

SUPPLEMENT TO STANDARD  
OPERATION AND MAINTENANCE  
MANUAL

SACRAMENTO RIVER  
FLOOD CONTROL PROJECT  
UNIT NO. 157  
FREMONT WEIR  
SACRAMENTO RIVER, CALIFORNIA



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

*Serial # /*

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CORPS OF ENGINEERS  
U. S. ARMY

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UNIT NO. 157  
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Prepared by the  
Sacramento District  
Corps of Engineers  
U. S. Army  
August 1955

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EXHIBITS

<u>Exhibit</u>	<u>Description</u>	
A	Flood Control Regulations -----	Unattached (Contained in Standard Manual)
A-1	Location Map -----	1 sheet
B	"As Constructed" Drawings -----	Unattached
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 ---	Sheets 1 thru 7
F	Letter of Acceptance by State Reclamation Board--	Sheets 1 and 2
G	Semi-Annual Report Form -----	Sheets 1 and 2

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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 Fremont Weir together with its adjacent channel and levees.

Fremont Weir is located in Yolo County, California along the right bank of the Sacramento River between river miles 81.7 and 83.4 and about 15 miles northwesterly from the City of Sacramento and 8 miles northeasterly from the City of Woodland. For its relative location with respect to the Sacramento River and adjoining by-passes, reference is made to the Location Map, Exhibit A-1.

1-02. Project Works. As shown on drawings of Exhibit B, Fremont Weir is a fixed concrete weir that is about 9,120 feet long with an earthfill section dividing the weir into two parts between stations 75+44 and 79+47. The crest of the concrete weir section is at elevation 33.5 and the crown of the earthfill section is at elevation 47.0 (U. S. Corps of Engineers datum). Fremont Weir has variable sections as described between the following stations: 13+45 to 22+89, 37+81.2 to 63+09, 71+08 to 75+44 and 79+47 to 83+29.5, the concrete weir sections have concrete aprons extending 25 feet downstream from the upstream face of the weir section and is paved with one-and two-man stone for another 55 feet downstream. Between the following stations: 0+00 to 12-94.5, 23+29 to 37+41.2, 63+49 to 70+68 and 83+69.5 to 95+18.43, the concrete weir sections have concrete aprons extending 35 feet downstream from the upstream face of the weir section and is paved with one-and two-man stone for another 65 feet downstream. Concrete abutments have been built at each end of the concrete weir section and at each end of the earthfill section. For more complete details of the structure see drawings of Exhibit B.

1-03. Protection Provided. The primary function of Fremont Weir is to provide a means for release of overflow waters of the Sacramento

River, Sutter By-pass and the Feather River into the Yolo By-pass and to prevent scour of the by-pass during floods. The adjoining levees provide direct protection to agricultural lands. The project design capacity of Fremont Weir is 343,000 cubic feet per second.

1-04. Construction Data and Contractor. - Fremont Weir was constructed by Utan Construction Company under contract with the Sacramento District Corps of Engineers and completed about 31 January 1924.

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 the Sacramento River reaches or exceeds the reading of 35.0 on the continuous water stage recorder and staff gage of the State Division of Water Resources, U. S. Geological Survey and U. S. Corps of Engineers cooperative station located about 500 feet westerly from the west end of Fremont Weir. Such term shall also refer to flows when the water surface in the Sacramento River reaches or exceeds the reading of 34.5 on the State Division of Water Resources continuous water stage recorder and staff gage located about 200 feet north of the east end of Fremont Weir. Both gages are set on U. S. Corps of Engineer datum.

1-06. 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).

1-07. 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, as shown on the attached letter of acceptance, Exhibit F.

1-08. Superintendent. - The name and address of the Superintendent appointed by the State or acting as a representative of the State Division of Water Resources 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. Drainage and Weir Structure.

a. Description. The Fremont Weir is a fixed concrete drainage structure located along the right bank of the Sacramento River about 15 miles northwesterly from the City of Sacramento. The weir is about 9,120 feet long divided into two parts by an earthfill section between stations 75+44 and 79+47. The crest of the concrete weir is at elevation 33.5 and the crown of the earthfill section is at elevation 47.0 (U. S. Corps of Engineers datum). The concrete section has a variable width of 25 to 35 feet and adjoins a section paved with one and two-man stones that extends for an additional distance of 55 to 65 feet downstream. Concrete abutments have been constructed at each end of the concrete weir section and at each end of the earthfill section. For more complete details of the structure see drawings of Exhibit B.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 5-02 of the Standard Manual.
- (2) Check Lists - Exhibit E of this Supplement Manual.
- (3) Operation - paragraph 5-04 of the Standard Manual.
- (4) Additional Requirements - paragraph 5-05 of the Standard Manual.
- (5) Safety Requirements - paragraph 5-06 of the Standard Manual.

#### 2-02. Channel.

a. Description. For purposes of this manual, the channel to be considered will be that portion of the channel lying adjacent to the weir structure proper from the Sacramento River downstream to the lower end of the channel which is paved with stone. Maintenance of the remainder of the channel in the near vicinity of Fremont Weir will be covered by Operation and Maintenance Manual No. 123 on the east side and No. 127 on the west side. In general, the channel is approximately 8,400 feet wide (between levees) and stone paving extends about 100 feet downstream from the upstream face of the concrete weir section.

b. For pertinent requirements of the code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 6-02 of the Standard Manual.
- (2) Check Lists - Exhibit E of this Supplement Manual.
- (3) Operation - paragraph 6-04 of the Standard Manual.
- (4) Safety Requirements - paragraph 6-05 of the Standard Manual.

It shall be the duty of the Superintendent to maintain a patrol of the project works during all periods of flood flow in excess of a reading of 35.0 on the gage located on the west end of Fremont Weir or 34.5 on the gage located on the east end of Fremont Weir, as indicated in paragraph 1-05 of this manual. The Superintendent shall dispatch a message by the most suitable means to the District Engineer whenever the water surface at Fremont Weir reaches the gage readings indicated above. The Superintendent shall cause readings to be taken at intervals of two to four hours during the period when the water surface is above flood-flow stage 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 3-06 of the Standard Manual.

#### 2-03. Levees.

a. Description. Levees as such will not be considered in this manual, except that portion of the east and west levees of Yolo Bypass which directly affect the Fremont Weir east and west abutments and may be considered a part thereof.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 4-02 of the Standard Manual.
- (2) Check Lists - Exhibit E of this Supplement Manual.
- (3) Operation - paragraph 4-04 of the Standard Manual.
- (4) Special Instructions - paragraph 4-05 of the Standard Manual.

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) Utility Relocation. None.
- (2) Hydrographic Facilities. Gages to be maintained by the following Government agencies.
  - (a) State Division of Water Resources, U.S. Geological Survey and U.S. Corps of Engineers cooperative station located about 500 feet westerly from the west end of Fremont Weir.
  - (b) State Division of Water Resources gage located about 200 feet north of the east end of Fremont Weir.

b. For pertinent Requirements of the Code of Federal Regulations and other requirements see the following:

- (1) Maintenance - paragraph 7-02 of the Standard Manual.
- (2) Check lists - paragraph 7-03 of the Standard Manual.
- (3) Operation - paragraph 7-04 of the Standard Manual.

### 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 VIII of the Revised Standard Manual, where the subject is fully covered.

EXHIBIT A

FLOOD CONTROL REGULATIONS

(See Standard Manual.)

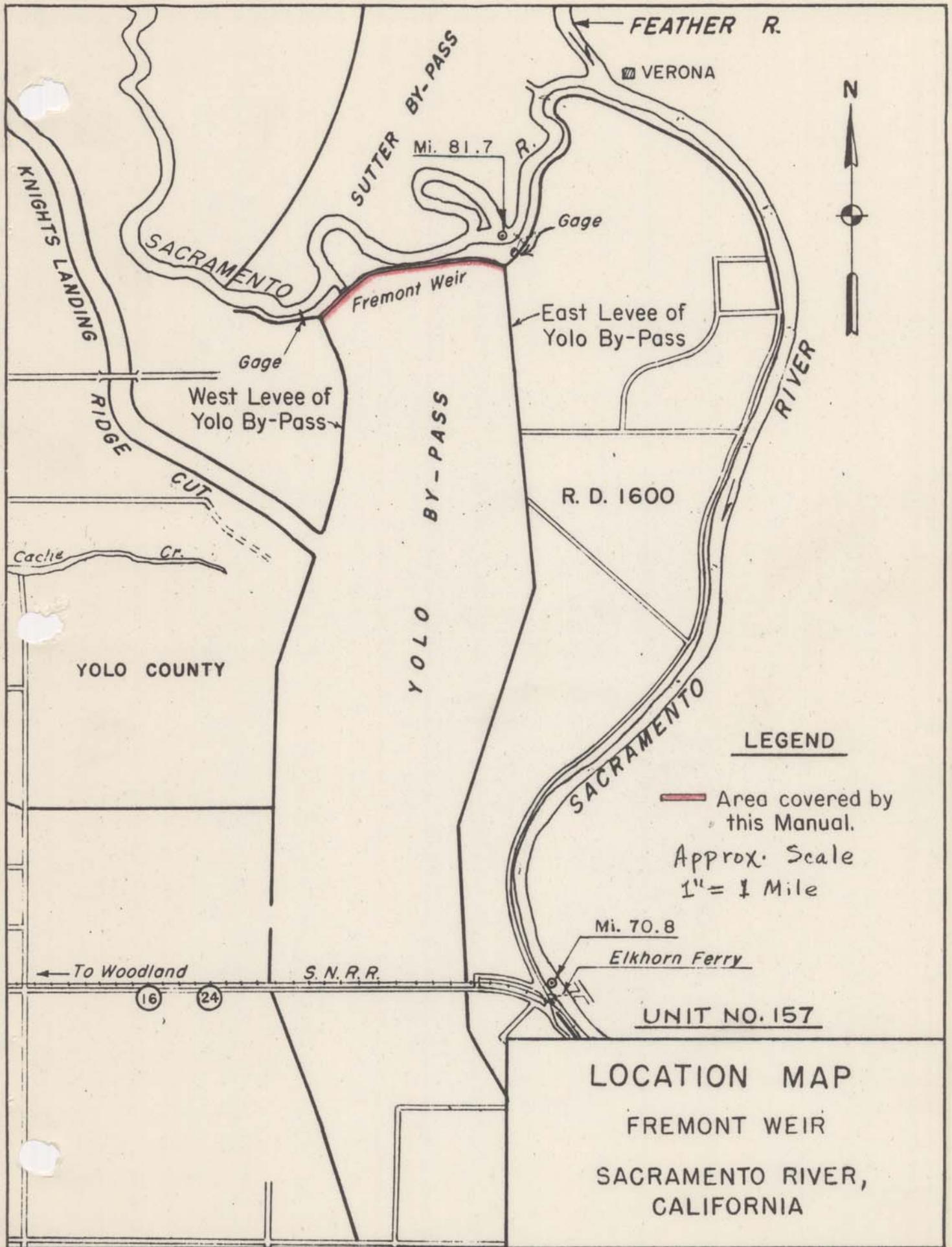


EXHIBIT B

"AS CONSTRUCTED"  
DRAWINGS

See separate folder for the following drawings:

File No.

Title

50-9-574

Fremont Weir, location plan, weir and  
abutment details, sheets 1 thru 7.

6-4-1402

JOB ORDER # 260 1937 at mill 82.6 - 1780' of bank  
Lobby Road.

JM. 24-1-75

EXHIBIT B  
Unattached

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 LIST OF LEVEES  
CHANNEL AND STRUCTURES

For definition of "flood" or "high water period" see  
paragraph 1-05 of this manual.

EXHIBIT F

LETTER OF ACCEPTANCE

BY STATE RECLAMATION BOARD

THE RECLAMATION BOARD  
OF THE  
STATE OF CALIFORNIA

March 11, 1953

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

Dear Sir:

Reference your letters file No. SPKKO-P 824.3 (Sac.R.F.C.P.) dated 1 December 1951, 3 December 1951, 4 December 1951, three letters dated 16 December 1951, 7 December 1951 and six letters dated 8 December 1951. Subject letters transferred to The Reclamation Board for operation and maintenance, various levee units of the Sacramento River Flood Control Project.

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

Yours very truly,

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

by /s/ D. M. Carr  
D. M. CARR

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 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>
*	*****	*****	*****
11	8 Dec. 51	Fremont Weir	Maintained by State
*	*****	*****	*****

NOTE: Only item pertaining to Operation and Maintenance Manual No. 157 is included in the above copy.

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 Flood Control Project, Fremont Weir 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 periods (water level at 35.0 on the gage at west end of Fremont Weir or 34.5 on the gage at the east end of Fremont Weir) 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