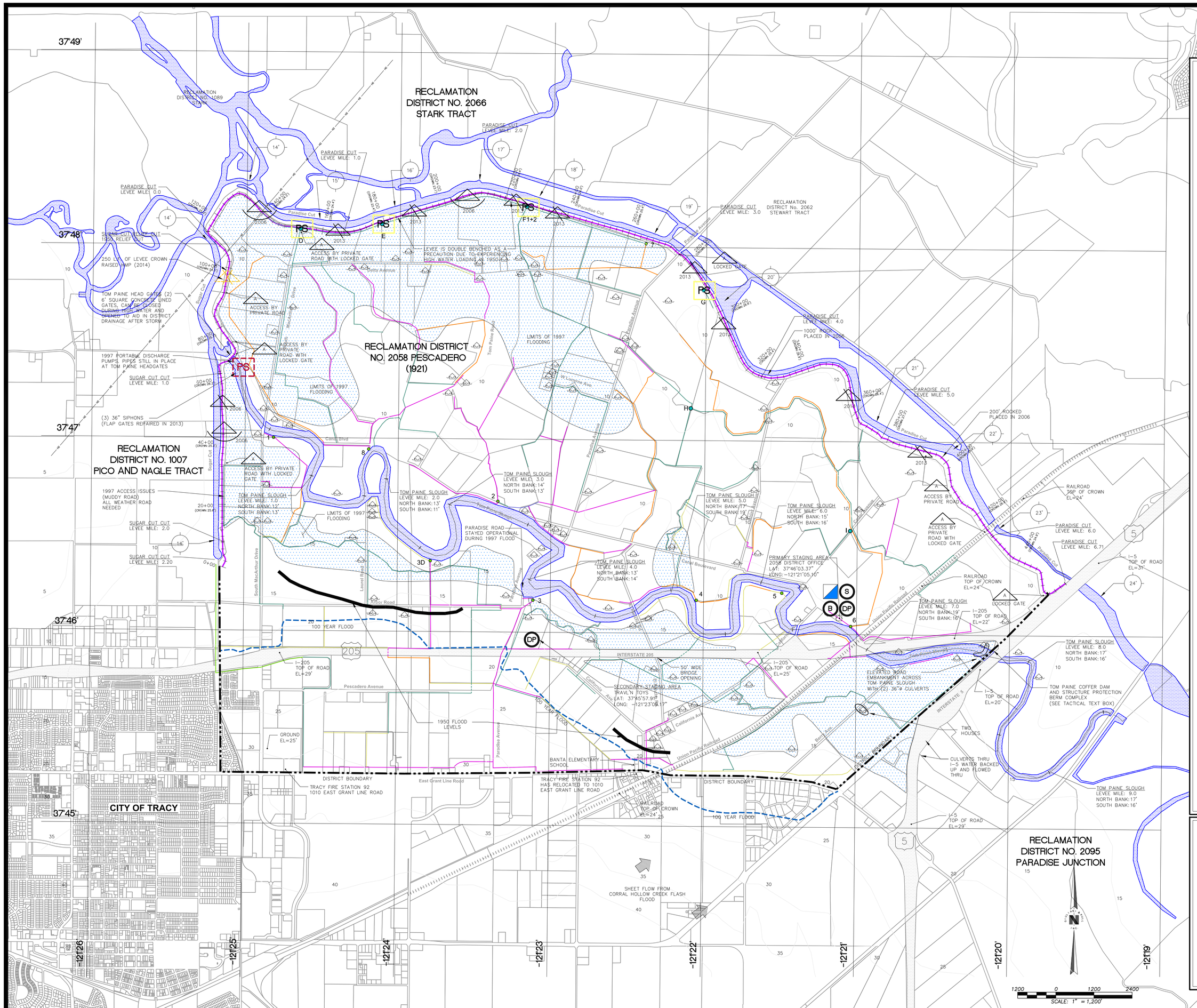

MAP LEGEND

- 100 – YEAR FLOOD ELEVATION FLOOD INSURANCE STUDY SAN JOAQUIN COUNTY F.E.M.A. OCTOBER 16, 2009
- MUNICIPAL STORM PUMP STATION (NONE)
- MUNICIPAL SANITARY PUMP STATION (NONE)
- DRAINAGE PUMP STATION
- SITE FOR EMERGENCY PUMP STATION
- SUPPLY DELIVERY POINT
- LOGISTICS BASE
- SUPPLY STAGING AREA
- COMMAND POST
- SEEPAGE AREA
- HISTORICAL BREACH
- EROSION AREA
- RELIEF CUT
- LEVEE ACCESS
- TEMPORARY LEVEE/ EMERGENCY BERM
- DISTRICT 2058 LEVEE (DISTRICT BOUNDARY)
- DRYLAND LEVEE / EMBANKMENT (NONE)
- 100–YEAR FLOOD CONTOUR (FEMA)
- MAIN WATER CHANNELS (SLOUGHS AND CUTS)
- DRAINAGE CHANNELS
- CITY STORM DRAIN
- SUPPLY CHANNELS
- UNDERGROUND PIPE SUPPLY CHANNELS
- CONCRETE SUPPLY CHANNELS
- DIRT SUPPLY CHANNELS
- IRRIGATION PUMPS
- DRAIN PUMPS
- OVERHEAD POWER TRANSMISSION LINES
- DISTRICT STRUCTURES
- DISTRICT BOUNDARY
- POSSIBLE INUNDATED STRUCTURES
- 1997 FLOOD AREA WITHIN DISTRICT

RECLAMATION DISTRICT 2058
FLOOD CONTINGENCY OPTIONS & FLOOD WATER REMOVAL PLAN

HIGH WATER EVENT

The general flood fight strategy will be to flood fight primary levees and ensure that options to limit flooding from levee failure can be initiated promptly, if appropriate. District will coordinate levee patrol and accompany Army Corps of Engineers and Department of Water Resources teams assigned to assess or flood fight District levees. County will coordinate action planning between District and State/Federal agencies and provide logistical support.

FAILURE OF PRIMARY LEVEE ON SAN JOAQUIN RIVER

This scenario will lead to flooding of RD 2095 and RD 2058 downstream. Higher water volumes from the San Joaquin River would be expected to overtop railroad embankments and Interstate 5 and 205 and render coffer dams or other delaying actions ineffective.

ACTIONS TO CONSIDER

- Make Sugar Cut relief cut if stage in Lower Paradise Cut and Sugar Cut are lower than impounded flood water.
- Install pumps along Sugar and Paradise Cuts to de-water District.

FAILURE OF PRIMARY LEVEE ON PARADISE CUT, SOUTHEAST OF INTERSTATE 5 AND SAN JOAQUIN RIVER BRIDGE

This scenario will lead to flooding of RD 2095 and RD 2058 with flood water being backed up to the south in RD 2095 if flow must pass through restricted 96" culvert on the railroad embankment. Flood waters will further back toward the southern and western end of RD 2095 if Tom Paine coffer dam is installed. General flood fight strategy will be to protect structures of the west and south side of the District and Ducul Vocational Institute, and slow flow to the north side of RD 2058 with the least amount of adverse impact possible, to allow for evacuations of RD 2058 and installation of emergency pumps.

ACTIONS TO CONSIDER

- Make Sugar Cut Relief cut if water levels in lower Paradise Cut and Sugar Cut are lower than impounded flood waters.
- Install pumps along Sugar and Paradise Cut of Reduce Events of flooding and de-water the District.
- Place pre-designed Tom Paine coffer dam and structure protecting berm complex to slow northward flow, while minimizing adverse impacts to local structures.
- Protect structure upstream of break from flood waters backing up to high ground.

FAILURE OF PRIMARY LEVEE ON PARADISE CUT, NORTH OF INTERSTATE 5 SAN JOAQUIN RIVER BRIDGE

This scenario will lead to flooding of RD 2058 with the possibility of flood waters backing up into RD 2095

ACTIONS TO CONSIDER

- Place pumps along Sugar and Paradise Cut to reduce flooding extent and de-water District.
- Place emergency berm at Tom Paine Slough to prevent water from backing up into RD 2095

CORAL HOLLOW CREEK FLASH FLOOD

This scenario will lead to flooding of RD 2058 from the west with sheet flow. Floodwaters will threaten Ducul Vocational Institute, RD 2095 and will flow into Tom Paine Slough and travel northward.

ACTIONS TO CONSIDER

- If water level in Sugar Cut is lower that flood waters in Tom Paine Slough, open the Headgates to de-water the Slough.
- If water level in Sugar Cut is higher than the flood waters in Tom Paine Slough, place pumps at the Tom Paine Headgates to de-water the slough.

TACTICAL PLAN

In the event of a failure on Paradise Cut in RD 2095, there is an interest in the residents downstream to slow the spread of flood waters to allow time for evacuation of animals and property. The presence of Interstate 205 channeling floodwaters into Tom Paine Slough presents such an opportunity. The attempt to place a coffer dam at Tom Paine Slough and Interstate 205 in 1997 is explained in the history section. That coffer dam exposed some residences next to and upstream of the dam to additional flood water levels and possibly aggravated flooding damage to one structure next to the dam site.

In the event of another break at Paradise Cut, a coffer dam will only be placed after consultation between both the Reclamation Districts 2058 & 2095 and only under a design plan that protects the home next to the site and mitigates impacts for any home sites just upstream. The dam will only be built to provide a short delay (hours) to preclude significant backup of waters into the upstream district.

SUPPLY DELIVERY POINTS

RECLAMATION DISTRICT 2058

#1: District Office at 3650 West Canal Boulevard (North of intersection of Berry Road and West Canal Boulevard).

#2: Northeast quadrant of junction of Interstate 205 and Paradise Road next to Travel'n Toys trailer lot.

SURVEY & ELEVATION INFORMATION

BASIS OF ELEVATIONS

FLOOD GAUGING ELEVATIONS
Elevation information based on U.S. Geological Survey National Water Information System.

BASE FLOOD ELEVATIONS
Paradise and Sugar Cut base flood elevations are based on Flood Insurance Rate Map from San Joaquin County, October 16, 2009.

LEVEE ELEVATIONS
Crown elevations for the Paradise Sugar Cut Levee systems are based on a levee survey done by Giuliani & Kull, Inc. on June 19, 2012.

SPOT ELEVATIONS
Lidar data for the Reclamation District 2058 was obtained from the Division of Flood Management, California Department of Water Resources.

Elevation shown are based on the North American Vertical Datum of 1988 (NAVD88)
Units shown are based on the U.S. Survey Foot.

DISTRICT LEVEE PATROL PLANS

RECLAMATION DISTRICT 2058

Continuous 24-hour levee patrols of both paradise cut and sugar cut will be initiated by the incident commander once the water elevation at the Vernalis gauge reaches 28.0' (NVGD) or by the direction of the San Joaquin County Office of Emergency Services. The staging location will be the District Office: 3650 W. Canal Blvd. Tracy, CA 95304.

The motor patrol will consist of the following:

- Two four wheel drive vehicles with cell phones,
- Two trained and currently qualified observers per vehicle,
- Patrol Crew will be rotated on a 12-hour frequency,
- Completion of a Division Activity Log will be required for each shift,
- All members will receive a safety briefing and utilize appropriate safety gear

LATH PROTOCOL

Red - Boil/Seepage, Blue - Rock Slippage, White - Slope/Levee Distress

COMMUNICATION PLAN

RECLAMATION 2058

Communications Equipment - the District has 3 cellular phones available for levee patrol. The District will require that all District officials and volunteers have personal cellular phones for levee patrol.

Internal Communications - Means of internal communications among District Staff will be personal cellular telephones.

Communication with outside jurisdictions - Primary means of communications with outside jurisdictions will be personal cellular telephones. Secondary communications with outside jurisdictions will be with the District's office land line.

EVACUATION PLAN

RESPONSIBLE AGENCIES
The City of Tracy, County of San Joaquin, California Highway Patrol, and the San Joaquin County Sheriffs's Department are responsible for alerting, warning and evacuation within Reclamation District 2058.

EVACUATION MAPS FOR GENERAL PUBLIC
Evacuation maps for the general public are available at www.sjmap.org/evacmaps. Full size maps can be accessed for posting at business and institutions and brochures (8.5"x11") with map and safety information for printing on standard home printers.

SPECIAL FLOOD CONSIDERATION

RECLAMATION 2058

Access problems have been encountered on levee road on Sugar Cut due to inadequate all weather road preparation.

FLOOD MONITORING STAGING

Vernalis Gauging Station
USGS ID#: 11303500
Latitude: 37.67604063
Longitude: -121.26632928

(NGVD 29)	(NAVD 88)
Monitoring Stage - 24.5'	Monitoring Stage - 27.0'
Flood Stage - 29.0'	Flood Stage - 31.5'
Danger Stage - 29.5'	Danger Stage - 32.0'

Flood Fight History

Impacts on Paradise Cut RD2058 by the South Bank of Paradise Cut from San Joaquin River to Sugar Cut

1950 - Paradise Junction RD2095 levee breached on Paradise Cut near the San Joaquin River. Because river levels fell rapidly, Pescadero RD2058 downstream was able to make effective relief cuts on Sugar Cut once water reached that location, as shown. Since district did not have pumps, and therefore did not pump, water levels extended further to higher elevations, a larger area of district flooded than in 1997 when numerous pumps were installed along Sugar Cut and portions of Paradise Cut. Interstate 5 and 205 were not yet built. (Baldwin after interview Nat Bacchetti)

1997 - Heavy rains during period of December 30 to January 2 caused San Joaquin River flows estimated at over 70,000 cfs. Don Pedro Dam emergency releases caused a dramatic surge in San Joaquin River stages near Paradise Cut by late morning of January 4, 1997. Flows in excess of 15,000 cfs entered Paradise Cut situated on West Bank of San Joaquin River which was designed to relieve flows on the main stem of the river once the main stem of San Joaquin reaches stages that overtop a fixed concrete weir at the mouth of Paradise Cut. On January 5, 1997 the South Bank levee on Paradise Cut in Paradise Junction RD2095 failed approximately one-half mile South of Interstate 5 bridge and near the site of the 1950 failure. District officials feel this area was vulnerable due to restriction of water flow by debris catching in railroad tressle over Paradise Cut south of Interstate 5. Flood flow traveled North through the 96" culvert in railroad embankment and into Tom Paine Slough up to the Interstate 205 bridge. At this location Pescadero RD2058 placed a coffer dam to slow northward flow of water to give landowners and farmers time to evacuate goods and livestock. Water flow continued into Tom Paine Slough through 36" culverts under coffer dam. Due to these restrictions, flood waters backed up against levee protecting Ducul Vocational Institute and higher ground to West and South of Tom Paine Slough. On January 10, 1997 coffer dam failed allowing full flow of water to move north in Tom Paine Slough. Pescadero RD2058 placed 19 pumps on Sugar Cut and Paradise Cut at north end of district to pump waters which began to flood north end of district and build back toward higher ground to southeast. District officials feel that delay provided by coffer dam provided time for placement of pumps that subsequently reduced extent of flooding in higher central portion of district. Placement of coffer dam caused more extensive flooding of four residences than would have occurred with unrestricted flow through Tom Paine Slough. (Baldwin after interview with Greg Pombo, Bob Pombo and Nat Bacchetti)

2006 - Spring flood occurred on San Joaquin River due to heavy rains in March culminating in very heavy rainfall on April 2-4. Initial predictions of 32' (NGVD 29) stage at Vernalis combined with forecast for an additional large precipitation event initiated a large flood fight operation. Failure of precipitation event to appear and recalculation of hydrological data lowered stage predictions with subsequent peak stage of 29.4' (NGVD 29) at Vernalis. Significant flows in Paradise Cut. No levee failures were experienced after several days of flood fight activities. (Baldwin after interview with Art Hinojosa)

Giuliani & Kull, Inc.
Engineers ● Planners ● Surveyors
440 S. Yosemite Avenue, Suite A, Oakdale, CA 95361
(209) 847-8726 Fax (209) 847-7323
Auburn ● San Jose ● Oakdale

DIGALERT 1-800-227-2600 CALL 2 FULL WORKING DAYS IN ADVANCE

REVISIONS			
REV #	DESCRIPTION	DATE	APPROVED

SAN JOAQUIN COUNTY
OFFICE OF EMERGENCY SERVICES
PESCADERO RECLAMATION DISTRICT No. 2058
ANNEX-A FLOOD CONTINGENCY MAP

SCALE	1" = 1200'
DRAWN BY	NWP
DESIGNED BY	NWP
CHECKED BY	WFK
DATE	11/04/15
SHEET	1
OF	1
JOB NO.	15162

P:\2015\15162\Dwgs\Planshts\Pescadero 2058 EOP Annex A 11.04.15 Approved Version.dwg 11/6/2015 4:40pm