
**OPERATION AND MAINTENANCE
MANUAL**

**SACRAMENTO RIVER
CHICO LANDING TO RED BLUFF PROJECT
BANK PROTECTION**



**DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA**

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Sacramento District
Corps of Engineers
U.S. Army
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This manual supersedes the Operation and Maintenance Manual issued May 1964.

OPERATION AND MAINTENANCE MANUAL
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SECTION I
INTRODUCTION

1-01. Project Authorization and Description. The Sacramento River, Chico Landing to Red Bluff Project was authorized in the Flood Control Act of 1958 (Public Law 85-500, 3 July 1958), which reads in part as follows:

The project for flood protection on the Sacramento River from Chico Landing to Red Bluff, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document No. 272, Eighty-fourth Congress, at an estimated cost of \$1,560,000.

House Document 272, 84th Congress, 2d Session, provided that the Sacramento River Flood Control Project be modified:

. . . to include bank protection work and clearing and snagging along the Sacramento River from Chico Landing to Red Bluff . . . subject to the condition that only such work be constructed as is found economically justified at the time of construction in the light of conditions then prevailing along the river

and that:

. . . the existing project . . . be extended to Keswick Dam for the purpose of zoning the area below the dam to prevent the erection of future improvements within the flood plain . . . by the enactment and enforcement of adequate zoning regulations over the flood plain area.

The Sacramento River, Chico Landing to Red Bluff Project is in north central California. Bank protection sites extend intermittently along a 50-mile reach of the river beginning at Chico Landing (River Mile 194), Butte County, and ending at Red Bluff (River Mile 244), Tehama County. A location map is shown as Exhibit A.

1-02. Purpose of Manual. This manual has been prepared to provide local interests with information pertinent to the operation and maintenance of project facilities, to advise them of the details of applicable requirements, and to assure that structures and facilities provided by the United States for local protection are continuously maintained and operated as necessary to obtain maximum benefits. Rules that govern local interests in operating and maintaining flood control projects are contained in the Code of Federal Regulations. (See Exhibit B). The Flood Immunity Statute (33 U.S.C., Section 702c.) protects the United States from liability of any kind from damage caused by floodwater related to a flood control project.

1-03. Definitions. Definitions applicable to this manual are:

District Engineer: The chief executive of the Sacramento District, U.S. Army Corps of Engineers, 650 Capitol Mall, Sacramento, 95814. In certain contexts, the term may be construed to include representatives of the District Engineer.

Regulations: Part 208, Chapter II, Title 33, Code of Federal Regulations. (Exhibit B of this manual is an extract.)

Right or left bank: The right or left side of a stream or waterway as the viewer faces downstream.

Superintendent: The local official with responsibility (pursuant to regulations) for developing and maintaining, and directly in charge of, an organization charged with the efficient operation and maintenance of flood control facilities provided by the United States.

1-04. Construction data. A summary of data pertinent to the construction of project facilities covered by this manual is shown on page 3.

CONSTRUCTION CONTRACT DATA

| <u>Description of Work*</u> | <u>Contractor</u> <u>/Contract No.</u> | <u>Period of</u> <u>Performance</u> | <u>Specifi-</u> <u>cation</u> | <u>Drawing</u> |
|---|---|--|----------------------------------|----------------------|
| SACRAMENTO RIVER: | | | | |
| Bank protection, RM 219.4, 234.2, 234.7, 239.1 & 240.0, left bank; and RM 220.3 & 237.2, right bank | Eugene Luhr & Co. DA-04-167-CIVENG-63-74 | 3 Jun 1963- 6 Mar 1964 | 2898 | 50-4-3713 16 Shts |
| Bank protection, right bank at Tehama--RM 229.3 (177.3) | H. Earl Parker DACW05-69-C-0011 | 23 Sep 1968- 23 Oct 1968 | 3559 | 50-4-4412 1 Sht |
| Emergency restoration of bank protection, RM 220.3, right bank | Carl J. Woods DACW05-69-C-0069 | 29 May 1969- 11 Jul 1969 | 3656 | 50-4-4479 1 Sht |
| Bank protection, right bank at Woodson Bridge; left bank at RM 218.3 (166.4) | James L. Ferry & Sons DACW05-70-C-0086 | 21 May 1970- 20 Jun 1970 | 3694 | 6-4-2125 1 Sht |
| Emergency restoration and extension of bank protection, RM 239.1 & 240.0, left bank; and RM 220.3 & 237.2, right bank | Carl J. Woods DACW05-71-C-0027 | 22 Aug 1970- 23 Jan 1971 | 3813 | 50-4-4545 2 Shts |
| Emergency restoration of bank protection, RM 220.3, right bank | Wayne L. Grist DACW05-71-C-0117 | 2 Jun 1971- 6 Aug 1971 | 4073 | 50-4-4696 1 Sht |
| Bank protection, left bank at RM 235.8 (185.3) | H. Earl Parker DACW05-72-C-0019 | 14 Sep 1971- 28 Nov 1971 | 4106 | 50-4-4706 8 Shts |
| Bank protection, RM 194.0 & 196.3, left bank | Chandler Newman Co. DACW05-73-C-0109 | 9 Jul 1973- 4 Jan 1974 | 4451 | 50-4-4891 3 Shts |
| Bank protection, RM 208.4 & 213.1, left bank | Carl J. Woods DACW05-74-C-0093 | 11 Jul 1974- 23 Oct 1974 | 4668 | 50-4-4971 5 Shts |
| Emergency restoration and extension of bank protection, RM 234.2, 234.7, 235.8 & 240.0, left bank; and RM 237.2, right bank | Mastelotto Enterprises, Inc. DACW05-75-C-0008 | 25 Jul 1974- 25 Sep 1974 | 4761 | 50-4-4984 1 Sht |
| Bank protection, RM 194.0, 202.4, 207.0, 211.1 & 230.5, left bank; and RM 202.0, 229.0, & 197.0, right bank | Luhr Brothers, Inc. DACW05-76-C-0014 | 1 Aug 1975- 15 Nov 1976 | 4913 | 50-4-5043 14 Shts |
| Emergency restoration and extension of bank protection, RM 220.3, right bank | K-C Company DACW05-79-C-0005 | 13 Nov 1978- 13 Dec 1978 | 5629 | 50-4-5522 1 Sht |
| Bank Protection, RM 233.9, 238.1, 239.8 & 242.0, left bank; and RM 204.9, 215.3, 226.3 & 231.2, right bank | Carl J. Woods DACW05-78-C-0026 | 4 Apr 1978- 7 Jul 1979 | 5412 | 50-4-5402 33 Shts |

* Data for certain early contracts reflects "old" river mile designations. For these older contracts, locations of work are shown in "new" river miles [from Sacramento District Drawing File 6-13-1471] and -- in () -- "old" river miles [from Drawing File 6-13-593]. River mile 141.2 (File 6-13-593) = river mile 195.12 (File 6-13-1471).

SECTION II
LOCAL COOPERATION

2-01. Stated Requirements. House Document No. 272 provided that local interests:

- (a) furnish without cost to the United States all necessary land, easements, and rights-of-way for construction of the project;
- (b) hold and save the United States free from damages due to the construction works; and
- (c) maintain the works after completion in accordance with regulations prescribed by the Secretary of the Army.

The authorizing legislation recognized that continued encroachment onto the flood plain of the Sacramento River below Keswick Dam would ultimately prevent Shasta Dam from being operated to provide fully the benefits for which it was authorized. Accordingly, House Document No. 272 also provided that local interests enact and enforce adequate zoning regulations to prevent construction of future permanent improvements in the flood plain of the Sacramento River.

2-02. Assurances Provided by Local Interests. Section 12538.2 of the California Water Code (added by Section 1, Chapter 1912, California Statutes of 1959) adopted and authorized the Sacramento River Bank Protection Project. Assurances of local cooperation by the State Reclamation Board are contained in Section 12657, which reads in part:

. . . the Reclamation Board shall give assurances satisfactory to the Secretary of the Army that the local cooperation, required by Section 3 of the Act of Congress approved December 22, 1964 (Public Law 534, 78th Congress, Second Session), and Section 2 of the Act of Congress approved August 18, 1941 (Public Law 228, 78th Congress, First Session), will be furnished by the state in connection with the flood control project authorized and adopted in Section . . . 12648.2

Glenn, Butte, Tehama, and Shasta Counties are involved in the requirement for local interests to enact and enforce flood plain zoning from Chico Landing to Keswick Dam. Glenn and Butte Counties adopted ordinances to control development in secondary floodways in 1972 and 1971, respectively. Tehama County adopted a flood plain zoning ordinance in 1974. These ordinances, in combination with the Designated Floodway Program of the State of California (Section 8400, California Water Code--Cobey-Alquist Flood Plain Management Act), satisfied the flood plain zoning requirement. The State Reclamation Board provided specific assurances of local cooperation for Tehama County bank protection sites on 15 March 1962, for Butte County sites on 29 June 1972, and for Glenn County sites on 9 March 1973. There are no bank protection sites in Shasta County.

2-03. Transfer of Responsibility. The responsibility for maintenance and operation of the project was transferred to the State Reclamation Board as portions of the work were completed. Completed work was officially transferred by letters dated 11 December 1963, 17 January 1964, 13 November 1968, 17 September 1970, 26 November 1971, 4 November 1974, 27 November 1974, 10 November 1975, 12 January 1976, 3 August 1976, 19 November 1976, 15 November 1978, and 19 June 1979. The transfer letters are shown as Exhibit C.

SECTION III
MAINTENANCE AND OPERATION

3-01. Introduction. This manual has been prepared to furnish local interests with information on the project works and advice on the details of the requirements of operation and maintenance applicable. The project works are to be maintained and operated in accordance with the Regulations shown as Exhibit B and the interpretations and amplifications thereof as contained herein.

3-02. Responsibilities of the Superintendent. A general outline of the responsibilities of the Superintendent is contained in Section 208.10, Subsection (a) of the Regulations. Subparagraph (2) is an overview of these responsibilities. It reads:

The State, political subdivision thereof, or other responsible local agency, which furnished assurance that it will maintain and operate flood control works in accordance with regulations prescribed by the Secretary of the Army, as required by law, shall appoint a permanent committee consisting of or headed by an official hereinafter called the "Superintendent," who shall be responsible for the development and maintenance of, and directly in charge of, an organization responsible for the efficient operation and maintenance of all of the structures and facilities during flood periods and for continuous inspection and maintenance of the project works during periods of low water, all without cost to the United States.

Major specific duties of the Superintendent are:

a. Training Key Personnel. Key personnel of the maintenance and operation organization and an Assistant Superintendent should be trained to handle maintenance as well as unexpected problems related to flood control. Sector foremen should be trained to lead in patrol, inspection, and maintenance work so these functions will be handled in an orderly and expeditious manner.

b. Preventing Encroachment and Trespass. Project right-of-way should be posted with clearly visible signs to prevent encroachment or trespass of project facilities. The Superintendent will take action under local ordinances and authorities to prosecute trespassers or remove unauthorized encroachments, and make a written report to the State Reclamation Board on any actions taken.

c. Permits for Right-of-Entry or Use of Right-of-Way. Permits for temporary right-of-entry upon, or the use of portions of project right-of-way, shall not be issued until the State Reclamation Board determines the conditions to be included in the permit document. The Superintendent will, therefore, cause notices to be posted at conspicuous locations along the project right-of-way to direct public attention to this requirement. See Exhibit D for a sample permit.

d. Permits for Improvements or Construction Within the Project Right-of-Way. The Superintendent will assure that all requests for permits for construction of any improvements of any nature within the limits of the project right-of-way are referred to the District Engineer through the State Reclamation Board for determination that such construction will not adversely affect the stability, safety, or functioning of the protective facilities, and for definition of the conditions under which the permit should be granted. These conditions will include, among others, the following:

1. That all work be performed in accordance with standard engineering practice using plans and specifications approved by the District Engineer or his authorized representative.

2. That drawings of proposed improvements or alterations of existing flood control works be submitted to the State Reclamation Board sufficiently in advance of the start of construction to permit adequate study and consideration.

3. That proposed work be determined compatible with existing project improvements.

4. That after completion of the improvement or alteration "As Constructed" drawings be submitted to the District Engineer in duplicate.

e. Inspection. The Superintendent must make periodic inspections to insure that effective maintenance is continuing. Regulations provide that such inspections shall be made just before the beginning and at the end of the flood season; immediately after each major high water period, otherwise at intervals not exceeding 90 days; and at such intermediate times as necessary to insure the best possible care of project facilities. For uniformity, the flood season is deemed to extend from 1 November through 15 April. The suggested check list shown as Exhibit E should be followed to insure that no feature of the project works is overlooked during inspections.

f. Maintenance. It is the responsibility of the Superintendent to maintain project facilities in a manner that insures their serviceability in time of flood. Maintenance and repair shall be accomplished during the appropriate season as scheduled by the Superintendent. Immediate steps will be taken to correct dangerous conditions disclosed by an inspection.

The Superintendent is fully responsible for making repairs and selecting the methods used. The District Engineer will be available for advice and consultation. All repairs shall be made in accordance with standard engineering practice, to line and grade, and in accordance with details shown on the construction drawings for the project works (Exhibit F). No change or alteration shall be made in any feature of the project works without a prior determination by the District Engineer that such alteration will not adversely affect the stability and functioning of project facilities. Plans and specifications for all proposed changes or alterations shall be submitted to the District Engineer through the State Reclamation Board for investigation and approval before prosecution of the work.

In the event that damage to the project works, whether due to floods or other causes, is considered to be beyond the maintenance responsibility of

the local interests to repair, the Superintendent will contact the District Engineer, through the State Reclamation Board, and he will assist, advise, or suggest the course of action to be taken.

g. Protecting the Environment. Project maintenance is to be accomplished in a manner that minimizes adverse environmental impact. Vegetation preserved through selective clearing during construction of project works shall not be removed as a part of normal maintenance. Dead trees with wild-life value will be retained except where they constitute a hazard to project works.

h. Maintaining Records and Making Reports. The Superintendent must maintain files of records, drawings, and reports on the project works and make these data available to the District Engineer upon request. The Superintendent shall submit a semi-annual report to the District Engineer within a 10-day period following 15 April and 1 November. The report will comprise statements of:

1. The physical condition of the protective works as summarized from logs of inspection.
2. Flood-fighting activities during the report period and the behavior of the project works during floods.
3. Prosecutions for encroachment or trespass.
4. Maintenance measures taken; nature, date of construction, and date of removal of temporary repairs; and date of completion of permanent repairs.
5. Permits issued for right-of-entry or use of right-of-way.
6. Permits issued for improvements or construction within the project right-of-way.
7. The cost of maintenance and operation for the report period.
8. Any unusual, abnormal, or unexpected conditions or occurrences bearing on the stability or continued effectiveness of the project works.

A suggested form for submitting the semi-annual report is shown as Exhibit G. Copies of inspector's field notes as recorded on a check-list (Exhibit E) will be made an inclosure to the semi-annual report.

3-03. Assistance by the District Engineer. To assist the Superintendent in meeting responsibilities under the Regulations, the District Engineer will:

a. Furnish "As Constructed" drawings of project works to the local interests responsible for maintenance and operation of project works. (Exhibit F)

b. Make periodic inspections of the project works and notify local interests of any repairs or maintenance measures deemed necessary in addition to measures taken and repairs made by the Superintendent.

c. Submit detailed reports on all cases of non-compliance with the Regulations to the Chief of Engineers for determination of corrective measures.

d. Make a prior determination of the effect of any proposed alteration of project works (or encroachment, excavation, or construction within the project right-of-way) on project functioning and furnish the results to the Superintendent in writing.

3-04. Specific Maintenance and Operation Requirements. The requirements for maintaining and operating channels and floodways are contained in paragraph 208.10(g) of the Regulations, which is quoted in part as follows:

. . . Periodic inspections of improved channels and floodways shall be made by the Superintendent to be certain that:

* * * * *

The channel or floodway is not being restricted by the depositing of waste materials, building of unauthorized structures or other encroachments;

* * * * *

Banks are not being damaged by rain or wave wash, and that no sloughing of banks has occurred;

Riprap sections and deflection dikes and walls are in good condition;

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. Measures will be taken by the Superintendent to promote the growth of grass on bank slopes and earth deflection dikes. . . .

* * * * *

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 banks, riprap, deflection dikes and walls, drainage outlets, or other flood control structures repaired.

a. Periodic Inspections. The State Department of Water Resources will make a detailed inspection of the project in the spring and fall of each year and note any required maintenance. Inspections are to be scheduled to coincide with the beginning and end of the flood season (1 November and 15 April), and the check list shown as Exhibit E is to be utilized. The purpose of these and other periodic inspections is to insure that conditions that may impair the effectiveness of the project are not developing. It is intended that inspections disclose all conditions that in any way affect the stability and functioning of the structures. Particular attention will be given to the following during every inspection:

1. Location, extent, and size of vegetation.
2. Unauthorized operations such as excavation or construction of buildings and other structures, levees, bank protection, or training dikes within the floodflow channel right-of-way.
3. Deposition of rubbish of any sort and disposal of industrial waste.
4. Changes such as aggradation or degradation in the streambed, which could interfere with free flow from side drainage structures or induce local meanders that would scour the banks.
5. Upstream operations of any nature that would affect flow conditions in the project reach.
6. The condition of project facilities.

During inspections, it should be determined whether the following provisions of the Regulations are being adhered to:

1. That brush, trees, shrubs, vines, and other growth that have established themselves in the rock revetment do not displace or cause the revetment to be washed out or fail.
2. That all caves, sloughs, burrows, holes, slips, or other damaged portions of the banks have been repaired.
3. That all irrigation and drainage structures within the project reaches are in good condition.
4. That no revetment work or riprap has been displaced, washed out, or removed.

b. Special Instructions, Maintenance. The principal feature of the project consists of bank protection. Accordingly, the requirements of paragraph 208.10(g) are supplemented as follows:

1. Where scour, wash, settlement, displacement, or failure of a portion of the originally provided stone protection has occurred, or where inspection indicates such damage may result during the next flood or high water period, the scour or wash shall be filled with earth free from brush, roots, sod, or other unsuitable materials, and additional stone placed upon

the earth fill to bring the stone protection to its original section. In an emergency, and when stone is not available, sandbags or bags filled with gravel may be used as a temporary remedial measure.

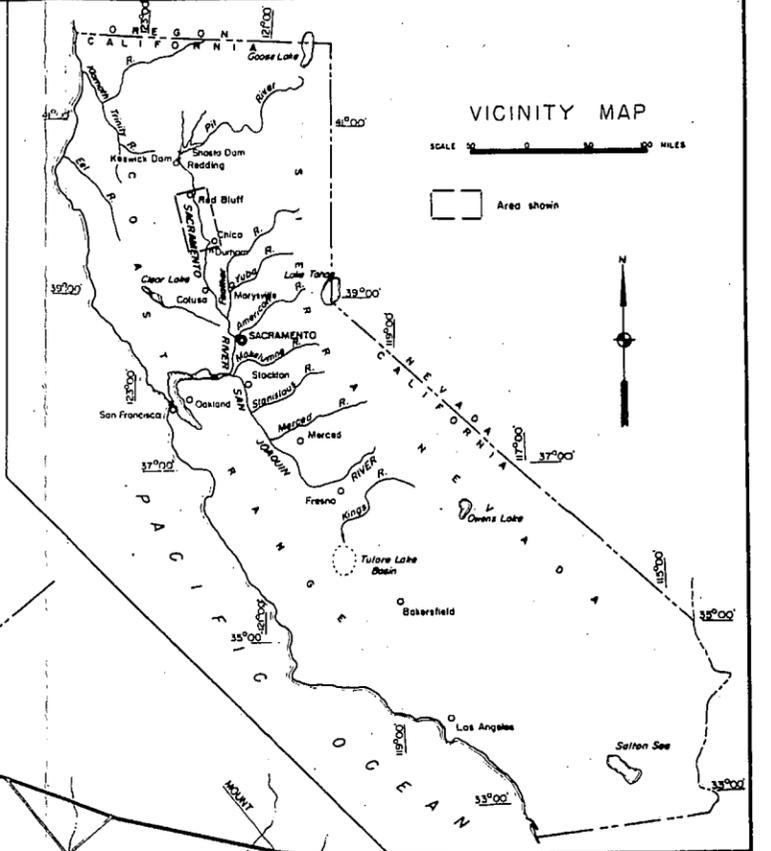
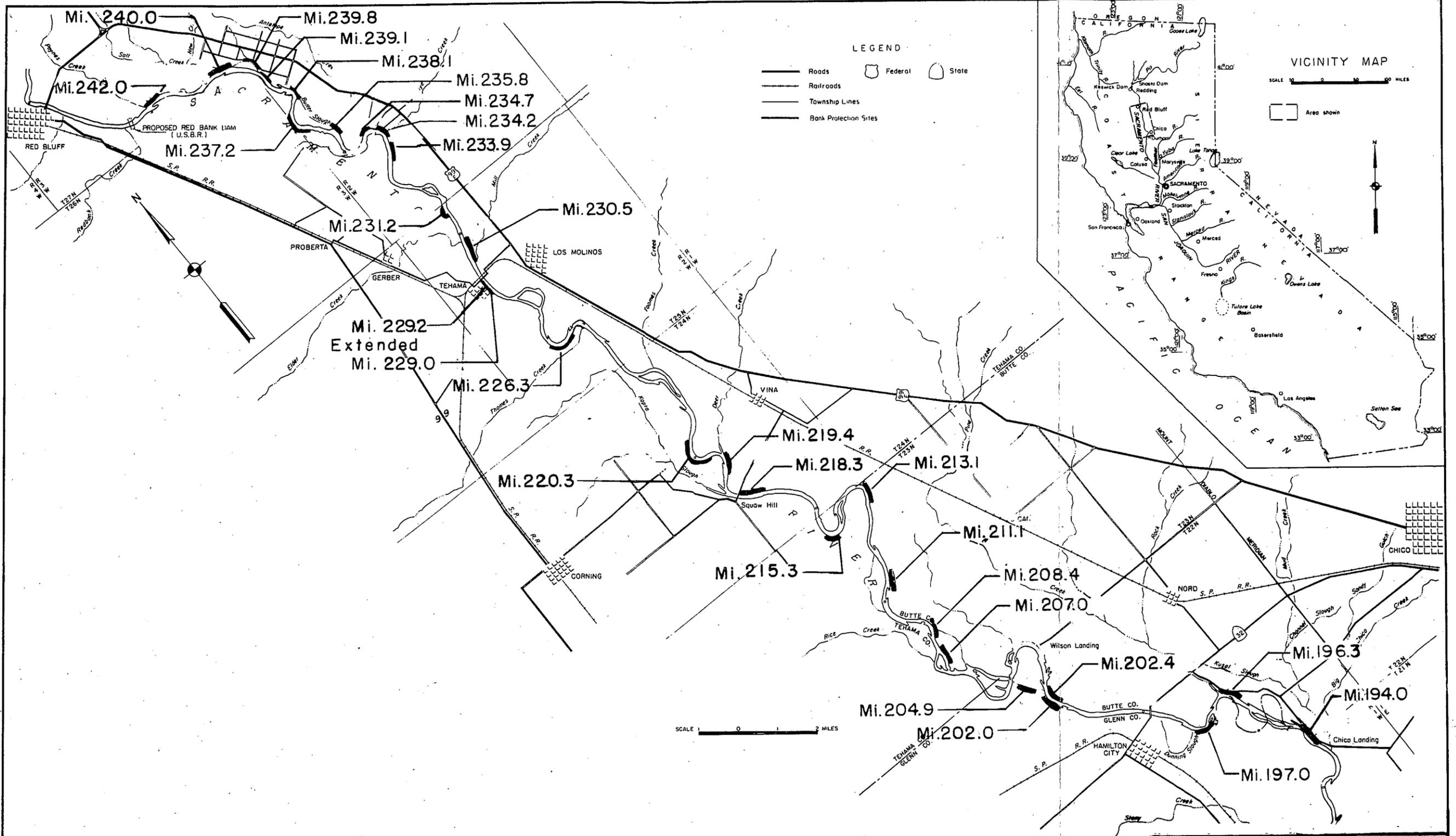
2. When the stone protection is permanently repaired, the stone used shall, in so far as possible, be similar to the kind and gradation as originally used and placed to the thickness shown on the "As Constructed" drawings identified in Exhibit F.

3. In the event an inspection reveals that due to scour, settlement, or other causes, stone protection on the bank is required beyond the limits of the original construction, or in reaches of the bank not originally provided with such protection, local interests will provide additional sloping of the bank and placement of stone protection as needed to protect the completed work. The work shall be done in a manner acceptable under standard engineering practice. Drawings showing such improvements or alterations shall be furnished to the District Engineer for approval prior to starting the work.

4. Trees, shrubs, brush, vines, and other vegetation may be allowed to grow through the revetment. Revetment displaced by vegetation shall be repaired. Vegetation that jeopardizes the integrity of the revetment shall be cut and removed and the revetment repaired.

5. A 20-foot maintenance strip shall be retained adjacent to the top of the bank to permit inspection and maintenance activities, and all of the bank waterward of the maintenance strip shall be maintained. Slopes above the revetment shall be maintained at those locations where the lower part of the bank was revetted and the upper part sloped and seeded during project construction. Where the bank above the revetment was not sloped, maintenance of the bank will begin when necessary to stabilize the bank on a 1 vertical to 2 horizontal slope. In general, the upper bank will be stabilized and maintained, as needed, by additional bank sloping and stone protection, or by other methods of erosion control.

6. All access roads should be maintained in a manner that allows inspection and maintenance vehicles to travel over them during non-flood periods. No encroachments shall be allowed in the 20-foot maintenance strip without the prior approval of the State Reclamation Board.



NOTE: River Miles shown are from Sacramento
 District Drawing File 6-13-1471 (19
 sheets).

LOCATION MAP
 SACRAMENTO RIVER, CALIFORNIA
 CHICO LANDING TO RED BLUFF
 BANK PROTECTION PROJECT
 EXHIBIT A

CODE OF FEDERAL REGULATIONS (EXTRACT)

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter II — Corps of Engineers, Department of the Army

PART 208 — FLOOD CONTROL REGULATIONS

AUTHORITY: § 208.10 issued under Sec. 7, 58 Stat. 890; 33 U.S.C. 709.

§ 208.10 *Local flood protection works; maintenance and operation of structures and facilities*—(a) *General.* (1) The structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits.

(2) The State, political subdivision thereof, or other responsible local agency, which furnished assurance that it will maintain and operate flood control works in accordance with regulations prescribed by the Secretary of the Army, as required by law, shall appoint a permanent committee consisting of or headed by an official hereinafter called the "Superintendent," who shall be responsible for the development and maintenance of, and directly in charge of, an organization responsible for the efficient operation and maintenance of all of the structures and facilities during flood periods and for continuous inspection and maintenance of the project works during periods of low water, all without cost to the United States.

(3) A reserve supply of materials needed during a flood emergency shall be kept on hand at all times.

(4) No encroachment or trespass which will adversely affect the efficient operation or maintenance of the project works shall be permitted upon the rights-of-way for the protective facilities.

(5) No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any change be made in any feature of the works without prior determination by the District Engineer of the Department of the Army or his authorized representative that such improvement, excavation, construction, or alteration will not adversely affect the functioning of the protective facilities. Such improvements or alterations as may be found to be desirable and permissible under the above determination shall be constructed in accordance with standard engineering practice. Advice regarding the effect of proposed improvements or alterations on the functioning of the project and information concerning methods of construction acceptable under standard engineering practice shall be obtained from the District Engineer or, if otherwise obtained, shall be submitted for his approval. Drawings or prints showing such improvements or alterations as finally constructed shall be furnished the District Engineer after completion of the work.

(6) It shall be the duty of the Superintendent to submit a semiannual report to the District Engineer covering inspection, maintenance, and operation of the protective works.

(7) The District Engineer or his authorized representatives shall have ac-

cess at all times to all portions of the protective works.

(8) Maintenance measures or repairs which the District Engineer deems necessary shall be promptly taken or made.

(9) Appropriate measures shall be taken by local authorities to insure that the activities of all local organizations operating public or private facilities connected with the protective works are coordinated with those of the Superintendent's organization during flood periods.

(10) The Department of the Army will furnish local interests with an Operation and Maintenance Manual for each completed project, or separate useful part thereof, to assist them in carrying out their obligations under this part.

(b) *Levees*—(1) *Maintenance.* The Superintendent shall provide at all times such maintenance as may be required to insure serviceability of the structures in time of flood. Measures shall be taken to promote the growth of sod, exterminate burrowing animals, and to provide for routine mowing of the grass and weeds, removal of wild growth and drift deposits, and repair of damage caused by erosion or other forces. Where practicable, measures shall be taken to retard bank erosion by planting of willows or other suitable growth on areas riverward of the levees. Periodic inspections shall be made by the Superintendent to insure that the above maintenance measures are being effectively carried out and, further, to be certain that:

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

(ii) No caving has occurred on either the land side or the river side 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;

(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. Immediate steps will be taken to correct dangerous conditions disclosed by such inspections. Regular maintenance repair measures shall be accom-

plished during the appropriate season as scheduled by the Superintendent.

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

(i) There are no indications of slides or sloughs developing;

(ii) Wave wash or scouring action is not occurring;

(iii) No low reaches of levee exist which may be overtopped;

(iv) No other conditions exist which might endanger the structure.

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.

(c) *Flood walls.*—(1) *Maintenance.* Periodic inspections shall be made by the Superintendent to be certain that:

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

(ii) No undue settlement has occurred which affects the stability of the wall or its water tightness;

(iii) No trees exist, the roots of which might extend under the wall and offer accelerated seepage paths;

(iv) The concrete has not undergone cracking, chipping, or breaking to an extent which might affect the stability of the wall or its water tightness;

(v) There are no encroachments upon the right-of-way which might endanger the structure or hinder its functioning in time of flood;

(vi) Care is being exercised to prevent accumulation of trash and debris adjacent to walls, and to insure that no fires are being built near them;

(vii) No bank caving conditions exist riverward of the wall which might endanger its stability;

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

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. Measures to eliminate encroachments and effect repairs found necessary by such inspections shall be undertaken immediately. All repairs shall be accomplished by methods acceptable in standard engineering practice.

(2) *Operation.* Continuous patrol of the wall shall be maintained during flood periods to locate possible leakage at monolith joints or seepage underneath the wall. Floating plant or boats will not be allowed to lie against or tie up to the wall. Should it become necessary during a flood emergency to pass anchor cables over the wall, adequate measures shall be taken to protect the concrete and construction joints. Immediate steps shall be taken to correct any condition which endangers the stability of the wall.

(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. Where drainage structures are provided with stop log or other emergency closures, the condition of the equipment and its housing shall be inspected regularly and a trial installation of the emergency closure shall be made at least once each year. Periodic inspections shall be made by the Superintendent to be certain that:

(i) Pipes, gates, operating mechanism, riprap, and headwalls are in good condition;

(ii) Inlet and outlet channels are open;

(iii) Care is being exercised to prevent the accumulation of trash and debris near the structures and that no fires are being built near bituminous coated pipes;

(iv) Erosion is not occurring adjacent to the structure which might endanger its water tightness or stability.

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

(2) *Operation.* Whenever high water conditions impend, all gates will be inspected a short time before water reaches the invert of the pipe and any object 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. Manually operated gates and valves shall be closed as necessary to prevent inflow of flood water. All drainage structures in 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 condition.

(c) *Closure structures - (1) Maintenance.* Closure structures for traffic openings shall be inspected by the Superintendent every 90 days to be certain that:

(i) No parts are missing;

(ii) Metal parts are adequately covered with paint;

(iii) All movable parts are in satisfactory working order;

(iv) Proper closure can be made promptly when necessary;

(v) Sufficient materials are on hand for the erection of sand bag closures and that the location of such materials will be readily accessible in times of emergency.

Tools and parts shall not be removed for other use. Trial erections of one or more closure structures shall be made once each year, alternating the structures chosen so that each gate will be erected at least once in each 3-year period. Trial erection of all closure structures shall be made whenever a change is made in key operating personnel. Where railroad operation makes trial erection of a closure structure infeasible, rigorous inspection and drill of operating personnel may be substituted therefor. Trial erection of sand bag closures is not required. Closure materials will be carefully checked prior to and following flood periods, and damaged or missing parts shall be repaired or replaced immediately.

(2) *Operation.* Erection of each movable closure shall be started in sufficient time to permit completion before flood waters reach the top of the structure sill. Information regarding the proper method of erecting each individual closure structure, together with an estimate

of the time required by an experienced crew to complete its erection will be given in the Operation and Maintenance Manual which will be furnished local interests upon completion of the project. Closure structures will be inspected frequently during flood periods to ascertain that no undue leakage is occurring and that drains provided to care for ordinary leakage are functioning properly. Boats or floating plant shall not be allowed to tie up to closure structures or to discharge passengers or cargo over them.

(f) *Pumping plants - (1) Maintenance.* Pumping plants shall be inspected by the Superintendent at intervals not to exceed 30 days during flood seasons and 90 days during off-flood seasons to insure that all equipment is in order for instant use. At regular intervals, proper measures shall be taken to provide for cleaning plant, buildings, and equipment, repainting as necessary, and lubricating all machinery. Adequate supplies of lubricants for all types of machines, fuel for gasoline or diesel powered equipment, and flash lights or lanterns for emergency lighting shall be kept on hand at all times. Telephone service shall be maintained at pumping plants. All equipment, including switch gear, transformers, motors, pumps, valves, and gates shall be trial operated and checked at least once every 90 days. Megger tests of all insulation shall be made whenever wiring has been subjected to undue dampness and otherwise at intervals not to exceed one year. A record shall be kept showing the results of such tests. Wiring disclosed to be in an unsatisfactory condition by such tests shall be brought to a satisfactory condition or shall be promptly replaced. Diesel and gasoline engines shall be started at such intervals and allowed to run for such length of time as may be necessary to insure their serviceability in times of emergency. Only skilled electricians and mechanics shall be employed on tests and repairs. Operating personnel for the plant shall be present during tests. Any equipment removed from the station for repair or replacement shall be returned or replaced as soon as practicable and shall be trial operated after reinstallation. Repairs requiring removal of equipment from the plant shall be made during off-flood seasons insofar as practicable.

(2) *Operation.* Competent operators shall be on duty at pumping plants whenever it appears that necessity for pump operation is imminent. The operator shall thoroughly inspect, trial operate, and place in readiness all plant equipment. The operator shall be familiar with the equipment manufacturers' instructions and drawings and with the "Operating Instructions" for each station. The equipment shall be operated in accordance with the above-mentioned "Operating Instructions" and care shall be exercised that proper lubrication is being supplied all equipment, and that no overheating, undue vibration or noise is occurring. Immediately upon final recession of flood waters, the pumping station shall be thoroughly cleaned, pump house sumps flushed, and equipment thoroughly inspected, oiled and greased. A record or log of pumping plant operation shall be kept for each station, a copy of which shall be furnished the District Engineer following each flood.

(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. Measures will be taken by the Superintendent to promote the growth of grass on bank slopes and earth deflection dikes. The Superintendent shall provide for periodic repair and cleaning of debris basins, check dams, and related structures as may be necessary.

(2) *Operation.* Both banks of the channel shall be patrolled during periods of high water, and measures shall be taken to protect those reaches being attacked by the current or by wave wash. Appropriate measures shall be taken to prevent the formation of jams of ice or 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 banks, riprap, deflection dikes and walls, drainage outlets, or other flood control structures repaired.

(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 repaired or replaced without delay. Areas used for ponding in connection with pumping plants or for temporary storage of interior run-off during flood periods shall not be allowed to become filled with silt, debris, or dumped material. The Superintendent shall take proper steps to prevent restriction of bridge openings and, where practicable, shall provide for temporary raising during floods of bridges which restrict channel capacities during high flows.

(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. (Sec. 3, 49 Stat. 1571, as amended; 23 U.S.C. 701C) [9 F.R. 9999, Aug. 17, 1944; 9 F.R. 10203, Aug. 22, 1944]



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

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REPLY TO
ATTENTION OF SPKKO-C

11 December 1963

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

Gentlemen:

Reference is made to the joint inspection made on 3 and 4 December 1963 of flood control work pertaining to the Sacramento River Chico Landing to Red Bluff Flood Control Project, for the purpose of transferring this work, upon completion, to the State of California for operation and maintenance.

The flood control work consists of shaping the river banks and placement of stone protection on the left bank of the Sacramento River at Site No. 8, River Mile 183.4; and Site No. 9 River Mile 183.9; and on the right bank at Site No. 10, River Mile 187.0; Site No. 11, River Mile 188.6; and Site No. 12, River Mile 189.7. The work was completed on 3 December 1963 in accordance with Specification No. 2898, Contract No. DA-04-167-CIVENG-63 74 and Drawing No. 50-4-3713. Sites Nos. 6 and 7 are not included herein and will be transferred at a later date when completed.

The flood control work described above now meets the requirements of the Sacramento River Chico Landing to Red Bluff Flood Control Project. Therefore said flood control work is transferred to the State of California for operation and maintenance.

The maintenance work required under the provisions of the Sacramento River Chico Landing to Red Bluff Flood Control Project shall be performed in accordance with existing flood control regulations, inclosed herewith, which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress, approved 22 June 1936. As provided under paragraph 208.10(10) of these regulations, an operation and maintenance manual for the project is in process of preparation and will be furnished at a later date upon completion.

EXHIBIT C
Sheet 1 of 21

SPKKO-C
The Reclamation Board

11 December 1963

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

Sincerely yours,

2 Incl
F.C. Regulations

ROBERT E. MATHE
Colonel, CE
District Engineer

Copy Furnished
Dept Water Resources
23rd & "R" Streets
Sacramento, Calif.

(by) C. R. TEAGLE
Lt. Col., CE
Deputy District Engineer



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

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REPLY TO
ATTENTION OF

17 January 1964

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

Gentlemen:

Reference is made to the joint inspection made on 14 January 1964 of flood control work pertaining to the Sacramento River Chico Landing to Red Bluff Flood Control Project, for the purpose of transferring this work, upon completion, to the State of California for operation and maintenance.

The flood control work consists of shaping the river banks and placement of stone protection on the right bank of Sacramento River at Site No. 6, River Mile 169.0; and Site No. 7, River Mile 169.8. The work was completed on 20 December 1963, in accordance with Specification No. 2898, Contract No. DA-04-167-CIVENG-63-74 and Drawing No. 50-4-3713.

The flood control work described above now meets the requirements of the Sacramento River Chico Landing to Red Bluff Flood Control Project. Therefore, said flood control work is transferred to the State of California for operation and maintenance.

The maintenance work required under the provisions of the Sacramento River Chico Landing to Red Bluff Flood Control Project shall be performed in accordance with existing flood control regulations, inclosed herewith, which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress, approved 22 June 1936. As provided under paragraph 208.10(10) of these regulations, an operation and maintenance manual for the project is in process of preparation and will be furnished at a later date upon completion.

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

Sincerely yours

1 Incl
F.C. Regs

Copy furnished:
Dept Water Resources

ROBERT E. MATHE
Colonel, CE
District Engineer

EXHIBIT C
Sheet 3 of 21



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

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REPLY TO
ATTENTION OF SPKCO-0

13 November 1968

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

Gentlemen:

Reference is made to the joint inspection of 12 November 1968, made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project to the State of California for operation and maintenance.

The flood control work consists of shaping the riverbank and placement of 500 feet of stone bank protection on the right bank of the Sacramento River at Site Mile 177.3. The work was completed on 23 October 1968, in accordance with Specification No. 3559, Contract No. DACW05-69-C-0011, and Drawing No. 50-4-4412.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 1st Session (PL 85-500, 3 July 1958), and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work together with the waterway banks contiguous thereto, is transferred to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operations and Maintenance Manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date.

Sincerely yours,

CRAWFORD YOUNG
Colonel, CE
District Engineer

Copy furnished:
Dept Water Resources

EXHIBIT C
Sheet 4 of 21



DEPARTMENT OF THE ARMY C
SACRAMENTO DISTRICT, CORPS OF ENGINEERS O
650 CAPITOL MALL P
SACRAMENTO, CALIFORNIA 95814 Y

REPLY TO
ATTENTION OF SPKCO 0

17 September 1970

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

Gentlemen:

Reference is made to the joint inspection of 1 September 1970 made for the purpose of transferring a portion of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff, to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of 525 feet of stone bank protection on the left bank of the Sacramento River at Site Mile 218.3. The work was completed on 12 June 1970, in accordance with Specification No. 3694, Contract No. DACW05-70-C-0086, and Drawing No. 6-4-2125.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 1st Session (PL 85-500, 3 July 1958), and now meets the requirements of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 12 June 1978, to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operations and Maintenance Manual, Sacramento River Bank Protection Project, Chico Landing to Red Bluff. Copies will be furnished your office at a later date.

Sincerely yours,

JAMES H. HIGMAN
Lieutenant Colonel, CE
Acting District Engineer

Copy furnished:
DWR

EXHIBIT C
Sheet 5 of 21



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

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REPLY TO
ATTENTION OF SPKCO-0

26 November 1971

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

Gentlemen:

Reference is made to the joint inspection of 18 November 1971 made for the purpose of transferring a portion of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff, to the State of California for operation and maintenance.

The flood control work consists of shoring the river bank and placement of stone bank protection on the left bank of the Sacramento River at Site Mile 185.3. The work was completed on 18 November 1971, in accordance with Specification No. 4106, Contract No. DACW05-72-C-0019, and Drawing No. 50-4-4706.

The work was performed under the general authority of the Flood Control Act of 1958, 83rd Congress, 1st Session (PL 85-500, 3 July 1958), and now meets the requirements of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 18 November 1971, to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operations and Maintenance Manual, Sacramento River Bank Protection Project, Chico Landing to Red Bluff. Copies will be furnished your office at a later date.

Sincerely yours,

JAMES C. DONOVAN
Colonel, CE
District Engineer

Copy furnished:
DWR, ATTN: John Wright

EXHIBIT C
Sheet 6 of 21



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

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REPLY TO
ATTENTION OF SPKCO-0

4 November 1974

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

Gentlemen:

Reference is made to joint inspections on Site Miles 194.0 and 196.3 made for the purpose of transferring a portion of the Sacramento River Chico Landing to Red Bluff bank protection project to the State of California for operation and maintenance.

It is our understanding that Butte County plans to replace and raise the road at Site Mile 194.0. After road repair is accomplished we will give consideration to providing additional rock protection along the raised bank and extending the rock at the downstream and under Section 14 of Public Law 526, which is authority to provide bank protection to public works such as highways and bridges. Site Mile 196.3 sustained damage during the 1974 flood flows and it is our intent to repair the damaged reach during the next contract under the Chico Landing to Red Bluff bank protection project.

The flood control work consists of shaping the river bank and placement of stone bank protection on the left bank of the Sacramento River at Site Miles 194.0 and 196.3. The work as listed on the inclosure was completed on 4 January 1974 in accordance with Specification No. 4451, Contract No. DACW05-73-C-0109 and Drawing No. 50-4-4891.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 1st Session (PL 85-500, 3 July 1958), and now meets the requirements of the Sacramento River Chico Landing to Red Bluff bank protection project. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 4 November 1974 to the State of California for operation and maintenance.

EXHIBIT C
Sheet 7 of 21

SPKCO-0
The Reclamation Board

4 November 1974

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River Chico Landing to Red Bluff bank protection project. Copies will be furnished your office at a later date.

Sincerely yours,

1 Incl
As stated

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

Copy furnished:
DWR, ATTN: John Wright

Summary of Portion of Sacramento River
Bank Protection Project, Chico Landing to Red Bluff
Left Bank

| <u>Site</u> | <u>Station</u> | <u>L.F.</u> |
|-------------|----------------|-------------|
| 194.0 | 5+00 to 24+00 | 1900 |
| 196.3 | 6+00 to 10+00 | 400 |
| | 16+50 to 21+25 | 475 |



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

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REPLY TO
ATTENTION OF SPKCO-0

27 November 1974

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

Gentlemen:

Reference is made to the joint inspection of 6 November 1974 made for the purpose of transferring a portion of the Sacramento River Chico Landing Red Bluff Bank Protection Project to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the left bank of the Sacramento River at Site Miles 208.4 and 213.1. The work as listed on the inclosure, was completed on 6 November 1974 in accordance with Specification No. 4668, Contract No. DACW05-74-C-0093, Drawing No. 50-4-4971.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 1st Session (PL 85-500, 3 July 1958), and now meets the requirements of the Sacramento River Chico Landing Red Bluff Bank Protection Project. Therefore, said flood control work together with the waterway banks contiguous thereto, are transferred as of 27 November 1974 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River Chico Landing Red Bluff Bank Protection Project. Copies will be furnished your office at a later date.

Sincerely yours,

1 Incl
As stated

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

Copy furnished:
DWR, ATTN: John Wright

EXHIBIT C
Sheet 10 of 21

SUMMARY OF PORTION OF SACRAMENTO RIVER
CHICO LANDING TO RED BLUFF BANK PROTECTION PROJECT
LEFT BANK

| <u>Site Mile</u> | <u>Station</u> | <u>L.F.</u> |
|------------------|---------------------------------|-------------|
| 208.4 | 0+00 to 4470 | 4470 |
| 213.1 | 0+40 to 15+10 18+60 to 24+70 | 1470 610 |



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

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REPLY TO
ATTENTION OF SPKCO-0

10 November 1975

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

Gentlemen:

Reference is made to the joint inspection of 5 November 1975 made for the purpose of transferring a portion of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff, Unit 3, to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the Sacramento River left bank at Site Miles 194.0 and 230.5 and right bank at Site Miles 202.0 and 229.0. The sites, as listed on the inclosure were completed on 5 November 1975, in accordance with Specification No. 4913, Contract No. DACW05-76-C-0014, and Drawing No. 50-4-5043.

Site Mile 194.0 left (Sta. 3+00 to 24+00 previously transferred to the State of California) was repaired and extended under this unit as stated in our transfer letter dated 4 November 1974 to your Board. The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL 85-500, 3 July 1958) and now meets the requirements of the Sacramento River Bank Protection Project Chico Landing to Red Bluff. Therefore, said flood control work together with the waterway banks contiguous thereto, are transferred as of 7 November 1975, to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River Bank Protection Project, Chico Landing to Red Bluff. Copies will be furnished your office at a later date.

Sincerely yours,

1 Incl
As stated

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

Copy furnished:
DWR, ATTN: R. Franson & Carl King

EXHIBIT C
Sheet 12 of 21

SUMMARY OF PORTION OF SACRAMENTO RIVER
CHICO LANDING TO RED BLUFF BANK PROTECTION PROJECT UNIT NO. 3

Sacramento River Left Bank

| <u>Site Mile</u> | <u>Stone Protection</u> | <u>L.F.</u> |
|------------------|-------------------------|-------------|
| * 194.0 | 24+00 to 28+40 | 440 |
| 230.5 | 1+00 to 35+25 | 3425 |

Sacramento River Right Bank

| | | |
|---------|----------------|------|
| 202.0 | 6+00 to 12+00 | 600 |
| **229.0 | 0+00 to 10+00 | 1000 |
| | 15+00 to 38+00 | 2280 |

* Transferred to State 4 Nov 74 and extended on this contract.
** Extended.



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

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REPLY TO
ATTENTION OF SPKCO-0

12 January 1976

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

Gentlemen:

Reference is made to the joint inspection of 9 January 1976 made for the purpose of transferring a portion of the Sacramento River Chico Landing Red Bluff Bank Protection Project to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of 6,500 lineal feet of stone bank protection on the right bank of the Sacramento River at Site Mile 197.0. The work was completed on 9 January 1976 in accordance with Specification No. 4913, Contract No. DACW05-76-C-0014, Drawing No. 50-4-5043.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL 85-500, 3 July 1958), and now meets the requirements of the Sacramento River Chico Landing Red Bluff Bank Protection Project. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 12 January 1976 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River Chico Landing Red Bluff Bank Protection Project. Copies will be furnished your office at a later date.

Sincerely yours,

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

Copy furnished:
DWR, ATTN: R. Franson & Carl King

EXHIBIT C
Sheet 14 of 21



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

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REPLY TO
ATTENTION OF SPKCO-0

3 August 1976

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

Gentlemen:

Reference is made to the joint inspection of 29 June 1976 made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Unit #3 to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the left bank of the Sacramento River at Site Miles 202.4, 207.0 and 211.1. The work, as listed on the inclosure, was completed on 29 July 1976 in accordance with Specification No. 4913, Contract No. DACW05-76-C-0014, Drawing No. 50-4-5043.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL 85-500, 3 July 1958) and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 3 August 1976 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date.

Sincerely,

1 Incl
As stated

DONALD M. O'SHEI
Colonel, CE
District Engineer

Copy furnished:
DWR, ATTN: R. Franson & Carl King

EXHIBIT C
Sheet 15 of 21

SUMMARY OF PORTION OF SACRAMENTO RIVER
CHICO LANDING TO RED BLUFF BANK PROTECTION
PROJECT UNIT NO. 3

SACRAMENTO RIVER LEFT BANK

| Site Mile | Stone Protection | L.F. |
|-----------|------------------|------|
| 202.4 | 0+00 to 13+00 | 1300 |
| 207.0 | 0+00 to 19+00 | 1900 |
| 211.1 | 2+00 to 42+00 | 4000 |



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

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REPLY TO
ATTENTION OF SPKCO-0

19 November 1976

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

Gentlemen:

This is in regard to the joint inspection of 18 November 1976, to review repair work on Site Mile 196.3 left bank, Sacramento River Bank Protection Project, Chico Landing to Red Bluff in Butte County. Reference is also made to your letter of 25 November 1974 relative to the repair work.

The work consisted of repairing 650' of stone bank protection (Station 10+00 to 16+50) and was completed on 15 November 1976. This site was previously transferred to the State of California for operation and maintenance on 4 November 1974.

The repairs were accomplished under Contract No. DACW05-76-C-0014 and meet the requirements of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff.

Sincerely yours,

DONALD M. O'SHEI
Colonel, CE
District Engineer

Copy furnished:
DWR, ATTN: R. Franson, R. Potter

EXHIBIT C
Sheet 17 of 21



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

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REPLY TO
ATTENTION OF SPKCO-0

15 November 1978

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

Gentlemen:

This is in regard to the joint inspection of 9 November 1978 made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Units #4A and 4B, to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the Sacramento River right bank and Site Miles 215.3, 226.3 and 231.2 and on the left bank at Site Miles 233.9, 238.1, and 238.8 and 242.0. The work as listed on the inclosure was completed on 9 November 1978 in accordance with Specification No. 5412 Drawing No. 50-4-5402, Contract No. DACW05-78-C-0026.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL 85-500, 3 July 1958) and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 13 November 1978 to State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date.

Sincerely yours,

1 Incl
As stated

DONALD M. O'SHEI
Colonel, CE
District Engineer

Copy furnished:
DWR, ATTN: R. Potter
DWR, ATTN: R. Franson

EXHIBIT C
Sheet 18 of 21

SUMMARY OF PORTION OF SACRAMENTO RIVER
 CHICO LANDING TO RED BLUFF BANK PROTECTION
 PROJECT UNITS NO. 4A & 4B

SACRAMENTO RIVER RIGHT BANK

| <u>Site Mile</u> | <u>Station</u> | <u>Stone Protection L.F.</u> |
|------------------|----------------|------------------------------|
| * 213.3 | 11+80 to 25+00 | 1320+ |
| * | | |
| * 226.3 | 0+20 to 71+50 | 7130+ |
| 231.2 | 4+40 to 19+90 | 1550+ |

SACRAMENTO RIVER LEFT BANK

| | | |
|---------|----------------|-------|
| 233.9 | 1+60 to 18+00 | 1640+ |
| 238.1 | 2+65 to 9+75 | 710+ |
| 239.8 | 0+60 to 7+50 | 690+ |
| * 242.0 | 18+00 to 43+25 | 2525+ |

* Site extended



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

C
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REPLY TO
ATTENTION OF SPKCO-0

19 June 1979

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

Gentlemen:

This is in regard to the joint inspection of 14 June 1979, made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Units #4A and 4B, to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the Sacramento River right bank at Site Mile 204.9, and on the left bank at Site Mile 242.0 extension. The work as listed on the inclosure was completed on 14 June 1979 in accordance with Specification No. 5412 Drawing No. 50-4-5402, Contract No. DACW05-78-C-0026.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL 85-500, 3 July 1958) and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred as of 14 June 1979 to State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date.

Sincerely,

1 Incl
As stated

CARLOS W. HICKMAN
Lieutenant Colonel, CE
Acting District Engineer

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

EXHIBIT C
Sheet 20 of 21

SUMMARY OF PORTION OF SACRAMENTO RIVER
CHICO LANDING TO RED BLUFF BANK PROTECTION
PROJECT UNITS NO. 4A & 4B

SACRAMENTO RIVER RIGHT BANK

| <u>Site Mile</u> | <u>Station</u> | <u>Stone Protection L.F.</u> |
|------------------|----------------|------------------------------|
| 204.9 | 12+40 to 19+50 | 710 |

SACRAMENTO RIVER LEFT BANK

| | | |
|--------|----------------|-----|
| *242.0 | 13+00 to 18+00 | 500 |
|--------|----------------|-----|

*Site extended

PERMITS FOR USE OF RIGHTS-OF-WAY
LOCAL FLOOD PROTECTION PROJECTS

Improvements for local flood protection and the associated rights-of-way are owned by the local interests concerned, and are operated and maintained by them in accordance with the Code of Federal Regulations. (See Exhibit B.) Paragraph 208.10a(5) of Exhibit B provides that permits for use of the right-of-way of flood control projects so owned, operated, and maintained are subject to the approval of the District Engineer.

Applications for use of flood control project right-of-way should be addressed to the local interests having jurisdiction. The local interests will forward the application to the District Engineer together with recommendations and the reasons therefor. It is suggested that a draft copy of the permit be included with the application and recommendations so any objectionable features of the permit can be eliminated prior to offering it to the applicant. If the local interests wish to forward a permit without the application and recommendations, five copies should be submitted. The proposed permit should state the exact use of right-of-way for which permission is being requested and express any conditions or restrictions that apply. It should be signed by the applicant and a representative of the local interests having jurisdiction. A drawing, sketch, or detailed plan as may be required to show the exact location, nature of the work to be permitted, and the proposed method of its execution should be attached to each copy of the proposed permit. If the permit is approved by the District Engineer, three copies will be returned to the local interests concerned.

If the use proposed by an applicant could result in damage to the right-of-way or associated flood control structures, it is suggested that the applicant be required to post a bond to protect the local interests from any costs for removal, repair, or restoration, and to guarantee that the permittee faithfully meets conditions imposed by the approved permit. In such cases, the permit would state the amount and conditions of the bond.

In cases involving major construction or other work that may directly affect flood protection structures, it will be necessary that the District Engineer or his representative inspect the work. Local interests may also wish to make inspections. As stated in the permit form, such inspection will be at the expense of the grantee, and this should be called to his attention. Except in cases of known financial security, arrangements should be made with the grantee for an advance deposit or bond to cover inspection costs.

A permit format that has been utilized by a number of cities and levee commissions is attached.

PERMIT
FOR
RIGHT OF ENTRY

(Name of local interest having jurisdiction)

(Location)

Permission is hereby granted to:

(Name of firm or individual)

(Address)

TO: (Describe in these spaces the proposal, including kind and type of construction, purpose intended, location by stationing. Indicate passageway provided by means of gates, etc. Use separate sheets if necessary, identifying each by reference herein.)

PROVIDED THAT:

Upon termination or expiration of this permit (whether by voluntary relinquishment by the grantee, by revocation by the grantor, or otherwise), the grantee shall remove all structures, improvements, or appurtenances that may have been erected or constructed under this permit, and shall repair or replace any portion of the flood protection structure or right-of-way that may have been damaged by his operations (including grading and seeding, or sodding, if necessary) to the satisfaction of the grantor.

The structure or operation for which this permit is issued shall be maintained by the grantee in such manner as shall not injure or damage the flood protection structure, or interfere with its operation and maintenance in accordance with regulations of the Secretary of the Army.

The structure of operation covered by this permit may be damaged, removed, or destroyed by the grantor in time of flood emergency if such action is determined by the grantor to be necessary in order to preserve life or property, or prevent damage or impairment to the use or safety of the flood protection structure, and the grantor shall not be liable to the grantee for such damage or destruction.

Unless otherwise specifically provided herein, this permit may be cancelled at anytime by the grantor upon 10 days written notice mailed to the grantee at the address shown above. During such 10 day period, (or such other period as may be provided herein) the grantee will be permitted to remove any property or improvements installed under this permit, and to repair or replace any damage to the flood protection right-of-way or structures resulting from his use or operations. At the end of such period, the grantor shall have the right to possess and dispose of any such property or improvements remaining upon its right-of-way, and may proceed to repair or replace such damage, and the grantee herein shall be liable to the grantor for the full cost of such repairs or replacements.

The construction, installation, and maintenance of the structure or structures covered by this permit shall be subject to inspection by representatives of the grantor and the United States at all reasonable times.

In the event the work covered by this permit consists of or includes major construction, the cost of inspection thereof by the grantor and/or the United States shall be paid by the grantee.

Grantee agrees that is will not use the area or facilities covered by this permit, or allow such area to be used, for any purpose other than is specifically covered by this permit.

(Use these spaces for special conditions applicable to the permit.)

THIS PERMIT SHALL NOT BE VALID UNTIL APPROVED BY THE DISTRICT ENGINEER, SACRAMENTO DISTRICT, CORPS OF ENGINEERS, OR HIS AUTHORIZED REPRESENTATIVE.

 Signature (Grantor) Title Date

Terms of this permit
 are hereby accepted:

Approved:

 Signature (Grantee) Date District Engineer Date

SUGGESTED CHECK LIST
CHANNEL AND RIGHT-OF-WAY

Inspector's Report Sheet No. _____

Inspector _____

Date _____

Superintendent _____

| Item | Remarks |
|---|---------|
| (a) Location by stations | |
| (b) Vegetation in project areas | |
| (c) Debris and refuse in channel | |
| (d) New construction or encroachments within right-of-way | |
| (e) Extent of aggradation or degradation | |
| (f) Condition of revetment | |
| (g) Measures taken since last inspection | |
| (h) Comments | |

INSTRUCTIONS FOR COMPLETING SHEET 1, EXHIBIT E

- Item (a) Indicate station of observation obtained by pacing from nearest reference point.
- Item (b) Note nature, extend, and size of vegetal growth within the limits of the floodflow channel.
- Item (c) Note nature and extent of debris and refuse that might cause problems in the revetment.
- Item (d) Report any construction or encroachments that might affect the functioning of project works.
- Item (e) Indicate any change in grade or alignment of the channel, either by deposition of sediment or by scour noticeable by visual inspection.
- Item (f) Indicate any change that has taken place in the riprap such as disintegration of the rock, erosion, or movement of rock. Note the presence of vegetal growth through the riprap.
- Item (g) Indicate maintenance measures that have been taken since the last inspection and their condition at the time of this inspection.
- Item (h) Record opinion, if any, on contributory causes for conditions observed, also any observations not covered under any other item.

NOTE: One copy of the Inspector's report is to be delivered to the District Engineer immediately upon completion of the inspection, and one copy is to be submitted with the semi-annual report.

"AS CONSTRUCTED" DRAWINGS (UNATTACHED)

| <u>Drawing File No.</u> | <u>Title</u> |
|-----------------------------|---|
| 50-4-3713 | Sacramento River, California, Chico Landing to Red Bluff, Stone Protection Along Right and Left Banks, Sacramento River in Tehama County (16 sheets) |
| 50-4-4412 | Sacramento River, California, Chico Landing to Red Bluff, Stone Protection, Right Bank Sacramento River at Tehama (one sheet) |
| 50-4-4479 | Sacramento River, California, Chico Landing to Red Bluff Stone Protection Repair, Site No. 7 Under PL 99/84 (one sheet) |
| 6-4-2125 | Sacramento River, California, Chico Landing to Red Bluff, Stone Protection, Left Bank Sacramento River, Mile 218.3 Left (one sheet) |
| 50-4-4545 | Sacramento River Tehama County, California, Emergency Repairs, Levee and Bank Protection Restoration, Sacramento River, Deer Creek and Antelope Creek PL 99/84 (two sheets) |
| 50-4-4696 | Sacramento River, Tehama County, California, Flood Damage Repairs, Right Bank, 2 Miles Upstream of Woodson Bridge Associated Almond Orchards Property, PL 99/84 (one sheet) |
| 50-4-4706 | Sacramento River, California, Chico Landing to Red Bluff, Stone Protection, Vicinity Mile 185.3 (Hickman Site) (eight sheets) |
| 50-4-4891 | Sacramento River, California, Chico Landing to Red Bluff, Bank Protection, Left Bank Sacramento River, Butte County (three sheets) |
| 50-4-4971 | Sacramento River, California, Chico Landing to Red Bluff, Bank Protection, Left Bank Sacramento River, Site Mile 208.4 and Mile 213.1 (five sheets) |
| 50-4-4984 | Sacramento River, Tehama County, California, Emergency Repairs, Bank Protection, Restoration, PL 84/99 (three sheets) |
| 50-4-5043 | Sacramento River, California, Chico Landing to Red Bluff, Bank Protection, Various Locations, Right and Left Banks Sacramento River, Mile 196.0 to Mile 231.0 (14 sheets) |
| 50-4-5522 | Sacramento River, Tehama County, Project Bank Protection Repair, American Almond Orchards, River Mile 220.4, PL 84/99 (one sheet) |
| 50-4-5402 | Sacramento River, California, Chico Landing to Red Bluff, Bank Protection - Units 4A and 4B, Various Sites Between Miles 204.9 and 242.0 (33 sheets) |

FORMAT - SEMI-ANNUAL REPORT

TO: District Engineer
Sacramento District, Corps of
Engineers
650 Capitol Mall
Sacramento, California 95814

DATE (Within 10 days follow-
ing 15 April or 1 November)

Dear Sir:

The semi-annual report for the period (15 April to 31 October 19__) (1 November 19__ to 14 April 19__), Sacramento River Bank Protection Project, is as follows:

a. The Physical condition of the protective works is indicated by the Inspector's reports, copies of which are inclosed, and is summarized as follows:

(Superintendents's summary of conditions)

It is our intention to perform the following maintenance work in order to repair or correct the following:

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

b. During this report period major high water periods occurred as follows:

| <u>Date</u> | <u>Location</u> | <u>Maximum Elevation</u> |
|-------------|-----------------|--------------------------|
| ----- | ----- | ----- |
| ----- | ----- | ----- |
| ----- | ----- | ----- |
| ----- | ----- | ----- |

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

(Superintendent's log of high water observations)

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

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

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

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

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

f. The financial statement of operations for the current report period follows:

| <u>Item</u> | <u>Amount (\$)</u> | | | <u>Total</u> |
|----------------|--------------------|-----------------|------------------|--------------|
| | <u>Labor</u> | <u>Material</u> | <u>Equipment</u> | |
| 1. Inspection | | | | |
| 2. Maintenance | | | | |
| TOTAL | | | | |

Respectfully submitted,

(Typed name)
Superintendent

**OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER, CALIFORNIA**

CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT
REVISED MARCH 1981

| LOCATION | ADDITION OR REVISION | DATE |
|-----------------|---|-------------|
| 1-04 | Add subparagraph a. | Jul 1984 |
| Exhibit C | Add copy of letter of transfer dated 22 Dec 1982 | Jul 1984 |
| Exhibit F | Add Drawing No. 50-4-5581 | Jul 1984 |
| 1-04 | Add subparagraphs e, f, g, h, i, and j | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 7 Jan 1964 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 10 Feb 1964 | 8 Apr 2010 |
| Exhibit C | Add letter of acceptance dated 11 Dec 1968 | 8 Apr 2010 |
| Exhibit C | Add letter of acceptance dated 9 Feb 1971 | 8 Apr 2010 |
| Exhibit C | Add letter of acceptance dated 4 Jan 1972 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 25 Nov 1974 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 11 Dec 1974 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 24 Nov 1975 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 29 Jan 1976 | 8 Apr 2010 |
| Exhibit C | Add copy of letter from Butte County dated 5 Aug 1976 regarding site mile 202.4 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 20 Aug 1976 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 27 Dec 1978 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 27 Jul 1979 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 8 Feb 1983 | 8 Apr 2010 |
| Exhibit C | Add copy of transfer letter dated 26 Feb 1985 | 8 Apr 2010 |
| Exhibit C | Add copy of transfer letter dated 3 Jan 1986 | 8 Apr 2010 |
| Front Matter | Add copy of Tabulation of sites dated Aug 1991 | 8 Apr 2010 |
| 1-04 | Add subparagraph k | 3 Jun 2010 |

EXCERPT OF MINUTES OF MEETING
OF THE RECLAMATION BOARD

March 1, 1962

- - -

ASSURANCES -

- a. COUNTY OF TEHAMA -
(Sacramento River, Chico Landing to Red Bluff)

ASSURANCE AGREEMENT wherein The Reclamation Board agrees to acquire, without cost to Tehama County, all lands, easements and rights of way for project construction; and wherein County of Tehama agrees to maintain and operate completed project works and to hold and save the United States and the State of California free from claims for damages resulting from construction.

Motion was made by Mr. Madigan, seconded by Mr. McCormack and carried unanimously that the assurance agreement with the County of Tehama be approved and the President and Secretary were authorized to execute same for and on behalf of the Board.

- - -

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

I, HOWARD J. SULLIVAN, Assistant Secretary of The Reclamation Board, do hereby certify that the above and foregoing is a true and correct extract of minutes of meeting of The Reclamation Board held March 1, 1962.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of The Reclamation Board, this 7th day of March, 1962.


HOWARD J. SULLIVAN
Assistant Secretary

THE RECLAMATION BOARD

1215 O STREET • SACRAMENTO 95814



STANLEY W. KRONICK, *President*
J. J. MADIGAN, *Vice Pres.*
WALLACE McCORMACK, *Secy.*
GEORGE W. NICKEL, JR.
CHARLES J. MATHEWS
HAROLD J. O'BANION
MAX S. VANN, SR.
COL. A. E. McCOLLAM, *General Manager*

January 7, 1964

Refer to: 7001.65.301
4130.65.301

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

Cont # 63-74
Spec # 2898

Dear Sir:

Reference is made to your letter of December 11, 1963, concerning transfer to the State of California of bank protection work at Site 8, River Mile 183.4, Site 9, River Mile 183.9, Site 10, River Mile 187.0, Site 11, River Mile 188.6 and Site 12, River Mile 189.7, left bank, on the Sacramento River Chico Landing to Red Bluff Project in accordance with Specification No. 2898.

The Reclamation Board, at its meeting of January 3, 1964, formally accepted the above referred to bank protection work for operation and maintenance.

Sincerely yours,

A handwritten signature in cursive script that reads "A E McCollam".

A. E. McCOLLAM
General Manager

JHMacC:gg

THE RECLAMATION BOARD

1215 O STREET • SACRAMENTO 95814



STANLEY W. KRONICK, *President*
J. J. MADIGAN, *Vice Pres.*
WALLACE McCORMACK, *Secy.*
GEORGE W. NICKEL, JR.
CHARLES J. MATHEWS
HAROLD J. O'BANION
MAX S. VANN, SR.
COL. A. E. McCOLLAM, *General Manager*

February 10, 1964

Refer to: 4130.65.301

Cont 63-74.

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

Dear Sir:

Reference is made to your letter of 17 January, 1964, concerning transfer to the State of California of bank protection work at Site No. 6, River Mile 169.0, left bank and Site No. 7, River Mile 169.8, right bank, between Chico Landing and Red Bluff. This work was completed in accordance with Specification No. 2898.

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

Sincerely yours,

A handwritten signature in cursive script that reads "A. E. McCollam".

A. E. McCOLLAM
General Manager

JHMacC:gg

Copies to Northern
Bardsdale
Jensen 2

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23 November 1966

The Reclamation Board
State of California
1416 Ninth Street, Room 1335
Sacramento, California 95814

Gentlemen:

Reference is made to the joint inspection of 16 November 1966, made for the purpose of transferring a portion of the Sacramento River Bank Protection work, upon completion, to the State of California for operation and maintenance.

The flood control work consisting of levee enlargement, bank sloping and placement of bank protection at Sutter Slough; Site Miles 22.0, 23.6, 24.0 and 25.5, left bank and Site Miles 22.2, 23.2 and 28.1, right bank; and Miner Slough; Site Miles 1.45, 2.0, 2.7, 3.1, 3.7, 4.0, 4.7 and 5.2, left bank, as listed on the attached inclosure, was completed 16 November 1966. The work was done in accordance with Specifications No. 3155, Contract No. DA-04-167-CIVENG-66-102, Drawing No. 50-4-4006.

The work was performed under the general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session and Section 2304(a), Title 10.

The flood control work as described in the attached inclosure now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said flood control work, together with the waterway banks contiguous thereto, are transferred to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the operation and maintenance manual, Supplement Nos. 105, 110 and 112. Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

/s/ Crawford Young
CRAWFORD YOUNG
Colonel, CE
District Engineer

EXHIBIT F

OPERATION AND MAINTENANCE
MANUAL FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

| REVISIONS OR ADDITIONS | DATE |
|---|---------------|
| Paragraph 1-04.b.----- add Contract No. DACW05-69-C-0011 | December 1968 |
| EXHIBIT B----- add Drawing No. 50-4-4412 | December 1968 |
| EXHIBIT F----- add letter of acceptance dated 11 December 1968 | December 1968 |

1-04.
 b. Bank protection, right bank of Sacramento River at Tehama at Mile 177.3 was accomplished under Contract No. DACW05-69-C-0011 by H. Earl Parker, Inc. and completed in November 1968. Specification No. 3559. Drawing No. 50-4-4412.

EXHIBIT B

File No.

Title

50-4-4412

Stone Protection, Right Bank Sacramento River at Tehama, in 1 sheet.

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

DEC 11 1968

4130.65.300

District Engineer
Corps of Engineers
U. S. Army
650 Capitol Mall
Sacramento, California 96814

Dear Sir:

Reference is made to your letter of November 13, 1968 concerning transfer to the State of California of a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Site Mile 177.3, right bank, in accordance with Specification No. 3559, Contract No. DACW05-69-C-0011.

The Reclamation Board, at its meeting of December 6, 1968, formally accepted the above referred to work for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

Site # 15

OPERATION AND MAINTENANCE MANUAL
FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

REVISIONS OR ADDITIONS

| ADDITIONS | | |
|-------------------------|---|---------------|
| Paragraph 1-04 b. ----- | Add Contract No. DACW05-70-0086 | November 1970 |
| EXHIBIT B ----- | Add Drawing No. 6-4-2125 | November 1970 |
| EXHIBIT F ----- | Add letter of acceptance dated 9 February 1971 | November 1970 |

1-04.

166.4
b. Bank protection, left bank of Sacramento River at Woodson Bridge, Mile ~~218.3~~, was accomplished under Contract No. DACW05-70-C-0086, by James L. Ferry and Sons, and completed on 12 June 1970. Specification No. ~~3694~~. Drawing No. 6-4-2125.

EXHIBIT B

File No.

Title

6-4-2125

Stone Protection, left bank Sacramento River,
Mile 218.3, in 1 sheet.

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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Feb 9, 1971

File No: 4130.65.300
Your Contract: DACW05-70-C-0086

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

Dear Sir:

Reference is made to your letter of September 17, 1970, concerning transfer to the State of California of a portion of the Sacramento River Bank Protection Project for maintenance and operation. The transferred site was as follows:

Site Mile 218.3, Left Bank (Woodson Bridge)

This work was constructed in conformance with Specification No. 3694, Contract No. DACW05-70-C-0086, Drawing No. 6-4-2125.

The Reclamation Board at its meeting of October 9, 1970, formally accepted the above-referred to work for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

OPERATION AND MAINTENANCE MANUAL
FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

REVISIONS OR ADDITIONS

| REVISIONS | DATE |
|---|--|
| Paragraph 1-04b (November 1970) --- Changed to 1-04c Added to 1-04c, Mile 218.3 (Site Mile 166.4) | January 1972 January 1972 |
| ADDITIONS | DATE |
| *Paragraph 1-04d ----- Add Contract No. DACW05-72-0019 EXHIBIT B ----- Add Drawing No. 50-4-4706 EXHIBIT F ----- Add letter of acceptance dated 4 January 1972 | January 1972 January 1972 January 1972 |

*This work was performed under the Sacramento River, Chico Landing to Red Bluff Bank Protection Project authorized by the Flood Control Act of 1958 (Public Law 85-500), 85th Congress, 1st Session.

SECTION I

1-04. Construction data and contractor.

d. Bank protection, left bank of Sacramento River at (Hickman Site) Site Mile 185.3, was accomplished under Contract No. DACW05-72-C-0019, by H. Earl Parker, during the period from 14 September 1971 to 28 November 1971. Specification No. 4106. Drawing No. 50-4-4706.

EXHIBIT B

| <u>DRAWING NO.</u> | <u>TITLE</u> |
|--------------------|---|
| 50-4-4706 | Stone Protection, left bank Sacramento River, vicinity Site Mile 185.3 (Hickman Site) in 8 sheets |

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
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P
Y

January 4, 1972

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

Refer to: 4130.65.300

Dear Sir:

Reference is made to your letter of November 26, 1971, concerning the transfer to the State of California for operation and maintenance a portion of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff, Hickman Site, vicinity of River Mile 185.3, Tehama County, California.

The work completed on the Hickman Site was constructed in accordance with Specification No. 4106, Drawing No. 50-4-4706 and Contract No. DACW05-72-C-0019.

The Reclamation Board, at its regular meeting of December 17, 1971, formally accepted the Hickman Site for operation and maintenance, from the District Engineer. At the same meeting, the Reclamation Board transferred the Hickman Site to the Tehama County Flood Control and Water Conservation District for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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18 December 1972

Colonel James C. Donovan, District Engineer
Sacramento District
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Refer to: 4130.60.109

Dear Colonel Donovan:

Reference is made to your letter of November 24, 1972, concerning the transfer to the State of California, for maintenance and operation, a portion of the Sacramento River Bank Protection Project, Unit No. 21.

The flood control work consisted of selective clearing, levee bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Site Miles 26.5, 28.0, 33.6, 34.7, 38.7, 43.1 Left Bank and Site Miles 16.0 and 40.9 Right Bank, Sacramento River.

The flood control work has been completed and was constructed in a workmanlike manner. This work has been constructed in conformance with Drawing No. 50-4-4487, Specification No. 3680, Contract No. DACW05-72-C-0046, insofar as could be determined visually.

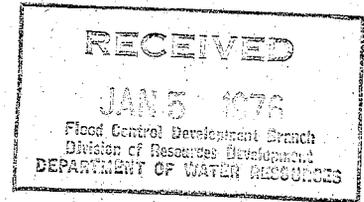
The Reclamation Board at its regular meeting of December 15, 1972, formally accepted from the District Engineer for operation and maintenance, the completed work on the above-referenced sites.

Sincerely yours,

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

EXHIBIT F

OPERATION AND MAINTENANCE MANUAL
FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT



| REVISIONS OR ADDITIONS | DATE |
|---|---------------|
| Table of Contents - - Revised General Procedures | December 1975 |
| Section III - - - - - Add paragraph 3-09 | December 1975 |
| Paragraph 1-04 - - - Add subparagraph e and f | December 1975 |
| EXHIBIT B - - - - - Add Drawing Nos. 50-4-4891 and 50-4-4971 | December 1975 |
| EXHIBIT F - - - - - Add copy of letters of accep- tance dated 25 November 1974 and 11 December 1974 | December 1975 |

SECTION I

1-04.

e. Stone protection, selective clearing, and bank sloping of the Sacramento River at Site Miles 194.0 and 196.3, Left Bank, (a portion of Sacramento River, Chico Landing to Red Bluff Bank Protection Project) was accomplished under Contract No. DACW05-73-C-0109 by Chandler Newman Construction Company during the period from 9 July 1973 to 4 January 1974. Specification No. 4451, Drawing No. 50-4-4891.

f. Stone protection and bank sloping on the left bank of the Sacramento River at Site Miles 208.4 and 213.1, a portion of the Chico Landing to Red Bluff Bank Protection Project, was accomplished under Contract No. DACW05-74-C-0093 by Carl J. Woods during the period from 11 July 1974 to 23 October 1974. Specification No. 4668, Drawing No. 50-4-4971.

EXHIBIT B

| <u>File No.</u> | <u>Title</u> |
|-----------------|---|
| 50-4-4891 | Bank Protection, Left Bank, Sacramento River, Butte County, in 3 sheets. |
| 50-4-4971 | Bank Protection, Left Bank, Sacramento River Site Mile 208.4 and Mile 213.1, in 5 sheets. |

Incl 1^a

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EXHIBITS

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|----------------|---|-----------------|
| A | Federal Flood Control Regulations ----- | Sheets 1 & 2 |
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| B | "As Constructed" Drawings ----- | Detached |
| C | Suggested Check List - Bank Protection Report ----- | 1 Sheet |
| D | Suggested Semi-Annual Form ----- | Sheets 1 & 2 |
| E | Acceptance by the State Reclamation Board ----- | Sheets 1 & 2 |
| F | Sample Permit for Use of Right-of-Entry ----- | Sheets 1 thru 3 |

- (e) That unauthorized vehicular travel is restricted.
- (f) That encroachments are not being erected along the bank which would hinder travel by authorized patrol vehicles.
- (g) Prevent the erection of structures on, additions to, or alterations of, the project works unless authorized by permit from the State Reclamation Board.

Following this detailed inspection, a joint field inspection is made with representatives of the responsible maintaining agency and the State Department of Water Resources to review and discuss the inspection report.

Upon completion of the fall inspection the State Department of Water Resources publishes an annual report entitled, "Status of Project Levee Maintenance" which indicates the degree of proficiency attained by each obligated local agency in providing required maintenance.

3-09. Environmental values. Vegetation preserved as a part of selective clearing on the waterside berm or slope above the bank protection during prosecution of the contract shall not be removed as a part of normal maintenance as long as it remains alive and in a healthy state. *

C
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THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
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November 25, 1974

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

Refer to: 4130.65.200

Dear Sir:

At its regular meeting of November 8, 1974, The Reclamation Board formally accepted from the District Engineer the completed flood control work on Unit No. I of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of November 4, 1974.

The flood control work consisted of selective clearing, levee bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 194.0 and 196.3 Left Bank, Sacramento River, in Butte County.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-4891, Specification No. 4451, and Contract No. DACW 05-73-C-0109, insofar as could be determined visually.

Site Mile 196.3 sustained damage during the 1974 flood flows. It is my understanding that the Corps of Engineers will repair the damaged reach in the next contract under the Chico Landing to Red Bluff Bank Protection Project.

It is my understanding that when Butte County has accomplished the road relocation at Site Mile 194.0, the Corps of Engineers will provide additional stone protection and the extension of the site downstream to meet the high bank.

Sincerely yours,

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

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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December 11, 1974

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

Dear Sir:

Your letter of November 27, 1974 transferred Site Miles 208.4 and 213.1 on the left bank of the Sacramento River of the Chico Landing to Red Bluff Project to the Reclamation Board for operation and maintenance. The work accomplished at these two sites consisted of sloping portions of the river-bank and placement of stone revetment and was completed under Contract No. DACW05-74-C-0093 on November 6, 1974.

This is to advise you that the Reclamation Board accepted the completed works at its meeting of December 6, 1974 subject to the condition that the concrete vault will be removed from the river channel in the next unit of work in this project and that any damage to completed works which may be caused by the vault's existence will be repaired.

The contract documents required that the concrete vault at Site Mile 213.1 be removed from the river channel. This item of work was not accomplished. It is my understanding that the vault will be removed under the next forthcoming contract of the project. In the meantime, there is a probability that the vault's presence in the channel near the banks of the completed stone revetment may cause turbulence at high water flows and adversely affect the adjoining revetment and the unprotected bank above the revetment. I have been informally advised by your staff that if such an event occurs that remedial work will be initiated at the earliest convenient time.

My letter of March 14, 1974 contained comments regarding the plans and specifications for the proposed two sites. The letter requested that your staff reconsider the design criteria which limited the stone protection to a height of five feet above the low water elevation. The design was modified to increase the revetment height at Site Mile 208.4 and we compliment your decision. The criteria was not modified at Site Mile 213.1 and our

District Engineer

-2-

December 11, 1974

concern is particularly applicable not only to the potential erosion of the unprotected portion of the bank but the difficulty of maintaining the revetted portion of the bank from the unprotected bank which has slopes varying from 1 on 1 to vertical with heights of 16 feet above the stone.

Sincerely yours,

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

OPERATION AND MAINTENANCE MANUAL
FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

| REVISIONS OR ADDITIONS | DATE |
|---|------------|
| Section III - - - - - Revised paragraph 3-09 | April 1977 |
| Paragraph 1-04 - - - Add subparagraph g | April 1977 |
| EXHIBIT B - - - - - Add Drawing No. 50-4-5043 | April 1977 |
| EXHIBIT F - - - - - Add copy of letters of acceptance dated 24 November 1975, 29 January 1976 and 20 August 1976 | April 1977 |

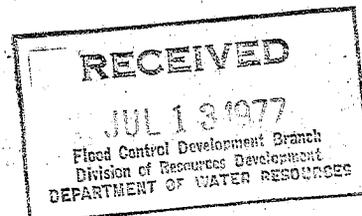
SECTION I

1-04.

g. Stone protection, selective clearing, and bank sloping of the Sacramento River at Site Miles 194.0, 202.4, 207.0, 211.1 and 230.5, left bank and 202.0, 229.0 and 197.0, right bank, (a portion of Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Unit No. 3) was accomplished under Contract No. DACW05-76-C-0014 by Luhr Brothers Inc., during the period from 1 August 1975 to 15 November 1976. Specification No. 4913, Drawing No. 50-4-5043.

EXHIBIT B

| <u>File No.</u> | <u>Title</u> |
|-----------------|---|
| 50-4-5043 | Bank Protection, Left and Right Banks, Sacramento River, Various Sites, Butte County, in 3 sets, totaling |



Incl 1

- (e) That unauthorized vehicular travel is restricted.
- (f) That encroachments are not being erected along the bank which would hinder travel by authorized patrol vehicles.
- (g) Prevent the erection of structures on, additions to, or alterations of, the project works unless authorized by permit from the State Reclamation Board.

Following this detailed inspection, a joint field inspection is made with representatives of the responsible maintaining agency and the State Department of Water Resources to review and discuss the inspection report.

Upon completion of the fall inspection the State Department of Water Resources publishes an annual report entitled, "Status of Project Levee Maintenance" which indicates the degree of proficiency attained by each obligated local agency in providing required maintenance.

3-09. Environmental values. Vegetation preserved as a part of selective clearing on the waterside berm or slope above the bank protection during prosecution of the contract shall not be removed as a part of normal maintenance. Dead trees with wildlife value will be retained except where they constitute a hazard to existing flood control works. *

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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November 24, 1975

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

Dear Sir:

The Reclamation Board at its regular meeting of November 21, 1975, formally accepted from the District Engineer the completed flood control work on a portion of Unit No. 3 of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of November 10, 1975.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 194.0 and 230.5 Left Bank and Sites Miles 202.0 and 229.0 Right Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5043, Specification No. 4913, and Contract No. DACW 05-76-C-0014, insofar as could be determined visually.

Sincerely,

/s/ P. C. Walters
P. C. WALTERS
Chief Engineer and
General Manager

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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Y

January 29, 1976

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

Dear Sir:

The Reclamation Board at its regular meeting of January 23, 1976, formally accepted from the District Engineer the completed flood control work on a portion of Unit No. 3 of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of January 12, 1976.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Site Mile 197.0 Right Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5043, Specification No. 4913, and Contract No. DACW 05-76-C-0014, insofar as could be determined visually.

Sincerely,

/s/ P. C. Walters
P. C. WALTERS
Chief Engineer and
General Manager

EXHIBIT E
Sheet 2 of 3

Reclamation Board
State of California

August 5, 1976

banks above the rock or any damage to the bank protection which might result from erosion of these banks.

We appreciate your cooperation.

Sincerely,



Ward F. Cameron
Chairman, Board of Supervisors

cc: Pete Peterson, Peterson Ranch
Bob Lackbaum, Newhall Land Company

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

C
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Y
August 20, 1976

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

Dear Sir:

The Reclamation Board at its regular meeting of August 13, 1976, formally accepted from the District Engineer the completed flood control work on a portion of Unit No. 3 of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of August 3, 1976.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 202.4, 207.0 and 211.1 Left Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5043, Specification No. 4913, and Contract No. DACW 05-76-C-0014, insofar as could be determined visually.

Sincerely,

/s/ John F. Wright
for PAUL L. CLIFTON
General Manager

EXHIBIT E
Sheet 3 of 3

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



REPLY TO
ATTENTION OF
SPKCO-0

2 December 1976

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

Gentlemen:

Reference is made to the joint inspection of 30 November and 1 December 1976, made for the purpose of transferring a portion of the Sacramento River Bank Protection Project (Unit 28) to the State of California for operation and maintenance. This flood control work consists of bank sloping and placement of stone protection on the Sacramento River left bank at Site Miles 12.9, 13.1, 14.9, 18.3, 18.6, 23.1, 25.1, 26.4, 26.7, 27.2, 32.1, and 34.1, and right bank at Site Miles 17.3, 17.7, 18.1, 19.1, 26.4, 27.0, 27.7, 32.3, 33.1, and 40.4, the irrigation facilities at Site Miles 40.3 left and 50.4 right and the Steamboat Slough left bank at Site Mile 24.8. The sites, as described on the inclosure, were completed on 21 November 1976 with the exception of the irrigation facilities, in accordance with Specification No. 4559, Contract No. DACW05-76-0015, drawing No. 50-4-4898.

The work was performed under the general authority of the Flood Control Act of 1960, 86th Congress, 2nd Session (PL86-645, 14 July 1960) and Section 2304(a), Title 10, and now meets the requirements of the Sacramento River Bank Protection Project. Therefore, said work together with the waterway banks contiguous, thereto, is transferred as of 2 December 1976 to the State of California for operation and maintenance.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Supplement Nos. 102, 103, 104, 110, 111 and 112 Sacramento River Flood Control Project. Copies will be furnished your office at a later date.

Sincerely yours,

1 Incl
as stated

Donald M. O'Shei
Colonel, CE
District Engineer

Copy furnished:
DWR, ATTN: R Franson & Carl Klug

SUMMARY OF PORTION OF SACRAMENTO
RIVER BANK PROTECTION PROJECT UNIT # 28
SACRAMENTO RIVER RIGHT BANK

| SITE MILE | STONE PROTECTION | L.F. |
|-----------|------------------|------|
| 17.3 | 80+00 to 92+50 | 1250 |
| 17.7 | 51+50 to 57+00 | 550 |
| 18.1 | 28+00 to 37+00 | 900 |
| 19.1 | 19+70 to 31+00 | 1130 |
| 26.4 | 285+50 to 292+50 | 700 |
| | 295+50 to 299+50 | 400 |
| 27.0 | 257+00 to 260+70 | 370 |
| | 262+00 to 269+50 | 750 |
| 27.7 | 222+80 to 229+50 | 670 |
| 32.3 | 0+00 to 3+63 | 363 |
| 33.1 | 8+00 to 16+00 | 800 |
| 40.4 | 39+00 to 45+00 | 600 |

SACRAMENTO RIVER LEFT BANK

| | | |
|-------|---------------------|------|
| *12.9 | 116+50 to 129+80 | 1330 |
| 13.1 | 96+50 to 103+50 | 700 |
| 14.9 | 32+00 to 36+00 | 400 |
| 15.3 | 8+50 to 15+50 | 700 |
| 18.6 | 1+00 to 5+30 | 430 |
| 23.1 | 0+00 to 5+00 AH | 500 |
| | 111+07 to 112+07 BK | 100 |
| 25.1 | 11+00 to 24+00 | 1300 |
| 26.4 | 5+00 to 7+70 | 270 |
| 26.7 | 126+50 to 134+00 | 750 |
| 27.2 | 102+50 to 107+00 | 450 |
| 32.1 | 11+53 to 19+61 | 808 |
| | 69+78 to 70+00 | 22 |
| 34.1 | 73+50 to 85+00 | 1150 |

STEAMBOAT SLOUGH LEFT BANK

| | | |
|-----------|--------------|-----|
| *24.8 | 0+00 to 5+80 | 580 |
| *Extended | | |

**DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD**

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



DEC 27 1978

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

Dear Sir:

The Reclamation Board at its regular meeting of December 14, 1978, formally accepted from the District Engineer the completed flood control work on a portion of Units Nos. 4A and 4B of the Sacramento River Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of November 15, 1978.

The flood control work consisted of selective clearing, shaping the river bank, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 215.3, 226.3 and 231.2 Right Bank, and Sites Miles 233.9, 238.1, 239.8 and 242.0 Left Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5402, Specification No. 5412, and Contract No. DACW 05-78-C-0026, insofar as could be determined visually.

Sincerely,

for Gene Anderson
ELDON E. RINEHART
General Manager

CERTIFIED MAIL
RETURN RECEIPT REQUESTED



*Copies to
Ely & Co
Valley
5-Jan-79*

**DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD**

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



JUL 27 1979

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

Dear Colonel Kavanaugh:

The Reclamation Board at its regular meeting of July 20, 1979, formally accepted the completed flood control work which was transferred to the State of California by your letter of June 19, 1979. This work is a portion of Units Nos. 4A and B of the Sacramento River Chico Landing to Red Bluff Bank Protection Project.

The flood control work was constructed in a workmanlike manner and in conformance with File No. 50-4-5402, Specification No. 5412, and Contract No. DACW05-78-C-0026, insofar as could be determined visually, at Site Mile 204.9 Right Bank and the upstream 500-foot extension of Site Mile 242 Left Bank, Sacramento River.

Sincerely,


ELDON E. RINEHART
General Manager

CERTIFIED MAIL
RETURN RECEIPT REQUESTED



*Copies to Corps DW
Valley
7-Aug 79*

SACRAMENTO RIVER
CHICO LANDING TO RED BLUFF
BANK PROTECTION

| REVISIONS OR ADDITIONS | | DATE |
|------------------------|---|-----------|
| Paragraph 1-04 | Add subparagraph a | July 1984 |
| EXHIBIT BF | Add Drawing No. 50-4-5581 | July 1984 |
| EXHIBIT BC | Add copy of letter of transfer dated December 22, 1982 | July 1984 |

SECTION I

1-04.

a. Bank sloping, stone protection and selective clearing on the bank of the Sacramento River at Site Mile 215.0R of Unit 5 of the Chico Landing to Red Bluff Project was accomplished under Contract No. DACW05-82-C-0096 by Carl J. Woods Construction, Inc.

Specification No. 6537 Drawing No. 50-4-5581.

EXHIBIT ~~BF~~

| <u>File No.</u> | <u>Title</u> |
|-----------------|--|
| 50-4-5581 | Sacramento River, Chico Landing to Red Bluff, Bank Protection, Site Mile 215.0 R, in 3 sheets. |

In. cc



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

REPLY TO
ATTENTION OF SPKCO-0

22 December 1982

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

Gentlemen:

This is in regard to the joint inspection of 17 December 1982, made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Unit No. 5 to the State of California for operation and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the Sacramento River right bank at Site Mile 215.0 and tree and shrub planting. The work was completed on 17 December 1982 in accordance with Specification No. 6537 Drawing No. 50-4-5581, Contract No. DACW05-82-C-0096.

The work was performed under the general authority of the Flood Control Act of 1956, 85th Congress, 2nd Session (PL 85-500, 3 July 1958) and by the 1976 Water Resources Development Act, 94th Congress, 2nd Session (PL 94-587) and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work together with the waterway banks contiguous thereto, and planting are transferred as of 17 December 1982 to the State of California for operation and maintenance. However, the plantings will be maintained by this office until 1 March 1983.

This portion of the project work will be added by amendment to the Operation and Maintenance manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date. Interim guideline for vegetation maintenance is attached.

Sincerely,

Henry Lee
Lieutenant Colonel, CE
Acting District Engineer

INTERIM GUIDE LINE FOR VEGETATION MAINTENANCE

- (1) After each flood season (15 April), the plant basins should be restored to original condition to permit watering until the fall of 1984.
- (2) From May through October of each year watering will be required in an amount to maintain sufficient water in the root zone of trees and shrubs to maintain growing conditions during the growing season.
- (3) Grass and weeds should be hoed and pulled in a 5-foot radius around trees and shrubs to maintain a fire guard.
- (4) Apply 1/2 lb. of 11-8-4 fertilizer in the area of the basin around each tree between the dates April 1 and 15 for 1983 and 1984. Do not place fertilizer so that it will touch the stem of the tree. Apply 1/4 lb. of the fertilizer for each shrub. Rake fertilizer lightly into the soil.
- (5) Delay pruning until the winter of 1983; after that date lower limbs of the trees shall be removed from the main trunk to a point 5 feet above the ground, except shrubs.
- (6) Tree stakes and ties should be checked at intervals to prevent girdling. The ties should be loosened as the tree expands, or replaced as old ties break. Sufficient looseness should be left in the tie to permit movement and growth of the trees. Remove stakes when the trees no longer need support (probably 1984).
- (7) If some trees expire, replacement will not be necessary as sufficient trees were planted with expectation that some would die.

DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD1416 - 9th Street, Room 335-18
Sacramento, CA 95814
(916) 445-9454

FEB 8 1983

Colonel Arthur E. Williams
District Engineer
Sacramento District
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Dear Colonel Williams:

Reference is made to your letter of December 22, 1982, concerning the transfer to the State of California for operation and maintenance, a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Unit No. 5.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Site Mile 215.0 Right Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5581, Specification No. 6537, and Contract No. DACW 05-82-C-0096, insofar as could be determined visually.

The Reclamation Board at its regular meeting of January 21, 1983, formally accepted from the District Engineer, for operation and maintenance, the completed work on the above-referenced site.

Sincerely,

ELDON E. RINEHART
General ManagerCERTIFIED MAIL
RETURN RECEIPT REQUESTED

copied to Nolan & Valley
16 FEB 83

OPERATION AND MAINTENANCE MANUAL
CHICO LANDING TO RED BLUFF PROJECT

SACRAMENTO RIVER
BANK PROTECTION

| REVISIONS OR ADDITIONS | | DATE |
|------------------------|--|-----------|
| Paragraph 1-04 | Add subparagraph b | JULY 1985 |
| EXHIBIT B | Add Drawing No. 50-4-5597 | JULY 1985 |
| EXHIBIT F | Add copy of letter of transfer dated May 15, 1984 | JULY 1985 |

SECTION I

1-04

b. Emergency bank protection restoration on the banks of the Sacramento River at Site Miles 197.0R (upstream end), 208.4L, 219.4L, 226.3R, and 240.0L, was accomplished under Contract No. DACW05-84-C-0043 by Carl J. Woods Construction, Inc.

Specification No. 6880A

Drawing No. 50-4-5597

EXHIBIT B

| <u>File No.</u> | <u>Title</u> |
|-----------------|---|
| 50-4-5597 | Sacramento River, Tehama, Glenn and Butte Counties, California, Project Bank Protection Repairs, in 4 sheets. |

RECEIVED

AUG 7 1985

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST



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

REPLY TO
ATTENTION OF

May 15, 1984

Navigation and Flood Control Unit

The Reclamation Board
State of California
1416 - 9th Street, Room 455-6
Sacramento, California 958114

Gentlemen:

You are hereby notified that the Corps of Engineers has completed emergency repairs to Sacramento River, Chico Landing to Red Bluff Project Bank Protection Sites under authority of Section 5 of the Flood Control Act of August 18, 1941, as amended (Public Law 99, 84th Congress, 1st Session). The work consisted of restoring bank protection at Site Miles 208.4 Left and 226.3 Right and was completed on February 23, 1984. Also bank protection was restored at Site Miles 197.0 Right, (Upstream End) 219.4 Left and 240.0 Left and was completed on May 3, 1984. The completed work was accomplished in accordance with Contract Number DACW05-84-C-0043 and Drawing Number 50-4-5597. The downstream end of Site Mile 197.0 Right will be restored later this year.

This work shall be maintained in accordance with the assurances which your board provided for the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The completed work will be added by amendment to the Operation and Maintenance Manual for this Project. Copies will be furnished your office at a later date.

Sincerely,

Henry Lee
Lieutenant Colonel, CE
Acting Commander

Copy Furnished:
Commander, South Pacific Division, ATTN: SPDCO-C

RECEIVED

AUG 7 1985

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST

OPERATION AND MAINTENANCE MANUAL
CHICO LANDING TO RED BLUFF PROJECT

SACRAMENTO RIVER
BANK PROTECTION

| REVISIONS OR ADDITIONS | DATE |
|--|-----------|
| Paragraph 1-04 Add subparagraph c | JULY 1985 |
| EXHIBIT B Add Drawing No. 50-4-5719 | JULY 1985 |
| EXHIBIT F Add copy of letter of transfer dated November 19, 1984 | JULY 1985 |

SECTION I

1-04

c. Emergency bank protection restoration on the banks of the Sacramento River at Site Miles 197.0R and 234.0L was accomplished under Contract No. DACW05-84-C-0121 by Carl J. Woods Construction, Inc.

Specification No. 7220

Drawing No. 50-4-5719

EXHIBIT B

| <u>File No.</u> | <u>Title</u> |
|-----------------|---|
| 50-4-5719 | Sacramento River, Tehama and Glenn Counties, California, Project Bank Protection Repair, PL 84-99, in 4 sheets. |

RECEIVED

AUG 7 1985

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST



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

REPLY TO
ATTENTION OF

November 19, 1984

Navigation and Flood Control Unit

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

Gentlemen:

You are hereby notified that the Corps of Engineers has completed emergency repairs to Sacramento River, Chico Landing to Red Bluff Project Bank Protection Sites under authority of Section 5 of the Flood Control Act of August 18, 1941, as amended (Public Law 99, 84th Congress, 1st Session). The work consisted of restoring bank protection at Sacramento River Site Miles 234.0 Left and 197.0 Right and was completed on November 2, 1984. The completed work was accomplished in accordance with Contract Number DACW05-84-C-0121 and Drawing Number 50-4-5719.

This work shall be maintained in accordance with the assurances which your Board provided for the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The completed work will be added by amendment to the Operation and Maintenance Manual for this Project. Copies will be furnished your office at a later date.

Sincerely,

Arthur E. Williams
Colonel, Corps of Engineers
District Engineer

Copy Furnished:

Commander, South Pacific Division, ATTN: SPDCO-C
DWR, ATTN: M. Luttropp

RECEIVED

AUG 7 1985

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST
EXHIBIT F

1 of 1

OPERATION AND MAINTENANCE MANUAL
CHICO LANDING TO RED BLUFF PROJECT

UNIT NO. 6

SACRAMENTO RIVER
BANK PROTECTION

| REVISIONS OR ADDITIONS | DATE |
|--|-----------|
| Paragraph 1-04 Add subparagraph d | JULY 1985 |
| EXHIBIT B Add Drawing No. 50-4-5591 | JULY 1985 |
| EXHIBIT F Add copy of letters of transfer dated September 24, 1984 | JULY 1985 |

SECTION I

1-04

d. Bank sloping, stone protection and selective clearing on the bank of the Sacramento River at Site Miles 209.5R and 227.5L of Unit 6 of the Chico Landing to Red Bluff project was accomplished under Contract No. DACW05-83-C-0120 by Nordic Trucking, Inc.

Specification No. 6762 Drawing No. 50-4-5591

EXHIBIT B

| File No. | Title |
|-----------|---|
| 50-4-5591 | Sacramento River, Chico Landing to Red Bluff, California, Site Mile 209.5R and 227.5L, in 6 sheets. |



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

REPLY TO
ATTENTION OF

September 24, 1984

Navigation and Flood Control Unit

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

Members of the Board:

This is in regard to the joint inspection of August 30, 1984 made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Contract Number 6, to the State of California for operations and maintenance.

The flood control work consists of shaping the river bank and placement of stone bank protection on the Sacramento River right bank at Site Mile 209.5; on the left bank at Site Mile 227.5 and tree and shrub planting. The work was completed on August 30, 1984 in accordance with Contract Number DACW05-83-C-0120, Specification Number 6762, Drawing Number 50-4-5591, and subsequent change orders.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL-85-500, 3 July 1958) and by the 1976 Water Resources Development Act, 94th Congress, 2nd Session (PL 94-587) and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work together with the waterway banks contiguous thereto, and plantings are transferred as of August 30, 1984 to the State of California for operations and maintenance.

As you know, provisions have been made by change order to anticipate future erosion at Site Mile 209.5 right. Along the upstream 700+ feet of this site, additional rock was windrowed at the toe of the bank, in the existing slough bed. If additional erosion occurs, this windrow of rock is intended to launch down the eroding bank. Additionally, bank protection is proposed immediately upstream of the site in Reach 4 of the comprehensive bank protection plan under the subject project.

-2-

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date. An interim guideline for vegetation maintenance is attached.

Sincerely,

Albert E. McCollam, Jr.
Lieutenant Colonel, Corps of Engineers
Acting District Engineer

Attachment

Copies Furnished:

Commander, South Pacific Division, ATTN: SPDCO-C
Commander, USACE, ATTN: DAEN-CWO-O, Washington, D.C. 20314
DWR, ATTN: M. Luttrupp
DWR, ATTN: D. Meixner

*RMC
Clark
File*

February 26, 1985



Navigation and Flood Control Unit

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

Members of the Board:

This is in

This in is regard to the joint inspection of February 6, 1985 made for the purpose of transferring a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Contract Number 7, to the State of California for operation and maintenance.

unit

The flood control work consists of shaping the riverbank and placement of stone bank protection on the Sacramento River right bank at Site Mile 241.0, on the left bank at Site Miles 237.5, 237.7, and 237.9, and tree and shrub planting. The work was completed on February 15, 1985 in accordance with Contract Number DACW05-84-C-0105, Specification Number 7195, and Drawing Number 50-4-5717.

The work was performed under the general authority of the Flood Control Act of 1958, 85th Congress, 2nd Session (PL-85-500, 3 July 1958) and by the 1976 Water Resources Development Act, 94th Congress, 2nd Session (PL 94-587) and now meets the requirements of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Therefore, said flood control work, together with the waterway banks contiguous thereto, and plantings are transferred as of February 15, 1985 to the State of California for operation and maintenance. In addition, the existing rock revetment between and adjacent to Sites 237.5, 237.7, and 237.9 left bank are to be maintained to preserve the integrity of the new work.

This portion of the project work will be added by amendment to the Operation and Maintenance Manual, Sacramento River, Chico Landing to Red Bluff Bank Protection Project. Copies will be furnished your office at a later date. An interim guideline for vegetation maintenance is attached.

Sincerely,

M 2-25
ROMPALA/grg

Rick
KELLY

Arthur E. Williams
Colonel, Corps of Engineers
District Engineer

A. SMITH
[Signature]

H
HELM

~~Attachment~~

Copies Furnished:

- Commander, South Pacific Division, ATTN: SPDCO-C with Attachment
- Commander, USACE, ATTN: DAEN-CWO-O, Washington, D.C. 20314 with Attachment
- DWR, ATTN: M. Luttrupp with Attachment
- DWR, ATTN: D. Maixner with Attachment

B
BRUBAKER

D
DENNIS

[Signature]
MCCOY

[Signature]
WILLIAMS

- cc: *w/o attach*
- Engr Div (Civ Des Sec D - Pahl)
- Valley Res Ofc (Cameron)
- Prog Dev (Osborne)
- F & A Br (Kalal)
- Ops Br *w/attach*

[Signature]
WANG #0792a

The Reclamation Board/Sacramento River/Rompala/N&FCU

| | |
|--|--|
| SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse. | |
| 1. The following service is requested (check one). <input checked="" type="checkbox"/> Show to whom and date delivered..... <input type="checkbox"/> Show to whom, date and address of delivery..... <input type="checkbox"/> RESTRICTED DELIVERY <input type="checkbox"/> Show to whom and date delivered..... <input type="checkbox"/> RESTRICTED DELIVERY. <input type="checkbox"/> Show to whom, date, and address of delivery. \$ _____ | |
| (CONSULT POSTMASTER FOR FEES) | |
| 2. ARTICLE ADDRESSED TO: The Reclamation Board State of California 1416 - 9th Street, Room 455-6 Sacramento, California 95814 | |
| 3. ARTICLE DESCRIPTION: REGISTERED NO. <u>782132</u> | INSURED NO. _____ |
| (Always obtain signature of addressee or agent) I have received the article described above. | |
| SIGNATURE <input type="checkbox"/> Addressee <input type="checkbox"/> Authorized agent <i>Pen Robinson</i> | |
| 4. DATE OF DELIVERY MAR 4 1985 | POSTOFFICE SACRAMENTO, CA MAR 4 1985 |
| 5. ADDRESS (Complete only if requested) | |
| 6. UNABLE TO DELIVER BECAUSE: | |

☆ GPO : 1979-208-848

File: Transfer Papers - Sacramento River Chico Landing to Red Bluff
Chico
File

CERTIFIED
No. 983845
RETURN RECEIPT REQUESTED

CERTIFIED MAIL RETURN RECEIPT REQUESTED
January 3, 1966

Navigation and Flood Control Unit

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

UNIT 7

Members of the Board:

This is to advise you that the warning sign installed at Site Mile 241.0 right bank, Sacramento River, Chico Landing to Red Bluff Project is considered part of the completed work transferred to the State of California on February 15, 1965 and shall be maintained in accordance with assurances previously executed by your Board.

M 1-3
ROMPALA/mc

Sincerely,

PCK
KELLY

Wayne J. Scholl
Colonel, CE
District Engineer

AS
A. SMITH

Copies Furnished:

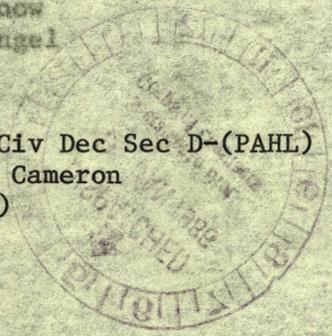
H
HELM

Commander, South Pacific Division, ATTN: SPDCO-0
DWR: ATTN: C. Snow
DWR: ATTN: J. Angel

FAST

cc:
Engineering Div, Civ Dec Sec D-(PAHL)
Valley Res. Ofc., Cameron
Prog Dev (OSBORNE)
F & A Br (KALAL)
C-O Div

DENNIS



MCCOLLAM

SCHOLL

WANG #3084a

JP

Chico Landing to Red Bluff Tabulation of Sites

| State Unit # | CoE Site # on Contr # | State River Mi | Old River Mi | Date of Transfer | Transferred since 221 Agmt signed on Sept 15, 1982 | shown on State Plate # | Length (mi) Plate - cks | Notes |
|----------------------|--------------------------|----------------|--------------|------------------|--|------------------------|----------------------------|---|
| GLENN COUNTY | | | | | | | | |
| 1 | 3 | 197.0R | | 12 Jan 1976 | *✓ | 49 | 1.24 | Repaired & Trnsfrd 15 May 84 & 19 Nov 84 |
| 2 | 3 | 202.0R | | 10 Nov 1975 | | 49 | .12 | |
| 3 | 4A, 4B | 204.9R | | 19 Jan 1979 | | 49A | .13 | |
| BUTTE COUNTY | | | | | | | | |
| 6 | 3 | 194.0L | | 4 Nov 1974 | | 47 | .40 | Repaired, extended & Trnsfrd 10 Nov 75 |
| 7 | | 196.3L | | 4 Nov 1974 | | 47 | .32 | Repaired & Trnsfrd 19 Nov 76 |
| 10 | 3 | 202.4L | | 3 Aug 1976 | | 47A | .26 | |
| 11 | 3 | 207.0L | | 3 Aug 1976 | | 47A | .38 | |
| 8 | | 208.4L | | 27 Nov 1974 | *✓ | 47A | .33 | Repaired & Trnsfrd 10 Feb 81 & 15 May 84 |
| 12 | 3 | 211.1L | | 3 Aug 1976 | | 47A | .76 | |
| 9 | | 213.1L | | 27 Nov 1974 | | 47B | .50 | |
| TEHAMA COUNTY | | | | | | | | |
| 23 | 4A, 4B, 6 | 209.5R | | 24 Sept 1984 | *✓ | 53I | 1.01 .95 | |
| 17 | 5 | 215.1R | | 15 Nov 1978 | *✓ | 53F | .73 | Repaired & Trnsfrd 22 Dec 82 |
| 15 | | 218.3L | | 17 Sept 1970 | | 53 | .10 | |
| 6 | 6 | 219.5L | | 17 Jan 1964 | *✓ | 53 | .50 | Restored & Trnsfrd 15 May 84 |
| 7 | 7 | 220.5R | 169.8R | 17 Jan 1964 | | 53 | .78 | |
| 18 | 4A, 4B | 226.3R | | 15 Nov 1978 | *✓ | 53D | 1.31 | Repaired & Trnsfrd 15 May 84 |
| 22 | 6 | 227.5L | | 24 Sept 1984 | *✓ | 53H | .56 | |
| 13 | 3 | 229.0R | 177.3R | 13 Nov 1968 | | 53C | .72 | 229.0 Trnsfrd on 10 Nov 75 |
| 14 | 3 | 230.5L | | 10 Nov 1975 | | 53C | .68 | |
| 19 | 4A, 4B | 231.2R | | 15 Nov 1978 | | 53C | .28 | |
| 8 | 8, 4A, 4B | 234.4L | 183.4L | 11 Dec 1963 | *✓ | 53A | .96 | 233.9L Trnsfrd on 15 Nov 78, 234.0L Repaired & Trnsfrd on 19 Nov 84 |
| 9 | 9 | 234.8L | 183.9L | 11 Dec 1963 | | 53A | .23 | |
| 16 | | 235.8L | 185.3L | 26 Nov 1971 | | 53A | .48 .49 | Hickman Subv. |
| 10 | 10 | 237.0R | 187.0R | 11 Dec 1963 | | 53B | .71 | |
| 20 | 4A, 4B, 7 | 237.5, 237.7L | | see notes | *✓ | 53E | .64 | 238.1 Trnsfrd 15 Nov 78, 237.5, 237.7, 237.9 Trnsfrd 26 Feb 85* |
| 11 | 11 | 239.0L | 188.6L | 11 Dec 1963 | | 53B | .52 | *sites tied together with exist. rock - which is to be maintained - mileage does not incl. exist. rock. |
| 12 | 12, 4A, 4B | 240.1L | 189.7L | 11 Dec 1963 | *✓ | 53B | .62 | 239.8 Trnsfrd on 15 Nov 78, 240.0 Restored & Trnsfrd on 15 May 84 |
| 24 | 7 | 241.0R | | 26 Feb 1985 | *✓ | 53J | 1.16 | Ltr dtd 3 Jan 86 advised Rec Rd that warning sign is part of project |
| 21 | 4A, 4B | 242.0L | | 15 Nov 78 | | 53G | .58 | site extended & trnsfrd 19 June 79 |

Chico Landing to Red Bluff
Tabulation of Sites
Aug 1991

**OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER, CALIFORNIA**

CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT
REVISED MARCH 1981

| LOCATION | ADDITION OR REVISION | DATE |
|-----------------|---|-------------|
| 1-04 | Add subparagraph a. | Jul 1984 |
| Exhibit C | Add copy of letter of transfer dated 22 Dec 1982 | Jul 1984 |
| Exhibit F | Add Drawing No. 50-4-5581 | Jul 1984 |
| 1-04 | Add subparagraphs e, f, g, h, i, and j | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 7 Jan 1964 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 10 Feb 1964 | 8 Apr 2010 |
| Exhibit C | Add letter of acceptance dated 11 Dec 1968 | 8 Apr 2010 |
| Exhibit C | Add letter of acceptance dated 9 Feb 1971 | 8 Apr 2010 |
| Exhibit C | Add letter of acceptance dated 4 Jan 1972 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 25 Nov 1974 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 11 Dec 1974 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 24 Nov 1975 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 29 Jan 1976 | 8 Apr 2010 |
| Exhibit C | Add copy of letter from Butte County dated 5 Aug 1976 regarding site mile 202.4 | 8 Apr 2010 |
| Exhibit C | Add copy of letter of acceptance dated 20 Aug 1976 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 27 Dec 1978 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 27 Jul 1979 | 8 Apr 2010 |
| Exhibit C | Add copy of acceptance letter dated 8 Feb 1983 | 8 Apr 2010 |
| Exhibit C | Add copy of transfer letter dated 26 Feb 1985 | 8 Apr 2010 |
| Exhibit C | Add copy of transfer letter dated 3 Jan 1986 | 8 Apr 2010 |
| Front Matter | Add copy of Tabulation of sites dated Aug 1991 | 8 Apr 2010 |
| 1-04 | Add subparagraph k | 3 Jun 2010 |

d. Bank sloping, stone protection and selective clearing on the bank of the Sacramento River at Site Miles 209.5R and 227.5L of Unit 6 of the Chico Landing to Red Bluff Project was accomplished under Contract no. DACW05-83-C-0120 by Nordic Trucking, Inc. Specification No. 6762, Drawing No. 50-4-5591.

e. Bank protection, right bank of Sacramento River at Tehama Mile 177.3 was accomplished under Contract No. DACW05-69-C-0011 by H. Earl Parker, Inc. and completed in November 1968. Specification No. 3559. Drawing No. 50-4-4412.

f. Bank protection, left bank of Sacramento River at Woodson Bridge, Mile 166.4, was accomplished under Contract No. DACW05-70-C-0086 by James L. Ferry and Sons, and completed on 12 June 1970. Specification No. 3694. Drawing No. 6-4-2125.

g. Bank protection, left bank of Sacramento River at (Hickman Site) Site Mile 185.3, was accomplished under Contract No. DACW05-72-C-0019 by H. Earl Parker, during the period from 14 September 1971 to 28 November 1971. Specification No. 4106. Drawing No. 50-4-4706.

h. Stone protection, selective clearing, and bank sloping of the Sacramento River at Site Miles 194.0 and 196.3, Left Bank, (a portion of Sacramento River, Chico Landing to Red Bluff Bank Protection Project) was accomplished under Contract No. DACW05-73-C-0109 by Chandler Newman Construction Company during the period from 9 July 1973 to 4 January 1974. Specification No. 4451. Drawing No. 50-4-4891.

i. Stone protection and bank sloping on the left bank of the Sacramento River at Site Miles 208.4 and 213.1, a portion of the Chico Landing to Red Bluff Bank Protection Project, was accomplished under Contract No. DACW05-74-C-0093 by Carl J. Woods during the period from 11 July 1974 to 23 October 1974. Specification No. 4668. Drawing No. 50-4-4971.

j. Stone protection, selective clearing, and bank sloping of the Sacramento River at Site Miles 194.0, 202.4, 207.0, 211.1 and 230.5 left bank and 202.0, 229.0 and 197.0, right bank, (a portion of Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Unit No. 3) was accomplished under Contract No. DACW05-76-C-0014 by Luhr Brothers Inc., during the period from 1 August 1975 to 15 November 1976. Specification No. 4913, Drawing No. 50-4-5043.

k. Stone protection, bank sloping and tree and shrub planting along the Sacramento River, right bank at Site Mile 241.0, and left bank at Site Miles 237.5, 237.7 and 237.9 was accomplished under Contract No. DACW05-84-C-0105, and completed on February 15, 1985. Specification No. 7195, Drawing No. 50-4-5717.

DEPARTMENT OF WATER RESOURCES

RECEIVED

OCT 17 1979

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST.P.O. BOX 388
SACRAMENTO
95802

OCT 16 1979

Mr. Larry Coleman
Tehama County Flood Control and
Water Conservation District
Route 1, Box 4
Gerber, CA 96035

Dear Mr. Coleman:

The Corps of Engineers is revising the Operation and Maintenance Manual for the Sacramento River, Chico Landing to Red Bluff Bank Protection Project.

The basic change they are making is to allow vegetation to grow through the stone blanket providing it is not detrimental to the integrity of the revetment.

We are enclosing a copy of these changes and ask for your comments by October 25, 1979. If we do not hear from you by that date, we will assume you have no comments.

Sincerely,

A handwritten signature in cursive script that reads "G. Donald Meixner".

G. Donald Meixner, Program Manager
Flood Control Activities,
Reclamation Board Authority

Enclosure



TEHAMA COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

RE: I-18
Sacramento River-
Operation & Maint.
Manual

ROUTE 1, BOX 4
GERBER, CALIFORNIA 96035

October 22, 1979

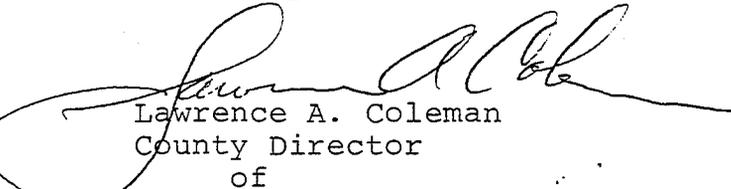
Mr. G. Donald Meixner, Program Manager
Flood Control Activities
Reclamation Board Authority
Department of Water Resources
P.O. Box 388
Sacramento, CA., 95802

Dear Mr. Meixner:

This District certainly has no objection to allowing vegetation to grow through stone blanket, however, I am concerned that the excerpts of Pages 18 through 21 are not from the Operation and Maintenance Manual furnished this District for Sacramento River, California, Chico Landing to Red Bluff Bank Protection Project. Our copy contains 16 pages plus exhibits and the instructions relating to inspections is substantially different in some areas.

Could you please forward a complete copy for review and comment.

Sincerely,



Lawrence A. Coleman
County Director
of
Water Resources

LAC/mb

"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 banks, riprap, deflection dikes and walls, drainage outlets, or other flood control structures repaired."

A discussion of special conditions pertaining to these requirements are as follows:

a. Periodic Inspections. The purpose of the channel and floodway inspections is to insure that no new conditions develop that may impair the effectiveness of the project. It is intended that these inspections disclose all conditions which in any way affect the stability of the structures and their functioning. At each inspection, particular attention will be given the following:

- (1) Location, extent and size of vegetation.
- (2) Unauthorized operations within the flood-flow channel right-of-way, such as excavations, buildings and other structures, levees, bank protection, or training dikes.
- (3) Rubbish and industrial waste disposal.
- (4) 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.

(5) Upstream operations of any nature that would affect flow conditions in the river.

(6) Condition of project facilities.

During the inspection it should be determined if the following provisions are being adhered to:

(1) That brush, vines and other growth that has established itself in the rock revetment does not displace or cause the revetment to be washed out or fail;

(2) That all caves, slough, burrows, holes, slips, or other damaged portions of the banks have been repaired;

(3) That all irrigation and drainage structures within the project works are in good condition;

(4) That no revetment work or riprap has been displaced, washed out or removed.

Inspections should be made at the times specified below:

(1) During the month of October, which is prior to the beginning of the flood season.

(2) Immediately following each major high water period.

(3) In the absence of high water, at periods not exceeding 90 days.

(4) At intermediate times as necessary.

b. Semi-annual Report. The semi-annual reports should be submitted within a ten day period prior to 1 June and 1 December of each year and should include all dated copies of reports of inspections made during the period of report.

c. Special Instructions. The main feature of the project work consists of bank protection, and the following are supplemental instructions for maintenance:

(1) Where scour, wash, settlement or failure of a portion of the originally provided stone protection has been noted, or where inspection indicates such damage may result during the next flood or high water period, the scour or wash shall be filled with earth free from brush, roots, sod or other unsuitable material and additional stone shall be placed upon the earth fill to bring the stone protection to its original section. In case of emergency and when stone is not available, sand bags or bags filled with gravel may be used for temporary repair measures.

(2) When permanent repair of the stone protection is made, the stone used shall, as far as possible, be similar to the kind and gradation as originally used.

(3) In the event an inspection reveals that due to scour, settlement or other causes, stone protection on the bank is required beyond the limits of the original construction or in reaches of bank protection not originally provided with such protection, local interests will provide additional sloping of the bank and placement of stone protection as needed to protect completed work. The work shall be done in a manner acceptable under standard engineering practice.

(4) Brush, vines and other growth may be allowed to grow through the stone blanket in the event the natural growth displaces the revetment or, in the opinion of the State/Federal inspectors becomes detrimental to the integrity of the revetment, the growth shall be cut and removed.

(5) All access roads should be maintained in such a manner as to allow inspection and maintenance vehicles to travel over them during non-flood periods. A twenty foot right-of-way strip shall be maintained at the top of the bank for inspection and maintenance work. No encroachments shall be allowed in this twenty foot strip without prior approval of the State Reclamation Board.

d. Proposed Improvements or Alterations. Drawings or prints or proposed improvements or alterations to the existing Flood Control Works must be submitted for approval to the District Engineer, Sacramento District, Corps of Engineers, Sacramento, California, sufficiently in advance of the proposed construction to permit adequate study and consideration of the work. Drawings or prints, in duplicate, showing any improvements or alterations as finally constructed should be furnished to the Corps of Engineers after completion of the work.

e. Environmental Values. Vegetation preserved as a part of selective clearing during prosecution of the contract shall not be removed as a part of normal maintenance. Dead trees with wildlife value will be retained except where they constitute a hazard to existing project works.

RECEIVED

DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD16 - 9th Street, Room 335-18
Sacramento, CA 95814
(916) 445-9454

JAN 10 1980

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST.

JAN 09 1980

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

Dear Colonel Kavanaugh:

We have received your letter of September 26, 1979, regarding the up-dating and revisions to the Operation and Maintenance Manual for the Sacramento River, Chico Landing to Red Bluff project, and have the following comments:

Page 19, Paragraph 3

"Inspections should be made at the times specified below:

- (1) During the month of October, which is prior to the beginning of the flood season.
- (2) Immediately following each major high water period.
- (3) In the absence of high water, at periods not exceeding 90 days.
- (4) At intermediate times as necessary."

Comment: It is our understanding that the above schedule applies to the maintaining agency. With present funding, the Department's inspection of the revetment sites is conducted once a year, generally during August, and by boat. Additional inspections are conducted at specific sites when, following a major high water period, the Department is notified of a specific problem at the site.

Page 21, Paragraph 1

"(4) Brush, vines and other growth may be allowed to grow through the stone blanket in the event the natural growth displaces the revetment or, in the opinion of the State/Federal inspectors becomes detrimental to the integrity of the revetment, the growth shall be cut and removed."

Comment: Special Instructions (1) on page 20 states that "where scour, wash, settlement or failure of a portion of the originally provided stone protection has been noted, ... additional stone shall be placed ... to bring the stone protection to its original section." In other words, when displaced, the stone blanket should be repaired. We recommend that the same provision apply to displacement of the stone blanket by vegetation. As such, we recommend the aforementioned paragraph be revised as follows:

- (4) Trees, shrubs, bushes, vines and other growth may be allowed to grow through the stone blanket. Revetment displaced by the vegetation shall be repaired as soon as practical after observing the displacement. If in the opinion of the State/Federal inspector, the vegetation jeopardizes the integrity of the bank being protected by the revetment, the vegetation shall be trimmed and/or removed as directed by the State/Federal inspector.

Page 21, Paragraph 2

"(5) All access roads should be maintained in such a manner as to allow inspection and maintenance vehicles to travel over them during non-flood periods. A twenty foot right-of-way strip shall be maintained at the top of the bank for inspection and maintenance work. No encroachments shall be allowed in this twenty foot strip without prior approval of the State Reclamation Board."

Comment: This paragraph is part of the present manual (Section 4-03. a. (5) and (6)), and except for editing, it is not being revised. However, we recommend that the second sentence be revised as follows:

A twenty-foot right of way strip shall be retained adjacent to the top of the bank to facilitate compliance with the aforementioned Special Instructions, including the maintenance of vegetation and related inspections.

The key word change is the substitution of "retained" for "maintained". To us, the term "maintained" implies a requirement to keep the strip clear of vegetation for inspection of the revetment from a vehicle on the bank, while the word "retained" means having the strip available for the particular uses when needed. Recognizing it is intended that (1) this strip in Units 4A and 4B be

Paul F. Kavanaugh
Page 3

revegetated under Corps Specification No. 5724, and (2) our future annual maintenance inspection (and perhaps the maintaining agency inspections) will be conducted from a boat, keeping this 20-foot strip clear is incongruous. It should be understood that, in the event of future repair of a revetment site, the work may necessitate damage or removal of vegetation within the 20-foot strip.

Sincerely,

Original signed by
Eldon E. Rinehart

ELDON E. RINEHART
General Manager

cc: Clay Castleberry, Director
Department of Public Works
County of Butte
7 County Center Drive
Oroville, CA 95965

Lawrence A. Coleman
County Director of Water Resources
County of Tehama
Route 1, Box 4
Gerber, CA 96035

bcc: Lee Carter
Richard Goodnight
Ed Littrell
Department of Fish and Game

CLGregory:jm



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

REPLY TO
ATTENTION OF

SPKED-F

7 October 1980

SUBJECT: Sacramento River, California, Chico Landing to Red Bluff Bank
Protection Project - Operation and Maintenance Manual

Division Engineer, South Pacific
ATTN: SPDCO-0

1. Reference: SPKGD-L letter to SPD dated 11 March 1964, same subject as above, and 1st and 2nd Indorsements thereto.
2. Inclosed for review and approval is a draft of a revised Operation and Maintenance Manual for the subject project. The manual has been revised to incorporate work completed in July 1979, to allow vegetation to grow in revetment, and to clarify other subjects as suggested by the project sponsor, the State Reclamation Board. The format of the manual has also been changed as suggested by the Reclamation Board.
3. Upon approval, the revised manual will be issued to the Reclamation Board and the previously issued manual will be rescinded.

FOR THE DISTRICT ENGINEER:

Incl (dupe)
Draft O&M Manual


for GEORGE C. WEDDELL
Chief, Engineering Division

SPDCO-0 (7 Oct 80) 1st Ind

SUBJECT: Sacramento River, California, Chico Landing to Red Bluff Bank
Protection Project - Operation and Maintenance Manual

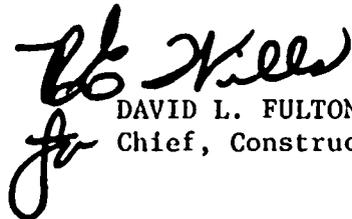
DA, South Pacific Division, Corps of Engineers, 630 Sansome Street, Room 1216,
San Francisco, CA 94111 17 February 1981

TO: District Engineer, Sacramento, ATTN: SPKED-F

1. Subject draft is approved.
2. Minor typos marked on page 7 and Exhibit E. of returned copy.

FOR THE DIVISION ENGINEER:

1 Incl 1
1 wd


DAVID L. FULTON
for Chief, Construction-Operations Division



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

REPLY TO
ATTENTION OF
SPKED-F

15 April 1981

Mr. Eldon E. Rinehart, General Manager
The Reclamation Board
1416 Ninth Street, Room 335-18
Sacramento, California 95814

Dear Mr. Rinehart:

Inclosed are two copies of the revised Operation and Maintenance Manual for the Chico Landing to Red Bluff project and one set of "As Constructed" drawings for Unit 4 of this project. The manual has been revised to reflect the completion of the Unit 4 work, to allow vegetation to grow in revetment in accordance with previous agreements, and to clarify other subjects as suggested in your 9 January 1980 letter. Copies of this manual and the "As Constructed" drawings are also being furnished to the State Department of Water Resources. The previously issued manual dated May 1964, and revisions thereto, is rescinded.

Sincerely,

2 Incls
1. O&M Manual (2 cys)
2. Drawings (fwd sep)

GEORGE C. WEDDELL
Chief, Engineering Division

DEPARTMENT OF WATER RESOURCES

P.O. BOX 388
SACRAMENTO
95802

(916) 445-8984



MAY 19 1981

Mr. Lawrence A. Coleman,
Engineer and Manager
Tehama County Flood Control and
Water Conservation District
Route 1, Box 4
Gerber, CA 96035

Dear Sir:

Enclosed for your information and use is a copy of the revised Operation and Maintenance Manual for the Chico Landing to Red Bluff Bank Protection Project and a set of "As Constructed" drawings for Unit No. 4 of this project.

Numerous changes have been made to the manual and it should be reviewed closely by your maintenance staff. The previously issued manual, dated May 1964, and revisions thereto, is rescinded and should be discarded.

Sincerely,

A handwritten signature in cursive script that reads "G. Donald Meixner".

G. Donald Meixner
Program Manager
Flood Control Activities
Reclamation Board Authority

Enclosure



AGREEMENT BETWEEN
THE UNITED STATES OF AMERICA
AND
THE STATE OF CALIFORNIA
FOR
LOCAL COOPERATION ON THE SACRAMENTO
RIVER, CHICO LANDING TO RED BLUFF,
CALIFORNIA, PROJECT

This agreement entered into this _____ day of _____, 1982, by and between the UNITED STATES OF AMERICA (hereinafter called the "Government"), represented by the Contracting Officer executing this agreement, and the STATE OF CALIFORNIA (herein after called the "State"), represented by The California State Reclamation Board, WITNESSETH THAT:

WHEREAS, the Sacramento River, Chico Landing to Red Bluff, California, Project (hereinafter called the "Project") was authorized by the Flood Control Act of 1958 (Public Law 85-500), 85th Congress, 1st Session; and

WHEREAS, the Water Resources Development Act of 1976 (Public Law 94-587), 94th Congress, 2nd session, states that the Secretary of the Army, acting through the Chief of Engineers, shall continue studies and construction of bank protection works pursuant to the project for the Sacramento River, Chico Landing to Red Bluff, California, authorized by the Flood Control Act of 1958, notwithstanding the completion of the remaining ten sites proposed for construction at the time of enactment of this Act; and

WHEREAS, the State hereby represents that it has the authority and capability to furnish the non-Federal cooperation required by the Federal legislation authorizing the Project and by other applicable law;

NOW THEREFORE, the parties agree as follows:

1. The State agrees that upon notification that the Government will commence construction of the Sacramento River, California, Chico Landing to Red Bluff Project in accordance with Federal legislation authorizing such Project, Public Law 85-500 as supplemented by Public Law 94-587, the State shall, in consideration of the Government commencing construction of such Project, fulfill the requirements of non-Federal cooperation specified in such legislation, to wit:

a. Provide, without cost to the United States, all lands, easements, and rights-of-way necessary for the Project;

b. Hold and save the United States free from damages due to construction, operation, and maintenance of the project except damages due to the fault or negligence of the Government or its contractors;

c. Maintain and operate the project, or integral parts thereof, in accordance with regulations prescribed by the Secretary of the Army. Section 208-10, Title 33 of the Code of Federal Regulations, contains regulations for the operation and maintenance of local flood protection works approved by the Secretary of the Army in accordance with authorities contained in Section 3 of the Flood Control Act of 22 June 1936 (49 Stat. 1571), as amended and supplemented;

d. Enact and enforce zoning regulations to prevent the erection of future improvements within the flood plain of the Sacramento River, from Keswick Dam downstream to the upper end of the Sacramento River Flood Control Project levees;

e. Undertake all relocations and alterations of roads, bridges, buildings, irrigation facilities, and other utilities which are necessary for the construction and operation of the project;

f. Comply with Section 601 of Title VI of the Civil Rights Act of 1964 (P.L. 88-352) that no person shall be excluded from participation in, denied the benefit of, or be subjected to discrimination in connection with the project on the grounds of race, creed, or national origin;

g. Assure that, in conjunction with acquiring rights-of-way, affected persons will be adequately informed of the benefits, policies, and procedures described in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), and in accordance with Section 210 and 305 of said Act and implementing regulations, assure that:

(1) Fair and reasonable relocation payments and assistance shall be provided to or for displaced persons, as are required to be provided by a Federal agency under Sections 202, 203 and 204 of the Act;

(2) Relocation assistance programs offering the services described in Section 205 of said Act shall be provided to such displaced persons;

(3) Within a reasonable period of time prior to displacement, decent, safe, and sanitary replacement dwellings will be available to displaced persons in accordance with Section 205(c)(3) of said Act;

(4) In acquiring real property, it will be guided, to the greatest extent practicable under State Law, by the land acquisition policies in Section 301 and the provisions of Section 302 of said Act; and

h. Assume responsibility and pay damages, if necessary, in the event there is a failure to perform in accordance with the terms of this agreement and any other applicable provisions of Section 221 of Public Law 91-611.

2. The State hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon land which the State owns or controls, for access to the Project for the purpose of inspection, and for the purpose of repairing and maintaining the Project, if such inspection shows that the State for any reason is failing to repair and maintain the Project in accordance with the assurances hereunder and has persisted in such failure after a reasonable notice in writing by the Government delivered to the California State Reclamation Board. No repair and maintenance by the Government in such event shall operate to relieve the State of responsibility to meet its obligations as set forth in Paragraph 1 of this Agreement, or to preclude the Government from pursuing any other remedy at law or equity.

IN WITNESS WHEREOF, the parties hereto have executed this contract on the day and year first above written.

THE UNITED STATES OF AMERICA

THE STATE OF CALIFORNIA

By: *Archie E. Williams*

By: *Eldon E. Rinehart*

Colonel, Corps of Engineers
District Engineer
Contracting Officer

The Reclamation Board
GENERAL MANAGER

FOR THE SECRETARY OF THE ARMY

DATE: *13 June 85*

DATE: *SEPTEMBER 15, 1982*

CERTIFICATE OF AUTHORITY

I, David B. Anderson do hereby certify that I am one of the attorneys for the Reclamation Board, that the Board is a legally constituted public body with full authority and legal capability to perform the terms of the agreement between the United States of America and the State in connection with the Sacramento River, Chico Landing to Red Bluff, California Project and to pay damages, if necessary, in the event of the failure to perform in accordance with Section 221 of Public Law 91-611 and that the person who has executed the contract on behalf of the Board has acted within his or her statutory authority.

IN WITNESS WHEREOF, I have made and executed this Certificate this 15th day of September, 1982.

By: David B. Anderson
Attorney for the Reclamation Board.

DECLARATION OF FINANCIAL ABILITY

I, Eldon E. Rinehart, General Manager of the State Reclamation Board, do hereby declare that the Board, under the laws of the State of California, is financially capable of meeting the construction, operation and maintenance costs of the Project.

I further declare that The Reclamation Board Activities Program fund will be used for the purpose of construction, operation and maintenance of the Project. There were \$1,356,000 allocated to the fund for this fiscal year. As of this day there is a balance of \$1,133,000 on hand in that fund.

Dated this 15TH day of SEPTEMBER, 1982.

By: Eldon E. Rinehart
General Manager, The Reclamation Board

Sacramento River, Chico Landing
to Red Bluff, California

CERTIFICATE OF APPROVAL

I, the undersigned Attorney at Law, as legal counsel for The Reclamation Board which has undertaken to act as local sponsor of the Sacramento River, Chico Landing to Red Bluff Project, hereby certify that I have reviewed the contract dated the _____ day of _____, 1982, between the United States of America and the State of California and have approved said contract and the provisions contained therein, both as to form and substance, including, but not limited to, those provisions whereby the State of California has agreed to pay damages, if necessary, in the event of failure to perform in accordance with Section 221 of Public Law 91-611.

IN WITNESS WHEREOF, I have made and executed this Certificate this

15th day of September, 1982.

By: David B. Anderson
Attorney for the Reclamation Board.

| <u>File No.</u> | <u>Title</u> |
|-----------------|---|
| 50-4-5719 | Sacramento River, Tehama and Glenn Counties, California, Project Bank Protection Repair, PL 84-99, in 4 sheets. |
| 50-4-5597 | Sacramento River, Tehama, Glenn and Butte Counties, California, Project Bank Protection Repairs, in 4 sheets. |
| 50-4-5591 | Sacramento River, Chico Landing to Red Bluff California, Site Mile 209.5R and 227.5L, in 6 sheets. |

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

| | |
|------------------------------------|--|
| REFERENCE OR OFFICE SYMBOL SF-D | SUBJECT Sacramento River, Chico Landing to Red Bluff Project, California-Additions to O & M Manual |
| TO Chief, C-0 Division | FROM Chief, Engr Div DATE 12 July 1985 CMT1 Ms. Seavey/wf/3334 |

1. Enclosed are two copies of additions to the operation and maintenance manual for the Sacramento River, Chico Landing to Red Bluff project. The additions reflect completed emergency bank protection restoration under authority of Section 5 of the flood control act of August 18, 1941, as amended (Public Law 99, 84th Congress, 1st Session).
2. A copy of the additions has been furnished the Division Engineer. Copies of the additions and "As-Constructed" drawings have been furnished to the State Reclamation Board and the State Department of Water Resources.

2 Encls (dupe)

GEORGE C. WEDDELL
Chief, Engineering Division

cc (wo/encls):
Civ Des Br
Civ Des Sec D

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL

SUBJECT

SPKED-D

Sacramento River, Chico Landing to Red Bluff Project,
California-Additions to O & M Manual

TO Chief, C-0 Division

FROM Chief, Engr Div

DATE 22 Jul 1985

CMT1
Ms. Seavey/wf/205

1. Enclosed are two copies of an addition to the operation and maintenance manual for the Sacramento River, Chico Landing to Red Bluff project. The addition reflects completed construction work for Unit 6 of the Chico Landing to Red Bluff project.
2. A copy of the addition has been furnished the Division Engineer. Copies of the addition and "As-Constructed" drawings have been furnished to the State Reclamation Board and the State Department of Water Resources.

Encl (dupe)

GEORGE C. WEDDELL
Chief, Engineering Division

cc (wo/encls):

Civ Des Br

Civ Des Sec D

DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD16 - 9th Street, Room 455-6
Sacramento, CA 95814
(916) 445-9454

AUG 5 1985

Mr. Larry Coleman
Tehama County Flood Control and
Water Conservation District
9380 San Benito Avenue
Gerber, CA 96035

Dear Mr. Coleman:

Enclosed are two copies of additions to the operation and maintenance manual for the Sacramento River, Chico Landing to Red Bluff project, and one set of "As Constructed" drawings for two different contracts. The additions and drawings reflect completed emergency repairs by the Corps of Engineers.

The work shall be maintained in accordance with the assurance your County provides to The Reclamation Board.

If you have any questions, please contact Cliff Gregory at (916) 445-7330.

Sincerely,

A handwritten signature in cursive script, appearing to read "Raymond E. Barsch".

RAYMOND E. BARSCH
General Manager

Enclosures

RECEIVED

AUG 7 1985

TEHAMA COUNTY
ROAD DEPARTMENT &
FLOOD CONTROL DIST

OPERATION AND MAINTENANCE
MANUAL
FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

RESCINDED



REVISED MARCH 1981
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

SAFE

CORPS OF ENGINEERS
U. S. ARMY

OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

Sacramento District
Corps of Engineers
U. S. Army
May 1964

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OPERATION AND MAINTENANCE
MANUAL FOR
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

| REVISIONS OR ADDITIONS | DATE |
|---|---------------|
| Paragraph 1-04.b.----- add Contract No. DACW05-69-C-0011 | December 1968 |
| EXHIBIT B----- add Drawing No. 50-4-4412 | December 1968 |
| EXHIBIT F----- add letter of acceptance dated 11 December 1968 | December 1968 |
| Paragraph 1-04 b. ----- Add Contract No. DACW05-70-0086 | November 1970 |
| EXHIBIT B ----- Add Drawing No. 6-4-2125 | November 1970 |
| EXHIBIT F ----- Add letter of acceptance dated 9 February 1971 | November 1970 |
| Paragraph 1-04b (November 1970) --- Changed to 1-04c | January 1972 |
| Added to 1-04c, Mile 218.3 (Site Mile 166.4) | January 1972 |
| *Paragraph 1-04d ----- Add Contract No. DACW05-72-0019 | January 1972 |
| EXHIBIT B ----- Add Drawing No. 50-4-4706 | January 1972 |
| EXHIBIT F ----- Add letter of acceptance dated 4 January 1972 | January 1972 |
| Table of Contents - - Revised General Procedures | December 1975 |
| Section III - - - - - Add paragraph 3-09 | December 1975 |
| Paragraph 1-04 - - - Add subparagraph e and f | December 1975 |
| EXHIBIT B - - - - - Add Drawing Nos. 50-4-4891 and 50-4-4971 | December 1975 |
| EXHIBIT F - - - - - Add copy of letters of accep- tance dated 25 November 1974 and 11 December 1974 | December 1975 |
| Section III - - - - - Revised paragraph 3-09 | April 1977 |
| Paragraph 1-04 - - - Add subparagraph g | April 1977 |
| EXHIBIT B - - - - - Add Drawing No. 50-4-5043 | April 1977 |
| EXHIBIT F - - - - - Add copy of letters of acceptance dated 24 November 1975, 29 January 1976 and 20 August 1976 | April 1977 |

OPERATION AND MAINTENANCE MANUAL
SACRAMENTO RIVER, CALIFORNIA
CHICO LANDING TO RED BLUFF
BANK PROTECTION PROJECT

SECTION I

INTRODUCTION

1-01. Authorization. The Sacramento River, Chico Landing to Red Bluff bank protection project was authorized by the Flood Control Act of 1958, (P.L. 85-500, 3 July 1958, 85th Congress, 1st Session) which reads in part as follows:

"The project for flood protection on the Sacramento River from Chico Landing to Red Bluff, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document No. 272, 84th Congress, at an estimated cost of \$1,560,000."

House Document No. 272, 84th Congress, 2nd Session, Report of the Chief of Engineers to the Secretary of the Army for transmission to Congress, reads in part:

"After due consideration I concur in the views and recommendations of the Board. . . ."

Report of the Board of Engineers Rivers and Harbors to the Chief of Engineers, Department of the Army, in House Document No. 272, reads in part:

". . . . the Board of Engineers for Rivers and Harbors concurs generally in the views and recommendations of the Division Engineer. . . . After consideration of the information now available, the Board is of the opinion that the proposed levees should not be constructed at this time. . . . The Board accordingly recommends that the existing project for flood control on the Sacramento River be extended to Keswick Dam for the purpose of zoning the area below the dam, and that the project be modified by the construction of bank protection and incidental channel improvements between Chico Landing and

Red Bluff, generally in accordance with the plans of the District Engineer and with such modifications thereof as in the discretion of the Chief of Engineers may be advisable; subject to the condition that only such work be constructed as is found economically justified at the time of construction in the light of conditions then prevailing along the river,"

Authorizing legislation passed in 1959 by the State of California is contained in Section 12648.2, of the State Water Code. The State of California adopted the project and accepted the responsibility of local cooperation.

1-02. Location. The Chico Landing to Red Bluff Bank Protection Project, as covered by this manual, lies in Tehama County along the right and left banks of the Sacramento River between Corning and Red Bluff. As shown on EXHIBIT A-1, there are seven sites designated as Sites No. 6 to No. 12, inclusive.

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

- a. The revetted banks at seven sites as indicated on the vicinity map of EXHIBIT A-1.
- b. Access roads to the seven bank protection sites.
- c. Intermittent irrigation and drainage structures as shown on the "As Constructed" drawings of EXHIBIT B.

1-04. Construction Data and Contractor. Construction required by the Corps of Engineers to provide stone protection was accomplished under Contract No. DA-04-167-CIVENG-63-74 by Eugene Luhr & Company during the period from 3 June 1963 to 6 March 1964. . Specification No. 2898, Drawing No. 50-4-3713.

b. Bank protection, right bank of Sacramento River at Tehama at Mile 177.3 was accomplished under Contract No. DACW05-69-C-0011 by H. Earl Parker, Inc. and completed in November 1968. Specification No. 3559. Drawing No. 50-4-4412. 3

c. Bank protection, left bank of Sacramento River at Woodson Bridge, Mile 218.3, was accomplished under Contract No. DACW05-70-C-0086, by James L. Ferry and Sons, and completed on 12 June 1970. Specification No. 3694. Drawing No. 6-4-2125.

d. Bank protection, left bank of Sacramento River at (Hickman Site) Site Mile 185.3, was accomplished under Contract No. DACW05-72-C-0019, by H. Earl Parker, during the period from 14 September 1971 to 28 November 1971. Specification No. 4106. Drawing No. 50-4-4706.

(676)

SECTION II

LOCAL COOPERATION REQUIREMENTS

2-01. Requirements of Local Cooperation. House Document No. 272, Eighty-fourth Congress, Second Session, requires local interests to (a) furnish without cost to the United States, all necessary lands, easements, and rights-of-way for construction of the project; (b) hold and save the United States free from damages due to the construction works; and (c) maintain the works after completion, in accordance with regulations prescribed by the Secretary of the Army. The State of California by Legislation amended in 1955 has agreed to furnish the required cooperation.

2-02. Assurances Provided by Local Interests. Section 12657 of the State Water Code states:

"12657. Except as otherwise provided in Chapters 1 and 2 of this part, the Reclamation Board shall give assurances satisfactory to the Secretary of War that local cooperation required by Section 3 of the Act of Congress approved December 22, 1944 (Public, numbered 534, Seventy-eighth Congress, Second Session), and Section 2 of the Act of Congress approved August 18, 1941, (Public, numbered 228, Seventy-eighth Congress, First Session), will be furnished by the State in connection with the flood control projects authorized and adopted in Sections 12648, 12650, 12651, 12652, 12654 and 12656.5 and on any flood control projects on any stream flowing into or in the Sacramento Valley of the San Joaquin Valley hereafter approved and authorized by Congress."

2-03. Acceptance by the State Reclamation Board. Responsibility for operating and maintaining the seven bank protection sites (6 to 12, inclusive) was officially accepted by the Reclamation Board of the State of California by letters dated 7 January 1964 and 10 February 1964, see EXHIBIT E.

SECTION III

MAINTENANCE AND OPERATION - GENERAL PROCEDURE

3-01. Reference to Approved Regulations. This manual is submitted in accordance with provisions of Title 33 - Navigation and Navigable Waters, Chapter II, Corps of Engineers, Department of the Army, Part 208 - Flood Control Regulations, Maintenance and Operation of Flood Control Works, as of 1 January 1962, a copy of which is included as EXHIBIT A, Sheets 1 and 2.

3-02. Intent of Regulations. The general intent of the regulations approved by the Secretary of the Army is stated in paragraph 208.10(a)(1) as follows: "The structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits."

3-03. Purpose of this Manual. In view of the large number of local flood protection projects authorized by Congress and the repetitious nature of regulations to govern maintenance and operation of each individual project, and in order that local interests may be fully aware of the extent of the obligations assumed by them in furnishing assurances of local cooperation for projects to be constructed in the future, the general regulations described above were established by the Secretary of the Army. The general regulations approved by the Secretary of the Army, August 1944, were intended to be sufficiently broad in scope and general in nature as to be applicable to all flood-protection-projects for which such regulations are required by law.

Section 208.10(a)(10) of the regulations read as follows: "The Department of the Army will furnish local interests with an Operation and Maintenance Manual for each completed project, or separate useful part thereof, to assist them in carrying out their obligations under this part." This manual has, therefore, been prepared to furnish local interests with information on the project works and advise as to the details of the operation and maintenance requirements applicable to this particular project, to state procedure required by the Department of the Army, and to indicate satisfactory methods of flood-fighting operations and emergency repairs. The project works are to be maintained and operated in accordance with the Flood Control Regulations referred to above and interpretations thereof contained herein.

3-04. Definitions. As used hereinafter, the term "Superintendent" shall be defined to mean the agency or person appointed by the local agency to be directly in charge of an organization (either the State, County or local reclamation district, as the case may be) which will be fully responsible for the continuous maintenance and inspection of the project works. The term "District Engineer" shall be defined to mean the District Engineer of the U. S. Army Engineer District, Sacramento, or his authorized representative. The term "right bank" or "left bank" shall be defined to mean the right or left bank or side, respectively, of a stream or channel when facing downstream.

3-05. General Provisions of Regulations. In addition to that quoted in paragraph 3-02 above, the general provisions of the Flood Control Regulations, contained in paragraph 208.10(a)(2), to 208.10(a)(9), both inclusive, are quoted as follows:

- "(2) The State, political subdivision thereof, or other responsible local agency, which furnished assurance that it will maintain and operate flood control works in accordance with regulations prescribed by the Secretary of the Army, as required by law, shall appoint a permanent committee consisting of, or headed by an official hereinafter call the "Superintendent", who shall be responsible for the development and maintenance of, and directly in charge of an organization responsible for the efficient operation and maintenance of all structures and facilities during flood periods and for continuous inspection and maintenance of the project works during periods of low water, all without cost to the United States.
- (3) - - - - -
- (4) No encroachment or trespass which will adversely affect the efficient operation or maintenance of the project works shall be permitted upon the rights-of-way for the protective facilities.
- (5) No improvement shall be passed over, under or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any change be made in any features of the works without prior determination by the District Engineer of the Department of

the Army or his authorized representative that such improvements, excavation, construction, or alteration will not adversely affect the functioning of the protective facilities. Such improvements or alterations as may be found to be desirable shall be constructed in accordance with standard engineering practice. Advice regarding the effect of proposed improvements or alterations on the functioning of the project and information concerning methods of construction acceptable under standard engineering practice shall be obtained from the District Engineer, or, if otherwise obtained, shall be submitted for his approval. Drawings or prints showing such improvements or alterations as finally constructed shall be furnished the District Engineer after completion of the works.

- (6) It shall be the duty of the Superintendent to submit a semi-annual report to the District Engineer covering inspection, maintenance, and operation of the protective works.
- (7) The District Engineer or his authorized representative shall have access at all times to all portions of the protective works.
- (8) Maintenance measures or repairs which the District Engineer deems necessary, shall be promptly taken or made.
- (9) Appropriate measures shall be taken by local authorities to insure that the activities of all local organizations operating public or private facilities connected with the protective works are coordinated with those of the Superintendent's organization during flood periods."

3-06. Assistance to be Furnished by the District Engineer. The District Engineer will:

- a. Furnish to local interests "As Constructed" drawings of the project works at the time they are transferred.
- b. Make periodic inspections of the project works and notify local interests of any repairs or maintenance measures which the District Engineer deems necessary in addition to measures taken by the Superintendent.
- c. Submit to the Office, Chief of Engineers, all cases of noncompliance with full details thereof for determination of corrective measures to be taken.

d. Make prior determination that any proposed encroachment, improvement, excavation, or construction within the right-of-way, or alteration of the project works, will not adversely affect the functioning of the protective facilities, and to furnish the Superintendent with an approval thereof in writing.

3-07. Responsibilities of the Superintendent. In line with the provisions of the Flood Control Regulations, the general duties of the Superintendent include the following:

a. Training of Key Personnel. Key personnel shall be trained in order that regular maintenance work may be performed efficiently and to insure that unexpected problems related to flood control may be handled in an expeditious and orderly manner. The Superintendent should have available the names, addresses, and telephone numbers of all his key men and a reasonable number of substitutes. These key men should, in turn, have similar data on all of the men who will assist them in the discharge of their duties. The organization of key men should include the following:

- (1) An assistant to act in the place of the Superintendent in case of his absence or indisposition.

b. Files and Records. The Superintendent shall maintain a file or reports, records, and drawings concerning the project works, readily available at all times to the District Engineer.

c. Encroachment or trespass on Right-of-Way. In accordance with the provisions of Flood Control Regulations 208.10(a)(4), no encroachment or trespass which will adversely affect the efficient operation or maintenance of the project works shall be permitted on the rights-of-way for the protective facilities. The Superintendent will, therefore, cause notices to be posted at conspicuous places along the project right-of-way directing public attention to this regulation. The Superintendent shall arrange for the prosecution of offenders under local ordinances and report action taken to the State Reclamation Board.

d. Permits for Right-of-Entry or Use of Portion of Right-of-Way. Permits for temporary right-of-entry or use of portion of the right-of-way shall not be issued without prior determination by the State Reclamation Board sufficiently in advance of issuance to permit adequate study and consideration and determination of conditions to be embodied in the permit document. Executed copies, in triplicate, of the permit document as issued shall be furnished the State Reclamation Board. See EXHIBIT F for sample permit of right-of-entry.

e. Permits for Improvements or Construction within the Project Right-of-Way. All requests for permits for construction of any

improvements of any nature within the limits of the project right-of-way shall be referred to the District Engineer through the State Reclamation Board for determination that such construction will not adversely affect the stability, safety, and functioning of the protective facilities, and for definition of conditions under which permit should be granted. These conditions will include, among others, the following items.

- (1) That all work shall be performed:
 - (a) In accordance with standard engineering practice and in accordance with plans and specifications approved by the District Engineer or his authorized representative; drawings or prints of proposed improvements or alterations to the existing flood control works must be submitted for approval to the State Reclamation Board sufficiently in advance of the proposed construction to permit adequate study and consideration of the work.
 - (b) To the satisfaction of the District Engineer.
- (2) After completion of the work, "As Constructed" drawings or prints, in duplicate showing such improvements as finally constructed shall be furnished the District Engineer.

f. Maintenance.

- (1) Flood Control Regulations, paragraph 208.10(b)(1) are quoted in part as follows:

"(b)(1) Maintenance. The Superintendent shall provide at all times such maintenance as may be required to insure serviceability of the structures in time of flood. Measures shall be taken to . . . exterminate burrowing animals, and to provide for removal of wild growth and drift deposits, and repair of damage caused by erosion or other forces . . . Immediate steps will be taken to correct dangerous conditions disclosed by such inspections. Regular maintenance repair measures shall be accomplished during the appropriate season as scheduled by the Superintendent."

- (2) Full responsibility for making the repairs and the methods used is placed on the Superintendent, but the experience and facilities of the District Engineer will be available to him for advice and consultation.
- (3) All repairs shall be made in accordance with standard engineering practice, to line and grade and in accordance with details shown on the construction drawings for the project works, copies of which are included in EXHIBIT B. No change or alteration shall be made in any feature of the project works without prior determination by the District Engineer that such alteration will not adversely affect the stability and functioning of the protective facilities. Plans and specifications of all changes or alterations that may be proposed by the Superintendent shall be submitted to the District Engineer for investigation and approval before prosecution of the work.

g. Reports.

- (1) Semi-Annual Report. In accordance with the provisions of the Flood Control Regulations, paragraph 208.10(a)(6), the Superintendent shall submit within a 10-day period following 1 December and 1 June of each year, a semi-annual report to the District Engineer covering inspection, maintenance, and operation of the protective works. This report will present a statement of:
 - (a) The physical conditions of the protective works as summarized from the logs of inspection.
 - (b) Flood behavior of the protective works, and flood-fighting activities during the period.
 - (c) Prosecutions for encroachment or trespass.
 - (d) Permits issued for right-of-way or use of right-of-way.
 - (e) Permits issued for improvements or construction within the project right-of-way.
 - (f) Maintenance measures taken; nature, date of construction, and date of removal of temporary repairs; date of permanent repairs.

- (g) Fiscal statement of cost and maintenance and operation for the period.

A suggested form for submission of the semi-annual report is included as EXHIBIT D, Sheets 1 and 2.

3-08. Inspection Procedure. Since the enactment of State Legislation of Chapter 1528, Statutes of 1947, the Department of Water Resources, State of California, has made semi-annual inspections of all levees of authorized flood control projects in the Sacramento-San Joaquin drainage basin pursuant to the Federal Regulations as of 1 January 1962 (Title 33) and reports its findings to the local agency, the State Reclamation Board and the District Engineer of the U. S. Army Engineer District, Sacramento. The activity, initiated pursuant to Section 208.10(a) of the Federal Regulations, has in effect provided for transfer from the local agencies to the State Department of Water Resources the obligation of compliance with Sections 8371, 8372, and 8373 of the Water Code of the State of California. These sections of the Code require the local responsible agencies to submit a report to the State Department of Water Resources on or before 1 June of each year on the condition of the levees and channels within their jurisdiction. Supervisory powers and duties of the Department are applicable to all works of the authorized projects maintained and operated by the local agencies without regard to status of completion, or expenditure of Federal funds on the construction of such works.

The following procedure is used in inspecting the project works of the responsible maintaining agency:

Personnel of the State Department of Water Resources make a detailed inspection of the bank protection in the spring and fall of each year and note any required maintenance. The inspection objectives are to determine if the following items, which are a condensation of Federal Regulations, are being adhered to:

- (a) That all brush, trees and wild growth be removed from the rock revetment. //
- (b) That all caves, slough, burrows, holes, slips, or other damaged portions of the banks have been repaired.
- (c) That all irrigation and drainage structures within the project works are in good working condition..
- (d) That no revetment work or riprap have been displaced, washed out or removed. //

- (e) That unauthorized vehicular travel is restricted.
- (f) That encroachments are not being erected along the bank which would hinder travel by authorized patrol vehicles.
- (g) Prevent the erection of structures on, additions to, or alterations of, the project works unless authorized by permit from the State Reclamation Board.

Following this detailed inspection, a joint field inspection is made with representatives of the responsible maintaining agency and the State Department of Water Resources to review and discuss the inspection report.

Upon completion of the fall inspection the State Department of Water Resources publishes an annual report entitled, "Status of Project Levee Maintenance" which indicates the degree of proficiency attained by each obligated local agency in providing required maintenance.

3-09. Environmental values. Vegetation preserved as a part of selective clearing on the waterside berm or slope above the bank protection during prosecution of the contract shall not be removed as a part of normal maintenance. Dead trees with wildlife value will be retained except where they constitute a hazard to existing flood control works. *

SECTION IV

FEATURES OF THE PROJECT SUBJECT
TO FLOOD CONTROL REGULATIONS

4-01. Project Works. Construction along the Sacramento River, as covered by this manual, consists of seven revetted bank sites at various locations between Corning and Red Bluff, access roads, irrigation and drainage structures. For further details see the drawings of EXHIBIT B.

4-02. Channels and Floodways.

a. Description. The channel of this project extends along the Sacramento River from river mile 169 to 190, a distance of 21 miles. Improvement consisted mostly of providing bank protection at seven sites. Regulations regarding inspection, maintenance, and operation of channels and floodways will be found in paragraphs 4-02b and c of this manual.

b. Inspection.

(1) Pertinent Requirements of the Code of Federal Regulations. Flood Control Regulations, Para. 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:

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- (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 originally existing 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;

- - - - -

2. Fencing.

a. Injuries to post, fencing or barbed wire.

b. Damage to galvanizing.

3. Earth fills:

a. Settlement.

b. Erosion of both slopes.

- c. Excessive seepage or saturation area back of fills.
- d. Condition of bank protection - concrete or stone blanket.

4. Right-of-way:

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

- (3) No excavation within the limits of this unit of the Chico Landing to Red Bluff Project 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 the Chico Landing to Red Bluff Project no work will be permitted unless an excavation permit has been approved by the State Reclamation Board.
- (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 C shall be 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 of 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.

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4-03. Special Instructions.

a. Revetment Work. Due to the fact that the main feature of this project work consists of stone protection, the provisions of paragraph 4-02(b)(v) are expanded to include the following:

- (1) Where scour, wash, settlement or failure of a portion of the originally provided stone protection has been noted, or where inspection indicates such damage may result during the next flood or high water period, the scour or wash shall be filled with earth free from brush, roots, sod or other unsuitable material and additional stone shall be placed upon the earth fill to bring the stone protection to its original section. In case of emergency and when stone is not available, sand bags or bags filled with gravel may be used for temporary repair measures.
- (2) When permanent repair of the stone protection is made, the stone used shall, as far as possible, be similar to the kind and gradation as originally used, and shall be placed to the thickness as shown on the drawings of EXHIBIT B.
- (3) In the event an inspection reveals that due to scour, settlement or other causes, stone protection on the bank is required beyond the limits of the original construction or in reaches of bank protection

not originally provided with such protection, local interests will provide additional sloping of the bank and placement of stone protection as needed to protect completed work. The work shall be done in a manner acceptable under standard engineering practice.

- (4) Trees and brush should not be allowed to grow through the stone blanket. Trees and brush in the stone blanket should be cut or sprayed with proper herbicides when necessary.
- (5) All access roads should be maintained in such a manner as to allow inspection and maintenance vehicles to travel over them during non-flood periods. A twenty foot right-of-way strip shall be maintained at the top of the bank for inspection and maintenance work.
- (6) No encroachments shall be allowed in this twenty foot strip without prior approval of the State Reclamation Board.

EXHIBIT A

FEDERAL FLOOD CONTROL REGULATIONS

EXHIBIT A

**TITLE 33 - NAVIGATION AND
NAVIGABLE WATERS
(as of 1 January 1962)**
**Chapter II - Corps of Engineers
Department of the Army**
PART 208 - Flood Control Regulations
**MAINTENANCE AND OPERATION OF FLOOD
CONTROL WORKS**

Pursuant to the provisions of section 3 of the Act of Congress approved June 22, 1936, as amended and supplemented, (Sec. 2, 49 Stat. 1871 as amended), 33 U.S.C. 701c, the following regulations are hereby prescribed to govern the maintenance and operation of flood control works:

AUTHORITY: §§ 208.10 to 208.91 issued under sec. 7, 56 Stat. 890; 33 U.S.C. 709. Additional authority is cited in parentheses following the sections affected.

§ 208.10 Local flood protection works; maintenance and operation of structures and facilities.

(a) *General.* (1) The structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits.

(2) The State, political subdivision thereof, or other responsible local agency, which furnished assurance that it will maintain and operate flood control works in accordance with regulations prescribed by the Secretary of the Army, as required by law, shall appoint a permanent committee consisting of or headed by an official hereinafter called the "Superintendent," who shall be responsible for the development and maintenance of, and directly in charge of, an organization responsible for the efficient operation and maintenance of all of the structures and facilities during flood periods and for continuous inspection and maintenance of the project works during periods of low water, all without cost to the United States.

(3) A reserve supply of materials needed during a flood emergency shall be kept on hand at all times.

(4) No encroachment or trespass which will adversely affect the efficient operation or maintenance of the project works shall be permitted upon the right-of-way for the protective facilities.

(5) No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any change be made in any feature of the works without prior determination by the District Engineer of the Department of the Army or his authorized representative that such improvement, excavation, construction, or alteration will not adversely affect the functioning of the protective facilities. Such improvements or alterations as may be found to be desirable and permissible under the above determination shall be constructed in accordance with standard engineering practice. Advice regarding the effect of proposed improvements or alterations on the functioning of the project and information concerning methods of construction acceptable under standard engineering practice shall be obtained from the District Engineer or, if otherwise obtained, shall be submitted for his approval. Drawings or prints showing such improvements or alterations as finally constructed shall be furnished the District Engineer after completion of the work.

(6) It shall be the duty of the superintendent to submit a semiannual report to the District Engineer covering inspection, maintenance, and operation of the protective works.

(7) The District Engineer or his authorized representatives shall have access at all times to all portions of the protective works.

(8) Maintenance measures or repairs which the District Engineer deems necessary shall be promptly taken or made.

(9) Appropriate measures shall be taken by local authorities to insure that the activities of all local organizations operating public or private facilities connected with the protective works are coordinated with those of the Superintendent's organization during flood periods.

(10) The Department of the Army will furnish local interests with an Operation and Maintenance Manual for each completed project, or separate useful part thereof, to assist them in carrying out their obligations under this part.

(b) *Levees.* (1) *Maintenance.* The Superintendent shall provide at all times such maintenance as may be required to insure serviceability of the structures in time of flood. Measures shall be taken to promote the growth of sod, exterminate burrowing animals, and to provide for routine mowing of the grass and weeds, removal of wild growth and drift deposits, and repair of damage caused by erosion or other forces. Where practicable, measures shall be taken to retard bank erosion by planting of willows or other suitable growth on areas riverward of the levees. Periodic inspections shall be made by the Superintendent to insure that the above maintenance measures are being effectively carried out and, further, to be certain that:

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

(ii) No caving has occurred on either the land side or the river side 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;

(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. Immediate steps will be taken to correct dangerous conditions disclosed by such inspections. Regular maintenance repair measures shall be accomplished during the appropriate season as scheduled by the Superintendent.

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

(i) There are no indications of slides or sloughs developing;

(ii) Wave wash or scouring action is not occurring;

(iii) No low reaches of levee exist which may be overtopped;

(iv) No other conditions exist which might endanger the structure.

Adequate 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.

(c) *Flood walls.*—(1) *Maintenance.* Periodic inspections shall be made by the Superintendent to be certain that:

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

(ii) No undue settlement has occurred which affects the stability of the wall or its water tightness;

(iii) No trees exist, the roots of which might extend under the wall and offer accelerated seepage paths;

(iv) The concrete has not undergone cracking, chipping, or breaking to an extent which might affect the stability of the wall or its water tightness;

(v) There are no encroachments upon the right-of-way which might endanger the structure or hinder its functioning in time of flood;

(vi) Care is being exercised to prevent accumulation of trash and debris adjacent to walls, and to insure that no fires are being built near them;

(vii) No bank caving conditions exist riverward of the wall which might endanger its stability;

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

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. Measures to eliminate encroachments and effect repairs found necessary by such inspections shall be undertaken immediately. All repairs shall be accomplished by methods acceptable in standard engineering practice.

(2) *Operation.* Continuous patrol of the wall shall be maintained during flood periods to locate possible leakage at monolith joints or seepage underneath the wall. Floating plant or boats will not be allowed to lie against or tie up to the wall. Should it become necessary during a flood emergency to pass anchor cables over the wall, adequate measures shall be taken to protect the concrete and construction joints. Immediate steps shall be taken to correct any condition which endangers the stability of the wall.

(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. Where drainage structures are provided with stop log or other emergency closures, the condition of the equipment and its housing shall be inspected regularly and a trial installation of the emergency closure shall be made at least once each year. Periodic inspections shall be made by the Superintendent to be certain that:

(i) Pipes, gates, operating mechanism, riprap, and headwalls are in good condition;

(ii) Inlet and outlet channels are open;

(iii) Care is being exercised to prevent the accumulation of trash and debris near the structures and that no fires are being built near bituminous coated pipes;

(iv) Erosion is not occurring adjacent to the structure which might endanger its water tightness or stability.

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

(2) *Operation.* Whenever high water conditions impend, all gates will be inspected a short time before water reaches the invert of the pipe and any object 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. Manually operated gates and valves shall be closed as necessary to prevent inflow of flood water. All drainage structures

in 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 condition.

(e) *Closure structures*—(1) *Maintenance*. Closure structures for traffic openings shall be inspected by the superintendent every 90 days to be certain that:

- (i) No parts are missing;
- (ii) Metal parts are adequately covered with paint;
- (iii) All movable parts are in satisfactory working order;
- (iv) Proper closure can be made promptly when necessary;
- (v) Sufficient materials are on hand for the erection of sand bag closures and that the location of such materials will be readily accessible in times of emergency.

Tools and parts shall not be removed for other use. Trial erections of one or more closure structures shall be made once each year, alternating the structures chosen so that each gate will be erected at least once in each 3-year period. Trial erection of all closure structures shall be made whenever a change is made in key operating personnel. Where railroad operation makes trial erection of a closure structure infeasible, rigorous inspection and drill of operating personnel may be substituted therefor. Trial erection of sand bag closures is not required. Closure materials will be carefully checked prior to and following flood periods, and damaged or missing parts shall be repaired or replaced immediately.

(2) *Operation*. Erection of each movable closure shall be started in sufficient time to permit completion before flood waters reach the top of the structure sill. Information regarding the proper method of erecting each individual closure structure, together with an estimate of the time required by an experienced crew to complete its erection will be given in the *Operation and Maintenance Manual* which will be furnished local interests upon completion of the project. Closure structures will be inspected frequently during flood periods to ascertain that no undue leakage is occurring and that drains provided to care for ordinary leakage are functioning properly. Boats or floating plant shall not be allowed to tie up to closure structures or to discharge passengers or cargo over them.

(f) *Pumping plants*—(1) *Maintenance*. Pumping plants shall be inspected by the Superintendent at intervals not to exceed 30 days during flood seasons and 90 days during off-flood seasons to insure that all equipment is in order for instant use. At regular intervals, proper measures shall be taken to provide for cleaning plant, buildings, and equipment, repainting as necessary, and lubricating all machinery. Adequate supplies of lubricants for all types of machines, fuel for gasoline or diesel powered equipment, and flash lights or lanterns for emergency lighting shall be kept on hand at all times. Telephone service shall be maintained at pumping plants. All equipment, including switch gear, transformers, motors, pumps, valves, and gates shall be trial operated and checked at

least once every 90 days. Megger tests of all insulation shall be made whenever wiring has been subjected to undue dampness and otherwise at intervals not to exceed one year. A record shall be kept showing the results of such tests. Wiring disclosed to be in an unsatisfactory condition by such tests shall be brought to a satisfactory condition or shall be promptly replaced. Diesel and gasoline engines shall be started at such intervals and allowed to run for such length of time as may be necessary to insure their serviceability in times of emergency. Only skilled electricians and mechanics shall be employed on tests and repairs. Operating personnel for the plant shall be present during tests. Any

equipment removed from the station for repair or replacement shall be returned or replaced as soon as practicable and shall be trial operated after reinstallation. Repairs requiring removal of equipment from the plant shall be made during off-flood seasons insofar as practicable.

(2) *Operation*. Competent operators shall be on duty at pumping plants whenever it appears that necessity for pump operation is imminent. The operator shall thoroughly inspect, trial operate, and place in readiness all plant equipment. The operator shall be familiar with the equipment manufacturers' instructions and drawings and with the "Operating Instructions" for each station. The equipment shall be operated in accordance with the above-mentioned "Operating Instructions" and care shall be exercised that proper lubrication is being supplied all equipment, and that no overheating, undue vibration or noise is occurring. Immediately upon final recession of flood waters, the pumping station shall be thoroughly cleaned, pump house sumps flushed, and equipment thoroughly inspected, oiled and greased. A record or log of pumping plant operation shall be kept for each station, a copy of which shall be furnished the District Engineer following each flood.

(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. Measures will be taken by the Superintendent to promote the growth of grass on bank slopes and earth deflection dikes. The Superintendent shall provide for periodic repair and cleaning of debris basins, check dams, and related structures as may be necessary.

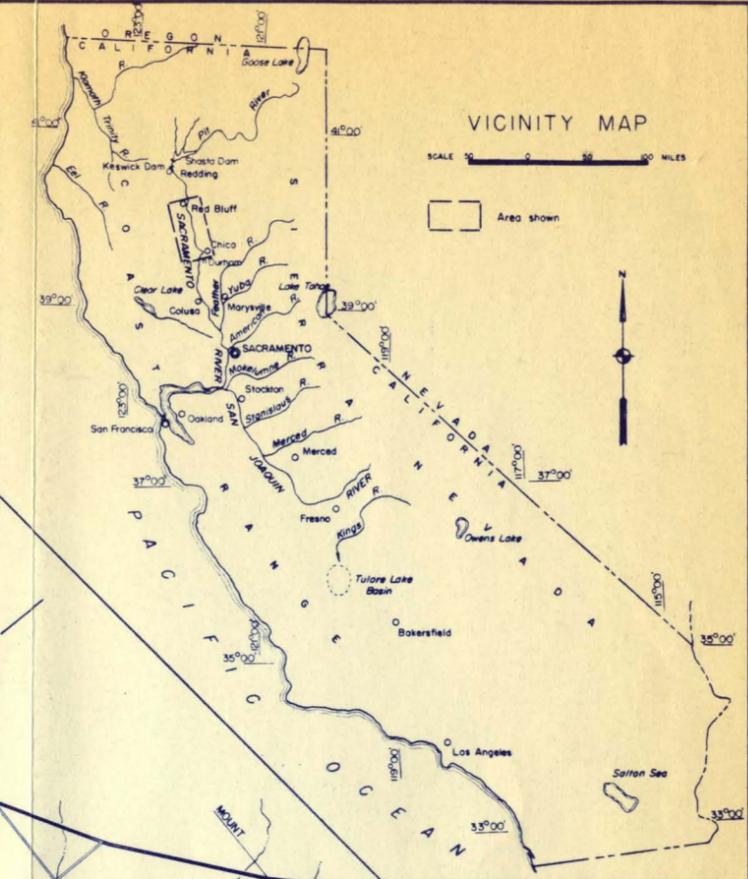
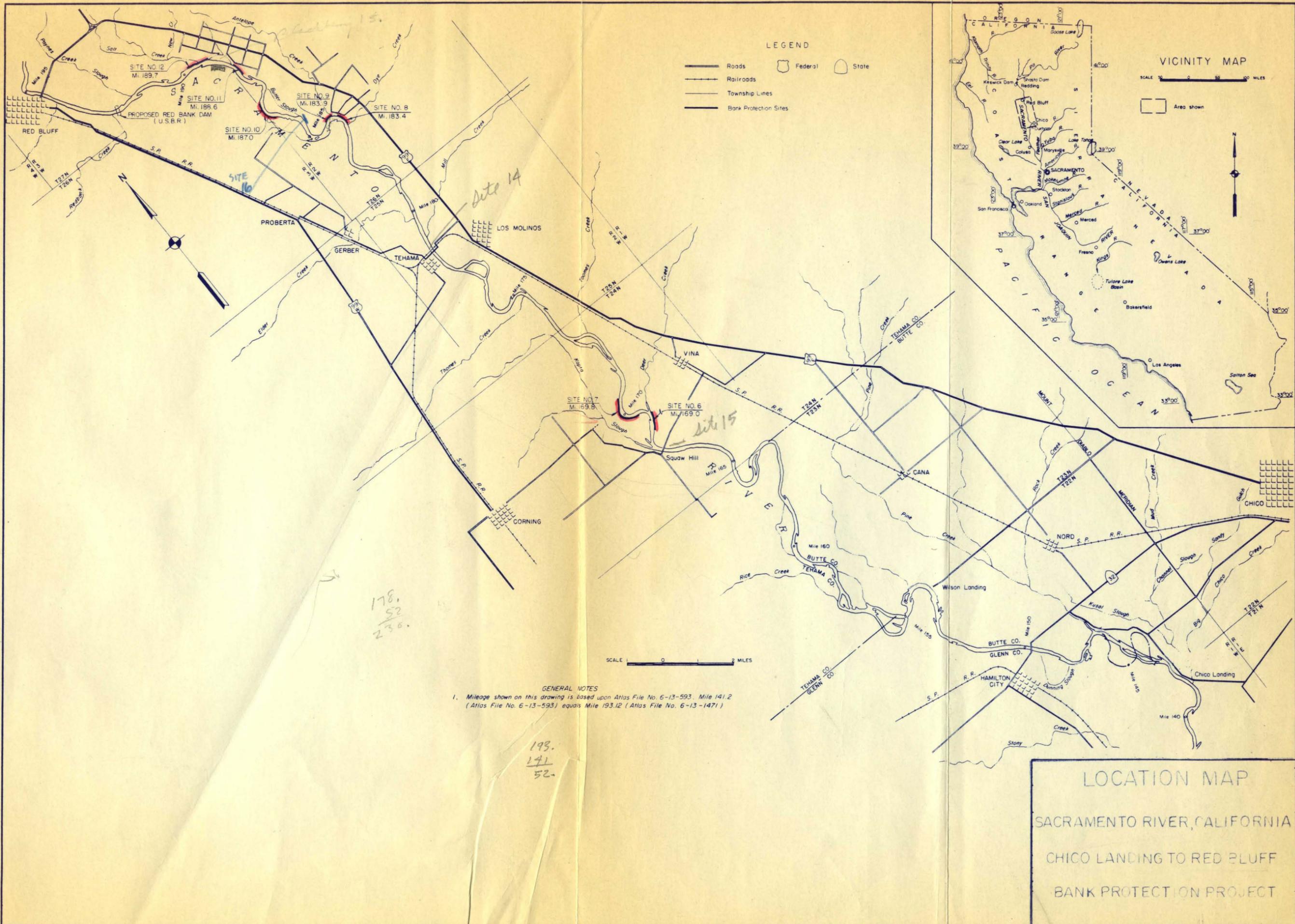
(2) *Operation*. Both banks of the channel shall be patrolled during periods of high water, and measures shall be taken to protect those reaches being attacked by the current or by wave wash. Appropriate measures shall be taken to prevent the formation of jams of ice or debris. Large objects which become 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 banks, riprap, deflection dikes and walls, drainage outlets, or other flood control structures repaired.

(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 repaired or replaced without delay. Areas used for ponding in connection with pumping plants or for temporary storage of interior run-off during flood

periods shall not be allowed to become filled with silt, debris, or dumped material. The Superintendent shall take proper steps to prevent restriction of bridge openings and, where practicable, shall provide for temporary raising during floods of bridges which restrict channel capacities during high flows.

(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.

(Sec. 5, 49 Stat. 1571, as amended; 33 U.S.C. 701a) (9 F.R. 6999, Aug. 17, 1944; 9 F.R. 16269, Aug. 23, 1944)



GENERAL NOTES

1. Mileage shown on this drawing is based upon Atlas File No. 6-13-593. Mile 141.2 (Atlas File No. 6-13-593) equals Mile 193.12 (Atlas File No. 6-13-1471)

LOCATION MAP
 SACRAMENTO RIVER, CALIFORNIA
 CHICO LANDING TO RED BLUFF
 BANK PROTECTION PROJECT

EXHIBIT B

"As Constructed"
Drawings

(See separate folder for the following drawings)

| <u>File No.</u> | <u>Title</u> |
|-----------------|--|
| 50-4-3713 | Stone Protection along Right & Left Banks, Sacramento River in Tehama County, in 16 sheets. |
| 50-4-4412 | Stone Protection, Right Bank Sacramento River at Tehama, in 1 sheet. |
| 6-4-2125 | Stone Protection, left bank Sacramento River, Mile 218.3, in 1 sheet. |
| 50-4-4706 | Stone Protection, left bank Sacramento River, vicinity Site Mile 185.3 (Hickman Site) in 8 sheets |
| 50-4-4891 | Bank Protection, Left Bank, Sacramento River, Butte County, in 3 sheets. |
| 50-4-4971 | Bank Protection, Left Bank, Sacramento River Site Mile 208.4 and Mile 213.1, in 5 sheets. |
| 50-4-5043 | Bank Protection, Left and Right Banks, Sacramento River, Various Sites, Butte County, in 3 sets, totaling |

EXHIBIT B
Unattached

EXHIBIT C

SUGGESTED CHECK LIST

BANK PROTECTION REPORT

EXHIBIT C

SUGGESTED CHECK LIST
BANK PROTECTION REPORT

Date _____

Inspected _____

Report number of places requiring maintenance work opposite each item listed below. A separate report should be submitted describing the necessary maintenance work for each location.

| Item | | |
|------|--|----------|
| No. | Description | Comments |
| 1. | Settlement, caving or sloughing | |
| 2. | Condition of stone protection | |
| 3. | Growth of brush or trees in stone blanket | |
| 4. | Condition of access roads | |
| 5. | Unauthorized traffic or grazing | |
| 6. | Unauthorized encroachment on rights-of-way | |
| 7. | Unauthorized excavation | |
| 8. | Accumulations of drift, trash or debris | |
| 9. | Other items not included above | |

EXHIBIT D

SUGGESTED SEMI-ANNUAL REPORT FORM

EXHIBIT D

TO: The District Engineer
U. S. Army Engineer
District, Sacramento
650 Capitol Avenue
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__) Stone Protection, Tehama County, 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 sum-
marized 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. The inspections have indicated (no) or (the following)
encroachments or trespasses upon the project right-of-way.

c. (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 trans-
mitted for your files.

d. The status of maintenance measures, indicated in the pre-
vious semi-annual report as being required or as suggested by the repre-
sentatives of the District Engineer, is as follows:

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

e. 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 | | | | | |

Respectively submitted,

Superintendent of Works

EXHIBIT E

ACCEPTANCE BY THE STATE RECLAMATION BOARD

EXHIBIT E

C
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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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November 24, 1975

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

Dear Sir:

The Reclamation Board at its regular meeting of November 21, 1975, formally accepted from the District Engineer the completed flood control work on a portion of Unit No. 3 of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of November 10, 1975.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 194.0 and 230.5 Left Bank and Sites Miles 202.0 and 229.0 Right Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5043, Specification No. 4913, and Contract No. DACW 05-76-C-0014, insofar as could be determined visually.

Sincerely,

/s/ P. C. Walters
P. C. WALTERS
Chief Engineer and
General Manager

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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January 29, 1976

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

Dear Sir:

The Reclamation Board at its regular meeting of January 23, 1976, formally accepted from the District Engineer the completed flood control work on a portion of Unit No. 3 of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of January 12, 1976.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Site Mile 197.0 Right Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5043, Specification No. 4913, and Contract No. DACW 05-76-C-0014, insofar as could be determined visually.

Sincerely,

/s/ P. C. Walters
P. C. WALTERS
Chief Engineer and
General Manager

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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Y
August 20, 1976

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

Dear Sir:

The Reclamation Board at its regular meeting of August 13, 1976, formally accepted from the District Engineer the completed flood control work on a portion of Unit No. 3 of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of August 3, 1976.

The flood control work consisted of selective clearing, bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 202.4, 207.0 and 211.1 Left Bank, Sacramento River.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-5043, Specification No. 4913, and Contract No. DACW 05-76-C-0014, insofar as could be determined visually.

Sincerely,

/s/ John F. Wright
for PAUL L. CLIFTON
General Manager

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

DEC 11 1968

4130.65.300

District Engineer
Corps of Engineers
U. S. Army
650 Capitol Mall
Sacramento, California 96814

Dear Sir:

Reference is made to your letter of November 13, 1968 concerning transfer to the State of California of a portion of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project, Site Mile 177.3, right bank, in accordance with Specification No. 3559, Contract No. DACW05-69-C-0011.

The Reclamation Board, at its meeting of December 6, 1968, formally accepted the above referred to work for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

THE RECLAMATION BOARD
OF THE
STATE OF CALIFORNIA

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7 January 1964

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

Refer to: 7001.65.301
4130.65.301

Dear Sir:

Reference is made to your letter of December 11, 1963, concerning transfer to the State of California a bank protection work at Site 8, River Mile 183.4, Site 9, River Mile 183.9, Site 10, River Mile 187.0, Site 11, River Mile 188.6 and Site 12, River Mile 189.7, left bank, on the Sacramento River Chico Landing to Red Bluff Project in accordance with Specification No. 2898.

The Reclamation Board, at its meeting of January 3, 1964, formally accepted the above referred to bank protection work for operation and maintenance.

Sincerely yours,

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

THE RECLAMATION BOARD
OF THE
STATE OF CALIFORNIA

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February 10, 1964

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

Refer to: 4130.65.301

Dear Sir:

Reference is made to your letter of 17 January 1964, concerning transfer to the State of California of bank protection work at Site No. 6, River Mile 169.0, left bank and Site No. 7, River Mile 169.8, river bank, between Chico Landing and Red Bluff. This work was completed in accordance with Specification No. 2896.

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

Sincerely yours,

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

EXHIBIT F

SAMPLE PERMIT FOR USE
OF RIGHT-OF-ENTRY

C
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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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December 11, 1974

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

Dear Sir:

Your letter of November 27, 1974 transferred Site Miles 208.4 and 213.1 on the left bank of the Sacramento River of the Chico Landing to Red Bluff Project to the Reclamation Board for operation and maintenance. The work accomplished at these two sites consisted of sloping portions of the river-bank and placement of stone revetment and was completed under Contract No. DACW05-74-C-0093 on November 6, 1974.

This is to advise you that the Reclamation Board accepted the completed works at its meeting of December 6, 1974 subject to the condition that the concrete vault will be removed from the river channel in the next unit of work in this project and that any damage to completed works which may be caused by the vault's existence will be repaired.

The contract documents required that the concrete vault at Site Mile 213.1 be removed from the river channel. This item of work was not accomplished. It is my understanding that the vault will be removed under the next forthcoming contract of the project. In the meantime, there is a probability that the vault's presence in the channel near the banks of the completed stone revetment may cause turbulence at high water flows and adversely affect the adjoining revetment and the unprotected bank above the revetment. I have been informally advised by your staff that if such an event occurs that remedial work will be initiated at the earliest convenient time.

My letter of March 14, 1974 contained comments regarding the plans and specifications for the proposed two sites. The letter requested that your staff reconsider the design criteria which limited the stone protection to a height of five feet above the low water elevation. The design was modified to increase the revetment height at Site Mile 208.4 and we compliment your decision. The criteria was not modified at Site Mile 213.1 and our

District Engineer

-2-

December 11, 1974

concern is particularly applicable not only to the potential erosion of the unprotected portion of the bank but the difficulty of maintaining the revetted portion of the bank from the unprotected bank which has slopes varying from 1 on 1 to vertical with heights of 16 feet above the stone.

Sincerely yours,

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

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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November 25, 1974

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

Refer to: 4130.65.200

Dear Sir:

At its regular meeting of November 8, 1974, The Reclamation Board formally accepted from the District Engineer the completed flood control work on Unit No. I of the Sacramento River, Chico Landing to Red Bluff Bank Protection Project. The flood control work was transferred to the State of California by your letter of November 4, 1974.

The flood control work consisted of selective clearing, levee bank sloping, placement of stone bank protection, and such miscellaneous work as necessary to complete the construction at Sites Miles 194.0 and 196.3 Left Bank, Sacramento River, in Butte County.

The work was constructed in a workmanlike manner and in conformance with Drawing No. 50-4-4891, Specification No. 4451, and Contract No. DACW 05-73-C-0109, insofar as could be determined visually.

Site Mile 196.3 sustained damage during the 1974 flood flows. It is my understanding that the Corps of Engineers will repair the damaged reach in the next contract under the Chico Landing to Red Bluff Bank Protection Project.

It is my understanding that when Butte County has accomplished the road relocation at Site Mile 194.0, the Corps of Engineers will provide additional stone protection and the extension of the site downstream to meet the high bank.

Sincerely yours,

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

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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January 4, 1972

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

Refer to: 4130.65.300

Dear Sir:

Reference is made to your letter of November 26, 1971, concerning the transfer to the State of California for operation and maintenance a portion of the Sacramento River Bank Protection Project, Chico Landing to Red Bluff, Hickman Site, vicinity of River Mile 185.3, Tehama County, California.

The work completed on the Hickman Site was constructed in accordance with Specification No. 4106, Drawing No. 50-4-4706 and Contract No. DACW05-72-C-0019.

The Reclamation Board, at its regular meeting of December 17, 1971, formally accepted the Hickman Site for operation and maintenance, from the District Engineer. At the same meeting, the Reclamation Board transferred the Hickman Site to the Tehama County Flood Control and Water Conservation District for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

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THE RECLAMATION BOARD
STATE OF CALIFORNIA

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Feb 9, 1971

File No: 4130.65.300
Your Contract: DACW05-70-C-0086

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

Dear Sir:

Reference is made to your letter of September 17, 1970, concerning transfer to the State of California of a portion of the Sacramento River Bank Protection Project for maintenance and operation. The transferred site was as follows:

Site Mile 218.3, Left Bank (Woodson Bridge)

This work was constructed in conformance with Specification No. 3694, Contract No. DACW05-70-C-0086, Drawing No. 6-4-2125.

The Reclamation Board at its meeting of October 9, 1970, formally accepted the above-referred to work for operation and maintenance.

Sincerely yours,

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

EXHIBIT F

EXHIBIT F

PERMIT

(Name of Levee Commission or City)

(Location)

Permission is hereby granted to:

(Name of Firm or Individual)

(Address)

TO: (Describe in these spaces the proposal, including kind and type of construction, purpose intended, location by stationing. Indicate passageway provided by means of gates, etc. Use separate sheets if necessary, identifying each by reference herein.)

Provided that:

Upon termination or expiration of this permit (whether by voluntary relinquishment by the grantee, by revocation by the grantor or otherwise) the grantee shall remove all structures, improvements, or appurtenances which may have been erected or constructed under this permit, and shall repair or replace any portion of the flood protection structure or right-of-way which may have been damaged by his operations (including grading and seeding, or sodding, if necessary), to the satisfaction of the grantor.

The structure or operation for which this permit is issued shall be maintained by the grantee in such manner as shall not injure or damage the flood protection structure, or interfere with its operation and maintenance in accordance with regulations of the Secretary of the Army.

The structure or operation covered by this permit may be damaged, removed or destroyed by the grantor in time of flood emergency if such action is determined by the grantor to be necessary in order to preserve life or property or prevent damage or impairment to the use or safety of the flood protection structure, and the grantor shall not be liable to the grantee for such damage or destruction.

Unless otherwise specifically provided herein, this permit may be cancelled at any time by the grantor upon 10 days written notice mailed to the address shown above. During such 10-day period, (or such other period as may be provided herein), the grantee will be permitted to remove any property or improvements installed under this permit, and to repair or replace any damage to the flood protection right-of-way or structures resulting from his use or operations. At the end of such period, the grantor shall have the right to possess and dispose of any such property or improvements remaining upon its right-of-way, and may proceed to repair or replace any such damage, and the grantee herein shall be liable to the grantor for the full cost of such repairs or replacements.

The construction, installation and maintenance of the structure or structures covered by this permit shall be subject to inspection by representatives of the grantor and the United States at all reasonable times.

In the event the work covered by this permit consists of or includes major construction, the cost of inspection thereof by the grantor and/or the United States shall be paid by the applicant.

Grantee agrees that it will not use the area or facilities covered by this permit, or permit such area to be used, for any purpose other than is specifically covered by this permit.

(Use these spaces for special conditions applicable to this permit.)

THIS PERMIT SHALL NOT BE VALID UNTIL APPROVED BY THE DISTRICT ENGINEER OF THE U. S. ARMY ENGINEER DISTRICT, SACRAMENTO, OR HIS AUTHORIZED REPRESENTATIVE.

| | | | |
|--|---------------------|-------|------|
| | Signature (Grantor) | Title | Date |
|--|---------------------|-------|------|

Terms of this permit
are hereby accepted

Approved:

| | | | |
|--|--------|-------------------|--------|
| | (Date) | District Engineer | (Date) |
|--|--------|-------------------|--------|

REGULATIONS GOVERNING ISSUANCE OF PERMITS FOR USE OF
RIGHTS-OF-WAY FOR FLOOD PROTECTION PROJECTS

As the flood protection works and rights-of-way are owned by the Local Interests and will be operated and maintained by them in accordance with the Regulations of the Secretary of the Army, and issuance of any permits to use any part of the rights-of-way will be handled by the Local Interests, with the restriction that no such permits may be issued without the approval of the District Engineer, as stated in Paragraph No. 208.10(a) General, (5) of the Regulations, a copy of which is attached hereto.

Applications for use of the rights-of-way should be addressed to the City or Levee Commission having jurisdiction over the local flood protection project. The City or Levee Commission will then forward the application to the District Engineer, of the U. S. Army Engineer District, Sacramento, California, with its recommendation, with reasons for such recommendation. It is suggested that the application and recommendations be forwarded with a draft copy of the permit, in order that all objectionable features may be eliminated prior to its proffer to the applicant as this may prevent misunderstandings and arguments. If for any reason it is desired to forward the permit itself without this intervening step, five copies of the proposed permit should be included on which is stated the exact use of the rights-of-way, for which permission is being requested, together with any condition or restriction of the permit. The permit should be signed by the applicant and an official of the Local Interests. A drawing, sketch or detail plans as may be required to show the exact location, nature of work and proposed method of construction should be attached to each copy of the permit. If the permit is approved by the District Engineer, three copies will be returned. This will enable each party concerned to have a copy of the approved permit.

In any case where a permit is requested for any purpose which might cause disfigurement or damage to the flood protection rights-of-way or structure in its erection, use, or removal, it is suggested that the applicant be required to post a bond of sufficient amount to protect the Local Interests from any cost of repair or removal, and to guarantee faithful performance of the permit conditions. In such cases the permit should state the amount and conditions of the bond.

In cases involving major construction or other work which may directly affect the flood protection structure, it will be necessary that the United States inspect the work and the Local Interests may also desire to inspect it. As stated in the permit form, such inspection will be at the expense of known financial security, arrangements should be made with the grantee for an advance deposit or bond to cover such costs.

There is attached hereto a copy of a permit form which has been successfully used by a number of cities and levee committees.