

COMMUNICATION PLAN

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT & RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Communications Equipment
Neither RD 2062 - Stewart Tract nor RD 2107 - Mossdale own communications equipment. RD 2107 - Mossdale can borrow short-range radios from Brown Sand, if needed.

Internal Communications
Means of internal communications for both districts will be personal cellular telephones. Telephone numbers will be assigned for response functions at the time of activation. If RD 2107 - Mossdale borrows short-range radios, then assignments will be made at that time.

Communications with Outside Jurisdictions
Primary means of communications with outside jurisdictions for both districts will be personal cellular telephones. Secondary means of communications will be 1) attendance at daily meetings of South Delta Unified Flood Fight Command, 2) physical contact at public safety unified command post (see evacuation map), and 3) through San Joaquin Operational Area EOC.

EVACUATION PLAN

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT

Responsible Agencies
The City of Lathrop, Lathrop-Manteca Fire District, and the San Joaquin County Sheriff's Department are responsible for alerting, warning and evacuation within RD 2062 - Stewart Tract.

Public Safety Agencies Evacuation Plan
Stewart Tract Public Safety Evacuation Maps are available at www.smap.org/evacmaps/private (password required). Public Safety Field Command Post located at 1597 S. 7th Street, Lathrop.

Public Safety Agencies River Islands at Lathrop Shelter-in-Place Plan
City of Lathrop and San Joaquin County also maintain a shelter-in-place plan for the urban area protected by the River Islands at Lathrop Stage 1 Ring Level for the contingency that these residents are physically isolated by flooding in areas adjacent to this higher standard levee. The River Islands at Lathrop Shelter-in-Place Map displaying this plan can be accessed from those agencies.

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

SPECIAL CONSIDERATIONS

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT

The degree of flooding in the interior of the RD 2062 - Stewart Tract will determine extent and nature of actions needed to prevent additional flooding or to protect interior slopes of levees. The following information is provided to assist with determining an appropriate response to flooding of RD 2062 - Stewart Tract to accomplish those goals.

1997 Flood
Blue line shown on map labeled Limit of Floodwaters with Relief Cut - 1997 indicates approximate extent of interior flooding in 1997 based on sketch drawn at the time by MBK Engineers. Old River/Paradise Cut water elevations at site of relief cut are unknown but anecdotal information is that general water elevations were dropping due to upstream breaks and passage of flood crest at time Stewart Tract Relief Cut was made.

100-Year Flood Elevation - 17' (NAVD88)
100-year flood elevation at site of Stewart Tract Relief Cut is shown on map. Breach and relief cut under this situation would lead to interior flooding reaching all portions interior slopes of levees but with shallow depths (less than 5 feet). Portions of Stage 1 Ring Levee interior slopes that would be impacted by highest levels (greater than 5 feet) of impounded water in this scenario indicated on map as critical sections (see Legend).

Northern Union Pacific Railroad Embankment
In the event that the breach is north of the RD 2107 - Mossdale district boundary (roughly parallel to northern most Union Pacific Railroad Embankment), then RD 2107 - Mossdale could flood fight railroad embankment to prevent floodwaters from backing into District. This would be a contingency if Old River/Paradise Cut water elevations at site of Stewart Tract Relief Cut exceed 14' MSL. Spot ground elevations adjacent to north side of railroad embankment shown on map.

FLOOD FIGHT HISTORY

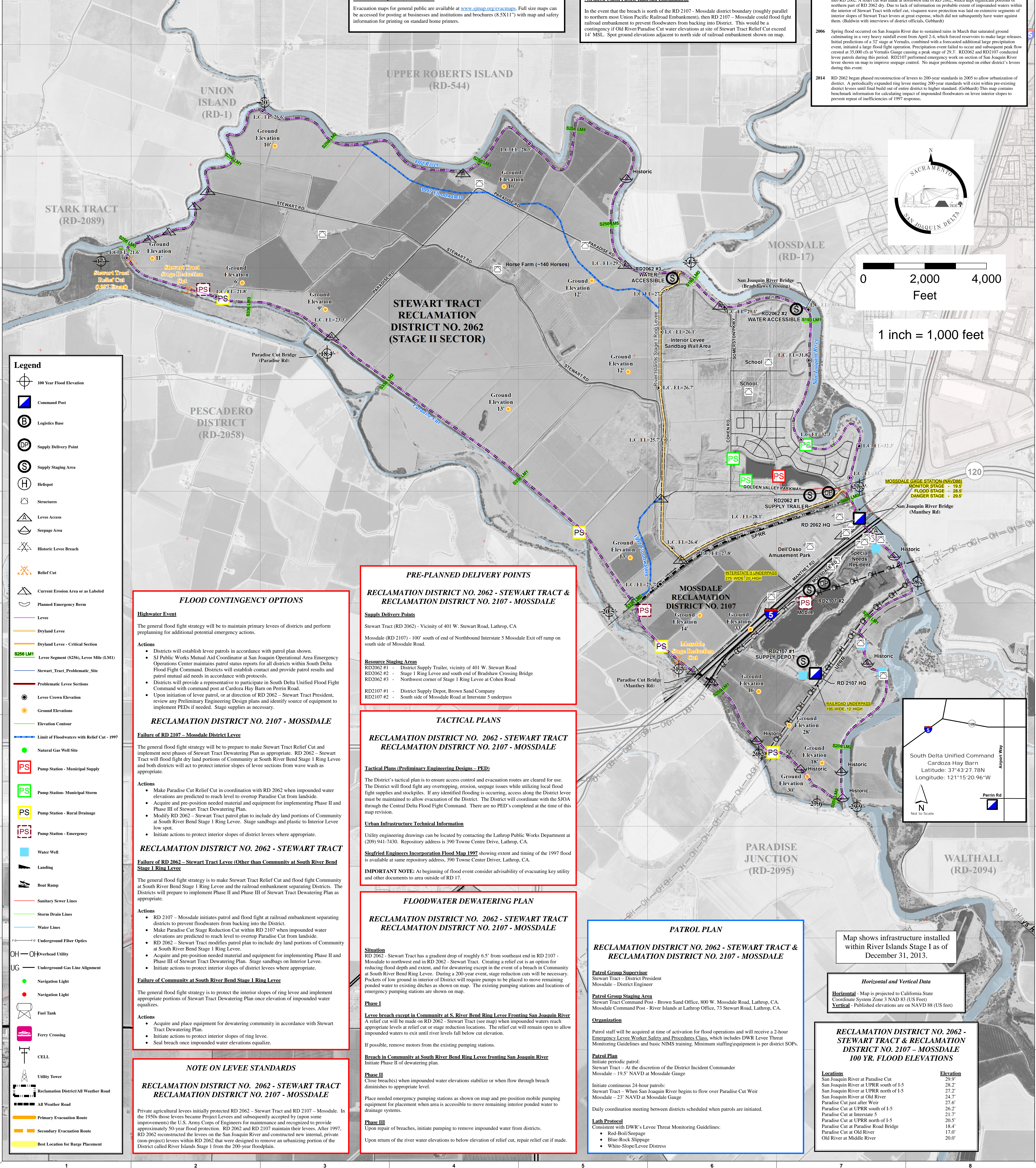
1950 Stanislaus River flows of 68,000 cfs from extensive rains on Thanksgiving Day combined with high San Joaquin River flows to cause general flood of area. Numerous levee breaches on east and west bank of San Joaquin River upstream from RD 2062 - Stewart Tract (RD 2062) levee failed just north of Paradise Cut Weir in RD 2107 - Mossdale (RD 2107). This caused the southern part of RD 2062 to flood up to the northwestern Union Pacific Railroad (UPRR) embankment. This railroad embankment subsequently failed leading to flooding of RD 2062. (Möller, Gebhardt)

1983 Spring flood on San Joaquin River due to El Niño weather pattern that prevailed for most of the winter. Flows on Stanislaus River were not significant since the new New Melones Reservoir was still in the process of initially filling. San Joaquin River east bank levee failed one-fourth mile upstream from current Airport Way Bridge at 7:45 am on March 6, 1983. Water level at Vernalis Gauge was at 31.5 feet. Flood fight operations conducted on Stewart Tract but no major levee problems reported. (Baldwin with interviews of District officials)

1997 Over a 3-day period, centered on January 1, warm moist storms poured more than 30 inches of rain into mountain watersheds already saturated by a wet December. By Thursday, January 2, Don Pedro Reservoir and Milton Lake (Pratt) emergency releases greatly exceeded channel capacity. Don Pedro water, in particular, caused a dramatic surge in lower San Joaquin River stages by early morning of Saturday, January 4. Local officials' fear water levels reached 35.56' above sea level at Vernalis Gauge where flows are estimated to have reached 70,000 cfs. Stanislaus River flows were held at objective flows of 8,000 cfs. Flows in Paradise Cut exceeded 15,000 cfs. Around 2:00 pm on Sunday January 5, San Joaquin River east bank levee failed upstream of Stewart Tract near Airport Way bridge followed by Stanislaus River levee near San Joaquin River junction at 4:00 pm. Flood waters moved north on east bank at vicinity of Wetherbee Lake where a relief cut was made raising water elevations dramatically at Mossdale Gauge. On January 5, south bank of Paradise Cut in neighboring RD 2095 failed just south of southeast UPRR Bridge. On January 10, Paradise Cut north bank levee failed just south of southeast UPRR Bridge in RD 2107. Some initial actions to block Interstate 5 underpass were initiated but quickly abandoned as impractical. Floodwaters moved north through Interstate 5 underpass to second northwestern UPRR embankment which subsequently failed allowing flood waters to move into RD 2062. A relief cut was made at north end of RD 2062, which kept significant portions of northern part of RD 2062 dry. Due to lack of information on probable extent of impounded waters within the interior of Stewart Tract with relief cut, visqueen water protection was laid on extensive segments of interior slopes of Stewart Tract levees at great expense, which did not subsequently have water against them. (Baldwin with interviews of District officials, Gebhardt)

2006 Spring flood occurred on San Joaquin River due to sustained rains in March that saturated ground culminating in a very heavy rainfall event from April 2-4, which forced reservoirs to make large releases. Initial predictions of a 2-stage at Vernalis, combined with forecasted additional large precipitation event, initiated a large flood fight operation. Precipitation event failed to occur and subsequent peak flow crest at 35,000 cfs at Vernalis Gauge causing a peak stage of 29.5'. RD 2062 and RD 2107 conducted levee patrols during this period. RD 2107 performed emergency work on section of San Joaquin River levee shown on map to improve seepage control. No major problems reported on either district's levees during this event.

2014 RD 2062 began phased reconstruction of levees to 200-year standards in 2005 to allow urbanization of district. A periodically expanded ring levee meeting 200-year standards will exist within pre-existing district levees until final build out of entire district is completed. (Gebhardt) This map contains benchmark information for calculating impact of impounded floodwaters on levee interior slopes to prevent repeat of inefficiencies of 1997 response.



Legend

- 100 Year Flood Elevation
- Command Post
- Logistics Base
- Supply Delivery Point
- Supply Staging Area
- Helipad
- Structures
- Levee Access
- Seepage Area
- Historic Levee Breach
- Relief Cut
- Current Erosion Area or as Labeled
- Planned Emergency Berm
- Levee
- Dryland Levee
- Dryland Levee - Critical Section
- Levee Segment (S256, Levee Mile (LM))
- Stewart Tract Problematic Site
- Problematic Levee Sections
- Levee Crown Elevation
- Ground Elevations
- Elevation Contour
- Limit of Floodwaters with Relief Cut - 1997
- Natural Gas Well Site
- Pump Station - Municipal Supply
- Pump Station - Municipal Storm
- Pump Station - Rural Drainage
- Pump Station - Emergency
- Water Well
- Landing
- Boat Ramp
- Sanitary Sewer Lines
- Storm Drain Lines
- Water Lines
- Underground Fiber Optics
- Overhead Utility
- Underground Gas Line Alignment
- Navigation Light
- Fuel Tank
- Ferry Crossing
- CELL
- Utility Tower
- Reclamation District/All Weather Road
- All Weather Road
- Primary Evacuation Route
- Secondary Evacuation Route
- Best Location for Barge Placement

FLOOD CONTINGENCY OPTIONS

Highwater Event

The general flood fight strategy will be to maintain primary levees of districts and perform preplanning for additional potential emergency actions.

Actions

- Districts will establish levee patrols in accordance with patrol plan shown.
- SJ Public Works Mutual Aid Coordinator or San Joaquin Operational Area Emergency Operations Center maintains patrol status reports for all districts within South Delta Flood Fight Command. Districts will establish contact and provide patrol results and patrol mutual aid needs in accordance with protocols.
- Districts will provide a representative to participate in South Delta Unified Flood Fight Command with command post at Cardoza Hay Barn on Perrin Road.
- Upon initiation of levee patrol, or at direction of RD 2062 - Stewart Tract President, review any Preliminary Engineering Design plans and identify source of equipment to implement PEDs if needed. Stage supplies as necessary.

RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Failure of RD 2107 - Mossdale District Levee

The general flood fight strategy will be to prepare to make Stewart Tract Relief Cut and implement next phases of Stewart Tract Dewatering Plan as appropriate. RD 2062 - Stewart Tract will flood fight dry land portions of Community at South River Bend Stage 1 Ring Levee and both districts will act to protect interior slopes of levee sections from wave wash as appropriate.

Actions

- Make Paradise Cut Relief Cut in coordination with RD 2062 when impounded water elevations are predicted to reach level to overtop Paradise Cut from landside.
- Acquire and pre-position needed material and equipment for implementing Phase II and Phase III of Stewart Tract Dewatering Plan.
- Modify RD 2062 - Stewart Tract patrol plan to include dry land portions of Community at South River Bend Stage 1 Ring Levee. Stage sandbags and plastic to Interior Levee low spot.
- Initiate actions to protect interior slopes of district levees where appropriate.

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT

Failure of RD 2062 - Stewart Tract Levee (Other than Community at South River Bend Stage 1 Ring Levee)

The general flood fight strategy is to make Stewart Tract Relief Cut and flood fight Community at South River Bend Stage 1 Ring Levee and the railroad embankment separating Districts. The Districts will prepare to implement Phase II and Phase III of Stewart Tract Dewatering Plan as appropriate.

Actions

- RD 2107 - Mossdale initiates patrol and flood fight at railroad embankment separating districts to prevent floodwaters from backing into the District.
- Make Paradise Cut Stage Reduction Cut within RD 2107 when impounded water elevations are predicted to reach level to overtop Paradise Cut from landside.
- RD 2062 - Stewart Tract modifies patrol plan to include dry land portions of Community at South River Bend Stage 1 Ring Levee.
- Acquire and pre-position needed material and equipment for implementing Phase II and Phase III of Stewart Tract Dewatering Plan. Stage sandbags on Interior Levee.
- Initiate actions to protect interior slopes of district levees where appropriate.

Failure of Community at South River Bend Stage 1 Ring Levee

The general flood fight strategy is to protect the interior slopes of ring levee and implement appropriate portions of Stewart Tract Dewatering Plan once elevation of impounded water equalizes.

Actions

- Acquire and place equipment for dewatering community in accordance with Stewart Tract Dewatering Plan.
- Initiate actions to protect interior slopes of ring levee.
- Seal breach once impounded water elevations equalize.

NOTE ON LEVEE STANDARDS

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT

RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Private agricultural levees initially protected RD 2062 - Stewart Tract and RD 2107 - Mossdale. In the 1950s those levees became Project Levees and subsequently accepted by (upon some improvements) the U.S. Army Corps of Engineers for maintenance and recognized to provide approximately 50-year flood protection. RD 2062 and RD 2107 maintain their levees. After 1997, RD 2062 reconnected the levees on the San Joaquin River and constructed new internal, private (non-project) levees within RD 2062 that were designed to remove an urbanizing portion of the District called River Islands Stage 1 from the 200-year floodplain.

PRE-PLANNED DELIVERY POINTS

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT & RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Supply Delivery Points
Stewart Tract (RD 2062) - Vicinity of 401 W. Stewart Road, Lathrop, CA
Mossdale (RD 2107) - 100' south of end of Northbound Interstate 5 Mossdale Exit off ramp on south side of Mossdale Road.

Resource Staging Areas
RD2062 #1 - District Supply Trailer, vicinity of 401 W. Stewart Road
RD2062 #2 - Stage 1 Ring Levee and south end of Bradshaw Crossing Bridge
RD2062 #3 - Northwest corner of Stage 1 Ring Levee at Cohen Road
RD2107 #1 - District Supply Depot, Brown Sand Company
RD2107 #2 - South side of Mossdale Road at Interstate 5 underpass

TACTICAL PLANS

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT

RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Tactical Plans (Preliminary Engineering Designs - PED)
The District's tactical plan is to ensure access control and evacuation routes are cleared for use. The District will flood fight any overtopping, erosion, seepage issues while utilizing local flood fight supplies and stockpiles. If any identified flooding is occurring, access along the District levee must be maintained to allow evacuation of the District. The District will coordinate with the SJOA through the Central Delta Flood Fight Command. There are no PED's completed at the time of this map revision.

Urban Infrastructure Technical Information
Utility engineering drawings can be located by contacting the Lathrop Public Works Department at (209) 941-7430. Repository address is 390 Towne Centre Drive, Lathrop, CA.
Stiefried Engineers Incorporation Flood Map 1997 showing extent and timing of the 1997 flood is available at same repository address, 390 Towne Centre Drive, Lathrop, CA.
IMPORTANT NOTE: At beginning of flood event consider advisability of evacuating key utility and other documents to area outside of RD 17.

FLOODWATER DEWATERING PLAN

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT

RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Situation
RD 2062 - Stewart Tract has a gradient drop of roughly 6.5' from southeast end in RD 2107 - Mossdale to northwest end in RD 2062 - Stewart Tract. Creating a relief cut is an option for reducing flood depth and extent, and for dewatering except in the event of a breach in Community at South River Bend Ring Levee. During a 200-year event, stage reduction cuts will be necessary. Pockets of low ground in interior of District will require pumps to be placed to move remaining ponded water to existing ditches as shown on map. The existing pumping stations and locations of emergency pumping stations are shown on map.

Phase I
Levee breach except in Community at S. River Bend Ring Levee Fronting San Joaquin River
A relief cut will be made in RD 2062 - Stewart Tract (see map) when impounded waters reach appropriate levels at relief cut or stage reduction locations. The relief cut will remain open to allow impounded waters to exit until river levels fall below cut elevation.
If possible, remove motors from the existing pumping stations.

Breach in Community at South River Bend Ring Levee Fronting San Joaquin River
Initiate Phase II of dewatering plan.

Phase II
Close breach(es) when impounded water elevations stabilize or when flow through breach diminishes to appropriate level.
Place needed emergency pumping stations as shown on map and pre-position mobile pumping equipment for placement when area is accessible to move remaining interior ponded water to drainage systems.

Phase III
Upon repair of breaches, initiate pumping to remove impounded water from districts.
Upon return of the river water elevations to below elevation of relief cut, repair relief cut if made.

PATROL PLAN

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT & RECLAMATION DISTRICT NO. 2107 - MOSSDALE

Patrol Group Supervisor
Stewart Tract - District President
Mossdale - District Engineer

Patrol Group Staging Area
Stewart Tract Command Post - Brown Sand Office, 800 W. Mossdale Road, Lathrop, CA.
Mossdale Command Post - River Islands at Lathrop Office, 73 Stewart Road, Lathrop, CA.

Organization
Patrol staff will be acquired at time of activation for flood operations and will receive a 2-hour Emergency Levee Worker Safety and Procedures Class, which includes DWR Levee Threat Monitoring Guidelines and basic NIMS training. Minimum staffing/equipment is per district SOPs.

Patrol Plan
Initiate periodic patrol:
Stewart Tract - At the discretion of the District Incident Commander
Mossdale - 19.5' NAVD at Mossdale Gauge

Initiate continuous 24-hour patrols:
Stewart Tract - When San Joaquin River begins to flow over Paradise Cut Weir
Mossdale - 23' NAVD at Mossdale Gauge

Daily coordination meeting between districts scheduled when patrols are initiated.

Levee Protocol
Consistent with DWR's Levee Threat Monitoring Guidelines:
• Red-Boll Seepage
• Blue-Rock Slippage
• White-Slope/Levee Distress

Map shows infrastructure installed within River Islands Stage 1 as of December 31, 2013.

Horizontal and Vertical Data
Horizontal - Map is projected to California State Coordinate System Zone 3 NAD 83 (US Feet)
Vertical - Published elevations are on NAVD 88 (US Feet)

RECLAMATION DISTRICT NO. 2062 - STEWART TRACT & RECLAMATION DISTRICT NO. 2107 - MOSSDALE 100 YR. FLOOD ELEVATIONS

Locations	Elevation
San Joaquin River at Paradise Cut	29.9'
San Joaquin River at UPRR south of I-5	28.2'
San Joaquin River at UPRR north of I-5	27.2'
San Joaquin River at Old River	24.7'
Paradise Cut just after Weir	27.6'
Paradise Cut at UPRR south of I-5	26.2'
Paradise Cut at Interstate 5	21.7'
Paradise Cut at UPRR north of I-5	20.5'
Paradise Cut at Paradise Road Bridge	18.4'
Paradise Cut at Old River	15.0'
Old River at Middle River	20.0'