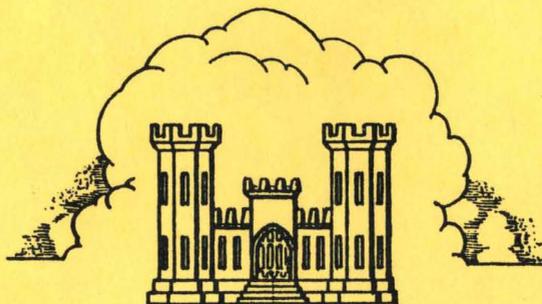


**OPERATION AND MAINTENANCE  
MANUAL  
AMERICAN RIVER PART NO. 2  
PUMPING PLANTS NO. 1 AND 2**

**AMERICAN RIVER LEVEE PROJECT, CALIFORNIA  
RT. BANK-STATE FAIR GROUNDS TO CARMICHAEL BLUF  
15 OCTOBER 1959**



2

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

*Incl 2*

# COUNTY OF SACRAMENTO

## DEPARTMENT OF PUBLIC WORKS

A. L. KIEFER, DIRECTOR

G. E. PIERCE, ASSISTANT DIRECTOR

## HIGHWAYS AND BRIDGES DIVISION

DEE W. MCKENZIE  
CHIEF

## COUNTY ADMINISTRATION BUILDING

827 - 7th Street  
Sacramento, California 95814

August 16, 1966

The Reclamation Board  
1215 "O" Street  
Sacramento, California

Subject: American River Pumping Plant  
No. 1

Gentlemen:

Transmitted herewith is the annual report in accordance with the requirements of the operation and maintenance manual for the American River Pumping Plant No. 1.

Very truly yours,

D. W. MCKENZIE

T. G. Campbell  
Drainage Engineer

DR:aj

cc: U. S. Corps of Engineers

# COUNTY OF SACRAMENTO

## DEPARTMENT OF PUBLIC WORKS

A. L. KIEFER, DIRECTOR

G. E. PIERCE, ASSISTANT DIRECTOR

## HIGHWAYS AND BRIDGES DIVISION

DEE W. MCKENZIE  
CHIEF

## COUNTY ADMINISTRATION BUILDING

827 - 7th Street  
SACRAMENTO 14, CALIFORNIA

January 28, 1964

U.S. Corps of Engineers  
640 Capitol Avenue  
Sacramento, California

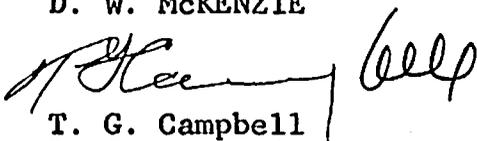
Attention: Mr. Walter Parsons

Gentlemen:

Attached is a preliminary report covering the operation of the American River Pumping Plant No. 1, during the period July 1, 1963 to January 22, 1964. The final report will be forwarded about July 1, 1964.

Very truly yours,

D. W. MCKENZIE

  
T. G. Campbell  
Drainage Engineer

JPA:cl

*cl* Attach.

PRELIMINARY REPORT ON OPERATION OF AMERICAN  
RIVER PUMPING PLANT NO. 1  
July 1, 1963 to January 22, 1964

The American River Pumping Plant No. 1 was turned over to Sacramento County by the California Department of Water Resources on July 1, 1963. Originally, Water Resources agreed to maintain the records for sump level and discharge, but this function was turned over to the County as of the records of December 5, 1963. Briefings were given by Water Resources personnel to County personnel on maintenance and operation of the plant and maintenance of records.

By agreement with the Corps of Engineers, the operating criteria for the pumps was changed as follows: a) The change from low to high river stage operation was lowered 2 feet to elevation 23.0; b) at high river stage the rising and falling sump stage pump operating sequence was lowered 0.6 foot from that outlined in the operating manual; and c) that low river stage the pump operating sequence was left unchanged.

During the storm of November 4 - 6, 1963, the pumps functioned automatically, 2 pumps having run 6 and 8 hours each. The maximum sump stage attained was 25.50 feet.

Subsequently, it was decided by the County Drainage Section and the maintenance forces responsible for pumping plant operation to hand operate the station. During the storm of November 19 - 23, 1963, the pumps were held inoperative, allowing the gravity drains to handle the runoff; the maximum sump elevation reached was 25.65 feet. During the storm of January 19 - 21, 1964, the same procedure was followed, but when the sump stage reached maximum

Page 2 (Continued)

design elevation (30.0 feet) the pumps were put on automatic operation and 5 pumps ran an average of 8.3 hours each in the 12 hours from 11:30 P. M. on January 20, to 11:30 A. M. on January 21, 1964.

Number 1 pump experienced continual cavitation and was turned off after a total of 1.4 hours pumping. The outfall channel of the 6 foot by 6 foot gravity outfall constructed in 1962 suffered considerable erosion of the sides for a distance of about 80 feet downstream from the box outlet in spite of the heavy cobble side lining. These items will be corrected when conditions permit.

We anticipate having in operation next summer a monitoring system for the pumping plant which will indicate, by means of lights, high river stage, design pump elevation, and when the first pump begins pumping. This light panel will be mounted in the control room of the Sanitation District #3 office nearby where personnel are on duty 24 hours per day. In addition, during periods of storm, the pumping plant is manned continuously. Also, the sump stage recorder will be moved to the empty pump bay in order to obtain more accurate readings.

Based on our experience with the operation of this pumping plant, we feel that its operation should be largely manual. That is, the operation of the pumps should be governed by intensity of rainfall and duration of storm as well as river stage and sump stage. The plant's being manned continuously during periods of storm and the indicator lights due to be functioning before next winter, make this type of operation feasible and more flexible than strict

Page 3 (Continued)

adherence to an automatic system based only on water levels. Also, the pump operating criteria should be changed to effect a drawdown to a minimum sump elevation of 22.0 feet. A lower water elevation in the sump tends to cause cavitation of the pumps, and we feel that maintaining this minimum elevation will still afford adequate sump storage.

NOTE: Elevations are USED datum.

August 16, 1966

**ANNUAL REPORT ON OPERATION  
OF AMERICAN RIVER PUMPING PLANT NO. 1  
July 1, 1965 to July 1, 1966**

**INTRODUCTION:**

The American River Pumping Plant No. 1 was turned over to Sacramento County for operation and maintenance by the State Reclamation Board on July 3, 1964.

**RECORDS:**

The original records for sump level and discharge are being forwarded to the Department of Water Resources for filing in accordance with the requirements of Section 3.04 of the Operation and Maintenance Manual, with the County retaining a microfilmed copy for its records.

**OPERATIONS:**

A change in operating criteria has been instituted since the previous report. An essentially automatic system is now being used, with only one operating sequence which is dependent only on sump elevations and is essentially independent of the river stage. The station is continually manned when more than one pump is in operation, which will allow some flexibility in the operation if the situation dictates.

The following operating schedule is now being used: (a) one pump is set to go on at sump elevation 26.5 with the remaining pumps set to function at uniform increments to sump elevation 27.5. The first pump is then set to go off at sump elevation 26.5, and the last pump is set to go off at sump elevation 25.5. Due to the relatively mild winter this past year, this operating schedule could not be fully tested, however, based on past operations it is believed to be valid.

During the storm of December 28, 1965, the pumps functioned automatically, two pumps having functioned approximately 6 hours each, one pump functioning about one-half hour, and one pump functioning only a short period. Maximum sump elevation reached during this storm was 26.5 feet. No difficulties were encountered in operation.

During the storm of January 29-30, 1966, number one pump and number two pump functioned approximately 8 hours and two hours respectively. The maximum sump elevation reached during this storm was 26.35 and no difficulties were encountered.

**IMPROVEMENTS:**

A telemetering system is now in operation for this pumping plant with the alarm systems located in the Arden Sanitation District Office at 1021 Howe

Avenue. The telemetering system covers the stage on the American River, sump elevation of the plant, and station integrity.

MAINTENANCE:

Erosion which developed on the east side of the inlet of the 6' x 6' gravity flow through was repaired with rip-rap.

A bi-weekly and annual preventative maintenance schedule is being followed which consists of inspection, operation, and lubrication of mechanical equipment, and building and grounds maintenance. An annual electrical maintenance check is being conducted.

CONCLUSION:

Based on our most recent experience, we believe that the operation of the pumping plant should be essentially automatic, with the sump elevation governing the operation of the pumps. During periods when more than one pump is operating the station is manned to provide some flexibility of operation, and in case an emergency should arise. We believe that this method of operation is valid, however due to the relative mildness of the past winter, another winter may be necessary to prove this operating criteria.

RER:aj

Reclamation Board

We are inclosing a copy of a letter from Sacramento County dated 28 January 1964, to which is attached a preliminary report covering the operation of the American River Pumping Plant No. 1 during the period 1 July 63 to 22 Jan 64.

On 5 Sept 63 Messrs. Campbell and Alessandri of Sacramento County called at this office to recommend certain changes to the operating schedule and facilities at pumping plant no. 1. These were reviewed and the county repr. were advised that the proposed changes were acceptable to the Sacramento District subject to approval of the Recl. Bd. These changes were as follows:

1. Installation of an add'l gravity outlet from the sump.
2. Channelization of the sump floor.
3. Moving the sump water level recorder to a more favorable location in the sump.
4. Installation of a warning system to the nearby county sewage treatment plant.
5. Modification of the automatic pump operation schedule to initiate pumping at a sump elevation 0.6 feet lower than that called for in the O&M manual.

The inclosure to the letter of 28 Jan 64 states that "By agreement with the Corps of Engineers, (Enid Copy all of Para 2)" The statement is in error as they were advised that the suggested change was acceptable from an engineering viewpoint subject to approval of your Board. An informal check discloses that the matter has never been referred to the Board for review and necessary action.

The inclosure further states that the county decided to hand operate the station in lieu of utilizing the automatic scheduling equipment and did so during the Nov 1963 and the Jan 1964 storms. Both operations were at variance with the approved method of operation and were risky altho no damage was caused due to a fortunate cessation of flow. This office does not concur with manual operation and recommends that the automatic system of operation as provided for in the design of the plant, be followed.

During a recent inspection it was found that Pump No. 1 became inoperative during the Jan 1964 flood and has not been repaired. Since this pump is apart of the system, it should be promptly repaired and put back into service. It was also noted that the outlet channel riverward of the new gravity outlet has been severely eroded. Repairs should be promptly effected at this location.

31 March 1964

1. As noted in Memo for Record of 5 Sept 1964, the operating agency for the American River Pumping No. 1 (The County of Sacramento) proposed that the prescribed automatic operation of the pumping plant be modified by:

- a. Installation of an additional gravity outlet from the sump.
- b. Channilization of the sump floor.
- c. Moving of the sump water level recorder to a more favorable position in the sump.
- d. Installation of a warning system to the nearby sewage disposal plant.
- e. Modification of the automatic pump operation schedule to initiate pumping at a sump elevation 0.6 feet lower than called for in the original manual.

2. The writer stated unofficially that he could raise no objection to this series of beneficial changes but an official confirmation must be obtained from the State Reclamation Board. Mr. Campbell of the County agreed to request such official approval from the State Reclamation Board.

3. Subsequently, we were advised in letter of 28 January that the County had decided to operate the plant manually without utilization of the automatic scheduling equipment and so operated it during the 19-23 Nov 63 and 19-21 Jan 64 storms. During the November storm, the pumps were held inoperative during the entire storm and the sump level rose to a maximum of 25.65 CofE datum, 4.35 feet below the ~~par~~ project level of 30.0 feet. During the January storm, the pumps were again held inoperative until the sump level rose to the project level of 30.0 ft. after which the pumps were turned on and successfully pulled down the sump to minimum levels. Both operations were entirely at variance with the approved method of operation as stated in the manual, were extremely risky but did not cause damage because of fortunate cessation of inflow. It was also noted that #1 pump became inoperative during the January storm and was cut out of the operation. It was also noted that the outfall channel below the new gravity outlet was damaged by erosion.

4. During an unofficial inspection of this pumping plant by Mr. Paulson of this office on 24 March, it was noted that No. 1 pump was still inoperative and blocked off with stop logs, that the warning system leading to the nearby manual sewage plant so as to implement the manual system was not yet functional, and that the erosion damage to the outlet channel below the new gravity outlet had not been repaired.

5. Recommend that the State Reclamation Board be advised that the Corps does not concur with the proposed (and used) manual operation in lieu of the automatic system provided and prescribed in the manual either for low river operation when the new gravity outlet is usable or for high river operation when such a gravity outlet is ineffective. Also recommend that the Corps object to the County's failure to promptly repair damage to pump and outlet channel.

WALTER J. PARSONS

ATTACHED:

Ltr from County of 28 Jan  
Memo for Record of 5 Sept 63

CORPS OF ENGINEERS

U. S. ARMY

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OPERATION AND MAINTENANCE MANUAL  
AMERICAN RIVER - PART NO. 2  
PUMPING PLANTS NO. 1 and 2  
AMERICAN RIVER LEVEE PROJECT, CALIF.

Sacramento District  
Corps of Engineers  
U. S. Army  
15 October 1959

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**OPERATION AND MAINTENANCE MANUAL  
AMERICAN RIVER PART NO. 2  
PUMPING PLANTS NO. 1 AND 2**

AMERICAN RIVER LEVEE PROJECT, CALIFORNIA.  
RT. BANK-STATE FAIR GROUNDS TO CARMICHAEL BLUFFS

<b>LOCATION</b>	<b>ADDITION OR REVISION</b>	<b>DATE</b>
Exhibit F	Add copy of letter of transfer dated 17 Nov 1958	25 Mar 2010

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↳ 1964 & 1966 - changes proposed by Sacramento County  
on pump controls etc page 5

OPERATION AND MAINTENANCE MANUAL  
AMERICAN RIVER - PART NO. 2  
PUMPING PLANTS NO. 1 AND NO. 2  
AMERICAN RIVER LEVEE PROJECT, CALIFORNIA

SECTION I

INTRODUCTION

1-01. Authorization. The American River Levee Project was authorized by Flood Control Act of 3 September 1954, Public Law 780, Eighty-third Congress, Second Session, Section 203 of which reads as follows:

"Sacramento River Basin . . . The plan of improvement for flood control on the American River, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers, in House Document Number 367, Eighty-first Congress, at an estimated cost of \$1,600,000 for levees."

Authorizing legislation by the State of California is contained in Section 12648.1 of the State Water Code and was enacted under the California Statutes of 1955.

1-02. Location. Pumping Plants No. 1 and No. 2 are part of the American River Levee Project, which consists of approximately 8.3 miles of levee, in Sacramento Valley near the city of Sacramento. This levee project extends along the northerly bank of the American River from the Hidden River Vista residential subdivision, just southerly of the town of Carmichael, downstream to the upper end of the Sacramento River Flood Control Project (near the intersection of Howe Avenue and Arden Way).

FILE # 1-4-432

\* a. Pumping Plant No. 1. Pumping Plant No. 1 is located near Howe Avenue, approximately one mile downstream from the H Street bridge, as shown on drawing Exhibit A.

b. Pumping Plant No. 2. Pumping Plant No. 2 is located approximately one quarter of a mile east of the intersection of Watt Avenue (extended) and the American River as shown on drawing Exhibit A.

P.B. # 14508: Contract for Pumping

PP#2

1-03. Project Description. The drainage area behind the levee totals about 19 square miles. This area is divided naturally into two sub-areas, Sub-area 1 (about 15.5 square miles) is drained by Chicken Ranch Slough and Strong Ranch Slough; Sub-area 2 (about 3.5 square miles) is drained by unnamed water courses lying to the east of Watt Avenue.

The levees are designed to provide a 5 foot freeboard above the project design flow in American River of 115,000 cubic feet per second (expected to occur once in 10 years) or a 3 foot freeboard above

an abnormally high flow of 152,000 cubic feet per second. Normal discharge from Folsom Dam during the dry portion of the year limits flow in the American River to a quantity from about 1,500 to 6,000 cubic feet per second. The levees intercept the local drainage waters from the protected areas mentioned above and this water is discharged into American River by gravity flow or pumps as required.

Both Pumping Plants 1 and 2 are designed to dispose of design flows in the levee protected areas when discharge from American River flow ranges from 115,000 to 500 cubic feet per second. Sump storage is provided at each plant to hold the pumping requirements to a minimum and to take full advantage of gravity flow discharge when the American River is at lower elevations. Automatic pumping control equipment is set up so that the entire design flow can be pumped out of the protected areas within a period of 36 hours to prepare for a following storm. Also manual control is provided in the form of Start-Stop push buttons for each individual pump.

The water passes from the storage sumps through the trash racks into the wet pits. Then the water level in the American River permits, the waterflows from the wet pits through the gravity drain to the river. There is an automatic drainage gate at the river end of the gravity flow pipe which serves to protect the plant area from backflow when the American River is at higher levels. In the event of malfunction of the automatic gates an emergency hand operated slide gate is provided on the gravity drain. This gate is located at the top of the levee on the riverside.

The water pumped from the wet pits goes through the conduit under the levee into the discharge canal thence into the river. Automatic drainage gates are provided for each pump outlet. Electrically operated, remote controlled slide gates which can be hand operated in the case of an emergency are provided for backflow protection in case of malfunction of the automatic gates. An electrical interlock control insures that no pump may be operated when the riverside slide gate is closed.

1-04. Construction Data. The construction contract for the levee and pumping plant construction was awarded on 7 May 1957 to A. Teichert & Son, General Contractor, Sacramento, California (Contract No. DA-04-167-CIVENG-57-136). The sub-contractor for the construction of both pumping plants was Baldwin Construction Company, Marysville, California. Luppen & Hawley, Inc. was the electrical sub-contractor and Munz Pumps Inc. installed the pumps at both plants.

Construction work started on 15 May 1957 and was completed 7 November 1958.

1-05. Assurances Provided by Local Interests. The State of California by legislation enacted in 1955 has agreed to furnish the required cooperation. 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 the 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 or the San Joaquin Valley hereafter approved and authorized by Congress."

1-06. Acceptance by State Reclamation Board. Responsibility for operating and maintaining the completed works was officially accepted by the Reclamation Board of the State of California by letters dated 19 December 1958 and 21 January 1959, as shown on the attached letters of acceptance, Exhibit F.

## SECTION II

### FEATURES OF THE PROJECT SUBJECT TO FLOOD CONTROL REGULATION

2-01. Levees. The levees are subject to the Flood Control Regulations which are more fully outlined in the Operation and Maintenance Manual, entitled, "American River-Part No. 1-Levee Construction from Carmichael Bluffs Downstream 8.3 Miles".

2-02. Structures. The pumping plants, sumps, and outlet channels are subject to the same Flood Control Regulations as the levees, therefore, the operation, maintenance and inspection of these features should be coordinated with that of the levees.

### SECTION III

#### MECHANICAL AND ELECTRICAL FEATURES

3-01. Controls. Each plant has a 3 position selector switch (located on the auxiliary panel board of each plant) for the following conditions of operation:

a. High river water level operation--(must be set manually to this position in which case pumps will always operate automatically as if the river were at high stage).

b. Low river water level operation--(must be set manually to this position in which case pumps will always operate automatically as if the river were at low stage).

c. Automatic setting--(must be set manually to this position in which case the plant will operate automatically and unattended at either low or high river water level operation as controlled by the river Floatrol unit).

The amber light adjacent to the 3 Selectrol switches indicates control power on and the plant ready for operation.

Mercury switches are provided for a future high water alarm circuit if needed. The alarm circuit would be activated if the sump water level rises above 30.0 at Plant #1 or above 42.0 at Plant #2.

Transfer plugs are provided at each Selectrol unit for the selection of different pump running sequences to even wear.

Under manual operation, each and all pumps may be operated at the direction of the operator by using the manual switch provided at each pump motor. The starter switch must be held in the start position for 10 seconds to start a pump motor manually.

Under automatic operation the pumps go on or off according to sump and river water levels. When the water level in American River at Plant #1 is 25.0 feet or less the Floatrol unit automatically sets to operate at low river water level operation and the first pump starts automatically when sump water level reaches 25.5 feet. Successive pumps come on for each 0.2 foot rise in sump water level until at elevation 26.5 all 6 pumps are operating. Similarly as the sump level drops the pumps automatically cut off at 0.2 foot intervals (beginning with Pump #6 at elevation 22.6) until the last pump (Pump #1) cuts off at elevation 21.6.

When the water level in American River at Plant #1 is above 25.0 feet the Floatrol unit automatically sets to operate at high river water level operation and the first pump starts automatically when sump water level reaches 22.2 feet. Successive pumps come on for each 0.2 foot rise in sump water level until at elevation 23.2 all 6 pumps are operating. As sump level drops the pumps cut off identically as outlined above for low river water level operation.

When the water level in American River at Plant #2 is 36.5 feet or less, the Floatrol unit automatically sets to operate at low river water level operation and Pump #1 starts automatically when sump water level reaches 37.0 feet and Pump #2 starts automatically when sump water level reaches 37.5 feet. As sump level drops Pump #2 automatically cuts off at 32.5 feet and Pump #1 cuts off at 32.0 feet.

When the water level in American River at Plant #2 is above 36.5 feet, the Floatrol unit automatically sets Plant #2 to operate at high river water level operation and Pump #1 automatically starts when sump water level reaches 32.5 feet and Pump #2 starts automatically when sump water level reaches 33.0 feet. As sump level drops the pumps cutoff identically as outlined above for low river water level operation.

The automatic pumping sequences for high and low river water level operations as described above are graphically outlined for Plants #1 and #2 on sheets 432/28 and 432/31 respectively of drawing file No. 1-4-432 of the contract drawings.

The pumping control equipment at each plant consists of two similar units:

Unit A: Selectrol	}	Pump Station No. 1
Unit B: Floatrol		
Unit C: Selectrol	}	Pump Station No. 2
Unit D: Floatrol		

The Selectrol unit is located at the sump in each plant. This unit operates the pumps automatically by a float controlled mercury switch which is programed according to the water elevation in the sump.

The Floatrols units are located at the river adjacent to each plant. These units consists of a single mercury switch operated by a river level float. The Floatrol unit automatically sets the plant for low river water level operation or high river water level operation. The dividing line is elevation 25.0 (Plant #1) and elevation 36.5 (Plant #2).

3-02. Mechanical Features. The following mechanical features are installed:

a. An electrically operated 15 ton capacity traveling bridge crane is located in Plant #1. This crane is intended for indoor service consisting of installing and/or dismantling and removing motors, discharge columns and pumps. Up and down buttons are properly identified on the bridge crane control box and the rack and travel buttons have arrows indicating left and right travel. A set of hand signals with an explanatory chart is posted in the pump room. The 15 ton crane is designed for straight vertical pull only and the crane should always be maneuvered directly over the load to be lifted.

b. A manually operated 5 ton capacity traveling crane is located in Plant #2 for indoor service similar to the above. A one and one-half ton monorail hoist running parallel to the trash racks is provided at both pumping plants. These hoists are intended for outdoor service consisting of lifting, moving and lowering stop gates and for removing accumulations of trash from the trash racks.

c. One manually controlled electric sump pump is located in a wet pit of each pumping plant. The pumps are so valved as to provide independent dewatering of each wet pit when used in conjunction with the stop gates provided at each plant.

To dewater a wet pit, the stop gate is lowered in place, the valve for the particular pit is opened and the sump pump turned on. All valves to the wet pits shall be kept closed except when pumping out a particular pit.

d. No water is supplied to either plant and bottled water must be provided for drinking purposes.

e. Ventilation is achieved by guarded louvers and power roof exhausters in both the electrical panelboard room and the pump room.

3-03. Electric Lighting. Full interior lighting is provided at both plants for day as well as night operation. Exterior lighting is provided for the trash racks and stairs. The exterior lights of both plants are controlled by a time clock as protection against vandalism. The panel boards of both plants are provided with extra facilities for future flood lighting of the area. Provision is also made for future radio equipment and telephone service at Plant #1. These connections are located at the southwest wall of the panelboard room.

3-04. Flow Measuring Equipment. Equipment is provided in each pumping plant to continuously measure the water surface elevation in the sump and, by use of rating curves for both the gravity outlet and pumps, to measure the total discharge through the pumping plant into the American River channel. The equipment at each plant is the same and consists of a float-operated continuous type water level recorder (Stevens A-35) mounted in the main operating room at the head of a 24-inch CMP stilling well extending down through the floor into one of the wet wells. This stilling well is connected with the outside sump by a 2-inch inlet pipe. In addition there is an auxiliary staff gage attached to the inside wall of the unused wet well which can be read from a ladder fixed to the same wall. The weight-driven clock of the recorder should be rewound and the completed chart removed at about monthly intervals. Maintenance of the water level recorder should be in accordance with the manufacturer's instructions. Completed charts from the recorder should be permanently filed in the files of the Department of Water Resources.

a. Computation of flows through Pumping Plant No. 1. Drainage flows through Pumping Plant No. 1 usually reach American River through a

36-inch gravity outlet pipe equipped with a flap gate and an emergency slide gate. During heavy storm periods or when American River stages are high, part or all of the drainage water is pumped through a set of six large pumps. Flows through the gravity outlet and pump outlets are computed from the sump elevation and simultaneous river stages at the American River gaging station at H Street. Chart 1, Exhibit D, shows the approximate fall in river stage between the H Street gage and Pumping Plant No. 1 for various river flows and simultaneous I Street stages on Sacramento River. Chart 2, Exhibit D, is a rating table which gives the design discharge of the gravity outlet for various simultaneous sump and river stages. The six pumps are turned off and on automatically at pre-determined combination of stages as shown on this chart.

b. Computation of flow through Pumping Plant No. 2. Drainage flows through Pumping Plant No. 2 usually reach American River through a 24-inch gravity outlet pipe equipped with a flap gate and an emergency slide gate. During heavy storm periods or when American River stages are high, part or all of the drainage water is pumped through a set of two large pumps. Flows through the gravity outlet and pump outlets are computed from the sump elevation and simultaneous river stages at the American River gaging station at H Street. Chart 4, Exhibit D, shows the approximate rise in river stage between the H Street gage and Pumping Plant No. 2 for various river flows and simultaneous I Street stages in the Sacramento River. Chart 5, Exhibit D, is a rating table which gives the design discharge of the gravity outlet for various simultaneous sump and river stages. Chart 6, Exhibit D, is a rating table giving the design discharge of the pump outlet for various simultaneous sump and river stages. The two pumps are turned off and on automatically at predetermined combinations of stages as shown on this chart.

c. Stage-Storage relationship in sumps. The relationship between the sump stage and the corresponding sump storage at Pumping Plant No. 1 is shown on Chart 7, Exhibit D, and at Pumping Plant No. 2 on Chart 8, Exhibit D.

d. Reports on sump stages and flows through pumping plants. A summary of the sump stages and computed flow through each pumping plant during each year should be included in the annual report for that year. If feasible, the listed flows at each plant should be segregated into gravity and pumped flow portions.

3-05. Inspection and Maintenance. The automatic pumping sequence as set by the transfer plugs on the Selectrol units shall be changed annually beginning in the Fall of 1959: For Plant #1, Pump #2 shall be set to come on first and Pump #3 shall come on second, etc., so that a complete cycle will be completed every 6 years. For Plant #2, Pump #2 shall be set to come on first and Pump #1 shall be set to come on last so that a complete cycle will be completed every 2 years. This procedure will insure even wear on the pumps and motors.

*M. A. H.*

The 4"  $\phi$  pipe which admits river water to the Floatrol unit terminates at the headwall of the gravity flow pipes at each plant. These pipes have 1/2"  $\phi$  holes drilled near the end of the pipe and in the pipe cap to admit the water. The holes and pipe are subject to possible clogging from river sediment and trash under certain conditions and should be checked specifically before the expected fall rains each year and periodically thereafter to assure proper operation of the Floatrol units.

For maintenance instructions of the automatic control Selectrol and Floatrol units refer to the manufacturer's instruction bulletin, AUTOCON AUTOMATIC CONTROL COMPANY.

In the spring of each year at the end of the pumping season, all moving parts on the automatic drainage gates and slide gates at both plants shall be cleaned and lubricated as outlined below. In the fall of each year before the beginning of the expected rains these gates shall be thoroughly inspected as outlined below and all slide gates at both plants shall be activated to full open position. Such position shall be maintained during the time when pumps are under automatic operation. When the plant is closed down in the spring, all slide gates shall be returned to full closed position.

The automatic drainage gates at both plants should be checked individually. The gate seals shall be checked for deterioration or damage and should fit flush on the full perimeter of the seat. The gate hinges and bushings shall be cleaned and then lubricated with a heavy grease. The gates should swing free without binding.

The pump outlet slide gates at both plants shall be individually checked for manual and electrical operation and the gravity flow slide gate at each plant shall be checked for manual operation. The gates, frames, stems and stem guides shall be cleaned. The stem guides shall be checked and adjusted if necessary to provide free movement of the stem. The stem bearings shall be lubricated by the pressure lubrication fittings provided. The gate guides and seals shall be lubricated periodically.

The 15 ton capacity bridge crane, hoist, and trolley is provided with pressure grease fittings for bearing lubrication. The 5 ton capacity crane of Plant #2 and the 1-1/2 ton capacity monorail hoists of both plants 1 and 2 have identical lubrication provisions. The gear trains of these units are enclosed in an oil-tight chamber. Parts not lubricated for life are supplied from the central oil pool. One portable tool box with padlock, containing a grease gun and an oil can for use in lubricating the cranes is provided at each plant. No other special wrenches or special tools are required for adjustment or servicing. The operator of the 15 ton capacity crane should test the upper and lower limit switches with the crane unloaded the first time the crane is to be used after being left unused for any substantial length of time. These switches must be working properly to prevent possible damage to the crane, load or personnel.

The 48" pumps of Plant #1 and 24" pumps of Plant #2 are provided with a Farval centralized lubrication system. The unit, which is actuated by a hand operated pump, is mounted on the base plate of each pump and has grease lines leading to all bearings. See manual by Fairbanks-Morse Company.

The sump pumps in each plant are equipped with a 1 qt. capacity solenoid oiler with oil lines leading to the pump bearings. Add No. 30 S.A.E. oil when oil reservoir is 60% low.

Type and grade of lubricant for all motors appears on special name plates attached to the frame of the motor adjacent to the bearing filling device. For detailed maintenance instructions of motors refer to Fairbanks-Morse instruction bulletin, No. B-33212-7. This bulletin was especially prepared for the 400 h.p. pump motors of Plant #1 but will serve as a general guide for the lubrication and maintenance of all the electric motors where such instructions apply.

Unless otherwise required in this manual or in the manufacturer's bulletins referred to by this manual, all the plant equipment described above as well as the electric motors provided for mechanical ventilation, the rolling doors and any other equipment requiring lubrication shall be lubricated at the beginning and end of each pumping season and periodically as required to assure optimum performance.

Instrument transformers should be kept clean and dry. Periodic checks of the transformer bushing should be made to assure them to be free of dirt and foreign matter. For instructions on cleaning, replace fuses, etc., refer to General Electric Apparatus Manual No. G.E. Req. 474-59121-1.

Preventive maintenance inspections and periodic cleanings shall be given to all electrical apparatus to assure maximum trouble-free service. For definite instructions refer to the publication, HOW TO MAINTAIN INDUSTRIAL CONTROL found in the General Electric Instruction Manual No. G.E.I.-55193.

The trash racks shall be cleaned of all logs and drift and raked clean of moss and trash accumulations at the beginning and end of each pumping season and periodically as required to provide unrestricted flow. The drift gates at the inlet channels shall be kept free of logs and drift. The channels within the sumps and the immediate inlet channels to the sump shall be kept clear to prevent ponding and mosquito breeding. Also weeds and high grass within the sump shall be cut periodically to keep mosquito breeding to a minimum. The interior of the corrugated iron pipes housing the sump stage recorders, Floatrol units and Selectrol float units shall be inspected in the fall of each year and cleaned when required. All exposed ferrous metals excepting galvanized portions shall be kept painted with exterior oil paint. Periodic checks shall be made of the fence surrounding the sumps of each plant. Any breaks or damage to the fence that would permit access to the sump should be repaired at once.

Selectrol float units shall be inspected in the fall of each year and cleaned when required. All exposed ferrous metals excepting galvanized portions shall be kept painted with exterior oil paint.

Due to locale, the Plants are subject to a certain amount of vandalism and all exposed and accessible equipment such as the Floatrol unit, exterior lighting, insulators, automatic gates, limit-torque units, etc., shall be inspected periodically for deliberate damage. The exterior lighting should be maintained to keep vandalism to a minimum.

After the general fall inspection the slide gates shall be raised to the open position and the plant made ready for automatic operation. The 3 position selector switch of the Selectrol unit at each plant shall be placed on automatic setting (position 3) and the amber light adjacent to the switch should be on indicating that power is on and the plant is ready for operation. Thereafter, the automatic controls should be checked at least every thirty days to ascertain that they are correctly set and in operable condition.

EXHIBIT A  
LOCATION MAP

EXHIBIT A

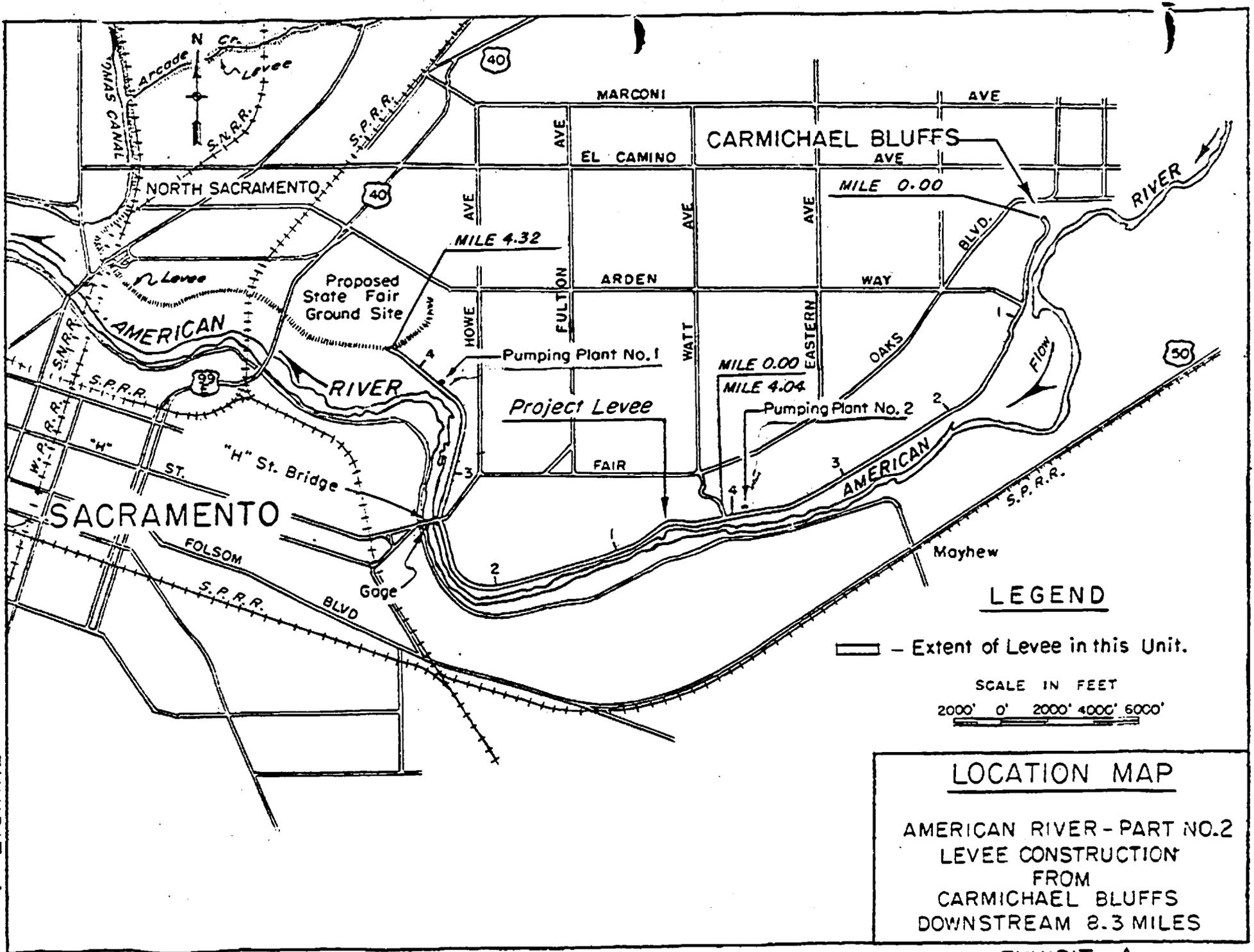


EXHIBIT A

EXHIBIT A

EXHIBIT B

"AS CONSTRUCTED"  
DRAWINGS

(See Separate Folder for the Following Drawings)  
(Dwgs. No. 1-4-432)

<u>FILE NO.</u>	<u>TITLE</u>	<u>PLANT NO.</u>
432/1.1	Area and Vicinity Map	1 and 2
432/2	Partial Plan of Works	1
432/3	Partial Plan of Works	1
432/4	(Deleted)	
432/5.1	Miscellaneous Site Development	1
432/6	Building Plot Plan and Details	1
432/7.1	Exterior Elevations	1
432/8	Floor Plan and Details	1
432/9.1	Sections	1
432/10.1	Slab and Beam Reinforcement	1
432/11	Wall and Base Slab Reinforcing	1
432/12	Trash Rack and Retaining Walls	1
432/13.1	Outlet Works	1
432/14	Plan of Works	2
432/15.1	Miscellaneous Site Development	2
432/16	Building Plot Plan and Details	2
432/17.1	Exterior Elevations	2
432/18	Floor Plan and Sections	2
432/19	Slab and Beam Reinforcing	2
432/20	Wall and Base Slab Reinforcing	2
432/21.1	Trash Racks and Retaining Walls	2
432/22.1	Outlet Works	2
432/23	(Deleted)	
432/24	Typical Structural Details	1 and 2
432/25	Typical Architectural Details	1 and 2
432/26	Electrical Plot Plan	1
432/27	Electrical Floor Plans	1
432/28	Electrical Control Details	1
432/29	Electrical Main Switchboard	1
432/30	Electrical Plot Plan	2
432/31	Electrical Floor Plans and Details	2
432/32	Electrical Details	1 and 2
432/33	Safety Signs	1 and 2

EXHIBIT C

MANUFACTURERS DATA

(See Following Manufacturer's Data Under Separate Covers)

1. Fairbanks - Morse Manual P.M. 4, Pump and Motors Plant No. 1
2. Fairbanks - Morse Manual Pumps and Motors Plant No. 2
3. General Electric, Switchgear Components Plant No. 1
4. General Electric, Limitamp Control Panel Plant No. 1 and 2
5. General Electric, Renewal Parts Quote Plant No. 1 and 2
6. Automatic Control Co., Automatic Float Controls Plant No. 1 and 2
7. Approved Shop Drawings, Plant No. 1 and 2

EXHIBIT D

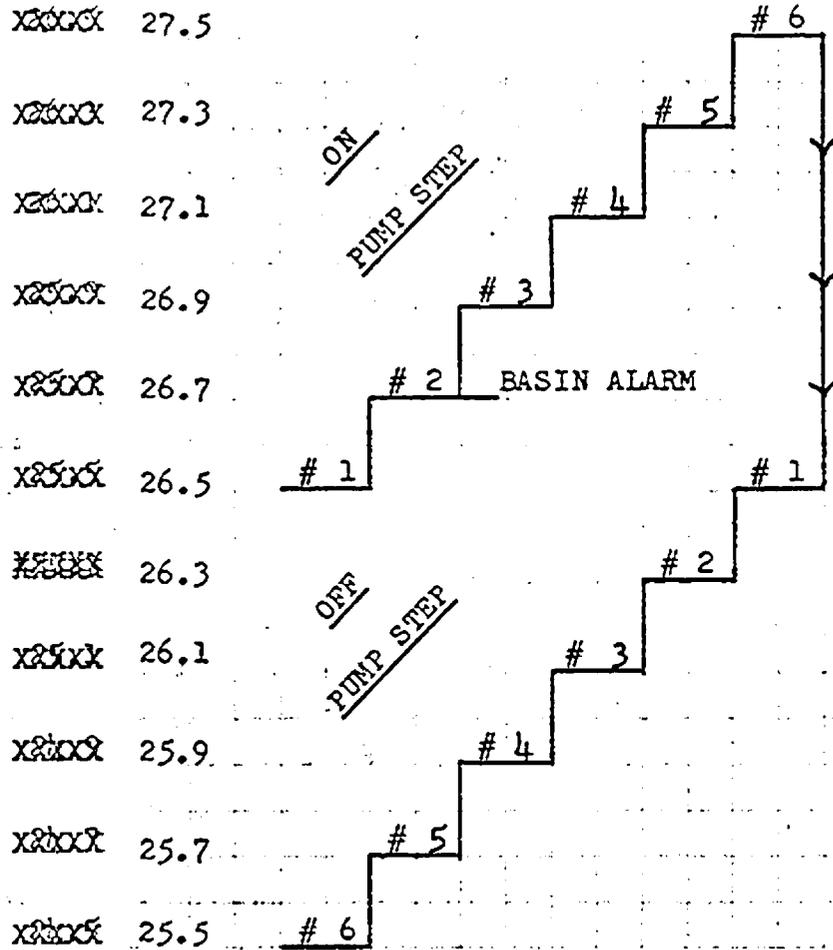
Hydraulic Curves and Rating Tables  
Charts No. 1 thru 8

HOWE AVE. STORM D. IN PUMP STATION  
PUMP OPERATION SCHEDULE

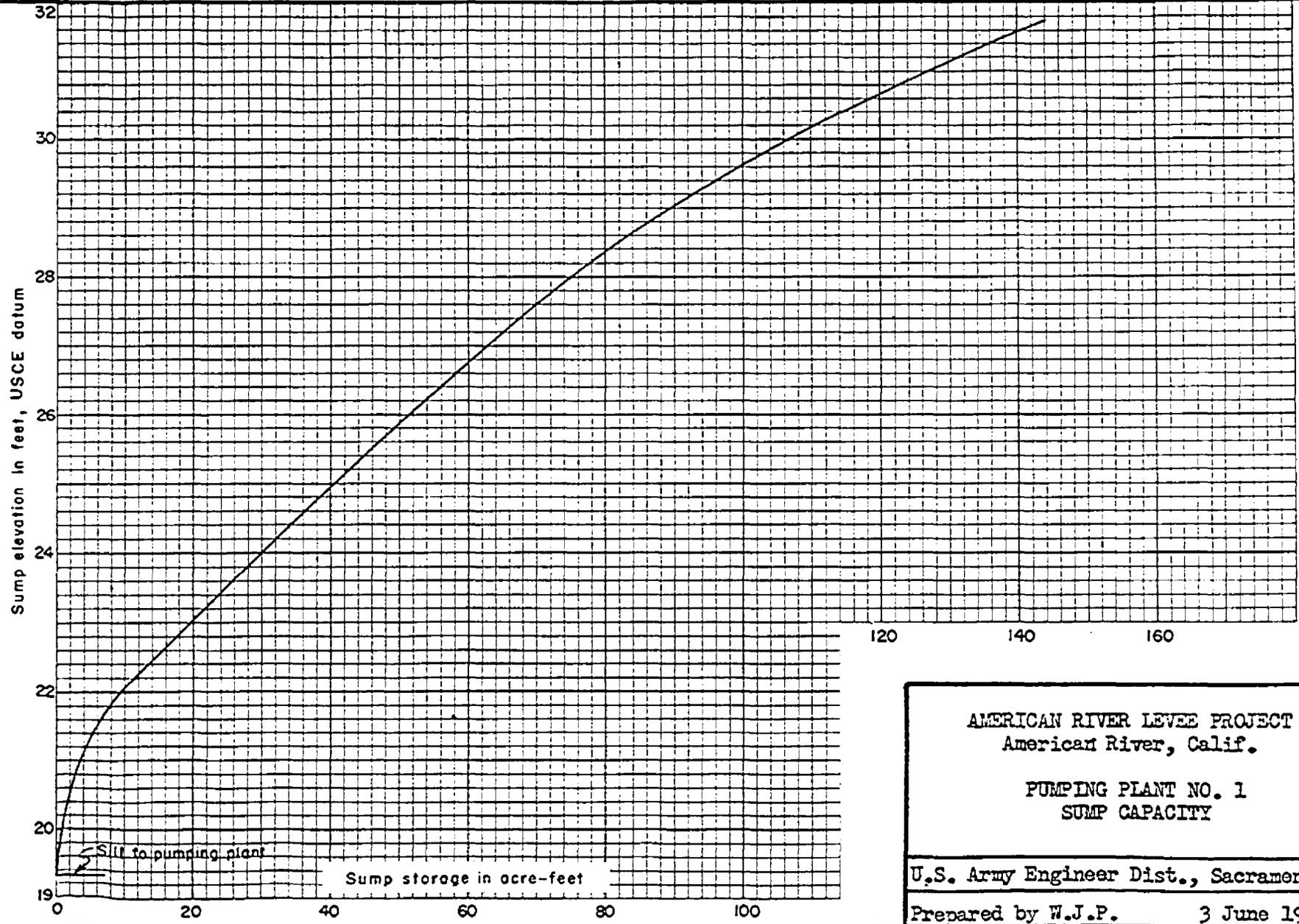
XLYX266 :  
Nov.18, 1965

PUMP PLANT # 1

BASIN ELEVATION U.S.E.D.



NOTE ALL ELEVATIONS GIVEN ARE U.S.E.D.  
 BASIN ELEVATION 20.0' = .0, ON AUTOCON GAGE  
 FLOW LINE 72" FLOW THREW = 20.7'  
 FLOW LINE 36" FLOW THREW = 19.3'  
 DECK OVER TRASH GRATES = 31.0'

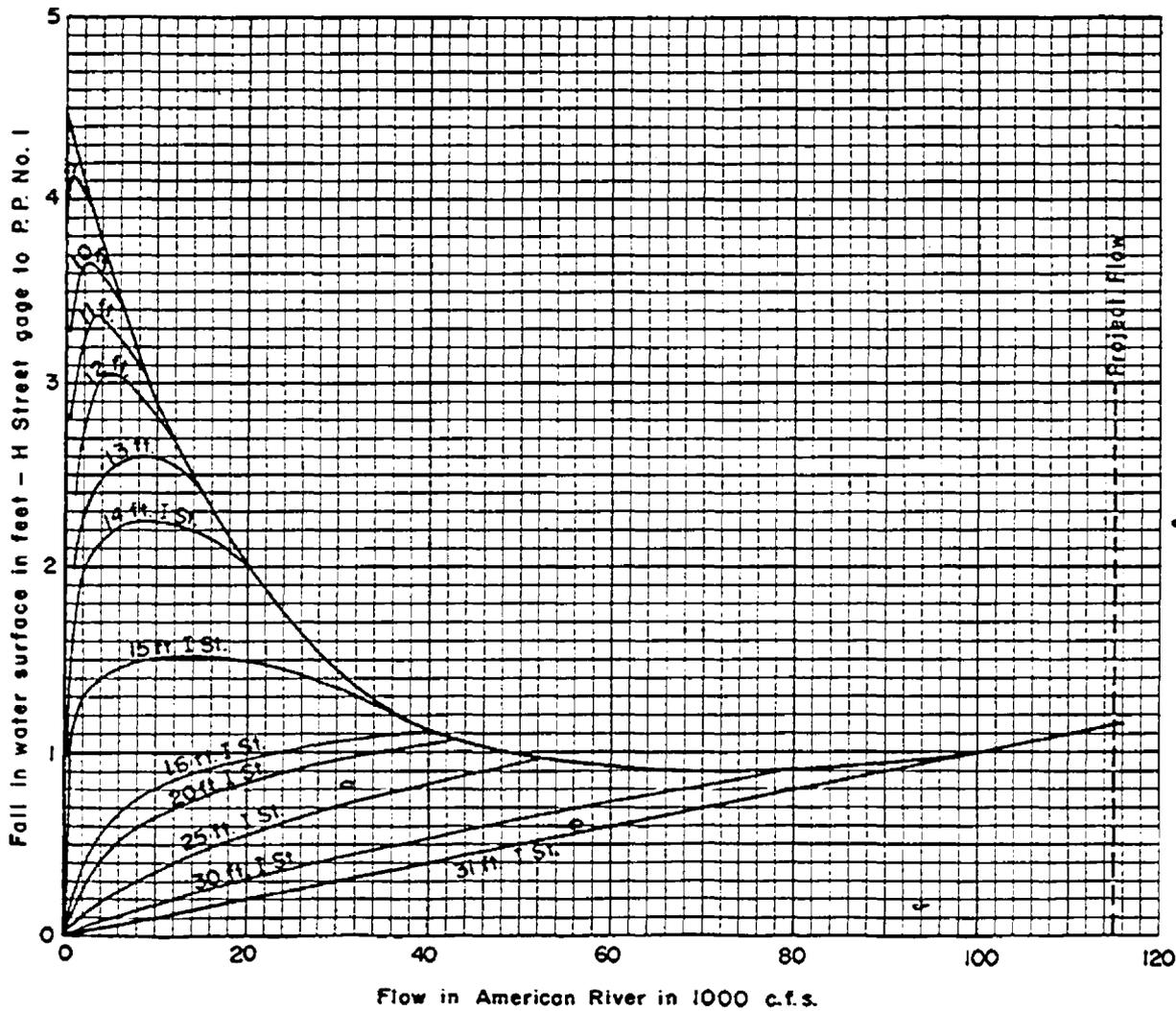


AMERICAN RIVER LEVEE PROJECT  
American River, Calif.

PUMPING PLANT NO. 1  
SUMP CAPACITY

U.S. Army Engineer Dist., Sacramento

Prepared by W.J.P. 3 June 1959



AMERICAN RIVER LEVEE PROJECT  
American River, Calif.

APPROXIMATE FALL IN WATER SURFACE  
H ST. GAGE TO P.P. NO. 1.

U.S. Army Engineer Dist., Sacramento

Prepared by W.J.P.

4 June 1959

American River Levee Project  
Pumping Plant No. 1  
Rating Table - 36 in. gravity drain

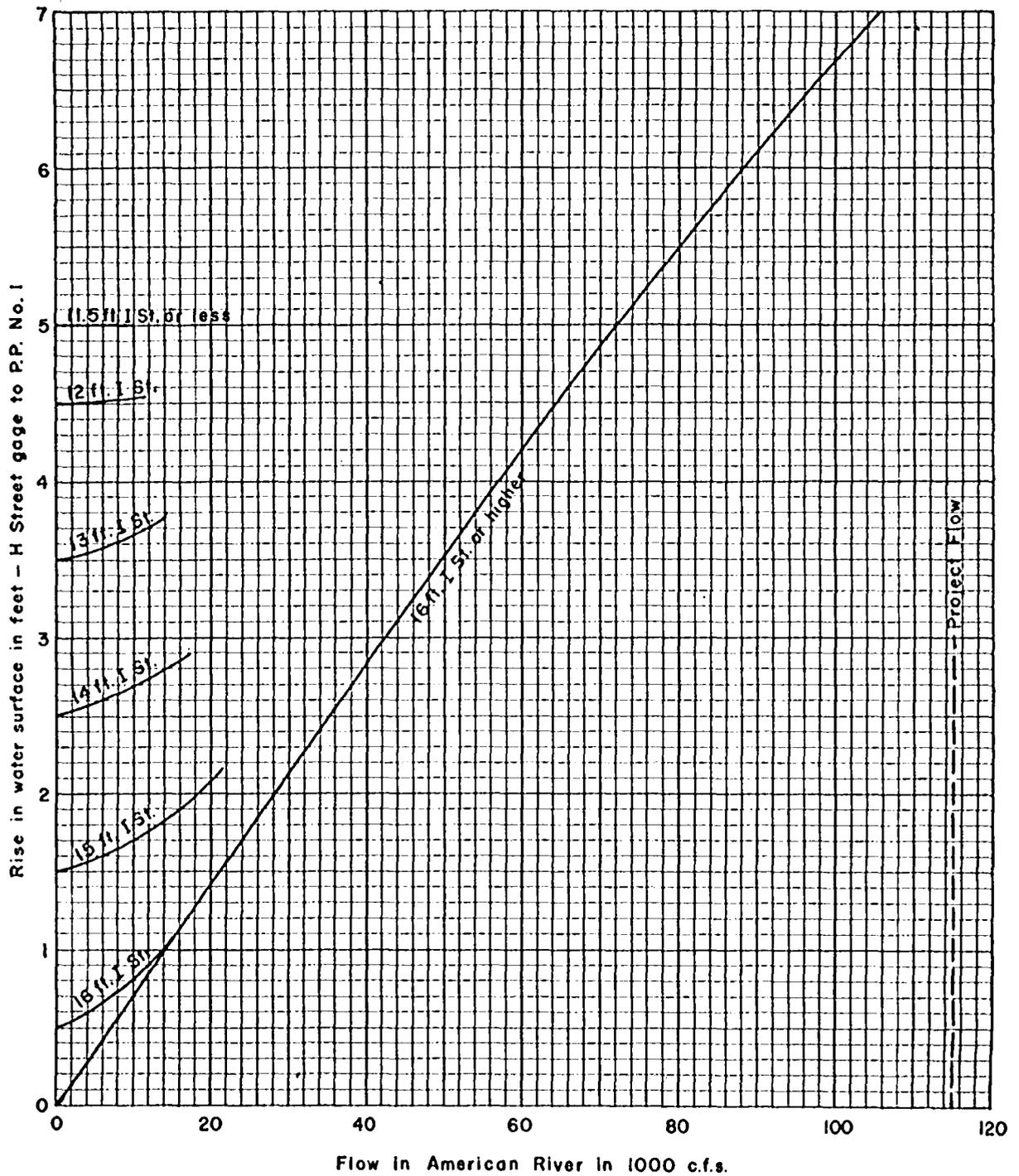
Sump elev.	River elevation											
	10-17	18	19	20	21	22	23	24	25	26	27	28
	Discharge in c.f.s.											
19.3	0	0	0									
.4	1.0	1	1									
.6	5.5	6	6									
.8	12.0	12	12									
20.0	16.3	16	14	0								
.2	19.0	19	15	5								
.4	22.0	22	17	8								
.6	25.1	24	18	10								
.8	28.1	25	19	12								
21.0	30.0	26	21	14	0							
.2	30.8	27	22	15	5							
.4	31.6	27	23	17	8							
.6	32.3	28	24	18	10							
.8	33.1	29	25	19	12							
22.0	33.8	30	26	21	14	0						
.2	34.5	31	27	22	15	5						
.4	35.1	31	27	23	17	8						
.6	35.8	32	28	24	18	10						
.8	36.4	33	29	25	19	12						
23.0	37.1	34	30	26	21	14	0					
.2	37.7	34	31	27	22	15	5					
.4	38.3	35	31	27	23	17	8					
.6	38.9	36	32	28	24	18	10					
.8	39.5	36	33	29	25	19	12					
24.0	40.0	37	34	30	26	21	14	0				
.2	40.6	38	34	31	27	22	15	5				
.4	41.2	38	35	31	27	23	17	8				
.6	41.7	39	36	32	28	24	18	10				
.8	42.3	39	36	33	29	25	19	12				
25.0	42.8	40	37	34	30	26	21	14	0			
.2	43.4	40	38	34	31	27	22	15	5			
.4	43.9	41	38	35	31	27	23	17	8			
.6	44.5	41	39	36	32	28	24	18	10			
.8	45.0	42	39	36	33	29	25	19	12			
26.0	45.5	42	40	37	34	30	26	21	14	0		
.2	46.0	43	40	38	34	31	27	22	15	5		
.4	46.5	44	41	38	35	31	27	23	17	8		
.6	47.0	44	41	39	36	32	28	24	18	10		
.8	47.5	45	42	39	36	33	29	25	19	12		
27.0	47.9	45	42	40	37	34	30	26	21	14	0	
.2	48.4	46	43	40	38	34	31	27	22	15	5	
.4	48.9	46	44	41	38	35	31	27	23	17	8	
.6	49.3	47	44	41	39	36	32	28	24	18	10	
.8	49.8	47	45	42	39	36	33	29	25	19	12	
28.0	50.2	48	45	42	40	37	34	30	26	21	14	0
29.0	52.5	50	48	45	42	40	37	34	30	26	21	14
30.0	54.6	52	50	48	45	42	40	37	34	30	26	21

American River Levee Project  
Pumping Plant No. 1  
Discharge of Pumps

River stage in feet

Sump elev.	24.9 or less						25.0 to 36.7	37.0	38.0	39.0	40.0
	Rising	Falling									
	Discharge in c. f. s.										
21.4	0	0	0	0	0	0	0				
.6		160(1)	160(1)	160(1)	160(1)	160(1)	0				
.8		160	320(2)	320(2)	320(2)	320(2)	0				
22.0		160	320	481(3)	481(3)	481(3)	0				
.2		161	321	481	642(4)	642(4)	160(1)	160(1)	157(1)	155(1)	153(1)
.4		161	322	483	644	805(5)	322(2)	320(2)	316(2)	311(2)	307(2)
.6		161	323	484	645	806	484(3)	481(3)	474(3)	468(3)	462(3)
.8		162	323	485	647	808	989(6)	646(4)	643(4)	634(4)	626(4)
23.0		162	324	486	648	810	810(5)	806(5)	795(5)	784(5)	774(5)
.2		162	325	487	649	812	974(6)	969(6)	957(6)	944(6)	931(6)
.4		163	325	488	651	813	976	971	959	946	934
.6		163	326	489	652	815	978	974	962	949	936
.8		163	327	490	653	816	980	976	964	951	939
24.0		164	327	491	655	818	982	979	967	954	941
.2		164	328	492	656	820	984	981	969	956	944
.4		164	329	493	657	822	986	983	971	958	946
.6		165	329	494	659	824	988	985	973	961	949
.8		165	330	495	660	825	990	988	976	963	951
25.0		165	331	496	661	827	992	990	978	966	954
.2		166	331	497	663	828	994	992	980	968	956
.4	0	166	332	498	664	830	996	994	982	970	958
.6	167(1)	166(1)	333	499	665	832	998	996	985	973	961
.8	335(2)	334(2)	500	667	834	1000	1000	999	987	975	963
26.0	503(3)	502(3)	668	836	1003	1003	1005	1001	990	978	966
.2	672(4)	672(4)	841(5)	1005	1005	1007	1007	1003	992	980	968
.4	842(5)	841(5)	1011(6)	1008	1008	1009	1009	1005	994	982	970
.6	1013(6)	1011(6)	1012	1008	1008	1012	1008	997	985	973	961
.8	1014	1014	1010	999	987	975	975	977	965	953	941
27.0	1016	1016	1013	1002	990	978	978	1002	990	978	966
.2	1018	1018	1015	1004	992	980	980	1004	992	980	968
.4	1020	1020	1017	1006	994	982	982	1006	994	982	970
.6	1022	1022	1019	1008	997	984	984	1008	997	984	972
.8	1024	1024	1022	1011	999	987	987	1011	999	987	975
28.0	1026	1026	1024	1013	1002	989	989	1013	1002	989	977
.2	1028	1028	1026	1015	1004	991	991	1015	1004	991	979
.4	1030	1030	1028	1017	1006	993	993	1017	1006	993	981
.6	1032	1032	1030	1019	1008	996	996	1019	1008	996	984
.8	1034	1034	1033	1022	1011	998	998	1022	1011	998	986
29.0	1036	1036	1035	1024	1013	1001	1001	1024	1013	1001	988
.2	1039	1039	1037	1026	1015	1003	1003	1026	1015	1003	990
.4	1041	1041	1039	1028	1017	1005	1005	1028	1017	1005	992
.6	1043	1043	1041	1030	1020	1007	1007	1030	1020	1007	994
.8	1045	1045	1044	1033	1022	1010	1010	1033	1022	1010	996
30.0	1047	1047	1046	1035	1025	1012	1012	1035	1025	1012	998
	1049	1049	1048(6)	1037(6)	1027(6)	1014(6)	1014(6)	1048(6)	1037(6)	1027(6)	1014(6)

Notes: ( ) indicates number of pumps operating.



AMERICAN RIVER LEVEE PROJECT  
 American River, Calif.

APPROXIMATE RISE IN WATER SURFACE  
 H ST. GAGE TO P.P. NO 2

U.S. Army Engineer Dist., Sacramento

Prepared by W.J.P. 4 June 1959

American River Levee Project  
Pumping Plant No. 2  
Rating Table - 24 in. gravity drain

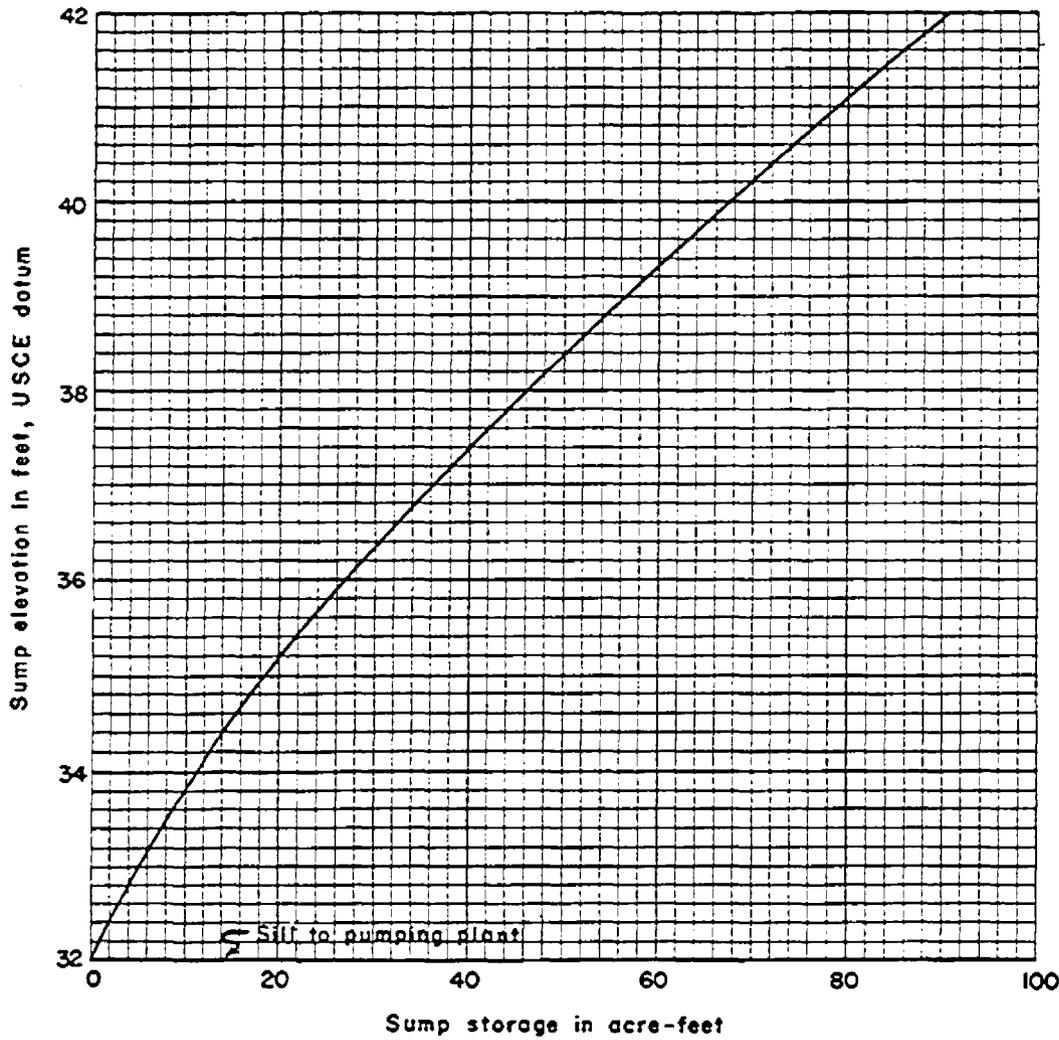
Sump elev.	River elevation											
	18-30	31	32	33	34	35	36	37	38	39	40	41
	Discharge in c.f.s.											
32.0	0	0	0									
.2	2.1	2	2									
.4	5.5	5	5									
.6	10.0	9	6									
.8	12.4	10	7									
33.0	12.7	11	8	0								
.2	13.3	12	8	3								
.4	13.8	12	9	5								
.6	14.3	13	10	6								
.8	14.8	13	10	7								
34.0	15.2	14	11	8	0							
.2	15.6	14	12	8	3							
.4	16.0	15	12	9	5							
.6	16.4	15	13	10	6							
.8	16.8	16	13	10	7							
35.0	17.2	16	14	11	8	0						
.2	17.6	17	14	12	8	3						
.4	18.0	17	15	12	9	5						
.6	18.4	17	15	13	10	6						
.8	18.7	18	16	13	10	7						
36.0	19.0	18	16	14	11	8	0					
.2	19.4	18	17	14	12	8	3					
.4	19.7	19	17	15	12	9	5					
.6	20.0	19	17	15	13	10	6					
.8	20.4	20	18	16	13	10	7					
37.0	20.7	20	18	16	14	11	8	0				
.2	21.0	20	18	17	14	12	8	3				
.4	21.4	21	19	17	15	12	9	5				
.6	21.7	21	19	17	15	13	10	6				
.8	22.0	21	20	18	16	13	10	7				
38.0	22.3	22	20	18	16	14	11	8	0			
.2	22.6	22	20	18	17	14	12	8	3			
.4	22.9	22	21	19	17	15	12	9	5			
.6	23.2	22	21	19	17	15	13	10	6			
.8	23.5	23	21	20	18	16	13	10	7			
39.0	23.7	23	22	20	18	16	14	11	8	0		
.2	24.0	23	22	20	18	17	14	12	8	3		
.4	24.3	24	22	21	19	17	15	12	9	5		
.6	24.6	24	22	21	19	17	15	13	10	6		
.8	24.9	24	23	21	20	18	16	13	10	7		
40.0	25.1	24	23	22	20	18	16	14	11	8	0	
.2	25.4	25	23	22	20	18	17	14	12	8	3	
.4	25.6	25	24	22	21	19	17	15	12	9	5	
.6	25.9	25	24	22	21	19	17	15	13	10	6	
.8	25.2	26	24	23	21	20	18	16	13	10	7	
41.0	26.4	26	24	23	22	20	18	16	14	11	8	0

American River Levee Project  
Pumping Plant No. 2  
Discharge of Pumps

River stage in ft.

Sump elev.	36.4 or less		36.4	43	44	45	46	47	48	49	50
	Rising	Falling	to 42.7	Discharge in c.f.s.							
32.0	0		0 26(1)	0 26(1)	0 25(1)	0 24(1)	0 24(1)	0 23(1)	0 23(1)	0 22(1)	0 22(1)
.2			26(1)	26(1)	25(1)	25(1)	24(1)	23(1)	23(1)	22(1)	22(1)
.4			26(1)	26(1)	25(1)	25(1)	24(1)	23(1)	23(1)	22(1)	22(1)
.6		0 26(1)	0 26(1)	52(2)	52(2)	51(2)	50(2)	49(2)	47(2)	46(2)	45(2)
.8			26(1)					48			44
33.0			26(1)	52					46	45	
.2			52(2) 52	53	52	51	50		47	46	
.4				53	53	52	51	49	48		44
.6				53			49	50	49		45
.8		26							48		
34.0		27								46	45
.2						51				47	46
.4				53	53	52	50	49			
.6				54	54	52	51	50	48	47	
.8					53	53		49	49	48	
35.0					54						46
.2											47
.4						52	51	50	49		
.6						53	52	51	50	48	47
.8						54	54		49	49	48
36.0					54						
.2		27			55						
.4		28								49	
.6							52	51	50	50	48
.8							53	52	51	50	47
37.0	0 28(1)										49
.2	28(1)		55		54						49
.4	28(1)	28(1)	56		55						49
.6	56(2)	56(2)	56	55	56			52	51	50	50
.8								53	52	51	50
38.0							53				
.2	56						54	54			
.4	57						55				
.6			56		55				52	51	50
.8			57		56				53	52	51
39.0					57				53		
.2							54	54			
.4							55				
.6							56			52	51
.8	57				56					53	52
40.0	58		57		57				54	53	
.2			58		58				55	54	
.4									56		52
.6									55		53
.8									56		53
41.0	58(2)		58(2)	58(2)	57(2)		56(2)	55(2)	54(2)	53(2)	53(2)

Notes: ( ) indicates number of pumps operating.  
Tabulated values accurate only to 1 c.f.s.



AMERICAN RIVER LEVEE PROJECT  
American River, Calif.

PUMPING PLANT NO. 2  
SUMP CAPACITY

U.S. Army Engineer Dist., Sacramento

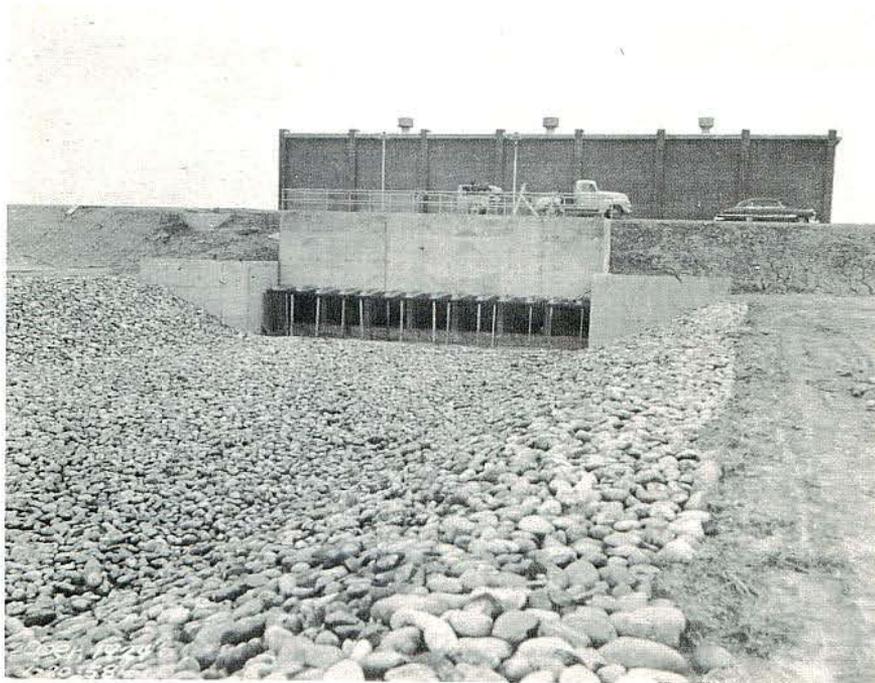
Prepared by W.J.P. 3 June 1959

EXHIBIT E

CONSTRUCTION PICTURES, PLANT NO. 1 SHEETS 1 THRU 3  
CONSTRUCTION PICTURES, PLANT NO. 2 SHEETS 4 THRU 6



PUMPING PLANT NO. 1 - OUTLET CHANNEL



PUMPING PLANT NO. 1 - OUTLET CHANNEL



PUMPING PLANT NO. I - INLET TO PLANT



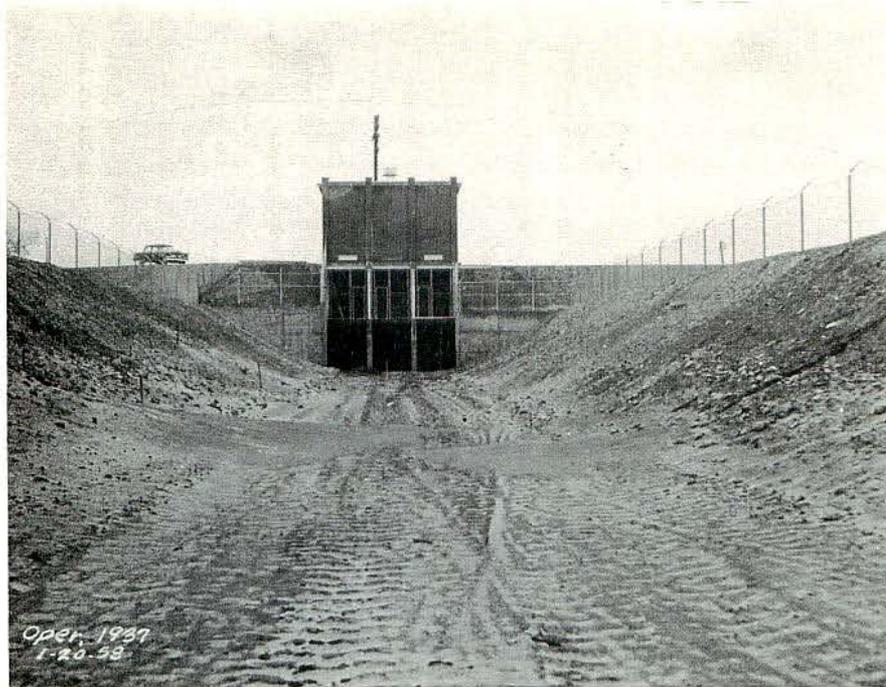
PUMPING PLANT NO. 1 - STORAGE SUMP



PUMPING PLANT NO. 1 - STRUCTURE FROM TOP LEVEE



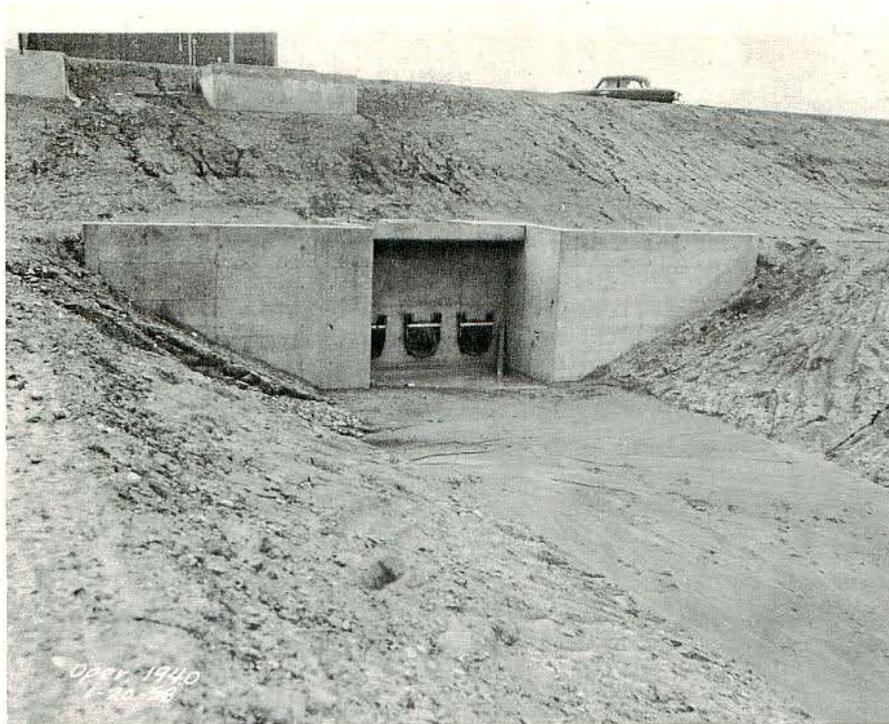
PUMPING PLANT NO. 1 - STRUCTURE FROM TOP LEVEE



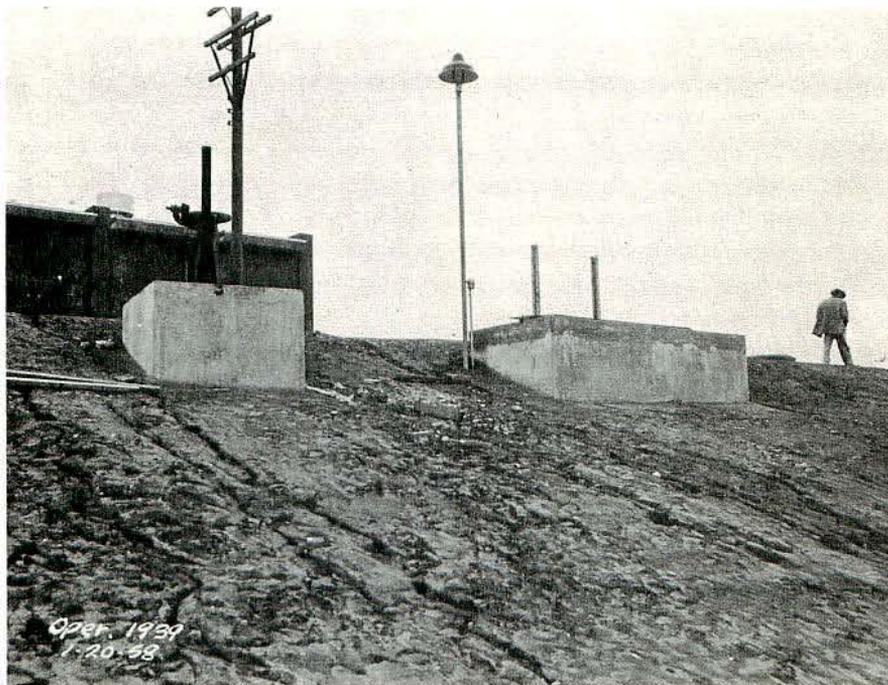
PUMPING PLANT NO. 2 - INLET TO PLANT



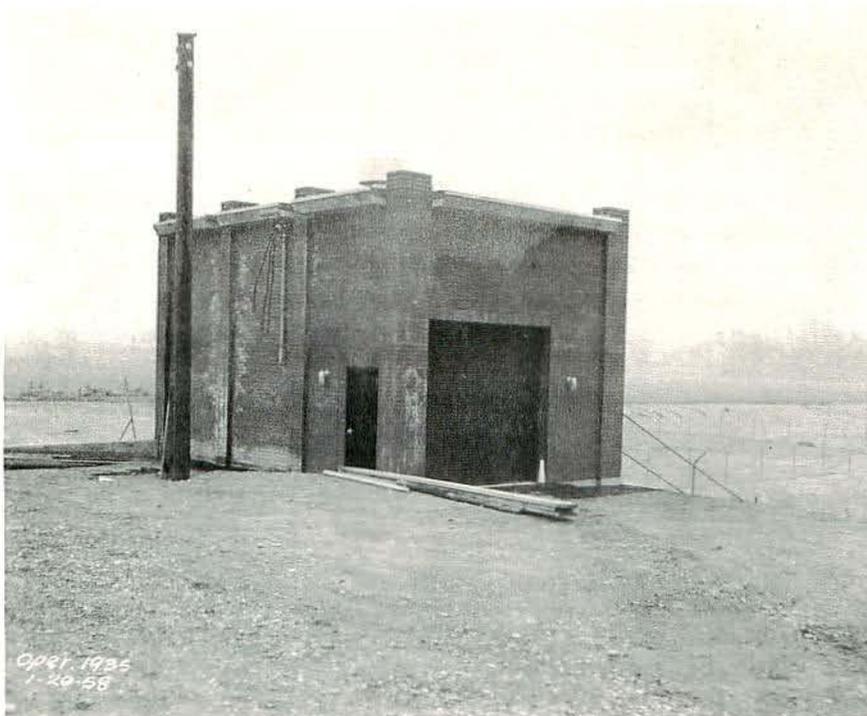
PUMPING PLANT NO. 2 - STORAGE SUMP



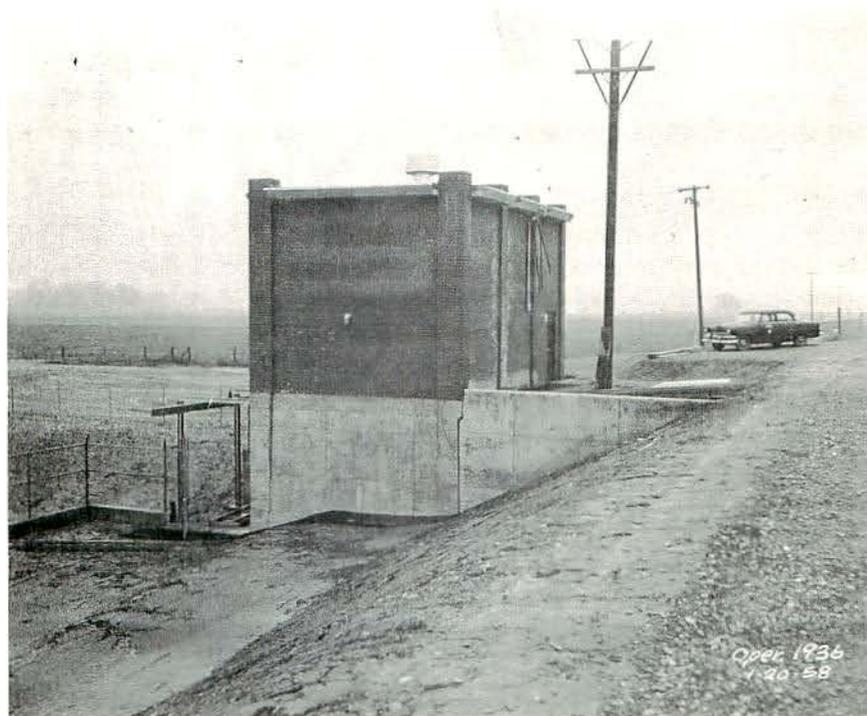
PUMPING PLANT NO. 2  
OUTLET CHANNEL (Before Rip-rapping)



PUMPING PLANT NO. 2  
SLIDE GATE WELLS - DISCHARGE CONDUITS



PUMPING PLANT NO. 2 - STRUCTURE FROM TOP LEVEE



PUMPING PLANT NO. 2 - STRUCTURE FROM TOP LEVEE

EXHIBIT F

LETTERS OF ACCEPTANCE OF PROJECT  
SHEETS 1 THRU 3

December 19, 1958

C  
O  
P  
Y

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

Gentlemen:

Reference is made to your letter of November 17, 1958, file number SPKKO-F 824.3 (Am. Riv. FCP), regarding the responsibility for operation and maintenance of the section of levee and contiguous banks, stone protection and pumping plants, located along the right bank of the American River from Station 19+30 to Station 212+20 and from Station 229+30 to Station 456+31.35 and pumping plants #1 and #2; as well as pertinent facilities located along the left bank of the American River from Station 1+00 to Station 64+00.

The Reclamation Board at its meeting of November 20, 1958, formally accepted the maintenance responsibility of the above described area described in the first page of your letter under the conditions outlined in your letter.

Yours very truly,

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

WAC:lb

/s/ By William A. Carver  
WILLIAM A. CARVER  
Assistant Secretary

C  
O  
P  
Y

January 21, 1959

C  
O  
P  
Y

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

Gentlemen:

Reference is made to your letter dated November 17, 1958 regarding the joint inspection of certain levee units, stone protection and facilities pertaining to the American River Flood Control project and the transfer of certain portions thereof to the State of California for operation and maintenance. Further reference is made to the fact that on January 7, 1959 this office received a telephonic communication from William Hargraves of your office regarding paragraph three, which is as follows:

"1. Levee Construction - Right bank of American River from Station  $\pm$  19+30 to Station  $\pm$  212+20 and Station  $\pm$  229+30 to Station  $\pm$  456+31.35.

Information was also received to the effect that the following sentence:

"The unit from Station  $\pm$  212+20 to Station  $\pm$  229+30 meets with the requirements of the American River Flood Control Project, therefore no work was necessary on this unit."

was somewhat misleading and was not intended to convey the information that this stretch between the above stations was to be excluded from the transfer to the jurisdiction of the State of California for operation and maintenance. This office was instructed that this transfer, above described, was included in the transfer to the State for operation and maintenance.

Therefore, this letter is forwarded to your office for the purpose of amending our letter to you dated December 18, 1958 and the first sentence of said letter should include Station  $\pm$  212+20 to Station  $\pm$  229+30 for the purpose of transfer to the State.

C  
O  
P  
Y

-2-  
District Engineer

C  
O  
P  
Y

The Reclamation Board at its meeting of November 20, 1958 formally accepted the maintenance and operation of the above described area and the acceptance on the part of the Board included the area described in the first page of your letter and under the conditions outlined therein. Our letter informing you of the formal acceptance of the maintenance responsibility is hereby amended to the extent and as above indicated.

Yours very truly,

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

WAC:lb

/s/ By William A. Carver  
Assistant Secretary

C  
O  
P  
Y

WBH

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

17 NOV 1958

SPKKO-P 824.3 (Am. Riv. MCP)

The Reclamation Board  
State of California  
1225 O Street  
Sacramento 14, California

Gentlemen:

Reference is made to District Engineer's letter dated 2 June 1958, suggesting a joint inspection of certain levee units, stone protection and facilities pertaining to the American River Flood Control Project for the purpose of transferring them to the jurisdiction of the State of California for operation and maintenance. Reference is also made to the joint inspection of these levee sections and facilities made on 6 June 1958.

The required work consisting of construction of the levee units, stone protection and facilities referred to above was completed on 7 November 1958 in accordance with Specification No. 2287, Contract No. BA-04-167-CIVENG-57-136 and Drawing Nos. 1-4-415 and 1-4-432.

The work referred to above consisted of the following units:

1. Levee Construction - Right bank of American River from Station  $\pm 19+30$  to Station  $\pm 212+20$  and Station  $\pm 229+30$  to Station  $\pm 456+31.35$ . The unit from Station  $\pm 212+20$  to Station  $\pm 229+30$  meets with the requirements of the American River Flood Control Project, therefore no work was necessary on this unit.
2. Stone Protection - Left bank of American River from Station  $\pm -1+00$  to Station  $\pm 6+00$ .
3. Pumping Plants - Pumping Plant No. 1 & Pumping Plant No. 2.

The units described above now meet the requirements of the American River Flood Control Project, therefore in accordance with the assurance agreement dated 3 October 1956 the said units together with the waterway banks contiguous thereto are hereby transferred to the State of California for operation and maintenance.

OPERATIONS BRANCH

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

American River  
Part no 1 + 2  
Exhibit F.2

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

17 NOV 1950

SPRKO-P 824.3 (Am. Riv. FCP)  
The Reclamation Board

The maintenance work required under the provisions of the Sacramento River Flood Control Project shall be performed in accordance with existing Flood Control Regulations, inclosed herewith, which have been prescribed by the Secretary of the Army pursuant to Section 3 of the Act of Congress, approved 22 June 1936, as amended and supplemented. As provided under Paragraph 206.10(10) of these regulations, Operation and Maintenance Manuals covering these units of work are in the process of preparation and will be furnished to you upon completion.

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

Sincerely yours,

1 Incl  
P.C. Reg.

Copy furnished:  
Dept Water Resources  
23rd & R Sts  
Sacramento, Calif w/o incl  
OCE w/o incl  
SoFacDivnEngr w/o incl

A. E. McCOLLAM  
Colonel, CE  
District Engineer

cc: Engr Div w/o incl  
Northern Area Ofc w/o incl  
Opers Branch w/o incl

American River  
part No. 1 + 2  
- exhibit 4 -

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

EXHIBIT G

INSPECTION CHECK LISTS

General Inspection List No. 1  
Mechanical Inspection List No. 2  
Electrical Inspection List No. 3

INSPECTION CHECK LIST NO. 1 (GENERAL)  
 AMERICAN RIVER LEVEE PROJECT  
 PUMPING PLANTS

Inspector's Report Sheet No. \_\_\_\_\_

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

Pumping Plant No. \_\_\_\_\_

Item	Remarks
(a) Conditions of roadways including ramps	
(b) Condition of sump fencing and access gates	
(c) Erosion of sump slopes and inlet channels	
(d) Condition of sumps, i.e. silting, debris or vegetal growth	
(e) Condition of outlet channels i.e. riprap, silting or debris	
(f) General condition of structures for evidence of vandalism	

**INSPECTION CHECK LIST NO. 2 (MECHANICAL)**  
**AMERICAN RIVER LEVEE PROJECT**  
**PUMPING PLANTS**

Inspector's Report Sheet No. \_\_\_\_\_

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Superintendent \_\_\_\_\_

Pumping Plant No. \_\_\_\_\_

Item	Remarks
(a) Pump - Motor Units	
(1) No. 1	
(2) No. 2	
(3) No. 3	
(4) No. 4	
(5) No. 5	
(6) No. 6	
(b) Cranes	
(1) Elec. Oper. Bridge Crane	
(2) Man. Oper. Bridge Crane	
(3) Monorail Hoist.	
(c) Trash Racks	
(d) Stop log	
(e) Sump Pump	
(f) Roof Ventilators	
(g) Discharge Conduit Slide Gates	
(h) Automatic Drainage Gates	
(i) Staff Gages and Water Level Recorder	

INSPECTION CHECK LIST NO. 3 (ELECTRICAL)  
 AMERICAN RIVER LEVEE PROJECT  
 PUMPING PLANTS

Inspector's Report Sheet No. \_\_\_\_\_ Inspector \_\_\_\_\_

Date \_\_\_\_\_ Superintendent \_\_\_\_\_

Pumping Plant No. \_\_\_\_\_

Item	Remarks
(a) Transformers & Outside Switchgear	
(b) External and Internal lighting	
(c) Main Switch Board	
(d) Automatic Float Control System	
(e) River Stage Float Control	
(f) Controls and Limit Switch on Overhead Crane	