# RECLAMATION DISTRICT NO. 2074
# EMERGENCY OPERATIONS PLAN

December 31, 2015

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**RECLAMATION DISTRICT NO. 2074**

**RESOLUTION OF TRUSTEES OF DECEMBER 10, 2015**
**NO. 2015-1012**

At a duly noticed meeting of the Trustees of Reclamation District No. 2074 held at 8:30 a.m. on December 10, 2015, at 3425 Brookside Road, Suite A, Stockton, CA 95219, the subject of the emergency operations plans for the District's was discussed.

WHEREAS, after discussion and consideration, and upon motion by Trustee Bahler, seconded by Trustee Murphy, the following resolution was unanimously passed:

RESOLVED, that Reclamation District No. 2074 hereby votes to adopt the revised emergency operations plans developed in concert with the San Joaquin County OES and through grant funding obtained by the San Joaquin County OES.

The foregoing resolution constitutes the lawful actions of the Trustees of RECLAMATION DISTRICT NO. 2074.

I, the acting Secretary of RECLAMATION DISTRICT NO. 2074, declare this to be a true summary of the resolution adopted by the Board of Trustees of Reclamation District No. 2074 on December 10, 2015.

Carolyn Hartmann

CAROLYN HARTMANN, Secretary

# Record of Changes

| Revision # | Sections Revised | Date of Distribution | Name of Approving Authority |
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# RECORD OF INITIAL DISTRIBUTION

| Agency Name | Address | Date Provided |
|---|---|---|
| San Joaquin County<br>Office of Emergency Services | 2101 E. Earhart Ave.<br>Suite 300<br>Stockton, CA 95206 | |
| City of Stockton<br>Fire Department (City OES Chief) | 425 N. El Dorado St.<br>Stockton, CA 95202 | |
| Department of Water Resources<br>Flood Operations Branch | 3310 El Camino Ave.<br>Sacramento, CA 95821 | |
| California Office of<br>Emergency Services, Inland Region | 630 Sequoia Pacific Blvd.<br>Sacramento, CA 95811 | |
| Central Valley Flood<br>Protection Board | 3310 El Camino Ave., Rm 151<br>Sacramento, CA 95821 | |

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Attachment 6: Delegation of Authority Letter

# Section 1

# Plan Introduction

## 1.1 Purpose

The purpose of this Flood Safety Plan is to ensure that District staff can meet District response objectives in a flood emergency as well as interact with other jurisdictions performing emergency functions within and around the District. This plan is intended to be used in conjunction with the emergency operations plans of the State of California and San Joaquin Operational Area (SJOA) to facilitate multi-jurisdictional coordination within District boundaries. Although this is a public document, specific procedures and information of a sensitive nature and personal information may be edited out of publicly available versions. The full document is subject to restricted-use handling procedures. This plan meets the requirements of Section 9650 of the California Water Code.

## 1.2 Scope

Reclamation District 2074 (District), as an independent jurisdiction, has responsibility for the maintenance of the levee systems within its jurisdictional boundaries. While the District will work with, and assist if possible, the local jurisdiction(s) responsible for other public safety functions within the District, this District emergency operations plan only contains detailed procedures for carrying out the emergency responsibilities of the District. The manner of interacting with other jurisdictions is described, but the operational plans of other jurisdictions with public safety responsibilities within the District are only referenced.

This plan will cover in detail the following;

- District Flood Preparedness Procedures
- District Levee Patrol Procedures
- District Flood Fight Procedures
- District Flood Water Removal Procedures
- District Recovery and After-Action Follow up Procedures

## 1.3 Plan Structure

This Flood Safety Plan is structured as a traditional functional emergency operations plan in accordance with Comprehensive Preparedness Guide (CPG) 101 issued by the Federal Emergency Management Agency (FEMA). Consistent with that guidance, and the District's responsibilities, this emergency operations plan consists of this Basic Plan containing an overview of District response procedures, and one hazard-specific annex, Annex A – Flood Contingency Map (Annex A), containing details of the District's flood response plan. The District's existing flood contingency map will constitute Annex A.

# Section 2

# Operations

## 2.1 Situation Overview

See the San Joaquin Operational Area Hazard Mitigation Plan for a comprehensive flood risk assessment for the County of San Joaquin. See Annex A for District boundaries, levees, pumping stations, supply depots, historical flooding summary, locations of past breaches and areas of historic seepage or erosion, topography, and characteristics of waterways fronting District levees.

Refer to Figure 1 for the RD2074 District Map and Figure 1A depicting storm drainage systems within RD 2074.

### 2.1.1 Historical Data

Prior to the 1990's, Reclamation District 2074, also known as Sargent-Barnhart Tract, was agricultural land. The farmers constructed a land levee, what is referred to as Smith's Levee, along RD 2074's eastern boundary to protect this farm land from flood waters originating in the east from the Sierra watershed. Smith's Levee extended from the Calaveras River north to Fourteen Mile Slough. Since the start of urban development within RD 2074 there have been numerous openings constructed in Smith's levee. Due to the extent of the discontinuities in Smith's Levee, it is no longer considered to be a part of the flood control system within RD 2074. RD 2074's current levee system consists of levees improved during the early 1990's to facilitate urban development. These levees are further described in Section 2.1.2.

#### 2.1.1.1 Historical Flood Events

During the 1996 and 1997 high water event, seepage was observed on the landside of the San Joaquin River and South Buckley Cove levees. Subsequently, levee toe improvements and raised residential lot pads were constructed in 2002 to mitigate this condition. No further seepage has been observed in this area.

During this same period, minor seepage was observed near levee stations 17+00 on the Calaveras River and 245+00 on Fourteen Mile Slough. These areas have been monitored during subsequent high water events and no further seepage has been observed. RD 2074 has not experienced nor recorded any other seepage areas, anomalies, boils, or flood threatening conditions.

## 2.1.2 Flood Control Facilities

**District Description**

Reclamation District 2074 (District, RD 2074) is an urban levee District in Stockton, California consisting of approximately 4.6 miles of levees within the District's boundaries. The District also maintains approximately 0.25 miles of City owned Fourteen Mile Slough levees outside but adjacent to the District's northeast boundary.

The District levee system protects approximately 2,200 acres of fully developed urban property within the City of Stockton. This area consists primarily of residential and commercial development including 1,300 acres within the District, known as the Brookside Estates Development, and 900 acres east of District boundaries.

### 2.1.2.1 District Levees

The District's levee system includes the following reaches;

**Project Levees**

1. Calaveras River, North Bank – 1.46 miles

**Non-Project Levees**

1. San Joaquin River, East Bank – 0.36 miles
2. South Buckley Cove, East Bank – 0.31 miles
3. North Buckley Cove, East Bank – 0.27 miles
4. Ten Mile Slough Levee (Dry Land Levee) - 1.14 miles
5. Fourteen Mile Slough, South Bank – 1.08 miles
6. Fourteen Mile Slough, South Bank (City owned) – 0.25 miles

**Additional District Data**

**Population:**

Estimated 7,500 Residents (approximately 2,850 single family dwelling units plus some multifamily developments)

**Zoning:** Primarily Residential and Commercial

**Funding Sources:** The District's regular operation, maintenance and administrative expenses are funded by a Fees and Charges program which is assessed and collected annually by inclusion on the annual property tax bills administered by San Joaquin County.

This District also participates in and has received funding from the State's AB 360 Delta Subventions Program for its eligible non-project levee capital costs.

**Certifications:** The District participates in the PL-84-99 Rehabilitation and Inspection Program administered by the United States Army Corp of Engineers (USACE). The District's non-project levees are currently rated as eligible for rehabilitation assistance.

**Historical Flood Problems:** Refer to section 2.1.1.1

### 2.1.2.2 Pump Stations

Two (2) primary storm water pump stations are located within the boundaries of RD 2074. The North Pump Station is located along Fourteen Mile Slough Levee at Levee Station 223+00. The North Pump Station generally drains all property North of March Lane. The South Pump Station is located along the Calaveras River Levee near the easterly levee road access gate at Station 15+00. The South Pump Station generally drains all property South of March Lane. Both of these pump stations are owned, operated and maintained by the City of Stockton. One minor pump station owned and operated by the City of Stockton is located near the northeast corner of the District on Fourteen Mile Slough, Station 253+00. This pump station drains areas between the District and Interstate 5 (I5), including I5 runoff.

Brookside Golf and Country Club operates a golf course and lake water supply pumps and pipelines located along the Calaveras River Levee near Stations 15+00 and 74+35. The main pipeline crossing for the East Bay MUD water supply pipes is located along the San Joaquin River Levee at Station 96+65. The City of Stockton has dual Sanitary Sewer force mains crossing the levee at Station 88+70.

During a flood emergency, precautions should be taken to protect the pump stations from flood waters. Since the pump stations are located at ground level, sandbag berms should be constructed around the pump stations if the flood threat is imminent in order to maintain operations.

#### 2.1.2.3 Lakes and Golf Course

All of the lakes within Brookside Estates, including the golf course lakes, are interconnected and serve to retain and route the area's storm drain run-off to either the North Pump Station or the South Pump Station. The lake system was designed with enough freeboard to retain the run-off from a 100-year storm event. Prior to the start of the wet weather season, November 15th, the homeowner's association management company is instructed by RD 2074 to lower the lake levels to provide additional capacity for storm run-off and flood waters. Through a joint powers agreement, RD2074 has the authority to lower lake levels to provide additional runoff capacity.

The East Bay Municipal Utilities District (EBMUD) large service pipelines run through Brookside Estates to a pump station at the San Joaquin River. In the event the pipelines require emergency emptying, the Brookside golf course was designed to act as a large retention basin capable of detaining the volume of water from those service pipelines between the pump station and the nearest upstream shut off valve. The topography of Brookside Estates slopes naturally toward the golf course which can also serve to as a large retention basin in a flood event.

## 2.2. General Approach to Seasonal Flood Operations

District Engineer will carry out routine preparedness activities at the beginning of flood season as described in this section. Annex A of this plan describes the concept of operations and protocols for active District flood fight activities. Section 3, Organization and Responsibilities, describes authorities and responsibilities for performing routine and emergency activities.

### 2.2.1 Routine Preparedness and Infrastructure Maintenance

RD2074 conducts the following routine flood preparedness and maintenance activities:

1. Prior to a flood season, review and replenish emergency supply inventories as identified in section 6.2. Replace old or damaged materials.
2. Conduct detailed semiannual levee inspections by foot patrol to identify any conditions requiring immediate attention and any encroachments in violation of RD2074 Standards. These inspections are generally conducted during the last week of October, just before the flood season and the last week of April, just after the flood season.
3. Conduct regular vehicular Levee patrols, weekly during flood season, and monthly during the remainder of the year.
4. Monitor vegetation control contractor activities. This contractor performs regular maintenance activities on a monthly basis.
5. Monitor rodent control contractors activities. This contractor performs rodent control work on a weekly basis.
6. Repair any deficiencies in patrol road surfaces.
7. Repair levee erosion or sloughing.
8. Inspect and maintain all access gates. In cases where gate is not RD2074 owned, such as City of Stockton or PG&E gates, notify the affected entity of any repairs or maintenance required.

### 2.2.2 Monitoring and Analysis

The District will monitor and analyze water conditions, elevations, and forecasts for waterways affecting District levees for the purpose of promptly identifying heightened threats to the integrity of levee and drainage systems. The objective of this monitoring effort is to identify conditions that warrant additional actions beyond routine flood season preparedness activities.

The District will use the following gages and information sources in its monitoring effort:

1. California Data Exchange Center (CDEC)

a. Rough and Ready Island (RRI) Gage
b. Delta Tide Forecast

2. Tide Tables for the Port of Stockton
3. National Weather Service
4. SJC OES alerts and reports

### 2.2.2.1 Monitoring Data

The following water surface elevations (WSE) are provided for reference and are presented in NAVD 88 Datum.

- 100 year WSE 9.5'
- Mean High Tide WSE 5.6'
- Mean Low Tide WSE 1.4'

100 year WSE will vary along the Calaveras River as depicted on Figure 3, Calaveras River Flood Profile and Annex A. In most instances the water levels in the River are at tidal levels. These levels rise when affected by upstream run-off and discharges from the New Hogan Lake Dam.

### 2.2.3 Alerting, Activation and Initial Response

District Officials and Engineer will monitor weather conditions, river stages and tidal information in an attempt to anticipate potential conditions which may precede a flood event. If conditions indicate potential flood hazards, follow the Reclamation District No. 2074 Emergency Procedures Flow Chart, Figure 2, to determine which individuals must be notified and the sequence of actions to be followed.

In order to evaluate flood stages and the appropriate response please note the following flood stage levels. The designations for Levels 3, 4 and 5 correspond to the flood designations established by the State Department of Water Resources.

<u>Level 1 Standard Observations:</u>

Normal winter weekly patrols by vehicle. Non-emergency status.

Level 2 Alert Stage:

As determined by the District Engineer and Trustees, defined as above average storm runoff, snow melt and/or high water conditions warranting increased observation of levees.

Conduct Vehicle Patrols daily during high tides.

Level 3 Monitor Stage:

Conditions are present such as high tides, sustained high water levels in the Calaveras River, incoming storms, etc. that would warrant increased observation of the levee conditions. DWR officials have issued a flood monitor alert. RD 2074's Trustees shall determine the frequency and type of inspections above and beyond Level 2 or as directed by DWR. RD2074 will notify OES and the City of Stockton of District actions and any conditions warranting their assistance.

Level 4 Flood Stage:

Conditions are present such that near record water levels (100 year) or potential flood danger appears possible. Conduct 24 hour, approximately one hour per patrol loop, continuous vehicle patrols. Conduct foot patrols of potential seepage areas.

Patrols will be coordinated with City and County patrol personnel. RD2074 will notify OES to update them on the status of District operations and identify the potential need for outside assistance from OES, the Federal-State Flood Operations Center or other agencies.

Level 5 Danger Stage:

Conditions are present such that flooding appears imminent, and/or levee instability is apparent. RD2074 will notify OES on the incident status and identify the need for outside assistance from OES, the Federal-State Flood Operations Center or other agencies.

RD2074 will also take the above actions upon the identification, or verified report, of any out of the ordinary condition on a District levee that presents a potential risk of failure.

## 2.3 Public Alert and Warning

The City of Stockton has the responsibility for alerting and warning the general public within District boundaries. The District will promptly notify this jurisdiction of identified threats to its levees or internal drainage system and will provide detailed information on the characteristics of the threat. The District will assist, to the extent possible, with notification of the public if requested. All alert and warning of the general public will be carried out in accordance with City emergency notification procedures.

## 2.4 Flood Fight Operations

Flood fight operations, including levee patrol, will be conducted in accordance with the procedures in this Manual and those shown on Annex A. Annex A displays the District's concept of operations for emergency communications, patrol, flood fight, and dewatering operations. This concept of operations will be modified as needed to meet the demands of actual emergency conditions.

### 2.4.1 Flood Fight Scenarios

The individual or combined occurrence of high tides, low atmospheric pressure, rainfall run off, snow melt, high wind, high river stages, and high stream velocities usually precede events creating potential levee emergencies. Such emergencies may include one or more of the following levee conditions: seepage or boils, erosion, sloughing or collapse of levee surface or overtopping.

Refer to Flood Fighting Methods manual for emergency levee condition descriptions and flood fighting techniques.

Five (5) differing scenarios were analyzed as the most likely sources of flooding for RD 2074:

1. Failure of the Calaveras River levee ( Figure 4)
2. Failure of the San Joaquin River levee (Figure 5).
3. Failure of the Fourteen Mile Slough levee (Figure 6).
4. Failure of Wright-Elmwood Tract Levees causing Ten Mile Slough Levee Inundation (Figure 7).
5. Threat from flood waters east of Smith's Levee (Figure 8).

For each scenario, the path of the flood waters was analyzed and an emergency mitigation response procedure is proposed. With each of the flood scenarios, the assumption was made that preliminary identification of problems would be possible through the patrols, thereby allowing the responses to be staged. Any decisions to barricade Interstate 5 underpasses or Smith's Levee discontinuities and to evacuate shall be made by the City of Stockton with recommendations from RD 2074. In all cases, Emergency evacuation sites and procedures shall be determined by the City of Stockton.

In the event RD2074 floods, the existing City of Stockton storm water pump stations will protected by sandbags and manually operated by City staff and ran continually until the flood water are removed. Additional pumps will be brought in, as required and placed per District Engineer recommendations.

### 2.4.2 Levee Patrol Procedures

Levee patrols are a precautionary measure to monitor levee conditions and identify potential areas of weakness or failure within the levee system. Effective levee patrols are the best defense against levee failure by enabling early detection of problems and immediate remedial repair of weak spots. Patrol frequency is dependent upon the flood stage level as described in Section 2.2.4.

All conditions, criteria, and/or schedules may be modified by the District as each situation warrants. Level 1 and Level 2 patrols are considered to be non-emergency conditions. Level 3, 4 and 5 patrols are determined by the District Trustees and/or the State Department of Water Resources.

**LEVEL 1 & 2 PATROLS; NON-EMERGENCY CONDITIONS**

| | |
|---|---|
| **Conditions:** | Routine levee patrols. Inspect for encroachment violations, levee conditions, maintenance, and regular wet-weather conditions. |
| **Equipment:** | Map of District, and |
| | • Encroachment Binder, notepad & log book |
| | • District keys |
| | • 1 life jacket per crew member |
| | • flashlight and high intensity light |
| | • 1 cell phone and/or radio per auto |
| | • shovel, hammer and supply of wooden lathes, ribbon, paint & markers |

**LEVEL 3: MONITOR STAGE PATROL**

| | |
|---|---|
| **Conditions:** | Above normal conditions of storm runoff, snow melt, high winds, or high water that would warrant increased observation of the levee stability. |
| **Patrol Area:** | All District Levees |
| **Equipment:** | Map of District, and |
| | • District keys |
| | • 1 life jacket per crew member |
| | • 1 flashlight per crew member, supervisor, District Staff |
| | • 1 high intensity flashlight per auto |
| | • 1 cell phone and/or radio per auto & at command post |
| | • 1 shovel per crew member & supervisor |
| | • Supply of wooden lathes, ribbon, & paint |
| | • 1 hammer and sledgehammer |
| | • 1 log book per auto and at command post |
| | • Waterproof marker |

**Patrol Crew**

- One (1) person crew/vehicle
- Identify problematic site conditions with a lathe marked by a waterproof marker of the location number, date, time, situation, and initials. Mark on the District map the location number for future reference.
- Note in the log book the lathe information and any additional situation details.
- Patrol Crew will report to command post their observation. Command post will also note in the log book information given from the patrol crew, as well as time of contact and location of condition on District map.

**Command Post**

- Command post will keep OES representative and COS Flood Contacts informed of situation.
- District Staff will instigate remedial measures, if necessary.
- Command post will keep District Trustees informed of flood alert status, and when necessary, will recommend increased flood fight efforts.

**Patrol Frequency**

- Patrols will be conducted during high tides and/or high water conditions at a frequency to be determined by the District or as directed by DWR. At a minimum, patrols will be conducted during a four (4) hour period during high tides.

## LEVEL 4: FLOOD STAGE PATROL

| | |
|---|---|
| **Conditions:** | Extreme conditions of storm runoff, snow melt, high winds, and high water such that a 100-year flood event or greater is occurring and/or levee instability is becoming evident. DWR issues a flood warning requiring 24 hour around the clock patrols. |
| **SJC Op-Area Rep:** | 1 District staff to San Joaquin County Operational Area Command Center. Representative is present when the center mobilizes. |
| **Patrol Area:** | Region 1: North Levee; North Buckley Cove, Ten Mile and Fourteen Mile Sloughs.<br>Region 2: South Levee; Calaveras River, San Joaquin River and South Buckley Cove. |
| **Equipment:** | Map of District, and |
| | • District keys |
| | • 1 life jacket per crew member |
| | • 1 flashlight per crew member, supervisor, District Staff |
| | • 1 high intensity flashlight per auto |
| | • 1 cell phone and/or radio per auto & at command post |
| | • 1 shovel per crew member & supervisor |
| | • Supply of wooden lathes, ribbon, & paint |
| | • 1 hammer and sledgehammer |
| | • 1 log book per auto and at command post |
| | • Waterproof marker |

**Patrol Crew**

- Two (2) person crew/vehicle
- Continue to monitor and note in log book, as well as report to the command post, conditions observed during each patrol.
- Identify problematic site conditions with a lathe marked by a waterproof marker with location number, date, time, situation, and initials. Mark on District map the location number for future reference.

- Note in the log book the lathe information and any additional situation details.
- All observations are reported to the command post. Command post will note in the log book information given from the patrol crew, as well as time of contact and location of condition on District map.

**Command Post**

- Command post will keep duplicate notes of reported observations and inform COS Flood Contacts and Co. OES representative of conditions.
- District Staff will instigate remedial measures, if necessary.
- Command post will request District Trustees to be in attendance to determine the level of emergency, and if necessary, recommend to the City either a voluntary, partial, or mandatory evacuation notification to all affected residences within the District.
- Command post will coordinate work crews with the City of Stockton.

**Patrol Frequency**

- Patrols will consist of One (1) patrol crew patrolling on a continuous basis, 24 hours per day, approximately one hour per complete loop. One crew will patrol both regions.
- If specific areas of concern develop, add second crew with one crew patrolling each region on a continuous basis, 24 hours per day.

## LEVEL 5: DANGER STAGE

| | |
|---|---|
| **Conditions:** | Conditions of levee instability or overtopping are present such that flooding appears to be imminent, and/or notification received from DWR of an emergency flood event. |
| **SJC Op-Area Rep:** | 1 District representative per shift to San Joaquin County Operational Area Command Center. Representative is present when the center mobilizes. |
| **Patrol Area:** | Region 1: North Levee; North Buckley Cove, Ten Mile and Fourteen Mile Sloughs.<br>Region 2: South Levee; Calaveras River, San Joaquin River and South Buckley Cove. |
| **Equipment:** | Map of District, and |
| | • District keys |
| | • 1 life jacket per crew member |
| | • 1 flashlight per crew member, supervisor, District Staff |
| | • 1 high intensity flashlight per auto |
| | • 1 cell phone and/or radio per auto & at command post |
| | • 1 shovel per crew member & supervisor |
| | • Supply of wooden lathes, ribbon, & paint |
| | • 1 hammer and sledgehammer |
| | • 1 log book per auto and at command post |
| | • Waterproof marker |

**Patrol Crews**

- Patrol crew determines an emergency condition exists and notifies command post of the situation. District Trustees are present at Command Post.

**Command Post**

- At the recommendation of the patrol crew, command post determines whether there is time to review the site conditions, or to declare a state of emergency.
- Notify County OES representative and COS Flood Contact of situation.

- District Trustees consider recommending a mandatory evacuation orders for the area west of I-5.
- Contact County OES For Assistance as Required

**Patrol Frequency**

- One (1) crew will be stationed in each critical area for continuous observation
- Two crews, one each region, will continue level 4 Patrols.

## 2.4.3 Command Posts

The primary emergency command post is located at the offices of George Hartmann, Esq., legal counsel for RD 2074, whose offices are located at The Hartmann Law Firm, 3425 W. March Lane, Suite A, Stockton, CA 95219. If conditions render this location inaccessible, the back-up command post shall be located at Siegfried Engineering, Inc. 3244 Brookside Rd, Suite 100, Stockton, CA 95219.

## 2.4.4 Evacuation Routes

The main evacuation routes to exit the Brookside area are east on March Lane or east on Brookside Road. If the public cannot leave the area unassisted, they should seek help from others, such as neighbors, family or friends, as assistance from authorities may be delayed. If necessary, residents should call 9-1-1.

Evacuation assistance **may** be available locations called “Rally Points,” but only as long as it is safe to provide help from those locations. Rally Points, if used, may be at Brookside Elementary School, Nelson Park, or the Command Post as mentioned above. (see Section X "San Joaquin County Office of Emergency Service" Exhibit 2 (Brookside Evacuation Brochure and Map) and Exhibit 3 (San Joaquin County Flood Evacuation Plan). However, no resident should attempt to utilize a Rally Point, rather than simply leave the area, unless it can be confirmed a particular Rally Point is in use.

## 2.4.5 Discretion of District Trustees

These procedures are recommended to be followed as staged responses. All decisions to expend District supplies and funds shall be approved by the District Trustees. Additionally, all evacuation orders, voluntary, partial or mandatory shall originate from the District Trustees following evaluation of each situation. The District decision is presented as a recommendation to the City of Stockton. All orders to evacuate will be made by the City. The City is responsible for coordinating and executing any evacuation.

## 2.5 Federal and State Disaster Assistance

The District is eligible for PL 84-99 Federal Disaster Assistance and will document expenditures and request assistance in accordance with PL 84-99 Guidelines.

The District's policy is to maintain mitigation and emergency plans and procedures, as well as the physical condition of its levees, at the level required to be eligible for disaster public and individual assistance programs such as the Federal Stafford Act and PL84-99 programs, as well as the California Disaster Assistance Act (CDAA).

Emergency operations will be conducted and documented in compliance with conditions of those programs for reimbursement of disaster expenses. The District has assigned its District Engineer to maintain necessary documentation during an emergency and to participate in any available assistance programs after a disaster on behalf of the District.

To ensure the District takes steps to quickly access the recovery process, these actions should be considered if an incident is imminent or occurring:

- PL-84-99:
    - Complete and submit a USACE PL84-99 request letter on District letterhead, see Attachment #7
    - Contact DWR Flood Operations Center
    - Follow-up call to USACE District office that a request was made to DWR
    - Notify Operational Area of PL84-99 request, send copy of written request

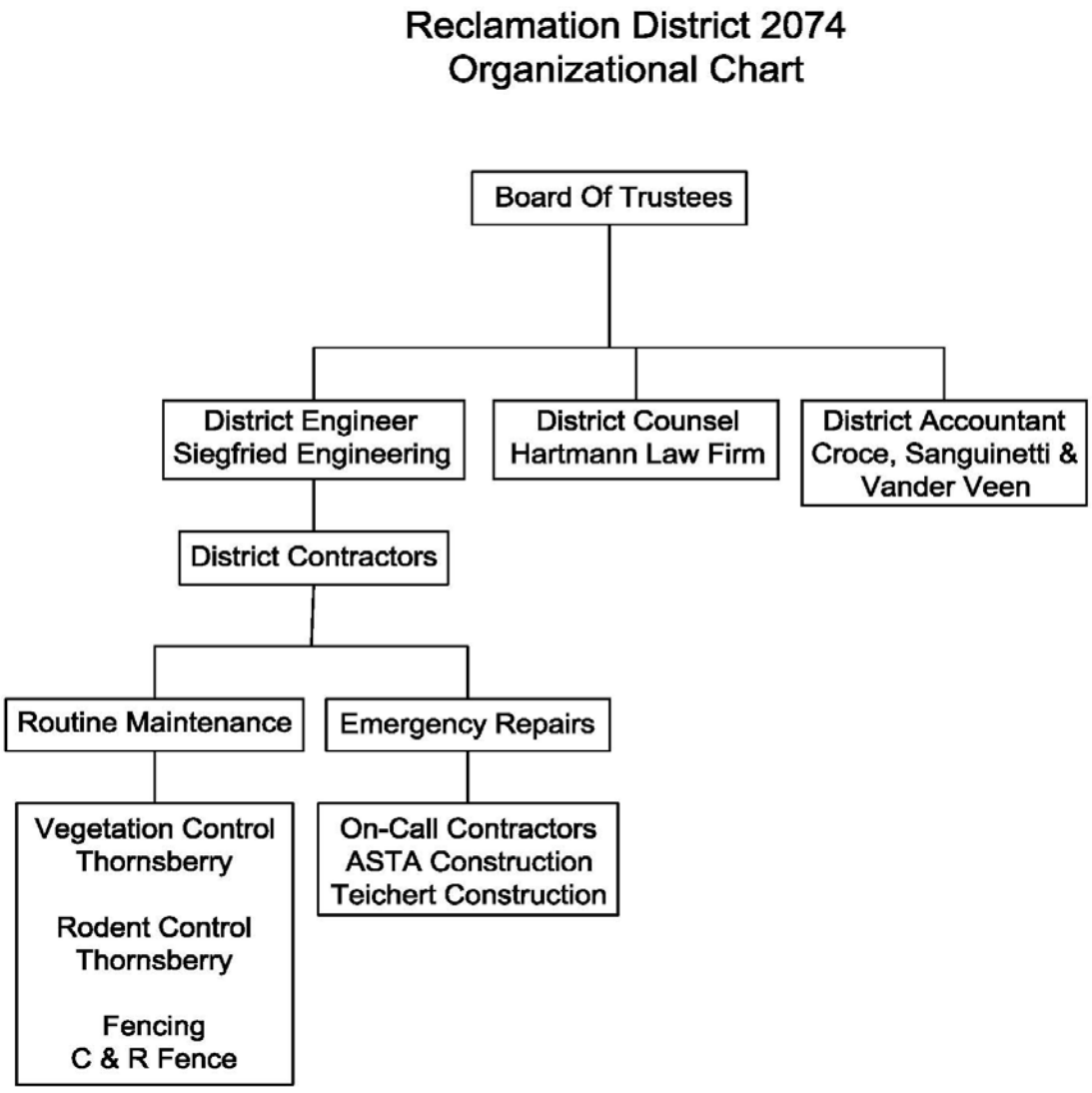
- State and other Federal programs:
    - Request San Joaquin County to Proclaim the Existence of a Local Emergency
    - Notify District administration when the Proclamation is established

# Section 3

# Organization and Assignment of Responsibilities

## 3.1 Organization

The District will use its paid, contract, and volunteer staff as shown below to perform its responsibilities in a flood emergency.



## 3.2 Assignment of Responsibilities

In the following subsections, the District Board of Trustees has made the assignments of authority and responsibility necessary to ensure that needed emergency actions can be taken promptly and efficiently.

In each emergency event, the Board will designate an Incident Commander. The District Incident Commander is authorized and responsible for providing or assigning District representation at unified field commands as may be established by the San Joaquin Operational Area as well as for representing the District at the San Joaquin Operational Area ,and may speak for the District in matters pertaining to 1) the condition of District levees, 2) protective action decisions being made by public safety agencies, and 3) any requests to modify or conform District response that come out of the multi-agency coordination process.

### 3.2.1 Make Legal and Financial Commitments on Behalf of District

All decisions to approve the emergency expenditure of funds in excess of $50,000 shall be made by the majority vote of the Board of Trustees. Expenditures equal to or less than $50,000 may be authorized by the District Engineer or any individual Trustee.
District has a standard construction contract for hiring a vendor for services. This contract is attached as Attachment #2.

### 3.2.2 Represent District in Operational Area Emergency Management Committee

Any District Trustee or the District Engineer may represent the District in any Multi-Agency coordination efforts.

### 3.2.3 Provide Public Information

District Counsel will be responsible for any District communications with the media and participate in the San Joaquin Operational Area Joint Information Center.

### 3.2.4 Maintain Emergency Equipment, Supplies, and Resources

The District Engineer is responsible for and authorized to maintain and purchase District equipment, supplies, and resources needed for emergency response.

The District's Emergency Supply inventory is listed in Attachment #1. Supplies meet the minimum requirements issued by the Department of Water Resources.

### 3.2.5 Monitor Water Conditions, Elevations, and Forecasts

The District Engineer is responsible for monitoring water conditions, elevations, and forecasts for the purposes of identifying conditions warranting additional action beyond routine flood season preparedness per Section 2.2.1 above.

### 3.2.6 Activate and/or Direct District Contractors during Emergency Operations

The District Engineer, acting as directed by Trustees, is responsible for directing District contractors during an emergency. The Trustees are responsible for overall direction of flood fight operations and funding decisions.

### 3.2.7 Document Expenditures, Emergency Actions, and Requests for Mutual Aid

The District Engineer is responsible for 1) documenting District expenditures and emergency actions, 2) documenting damage to District infrastructure, and 3) preparing and submitting disaster assistance claims during the recovery period.

# Section 4

# Direction, Control, and Coordination

## 4.1 Management and Control of District Operations and Coordination within District

District representatives authorized and responsible for carrying out the actions outlined in Section 3, Organization and Responsibilities, will use the direction, control, and coordination facilities and processes described in this section. Communications and logistics systems for command, coordination, and response are described in Sections 5 and 6.

District representatives will use the National Incident Management System (NIMS), and the Standardized Emergency Management System (SEMS), to organize District response activities. District staff will comply with the procedures of the San Joaquin County Unified Flood Fight Command to which the District is assigned, the San Joaquin Operational Area Multi-Agency Coordination System (MACS) or any other “as needed” command structure put in place by local officials purposes of inter-agency coordination.

### 4.1.1. Management and Policy

During an emergency, District representatives will meet to assess the situation and determine required actions. District representatives include Trustees, District Engineer and District Counsel. Emergency meetings will be held at the Hartman Law Firm located at 3425 Brookside Rd Stockton, CA.

District will execute a Delegation of Authority letter appointing an Incident Commander responsible for District Emergency Operations.

### 4.1.2 District Incident Command

The District will appoint one incident commander to manage all individual incidents occurring on the District levee system as an ‘incident complex’ during any single disaster event as allowed in NIMS protocols. The District will operate on a 24-hour operational period.

### 4.1.3 Incident Command Facilities

Incident command facilities are located at the Hartman Law Firm located at 3425 Brookside Rd Stockton, CA.

## 4.2 Management and Coordination with Other Jurisdictions

The District will ensure that proper management and coordination is maintained with 1) other public agencies and jurisdictions operating within the District, 2) neighboring reclamation districts, and 3) the San Joaquin Operational Area. The following procedures will be followed to accomplish this function.

### 4.2.1 Unified Flood Fight Command Post

The County of San Joaquin has established four pre-planned unified flood fight commands with pre-identified command post locations to facilitate coordination and mutual aid between neighboring reclamation Districts and supporting city/county, state, and federal agencies. The District will provide a representative to its assigned unified flood fight command to coordinate the development and implementation of incident action plans. Unified situation assessment, resources, and tactical planning of multi-agency flood fight activities will take place within this unified command. See Unified Flood Fight Command Map at www.sjmap.org/oesfcm.

RD 2074 is a member of the Metropolitan Unified Flood Fight Command located at the San Joaquin Operational Area Emergency Operations Center (EOC) at 2101 E. Earhart Avenue Stockton, CA.

### 4.2.2 San Joaquin Operational Area Emergency Operations Center

The County of San Joaquin maintains and hosts the operational area emergency operations center (EOC) at 2101 E. Earhart Avenue, Stockton, in the Robert J. Cabral Agricultural Center. Other emergency facilities could be established under the OA-EOC located in separate locations.

The Operational Area Multi-Agency Coordination Group (MAC Group) may be activated to assist the EOC Director prioritize incidents for allocation of scarce resources, including mutual aid, assists Planning/Intelligence in information sharing, and conduct resource coordination processes in accordance with the procedures maintained by San Joaquin County Office of Emergency Services. This group works closely with the OA-EOC Logistics Section.

The San Joaquin Operational Area Planning/Intelligence Section will provide disaster intelligence and situational status to participating jurisdictions upon activation in an emergency. This District will participate in this disaster intelligence and information sharing process. See www.sjgov.org/oes for relevant San Joaquin Operational Area plans and procedures.

The District Incident Commander will communicate with the Unified Flood Fight Command Post by phone and/or email to update the post on District actions and resource needs.

### 4.2.3 State-Federal Flood Operations Center

The Department of Water Resources has special authority under Water Code Section 128 to assist reclamation Districts with flood fight operations. The Department of Water Resources maintains the State-Federal Flood Operations Center (FOC) to perform these functions and support the operations of other State and Federal agencies. The District will maintain communications with the FOC in order to receive and provide information with that facility and to request technical assistance. The District will communicate with the FOC through telephone systems or the Metropolitan Unified Flood Fight Command multi-agency coordination activities, where FOC representatives will be present.

### 4.2.4 San Joaquin Operational Area Joint Information Center

Information for the public and jurisdictions will also be coordinated, planned, and carried out through the San Joaquin Operational Area Joint Information Center (JIC). The District will assist as requested through the OA. See www.sjgov.org/oes for relevant San Joaquin Operational Area plans and procedures.

The District will provide an information officer as requested who will have authority to approve information releases. The District's information officer will identify the location and schedule of the JIC from the San Joaquin Operational Area Public Information Officer at the beginning of the flood event.

# Section 5

# Communications

## 5.1 Communications Organization

The District will maintain adequate communications equipment to implement this emergency plan. This section identifies equipment and/or systems available for communications,

1) Between District representatives, contractors, and other vendors working under District supervision
2) With other public agencies operating within the District
3) With neighboring Reclamation Districts
4) With the San Joaquin Operational Area EOC
5) With the State Flood Operations Center

## 5.2 District Communications

The District does not currently own or operate communications equipment. The District will rely primarily on land phone lines and personal cell phones of its members to maintain communications between the Trustees, District Secretary, District Engineer, District Incident Commander, and other response team members that may be contracted during the emergency period. In the event of failure of telephone systems the District will use messengers to transmit information between its representatives and other jurisdictions as well as regularly scheduled coordination meetings of the field unified commands and the San Joaquin Operational Area organization.

The RD 2074 Emergency Contact List is maintained by the District Engineer and includes;

1. District Trustees
2. District Engineer
3. District Secretary
4. District Counsel
5. Phone numbers of other Emergency Operations entities

## 5.3 Communications with Other Jurisdictions

The District will maintain communications with other jurisdictions by cellular telephone and by participation in meetings of the Metropolitan Unified Flood Fight Command. The Operational Area may assign radio or phone communications equipment to the District if this will provide reliable contact. Other jurisdictions include;

City of Stockton

Reclamation District 1608, Lincoln Village West Area

Reclamation District 2119, Wright Elwood Tract, area abutting Ten Mile Slough

### 5.3.1 San Joaquin Operational Area EOC

The District will maintain communications with the San Joaquin Operational Area EOC by cellular telephone, and participation in scheduled meetings of the SJOA management. The District will maintain telephone numbers assigned by the SJOA for use by reclamation districts to contact the EOC.

### 5.3.2 Department of Water Resources State-Federal Flood Operations Center

The District will communicate with the Flood Operations Center by cellular telephone. Additional communications equipment may also be provided to ensure contact.

# Section 6

# Logistics and Finance/Administration

## 6.1 Mutual Aid

The District is a signatory to the San Joaquin Operational Area Agreement, and will follow the processes outlined in this document for requesting and providing mutual aid. The San Joaquin Operational Area Agreement and San Joaquin County Ordinances have provisions allowing the San Joaquin Operational Area Logistics Section and San Joaquin County Purchasing Agent to acquire and transport, on behalf of the District, resources requested by the District.

Mutual aid requests for technical assistance and services, flood fight crews, supplies and materials, and other resources will be made through the San Joaquin Operational Area Logistics Section and/or the Operational Area Public Works Mutual Aid Coordinator. See www.sjgov.org/oes for operational area plans and procedures.

## 6.2 Resources

See Attachment No. 1 for inventory of district flood fight resources. San Joaquin Operational Area maintains seven twenty-foot containers with flood fight supplies that the district can draw on through the San Joaquin Operational Area Agreement. Inventory of that resource can be obtained from San Joaquin Operational Area. In addition, DWR stores resources near the Port of Stockton.

The District maintains emergency supplies at the District Storage Yard located adjacent to the Calaveras River southwest of Brookside Road as shown on Annex A.

## 6.3 Procurement

District supplies are ordered by the District Engineer. Invoices for supplies are directed to the District Engineer for review and subsequent recommendation for payment to the Board of Trustees. Any purchase in excess of $25,000.00 must be publicly bid except where emergency conditions do not permit time for this procedure.

## 6.4 Logistics Facilities

See Annex A, for locations of pre-planned delivery points, locations of District supplies, and District supply staging areas and points.

## 6.5 Finance and Administration

RD 2074 has funds available in both its operating and flood fight reserve accounts to finance flood fight activities. Disbursement for emergency supplies and contractors may be authorized by District Trustees upon a majority vote of the Trustees. Payments are made via the issuance of warrants upon receipt of an approved invoice. Warrants are forwarded to San Joaquin County for issuance of a check for payment.

District Engineer will maintain records for emergency response and related construction expenses as required for eligibility in jurisdictional reimbursement programs.

# Section 7

# Plan Development and Maintenance

## 7.1 Plan Development and Maintenance

This plan shall be updated by the District Engineer on an annual basis and presented to the District Trustees for approval. Revised plans must be reviewed and approved by protected cities and the County.

## 7.2 Training and Exercises

The District is in the process of developing a training program for its Trustees and District Engineer's personnel to ensure implementation of this emergency operations plan and to meet minimum federal and state requirements for disaster reimbursement. All District training will comply with the National Incident Management System (NIMS) and the Standardized Emergency Management System (SEMS).

The District will conduct a review of emergency procedures with its trustees and District Engineer on an annual basis. District trustees and engineer's staff will participate in internal exercises and exercises sponsored by the San Joaquin Operational Area jurisdictions.

All district trustees and engineers who have supervisory or management emergency assignments will receive at a minimum the following NIMS training and bi-annual refreshers.

- SEMS Introduction Course
- IS700 NIMS An Introduction
- IS701 NIMS Multi-Agency Coordination System
- IS800 National Response Framework An Introduction
- ICS100 Introduction to the Incident Command System
- ICS200 ICS for Single Resources and Initial Action Incidents

In addition, district trustees and engineers will receive training on the following subjects:

- District EOP – Basic Plan and Annex A

## 7.3 Emergency Plan Evaluation

Reclamation District 2074 staff will prepare a written After-Action Report (AAR), after any District-declared emergency affecting District levees. The District Engineer is responsible for the preparation of this report. The Board will review and approve the AAR, which will briefly describe District operations, any response problems that arose, and damage sustained by the District. The AAR will also contain recommendations for improving District emergency operations in the future. The Board will provide direction to staff as to the preparation of changes, additions, or revisions to the District emergency operations plan.

# Section 8

# Authorities and References

**Federal**

Federal Civil Defense Act of 1950 (Public Law 920, as amended)

Robert T Stafford Disaster Relief and Emergency Assistance Act of 1988 (Public Law 93-288, as amended)

**State**

California Emergency Services Act (Chapter 7, Division 1 of Title 2 of the Government Code)

Standardized Emergency Management System Regulations (Chapter 1 of Division 2 of Title 19 of the California Code of Regulations

**Local**

Ordinance Code of San Joaquin County 1995, Title 4 – Public Safety, Division 3. – Civil Defense and Disaster, Section 4-3008

City of Stockton Municipal Code Title 2 Administration and Personnel chapter 2.82 Emergency Organization and Functions

# Section 9

# Figures & References

9.1 Figures

Figure 1 Reclamation District 2074 Map

Figure 1A RD 2074 Storm Drain System Map

Figure 2 RD 2074 Emergency Procedures Flowchart

Figure 3 Calaveras River Flood Profiles (3 sheets)

Figure 4 RD 2074 Calaveras River Levee Failure

Figure 5 RD 2074 San Joaquin River Levee Failure

Figure 6 RD 2074 Fourteen Mile Slough Levee Failure

Figure 7 RD 2074 Wright-Elmwood Levee Failure

Figure 8 RD 2074 Floodwaters from East of Smith's Levee

9.2 Flood Fighting Methods Manual

9.3 Brookside Evacuation Brochure & Map

9.4 San Joaquin County Flood Evacuation Plan

9.5 Attachments

Attachment 1: Flood Fight Supply Inventory

Attachment 2: Standard Contract Form

Attachment 3: Emergency Resolution Template

Attachment 4: Regulatory Notification Template

Attachment 5: PL 84-99 Request Template

Attachment 5.1: PL 84-99 Brochure

Attachment 6: Delegation of Authority Letter

# DISTRICT MAP
# RECLAMATION DISTRICT NO. 2074

**STOCKTON, CALIFORNIA**

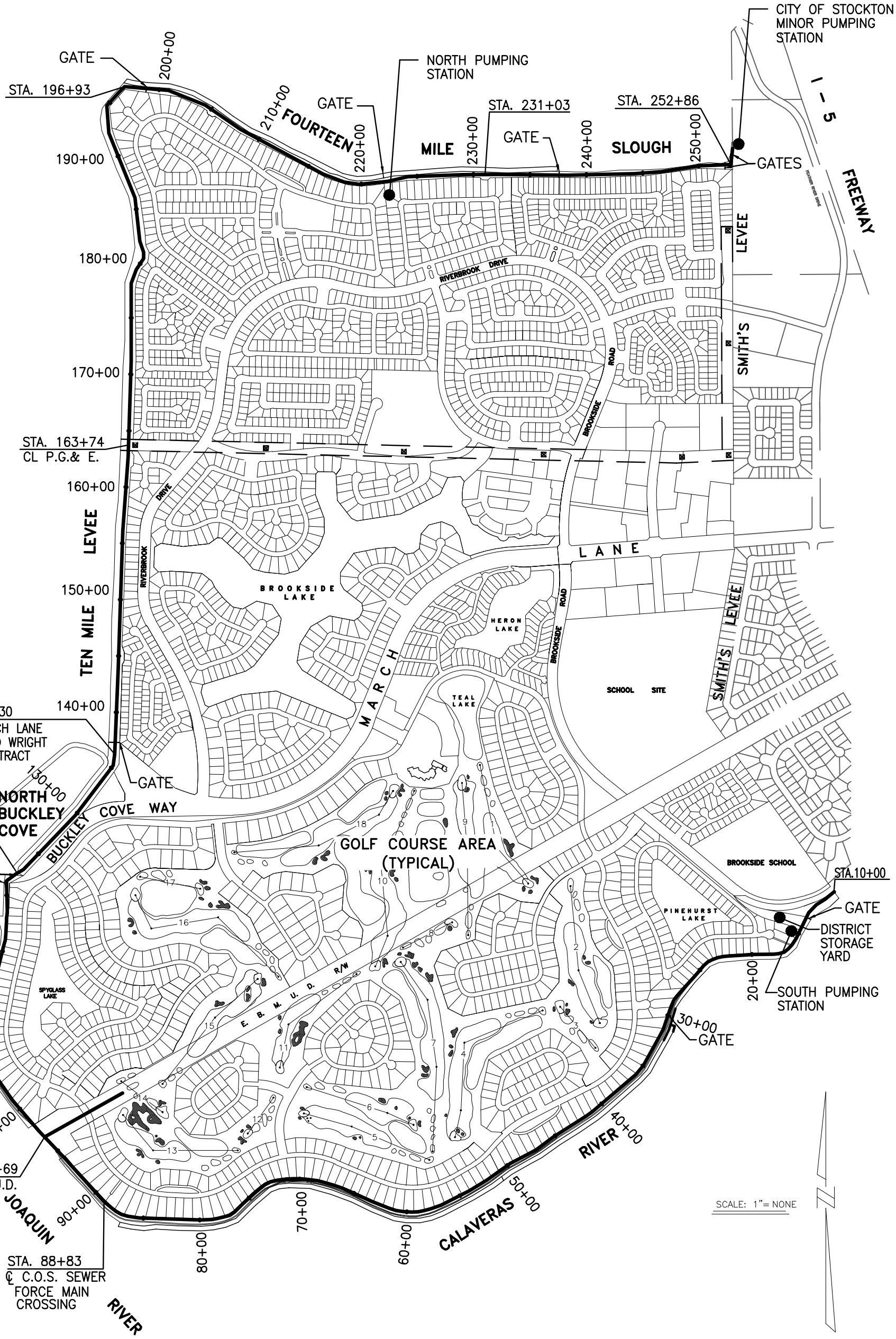




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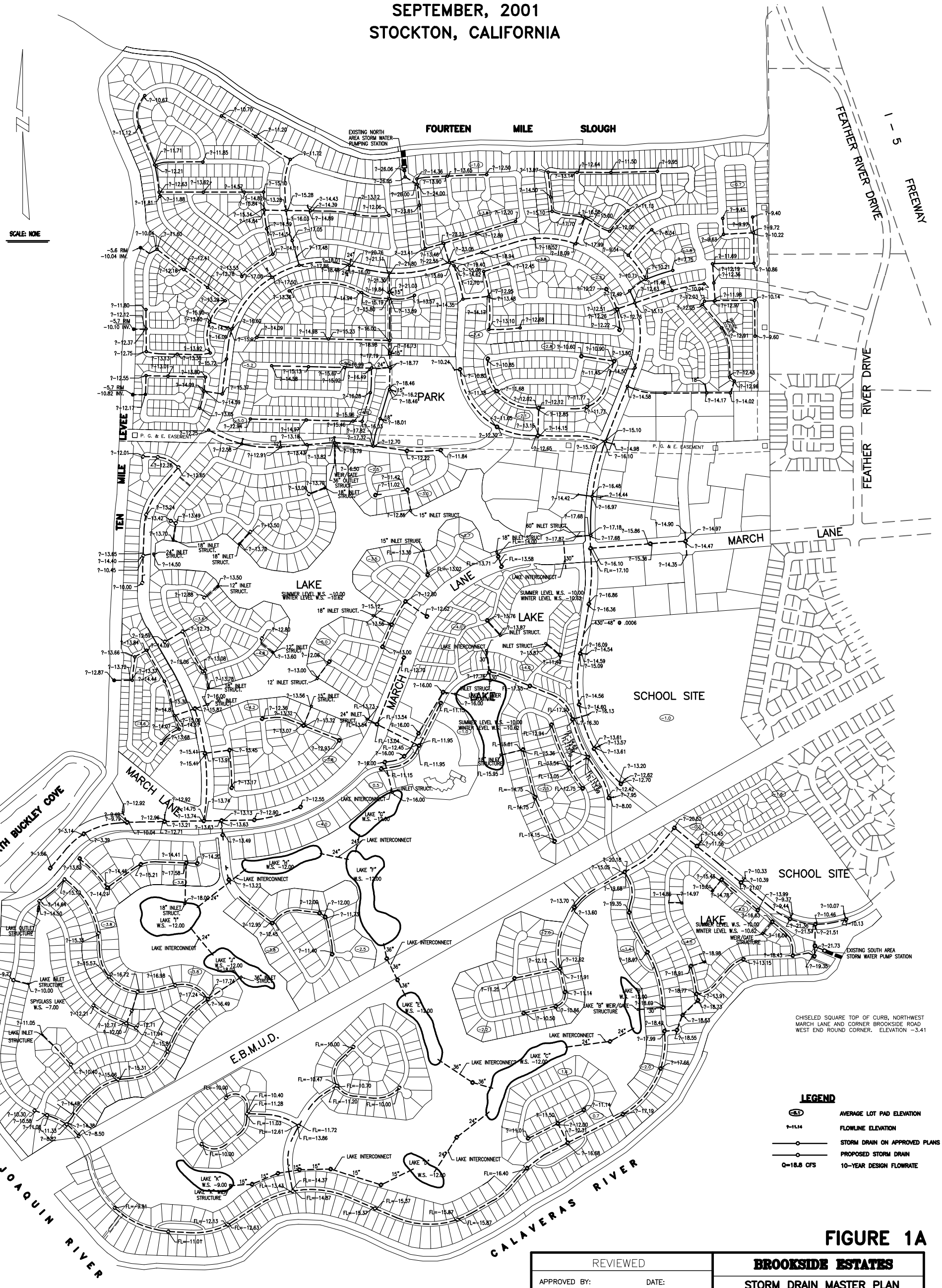
FIGURE 1

F:\13projects\13420 Reclamation District 2074 2013-2014\1300 Flood Emergency Responses Grant\2015 Emergency Plan and Procedures Update - Delta Grant\2015 RD2074 ES PLAN\Figures and Exhibits\Updated Figures\Figure 1 NEW.dwg

# STORM DRAIN SYSTEM MASTER PLAN
# BROOKSIDE ESTATES

SEPTEMBER, 2001
STOCKTON, CALIFORNIA




**LEGEND**

- (-8.1) AVERAGE LOT PAD ELEVATION
- ?-11.14 FLOWLINE ELEVATION
- STORM DRAIN ON APPROVED PLANS
- PROPOSED STORM DRAIN
- Q=18.8 CFS 10-YEAR DESIGN FLOWRATE

# FIGURE 1A

NOTES: (1) THIS MASTER STORM DRAIN PLAN SUPERSEDES THE MASTER STORM DRAIN PLAN FOR BROOKSIDE ESTATES, APPROVED ON AUGUST 2, 2001
(2) STORM DRAIN LINES IN PUBLIC STREETS ARE MAINTAINED BY THE CITY OF STOCKTON.

REVIEWED
APPROVED BY: DATE:
ASST. DIR. MUNICIPAL UTILITIES/EM

REVISIONS

| NO. | DESCRIPTION | DATE | BY |
|---|---|---|---|

**BROOKSIDE ESTATES**
STORM DRAIN MASTER PLAN
DEPARTMENT OF PUBLIC WORKS
CITY OF STOCKTON, CALIFORNIA

| | | |
|---|---|---|
| SCALE AS SHOWN | APPROVED BY: DATE | SHEET NO. 1 |
| DESIGNED BY BW | | OF 1 SHEET |
| DRAWN BY CE | | C.O.S. JOB NO. |
| CHECKED BY BW | | |
| JOB NO. 0603 | CITY ENGINEER STOCKTON, CALIFORNIA | |
| RECORD DWG. BY | | |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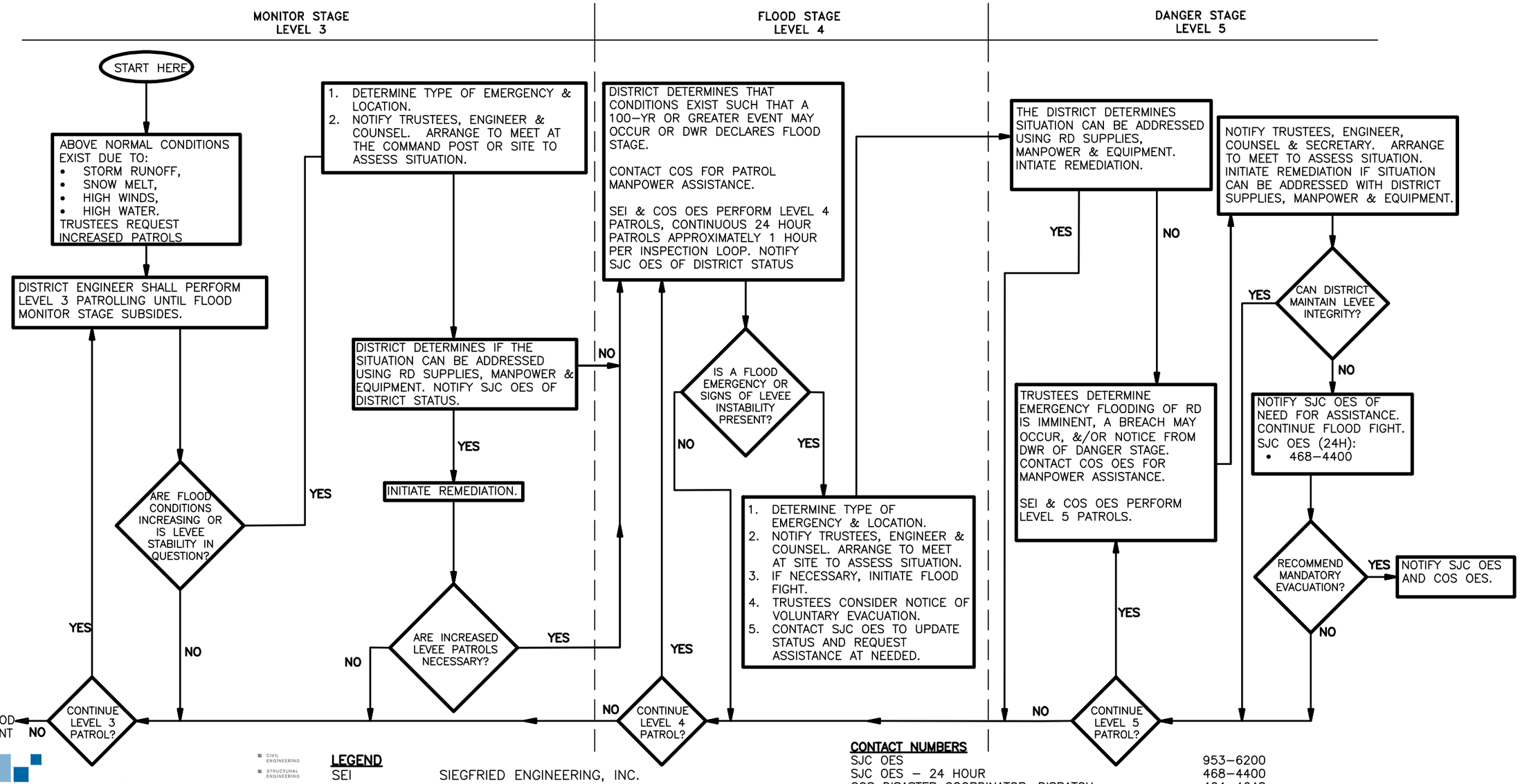
# RECLAMATION DISTRICT NO. 2074
# EMERGENCY PROCEDURES FLOWCHART

CITY OF STOCKTON, SAN JOAQUIN COUNTY, CALIFORNIA
DECEMBER, 2015

NOTE: MONITORING LEVELS 1 AND 2 ARE NOT CONSIDERED EMERGENCY CONDITIONS.




**LEGEND**

| | |
|---|---|
| SEI | SIEGFRIED ENGINEERING, INC. |
| SJC OES | SAN JOAQUIN COUNTY OFFICE OF EMERGENCY SERVICES |
| COS OES | CITY OF STOCKTON OES CHIEF |
| DWR | STATE DEPT. OF WATER RESOURCES |
| DISTRICT | RECLAMATION DISTRICT NO. 2074 |

**CONTACT NUMBERS**

| | |
|---|---|
| SJC OES | 953–6200 |
| SJC OES – 24 HOUR | 468–4400 |
| COS DISASTER COORDINATOR, DISPATCH | 464–4648 |
| MIKE COCKRELL | 953–6208, 24H 468–4400 |
| FEDERAL–DWR EMERGENCY OPERATION CENTER | 916–574–2619 |


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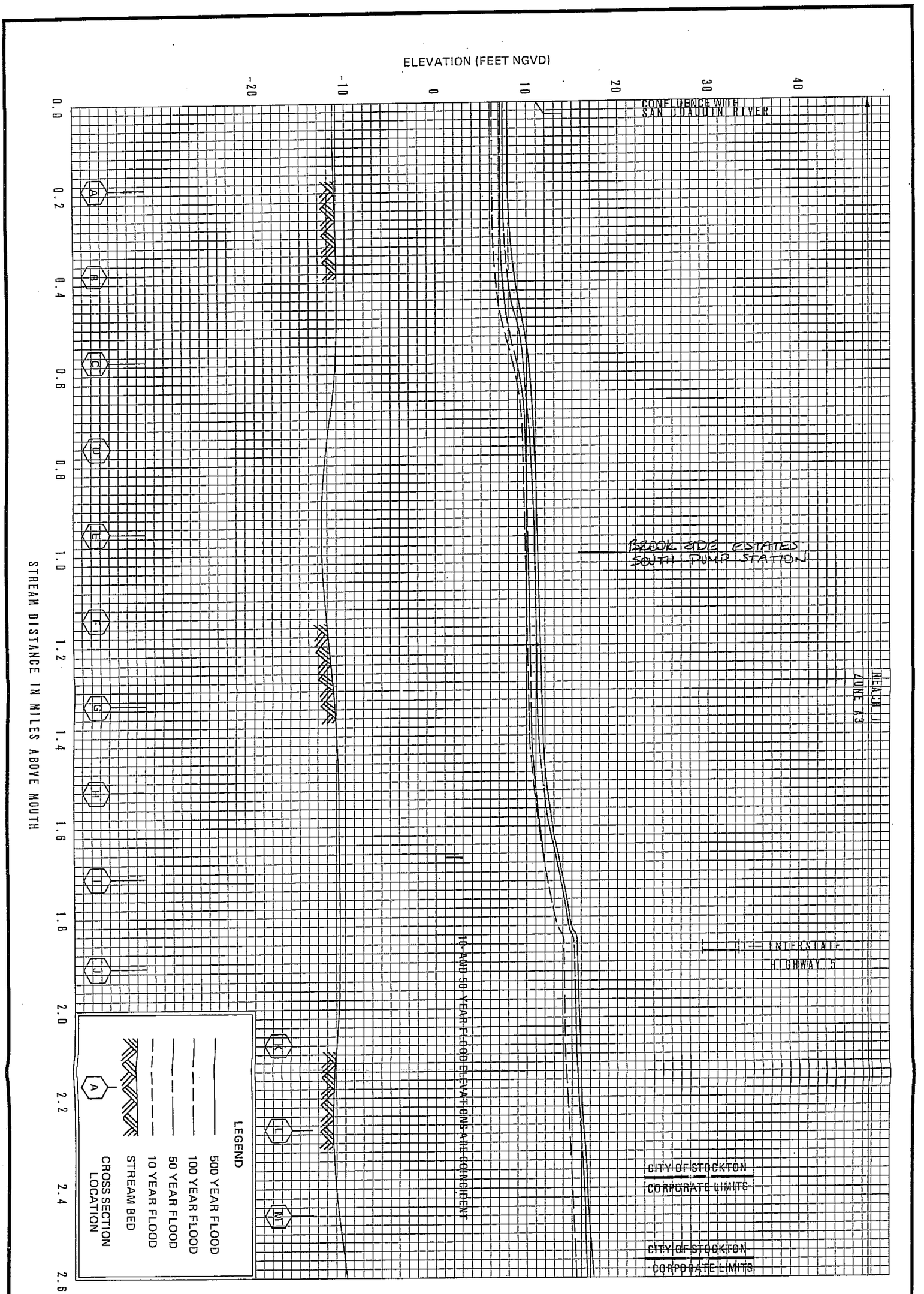
FIGURE 2




50P

FEDERAL EMERGENCY MANAGEMENT AGENCY

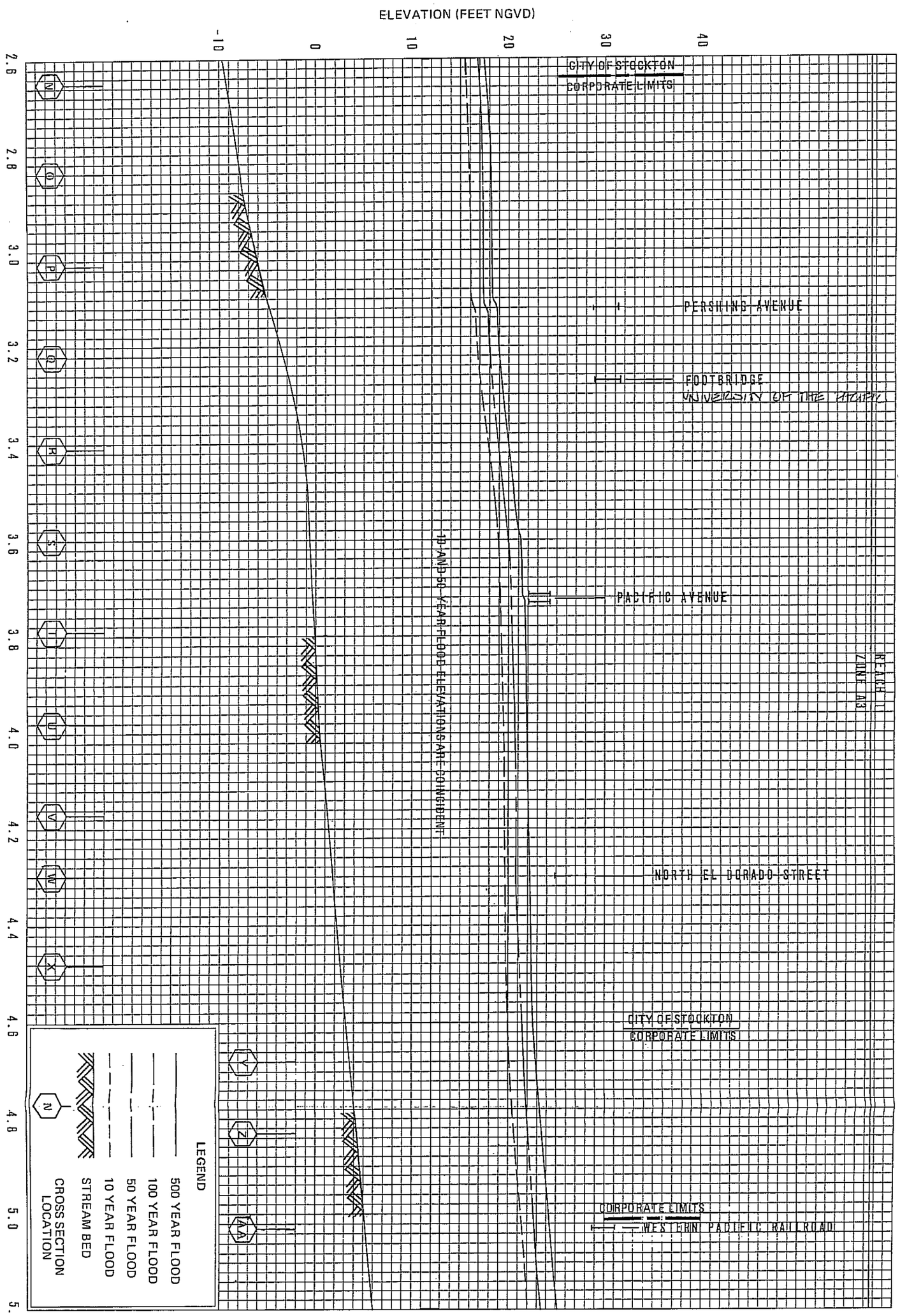
**SAN JOAQUIN COUNTY, CA**

(UNINCORPORATED AREAS)

**FLOOD PROFILES**

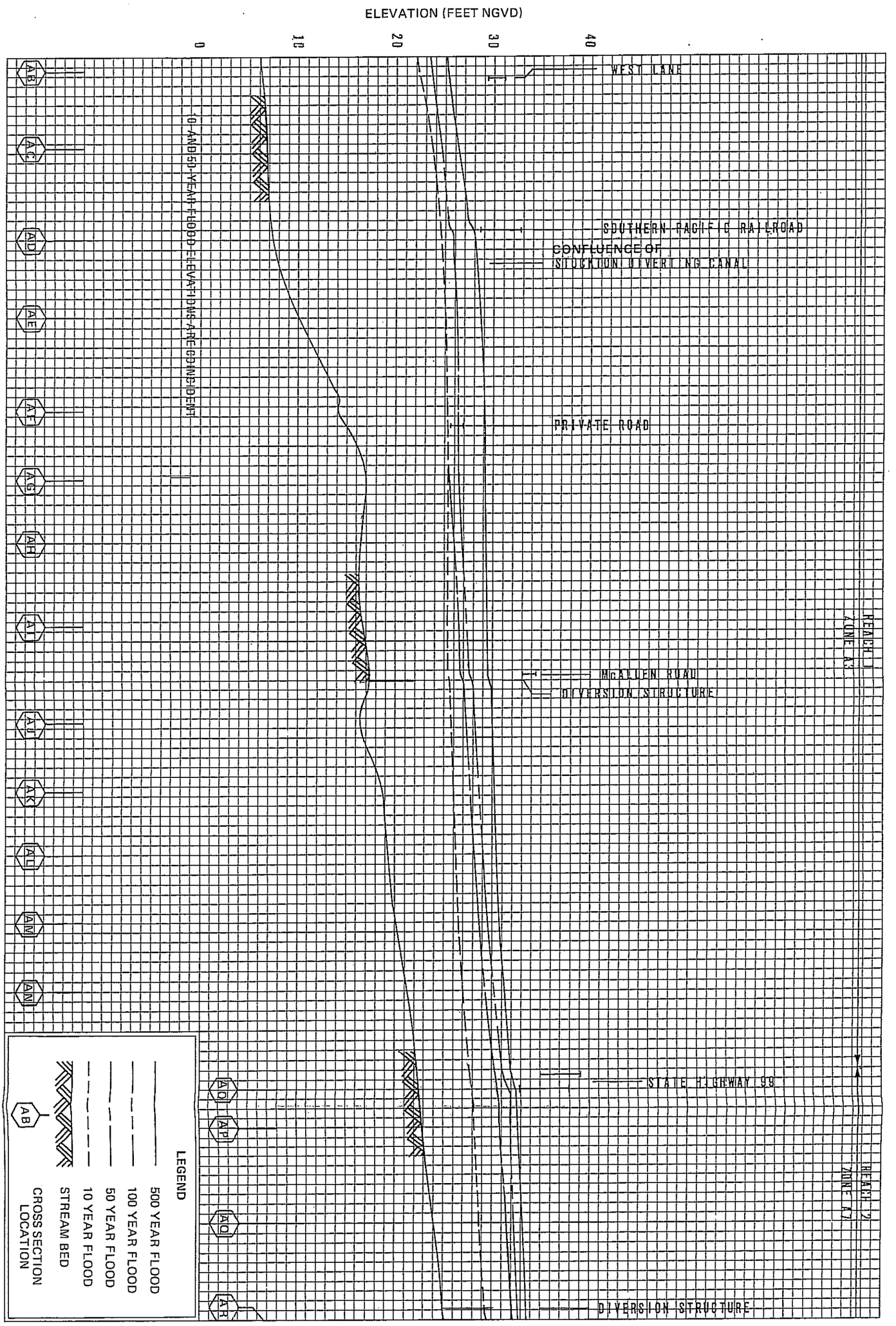
**CALAVERAS RIVER**

FIGURE 3 1/3




| 51P | FEDERAL EMERGENCY MANAGEMENT AGENCY<br>**SAN JOAQUIN COUNTY, CA**<br>(UNINCORPORATED AREAS) | **FLOOD PROFILES**<br>**CALAVERAS RIVER** |
|---|---|---|

FIGURE 3 2/3




52P

FEDERAL EMERGENCY MANAGEMENT AGENCY

**SAN JOAQUIN COUNTY, CA**

(UNINCORPORATED AREAS)

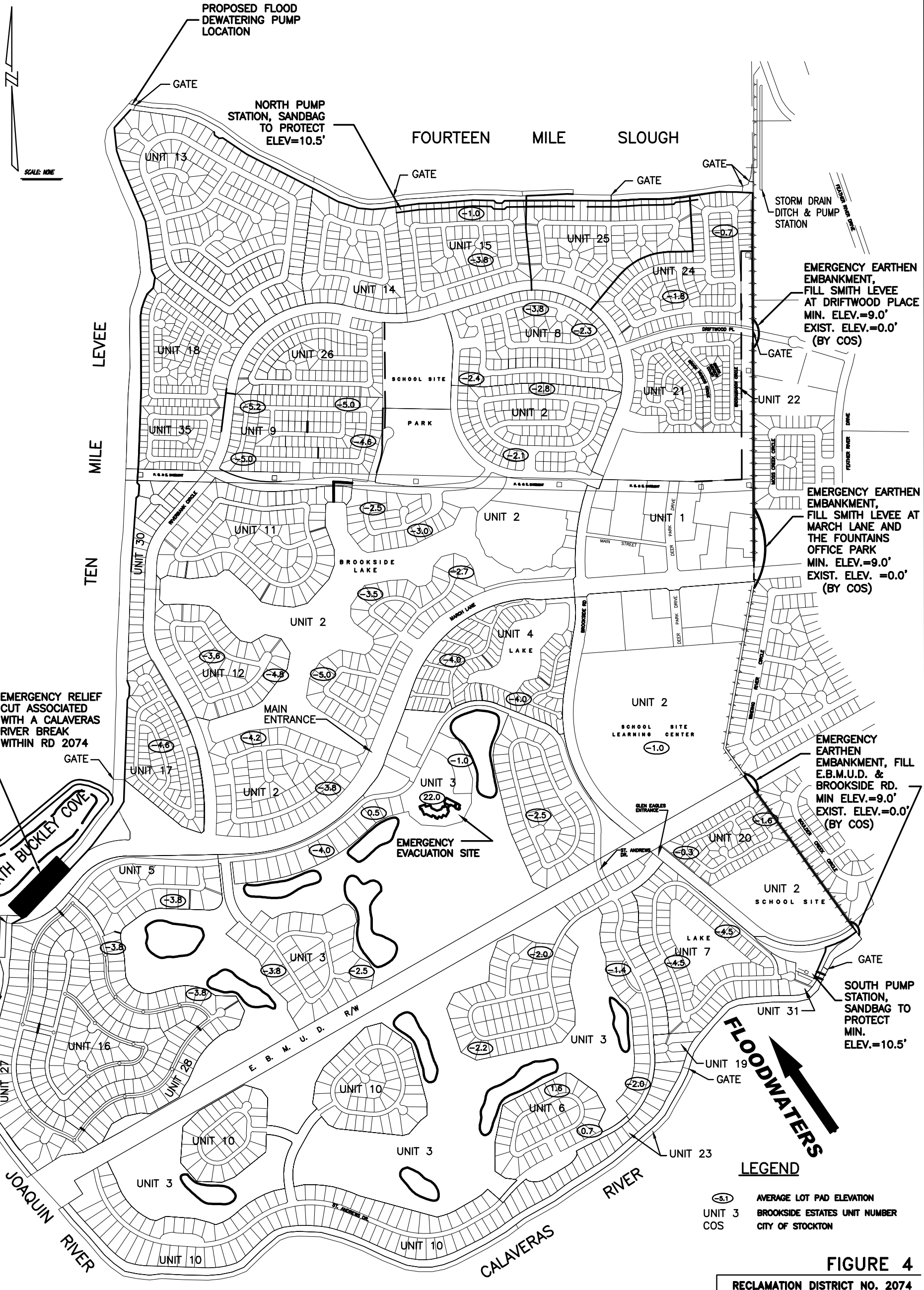
**FLOOD PROFILES**

**CALAVERAS RIVER**

FIGURE 3 3/3

# RECLAMATION DISTRICT NO. 2074
# CALAVERAS RIVER LEVEE FAILURE

STOCKTON, CALIFORNIA




## LEGEND

| | |
|---|---|
| (-5.1) | AVERAGE LOT PAD ELEVATION |
| UNIT 3 | BROOKSIDE ESTATES UNIT NUMBER |
| COS | CITY OF STOCKTON |

BENCH MARK:
CHISELED SQUARE TOP OF CURB, NORTHWEST MARCH LANE AND CORNER BROOKSIDE ROAD WEST END ROUND CORNER. ELEVATION -3.41

FIGURE 4

RECLAMATION DISTRICT NO. 2074

CALAVERAS RIVER LEVEE FAILURE
BROOKSIDE ESTATES

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | APPROVED BY: DATE | SHEET NO. 1 OF 1 SHEET |
| DESIGNED BY | DAA | | |
| DRAWN BY | CE | | |
| CHECKED BY | AJL | | |
| DATE | 2-21-15 | | |
| RECORD DWG. BY | | RD #2074 ENGINEER STOCKTON, CALIFORNIA | |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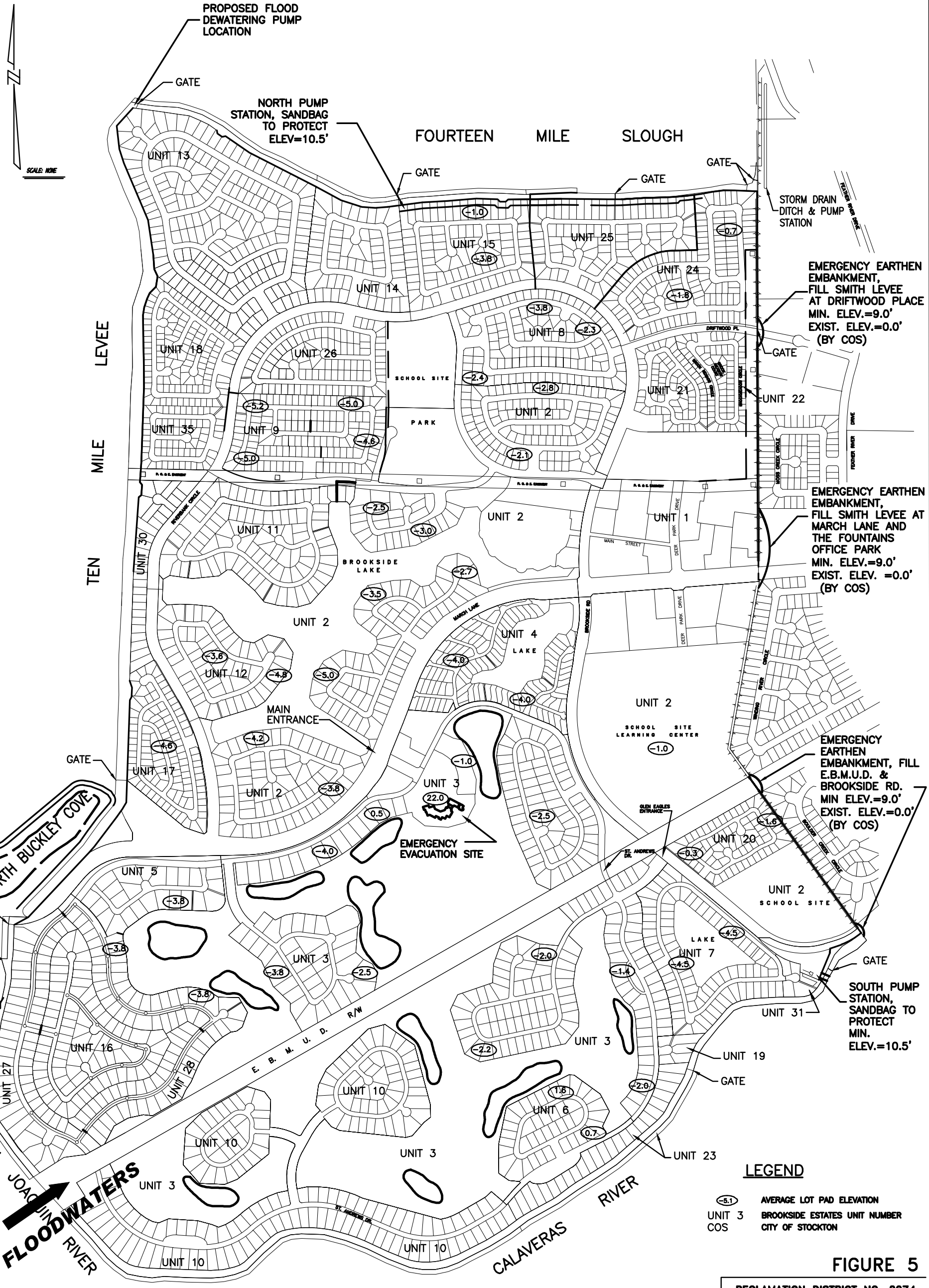
# RECLAMATION DISTRICT NO. 2074
# SAN JOAQUIN RIVER LEVEE FAILURE

STOCKTON, CALIFORNIA




BENCH MARK:
CHISELED SQUARE TOP OF CURB, NORTHWEST MARCH LANE AND CORNER BROOKSIDE ROAD WEST END ROUND CORNER. ELEVATION -3.41

FIGURE 5

RECLAMATION DISTRICT NO. 2074
SAN JOAQUIN RIVER LEVEE FAILURE
BROOKSIDE ESTATES

| | |
|---|---|
| SCALE | AS SHOWN |
| DESIGNED BY | DAA |
| DRAWN BY | CE |
| CHECKED BY | AJL |
| DATE | 2-21-12 |
| RECORD DWG. BY | |
| APPROVED BY/ DATE | |
| RD #2074 ENGINEER STOCKTON, CALIFORNIA | |
| SHEET NO. | 1 |
| OF 1 SHEET | |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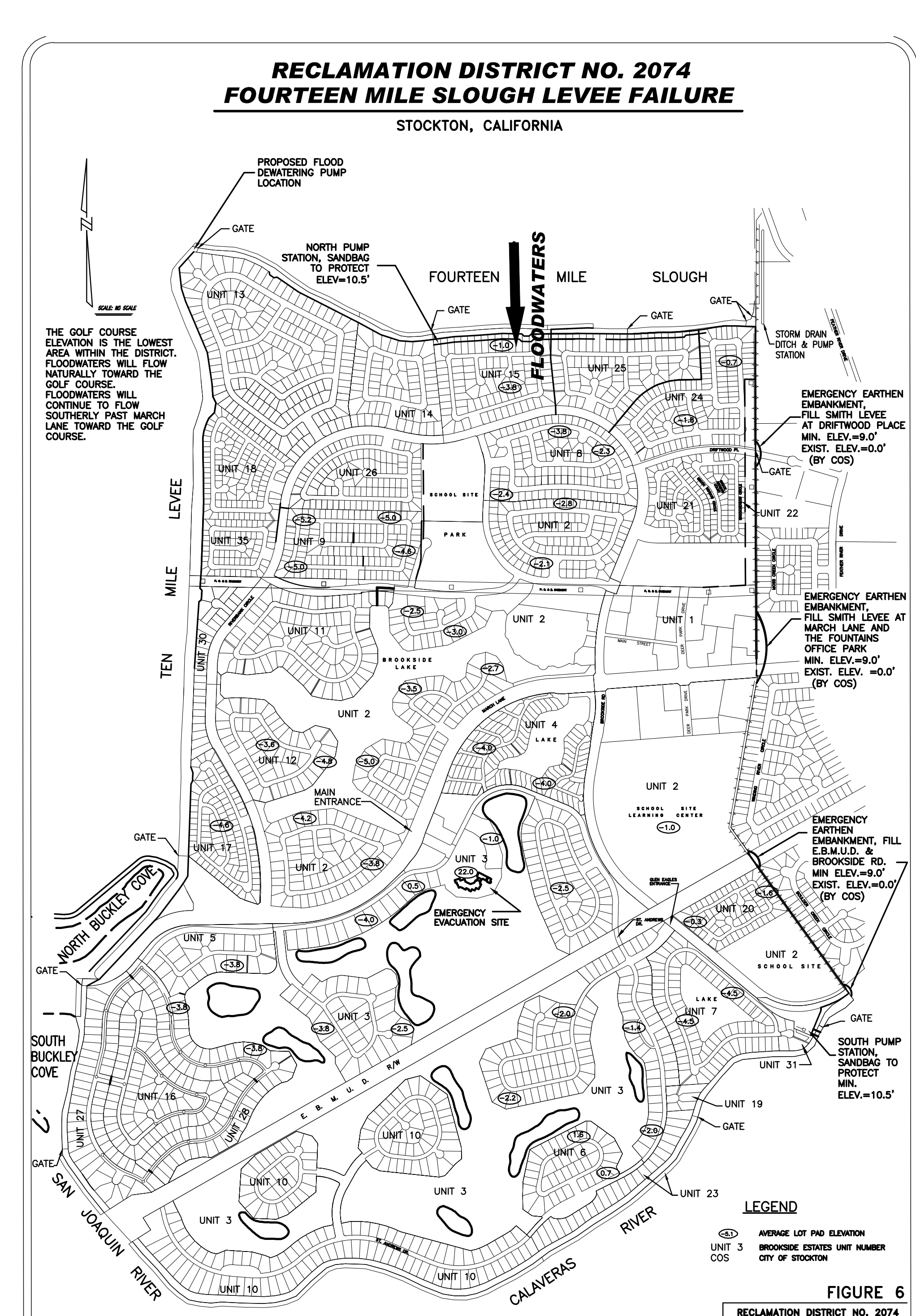
# RECLAMATION DISTRICT NO. 2074
# FOURTEEN MILE SLOUGH LEVEE FAILURE

STOCKTON, CALIFORNIA




LEGEND

| | |
|---|---|
| (-5.1) | AVERAGE LOT PAD ELEVATION |
| UNIT 3 | BROOKSIDE ESTATES UNIT NUMBER |
| COS | CITY OF STOCKTON |

BENCH MARK:
CHISELED SQUARE TOP OF CURB, NORTHWEST MARCH LANE AND CORNER BROOKSIDE ROAD WEST END ROUND CORNER. ELEVATION -3.41

FIGURE 6

RECLAMATION DISTRICT NO. 2074

FOURTEEN MILE SLOUGH LEVEE FAILURE
BROOKSIDE ESTATES

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | APPROVED BY: DATE | SHEET NO. 1 OF 1 SHEET |
| DESIGNED BY | DAA | | |
| DRAWN BY | CE | | |
| CHECKED BY | AJL | | |
| DATE: | 2-21-12 | | |
| RECORD DWG. BY | | RD #2074 ENGINEER STOCKTON, CALIFORNIA | |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# RECLAMATION DISTRICT NO. 2074
# WRIGHT-ELMWOOD LEVEE FAILURE

STOCKTON, CALIFORNIA

N

SCALE: NO SCALE

PROPOSED FLOOD DEWATERING PUMP LOCATION

GATE

NORTH PUMP STATION, SANDBAG TO PROTECT ELEV=10.5'

FOURTEEN MILE SLOUGH

GATE

GATE

GATE

STORM DRAIN DITCH & PUMP STATION

FLOODWATERS

IN THE EVENT OF A FAILURE OF THE WRIGHT–ELMWOOD LEVEES, THE WEST FACE OF TEN MILE LEVEE SHALL BE IMMEDIATELY PROTECTED AGAINST EROSION WITH 10 MIL POLYETHYLENE SHEET BARRIER. THE BARRIER SHALL BE PLACED PER 2009 DWR "FLOOD FIGHTING METHODS" SECTION "WAVE WASH." STONE PROTECTION MAY BE PLACED FOR ADDED WEIGHT AGAINST THE LEVEE IF LONG PERIODS OF SATURATION ARE EXPECTED.

TEN MILE LEVEE

UNIT 13
UNIT 15
UNIT 25
UNIT 24
UNIT 14
UNIT 18
UNIT 26
UNIT 8
UNIT 21
UNIT 22
UNIT 35
UNIT 9
UNIT 2
UNIT 30
UNIT 11
UNIT 1
UNIT 12
UNIT 4
UNIT 17
UNIT 3
UNIT 5
UNIT 7
UNIT 16
UNIT 27
UNIT 28
UNIT 10
UNIT 6
UNIT 31
UNIT 19
UNIT 23
UNIT 20

SHADOWBROOK PUMP STATION
SCHOOL SITE
PARK
LONGCOVE PUMP STATION
BROOKSIDE LAKE
LAKE
SCHOOL SITE LEARNING CENTER
MAIN ENTRANCE
EMERGENCY EVACUATION SITE
GLEN EAGLES ENTRANCE
ST. ANDREWS DR.
MARCH LANE
MAIN STREET
BROOKSIDE RD
DRIFTWOOD PL
RIVERBANK CIRCLE
MOSS CREEK CIRCLE
FEATHER RIVER DRIVE
WINDING RIVER CIRCLE
BULLFROG CREEK CIRCLE

EMERGENCY EARTHEN EMBANKMENT, FILL SMITH LEVEE AT DRIFTWOOD PLACE MIN. ELEV.=9.0' EXIST. ELEV.=0.0' (BY COS)

EMERGENCY EARTHEN EMBANKMENT, FILL SMITH LEVEE AT MARCH LANE AND THE FOUNTAINS OFFICE PARK MIN. ELEV.=9.0' EXIST. ELEV. =0.0' (BY COS)

EMERGENCY EARTHEN EMBANKMENT, FILL E.B.M.U.D. & BROOKSIDE RD. MIN ELEV.=9.0' EXIST. ELEV.=0.0' (BY COS)

SOUTH PUMP STATION, SANDBAG TO PROTECT MIN. ELEV.=10.5'

NORTH BUCKLEY COVE

SOUTH BUCKLEY COVE

SAN JOAQUIN RIVER

CALAVERAS RIVER

E. B. M. U. D. R/W

## LEGEND

| | |
|---|---|
| (-5.1) | AVERAGE LOT PAD ELEVATION |
| UNIT 3 | BROOKSIDE ESTATES UNIT NUMBER |
| COS | CITY OF STOCKTON |

BENCH MARK:
CHISELED SQUARE TOP OF CURB, NORTHWEST MARCH LANE AND CORNER BROOKSIDE ROAD WEST END ROUND CORNER. ELEVATION –3.41

FIGURE 7

RECLAMATION DISTRICT NO. 2074

WRIGHT–ELMWOOD LEVEE FAILURE
BROOKSIDE ESTATES


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| | |
|---|---|
| SCALE | AS SHOWN |
| DESIGNED BY | DAA |
| DRAWN BY | CE |
| CHECKED BY | AJL |
| DATE | 3-31-15 |
| RECORD DWG. BY | |

APPROVED BY: DATE

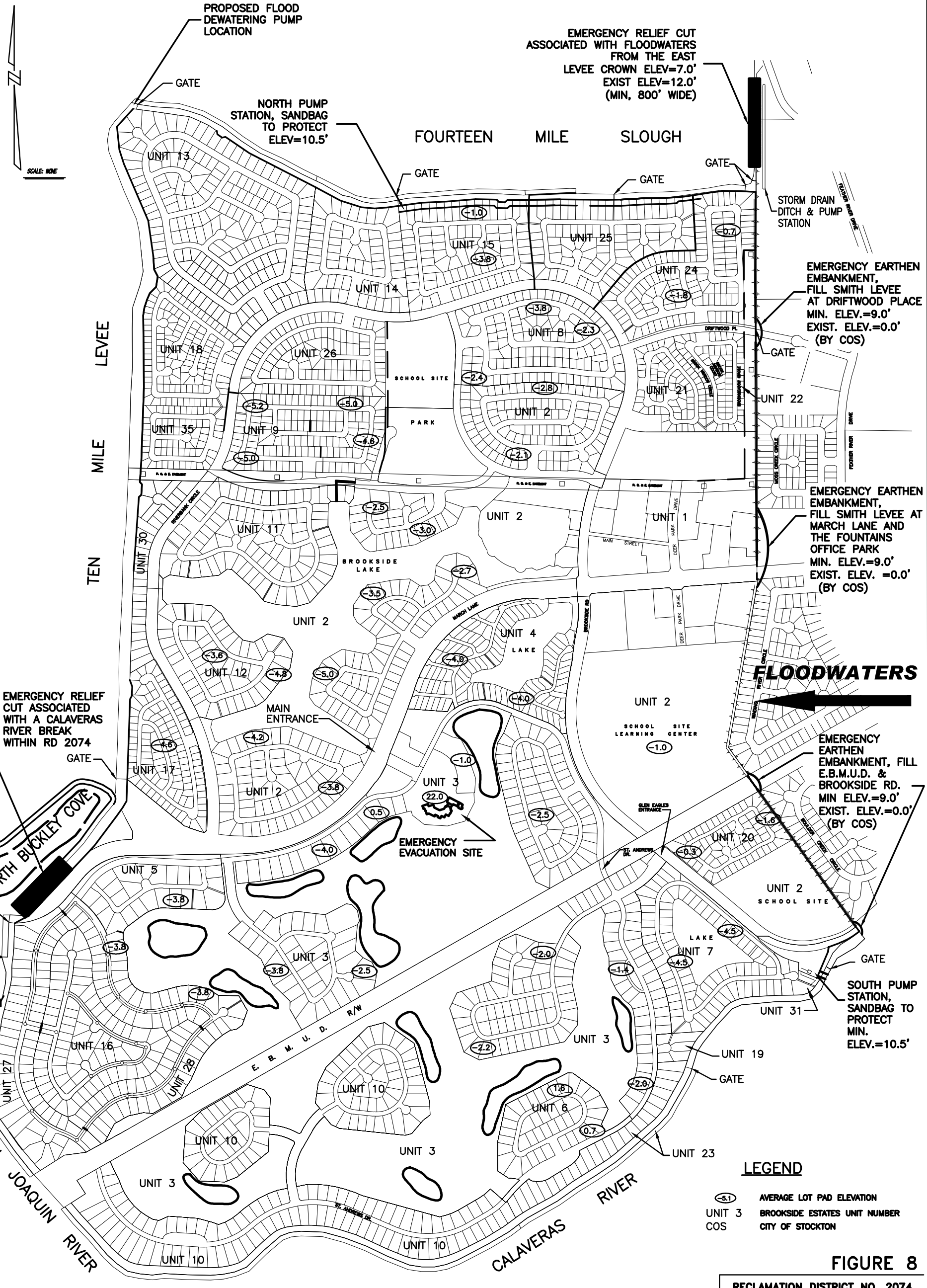
RD #2074 ENGINEER
STOCKTON, CALIFORNIA

SHEET NO. 1 OF 1 SHEET

F:\Projects\13450 Reclamation District 2074 2013-2014\1300 Flood Emergency Response Grant\2015 Emergency Plan and Procedures Update – Delta Grant\2015 RD2074 ES PLAN\Figures and Exhibits\Updated Figures\Figure 7 REV.dwg

# RECLAMATION DISTRICT NO. 2074
# FLOODWATERS FROM EAST OF SMITH'S LEVEE

STOCKTON, CALIFORNIA




## LEGEND

| | |
|---|---|
| (-5.1) | AVERAGE LOT PAD ELEVATION |
| UNIT 3 | BROOKSIDE ESTATES UNIT NUMBER |
| COS | CITY OF STOCKTON |

BENCH MARK:
CHISELED SQUARE TOP OF CURB, NORTHWEST MARCH LANE AND CORNER BROOKSIDE ROAD WEST END ROUND CORNER. ELEVATION -3.41

FIGURE 8

RECLAMATION DISTRICT NO. 2074

FLOOD WATERS FROM EAST OF SMITH'S LEVEE BROOKSIDE ESTATES

| | |
|---|---|
| SCALE | AS SHOWN |
| DESIGNED BY | DAA |
| DRAWN BY | CE |
| CHECKED BY | AJL |
| DATE: | 8-31-12 |
| RECORD DWG. BY | |

APPROVED BY: DATE

RD #2074 ENGINEER
STOCKTON, CALIFORNIA

SHEET NO. 1 OF 1 SHEET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STATE OF CALIFORNIA

# EMERGENCY FLOOD FIGHTING Methods

Department of Water Resources
Division of Flood Management
Flood Operations Branch

*August 2012*

STATE OF CALIFORNIA
CALIFORNIA NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

# FLOOD FIGHTING
## Methods

Division of Flood Management
Flood Operations Branch

August 2012

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**Xiao Li**

Graphic Designer

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## Foreword

The California Department of Water Resources (DWR), Division of Flood Management has been tasked to prevent, reduce, and mitigate the risk of damages associated with flooding. For over fifty years DWR has been the lead State agency responsible for responding to this costly natural disaster. Our mission is to prevent loss of life and damage to property and infrastructure.

Working together State, federal, and local agencies manage California's Flood Control System which consists of reservoirs, levees, weirs, bypasses, and retention basins.

This statewide system is managed with support from technologies such as weather and water forecasting, coordination of reservoir releases and a network of rain and stream gauges and snow pack monitoring. The information gathered is extremely important to emergency responders and the public.

The 'Flood Fighting Methods' outlined in this booklet have proven effective during many years of use by DWR, United States Army Corps of Engineers, and local agencies on flood-related emergencies. This handbook is published by the DWR Flood Operations Branch and is designed to be used with the Flood Fighting Methods class.

## Levee and Embankment Threats

The main causes of levee failure or flood related problems due to high water are:

- Seepage through or under the levee heavy enough to cause a “boil”.
- Erosion of the levee or embankment due to swift moving water or wave action.
- Overtopping resulting from water-surface elevations higher than the levee or embankment.

## Patrolling

The best defense against flood related issues and/or levee failure is to identify problems early and repair them immediately. Biannual levee inspections and effective high water patrolling make this possible. The following suggestions will help in organizing patrol teams for this work.

- Operate under the SEMS / ICS system and report to the appropriate section chief.
- Provide a sufficient number of workers for two 12 hour shifts.
- Provide each worker with a copy of this ‘Flood Fighting Methods’ handbook.
- Assign two people to each mobile patrol.
- Assign each mobile patrol vehicle an area no larger than can be inspected at least every 2 hours, with more frequent patrols as conditions warrant. Foot patrols may offer a more thorough inspection.

- Furnish each mobile patrol vehicle with radio/cell phone or other communication equipment, lights for night patrol, and the following materials: Laths, survey ribbon, permanent marker, pad and pencil, flashlight with extra batteries, 2 shovels, 1 sledge hammer, approximately 50 sandbags (empty), 1 roll of plastic sheeting (visquine), 1 box twine, 100 buttons, 25 wooden stakes, lifeline, personal floatation devices, blanket, First Aid kit, Directory of Flood Officials, and Flood Emergency Phone Card. (see Reference Guide on page 36)
- Identify potential problems: boils, seepage, erosion, cracks, sloughing etc.
- Instruct each patrol team on the correct filling and placement of sandbags. They should know what danger signs to watch for, and how to signal for help.
- Vehicles should remain on high ground in threatened areas. Always have escape routes and make them known.
- Instruct each leader to check with their team members frequently. Investigate all reported problems.
- Be aware of the locations of stockpiled sandbags and other tools and equipment at strategic locations.
- Be prepared to obtain more workers, tools, and equipment on short notice.
- Advise the officials of the district or agency responsible for emergency assistance in the area and if necessary, request their help, i.e. local emergency services office.
- Contact the nearest representative of the Department of Water Resources for technical advice and assistance.

## Filling Sandbags

When filling sandbags you should work in pairs, with one person holding the bag while the other shovels in the fill material. The bag holder should find the most comfortable position while holding the bag open (see Figure 1 page 6). **The most common mistake made is overfilling bags**. The first shovel of fill should be placed on the lip of the bag to help hold the bag open. The shoveler should use rounded scoops of fill until the bag is approximately 1/3 full. While shoveling or holding, avoid extra movements (turning or twisting of the back) to prevent injury and reduce fatigue.

Filling Sandbags

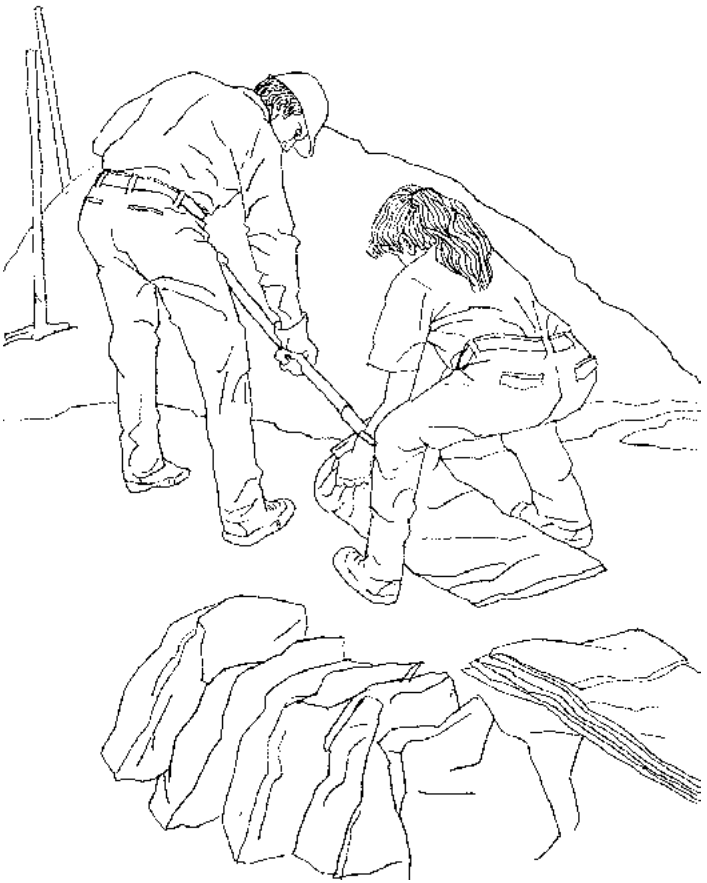


Figure 1: Proper sandbag filling

## Passing Sandbags

Passing Sandbags

To avoid injuries and maximize productivity emergency responders can be organized into a sandbag passing line or 'chain'.

The line is formed by standing facing the next person and slightly off set. The bags are passed down the center of the chain.

Passing Sandbags

## Sandbag Construction

The use of sandbags is a simple but effective method of preventing or reducing damage from floodwater and debris. (see Figure 2) Suggestions for constructing sandbag structures are:

1. Close-weave burlap bags 18” x 30” are recommended for all sandbag construction when available.

2. Fold the empty top of the bag at a 45-degree angle to keep sand from leaching out.

3. Place each bag over the folded top of the preceding bag and stomp into place.

4. Stagger the second layer of bags over the seams of the preceding layer.

5. Stomp all bags to form a tight seal.

6. The last sandbag in a line is referred to as a Key Sack. The empty top of this bag is folded under and stomped into place.

Sandbag Wall Construction

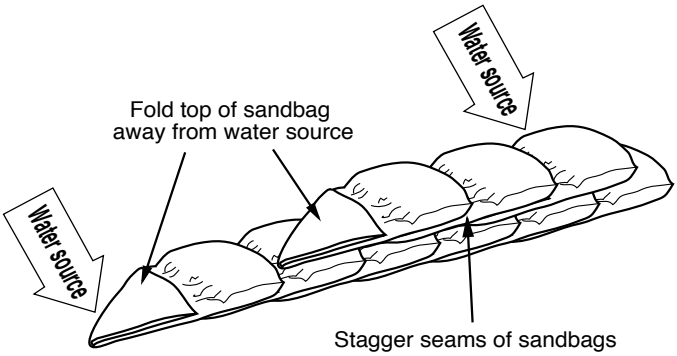



Figure 2: Fill sandbags 1/3 full, fold top of sandbag away from water source and stagger seams of sandbags.

## Control of Overtopping

If any levee reach or stream bank is lower than the anticipated high water elevation, an emergency topping should be constructed to raise the grade above the forecast flood height. A sack topping may be required at road or stock crossings, low levee sections, or railroad crossings. The following sections discuss various methods for increasing levee and bank elevations.

### *Sack Topping*

The most common form of flood control work is the use of sandbags for construction of temporary walls. The use of sandbag walls to increase the height of a levee section is called “sack topping” (see Figure 3). The sacks are laid “as stretcher rows,” or along the levee.

Alternate layers can be crossed if additional strength is needed. The sacks should overlap at least one-third and stomped firmly into place. When properly placed and compacted, one sack layer will provide about 3 to 4 inches of topping.

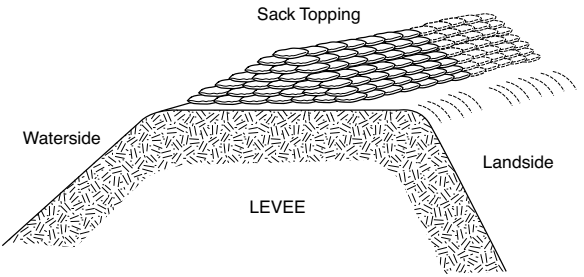



Figure 3: Sack topping on a levee

Sack Topping

### *Temporary Levee*

This method is used to raise low areas during high water periods to prevent overtopping of levees, stream and riverbanks, small earthen dams, roadways, etc. To raise low areas, unfold a 20'x100'x10 mil roll of plastic sheeting and lay out flat on area to be raised (see Figure 4). Place fill material on plastic. Fold plastic over material, lay a single row of sandbags on the backside lip of plastic and on all seams. Fill material can be placed using bottom dump or dump bed trucks, front-end loader or manually.

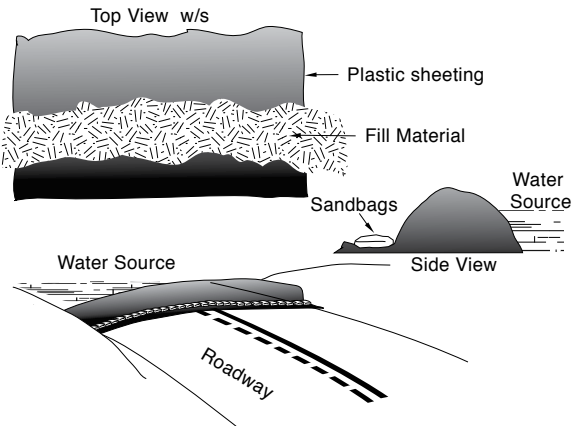



Figure 4: Temporary levee

Temporary Levee

### *Lumber and Sack Topping*

Wooden panels are used on the waterside shoulder and reinforced on the opposite side with sandbags. The method is used to raise low reaches during high water and divert debris flows (see Figure 5). Stakes 2”x 4”x 6’ should be driven on the waterside shoulder 6 feet apart. A shallow trench is and lined with empty sandbags to provide a seal. Pre-constructed wooden panels are placed in the trench

and nailed to the landside of the stakes. This wall should then be backed with enough sandbags to support the panels against the expected high water. In some cases, it may be practical to back the panels with compacted earth in lieu of sandbags. Attach 2"x 4"x 10' lumber kickers to the stakes that support the panels, and drive 2' stakes into the levee crown. Use at least two nails at each joint to provide rigid construction.

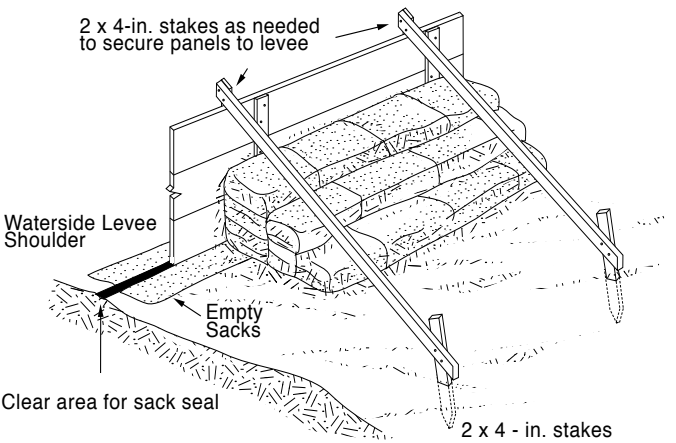



Figure 5: Lumber and sack topping

**Control of Boils** *(Away from Levee)*

A boil is a condition that occurs when water is "piped" through or under a levee and resurfaces on the landside. These weak points are generally caused by burrowing rodents or decomposed tree roots. High water pressure can begin to erode the interior of the levee and weaken the structure. Levee material will deposit around the exit point as the water discharges on the landside. If the boil is determined to be **"carrying material"** then corrective action is required to control the situation.

If left unattended the material that makes up the levee can be eroded at an accelerated pace, causing subsidence and overtopping of the levee. This could result in a levee break.

The common method for controlling a boil is to create a watertight sack ring around it. The sandbag structure should be high enough to slow the velocity of the water and prevent further discharge of material from the boil (see Figures 6 & 7). The flow of water should never be stopped completely, since this may cause the boil to "break out" in an area near the existing sack ring. A spillway must be constructed to direct water away from all boil sites.

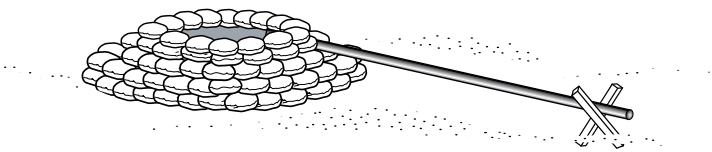


Figure 6: Boil sack ring

Bottom width should be at least 11/2 times the height. Do not sack boils that are not carrying material, but continue to monitor. Boils can begin to carry material after first located.

Boil Sack Ring

The sack ring should be large enough to encompass the area immediately surrounding the discharge point (3 to 4 feet diameter). If several boils carrying material are found, a single large sack ring may be constructed around the entire "nest" of boils.

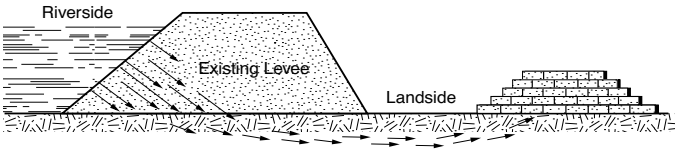



Figure 7: Flow of water through a levee

## **Control of Boils** *(On Levee Slope)*

If the boil is close to or on the levee slope, a U-shaped sack ring may be built around the boil and keyed into the slope. Construction of this method can be difficult and requires substantial shoring up of the U-shaped sack ring structure. A spillway must be constructed to direct water away from all boil sites (see Figure 8).

*NEVER completely stop the flow from a boil. This may cause the boil to "break out" in an adjacent area. ALWAYS control the boil to a point where it ceases to carry material and the water runs clear.*

"U" shape Sack Ring

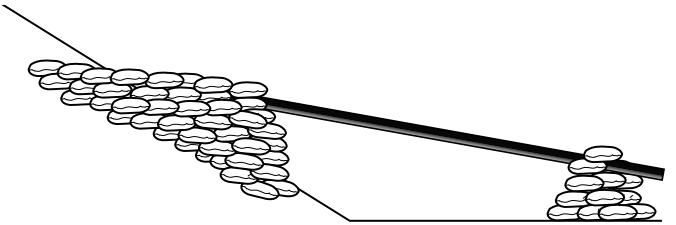


Figure 8: Spillways can be constructed by nailing two 2"x 6" boards together to form a V notch; PVC pipe; two parallel sandbag rows; visquine, etc.

### *Waterside Boil Inlet Detection*

Water running through a levee and carrying material can sometimes be stopped on the waterside, thus eliminating the building of sack rings on the landside (see Figure 9). A six foot long section of 2" diameter metal pipe secured to a 5'x 6' foot piece of plastic or canvas can be rolled over the inlet hole on the waterside. Drive 1"x 3"x 2' stakes into the shoulder of the levee. Suspend half-filled sandbags on top of rolled-out material with twine and tie off to stakes. It can be difficult to locate the waterside inlet of boils. Sometimes a swirl is observed at the water's edge.

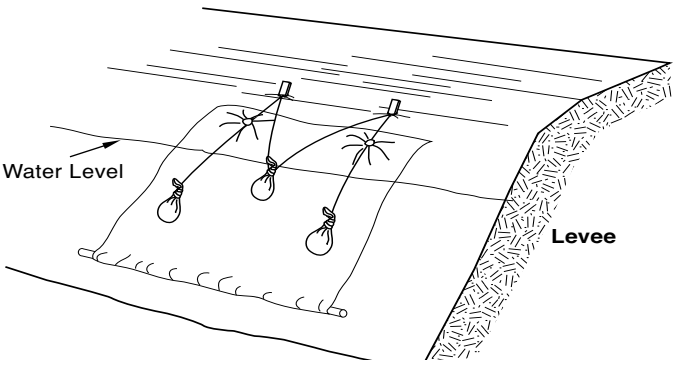



Figure 9: Waterside boil protection

## Wavewash Protection

All levees adjacent to wide stretches of water should be watched during periods of strong wind to detect the early stages of wavewash erosion. If the slope is well sodded, short periods of high wind should cause little damage. However during sustained periods of strong wind and high water, experienced personnel should observe and monitor the effected areas.

### *Envelope Method*

When used correctly, plastic sheeting is useful for wavewash protection. Visquine should be purchased in 10 mil rolls, 20 feet wide by 100 feet long. 1”x3”x2’ wooden stakes are driven into the ground just above the levee shoulder on the side you wish to protect. Place the stakes 4 feet apart and stagger vertically by 1 foot as shown in Figure 10.

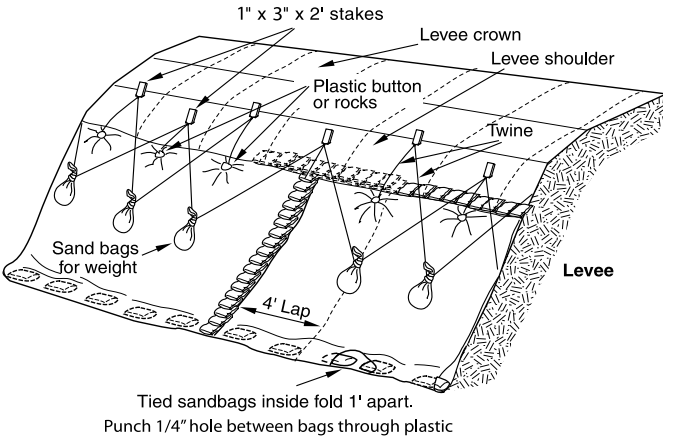



Figure 10: Wavewash Protection

Wavewash Protection

Avoid driving stakes in a straight line; this can to cause cracking and sloughing of the slope. To provide added strength and leverage, drive stakes at a slight angle away from the water source with the wide (3") side facing the water. Be sure the stakes are well into the ground and are secure.

When rolling out the plastic sheeting it is helpful to use a shovel or similar long-handled tool. Eight to ten people should assist in shaking out the folds of the envelope. Be sure that both layers are held while the envelope is shaken out. Hold on tight! Use caution in strong winds. If the wind catches the plastic it could billow out and pull you along with it.

While flood workers hold the plastic securely, toss tied sandbags into the envelope. The tied sandbags (see Figure 12, page 20) are thrown into the bottom of the envelope with a one-foot gap between bags. The tied bags provide weight to hold the plastic against the levee slope.

A tie-down button or small stone (preferably round) is secured through both layers of visquine. If a stone is used, tie a slip knot and double half-hitch to secure it. Fasten buttons to the visquine and tie off to the stakes using a minimum 250 lb. tensile strength twine with these points in mind: (See Figure 11.)

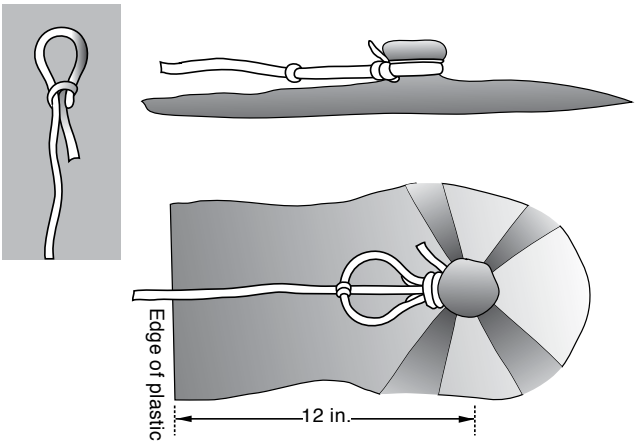



Figure 11: Plastic Tie-Down Buttons

1. Fasten button at least 1 foot from the edge of the plastic.

2. Fasten button to both layers of plastic.

3. Fasten button directly below stakes (one button per stake).

4. Tie twine low on stake for strength and to reduce tripping hazard.

Plastic sheeting is secured using tie down buttons. To attach plastic buttons to the plastic, tie a slipknot on the end of the twine; slip loop over button and plastic and draw tight. Tie two half-hitch knots around the throat of main body. Extend twine to large end of main body, tie a half-hitch knot around the end, and secure twine to stake (see Figure 11).

With the plastic secured to the stakes, punch a small hole between each tied bag in the envelope, (a pencil works well). These holes release water trapped in the envelope. DO NOT use a knife because a slice or slit will tear and


Button Tying

spread in the plastic. If further slope protection is necessary insert an additional envelope into the existing wavewash protection overlapping at least four feet. To secure the overlap to the stakes attach the two top layers with one button and the two bottom layers with another. The buttons line up with the stakes that are four feet apart. There should be four buttons securing the two envelopes.

Using a continuous piece of twine, hang tied bags from stakes in a zigzag fashion as shown in Figure 10. Tie a double half-hitch knot below the knot in each sandbag. ***Place each bag so that it hangs at the middle of the plastic directly below the stake between the two stakes from which it is suspended.*** Attach twine to every other stake with a double half-hitch. Add a second row of tied bags suspended from the stakes previously skipped. These bags will keep the plastic lying flat against the levee slope in windy conditions. If the upper portion of the slope needs protection, use an additional envelope. Be sure to place the upper layer over the lower layer by 2 to 3 feet. Finally place sandbags along all seams to prevent wind and water from entering the envelope. To prevent slippage, make sure the sandbags forming the top seam cap are half on the plastic and half on the

levee as shown in Figure 10. If the levee slope is too steep, some of the bags on the seam may be tied off with twine to the stake above the envelope for support.

Remember, wind is your worst enemy. When using plastic sheeting, be sure all seams are secured with sandbags, and make needed repairs to the envelope as soon as possible.

### *Tying Sandbags*

Most sandbags are used with the open end folded. In some cases sandbags will have to be tied. Fill the bag 1/4 to 1/3 full of material. See Figures 12A–12D for instructions.

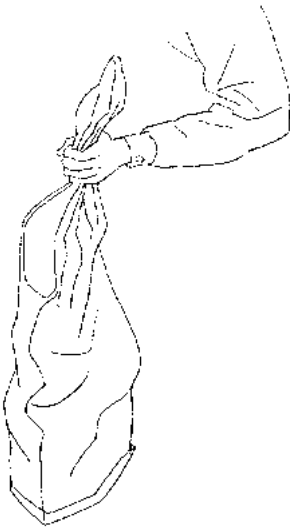


Figure 12A: Sandbag filled 1/4 to 1/3 full

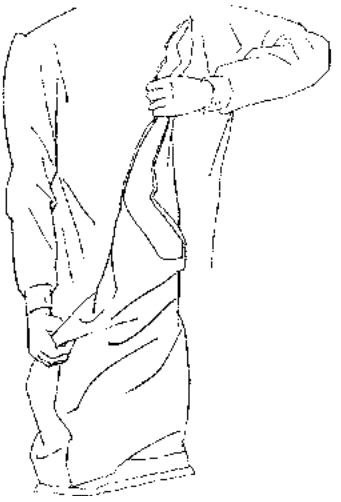
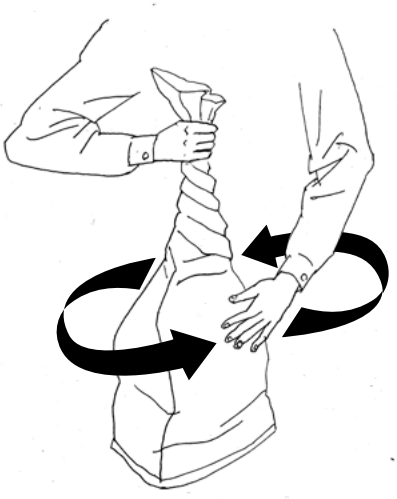


Figure 12B: Grasp bag at top corner and spin

Figure 12C: The long tail should be twisted tightly and look like a piece of rope.



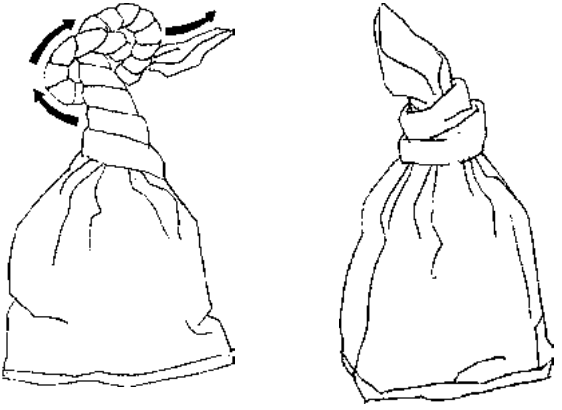


Figure 12D: Tie an overhand knot (pretzel knot) as low as possible on the bag.

## Raincoat Method

The raincoat method is used to prevent further saturation of levee or hillside slopes. Plastic sheeting is laid out flat on the slope, sandbags are placed around the perimeter with additional bags placed randomly for weight. If the slope is steep, wooden stakes can be driven into the ground just above the area to be protected. The stakes are 4 feet apart with a 1-foot stagger. The plastic is secured to the stakes with tie-down buttons or small round rocks (see Figure 13).

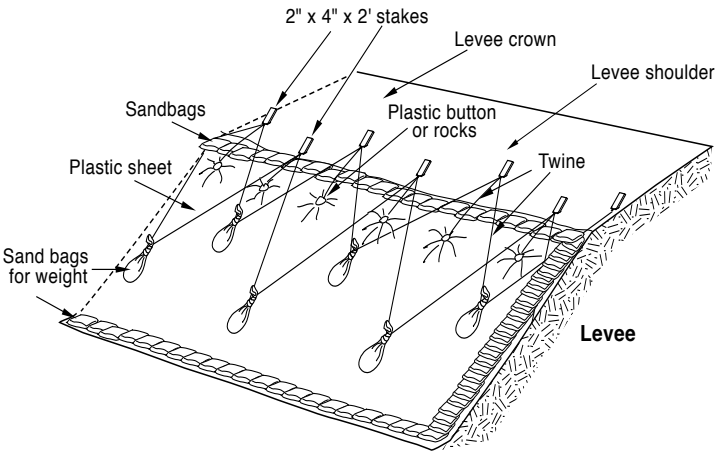



Figure 13: Raincoat method

Use a crisscross method of placing the sandbags (Figure 13) on the plastic. Place a solid row of sandbags on all edges of the plastic (half on the ground, half on the plastic).

## Emergency Spillway

To prevent damage to the levee slope due to overtopping, an emergency spillway can be constructed.

Place plastic sheeting over area to be used for spillway. Line all sides with at least a single row of sandbags. Use additional tied sandbags on plastic for weight if needed.

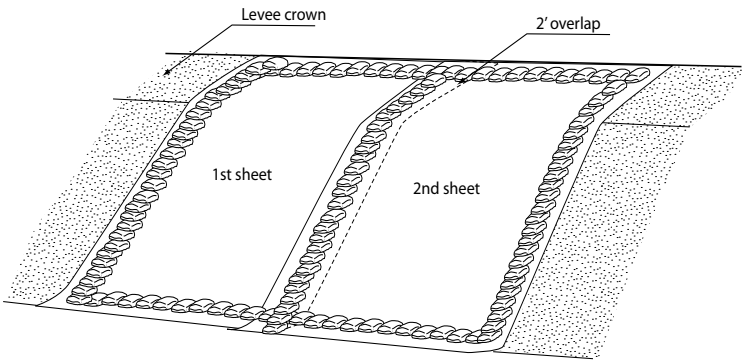



Figure 14: Emergency spillway using plastic sheeting and sandbags

Emergency Spillway

## Structure Protection/Diversions

The main causes of damage to structures, homes, and property during heavy rains or flood flows are:

1. Flood water from overwhelmed storm drains and urban diversions, particularly on sloping streets.

2. Flood flows onto property through driveway openings and low spots in curbs.

3. Debris flow from hillsides that have been cleared of vegetation by fire or real estate development.

The flood fighting methods described in the following sections have proved effective in combating floodwaters and debris flows.

### *Diverting Water or Debris Flows Away from Structures*

Homes and structures can be protected from floodwater or debris flows by redirecting the flow as shown in Figure 15. Sandbag barriers must be long enough to divert the flows away from all structures. Barriers constructed of sandbags or lumber can also be used to channel mud and debris away from property improvements.


Structure Protection

Structure Protection

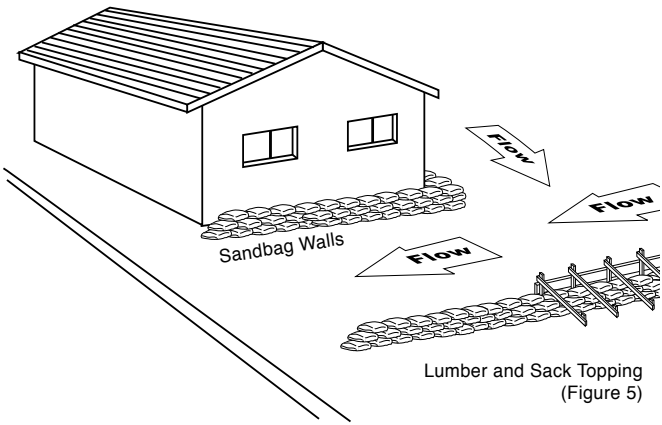



Figure 15: To divert mud, debris, and water, use sandbag walls or lumber and sack topping

### *Structure Protection*

The following method is used for protection of buildings and other structures along lake shores and in similar situations where water is rising with little or no current.

Lay plastic sheeting on the ground and up the building walls to a point at least 1 foot above the predicted water elevation, and far enough out on the ground to form a half pyramid of sandbags (see Figure 16). Secure plywood over doors and vents. Overlap plastic sheeting and sandbags at corners of buildings.

Home Protection

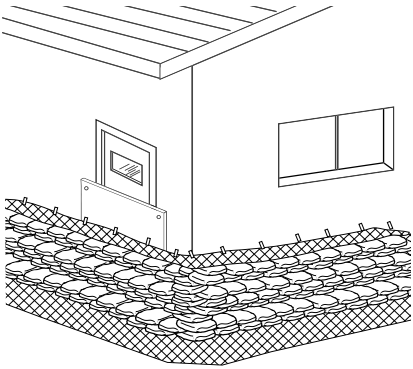
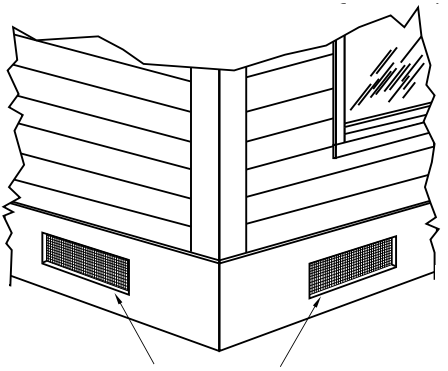


Figure 16: Structure protection

### *Wet Flood Proofing Requirements for Structures Located Within Special Flood Hazard Areas*

National Flood Insurance Program regulations require that buildings on extended wall foundations or that have enclosures below the base flood elevation must have foundation or enclosure wall openings. These openings prevent the foundation or enclosure walls from weakening or collapsing under pressure from hydrostatic forces during a 100 year flood event. The openings allow flood waters to reach equal levels on both sides of the foundation or enclosure wall and minimize the potential for damage from hydrostatic pressure.

THESE OPENINGS MUST NOT BE BLOCKED IF THE BUILDING IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.



Foundation or wall openings must be kept open within special flood hazard areas

Figure 17: Foundation and wall openings in structures

For details refer to FEMA Technical Bulletins TB1-93 and TB-7.
These bulletins may be obtained from the FEMA web site at:
*http://www.fema.gov*
For additional information contact DWR Floodplain Management at
(916) 574-1475

## Water / Storm Drain Protection

Water or sewer systems can be protected by placing corrugated metal pipe (CMP) over the utility hole (see Figure 18). Lay plastic sheeting up the walls of the CMP and place sandbags in the form of a half pyramid around the CMP to seal it to the pavement. This method will prevent mud and debris from entering the system and also act as a surge chamber.

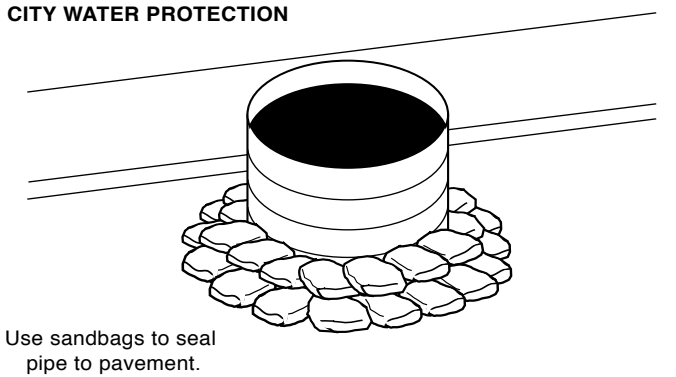



Figure 18: Water / storm drain protection

## Flood Fight Safety

Numerous potential hazards exist during flood events. These hazards are manageable if identification and communication occur on an ongoing basis. Personal safety requires a conscious effort that every flood fighter must consider in their various duties and activities.

- ***Changing Weather Patterns:*** This occurrence can affect existing conditions and create more serious situations. Always know the forecast and how it affects vulnerable areas, workers and the public.

- ***Changing Water Patterns:*** The rise and fall of water can occur gradually or very quickly. Knowledge of high water and how it relates to levees, communities, and workers is essential. Continuous monitoring and communication of water level influences (i.e. reservoir releases, tides, and drainage inflow) are very important. Always know your area and the flood history around you.

- ***Swift Water:*** High velocities of water are common during flooding events. Extreme caution should be used when anyone is exposed to high water. Workers should have flotation devices, throw ropes, and lifelines in the immediate area. Swift water rescue teams may be available. Use common sense and sound judgement around swift water. Know your resources and how to activate them prior to the event.

- ***Temperature Related Illness:*** During a flood fight, weather patterns can change constantly. Changes in temperature present the potential for hypothermia and heat exhaustion/stroke. Flood fighters should know the signs of distress for these types of illnesses and how to treat them. During cold, wet weather it is recommended that workers layer clothing to stay warm and dry. A dry

blanket and warm clear fluids should be on the work site for emergency use. In warm, hot weather lightweight clothing is recommended. If skin is exposed, a sun block agent may need to be applied. Plenty of drinking water should be on site and consumed regularly. Headgear is recommended in both hot and cold situations.

- ***Insect/Animal Exposure:*** Flooded areas force a variety of animals to evacuate to high ground. Workers in these areas should be aware of these animals and not handle them. If animal removal is needed, contact a local professional. Stinging and biting insects are prominent in certain flood-prone areas. Chemical repellents can be useful as a deterrent. A complete first aid kit should be on site.

- ***Vegetation:*** Noxious plants such as star thistle, stinging nettle, and poison oak are commonly found along rivers, streams, and levees. Avoid direct contact with this type of vegetation to prevent itching and rash. Consult medical personnel if symptoms persist.

- ***Sandpile Safety:*** When shovels are used for filling bags a safe distance for workers is essential. Sandbags and sand may contain contaminates. Have disinfectant available. Safety glasses or goggles are recommended for protection from blowing sand particles.

- ***Contamination:*** Flooded areas can potentially carry high levels of contaminants. Common contaminats include fuel, sewage, and pesticides. Local Haz-Mat teams should be contacted if needed. Always wear protective clothing to help limit contact with water. Carry antibiotic hand soap and wash thoroughly after working around floodwater.

- ***Exhaustion:*** Stress combined with long, physically demanding hours can have an adverse effect on the flood

worker. It is very important to recognize exhaustion or sleep deprivation and treat them immediately. Operation of vehicles, machinery, or equipment should be avoided. A shift rotation of personnel will help eliminate fatigue factors.

- ***Body Mechanics:*** Proper body mechanics while working on floods is very important. The body is expected to work long, physical hours during the event. Each individual must make a conscious effort to use safe lifting and weight distribution techniques. Watch your footing; surfaces can be slippery and cluttered with tripping hazards.

- ***Construction Equipment:*** There are times when equipment and people will occupy the same work area. Workers should wear safety vests and hard hats and be aware of their surroundings. Safety warning devices (i.e. backup alarms and lights) should be in-tact and working on all equipment. Communication and alertness are vital! All operators must be certified for their equipment.

- ***Boat Travel:*** Materials and/or personnel will sometimes need to be transported to work sites by boat. Operators of the watercraft must be certified. Flotation devices must be available for every passenger. Extreme care should be taken while loading and off loading.

- ***Patrolling:*** Patrolling is the key to effective flood fighting. Patrols will identify, initiate control, and monitor trouble spots in affected areas. Vehicle patrols should travel in two person teams with dependable communication devices. Lifelines, flotation devices, and a blanket should be in the vehicle for possible water-related accidents. Foot patrols should also have the same considerations. Extreme caution should be exercised when travelling saturated, cracking, or sloughing areas.

- ***Vehicle Placement:*** Vehicles in work areas along the levee should remain parked on high ground. This is usually the crown roadway. Vehicles should also be parked facing their access point. An escape plan should be communicated to all flood workers.

- ***Structure Considerations:*** When working around structures, be aware of downed power lines, natural gas or propane leaks, and unstable structure supports. Communicate with the structure owner if possible.

- ***Safety Gear:*** Rain gear, warm clothing, handheld lights, gloves, goggles, hardhat, boots, first aid kit, ropes, personal flotation devices (PFD), hip waders.

## Flood Fighting Terminology

**Boil** Also known as 'Sand Boil', is caused by water flowing through or under a levee, possibly carrying eroded levee material, and surfacing on the land side of the levee.

**Button** A plastic tie down device used with plastic sheeting.

**Emergency Spillway** Plastic sheeting and sandbags used to allow water to flow over a levee, protecting it from erosion. (Page 23)

**Flood Fighting** An effort made to prevent or mitigate the effects of flood waters.

**Home Protection** Plastic sheeting and sandbags placed around individual homes to protect from low current flood waters. (Page 26)

**Lath** Long, narrow wooden stakes (4 feet long by 1 ½ inch wide) used to mark problem areas during high water patrolling. A brief description of the problem along with the date, time, and patroller's initials are written on the lath with a permanent ink marker. Brightly colored survey ribbon is attached to the lath for easy identification.

**Levee** An earthen structure that parallels a river or stream designed to prevent high water flows from inundating urban and/or agricultural land.

**Levee Break** A point in the levee system that has failed to perform its designed function, has eroded away and is allowing water to inundate land.

**Levee Breach** The same as Levee Break but can sometimes describe a section of levee that has been intentionally broken. If intentional, also known as a relief cut.

**Lumber and Sack Topping** Wooden panels and sandbags used to prevent overtopping and to divert water, mud, and debris flows. (Page 11)

**Overtopping** When water has risen higher than the banks of a waterway or the top of a levee.

**Plastic Sheeting** Made of polyethylene, these 100'x20'x10 mil rolls are sometimes referred to as visquine and are used for erosion control.

**Rain Coat** A single layer of plastic sheeting and sandbags used to protect slopes from further rain saturation. (Page 22)

**Relief Cut** Intentionally-removed section of levee to relieve hydrologic pressure upstream and downstream of the levee section.

**Sack Ring** Multiple sandbag rings used to encircle a boil, slow the flow of water, and stop the erosion of levee material. (Page 13)

**Sack Topping** A sandbag wall designed to prevent overtopping. (Page 9)

**Sandbag** An 18”x30” bag (burlap or plastic) filled with sand or other appropriate material intended for use as a temporary flood fighting measure.

**Sloughing** Soil movement or slides often caused by over-saturated levee or hillside slopes. Can also be referred to as ‘mud slides’.

**Structure Protection** Sandbags, wooden panels, or other materials used to divert water, mud, and debris flows away from buildings, homes, and other structures. (Page 24)

**Temporary Levee** Use of plastic sheeting, fill material and sandbags to raise a low area on a levee or embankment. (Page 10)

**Twine** 250lb tensile strength polypropylene tying twine.

**‘U’ Shaped Sack Ring** A sandbag structure used on levee slopes to control boils. (Page 14)

**Wooden Panels** Wooden planks or plywood sheets used in conjunction with other flood fighting materials to prevent overtopping of levees or embankments and divert water.

**Wavewash** Wind-generated waves breaking against a levee or embankment and possibly causing erosion.

**Wavewash Protection** Plastic sheeting, sandbags, twine, stakes, and buttons used to prevent erosion of levee slopes and embankments. (Page 16)

**Reference Guide:**

DWR Division of Flood Management
**www.water.ca.gov/floodmgmt**

California Data Exchange Center
CDEC
**www.cdec.water.ca.gov**

California Emergency Management Agency
CalEMA
**www.calema.ca.gov**

National Weather Service
**www.weather.gov**

To request a copy of the Directory of Flood Officials or Flood Emergency Phone Card, contact the DWR Flood Operations Center at (916) 574-2619

## Flood Fight Material/Equipment List

Fill/Repair material (Sand, Rock, Road Base)
Sandbags (18" width x 30" length 10 oz.)
Plastic Sheeting (100'x20'x10 millimeter rolls)
Wooden Stakes (1"x3"x24")
Bailing Twine (250lb tensile strength)
Tie Down Buttons
Geotextile Fabric (20'x100' rolls)

### *Patrolling*

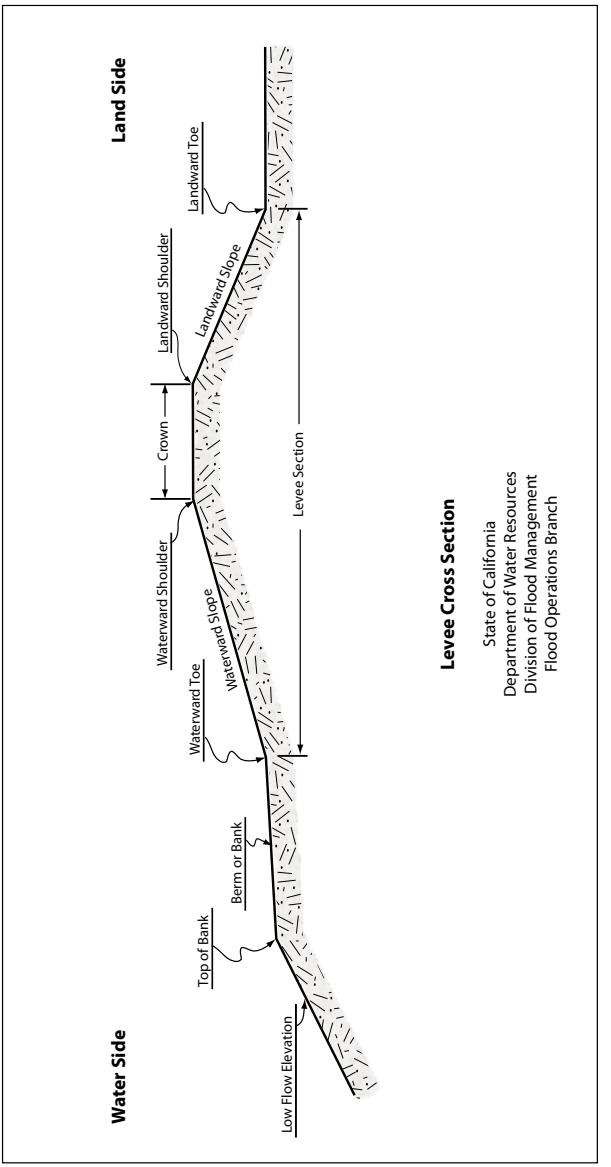
Patrol Vehicle (4Wheel Drive)
Communication Devices (Radio, Cell Phone, Laptop Computer (e-mail)
Global Positioning Satellite Handheld Device (GPS)
Digital Camera
Lighting (Flash Light, Flood Light)
Batteries
Lath (Bundle of 50)
Survey Ribbon (Bright Colors)
Permanent Ink Markers
Patrol Log (Writing Pad and Pencil)
Measuring Tape (100')

### *Tools*

Shovels, Long Handle (#2 Mud Shovel)
Sledge Hammer (10lb)
Multi Purpose Lineman Pliers
Pulaski
McLeod
Loppers

### *Safety*

Rain Gear
Rubber Boots
Hard Hat
Safety Glasses
Gloves
Boots
Personal Flotation Device (PFD)
Personal Safety Light
Warm Clothing
First Aid Kit


Land Side
Landward Toe
Landward Shoulder
Landward Slope
Crown
Levee Section
Waterward Shoulder
Waterward Slope
Waterward Toe
Top of Bank
Berm or Bank
Low Flow Elevation
Water Side
Levee Cross Section
State of California
Department of Water Resources
Division of Flood Management
Flood Operations Branch


*For all flood training information, emergencies, questions, or for additional information, please contact :*

***State-Federal Flood Operations Center***
***(916) 574-2619***
***flood_center@water.ca.gov***

*For training information, contact:*

***Rick Burnett***
*Flood Fight Specialist*
***(916) 574-1203***
***rburnett@water.ca.gov***
***www. floodfightmethods.org***

floodER Department of Water Resources Flood Emergency Response Program

FloodSAFE CALIFORNIA DEPARTMENT OF WATER RESOURCES


# Be Prepared to Evacuate!

Many areas of San Joaquin County are protected from floods by large levees or dikes that surround local neighborhoods. If you live in one of these areas you should be prepared to evacuate your home in the unlikely event that a problem develops with your neighborhood levee and officials feel you should leave for your own safety.

Local fire and law officials have divided city neighborhoods into evacuation "zones" to help conduct emergency evacuations in an orderly manner. Officials have identified in each zone the streets that residents should use to leave as well as locations in the neighborhood where they can obtain assistance if they cannot leave quickly on their own.

Please keep the brochure with the map for your neighborhood where you can find it in an emergency. Use the map to identify your closest evacuation route, the closest location where you can get help if needed, and the radio frequencies you can listen to for additional evacuation instructions. You should also review the following additional safety information with your family.

- Listen to KFBK 1530 AM for initial warnings for your neighborhood
- Listen to other emergency radio frequencies for evacuation instructions when directed (see map)
- If forced to shelter in a building due to floodwaters, make sure you can access the roof
- Have a bright cloth or flashlight with you at all times to use to signal rescuers if necessary
- Do not drive through flooded areas. Standing water is often deeper than it looks
- Have a plan where your family will meet if separated

This brochure was funded with a grant from the Federal Emergency Management Agency Region IX, Oakland, California

Find more safety information at the following websites:
**www.sjgov.org/oes**
**www.floodsmart.gov**
**www.fema.gov/plan/prepare/animals**

Federal and local officials strongly encourage residents living behind levees to obtain flood insurance.

To see all the maps, visit:
**www.sjmap.org/evacmaps**

The San Joaquin County
Office of Emergency Services
2101 E. Earthart Avenue, Stockton
(209) 953-6200

SAN JOAQUIN OES

SAN JOAQUIN COUNTY CALIFORNIA

# What to do in a FLOOD


## Brookside Evacuation Zone

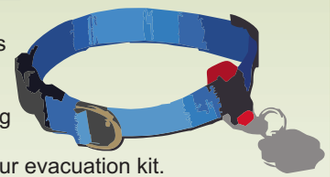
SAN JOAQUIN OES

# Be Prepared!

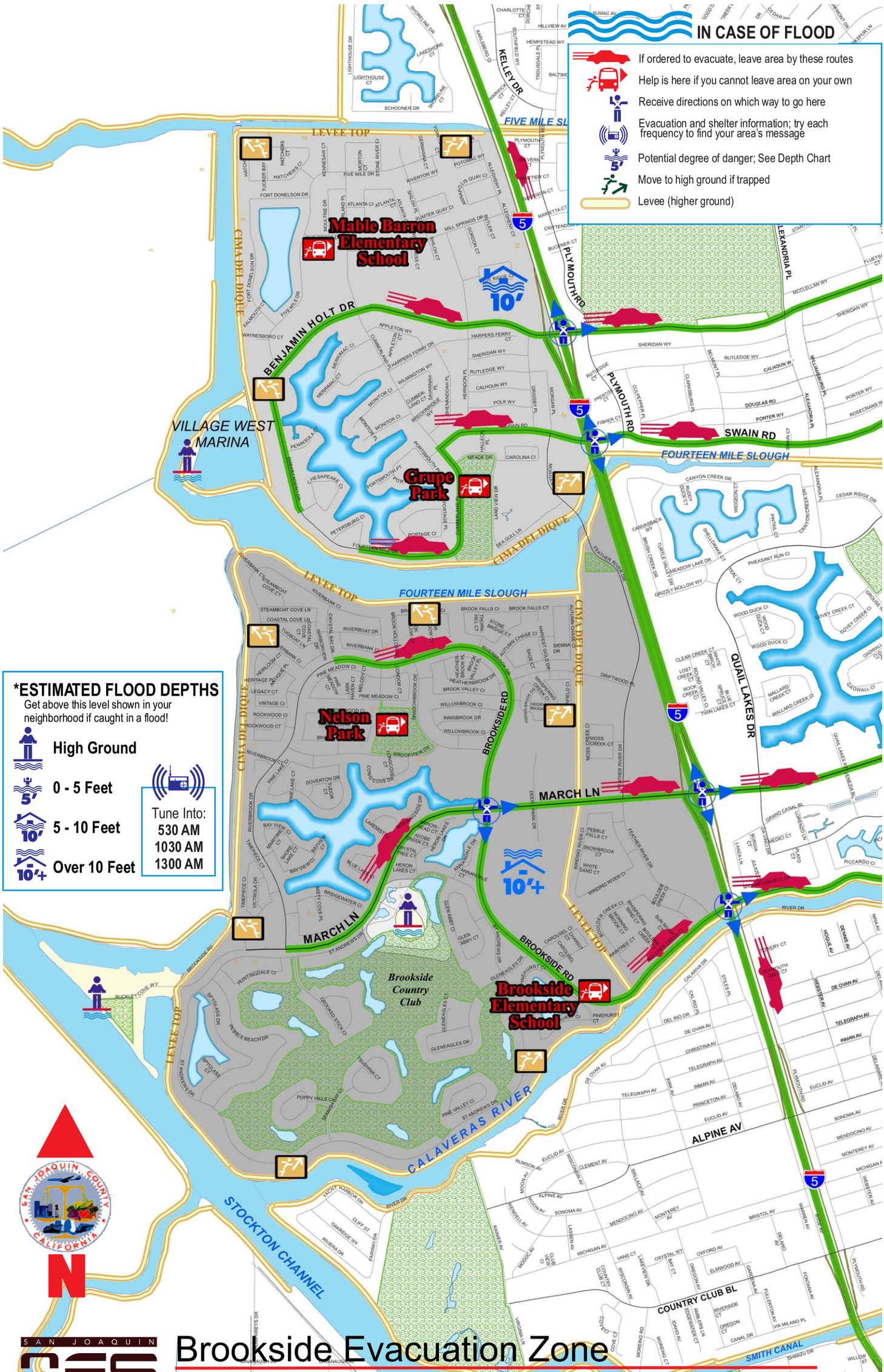
Have a battery or crank powered AM/FM radio. Critical information in an emergency will be broadcast through commercial and government-owned radio transmitters.

Start an evacuation kit by obtaining a small bag and inserting a zippered plastic bag containing copies of family prescriptions, important family documents, and family contact information with some spare clothes.

Protect your pets by giving them an identification collar and placing their picture and description in your evacuation kit.



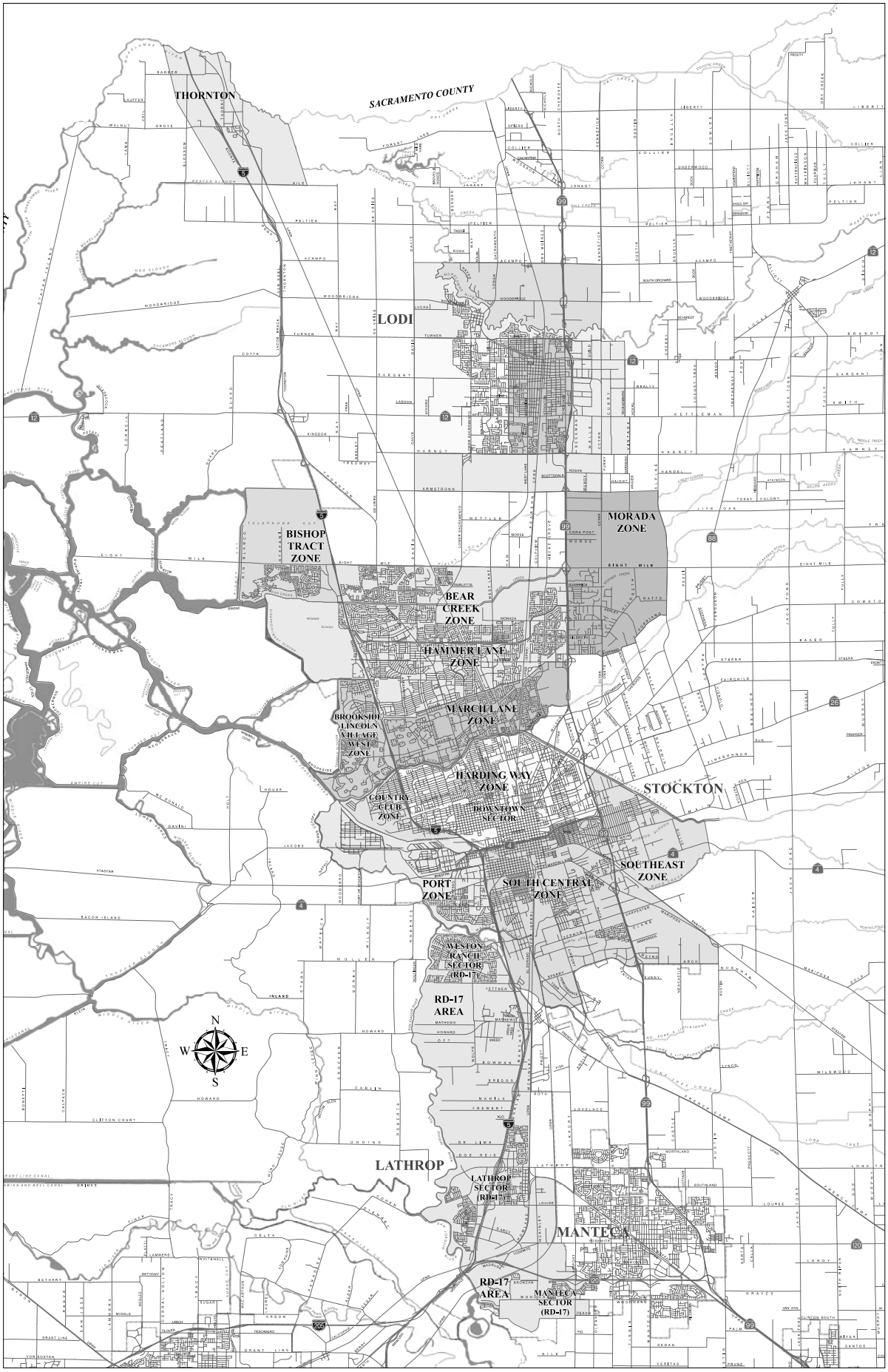
For more information contact:
**The San Joaquin County**
**Office of Emergency Services**
2101 E. Earthart Avenue, Stockton
**(209) 953-6200**




# Brookside Evacuation Zone

## San Joaquin County Office of Emergency Services

Prepared by San Joaquin County Geographic Information Systems
1810 East Hazelton Avenue, Stockton, CA 95205




# San Joaquin County Evacuation Zones

0 2 4 6 8 10
Miles

**San Joaquin County Office of Emergency Services Phone: (209) 468-3962**

Prepared by San Joaquin County Geographic Information Systems 1810 East Hazelton Avenue, Stockton, CA 95205



December 15, 2010
GIS - Mike Turn

**Attachment No. 1**

# Reclamation District 2074

# Flood Fight Supply Inventory

| ITEM | QUANTITY |
|---|---|
| 1.5 CANDLEPOWER CAR LIGHTS | 3 |
| 24" MAGLITES W/ BATTERIES | 4 FLASHLIGHTS |
| SANDBAGS | 5000 |
| PLASTIC BUTTONS | 1750 |
| WOODEN STAKES | 360 |
| SLEDGEHAMMERS | 7 |
| SHOVELS | 9 |
| DUCT TAPE | 2 ROLLS |
| FLAGGING TAPE | 1 ROLLS (need 5 more) |
| WATERPROOF MARKERS | 12 |
| LIFE VESTS | 2 |
| #250 TWINE | LOTS |
| 10 MIL POLYETHYLENE SHEETS | 5 BOXES 20’ X 100’<br>4 BOXES 32’ x 100’ |
| SURVEY LATHES | 50 |
| UTILITY KNIVES/SAFETY RAZORS | 3 |
| LINEMAN PLIERS | 3 |
| 5’ PVC PIPE (3”) | 4 |
| WORK GLOVES | 10 |
| 36” BOLT CUTTERS | 1 |

Note: To cover the east face of Ten Mile Levee from the toe to the high water mark, approximately 60 rolls of 32’ wide x 100’ long 10 mil polyethylene sheets, along with additional stakes, plastic buttons and sand bags will be required.

# Attachment 2

# CONTRACT

RECLAMATION DISTRICT NO. 2074
_____ PROJECT
STOCKTON, CALIFORNIA

- WITNESSETH -

This CONTRACT is made and entered into this ____ day of _____, 2015, by and between Reclamation District No. 2074, hereinafter called the "Owner", whose address is c/o The Hartmann Law Firm, 3425 Brookside Road, Suite A, Stockton, CA 95219, and _____ hereinafter called the "Contractor", who's mailing address, is _____.

The Owner has awarded to the Contractor, upon his bid duly submitted, the Contract for doing the work and furnishing the materials and equipment described in the Plans bound herewith on the terms stated as follow:

1. Contractor Agrees:
   - To do all the work and furnish all the labor, material, equipment and appliances to complete the work in accordance with the description stated above, and all other contract documents. Contractor acknowledges that the work specified herein is a public work subject to California Labor Code Section 1771.

   - To provide third party testing services.

   - To do and perform said work diligently as directed by the Owner until completion is evidenced by written acceptance by Owner.

   - To start said work within _____ calendar days after receipt of Notice to Proceed. All work shall be completed within _____ calendar days from the start of work. The Contractor shall pay the owner liquidated damages in the amount of one thousand dollars ($1,000.00) per day for every day over the thirty (30) calendar day limit, until all work is completed and accepted by the Owner.

   - To remedy, at his expense, any defects in materials or workmanship which shall appear within a period of twelve (12) months from the date of the final acceptance of the work or for such longer periods as may apply to latent defects which are not reasonably discoverable by visual inspection and testing.

- To do and perform the work contemplated hereby and furnish all labor, material, appliances, equipment, tools and pay all taxes therefore, at the bid price specified in the Proposal form submitted by the Contractor, a conformed copy of which is attached to and made a part of the Contract.

- To maintain during the life of the Contract, Workers' Compensation, Public Liability and Property Damage Insurance ($2,000,000 per claim), in which the Owner and Engineer shall be named as an additional insured and which will protect the Contractor, any and all of the Contractor's subcontractors, the Owner and Engineer and their agents or representatives against any claims for personal injury, including accidental death arising from the operation of the Contractor, whether such operation shall have been performed by the Contractor, any of the Contractor's subcontractors, or anyone employed either directly or indirectly by the Contractor. Certificates of such insurance shall be delivered to the Owner.

- To indemnify and hold harmless the Owner, its trustees, agents, servants, consultants, subconsultants and employees from any and all damage of any kind to the extent caused by the negligent acts or omission of Contractor arising out of Contractor's construction activities on the property.

- Contractor shall provided certified truck tags to document quantities of materials delivered.

2. Owner Agrees:
   - To provide construction staking and inspection services as required.

3. It is further agreed by the parties that before each payment is made as provided above, receipts and releases of liens of all kinds for all labor and materials and all other indebtedness connected with the work shall be presented to the Owner by the Contractor upon the request of the Owner. The Owner, in his own discretion, may issue joint checks payable to the CONTRACTOR and any subcontractor or material supplier in payment of labor and materials furnished towards the Work of Improvement.

4. It is expressly understood and agreed that a waiver of any of the conditions or covenants of this Contract shall not be considered a waiver of any of the other provisions hereof.

   a) Contractor shall furnish Owner with a Faithful Performance Bond for the completion, guarantee and warranty of the work for a period

of one year following the completion and acceptance thereof, which bond shall be a surety in favor of Owner, for defective work or labor done, or defective materials furnished. The Faithful Performance Bond shall be in the sum of 100% of the contact price which shall be lawful money of the United States of America. The said Bond shall be executed by the surety and vendor concurrently with the signing of the contract. The form and content of the said Bond must be approved by the Owner. All alterations, extension of time, extra and additional work, and other charges authorized shall be made without securing the consent of the surety of sureties on the contract bonds.

b) Contactor shall submit one invoice for payment upon project completion and acceptance by the District. District will issue a warrant to the contractor within 60 days after the Work of Improvement is deemed complete.

5. Contractor agrees to pay to each craft, classification or type of workman the prevailing wage determined by the State of California, Director of Industrial Relations, in the published wage scale determination. Copies of the prevailing rate of per diem wages are on file at the offices of the Owner's engineer, Siegfried Engineering, Inc. at 3244 Brookside Road, Suite 100, Stockton, California 95219. Contractor shall submit certified payrolls with the payment request.

6. It is mutually agreed and understood that the complete Contract shall consist of the following component documents, all of which are fully a part hereof as if herein set out in full, or if not attached, as if attached:

- Bid received and dated _____ in the amount of $_____.00.
- Improvements Plans - _____ dated _____.
- Reclamation District No. 2074 Routine Maintenance Agreement (1600-2009-0378-3) with the Department of Fish and Game.

7. The provisions of California Labor Code Sections 1777.5 and 1777.6 shall apply to the employment of apprentices by Contractor or any subcontractor under him.

8. All provisions of the California Occupational Safety and Health Act of 1973 (CALOSHA), as amended, shall be adhered to.

9. Unless otherwise directed, in writing, Contractor agrees to perform all work between 8 am to 5 pm on weekdays and no work shall be performed on weekends. Eight (8) hours labor constitutes a legal day's work.

10. Contractor must secure the payment of workers compensation to its employees as provided in California Labor Code Sections 3700.

11. The statutory provisions for penalties for failing to comply with the State of California wage and hour laws and/or prevailing wage laws will be enforced.

12. If the Notice to Proceed is not issued within thirdly (30) calendar days from the date of this contract, the contract may be rescinded by the Owner.

13. The Contractor and his subcontractors shall keep the site free of toxic and hazardous substances and shall not cause the release of any toxic or hazardous substances onto the property or permit the same. Contractor does hereby indemnify the Owner, trustees, agents, servants, consultants, subconsultants and employees against any and all loss, claim, harm or damage including but not limited to attorney fees, cost of remediation and clean-up, fines and penalties arising out of the contamination of the property by Contractor, subcontractors and their agents.

14. The Work of Improvement shall be constructed in accordance with all applicable fire, safety and building codes and shall be constructed within the property lines of the legal parcel subject to all applicable setbacks and easements.

15. Contractor shall demonstrate proof of registration with the State Department of Industrial Relations in accordance with SB 854 and shall remain registered the entire duration of this contract

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in duplicate, on the day and year first above written.

RECLAMATION DISTRICT NO. 2074
C/o The Hartmann Law Firm
3425 Brookside Road, Ste A,
Stockton, CA 95219

BY: _____

TITLE: _____

DATE: _____

(Contractor)_____
(Address)_____
_____

BY: _____

TITLE:_____

DATE: _____

## CERTIFICATION BY CONTRACTOR

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this Contract.

CONTRACTOR _____

BY _____

TITLE _____

DATE _____

Contractor's License Number: _____

Telephone Number: _____

**Attachment 3**

**Emergency Resolution Template**

**RECLAMATION DISTRICT NO. 2074**

CERTIFIED COPY OF RESOLUTION

Upon motion duly made and unanimously passed, it was

**RESOLVED,** the District declares an emergency in accordance with the District's Emergency Operations Plan.

**RESOLVED FURTHER that** the District identifies the following responsibilities

_____
_____
_____

**RESOLVED FURTHER,** that said work does not constitute an exception to the exemptions of the California Environmental Quality Act.

**RESOLVED FURTHER,** that _____ is hereby directed to prepare and file with the County Clerk of San Joaquin County for posting, a "Notice of Exemption" pursuant to California Administrative Code, Title 14, Chapter 3, Section 15062.

I, _____, hereby certify that I am and at all times mentioned herein was the duly elected, qualified and acting Secretary of RECLAMATION DISTRICT NO. 2074 organized and existing under and by virtue of the laws of the State of California; that the foregoing is a full, true and correct copy of a Resolution duly and regularly adopted at a meeting of the Board of Trustees of said District duly held on _____, a Majority and quorum of the members of said Board being present and all voting in favor of said Resolution; and that said Resolution has not been modified, rescinded, altered or amended and is now in full force and effect.

WITNESS my hand this _____ day of _____, 20_____

_____
, Secretary
RECLAMATION DISTRICT NO. 2074

**RESOLUTION**
**OF THE BOARD OF TRUSTEES OF**
**RECLAMATION DISTRICT NO. 2074**

WHEREAS, the State of California requires the resolution of the Trustees of Reclamation District No. 2074 with respect to the execution of the Subvention Agreement in the form attached hereto as Exhibit "A;" and

WHEREAS, the District desires to participate in the Delta Levee Subvention Reimbursement Program, the Trustees of Reclamation District No. 2074 do hereby resolve unanimously as follows:

Reclamation District No. 2074 by and through its Trustees shall execute the Subvention Agreement attached hereto in the form of Exhibit "A," and shall submit such executed Agreement with the District's claim for Subvention Reimbursement.

Dated: December 10, 2015.

_____
NELSON BAHLER, Trustee

_____
ROBERT RIPKEN, Trustee

_____
BILL MURPHY, Trustee

CERTIFICATION

I, CAROLYN HARTMANN, do certify as follows:

That I am the duly appointed Secretary of Reclamation District No. 2074 and the above resolution was adopted by the Board of Trustees of said District at a properly noticed meeting of the Board of Trustees of said District held on December 10, 2015.

I certify under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

Executed on December 10, 2015.

_____
CAROLYN HARTMANN, Secretary

# Attachment 4


## RECLAMATION DISTRICT NO. 2074 - BROOKSIDE

a political subdivision of the State of California

3425 Brookside Road, Suite A
Stockton, California 95219
Telephone (209).956.9940

Nelson Bahler
Robert Ripken
Bill Murphy

District Trustees

George V. Hartmann
District Counsel

Carolyn Hartmann
District Secretary


Date

San Joaquin County
Office of Emergency Services
2101 E. Earhart Ave.
Stockton, CA 95206

To whom it may concern,

Reclamation District 2074 (District) has declared an flood fight emergency and assigned the responsible personnel in accordance with the attached Resolution.

By: _____
(President, Board of Trustees)

_____
(Date)

# Attachment 5

## RECLAMATION DISTRICT NO. 2074 - BROOKSIDE

a political subdivision of the State of California

3425 Brookside Road, Suite A
Stockton, California 95219
Telephone (209).956.9940



Date

District Commander
U.S. Army Engineer District, Sacramento
1325 J Street
Emergency Management Section
Sacramento, CA 95814-2922

SUBJECT: PUBLIC LAW 84-99 ASSISTANCE REQUEST

Dear Sir:

The existing high water conditions constitute a flood threat to the safety of persons and property of Reclamation District 2074, located in the City of Stockton, County of San Joaquin, Sate of California.

The potential threat is beyond our capability to address. RD 2074 requests that the U.S. Army Corps of Engineers provide emergency assistance in the form of temporary protection.

Sincerely,

_____
(signature) (public official)

_____
(print name)

_____
(title)

## Overview

The first responsibility for protecting homes and property from flood damage rests with the individual. Non-federal interests which include local governments, levee and drainage districts, and federally recognized Indian Tribes (hereinafter referred to as "local interests"), and the state share the responsibility and together they form the community's first line of defense in preventing flood damage.

Occasionally, however, local resources are not able to contain or control a flood emergency situation. The U.S. Army Corps of Engineers' (USACE) flood disaster assistance program is intended to supplement and support local interests upon their request for assistance.

The information contained in this brochure provides a summary of the USACE Flood Emergency Assistance Program. A more detailed discussion may be obtained by reviewing Engineer Regulation 500-1-1 available on the web at http://www.usace.army.mil/publications/eng-regs/er500-1-1/toc.htm .

## Flood Emergency Assistance Available

The USACE is authorized to provide flood emergency assistance under three categories:

- Emergency Operations, Flood Fight Assistance
- Rehabilitation of Damaged Flood Damage Reduction Projects
- Advance Measures

When flood conditions exceed, or are predicted to exceed the response capability of levee and drainage districts and local or state governments, the USACE has the authority under Public Law 84-99 to provide emergency flood response assistance without further specific authorization of Congress. The USACE can furnish assistance for flood emergency preparation, flood fighting and the repair and restoration of certain flood damage reduction projects damaged or destroyed by flood. Assistance also includes providing flood fight personnel for technical advice, sandbags, plastic sheeting, pumps, or other materials and equipment for an imminent or actual flood emergency to protect against substantial loss of life and property.

The USACE assistance is intended to be **supplemental** and not a replacement for local interests' self-help, and requires a written request for assistance from a public sponsor or entity. No assistance can be provided directly to **individuals or businesses**.

The sponsoring agency/local interests must be fully authorized to provide requirements of local cooperation and to pay a local share of the costs. Since most emergency work provides protection for an immediate situation, USACE authority does not extend to the **reimbursement** of flood fighting expenditures incurred by local interests, flood and debris cleanup, or the removal of temporary flood control structures.

Participation by the USACE in emergency operations may extend to operational control of emergency forces only upon a written request by local interests. This action will be exercised only when the situation exceeds the non-federal capability to execute.

## Emergency Operations and Flood Fight Assistance

The USACE is authorized to lend/issue emergency flood fighting supplies. The USACE role is to provide **"supplemental"** support to local interests and the state during flood fight operations. The local interests have the primary responsibility for expending sufficient resources to ensure effective flood fight preparedness. Maximum use of **local resources** and **state resources** must be made before assistance in the form of supplies and equipment can be provided by the Federal Government.

Typical preparedness activities by local interests should include the stockpiling of flood fight supplies such as sandbags and polyethylene sheeting, and advance rental or procurement of equipment such as pumps, generators, boats, and motors.

Also included are the preparation of flood response plans and proper maintenance of any existing flood damage reduction projects. Flood fighting supplies should be stockpiled to meet the total needs of flash floods and lesser floods of longer duration as well as the initial requirements of a major flood occurrence.

Expendable supplies provided by USACE, such as sandbags will be replaced in kind or paid for by local interests to the extent considered feasible and practicable by the Division or District Commander. District Commanders may waive replacement of supplies when a Presidential Disaster Declaration is made.

## Rehabilitation of Damaged Flood Damage Reduction Projects

The USACE will provide assistance in the rehabilitation of flood damage reduction projects only when the federal or non-federal project is in "Active" status in the USACE Rehabilitation and Inspection Program, the damage has been caused by a recent high water event, and repairs are clearly beyond the normal, physical, and financial capabilities of the project sponsor. The urgency of the work is considered when determining local interest capability. Flood damage reduction projects must be designed and constructed to provide appreciable and dependable protection in preventing damage from irregular and unusual rises in water levels to be considered flood damage reduction projects.

Rehabilitation under Public Law 84-99 will not be applied to projects which, as a result of poor maintenance or deterioration, require substantial reconstruction. All deficient or deferred maintenance outstanding when damage occurs will be accomplished by or at the expense of the responsible public sponsor either prior to or concurrently with the authorized rehabilitation work. No project will be repaired unless the work satisfies the USACE criteria for a favorable benefit-to-cost ratio.

Structures built primarily for the purpose of channel alignment, navigation, recreation, fish and wildlife enhancement, land reclamation, drainage, or erosion protection are **ineligible** for Public Law 84-99 rehabilitation.

The USACE requires that requests for rehabilitation work be submitted within 30 days after the floodwaters recede to bank full. The public sponsor should request a rehabilitation investigation from the appropriate USACE District as soon as possible after the flood damage occurs.

## Advance Measures

Advance Measures consists of those activities performed prior to flooding or flood fighting to protect against loss of life and damages to urban areas and/or public facilities.

Emergency work under this category will be considered **when requested by the Governor** of a state confronted with an immediate threat of unusual flooding. USACE assistance will complement the maximum efforts of local interests.

Projects will be designed for a specific threat and, unless specifically excepted, **will be temporary in nature**.

## Requirements for USACE Assistance

The public sponsor must execute a standard Cooperation Agreement with USACE to include:

(a) **Furnishing of lands, easements, rights-of-way, relocations and disposal sites (LERRD).** This item provides for sites of structures, for borrow and disposal areas, and for access; also, for all other rights in, upon, through or over private property as needed by the United States in connection with the authorized work. Performance by the public sponsor under their assurance to furnish LERRD will normally not be considered a contribution. If more advantageous to the Federal Government, borrow and disposal areas may be assumed as federal responsibility. Easements must be provided for future federal inspection of maintenance or removal.

(b) **Hold and save clause to indemnify the government for certain damages.**
(c) The sponsor's agreement to operate, maintain, repair/ replace, and rehabilitate the completed work in a manner satisfactory to the Government.
(d) **Compliance.** The sponsor must comply with applicable provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (Public Law 91-646, 84 stat 1894).

## Funding/Cost Share

- Emergency Operations Flood Fight Assistance
  - 100% federal
  - LERRD provided by public sponsor
- Rehabilitation of Damaged Flood Damage Reduction Projects
  - Federally authorized projects operated and maintained by public sponsor – 100% federal
  - Non-federal projects – 80% federal / 20% public sponsor
  - LERRD provided by public sponsor
- Advance Measures
  - 100% federal for temporary measures
  - 75% federal / 25% public sponsor for permanent measures
  - LERRD provided by public sponsor

## Major Disaster Recovery

The Federal Emergency Management Agency (FEMA) under the authority of the Robert T. Stafford Disaster "Relief and Emergency Assistance Act" (Public Law 93-288 as amended) administers disaster recovery work under the National Response Framework. USACE assistance under this authority is provided only upon mission assignment from FEMA.

## How to Request Public Law 84-99 Flood Emergency Assistance

- **Emergency Operations, Flood Fight Assistance**
  If a flood situation is beyond local interests' capabilities, they may request flood fight assistance by calling the California State-Federal Flood Operations Center at (916) 574-2619, who will then contact the appropriate USACE District office. The local interests should also follow up the phone call with a request letter similar to the example provided. When the request is received, local interests will be contacted and promptly advised on the USACE ability to provide assistance.
- **Rehabilitation of Damaged Flood Damage Reduction Projects**
  Following major flood events the USACE will notify all levee sponsors/owners that requests for assistance to repair damaged flood damage reduction projects are being accepted. Project sponsors may request USACE Rehabilitation assistance by letter providing the following information:
  - Name and telephone number of public sponsor point of contact
  - Legal name of flood damage reduction project
  - Date and result of last USACE inspection
  - Project location by Township, Section, Range, city and county
  - Location of damaged section(s), and extent of damage at each
  - Name of waterway causing the damage
- **Advance Measures**
  Requests for Advance Measures assistance must be submitted to the appropriate USACE District Commander by letter signed by the Governor of the state, and containing the following information:
  - A description of the state and/or local efforts undertaken
  - A statement that the state has committed all available resources
  - The specific locations(s) and types of assistance needed
  - Name of the project sponsor
  - Additional commitments to be accomplished by the state

*Example Assistance Request Letter*

(letterhead of sponsoring political subdivision)
District Commander
U.S. Army Engineer District, _____
Address of USACE District

Dear Sir:

The existing high water conditions constitute a flood threat to the safety of persons and property of _____ located in the County of _____, State of _____.

The potential threat is beyond our capability to address. It is requested that the U.S. Army Corps of Engineers provide emergency assistance in the form of temporary protection.

Sincerely,

_____
(signature) (public official)

_____
(print name)

_____
(title)



US Army Corps of Engineers®

# FLOOD EMERGENCY ASSISTANCE

# Attachment 6


## RECLAMATION DISTRICT NO. 2074 - BROOKSIDE

a political subdivision of the State of California

3425 Brookside Road, Suite A
Stockton, California 95219
Telephone (209).956.9940

Nelson Bahler
Robert Ripken
Bill Murphy

District Trustees

George V. Hartmann
District Counsel

Carolyn Hartmann
District Secretary


## Reclamation District 2074
## Delegation of Authority Letter

As of _____ hrs, _____, I have delegated the authority and responsibility for the
(Time) (Date)
complete management of the Reclamation District 2074 _____ Incident to
(Name of Incident)
_____ acting as District Incident
(Name of Individual(s))
Commander and Deputy Incident Commander respectively.

As Incident and Deputy Commander, you are accountable to me and the Board of Trustees for the overall management of this incident including control and supervision over District staff and contractors. I expect you to adhere to relevant and applicable laws, policies, and professional standards.

My general considerations for management of the incident are:
1. Provide for safety of District staff.
2. Keep the Board and District Secretary informed of key actions, and the situation.
3. Comply with the RD2074 Flood Safety Plan and document conditions requiring its modification

My specific directions and clarifications of authority for this incident are:

1.

2.

By: _____
(President, Board of Trustees)

_____
(Date)