement to the Memorandum of Understanding.

As you know, when a job is completed, we are compelled by law to turn it over to local interests for maintenance and operation. There is no provision for the Sacramento District to perform levee maintenance and no funds are available for that purpose. Our work on the Lindsey Slough levee has been completed and inspected jointly by our representatives and representatives of the State Reclamation Board and the State Department of Water Resources. Because no deficiencies in the work were found during the inspection, the completed levee was turned over to your Board for operation and maintenance. Accordingly, we cannot agree to your conditional acceptance of the levee of Lindsey Slough in Reclamation District 536 with the understanding that we reconstruct any substantial settlement which may occur within the next three years.

HACKEN/ek

Sincerely yours,

BARSDALE

DETTMER

GOMEZ

TURNER

cc: Planning
Const-Opns ✓
Levees & Channels

H. N. TURNER
Colonel, CE
District Engineer
C. R. TEAGLE
Major, CE
Deputy District Engineer

Unit 106

SHKRO-F

15 JUL 1964

The Reclamation Board
State of California
1215 "O" Street
Sacramento, California 95814

Gentlemen:

15 July '64

Reference is made to the joint inspection made on 13 July 1964, of flood control work on two units of the Sacramento River Flood Control Project for the purpose of transferring them to the State of California for operation and maintenance. Reference is also made to Supplement dated 29 November 1957 to the Memorandum of Understanding entered into with the State of California under date of 30 November 1953, covering added items of work required to complete the Sacramento River Flood Control Project.

The flood control work, consisting of levee reconstruction on Georgiana Slough, right bank, Station 26+50 to Station 31+50, and pipe removal on the right levee of Yolo Bypass approximately 0.7 mile south of Lindsay Slough, referred to in the above supplement as Item 13a and 23e respectively, was completed on 10 July 1964, in accordance with Specification No. 3043, Contract DA-04-167-CIVENG-04-97, and Drawing No. 50-4-3811.

The foregoing supplemental work having been completed to current standards for the Sacramento River Flood Control Projects, is hereby transferred to the State of California for operation and maintenance.

An operation and maintenance manual for each of the above projects has been furnished, which adequately covers operation and maintenance requirements for the above items.

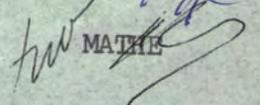
Sincerely yours,

ROBERT E. MATHE
Colonel, CE
District Engineer


COLEMAN/dbh


THOMPSON


HART


MATHE

673

Copy furnished:
Dept Water Resources

O.C.E. & S.P.D.

cc Lev & Chan; Prog Dev; F&A; Valley

dist 103, 106
673 ?

REGISTERED
RETURN RECEIPT REQUESTED

COPY

THE RECLAMATION BOARD
STATE OF CALIFORNIA

31 August 1964

Refer to: 7001.70.104
4130.70.104

District Engineer
Corps of Engineers
U. S. Army
P. O. Box 1739
Sacramento, California - 95808

Dear Sir:

Reference is made to your letter of July 15, 1964, concerning transfer to the State of California of levee construction on Georgiana Slough, right bank, Station 26+50 to Station 31+50, and pipe removal on right levee of Yolo Bypass approximately 0.7 mile south of Lindsay Slough, in accordance with Specification No. 3043.

The Reclamation Board, at its meeting of August 6, 1964, formally accepted the above referred to work for operation and maintenance.

Sincerely yours,

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

Exhibit F

Sacto River Project Transfer

SPKCO-0

10 November 1971

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

Gentlemen:

Reference is made to the extension of the Yolo Bypass west levee, constructed in the vicinity of Rio Vista, requested on 17 February 1971 and funded by the State of California. The work designated as Unit No. 679, consisting of 3010 feet of levee and patrol road, was completed on 13 October 1971 in accordance with Specification No. 4117, Contract No. DACW05-72-C-0006 and Drawing No. 50-4-4707. This work was performed under the general authority of Section 2304(a)(17), Title 10, USCA.

The flood control work described above now meets the requirements of the Sacramento River Flood Control Project and is transferred to the State of California as of 10 November 1971, for operation and maintenance. This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Supplement No. 106, Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

JAMES C. DONOVAN
Colonel, CE
District Engineer

Mc
ROMPALA/p

Coleman
COLEMAN

Henson
HENSON

Donovan
DONOVAN

Copy furnished:
DWR

DAEN-CWO
SPD

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

Jones

Unit 7106

J

Copy to J. Debus & A. Haber 18 Nov 71

679

C
O
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Y

THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
O
P
Y

December 9, 1971

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

Refer to: 4130.70.100

Dear Sir:

Reference is made to your letter of November 10, 1971, regarding the transfer to the State of California for maintenance and operation the extension of the Yolo Bypass west levee, constructed in the vicinity of Rio Vista being a portion of the Sacramento River Flood Control Project.

The work was constructed in conformance with Specification No. 4117, Contract No. DACW05-72-C-0006 and Drawing No. 50-4-4707.

The Reclamation Board at its regular meeting of December 3, 1971, formally accepted the extension of the Yolo Bypass west levee for operation and maintenance.

Sincerely yours,

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

EXHIBIT F



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

REPLY TO
ATTENTION OF

Flood Protection and Navigation Section

NOV 24 2010

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

Dear Mr. Punia:

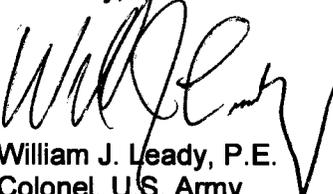
The U.S. Army Corps of Engineers has recently completed a portion of work under PL 84-99, Flood Control and Coastal Emergencies (FCCE) (33 U.S.C. 701n) (69 Stat. 186) for emergency management activities. Repairs were made to rehabilitate a site within Reclamation District 536. Additional information about the repair and location of the site may be found in the document titled, "Project Information Report for Public Law 84-99 Levee Rehabilitation, Reclamation District 536 (Final)", dated July 11, 2007.

The rehabilitation work meets the requirements of the existing Operation and Maintenance Manuals (O&M) and enclosed revisions. The subject flood damage reduction project is considered complete as of the date of this letter. The repairs were completed under Contract Number W91238-08-D-0020, Task Order Number 2. As-constructed drawings and revisions to the Operation and Maintenance Manual are enclosed. The Central Valley Flood Protection Board shall continue to operate and maintain the completed Rehabilitation Effort as part of the project.

If you have any questions regarding this project, please contact Ms. Paige Caldwell (916) 557-6919 or Ms. Christy Jones (916) 557-7107, Readiness Section. If you have any questions regarding this transfer, please contact Mr. Ryan Larson at (916) 557-7568 or Mr. Robert Murakami at (916) 557-6738, Flood Protection and Navigation Section.

A copy of this letter is being furnished to Reclamation District 536, P.O. Box 785, Rio Vista, CA 94571.

Sincerely,


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

Enclosure

Unit 106

Flood Protection and Navigation Section

cc: CESPCK-CO-E (Jones)

MURAKAMI

LARSON *RL*

NAGY *MA*

CALDWELL *ERC*

OLSEN *RO*

MAHONEY *man*

FAUSTINO

MR MULLINS *TR*

LEADY

EXHIBIT G

SUGGESTED SEMI-ANNUAL REPORT FORM

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

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

Dear Sir:

The semi-annual report for the period (1 May 19__ to 31 October 19__) (1 November 19__ to 30 April 19__) Sacramento Flood Control Project Unit No. 106, the south levee of Lindsey Slough, west levee of Yolo Bypass from Lindsey Slough to Watson Hollow, and north Levee of Watson Hollow Drain, 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 operation for the following 6 months.)

b. During this report period, major high water periods (water levels at 12.0 on the State of California Division of Water Resources gage at California Packing Corporation Headquarters) 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:

Labor Material Equipment Overhead Total

1. Inspection
2. Maintenance
3. Flood fighting operations

TOTAL

Respectfully submitted,

Superintendent of Works