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UNIT NO. 7 OF THE

SACRAMENTO RIVER

FLOOD CONTROL PROJECT

SUPPLEMENT TO STANDARD OPERATION AND MAINTENANCE MANUAL

WEST LEVEE SACRAMENTO RIVER AND SOUTH LEVEE SYCAMORE SLOUGH AT KNIGHT'S LANDING

SACRAMENTO DISTRICT

CORPS OF ENGINEERS

U. S. ARMY

SACRAMENTO, CALIFORNIA

FILE COPY

Unit No. 7 of the

Sacramento River Flood Control Project

West Levee Sacramento River and South Levee Sycamore Slough

at Knights Landing, California

Supplement to

Standard

Operation and Maintenance Manual

Sacramento District
Corps of Engineers
U.S. Army
Sacramento, California

Unit No. 7 of the

Sacramento River Flood Control Project

West Levee Sacramento River and South Levee Sycamore Slough

at Knights Landing, California

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Exhibits

"B"	As constructed Drawings No. 50-4-2212, in 7 sheets, dated September 1945
"E"	Check List No. 2, in 1 sheet
"F"	Resolution adopted by The Reclamation Board 21 August 1946

UNIT NO. 7 OF THE

SACRAMENTO RIVER FLOOD CONTROL PROJECT

SUBJECT TO FLOOD CONTROL REGULATIONS

1. Levees

(a) Description. Unit No. 7 of the flood control works described below forms an integral part of the Sacramento River Flood Control Project. It consists of a portion of the West Levee of the Sacramento River and a portion of the South Levee of Sycamore Slough. This project begins approximately 2.5 miles upstream from Freemont Weir and extends to Sycamore Slough outfall gates, as shown on the attached Drawings 50-4-2212 in 7 sheets, dated September 1945, (Exhibit "B").

Under the program provided by the Sacramento River Flood Control Project a portion of this levee has been enlarged, a set back portion has been built and a portion of the bank has been sloped and paved with cobbles as indicated below and shown in Exhibit "B". Section (a) is a land side levee enlargement and extends 800 feet between Station 133+00 and Station 141+00. Section (b) is a landside enlargement extending 800 feet between Station 144+00 and Station 152+00. Section (c) is a levee enlargement extending 200 feet between Station 174+00 and Station 176+00. Section (d) is a levee enlargement extending 800 feet between Station 181+00 and Station 189+00. Section (e) extends 2945 feet; a river side enlargement between Station 200+55 and Station 214+00, and a set back levee from Station 214+00 to Station 230+00. Section (f) is a setback levee extending 1823 feet between Station 270+00 and Station 288+23 and a river side enlargement and a set back levee extending 2896 feet between Station 0+00 (288+23) and Station 28+96. The bank is sloped and a cobble revetment is constructed between Station 10+20 and Station 17+40, a distance of 720 feet. A gravel road surface was applied to realigned road and required turnouts and road approaches constructed. These items are shown on the attached drawings in Exhibit "B". Drainage structures are listed in Exhibit "E".

(b) Location. The levee is located along the westerly bank of the Sacramento River and the southerly bank of Sycamore Slough. The project begins at Station 133+00, approximately 2.5 miles upstream from Fremont Weir. It extends upstream to Station 288+23 which station has an equation of 0+00 on the Sycamore Slough Traverse, thence continuing up the Sacramento River to approximate Station 15+00, and thence along Sycamore Slough to Station 28+96.

(c) Protection Afforded. The levee affords direct protection against high water of the Sacramento River and its tributaries in this area. The grade of the adopted flood profile along the main channel of the Sacramento River varies from Elevation 40.12 at the lower end to Elevation 41.21 at the upper end. The levee grade provides a freeboard of 5 feet above the flood profile. It is estimated that a flood flow of 30,000 second feet in the main channel will produce the adopted flood profile. Such a flow is not expected to occur more than one in 70 years.

(d) Contractor. The construction work on the levee described above was done by H. Earl Parker, Contractor, under Contract No. W-04-167-eng-1106, a copy of which is on file in the U. S. Corps of Engineers' Office, Sacramento District, Sacramento, California.

(e) Beginning and Completion of Construction. Construction was started on 20 March 1946, and completed on 25 June 1946.

(f) Outstanding Construction Features. In general, all construction features are based on Standard plans and specifications, and the details are fully covered in the attached drawings listed below. (See Exhibit "B")

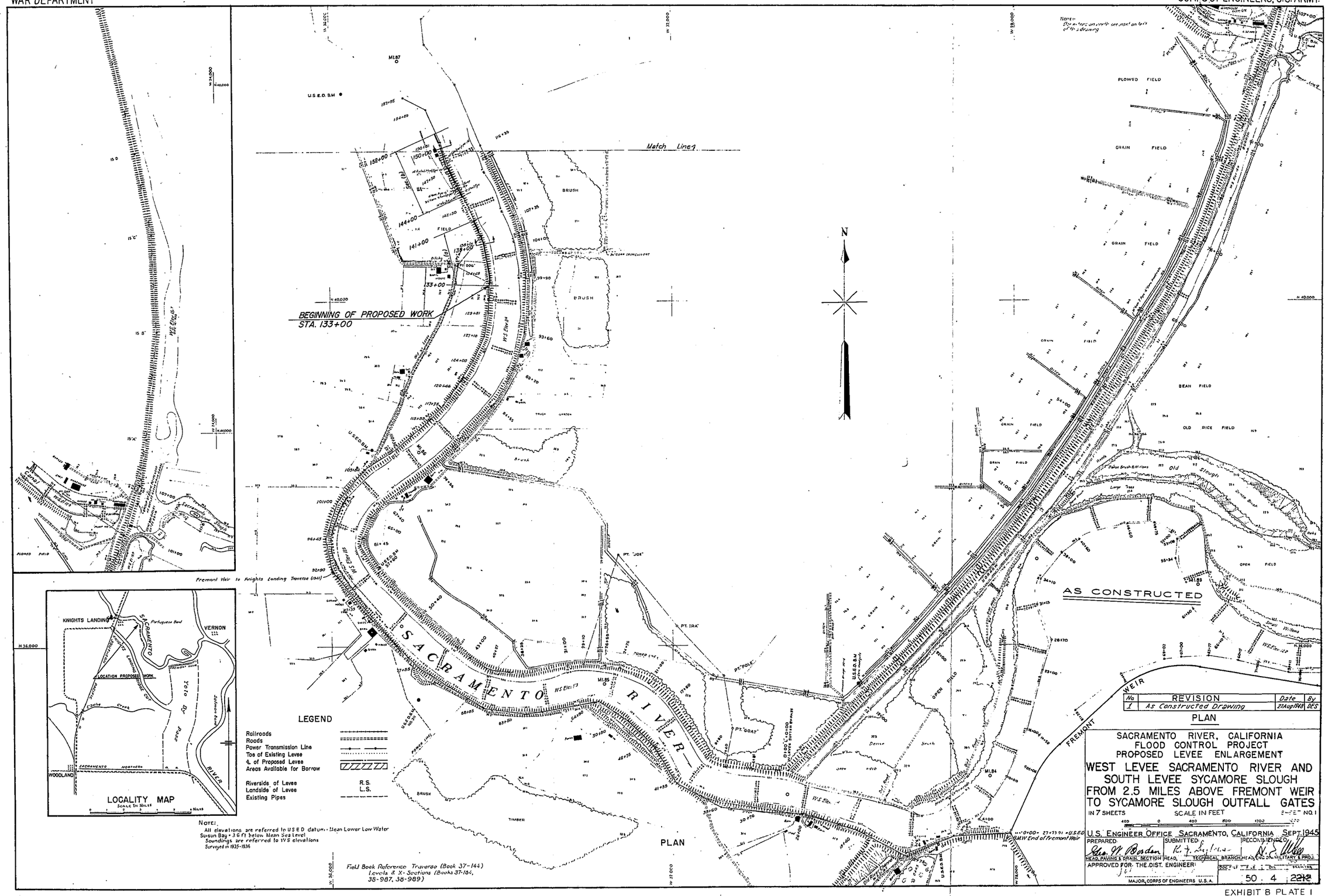
File No.	Title
50-4-2212 (in 7 sheets)	Levee enlargement, West Levee Sacramento River and South Levee Sycamore Slough from 2.5 miles above Fremont Weir to Sycamore Slough Outfall Gates.

2. Maintenance and Operation. The levee and drainage structures referred to above should be maintained and operated in accordance with Title 33 - "Navigation and Navigable Waters, Part 208 - Flood Control Regulations" as covered by Exhibit "A", sheets 1 and 2 of the Standard Operations and Maintenance Manual, for the Sacramento River Flood Control Project, copies of which may be obtained from office of the District Engineer, Corps of Engineers, Sacramento, California.

The responsibility for the maintenance and operation of this unit of levee was accepted by the Reclamation Board of the State of California on 27 August 1946, as shown on the attached resolution, Exhibit "F".

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. ARMY.



Note:
All elevations are referred to U.S.E.D. datum - Mean Lower Low Water
Suisun Bay = 3.6 ft below Mean Sea Level
Soundings are referred to W.S. elevations
Surveyed in 1935-1936

No	REVISION	Date	By
1	As Constructed Drawing	21 Aug 1948	DFS

PLAN

SACRAMENTO RIVER, CALIFORNIA
FLOOD CONTROL PROJECT
PROPOSED LEVEE ENLARGEMENT

WEST LEVEE SACRAMENTO RIVER AND SOUTH LEVEE SYCAMORE SLOUGH FROM 2.5 MILES ABOVE FREMONT WEIR TO SYCAMORE SLOUGH OUTFALL GATES

IN 7 SHEETS — SCALE IN FEET — SHEET NO. 1

U.S. ENGINEER OFFICE SACRAMENTO, CALIFORNIA SEPT. 1945

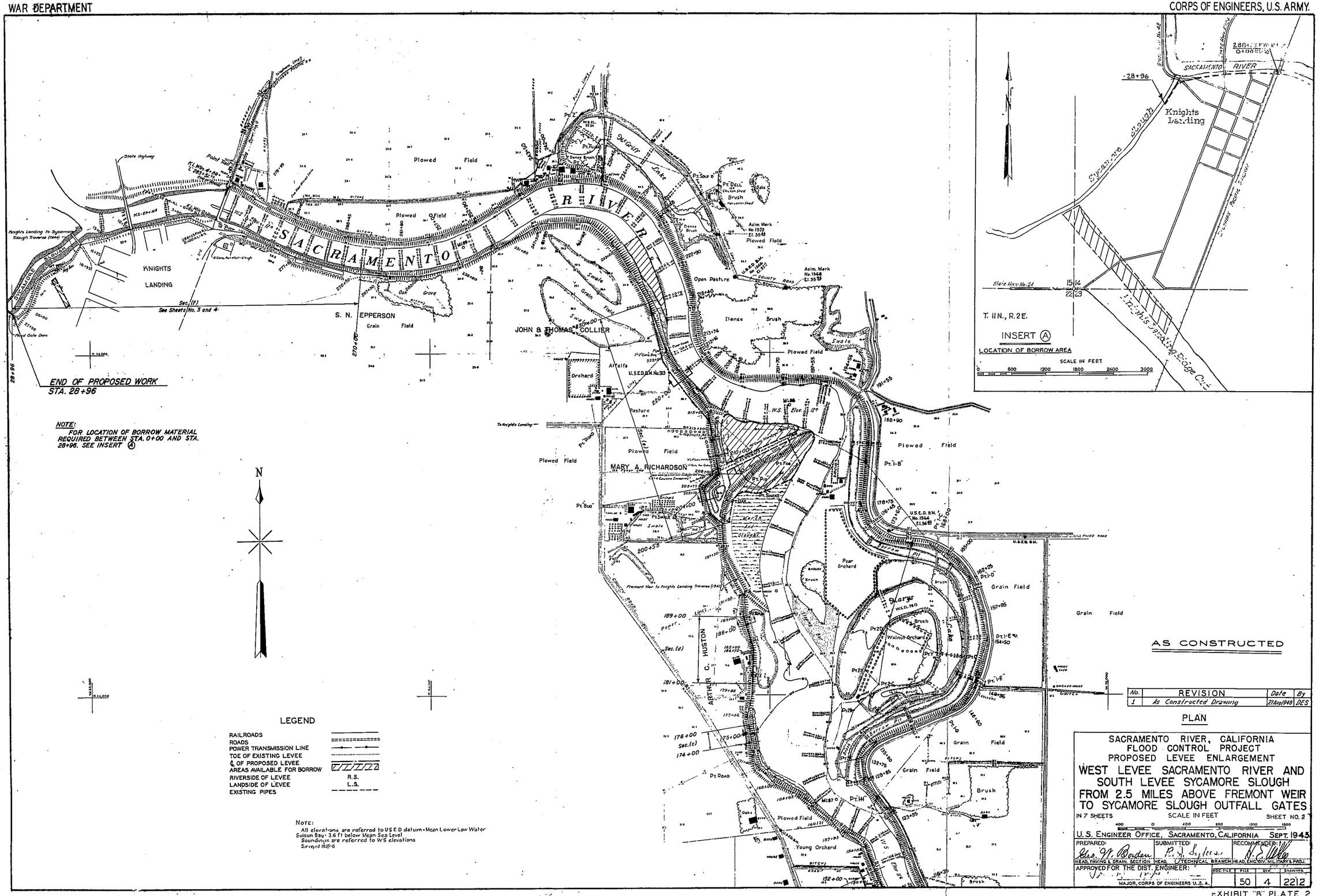
PREPARED: Geo. W. Borden, HEAD, PAVING & DRAIN. SECTION
SUBMITTED: R. J. Lytle, HEAD, TECHNICAL BRANCH
RECOMMENDED: N. E. Wilson, HEAD, ENG. DIV. MILITARY & PROJ.
APPROVED FOR: THE DIST. ENGINEER: MAJOR, CORPS OF ENGINEERS, U.S.A.

50 . 4 . 2212

EXHIBIT B PLATE I

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. ARMY.

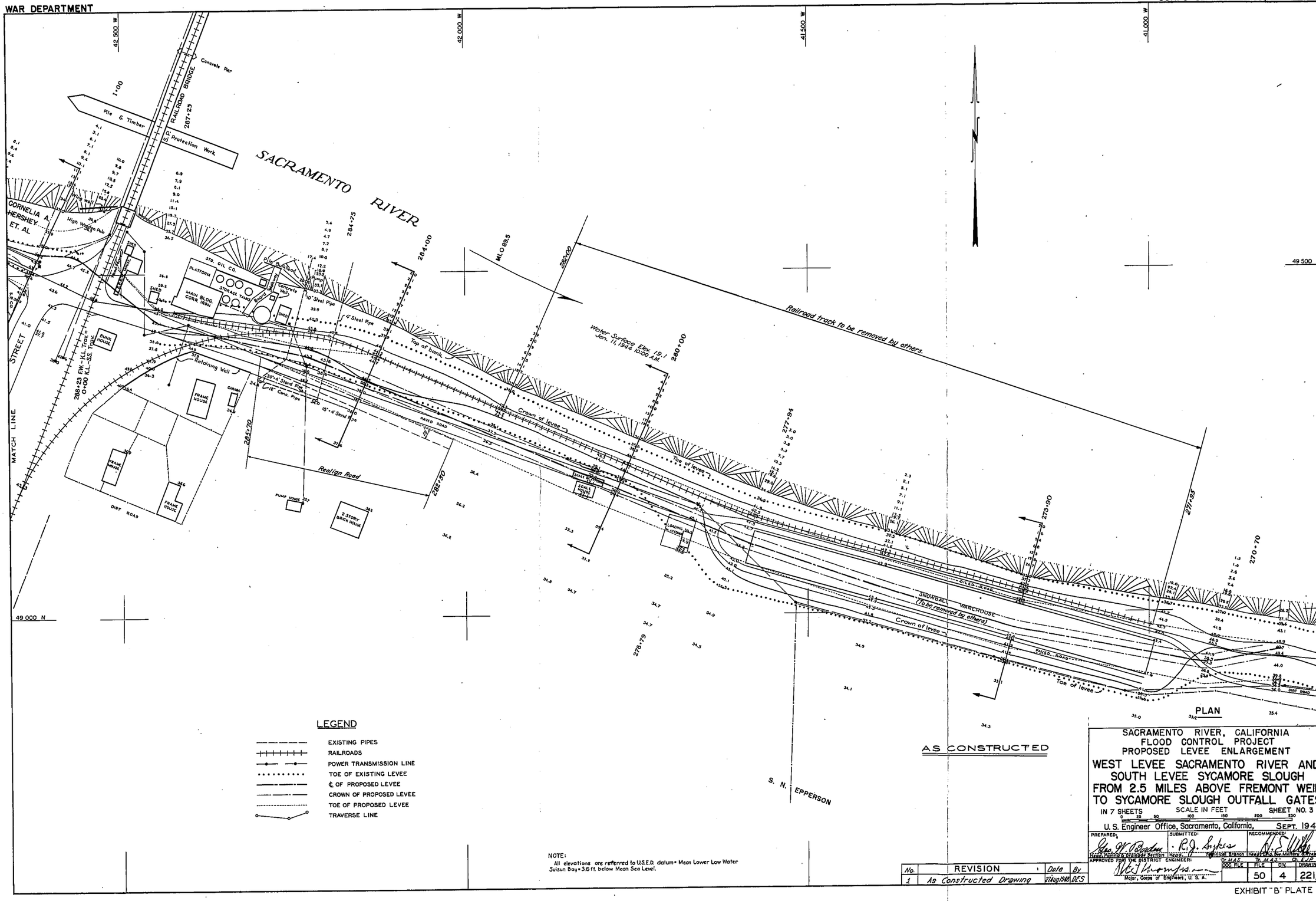


No.	REVISION	Date	By
1	As Constructed Drawing	21 May 1948	DES

EXHIBIT "B" PLATE 2

WAR DEPARTMENT

CORPS OF ENGINEERS, U. S. ARMY



SACRAMENTO RIVER, CALIFORNIA
FLOOD CONTROL PROJECT
PROPOSED LEVEE ENLARGEMENT

WEST LEVEE SACRAMENTO RIVER AND SOUTH LEVEE SYCAMORE SLOUGH FROM 2.5 MILES ABOVE FREMONT WEIR TO SYCAMORE SLOUGH OUTFALL GATES

IN 7 SHEETS — SCALE IN FEET — SHEET NO. 3

U. S. Engineer Office, Sacramento, California, SEPT. 1945

PREPARED:	SUBMITTED:	RECOMMENDED:
Geo. W. Bordeau, Head, Planning & Drainage Section	R. J. Sykes, Head, Technical Branch	H. S. Wilson, Head, Eng. Div. Military & Projects

APPROVED FOR THE DISTRICT ENGINEER: Dr. MAS, Tr. MAS, Ch. EJP

Major, Corps of Engineers, U. S. A.

No.	REVISION	Date	By
1	As Constructed Drawing	27 Aug 1948	DES

DOC. FILE	FILE	DIV.	DRAWING
	50	4	2212

EXHIBIT "B" PLATE 3.

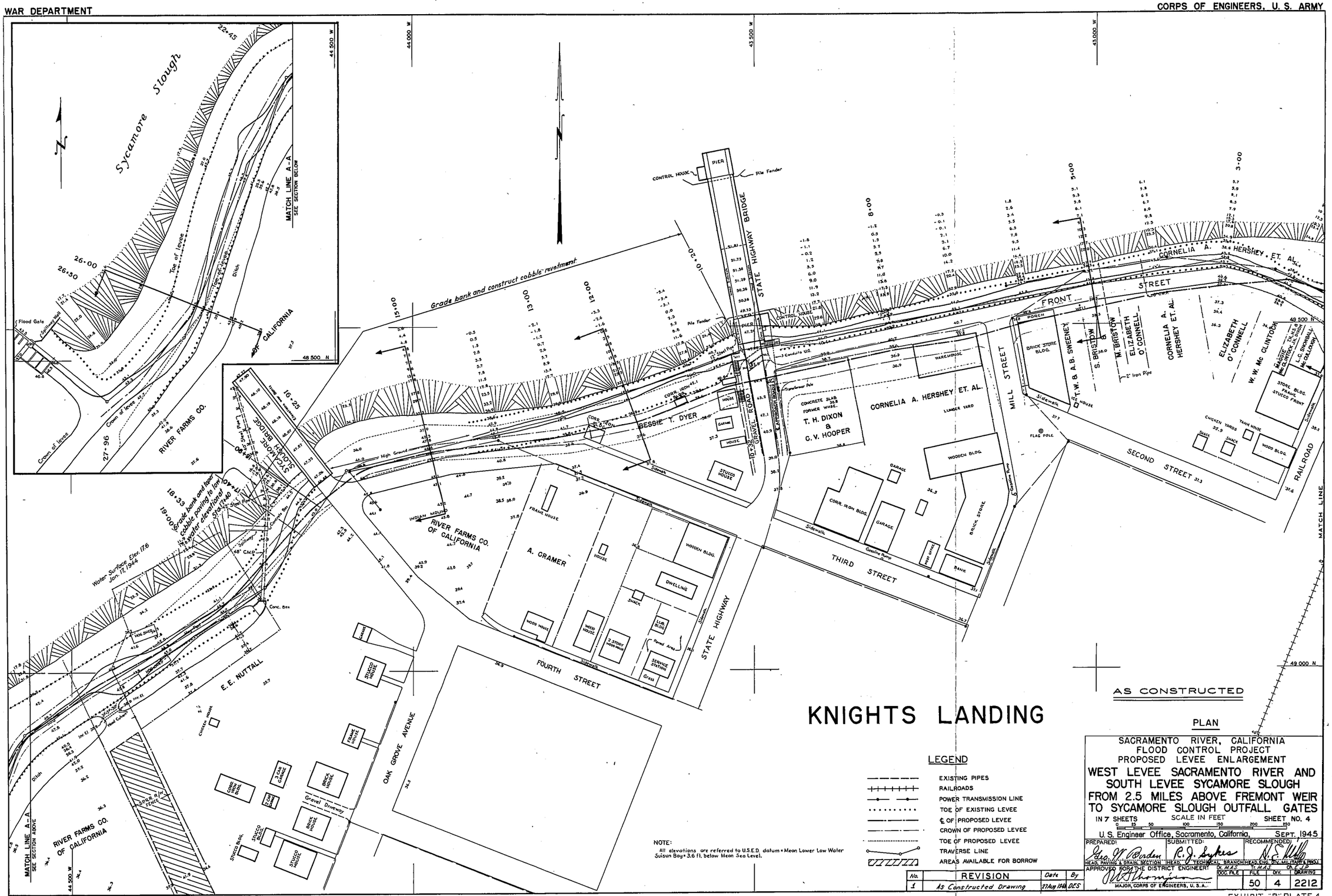
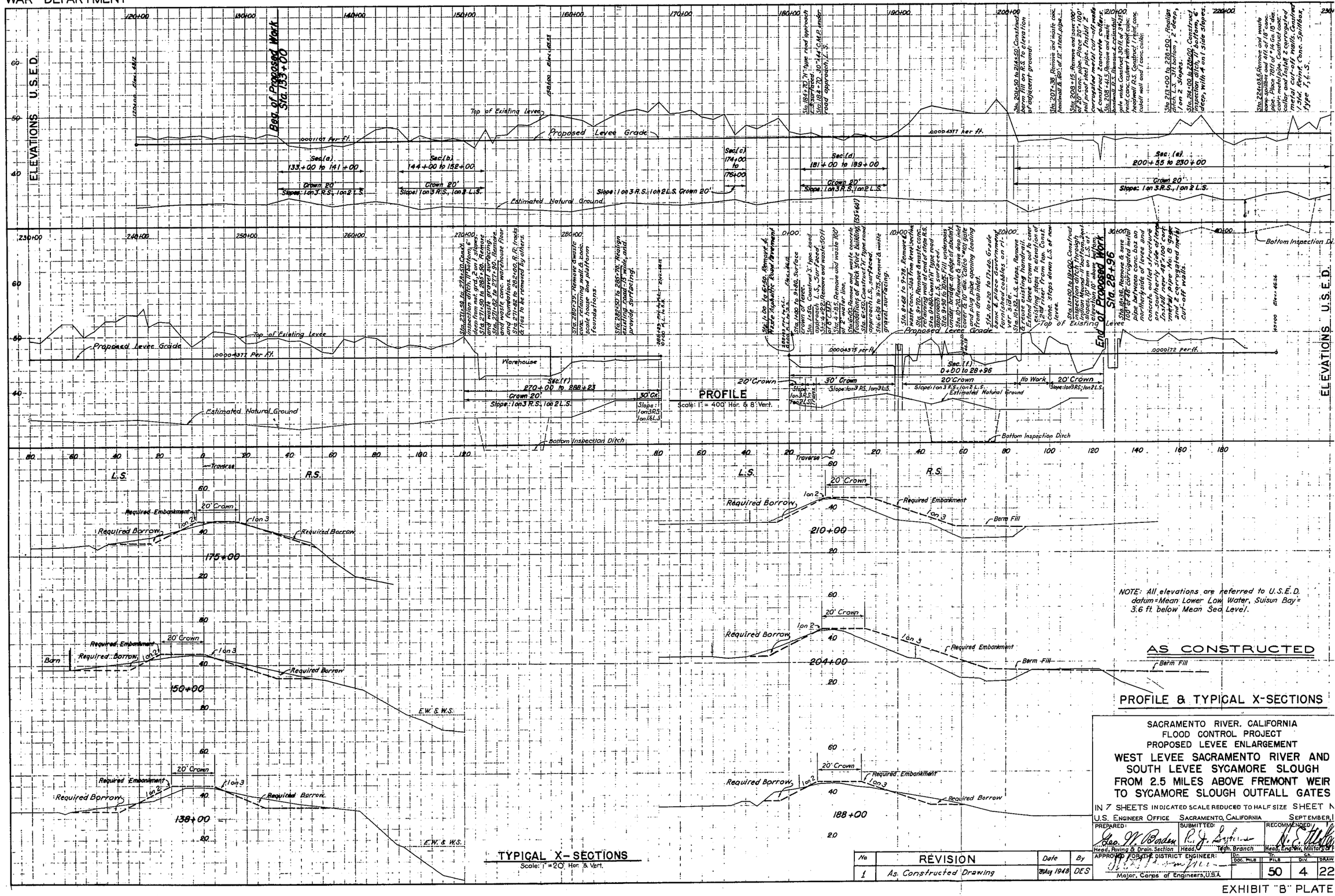


EXHIBIT "B" PLATE 4.

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. AR



NOTE: All elevations are referred to U.S.E.D. datum = Mean Lower Low Water, Suisun Bay = 3.6 ft. below Mean Sea Level.

AS CONSTRUCTED

PROFILE & TYPICAL X-SECTIONS

SACRAMENTO RIVER, CALIFORNIA
FLOOD CONTROL PROJECT
PROPOSED LEVEE ENLARGEMENT

WEST LEVEE SACRAMENTO RIVER AND SOUTH LEVEE SYCAMORE SLOUGH FROM 2.5 MILES ABOVE FREMONT WEIR TO SYCAMORE SLOUGH OUTFALL GATES

IN 7 SHEETS INDICATED SCALE REDUCED TO HALF SIZE SHEET N

U.S. ENGINEER OFFICE SACRAMENTO, CALIFORNIA SEPTEMBER,

PREPARED:	SUBMITTED:	RECOMMENDED:
Geo. W. Borden	R. J. Sylvester	H. E. Ellis
Head, Paving & Drain. Section	Head, Tech. Branch	Head, Eng. Div. Military & P

APPROVED FOR THE DISTRICT ENGINEER: Major, Corps of Engineers, U.S.A.

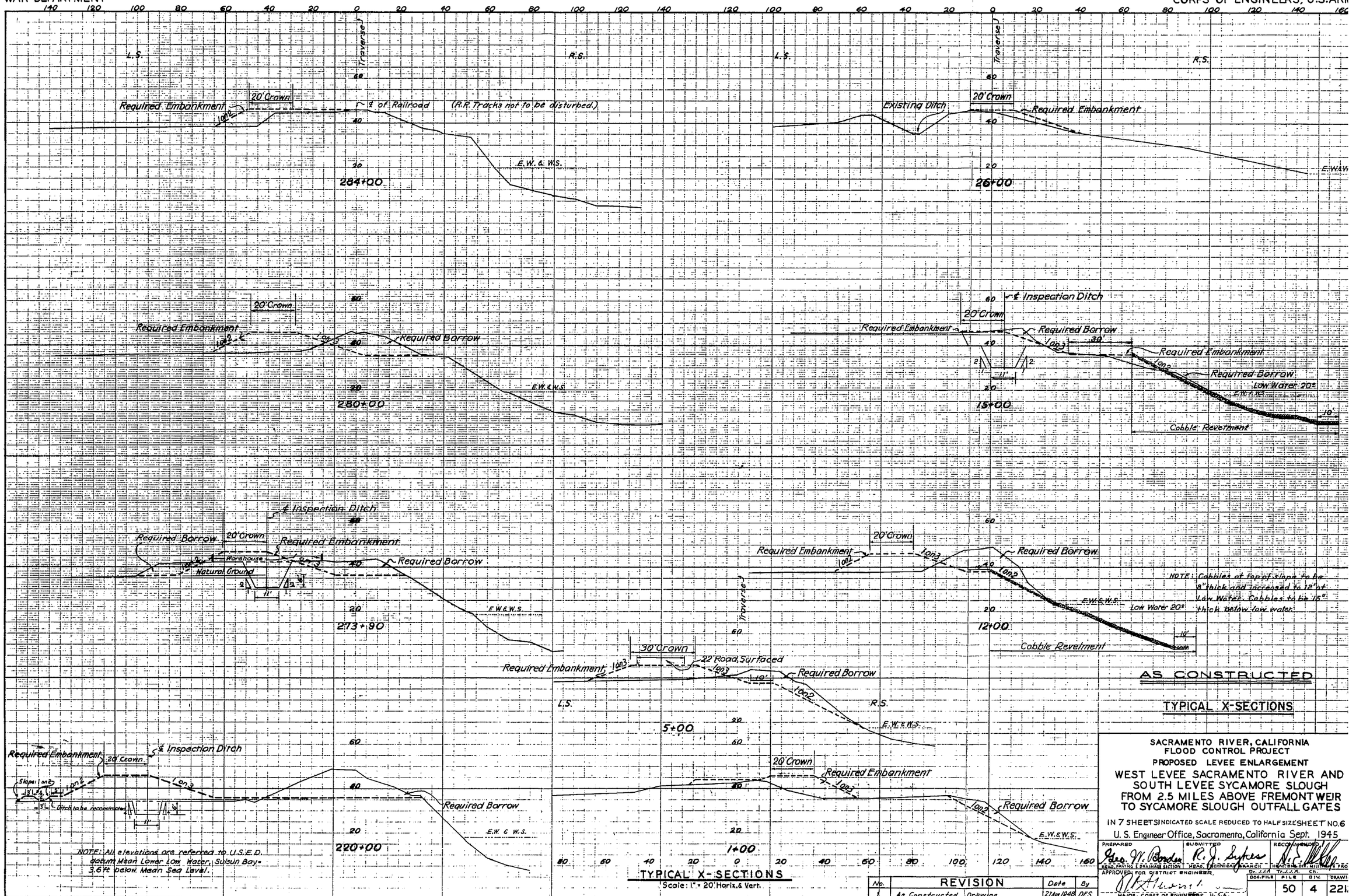
No	REVISION	Date	By
1	As Constructed Drawing	8 Aug 1948	DES

Dr.	Tr.	Ch.	Dr.	Doc. File	File	Div.	Drawing
					50	4	22

EXHIBIT "B" PLATE

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S.ARM



AS CONSTRUCTED

TYPICAL X-SECTIONS

TYPICAL X-SECTIONS

Scale: 1" = 20' Horiz. & Vert.

No.	REVISION	Date	By
1	As Constructed Drawing	27 May 1948	DES

SACRAMENTO RIVER, CALIFORNIA
FLOOD CONTROL PROJECT
PROPOSED LEVEE ENLARGEMENT
WEST LEVEE SACRAMENTO RIVER AND SOUTH LEVEE SYCAMORE SLOUGH FROM 2.5 MILES ABOVE FREMONT WEIR TO SYCAMORE SLOUGH OUTFALL GATES

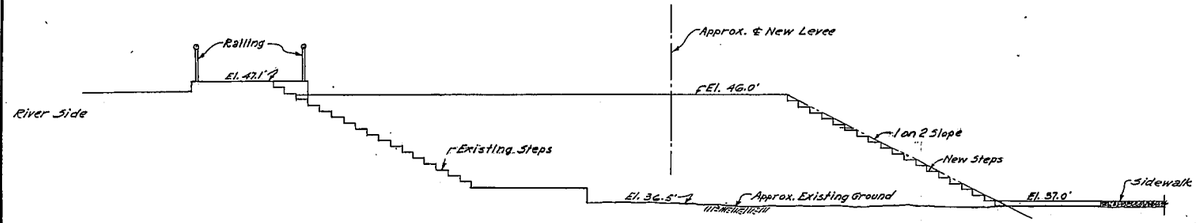
IN 7 SHEETS INDICATED SCALE REDUCED TO HALF SIZE SHEET NO. 6

U. S. Engineer Office, Sacramento, California Sept. 1945

PREPARED: Geo. W. Borden — HEAD, PAVING & DRAINAGE SECTION
SUBMITTED: R. J. Sykes — HEAD, TECHNICAL BRANCH
RECOMMENDED: R. E. Miller — HEAD, SALES DIV. MILITARY TRANS.
APPROVED: FOR DISTRICT ENGINEER, Chas. H. Tyler — MAJOR, CORPS OF ENGINEERS, U.S.A.

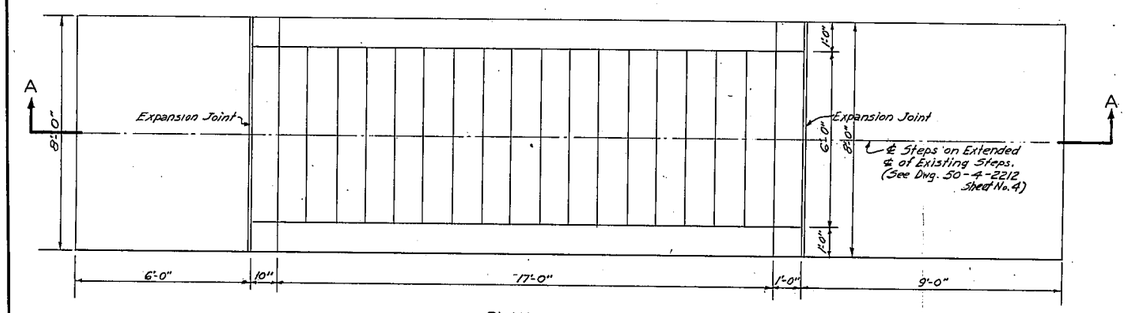
DOC. FILE	FILE	DIV.	DRAWI
	50	4	221

EXHIBIT "B" PLATE 6

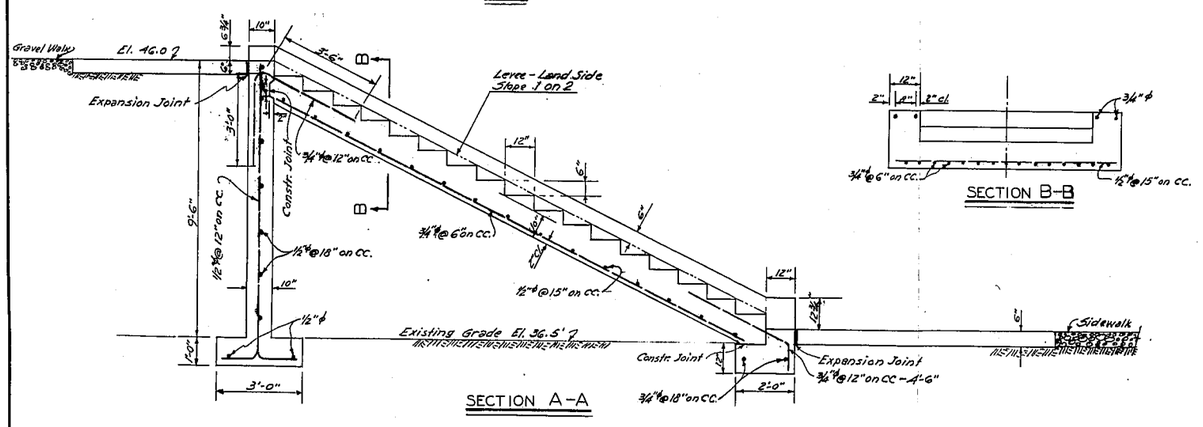


CROSS-SECTION THROUGH STEPS
AT
KNIGHTS LANDING

SCALE IN FEET HOR. & VERT.
0 5 10 15



PLAN



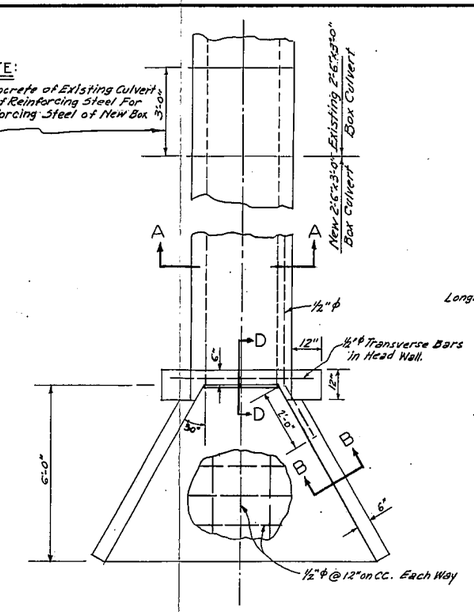
SECTION A-A

SECTION B-B

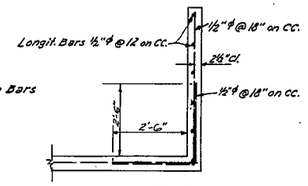
CONCRETE STEPS AT STA. 10+32

SCALE IN FEET
0 1 2 3 4 5 6

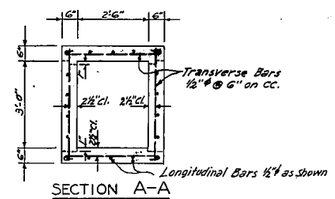
NOTE:
Remove Concrete of Existing Culvert & Expose 3'-0" of Reinforcing Steel For Lap with Reinforcing Steel of New Box Culvert



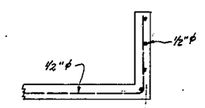
PLAN



SECTION B-B



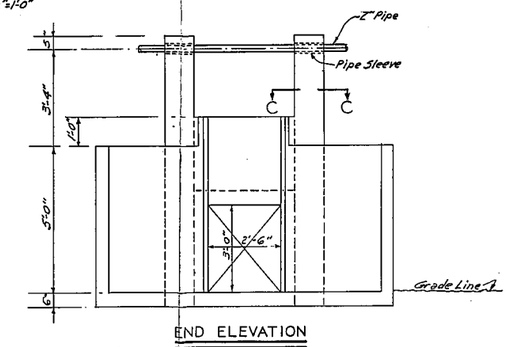
SECTION A-A



SECTION D-D

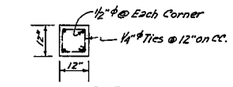
Scale: 1/2" = 1'-0"

NOTE:
Splices for Reinforcement Shall be a lap of 40 Diameters Except as Indicated on Drawing.



END ELEVATION

CONCRETE CULVERT AT STA. 208+41.5



SECTION C-C

AS CONSTRUCTED

SPECIAL STRUCTURES

SACRAMENTO RIVER CALIFORNIA
FLOOD CONTROL PROJECT
PROPOSED LEVEE ENLARGEMENT

WEST LEVEE SACRAMENTO RIVER AND SOUTH LEVEE SYCAMORE SLOUGH FROM 2.5 MILES ABOVE FREMONT WEIR TO SYCAMORE SLOUGH OUTFALL GATES

IN 7 SHEETS — SCALE: AS SHOWN — SHEET NO. 7

U. S. ENGINEER OFFICE, SACRAMENTO, CALIFORNIA. — SEPT., 1945

PREPARED: Geo. W. Barden, HEAD, RIVING & DRAINAGE SECTION
SUBMITTED: R. J. Sykes, HEAD, TECHNICAL BRANCH
RECOMMENDED: A. E. Miller, HEAD, ENG. DIV. MILITARY & PROJ.
APPROVED FOR THE DISTRICT ENGINEER: J. A. Thompson, MAJOR, CORPS OF ENGINEERS, U.S.A.

No	REVISION	Date	By
1	As Constructed Drawing	27 May 1948	DES

DOC. FILE	FILE	DIV.	DRAWING
Ch. E.B.M.	Tr. G.M.K.	Ch. E.B.M.	
	50	4	2212

EXHIBIT "B" PLATE 7.

CHECK LIST NO. 2

Drainage structures located along the westerly bank of the Sacramento River and the southerly bank of Sycamore Slough from 2.5 miles upstream of Fremont Weir to Sycamore Slough Outfall Gates, approximately 27 miles northwest of Sacramento, California, as shown on Drawing No. 50-4-2212 in 7 sheets.

HIGHWATER PERIOD. This term is used under Paragraph 4-02(c)3b of the Standard Operation and Maintenance Manual; it applies to flood rising above the reading of 38.0 on the Division of Water Resources winter station and U. S. Geological Survey summer station at Knights Landing on left bank of Sacramento River immediately upstream from Southern Pacific Railroad Bridge. Continuous water stage recorder and staff gage set on U.S.C.E. datum.

Location (station)	Corr. Metal Pipe	Steel Pipe	Elev. Invert
208+15 (Fr. Weir to K. Ldg. Trav.)		20" Steel pipe, 20" gate valve land side	31.7
224+03.5 (Fr. Weir to K. Ldg. Trav.)	18" Corr. Metal Pipe Gate Valve in Pump House on River side		37.3
18+36 (K. Ldg. to Syc. Sl. Trav.)	48" Corr. Metal Pipe Calco #101 Gate 8' frame River side		33.0

Exhibit "E"

R E S O L U T I O N

PASSED AND ADOPTED BY THE RECLAMATION BOARD

AUGUST 21, 1946

- - - -

WHEREAS The Reclamation Board has heretofore approved certain items of "new construction"; consisting of (1) the enlargement and construction of the West levee of the Sacramento River from Colusa to Packers, in Reclamation District No. 2047; (2) the enlargement and construction of the West levee of the Sacramento River and the South levee of Sycamore Slough located near Knights Landing in Reclamation District No. 730; and (3) the enlargement and construction of the West levee of the Feather River, two miles north of Yuba City, northerly twelve miles, a portion of which lies in Reclamation District No. 777, and a portion lying in Levee District No. 9 of Sutter County; and

WHEREAS the War Department, Corps of Engineers, District Engineer, Sacramento District, under dates of 12 August, 1946, and 13 August, 1946, has notified The Reclamation Board of the completion of the three items of levee enlargement and construction, and has transferred said portions of levee to the State of California for maintenance and operation by the proper local interests; and

WHEREAS the Chief Engineer of The Reclamation Board has caused to be made an inspection on the ground of the three items of new construction as specified above, and has found and determined that such work, as completed, has been prosecuted and carried out in conformance with plans and specifications therefor; now therefore be it

Exhibit "F"

RESOLVED AND ORDERED that The Reclamation Board does hereby accept for the State of California the said three items of "new construction" as aforesaid, which have on the dates above set forth been transferred to said Board by the War Department, U. S. District Engineer; and be it further

RESOLVED AND ORDERED that the West levee of the Sacramento River from Colusa to Packers, together with the berms and appurtenant structures thereof, be turned over to Reclamation District No. 2047 for maintenance and operation, as the legally authorized function of said District; and be it further

RESOLVED AND ORDERED that the West levee of the Sacramento River and the South levee of Sycamore Slough located and being near Knights Landing, lying in Reclamation District No. 730, be, and the same is hereby transferred to said Reclamation District No. 730 for maintenance and operation as the legally authorized function of said District; and be it further

RESOLVED AND ORDERED that such portion of the West levee of the Feather River from two miles north of Yuba City northerly twelve miles, as lies in Levee District No. 9 of Sutter County, be, and the same is hereby transferred to said Levee District No. 9 of Sutter County for maintenance and operation, as the legally authorized function of said District, and that the remaining portion of said section of levee, so much thereof as lies within Reclamation District No. 777, be, and the same is hereby transferred to said Reclamation District No. 777 for maintenance and operation as the legally authorized function of said District.

- - - - - - - -

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO) ss.
Office of The Reclamation Board)

I, S. A. HONAKER, Assistant Secretary of The Reclamation Board, do hereby certify that the above and foregoing is a true and correct copy of a Resolution made by said Board at its meeting held August 21, 1946.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of The Reclamation Board this 22 day of August 1946.

/s/ S. A. Honaker
S. A. HONAKER
Assistant Secretary
The Reclamation Board

SACTO DIST & C D C
19 Feb 1947 9:00 AM
SACRAMENTO, CALIFORNIA