SJFCD Flood Contingency Options
Zone 9 High Water Event and Central Stockton Options

High Water Event

The flood fight strategy will be to implement Flood Control District flood safety plan and prepare to implement potential contingency options.

Actions

- Implement Flood Control District Zone 9 Flood Safety Plan.
- Establish communications with Public Works Mutual Aid Coordinator at San Joaquin Operational Area EOC and provide patrol status and results as requested.
- Participate in Metropolitan Flood Fight Unified Command at 2101 E. Earhart Avenue, Stockton.
- Prevent entry of Duck Creek waters into Mormon Slough.
- Review plans with utility providers for protecting storm drain pumps and demounting motors and to isolate California Water and SMUD water systems as necessary and maintain water pressure at critical pump stations..
- Review plan with SEWD to implement ring dike plan to protect SEWD Treatment Plant.
- Identify equipment needed to implement flood contingency options for Flood Control Zone 9.

Levee Breach on right bank (North/East) of Diverting Canal or north bank of Mormon Slough east of Diverting Canal to Jack Tone Road

Sheet flow will pond on North/East side of Diverting Canal to depths of 2-3 feet and drain toward junction of Calaveras River and Diverting Canal and build back toward south threatening Stockton East Water District treatment plant. General flood fight strategy is to maintain maximum pumping of flood waters into Diverting Canal/Calaveras River consistent with safety of City of Stockton while protecting the SEWD facility.

Actions

- Flood fight right bank of Diverting Canal and left bank of Calaveras River to prevent flood waters entering those waterways in an uncontrolled manner.
- Maintain existing storm water pumping stations and supplement with additional pumping capacity as additional water can be removed without endangering City of Stockton.
- SEWD implements ring dike plan and makes Relief Cut if appropriate at RR embankment located to north of plant to protect SEWD facility.

Levee breach on left bank (south/west) of Diverting Canal or left bank (south) of Mormon Slough west of mouth of South Potter Creek Channel A

Waters will flow toward/along old Mormon Slough through residential areas east of Highway 99 and continue west generally along old Mormon Slough spreading north and south depending on obstructions. Waters will also travel north and south of Union Pacific RR running east-west through Stockton from Aurora Street creating two distinct bodies of water. Water north of RR will exit to shipping channel via Mormon Slough through downtown. If IS emergency berm plan is implemented, waters south of Union Pacific RR tracks will pond against Interstate 5 and build southward toward Walker Slough. General flood fight strategy will be to 1) monitor extension of flood waters to north and south to identify localized opportunities to protect property or critical infrastructure, 2) facilitate flow of waters into Deep Water Channel and/or Walker Slough, and 3) assist, if possible and requested, to implement Interstate 5 emergency berm plans.

Actions

- Maintain levee patrols on Diverting Canal and Mormon Slough to identify additional problems and monitor water levels and flow through breach.
- Initiate roving patrols to identify opportunities to protect property and critical infrastructure as waters build toward north and south of old Mormon Slough and Union Pacific RR embankment.
- Take action if possible to facilitate flow through old Mormon Slough to channel.
- Coordinate with water utilities to monitor municipal water system and isolate as necessary to maintain integrity and protect critical pump stations to maintain water pressure.
- Coordinate with other utilities to protect their critical infrastructure.

Failure of either bank of Calaveras River west of Diverting Canal and east of Interstate 5

General flood fight strategy will be to 1) monitor extension of flood waters to identify localized opportunities to protect property or critical infrastructure, 2) facilitate flow of waters into Deep Water Channel or west side sloughs, and 3) assist, if possible and requested, other reclamation districts or utility providers to implement their emergency plans.

Actions

- City of Stockton demounts SMUD storm water pumping station motors if possible.
- City of Stockton places constrictions in storm water lines leading under Interstate 5 to storm water pumping stations on west side of Interstate 5 to prevent damage.
- Protect California Water Pumping Stations #59, 60, and 61 to maintain water pressure.
- Place emergency pumping stations per dewatering plan to assist with dewatering area.

Supply Delivery Points and Staging Areas – Central Stockton

Pre-Planned Delivery Points to meet incoming resources

DP #1 - School of Pharmacy Parking Lot, Pacific Avenue and Brookside Road
DP #2 - District Pre-event stockpile near East Main Street bridge over Diverting Canal

Supply Staging Areas

SSA #5 - Pre-event stockpile location near East Main Street bridge over Diverting Canal
SSA #10 - School of Pharmacy Parking Lot, Pacific Avenue and Brookside Road
SSA #11 - Department of Public Works yard, 1810 E. Hazelton Avenue

Evacuation Plan

Responsible Agencies:

The City of Stockton, the San Joaquin County Sheriff's Department, and the Linden, French Camp, Waterloo-Morada, Farmington, and Montezuma Fire Districts are responsible for alert and warning and evacuation within Flood Control Zone 9.

Public Safety Agencies Evacuation Plan:

Public Safety Agency Urban Evacuation Maps covering urban areas of Flood Control Zone 9 are available at www.sjmap.org/evacmaps/private (password required).

Evacuation Maps for General Public:

Evacuation maps for general public are available at www.sjmap.org/evacmaps. Full size maps can be accessed for public at businesses and institutions and brochures (8.5X11") with map and safety information suitable for printing on standard home printers.

Dewatering Plan

General Dewatering Situation

Flooding in Zone 9 will generally lead to sheet flow moving from east to west toward the Delta pool. Water will travel along existing waterways or old waterways such as Old Mormon Slough. East-West running linear structures such as elevated roads or railroad embankments will also channel flood waters toward entry points to the Delta pool and north-south running structures, or obstructions in old waterways, will pool water and cause it to extend to the north and south.

General dewatering strategy will be to facilitate movement of flood waters back into active channels or into sloughs on the west side of Stockton by making relief cuts, removing obstructions, and other similar actions. These actions will be supplemented with restoration of pre-event storm water drainage systems so that pooled flood water can be removed once flow ceases. Emergency pumping stations will be placed where needed to facilitate the movement of this pooled flood water into the normal drainage system.

Zone 9 Relief Cut

The San Joaquin County Flood Control and Water Conservation District has one pre-planned potential relief cut identified to facilitate dewatering. That relief cut is located at Jack Tone Road and Mormon Slough. See East Side Map for more details.

Interstate 5 Emergency Berm Contingencies

Reclamation districts on the west side of Stockton have contingency options for blocking Interstate 5 underpasses and making associated relief cuts to protect property and lives on the west side of that elevated roadway. Implementation of such actions, if agreed upon by the Metropolitan Unified Flood Fight Command, would be the responsibility of those districts. SJFCD would assist if requested within its capabilities.

Emergency Pumping Stations

Once breaches are repaired or flow in active channels falls sufficiently, SJFCD will work with the County of San Joaquin, City of Stockton, and other public agencies to identify areas of significant pooled flood waters that would require emergency pumping to dewater. Responsibility for installation of emergency pumping stations would depend on location of pooled water. Pre-event drainage systems would be restored by the owning agency.

SJFCD Levee Patrol Plan

Patrol Group Supervisor

Channel Maintenance Superintendent

Patrol Group Staging Area

Channel Maintenance Building, 1810 E. Hazelton Ave, Stockton

Organization

District staff assigned as emergency levee workers will receive 2-hour Emergency Levee Worker Safety, Procedures, and Incident Management Class. A two-person patrol with County vehicle will be organized and equipped for each designated patrol sector (See SJCFCD patrol SOP). All patrols will use cell phones for primary communications with Patrol Group Supervisor and County local government radio as secondary communications system.

Patrol Plan

Daily patrols and 24-hour patrols will be initiated in accordance with Flood ALERT II Activation and Warning Protocol (see EOP Section 2.2.3). Pre-established standard 1-hour patrol sectors shown on map. Patrols will cover both banks of assigned sector making a one-hour loop. Patrol Group Supervisor may shorten or lengthen patrol sectors as needed. Patrols will pick up equipment, receive pre-shift briefing and post-shift debriefing at Patrol Group Staging Area.

Lath and Marking Protocol

Per DWR Levee Threat Monitoring Guidelines

Red flagged - boil/seepage site
Blue flagged - rock slippage
White flagged - slope/levee distress

Flood Fight History

Central Stockton Map Notes:

1875 First levee work on north bank of Calaveras River to protect land on lower Calaveras River owned by S. C. Hastings, G. F. Smith, and H. Bamhart.

1876 Initial levees in place with a 40-50' wide base and a crown elevation of 7' by 1877.

1896 Use of new dredges led to placement of stronger levees on lower Calaveras River.

1909 Major flood produced high flood elevations on lower Calaveras River with subsequent flooding of areas to north and south of that waterway.

1910 Diverting Canal and lower Calaveras River dredged and new south bank levees placed (at least partially by Dredge San Francisco) to divert flood water to north away from Stockton. From this time major flood flows formerly moving through Mormon Slough in south Stockton to reach tidal basin are diverted to north and down through the lower Calaveras River. Growth of city later in century north of Calaveras River required the raising of the north bank levee to same level of protection as the south bank in conjunction with construction of New Hogan Dam.

1911 Flood of record on Calaveras River. 50,000 cfs peak flow at Jenny Lind.

1955 Major flood with peak flows of 16,000 cfs at Bellota Station where Mormon Slough and Calaveras River separate. Extensive flooding east of Highway 99 and north of the Diverting Canal including Morada area. In these large flood events, flood waters from Bear Creek to north and Calaveras River tend to move toward each other and commingle due to flatness of topography north of Calaveras River. Flooding depths of 1 to 3 feet. No information on flooding west of Highway 99 along north bank of Calaveras River but unsure how flood waters reentered channels and drained.

1958 Major flood with peak flows of 15,400 cfs at Bellota Station where Mormon Slough and Calaveras River separate. Extensive flooding east of Highway 99 and north of Diverting Canal. Breach occurred on south bank of Diverting Canal at junction with Mormon Slough flooding southern Stockton. This breach would have reduced water elevations along lower Calaveras River.

1997 Major flood with high flows into New Hogan Dam. Dam operators were able to contain flows and reduce releases to zero during periods of peak flow into the Calaveras River below the dam. Stockton East Water District report indicated that flow into the Calaveras below the dam still reached channel capacity. The ability of New Hogan Dam to reduce flows to zero while this downstream flow moves through is key to Stockton flood protection.

2006 Major rainfall event following wet March led to inflows of 25,000 cfs or more into New Hogan Dam. Due to wet March, New Hogan reservoir was at high levels and this subsequent intense rainfall event led to dam filling to within 5,000 acre feet of capacity. Three days of subsequent dry weather allowed dam operators to vacate some flood storage with continuous 10,000 cfs releases. Any rainfall immediately after the April 3-4 event had a high probability of causing flows to exceed channel capacity on lower Calaveras River.

Special Consideration – Interstate 5 Emergency Berms

Flood contingency option maintained by reclamation districts on west side of Interstate 5 to place emergency berms and make relief cuts to prevent movement of flood water west of Interstate 5. For details of these plans, see flood safety plans of west side reclamation districts.

Special Consideration – Interstate 5 Emergency Berms

Flood contingency option maintained by reclamation districts on west side of Interstate 5 to place emergency berms and make relief cuts to prevent movement of flood water west of Interstate 5. For details of these plans, see flood safety plans of west side reclamation districts.

Special Consideration - City of Stockton
(Utility systems map layers to illustrate following discussion available in GIS file)

California Water Pumping Stations

California Water maintains water supply system for large areas along north bank of Calaveras River. In event of a breach of north bank levee of Calaveras River it would be critical to maintain pressure in water lines to prevent contamination. California Water has identified several pumps as indicated on map as critical to maintaining water pressure in that area. Placement of emergency berms and backup power at those sites would need to take place as soon as a plausible threat of flooding is identified.

Stockton Municipal Utility Department Storm Water Pumping Stations

Storm water pumping stations shown on north bank of Calaveras River are located below 100-year flood elevations and would be flooded in the event of a breach on north bank of the Calaveras River. Actions would need to be taken to demount pump motors upon identification of a plausible threat of flooding to facilitate repair and restoration of stations to assist with dewatering area.

Brookside Storm Water Pumping Station

In the event of a failure of the north bank levee of the Calaveras River east of Interstate 5 the Brookside Storm Water Pumping Station located just west of Interstate 5 would be critical for subsequent dewatering efforts. Plan to constrict storm water lines leading under Interstate 5 to this station in order to prevent damage to station and its pumps. This station also is critical to maintaining flow in sanitary lines to treatment plant. Pumps need to be protected to ensure that operation continues.

East Bay Municipal Utility District Aqueduct

Major aqueduct carrying drinking water for East Bay Municipal Utility District from Pardee Reservoir runs along river just to north as shown on map. Several blow off valves and other access to line are located at intervals along this line.

Communications Plan

Communications Equipment

County issued cellular telephones and the San Joaquin County Local Government Radio Network. Additional handheld radios available through San Joaquin OES caches and the DWR –funded Delta cache.

Internal Communication

Cell phones will be the primary means of communications with the Board of Supervisors, District staff, and outside agencies.

The SJC Local Government Radio System will be the secondary means of communications between District staff conducting levee patrol or other emergency operations in the field.

Cell phones will be the means of communications with private vendors or contractors acquired by District to assist with emergency operations.

Communications with outside Jurisdictions

Primary means of communications with outside jurisdictions will be personal cellular telephones. Secondary means of communications will be 1) participation in Metropolitan Unified Flood Fight Command and 2) through San Joaquin Operational Area.

Survey Information

Basis of Elevations

Elevations shown are based on the North American Vertical Datum of 1988 (NAVD 88) as referenced by published benchmarks. Units shown are based on the U.S. Survey Foot.

District Incident Command Organization

District is a member of Metropolitan Unified Flood Fight Command 2101 E. Earhart Avenue, Stockton

- District Incident Commander
  - SJ Public Works Liaison Officer
  - Information Officer
  - Operations Section Chief (Optional)
    - Patrol Group Supervisor
      - Levee Patrols
    - Flood Fight Supervisor
      - Flood Fight Crews
      - Private Vendors or Contractors

CALIFORNIA WATER SERVICE CO. - STOCKTON PUMPING STATIONS ON NORTH BANK OF CALAVERAS

		STA.59	STA.60	STA.61
1	MAXIMUM CAPACITY	1600GPM	1800GPM	1450GPM
	ELEVATION OF PUMPS	17FT.	15FT.	16FT.
	AVAILABLE BACK UP POWER	N/A	N/A	N/A
	ABILITY TO INCREASE INTAKES	N/A	N/A	N/A
2	PLANS AND PROCEDURES FOR LEVEE CONTROL LOCATION OF PRE-PLANNED	N/A	N/A	N/A
3	DELIVERY POINTS	N/A	N/A	N/A
4	HISTORICAL INFORMATION ON AREA OF SEEPAGE, LOW POINTS, ALONG LEVEE	N/A	N/A	N/A
5	LOCATION OF CRITICAL FACILITIES; SUB-STATION AND DRINKING WATER	YES	YES	YES
	MOTOR HORSEPOWER	150	150	150
	MOTOR VOLTAGE	440 AC	440 AC	440 AC
	MOTOR AMOERAGE	169A.	169A.	169A.
	POWER PHASE	3	3	3
	ELEVATION DATUM	SITE FLOOR	SITE FLOOR	SITE FLOOR
	PUMP SET	14" ABOVE FLOOR	14" ABOVE FLOOR	14" ABOVE FLOOR
	CONTROL PANEL SET	SITE FLOOR	SITE FLOOR	SITE FLOOR
	MOTOR HORSEPOWER	YES	YES	YES
	ELECTRICAL CONTROL EQUIPMENT HANGER	3" ABOVE FLOOR	3" ABOVE FLOOR	3" ABOVE FLOOR
	EMERGENCY POWER CAN BE HARD WIRED INTO EXISTING MOTOR CONTROL AND NOT PREWIRED	YES	YES	YES
	P.G.&E. TRANSFORMER SET	GROUND TYPE SAME ELEVATION	POLE HANGER	POLE HANGER

STA. 59 - 501 EAST ROBINHOOD DRIVE, STOCKTON, CA. 95207
STA. 60 - 430 WOODSTOCK DRIVE, STOCKTON, CA. 95207
STA. 61 - 410 EAST SWAIN ROAD, STOCKTON, CA. 95207

TRIGGERS TO IMPLEMENT SEWD PROTECTION PLAN
1) Upstream failure on the north side of Mormon Slough
2) Extension of water build up to railroad line in the north

SEWD HAS THE OPTION TO CUT THE EXISTING RAILROAD BERM IF WATER IS PONDING ON THE SOUTHSIDE OR SEWD CAN IMPROVE THE BERM TO PROTECT THE WATER TREATMENT PLANT IF WATER IS COMING FROM NORTH OF THE BERM.

RELIEF CUT IN RAILROAD BERM SHOULD BE A MINIMUM OF 200'± LANDWARD FROM THE DIVERTING CANAL LEVEE TOE TO PREVENT EROSION

STOCKTON EAST WATER DISTRICT HAS A DIESEL GENERATOR AND A DIESEL STORAGE TANK THAT WILL KEEP THAT GENERATOR GOING FOR APPROXIMATELY 48 HOURS. IN ORDER TO KEEP THE WATER LINES PRESSURIZED ADDITIONAL DIESEL WILL BE REQUIRED TO BE DELIVERED.

A LEVEE SYSTEM TO ELEVATION OF 44' IS PLANNED FOR THE SPRING OF 2006 (NORTH AREA OF THE WTP)

THE EASTERN AND SOUTHERLY AREA ALREADY HAS BERM PROTECTION TO ELEVATION 43'±

EXISTING 24" DIA. CONCRETE CULVERT UNDER THE RAILROAD BERM IN AREA OF THE DIVERTING CANAL LEVEE TOE

PROPOSED SITE OF PUMPSTATION IN THE EVENT A RELIEF CUT IS NOT MADE IN THE RAILROAD LEVEE

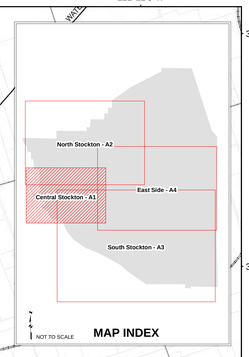
RING DIKE USING TEMPORARY LEVEES TO BE PREPARED WITHIN 24 HOURS TO ELEVATION OF 41'

RIP ASPHALT, SCARIFY SUBGRADE, PLACE AND COMPACT TEMP LEVEE FILL TO ELEVATION OF 44'±

WATER RESERVOIR OVERFLOW WEIR EL. 38.0' UNKNOWN DATUM

SJGCO BM OP-23.4 ELEV. 38.6'

MAP INDEX



Legend

- 100 Year Flood Elevation
- Logistics Base
- Supply Delivery Point (DP)
- Supply Staging Area (SSA)
- Seepage Area
- Historic Levee Breach
- Relief Cut
- Erosion Area
- Levee Access
- Emergency Berm
- Dryland Levee
- Dryland Levee Critical Section
- Levee
- Levee Crown Elevation
- Spot Elevation
- Levee Mile-River Mile-Station
- Pump Station – Municipal Storm
- Pump Station – Site for Emergency
- Pump Station – Municipal Sanitary
- Structures
- Water Well
- Sanitary Sewer Lines
- Storm Drain Lines
- Water Lines
- Overhead Transmission Line
- Underground Lines
- Command Post
- District Boundary
- Waterways/Channels
- Bridge
- Zone 9

Central Stockton Map contains details common to all maps

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Map Source: KSN, Inc.
Map Date: 03-29-2016
Vertical Datum: NAVD 88
100-yr Flood Elevation Source: PBI 2009 & 2014 Study; FEMA's 2009 FIRM

0 1,000 2,000 4,000
Feet
1 inch = 1,400 feet

SAN JOAQUIN COUNTY - FLOOD CONTROL ZONE 9
Central Stockton Quadrant Flood Contingency Map

FIGURE
A1