



OFFICE OF THE SHERIFF

Contra Costa County

LOCAL FLOOD SAFETY PLAN

Levee Maintaining Agency Mapbook

PREPARED BY

Michael Baker

INTERNATIONAL





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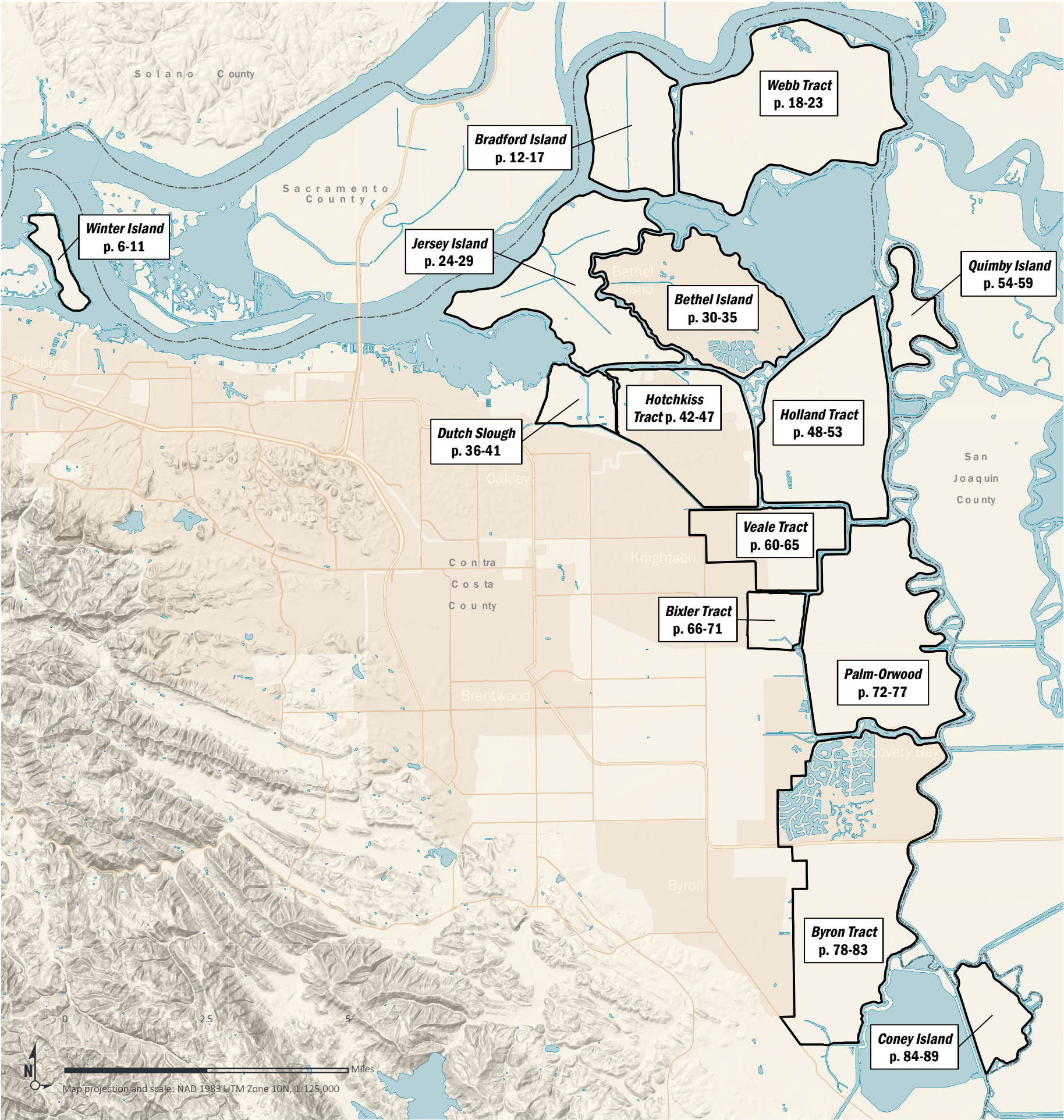
Michael Baker
INTERNATIONAL



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Mapbook Information

PROJECT DESCRIPTION

In 2014, the California Department of Water Resources (DWR) funded flood preparedness grants in the Central Valley to enable local emergency responders to work with Levee Maintaining Agencies / Reclamation Districts (LMAs/RDs) to improve local flood emergency preparedness/response and satisfy requirements of the Central Valley Flood Protection Act of 2008 and California Water Code Section 9650 (AB156).

Contra Costa County was one recipient of the DWR grant funding. The project team will coordinate with LMAs/RDs in the Contra Costa County portion of the Sacramento-San Joaquin River Delta, and with neighboring cities and the County to develop the following:

AB156 compliant Local Flood Safety Plans to include state-of-the-art flood contingency maps.

A hazard-specific flood annex to the Contra Costa County Emergency Operations Plan to improve County and city flood response protocols and evacuation plans to include the development of evacuation maps where suitable.

Public awareness brochure development and distribution (focused on Bethel Island Municipal Improvement District).

DATA ACCURACY

Effective communication, interoperability and response to large incidents require real-time collaboration among multiple agencies. Spatial data interoperability is a critical component to effective emergency response management when responding to flood events. This mapbook and the Local Flood Safety Plan Spatial Data Model are intended for use by local, state and federal personnel while in the field and in emergency operation centers. Elements of the data model include data for Critical Infrastructure, Emergency Management, Flood Control, and base map information.

Contra Costa County, Michael Baker International, and Dynamic Planning + Science have compiled the information in this mapbook with care using the best available data at the time of publication.

The Special Flood Consideration and Flood Contingency Option (SFC/FCO) information, including spatial database information that contributed to the SFC/FCO layer, has been prepared, in part, based upon information provided by others.

Contra Costa County, Michael Baker International, and Dynamic Planning + Science assume no responsibility for the accuracy of this document or for any errors or omissions that may have been incorporated into it as a result of incorrect information provided by others. Those relying on this document are advised to obtain independent verification of its accuracy. Contra Costa County, Michael Baker International, and Dynamic Planning + Science are not responsible for property damage or loss of life as a result of recommended actions documented in this mapbook.

SYMBOLLOGY

Extensive efforts have been made to ensure that the symbology used in this mapbook meet the regional standards for flood contingency mapping in the California Delta region. The symbology presented with the cartography of this mapbook is focused on simple recognition and intuitiveness. Using this approach, symbol shape, color and contrast are used to create symbology patterns that differentiate categories of emergency management map features. These symbology patterns allow the maps to be interpreted quickly. A full symbol legend accompanies each map spread. Note that the legend is not abbreviated based on the map but is presented in its entirety on each map regardless of whether the map contains a particular symbol.

DESIGN OF THE MAPBOOK

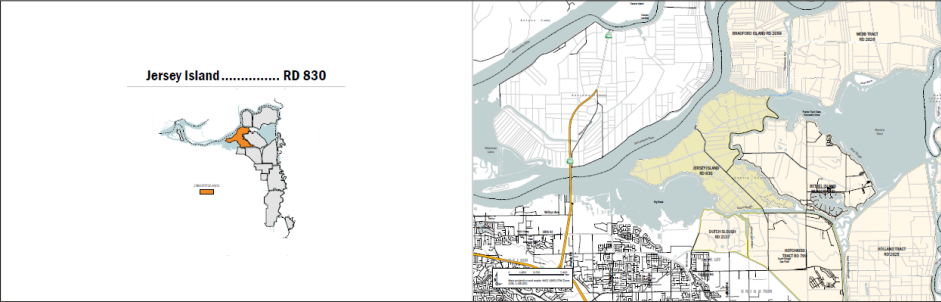
This mapbook includes maps covering Contra Costa County’s 14 Levee Maintaining Agencies (LMA). The scale of each map varies, and the area covered on each map includes a focus area consisting of an individual LMA and individual Evacuation Zones as necessary.

The mapbook is divided into fourteen sections by LMA – each consisting of three spreads as detailed below. Unlike a traditional atlas, in this mapbook there is overlap in the geography covered from page to page.

This mapbook can be used for planning purposes, and for communication between emergency operation centers to field personnel conducting flood fights.

SPREAD 1 - REGIONAL LOCATOR

LMA section separator and project area and regional location context.



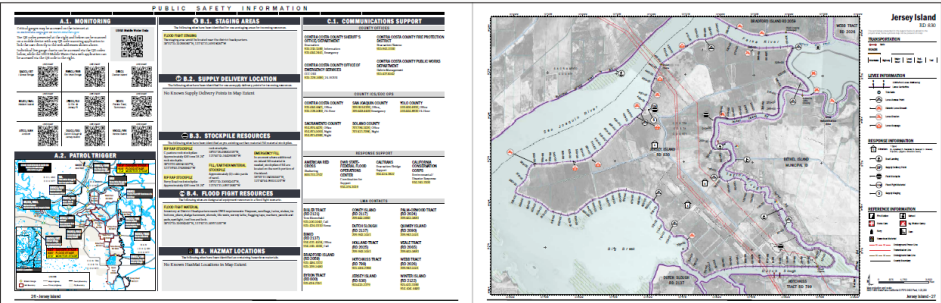
SPREAD 2 - PUBLIC SAFETY

LEFT PAGE

Presents links to live stream level monitoring information along with communications support information. Provides additional information about features found on corresponding map (right page) including staging areas, supply delivery locations, stockpile resources, flood fight resources, hazmat location information.

RIGHT PAGE

Map of public safety information for the LMA including general road basemap, levee locations and measured levee stationing, and response information. General evacuation routes and rally points are provided for populated LMA's.



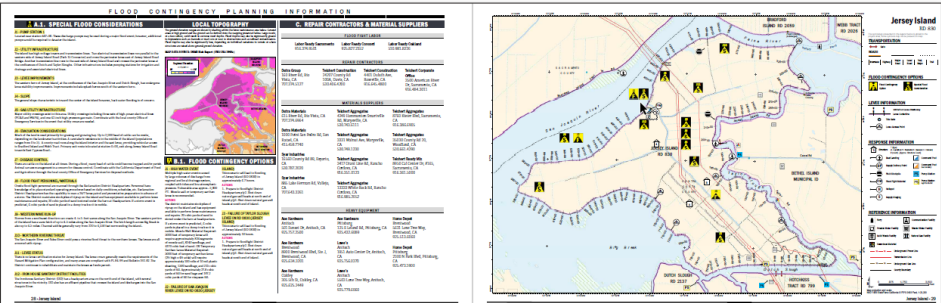
SPREAD 3 - FLOOD CONTINGENCY PLANNING INFORMATION

LEFT PAGE

Presents the general topography the LMA along with repair contractor and material supplier information. Special Flood Consideration and Flood Contingency Option narratives corresponding to the map are also found on this page.

RIGHT PAGE

Map of Special Flood Considerations and Flood Contingency options in addition to general road basemap, levee locations and measured levee stationing, and flood response information including - structure types and approximate occupancies, boat landings, stockpiles, flood fight materials, helispots, staging locations, ICP's and pump stations.



PROJECT TEAM



CONTRA COSTA COUNTY SHERIFF

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OES Manager

Marcelle Indelicato
Contra Costa County -
Office of the Sheriff
Senior Emergency Planner

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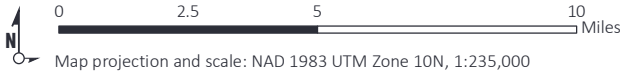
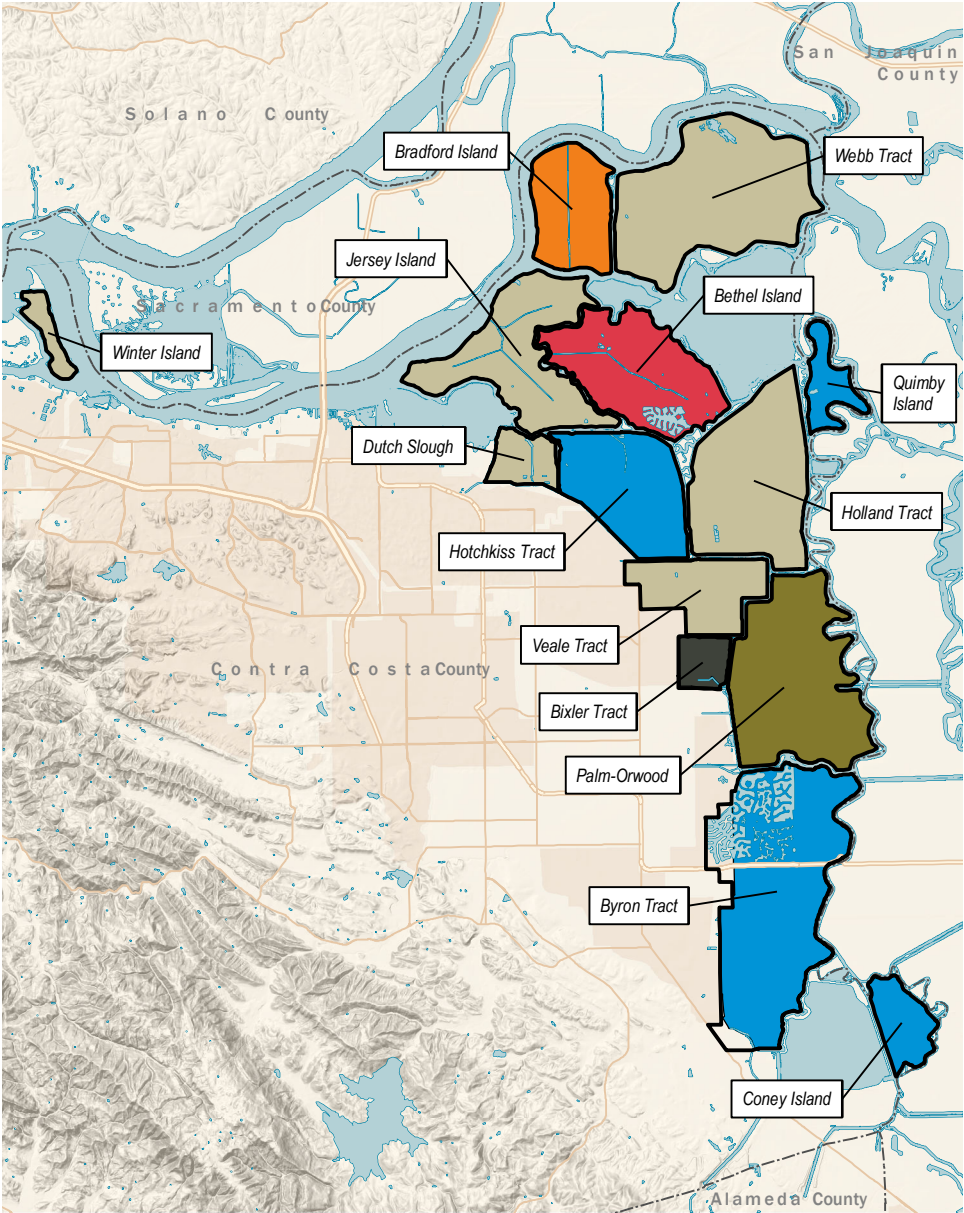
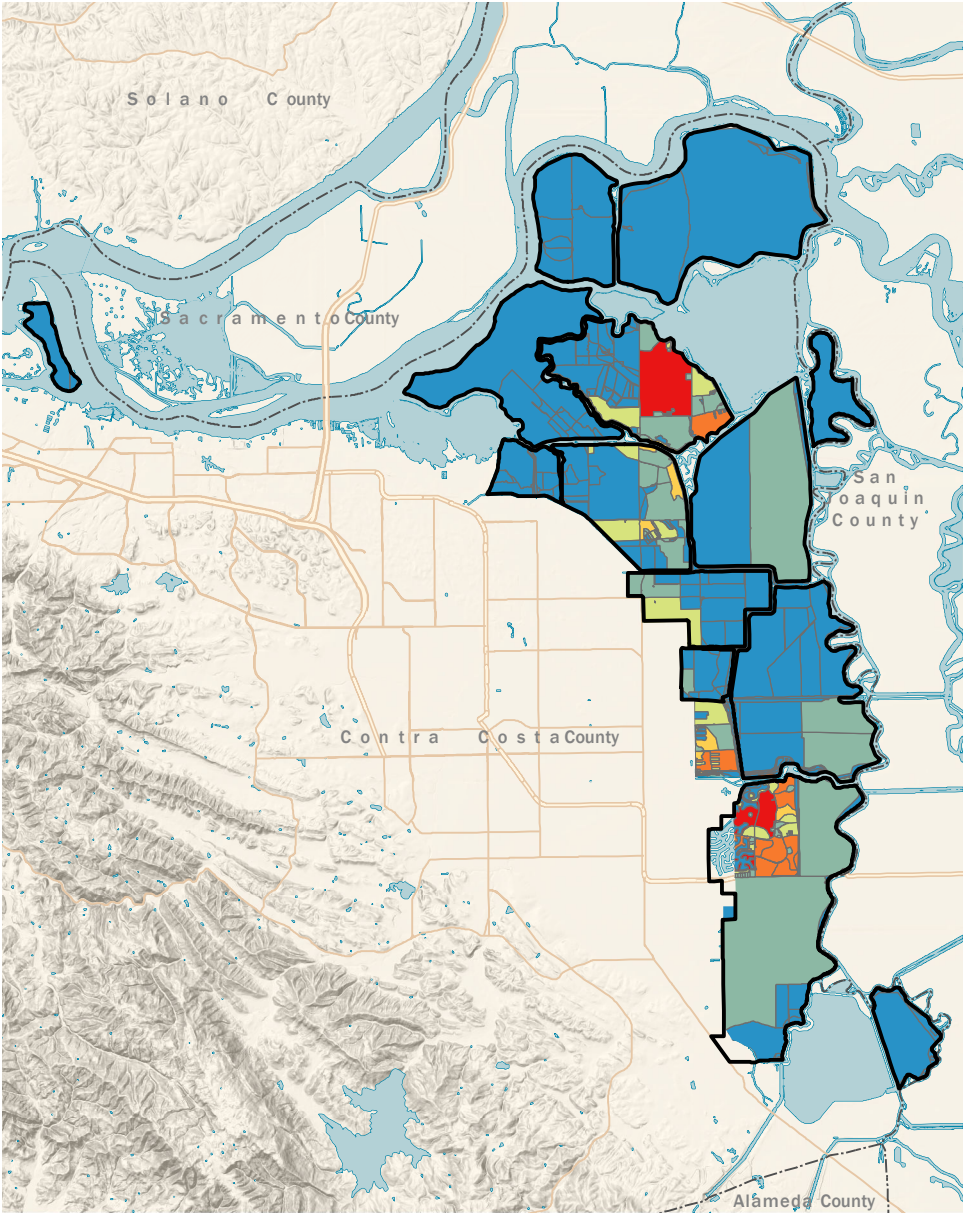
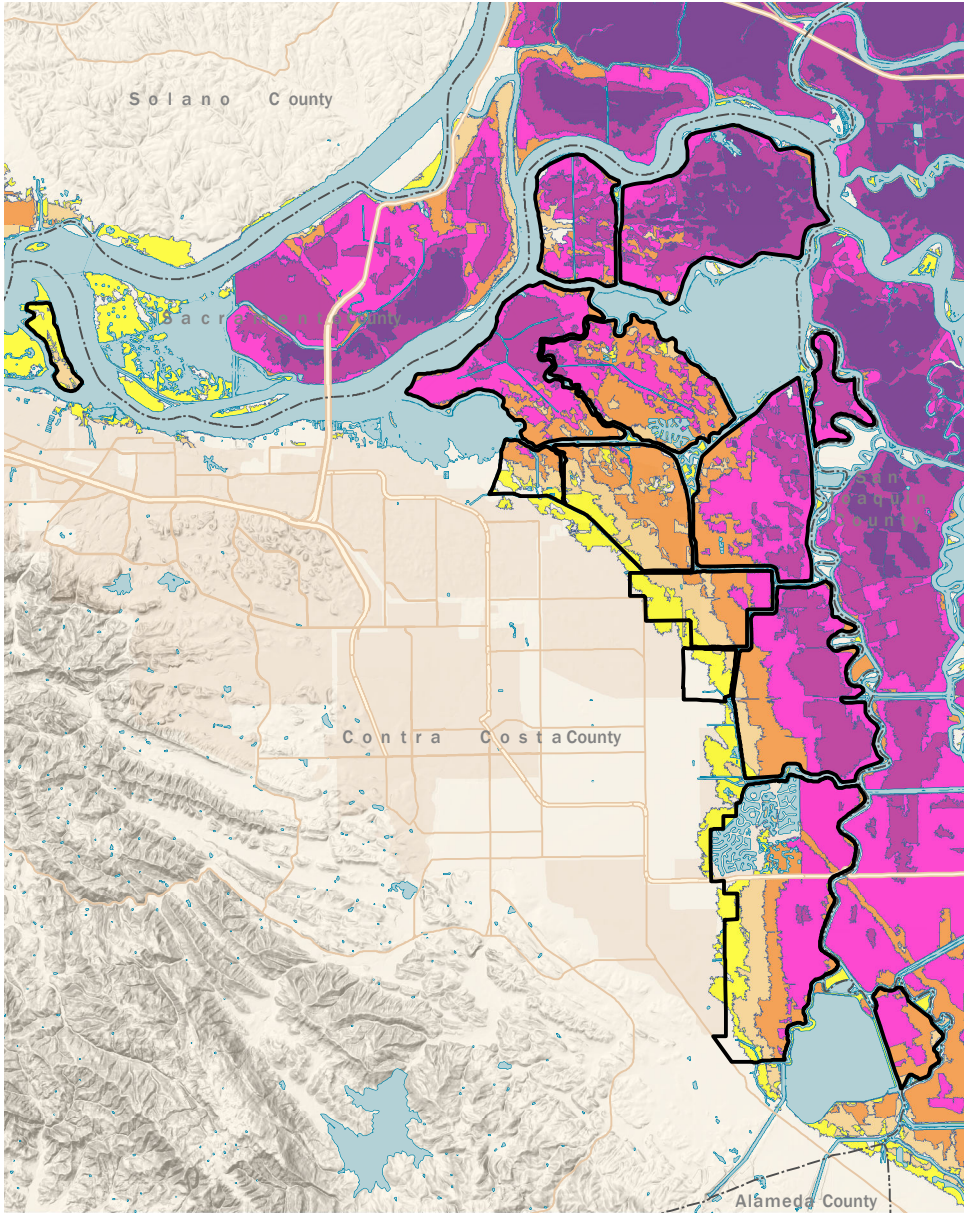


DYNAMIC PLANNING + SCIENCE

Ethan Mobley
Dynamic Planning + Science
GIS & Planning Manager

Brian Greer
Dynamic Planning + Science
Lead Cartographer

Regional Information



EXPLANATION

- Levee Maintenance Area
- County Boundary
- Major Highway
- Primary
- Major
- Water body
- City

ELEVATION ZONES (FT)

- | | | |
|-------------|---------------|----------------|
| 5 - 10 feet | -5 - 0 feet | -15 - -10 feet |
| 0 - 5 feet | -10 - -5 feet | < -15 feet |

POPULATION BY CENSUS BLOCK

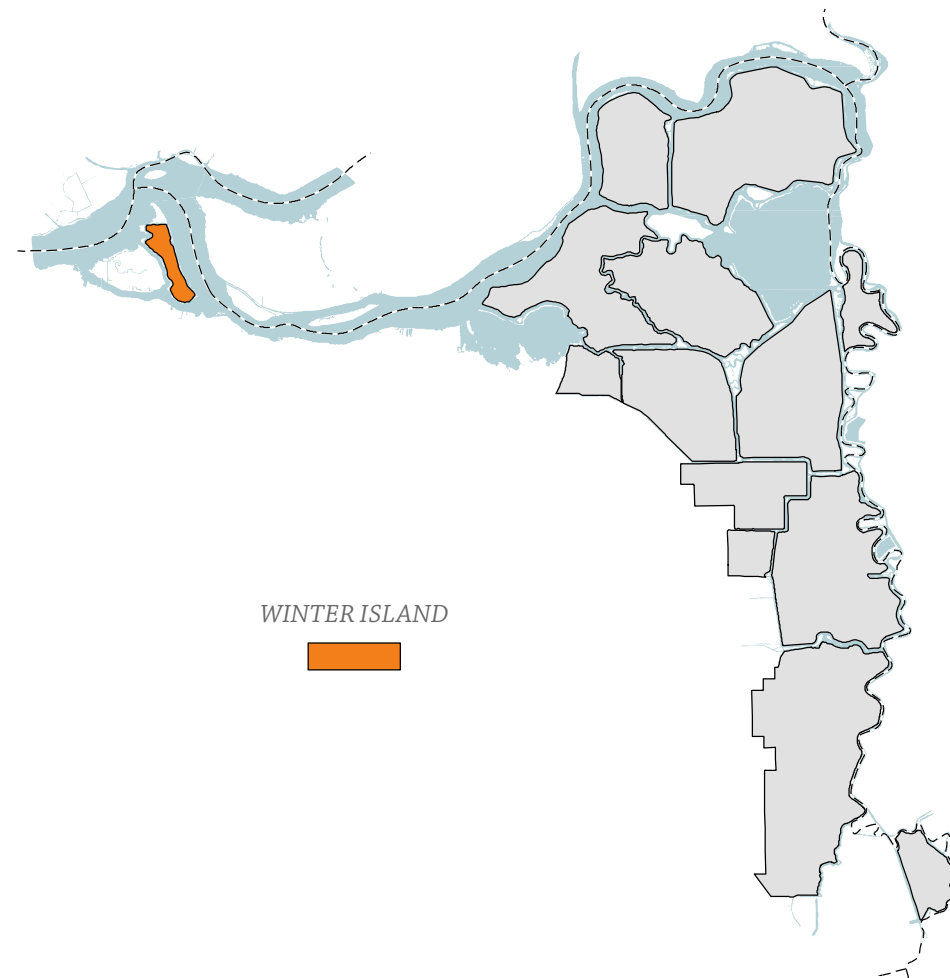
2010 Population

- | | | |
|---------|-----------|------------|
| 0 - 10 | 51 - 100 | 201 - 500 |
| 11 - 50 | 101 - 200 | 501 - 2000 |

ENGINEERING REPRESENTATIVE

- | | | |
|---------------------|----------------|-----|
| Blake Johnson | GEI | KSN |
| Bloomfield Cherries | Green Mountain | MBK |

Winter Island RD 2122





Van Sickle Island

Spinner Island

Spoonhill Creek

Point Wall

Point Wise

Point San Joaquin

East Reach

WINTER ISLAND
RD 2122

Pittsburg Landing

Middle Slough

Browns Island

New York Point

West Reach

Point Emmet

New York Slough

Pittsburg Point

Point Beemar

Dowest Slough

Antioch Point

Sherman Lake

Cabin Slough

Willow Pass Rd

10th St

3rd St

Parkside Dr

Diamond

Railroad Ave

Solar St

Solar Ave

Cornwall

14th St

PITTSBURG

Pittsburg

Antioch

Hwy

Overridge Rd

Kirker Creek

Los Medanos

ANTIOCH

4th St

5th St

6th St

7th St

8th St

Sixth Street Park

Antioch

Somerville Rd

Airto Center Dr

Lake Alhambra

0 950 1,900 3,800 Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:24,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

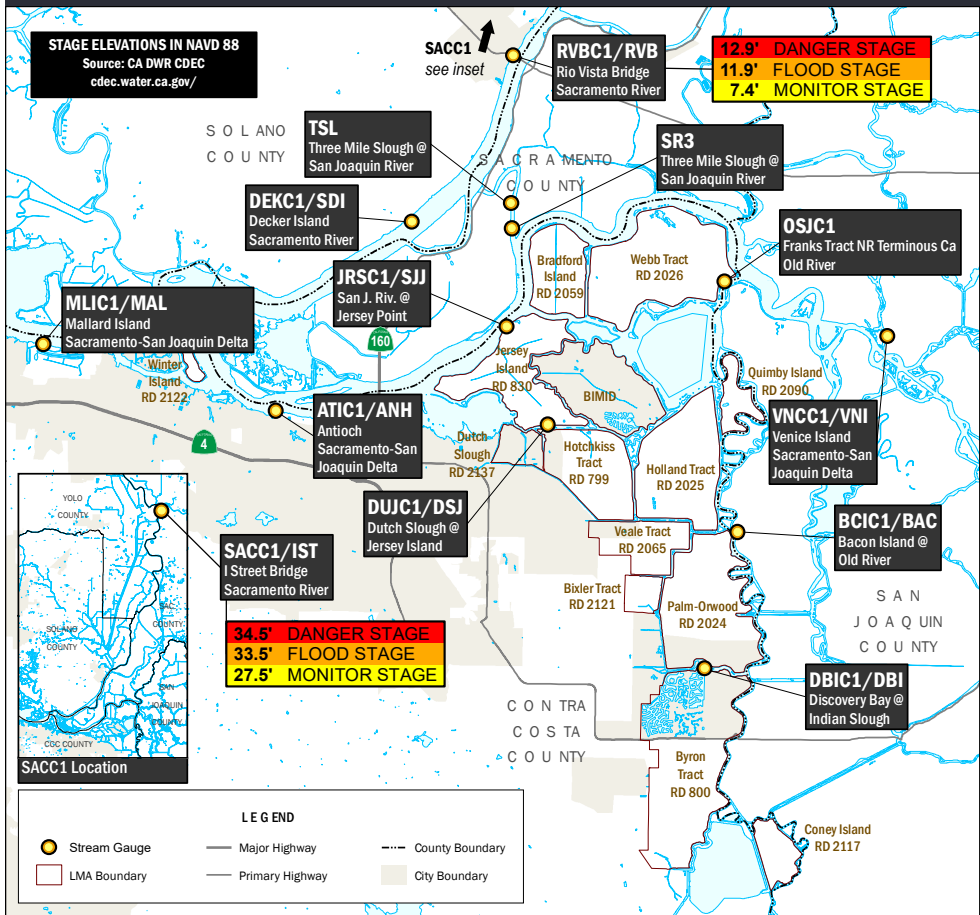
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

FLOOD FIGHT STAGING

Staging area to be located near the Duck Club around station 243+00.
38°01'44.92285320"N, 121°50'38.23835280"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

No Known Stockpile Resources in Map Extent

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

DUCK CLUB FLOOD FIGHT MATERIALS

Inventory meets DWR requirements: Visqueen, sandbags, twine, stakes, tie buttons, pliers, sledge hammers, shovels, life vests, survey lathe, flagging tape, markers, pencils and pads, spotlight, tool box and lock.
38°01'43.72295880"N, 121°50'35.02286160"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

HOLLAND TRACT (RD 2025)

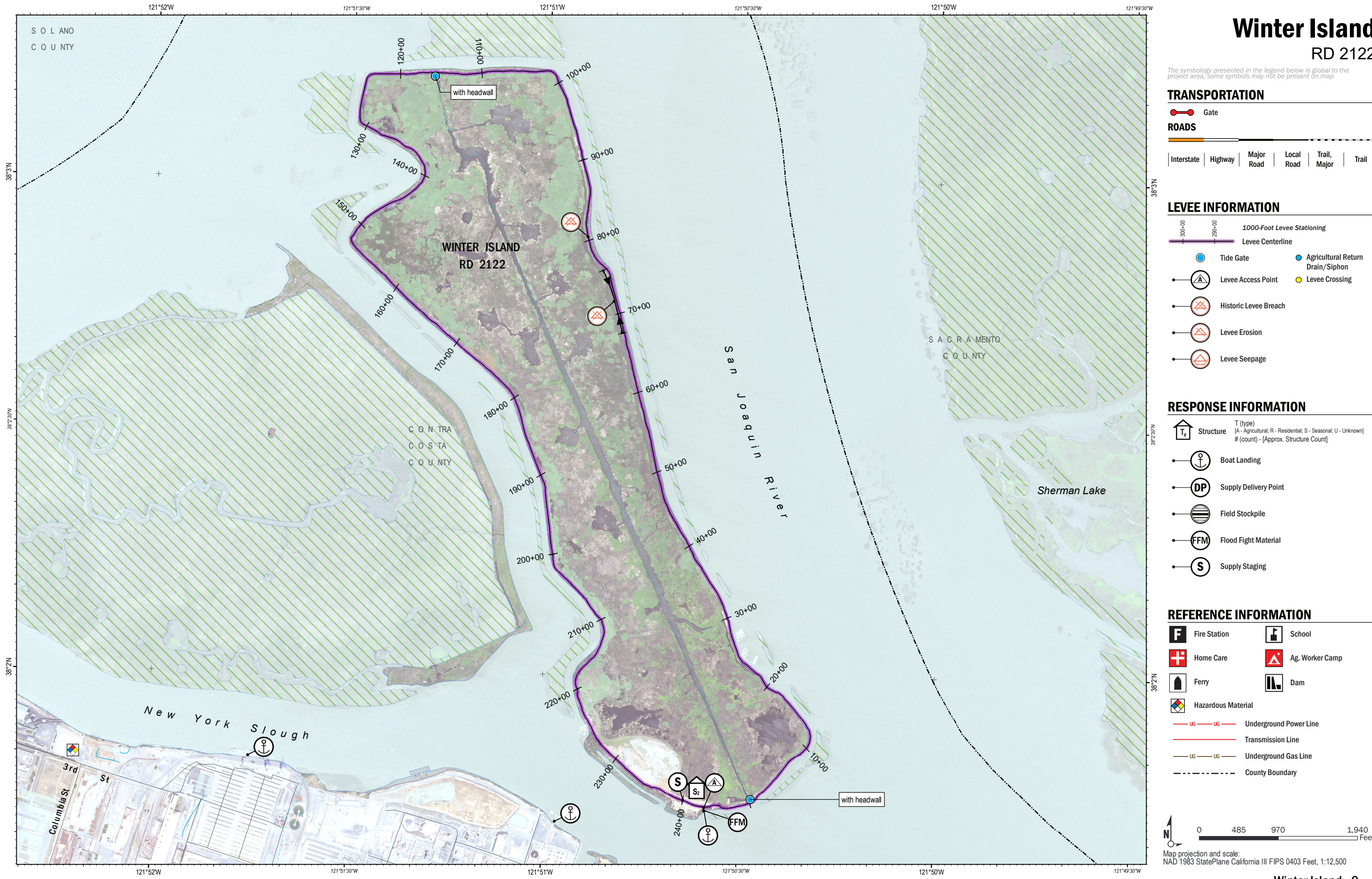
David A. Forkel
925.932.0251
925.693.9977

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



FLOOD CONTINGENCY PLANNING INFORMATION

D2 A.1. SPECIAL FLOOD CONSIDERATIONS

N1 - TIDE GATE #1
Infrastructure includes tide gates and bulkheads for irrigation and drainage. A bulkhead with a tide gate is located near station 0+00. Tide gates are used to control flow in and out of island.

N2 - TIDE GATE #2
Infrastructure includes tide gates and bulkheads for irrigation and drainage. A bulkhead with a tide gate is located near station 116+00. Tide gates are used to control flow in and out of the island.

N3 - EROSION POTENTIAL
Erosion potential along entire District. Minimal bank protection in most locations. The intact remnant berms provide protection during normal tidal cycles with fetches between 150 - 200 feet.

N4 - EVACUATION CONSIDERATIONS
Primary exit route is located at station 244+00. Exit island by boat at Winter Island heading south to boat dock north of Mt. Diablo Sanitation District in Antioch, proceed south through Mt. Diablo Sanitation District to Pittsburg-Antioch Highway. Population ranges from 0-20 depending on the time of year. During the winter months when the Island operates as a duck club, there can be as many as 20 people on the island.

N5 - LEVEE CONDITIONS
There is no levee certification status. The levee crown generally is below the HMP elevation and narrow. There is no all-weather roadway surface. The District will continue to work toward meeting the HMP levee geometry in the future. Various locations of the District are armored with riprap and concrete debris.

N6 - LEVEE BREACH
There is a levee breach that is in the process of being repaired on the east levee between stations 68+50 and 74+00.

N7 - GENERAL NOTE
There are structures on the south levee associated with the Duck Club; boat houses, docks, and maintenance buildings, as well as associated electrical lines. The land has primarily been used for habitat and managed wetland.

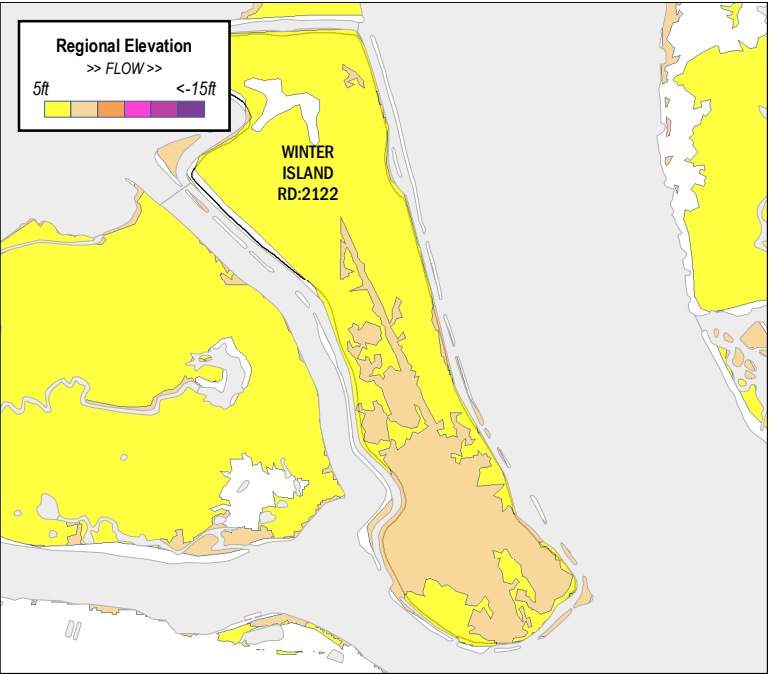
N8 - FETCH FROM OPEN WATERS
Fetch varies dramatically depending on tidal stage or river flows. The District is generally surrounded by a dredge cut with remnant berms along the exterior of the cut. There are numerous locations where the berm no longer exists or has deteriorated over time. The northwest corner of the District has a 6-7 mile wind fetch from the west across the San Joaquin River and Honker Bay. Other fetch areas along the District average closer to 0.75 miles from various directions.

N9 - GENERAL FLOOD THREAT
The flooding threat is predominantly tidal, with runoff from the Sacramento-San Joaquin Delta tributaries that can influence conditions. The Sacramento River flows come from the northeast and the San Joaquin River flows come from the southeast. The San Joaquin River Deep Water Ship Channel is adjacent to the south levee.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



D3 F B.1. FLOOD CONTINGENCY OPTIONS

N1 - WAVE WASH
Wind waves could occur at this location. Wind waves causing erosion will lead to levee failure if not addressed for long periods of time; protection area approximately 300 feet.

ACTIONS
Purchase sandbags and plastic. Utilize material on high ground to fill sandbags and build wavewash protection on south levee.

1. Deploy flood fight materials to prevent levee degradation around 5.5 acre easement, protecting structures on high ground on the south end of the island.
 2. Protect area exposed to wind waves with envelope style wrap.
- Wave Wash Protection Material
Required:
300 feet of envelope wave wash will require approximately 6 rolls of 10 mil plastic sheeting, 90 sandbags, 45 cubic feet of sand, 6 rolls of twine, 30 plastic buttons or rocks, and 60 [1” x 3” x 2’] stakes.

N2 - OVERTOPPING
Overtopping due to tide action or weather could occur at this location.

ACTIONS
Temporary Earthen Levee Material

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS

Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
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MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
--	---	---

Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
--	--	---

Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
--	---	--

Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	
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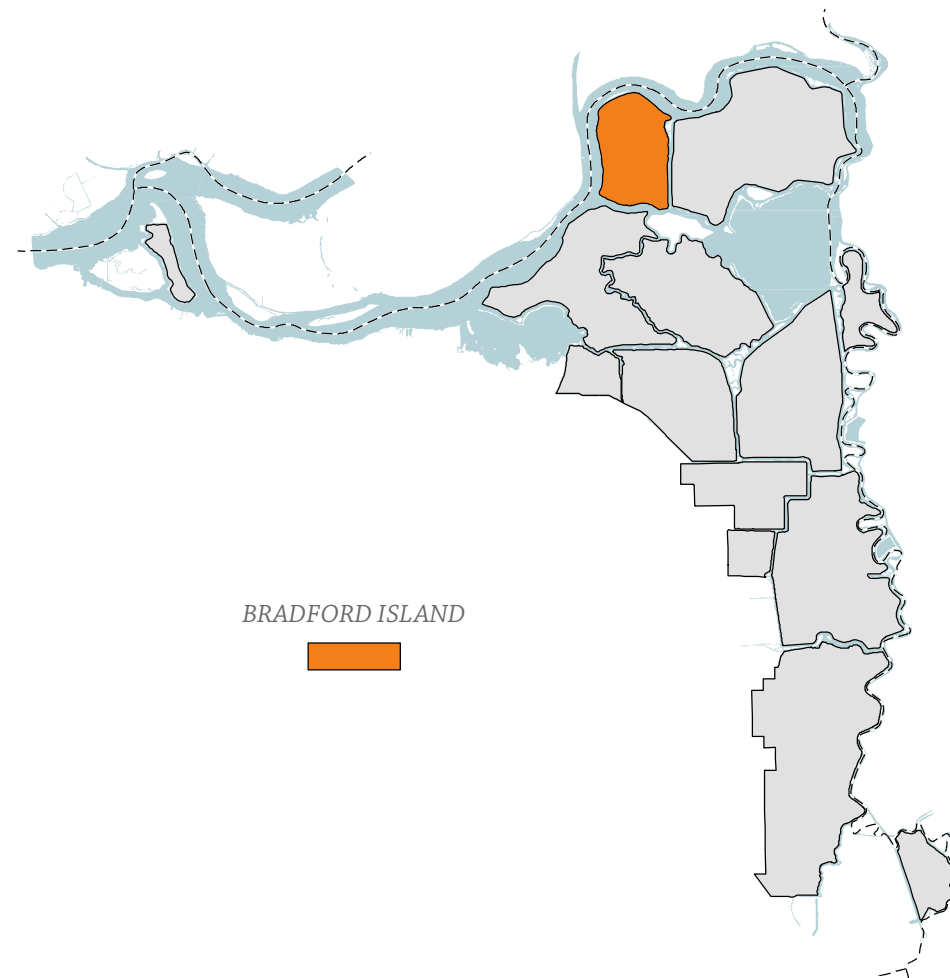
LOCAL SUPPLY PROVIDERS

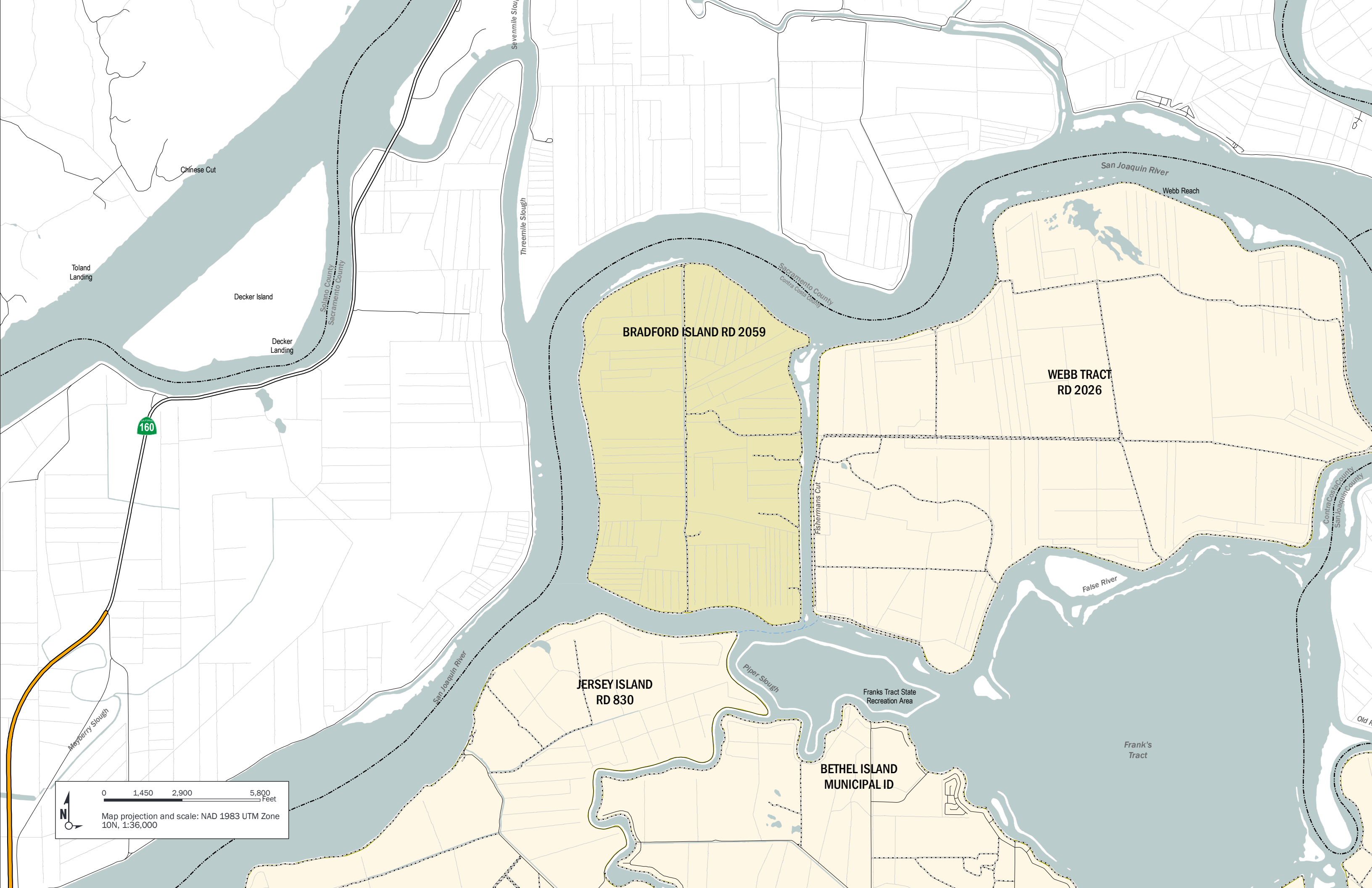
Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
---	---	--

Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
--	---	--

Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	
--	--	--

Bradford Island..... RD 2059





0 1,450 2,900 5,800 Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:36,000

EVACUATION / RESCUE INFORMATION

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

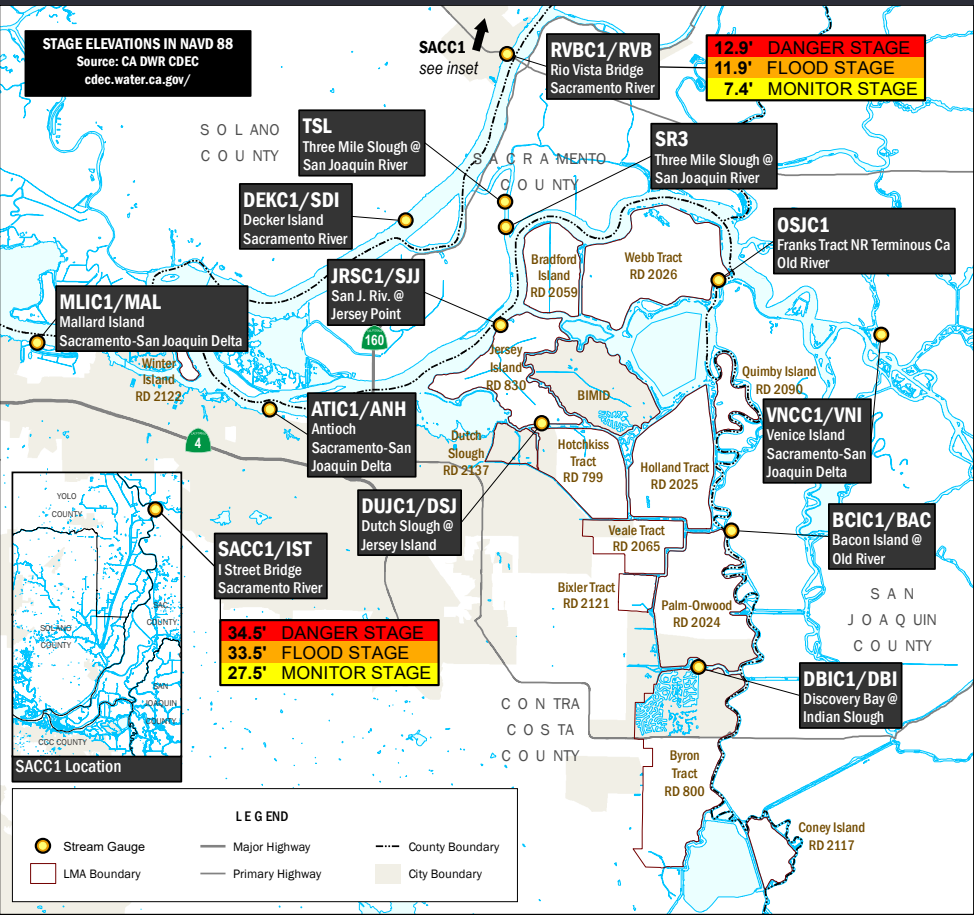
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

No Known Staging Areas in Map Extent

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

SUPPLY DELIVERY POINT

Supply delivery point via barge, wide road
38°04'23.87713800"N, 121°40'31.79744760"W

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

FLOOD RESPONSE RESOURCES

Pre-staged rip rap.
38°04'26.11532640"N, 121°40'31.36524960"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT MATERIALS

muscle wall ~40 pieces, shovels, picks, hammers, sledge hammers, life jackets, fire extinguishers, twine, sheeting visqueen, sandbags 1 large bag, stakes 10 dozen
38°04'22.46067480"N, 121°38'56.39071200"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
800.952.5530

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

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BIMID

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QUIMBY ISLAND (RD 2090)

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BRADFORD ISLAND (RD 2059)

Dominick Gulli
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HOTCHKISS TRACT (RD 799)

Dina Holder
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VEALE TRACT (RD 2065)

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809.969.7755, Bus Cell

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

JERSEY ISLAND (RD 830)

Chad Davidson 925.625.2279
ER Contact 925.727.2938

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300

Bradford Island

RD 2059

The symbology presented in the legend below is global to the project area. Some symbols may not be present on map.

TRANSPORTATION

- Gate
- ROADS
- Interstate Highway Major Road Local Road Trail, Major Trail

EVACUATION

- Rally Point
- EVACUATION ROUTES
- Major Road Local Road

LEVEE INFORMATION

- 1000-Foot Levee Stationing
- Levee Centerline
- Tide Gate
- Levee Access Point
- Historic Levee Breach
- Levee Erosion
- Levee Seepage
- Agricultural Return Drain/Siphon
- Levee Crossing

RESPONSE INFORMATION

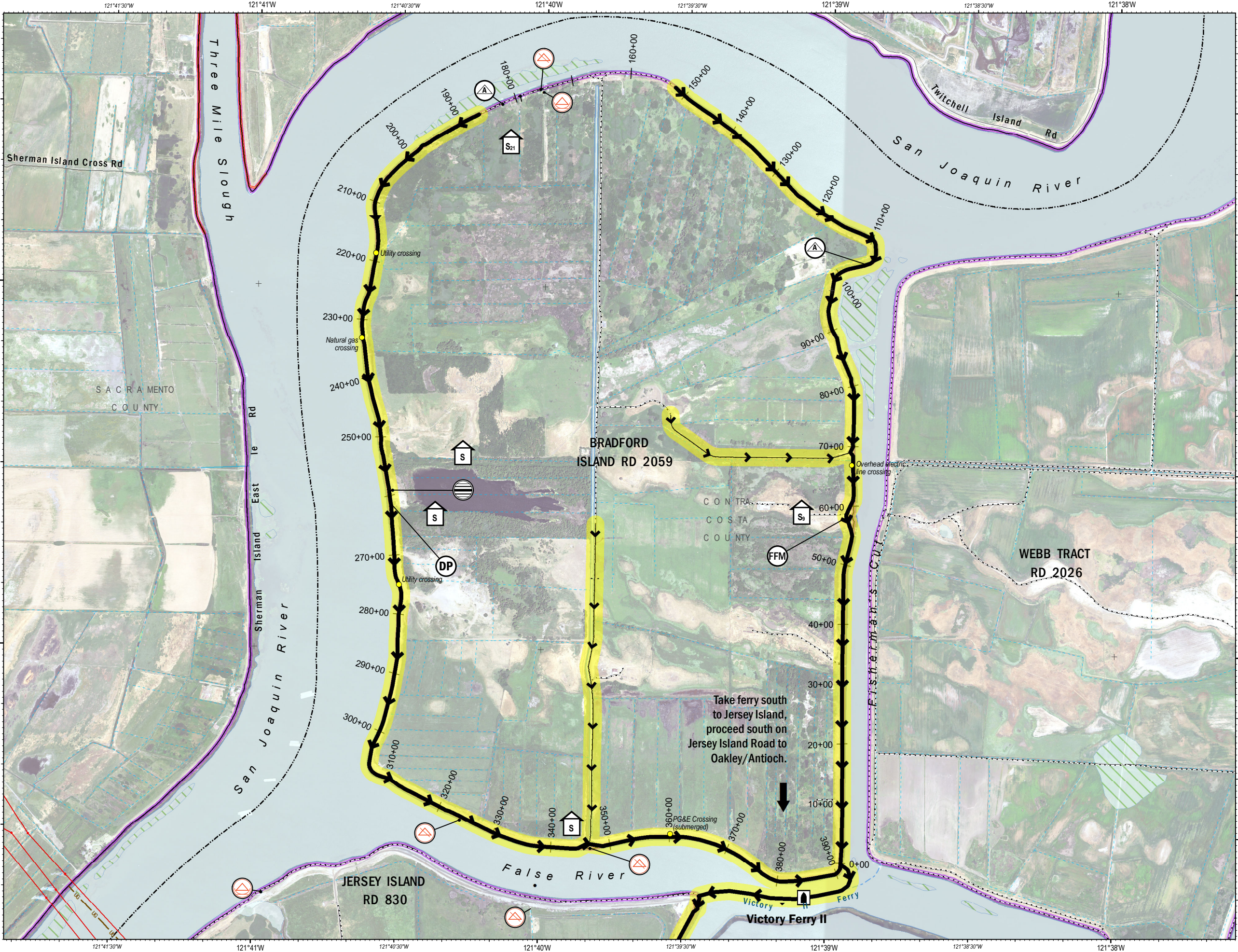
- Structure
- T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
- Boat Landing
- Supply Delivery Point
- Field Stockpile
- Flood Fight Material
- Supply Staging

REFERENCE INFORMATION

- Fire Station
- Home Care
- Ferry
- Hazardous Material
- School
- Ag. Worker Camp
- Dam
- Underground Power Line
- Transmission Line
- Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:18,600



FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

R1 - LAND USE
Primary land use is agriculture (cattle) and several natural gas wells. There are several ranchers on Bradford Island with approximately 2,000 head of cattle. There are less than 50 full time residents and critical infrastructure consists of one pump station located on the east side of the island.

R2 - DWELLING UNITS
Typical population on Bradford Island totals approx. 9 People. Mostly seasonal Workers. Most dwelling units are located at the highest elevations on the tract above most flood threat.

R3 - MATERIAL STORAGE
Conex Boxes for hazardous material storage are located at various locations. Storage includes diesel Fuel, pesticides, herbicides, hydraulic Fluids. All HazMat below thresholds for reporting to County.

R4 - GENERAL LEVEE CONDITIONS
Bradford Island Levees were raised over the last couple years with 3’ of free board (factor of safety) above flood stage since FEMA encourages to adopt at least a one-foot freeboard. Bradford Island’s Freeboard compensates for the many unknown factors that could contribute to flood heights greater than the height calculated such as wave action. Certification Status of the levees is that most are above the Hazard Mitigation Plan (HMP) standard. Approximately, 600 feet of levee is below the adjacent levee height and during high waters, the district deploys sand bags and or muscle wall (provided by the State) in these areas.

R5 - WAVE ACTION
Significant characteristics that Bradford Island Levees faces is that the San Joaquin River is quite wide (shipping channel) and wind and wave action along the north and western side of island. North side has a barrier structure which protects levees from wave action.

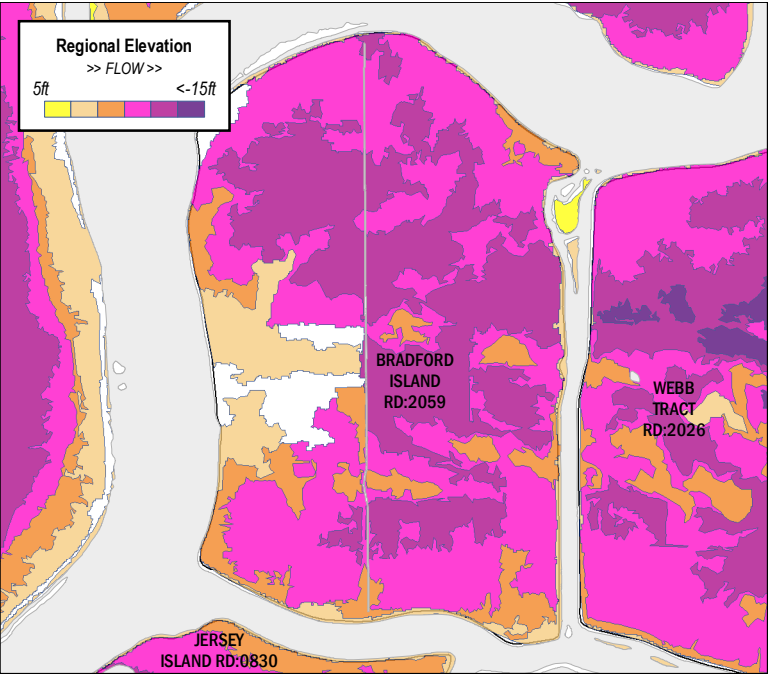
R6 - BOAT TRAFFIC
Boat traffic in Fisherman’s cut causes wave action potential damage to levees may occur.

R7 - FERRY ACCESS
Ferry access and operation information maybe limited in this area. May be present after hours and at lunch. Private ferry, 2 captains. Known issues with operation after captains hit maximum hours.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

R1 - WIND WAVES
Wind waves 1.5 FT in height could occur at this location. Wind waves causing erosion will lead to levee failure if not addressed for long periods of time; protection area approx. 300 FT.
ACTIONS
1. Protect area exposed to wind waves with envelope style wrap.
Wave Wash Protection Material Required:
300 feet of envelope wave wash will require approximately 6 rolls of 10 mil plastic sheeting, 90 sandbags, 45 cubic feet of sand, 6 rolls of twine, 30 plastic buttons or rocks, and 60 [1” x 3” x 2’] stakes.

R2 - LOCAL HIGH WATER EVENT
Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. East side of Bradford Island Levee System may be lower than regional high water event. Vulnerable area approx.. 5,000 FT. Muscle wall or temporary earthen levee is recommended.
ACTIONS
1. Close control gate at intake slough.
2. Activate workforce for levee patrols.
3. Move or evacuate cattle population.
4. Prepare resources for temporary earthen levee or muscle wall.
Muscle Wall Material Required:
5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand.
OR
Temporary Earthen Levee Material Required:
5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill. Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS			
Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011

MATERIALS SUPPLIERS		
Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290

Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS		
Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	

Bradford Island

RD 2059

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 Flood Contingency Option D2 Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline
Tide Gate Agricultural Return Drain/Siphon
Levee Access Point Levee Crossing

RESPONSE INFORMATION

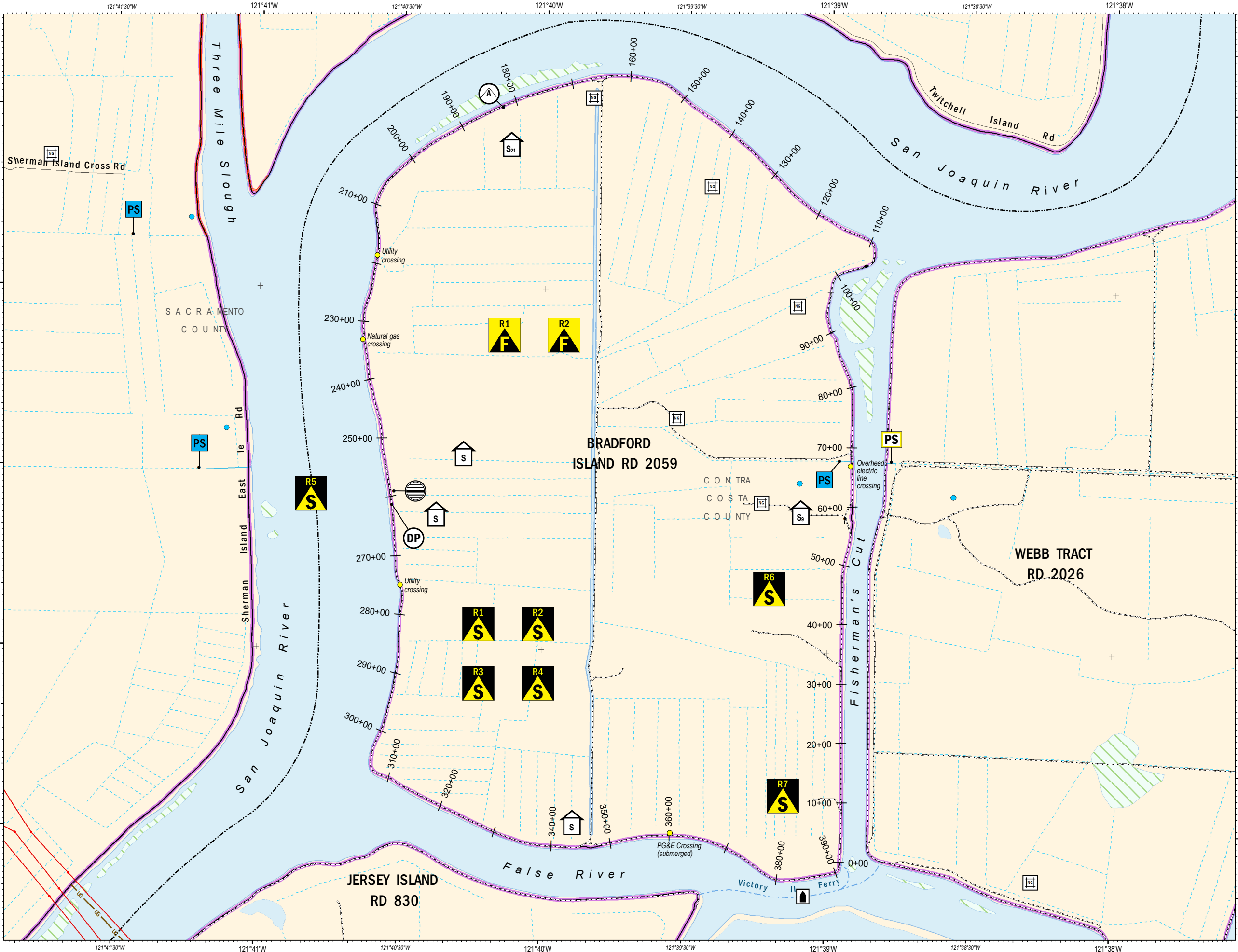
Structure T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
Boat Landing Command Post
Supply Delivery Point Command Post Secondary
Field Stockpile Pump Station
Flood Fight Material Pump Station Agricultural
Helispot
Supply Staging

REFERENCE INFORMATION

Ferry Communication Facility
Potable Water Facility Waster Water Facility
Solid Waste Facility Natural Gas Facility
Hazardous Material
UG Underground Power Line
Transmission Line
UG Underground Gas Line
County Boundary

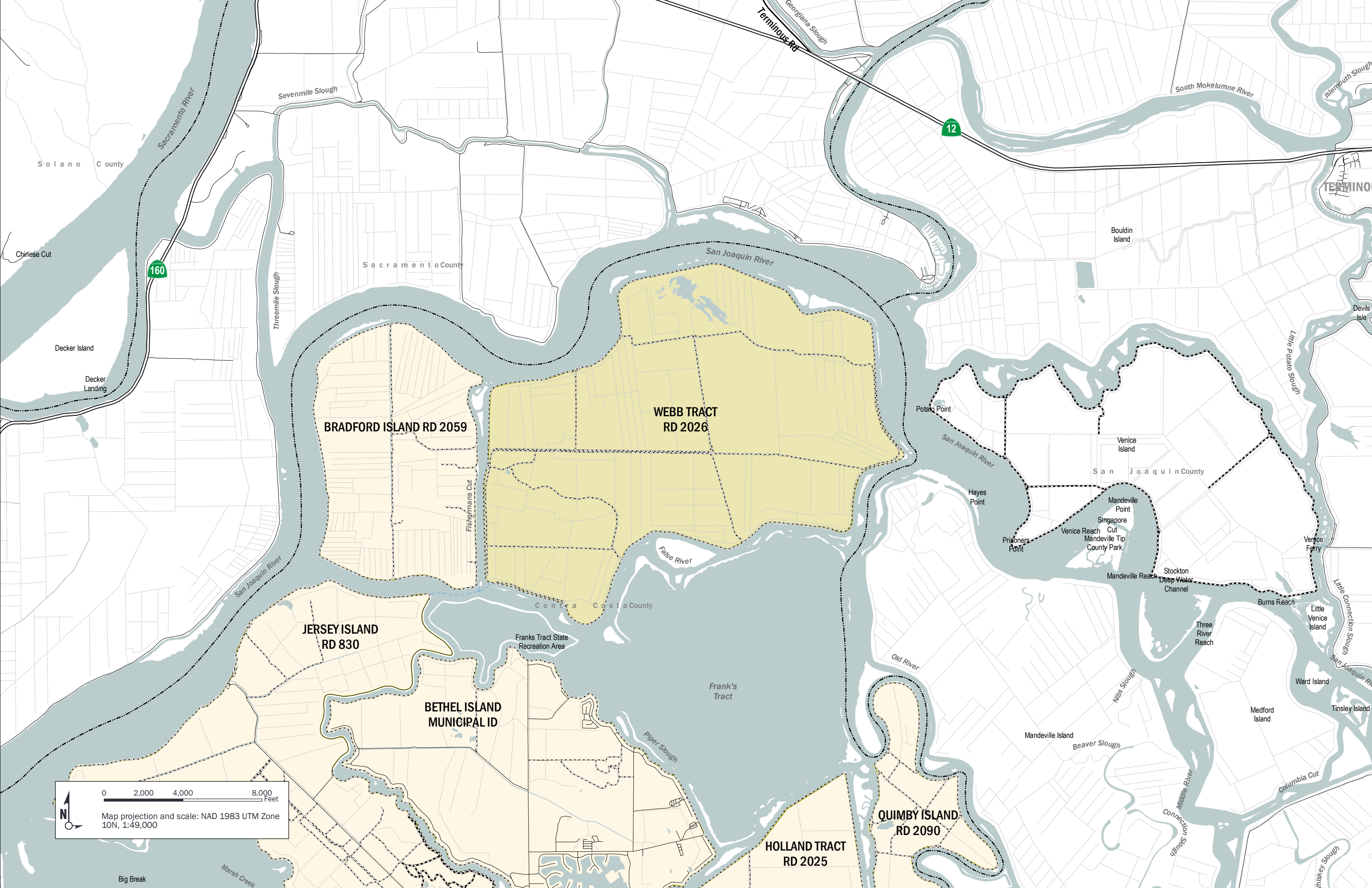
0 700 1,400 2,800 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:18,700



Webb Tract RD 2026





160

12

BRADFORD ISLAND RD 2059

**WEBB TRACT
RD 2026**

**JERSEY ISLAND
RD 830**

**BETHEL ISLAND
MUNICIPAL ID**

**QUIMBY ISLAND
RD 2090**

**HOLLAND TRACT
RD 2025**

N

02,0004,0008,000Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:49,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

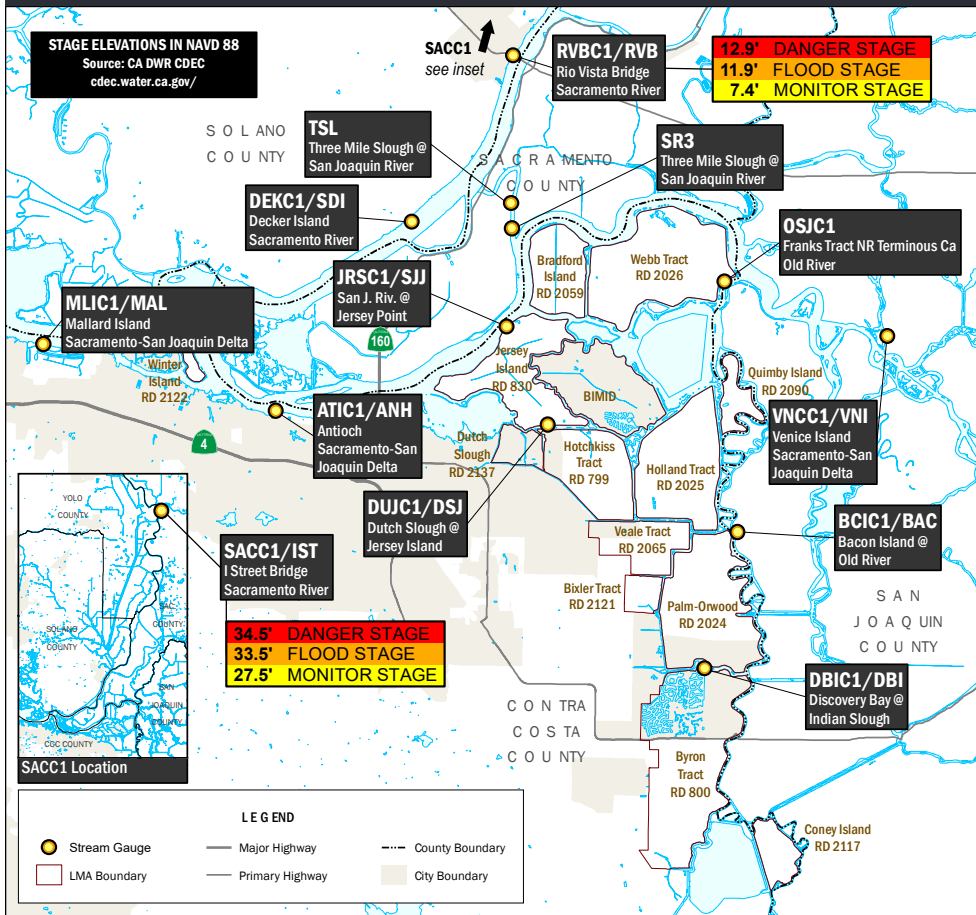
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

STAGING AREA

Staging would occur near the ferry slip at station 0+00.
38°03'25.48110600"N, 121°38'48.01351560"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

RIP RAP STOCKPILE

In an event where additional on-island fill materials is needed, fill material is located on the western portion of the island.
38°03'25.86519000"N, 121°38'42.51526080"W

the western portion of the island.
38°04'12.93881880"N, 121°38'13.11270720"W

RIP RAP STOCKPILE

EMERGENCY FILL

In an event where additional on-island fill materials is needed, fill material is located on

In an event where additional on-island fill materials is needed, fill material is located on the north eastern portion of the island.
38°05'36.22355880"N, 121°35'30.01182360"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT STAGING

Inventory meets DWR requirements: Visqueen, sandbags, twine, stakes, tie buttons, pliers, sledge hammers, shovels, life vests, survey lathe, flagging tape, markers, pencils and pads, spotlight, tool box and lock.
38°04'25.42042920"N, 121°34'38.62774560"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell
DUTCH SLOUGH (RD 2137)

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
925.693.9977

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Webb Tract

RD 2026

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline
Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage
Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

Structure
Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam
Underground Power Line
Transmission Line
Underground Gas Line
County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:24,900

FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

W1 - PUMP STATION 1
Located near Station 165+00. These discharge pumps may be used during a major flood event; however, additional pumps would be needed to dewater the island.

W2 - PUMP STATION 2
Located near Station 614+00. This discharge pump may be used during a major flood event; however, additional pumps would be needed to dewater the island.

W3 - EVACUATION CONSIDERATIONS
Webb Tract is not linked by bridges to the mainland. Access to and from Webb Tract is dependent on the Delta Ferry Authority, which provides ferry service. Primary exit route located at ferry slip at station 0+00. A duck club is located on the southeast levee, and a farming complex is located on the western portion of the island. The Victory II Ferry is made available to local farmers, contractors, and employees. Ferry service is not guaranteed and is subject to availability of captain/crew, weather and other safety issues, and mechanical failures. After-hour service may be required if Webb Tract needs to be evacuated.

W4 - FETCH FROM OPEN WATERS
The wave fetch is relatively short on the western portion of the island, along Fisherman’s Cut. Fetch is significantly greater over much of the remainder of the District. The southern portion of the island has a wave fetch of up to 3.5 miles across Franks Tract. Channel widths generally vary from 400 to 3,250 feet. The levees are armored with riprap.

W5 - GENERAL LEVEE CONDITIONS
There is no levee certification status for Webb Tract. The levee crown generally meets the requirements of the Hazard Mitigation Plan configuration, and many areas are compliant with PL 84-99 and Bulletin 192-82. The District continues to rehabilitate and maintain the levees as funds permit.

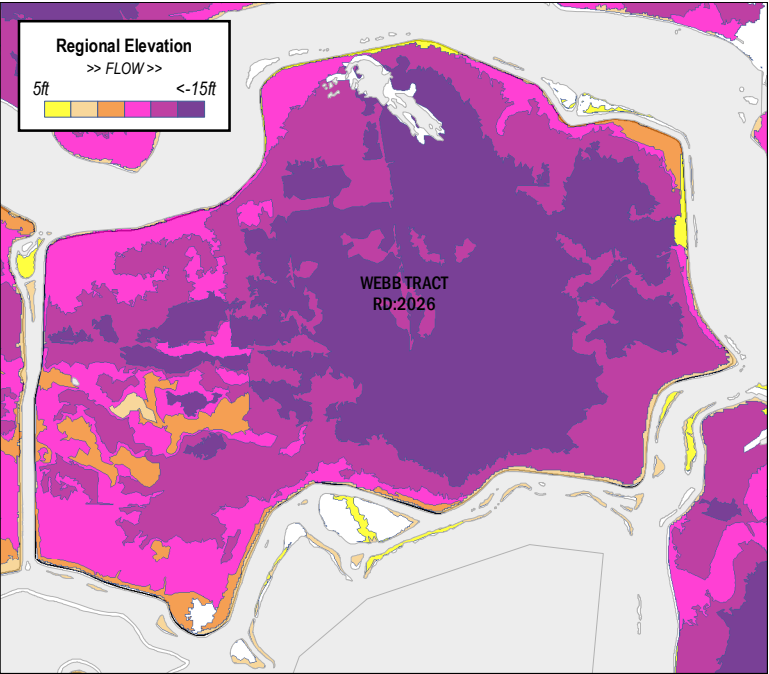
W6 - GENERAL INFRASTRUCTURE
Infrastructure includes pumping stations for drainage and associated electrical lines.

W7 - GENERAL FLOOD THREATS
The flooding threat is predominantly tidal, with some local runoff that can influence conditions. The San Joaquin River could pose a riverine flooding threat. Franks Tract is located to the south. This large expanse of open water can create erosion due to wind/waves.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

W1 - OVERTOPPING
Overtopping due to tide action or weather could occur at this location.
ACTIONS
The District maintains stockpiles of riprap on the island and has equipment available to perform levee maintenance and repairs. Temporary Earthen Levee Material Required:
4000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 80 rolls of 10 mil plastic sheeting, 1200 sandbags, and 180 cubic yards of fill. Approximately 22.2 cubic yards of fill for sand bags and 157.8 cubic yards of fill for visqueen fill.

W2 - HIGH WATER EVENT
Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx.. 5,000 FT. Muscle wall or temporary earthen levee is recommended.
ACTIONS
1. Activate workforce for levee patrols.
2. Prepare resources for temporary earthen levee or muscle wall.
Muscle Wall Material Required:
5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand.

OR
Temporary Earthen Levee Material Required:
5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill. Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

W3 - BOIL FROM SEEPAGE THROUGH LEVEE
Boil events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Not associated with wind generated waves and erosion. Response to boils require sack ring, or boil ring, to control water flow and pressure through levee to minimize transport of fine material through seepage that has uncontrolled flow of water and transport of levee material. Tides and low pressure can play a part in both wind and seepage impact potential. Potential at station 505+00 and 230+00.

ACTIONS
1. Protect and isolate seepage area with boil sack ring.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

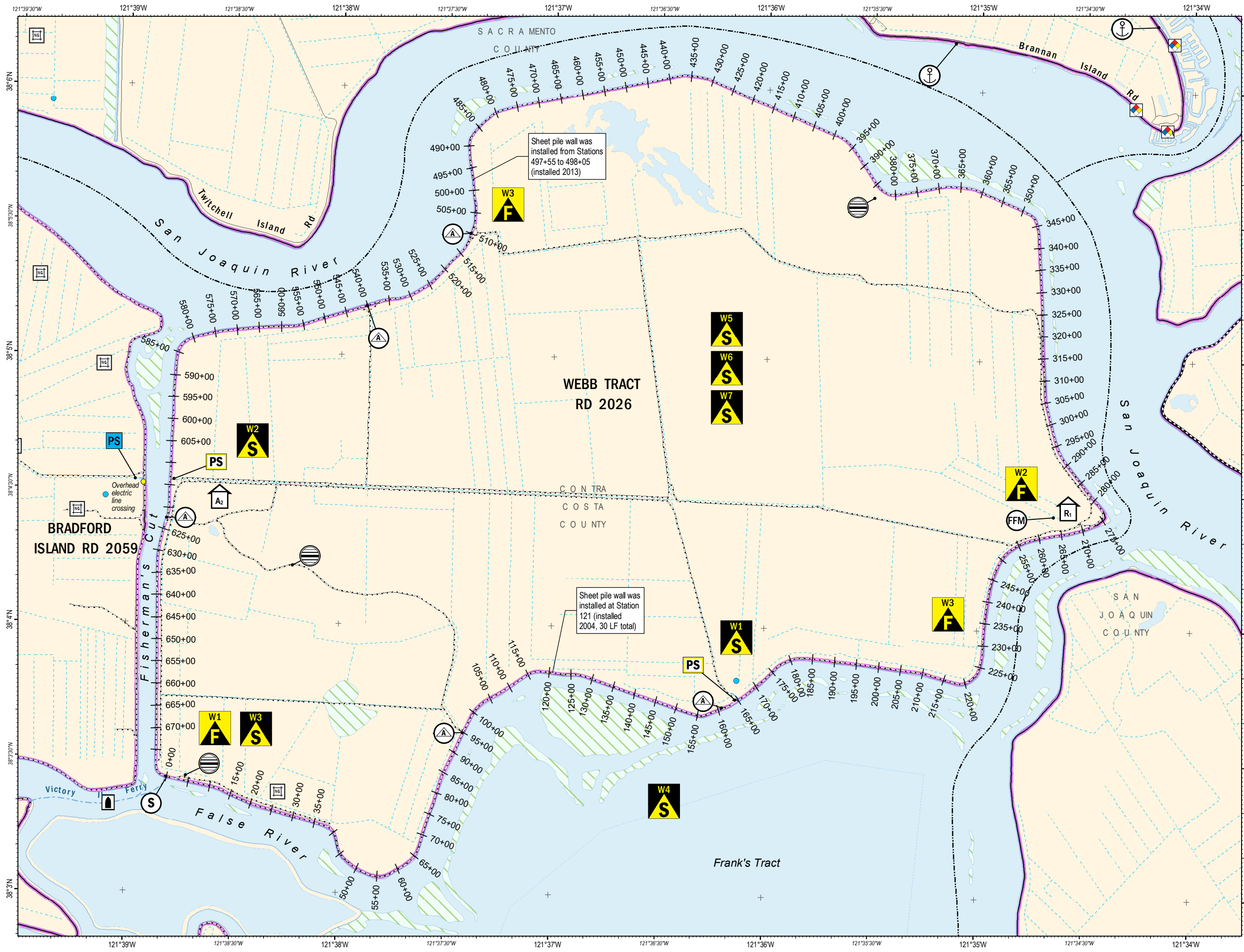
FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS			
Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011

MATERIALS SUPPLIERS		
Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290

Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS		
Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	



Webb Tract

RD 2026

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 Flood Contingency Option D2 Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing Levee Centerline Tide Gate Agricultural Return Drain/Siphon Levee Access Point Levee Crossing

RESPONSE INFORMATION

Structure T (type) [A - Agricultural, R - Residential, S - Seasonal, U - Unknown] # (count) - [Approx. Structure Count] Boat Landing Command Post Supply Delivery Point Command Post Secondary Field Stockpile PS Pump Station FFM Flood Fight Material PS Pump Station Agricultural H Helispot S Supply Staging

REFERENCE INFORMATION

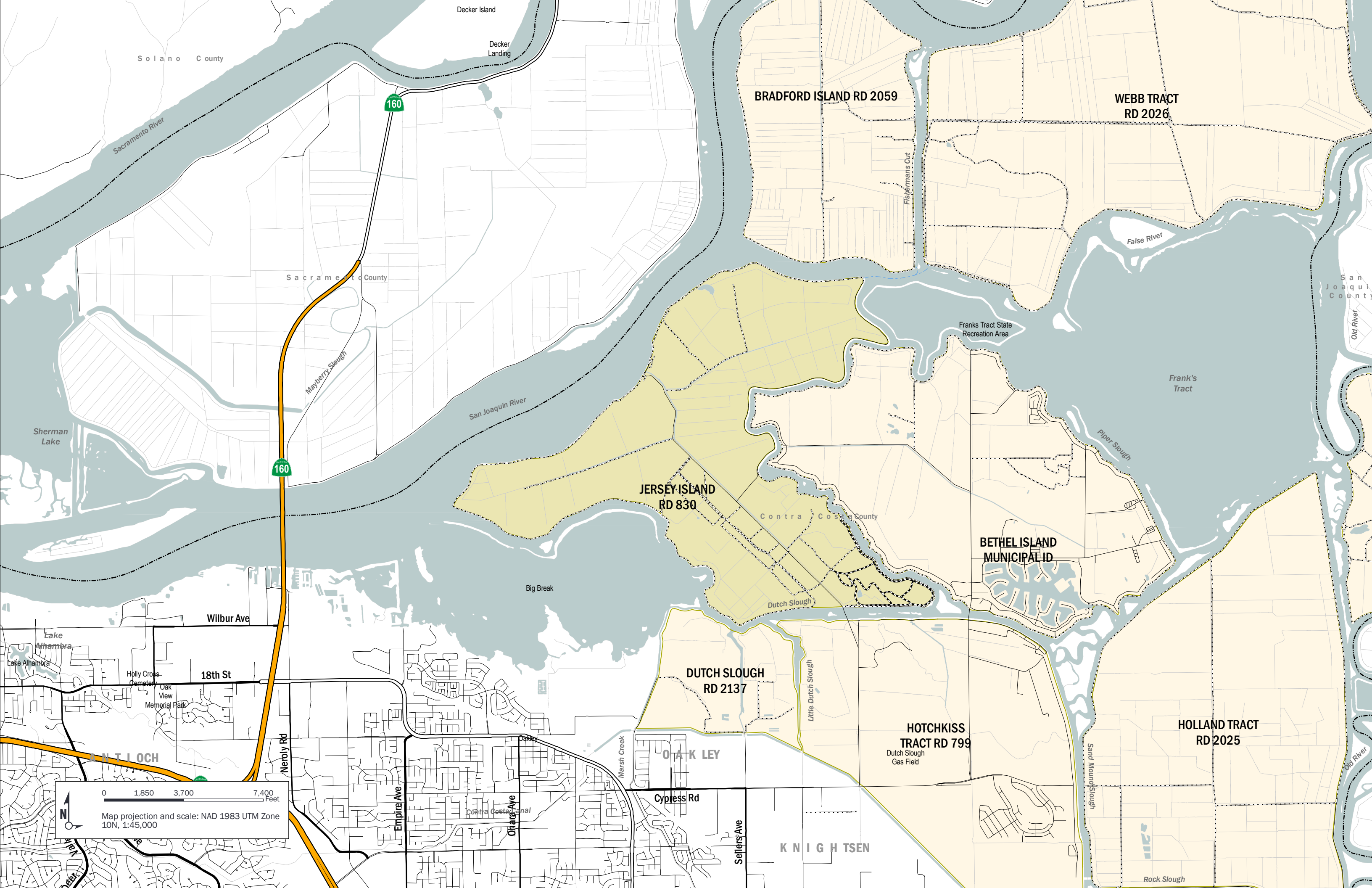
Ferry Communication Facility Potable Water Facility Waster Water Facility Solid Waste Facility Natural Gas Facility Hazardous Material UG Underground Power Line Transmission Line UG Underground Gas Line County Boundary

0 950 1,900 3,800 Feet

Map projection and scale: NAD 1983 StatePlane California III FIPS 0403 Feet, 1:24,900

Jersey Island..... RD 830





Solano County

Decker Island

Decker Landing

160

BRADFORD ISLAND RD 2059

WEBB TRACT
RD 2026

Sacramento County

Mayberry Slough

Sherman Lake

160

San Joaquin River

Franks Tract State
Recreation Area

Frank's
Tract

Piper Slough

JERSEY ISLAND
RD 830

Contra Costa County

BETHEL ISLAND
MUNICIPAL ID

Big Break

Dutch Slough

Wilbur Ave

18th St

Neroly Rd

Empire Ave

Onata Ave

OAK LEY

Cypress Rd

Sellers Ave

K N I G H T S E N

HOTCHKISS
TRACT RD 799

Dutch Slough
Gas Field

HOLLAND TRACT
RD 2025

Sand Mound Slough

Rock Slough

San
Joaquin
County

Old River

Old River



0 1,850 3,700 7,400 Feet
Map projection and scale: NAD 1983 UTM Zone 10N, 1:45,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

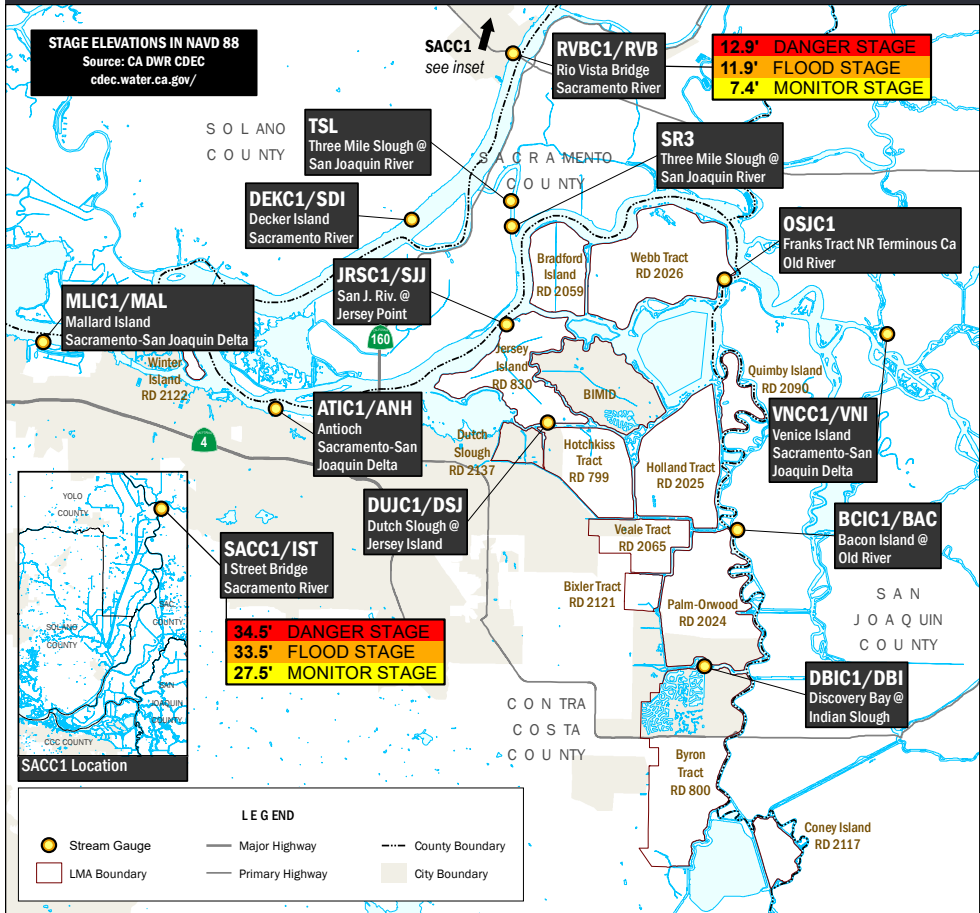
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

FLOOD FIGHT STAGING

The staging area would be located near the district headquarters.
38°02'35.35288080"N, 121°41'31.50919680"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

RIP RAP STOCKPILE C-pasture rock stockpiles: Approximately 450 tons 18-24" rock stockpile. 38°01'02.48045160"N, 121°39'40.27488840"W	24" rock stockpile. 38°02'28.69885320"N, 121°40'35.34609000"W	EMERGENCY FILL In an event where additional on-island fill material is needed, stockpiles of fill are located on the north portion of the island. 38°03'17.24606640"N, 121°40'44.99051520"W
RIP RAP STOCKPILE Ferry Road rock stockpile: Approximately 450 tons 18-24" rock stockpile.	FILL/EARTHEN MATERIAL STOCKPILE Approximately (5) cubic yards of sand. 38°02'35.35006560"N, 121°41'31.50971880"W	

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT MATERIAL

Inventory at District Headquarters meets DWR requirements: Visqueen, sandbags, twine, stakes, tie buttons, pliers, sledge hammers, shovels, life vests, survey lathe, flagging tape, markers, pencils and pads, spotlight, tool box and lock.
38°02'35.35006560"N, 121°41'31.50971520"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

WEBB TRACT (RD 2026)

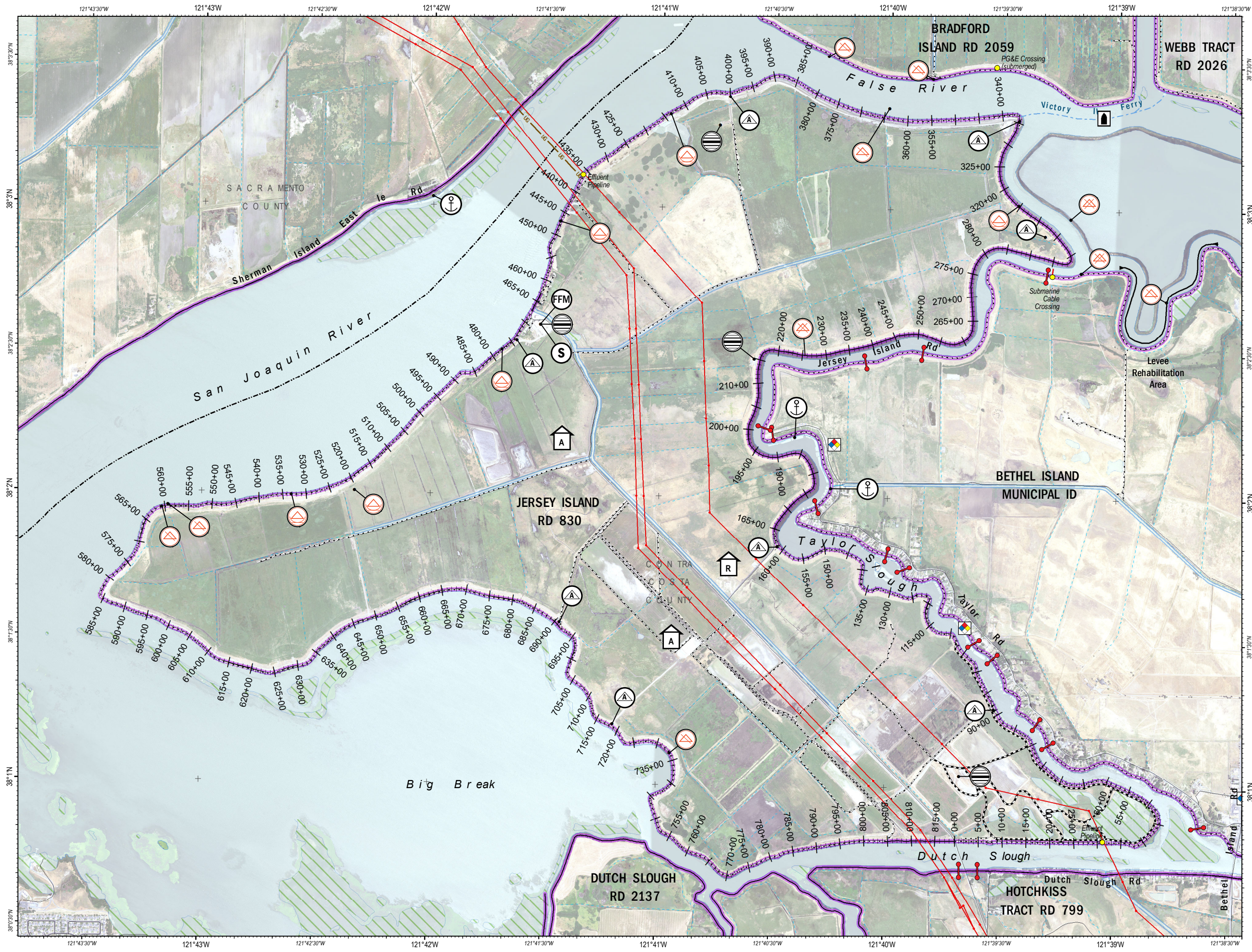
Al Warren Hoslett
209.943.5551, Bus.

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
925.693.9977

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Jersey Island

RD 830

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

- Gate

ROADS

- Interstate
- Highway
- Major Road
- Local Road
- Trail, Major
- Trail

LEVEE INFORMATION

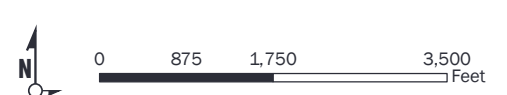
- 1000-Foot Levee Stationing
- Levee Centerline
- Tide Gate
- Levee Access Point
- Historic Levee Breach
- Levee Erosion
- Levee Seepage
- Agricultural Return Drain/Siphon
- Levee Crossing

RESPONSE INFORMATION

- Structure (T type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown] # (count) - [Approx. Structure Count]
- Boat Landing
- Supply Delivery Point
- Field Stockpile
- Flood Fight Material
- Supply Staging

REFERENCE INFORMATION

- Fire Station
- Home Care
- Ferry
- Hazardous Material
- School
- Ag. Worker Camp
- Dam
- Underground Power Line
- Transmission Line
- Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:23,200

FLOOD CONTINGENCY PLANNING INFORMATION



A.1. SPECIAL FLOOD CONSIDERATIONS

J1 - PUMP STATION 1

Located near station 467+00. These discharge pumps may be used during a major flood event; however, additional pumps would be required to dewater the island.

J2 - UTILITY INFRASTRUCTURE

The island has high-voltage towers and transmission lines. Two electrical transmission lines run parallel to the western side of Jersey Island Road (Path 15 Connector) and cross the perimeter levee east of Jersey Island Road Bridge. Another transmission line runs to the east side of Jersey Island Road and crosses the perimeter levee at the confluences of Dutch and Taylor Sloughs. Other infrastructure includes pumping stations for irrigation and drainage and associated electrical lines.

J3 - LEVEE IMPROVEMENTS

The western horn of Jersey Island, at the confluences of the San Joaquin River and Dutch Slough, has undergone levee stability improvements. Improvements include splash berms south and east of the western horn.

J4 - SLOPE

The general slope characteristic is toward the center of the island however, back water flooding is of concern.

J5 - GAS UTILITY INFRASTRUCTURE

Major utility crossings exist in this area. Utility crossings including three sets of high-power electrical lines (PG&E and WAPA), and one 42-inch high-pressure gas main. Coordinate with the local county Office of Emergency Services in the event that utility crews are needed.

J6 - EVACUATION CONSIDERATIONS

Much of the land is used primarily for grazing and growing hay. Up to 2,000 head of cattle can be onsite, depending on the landowner's activities. A caretaker's residence is in the middle of the island (populations ranges from 0 to 5). A county road runs along the island interior and the east levee, providing vehicular access to Bradford Island and Webb Tract. Primary exit route is located at station 0+00, exit along Jersey Island Road towards East Cypress Road..

J7 - DISEASE CONTROL

There are cattle on the island at all times. During a flood, many head of cattle could become trapped and/or perish. Animal carcass management is a concern for disease control. Coordinate with the California Department of Food and Agriculture through the local county Office of Emergency Services for disposal methods.

J8 - FLOOD FIGHT PERSONNEL/MATERIALS

Onsite flood fight personnel are manned through the Reclamation District Headquarters. Personnel have knowledge of in-place standard operating procedures based on daily conditions, schedules, etc. Reclamation District Headquarters has the capability to man a 24/7 levee patrol and preventative preparation in advance of a storm. The District maintains stockpiles of riprap on the island and has equipment available to perform levee maintenance and repairs; 20 cubic yards of sand is stored under the barn at Headquarters. If a storm event is predicted, 6 cubic yards of sand is placed in a dump truck so it is mobile.

J9 - WESTERN WAVE RUN-UP

Storms from a southwest direction can create 4- to 5-foot waves along the San Joaquin River. The western portion of the island has a wave fetch of up to 4.5 miles along the San Joaquin River. The fetch length across Big Break is also up to 4.5 miles. Channel widths generally vary from 220 to 4,550 feet surrounding the island..

J10 - NORTHERN RIVERINE THREAT

The San Joaquin River and False River could pose a riverine flood threat to the northern levees. The levees are all armored with riprap.

J11 - LEVEE STATUS

There is no levee certification status for Jersey Island. The levee crown generally meets the requirements of the Hazard Mitigation Plan configuration, and many areas are compliant with PL 84-99 and Bulletin 192-82. The District continues to rehabilitate and maintain the levees as funds permit.

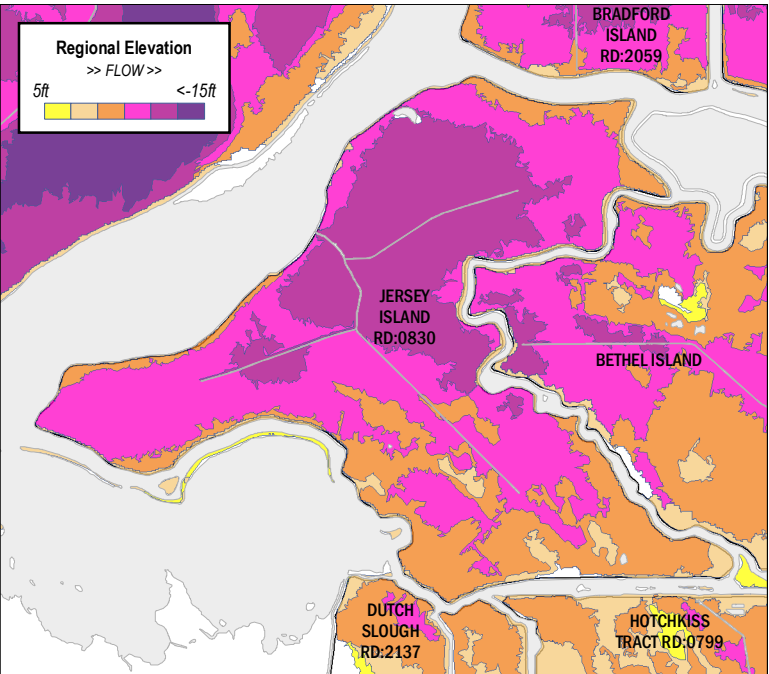
J12 - IRON HOUSE SANITARY DISTRICT FACILITIES

The Ironhouse Sanitary District (ISD) has a headquarters area on the north end of the island, with several structures in the vicinity. ISD also has an effluent pipeline that crosses the island and discharges into the San Joaquin River.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

J1 - HIGH WATER EVENT

Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx.. 5,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

The district maintains stockpiles of riprap on the island and has equipment available to perform levee maintenance and repairs. 20 cubic yards of sand is stored under the barn at headquarters. If a storm event is predicted, 6 cubic yards is placed in a dump truck so it is mobile. Muscle Wall Material Required: 5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand. OR Temporary Earthen Levee Material Required: 5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill. Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

J2 - FAILURE OF SAN JOAQUIN RIVER LEVEE ON RD 0830 (JERSEY ISLAND)

This scenario will lead to flooding of Jersey Island (RD 0830) in approximately 6-7 hours.

ACTIONS

1. Prepare to floodfight District Headquarters.
2. Shut down natural gas well heads at north end of island.
3. Shut down natural gas well heads at south end of island.

J3 - FAILURE OF TAYLOR SLOUGH LEVEE ON RD 0830 (JERSEY ISLAND)

This scenario will lead to flooding of Jersey Island (RD 0830) in approximately 10 hours.

ACTIONS

1. Prepare to floodfight District Headquarters.
2. Shut down natural gas well heads at north end of island.
3. Shut down natural gas well heads at south end of island.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento
916.374.9501

Labor Ready Concord
925.827.2352

Labor Ready Oakland
510.981.8226

REPAIR CONTRACTORS

Dutra Group

160 River Rd, Rio
Vista, CA
707.374.5127

Teichert Construction

24207 County Rd
100A, Davis, CA
530.406.4200

Teichert Construction

4401 Duluth Ave,
Roseville, CA
916.645.4800

Teichert Corporate Office

3500 American River
Dr, Sacramento, CA
916.484.3011

MATERIALS SUPPLIERS

Dutra Materials

615 River Rd, Rio Vista, CA
707.374.6964

Teichert Aggregates

4249 Hammonton Smartville
Rd, Marysville, CA
530.743.6111

Teichert Aggregates

8760 Kiefer Blvd, Sacramento,
CA
916.386.6905

Dutra Materials

1000 Point San Pedro Rd, San
Rafael, CA
415.459.7740

Teichert Aggregates

3331 Walnut Ave, Marysville,
CA
530.749.1230

Teichert Aggregates

35030 County Rd 20,
Woodland, CA
530.661.4290

Syar Industries

16560 County Rd 89, Esparto,
CA
530.787.2020

Teichert Aggregates

3417 Grant Line Rd, Rancho
Cordova, CA
916.351.0123

Teichert Ready Mix

8950 Cal Center Dr, #165,
Sacramento, CA
916.361.5000

Syar Industries

885 Lake Herman Rd, Vallejo,
CA
707.643.3261

Teichert Aggregates

13333 White Rock Rd, Rancho
Cordova, CA
916.985.2052

LOCAL SUPPLY PROVIDERS

Ace Hardware

Antioch
501 Sunset Dr, Antioch, CA
925.757.2500

Ace Hardware

Pittsburg
125 E Leland Rd, Pittsburg, CA
925.432.6089

Home Depot

Brentwood
5631 Lone Tree Way,
Brentwood, CA
925.513.6060

Ace Hardware

Brentwood
8900 Brentwood Blvd, Ste J,
Brentwood, CA
925.634.3201

Lowe's

Antioch
1951 Auto Center Dr, Antioch,
CA
925.756.0370

Home Depot

Pittsburg
2300 N Park Blvd, Pittsburg,
CA
925.473.1900

Ace Hardware

Oakley
305 5th St, Oakley, CA
925.625.2449

Lowe's

Antioch
5503 Lone Tree Way, Antioch,
CA
925.779.6060

Jersey Island

RD 830

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 F Flood Contingency Option

D2 S Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing

Levee Centerline
Tide Gate
Levee Access Point
Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

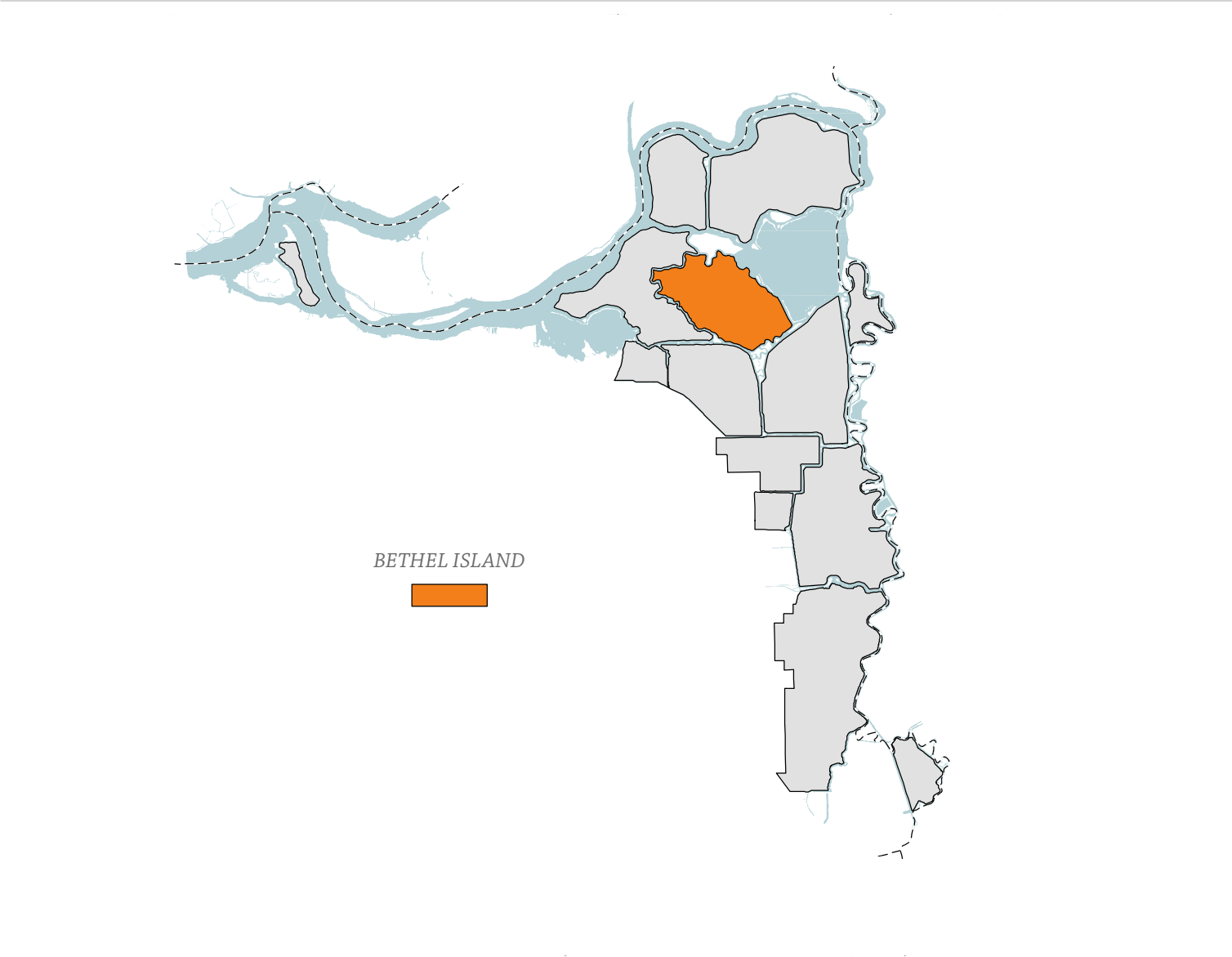
T_r Structure
T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Helispot
Supply Staging
Command Post
Command Post Secondary
Pump Station
Pump Station Agricultural

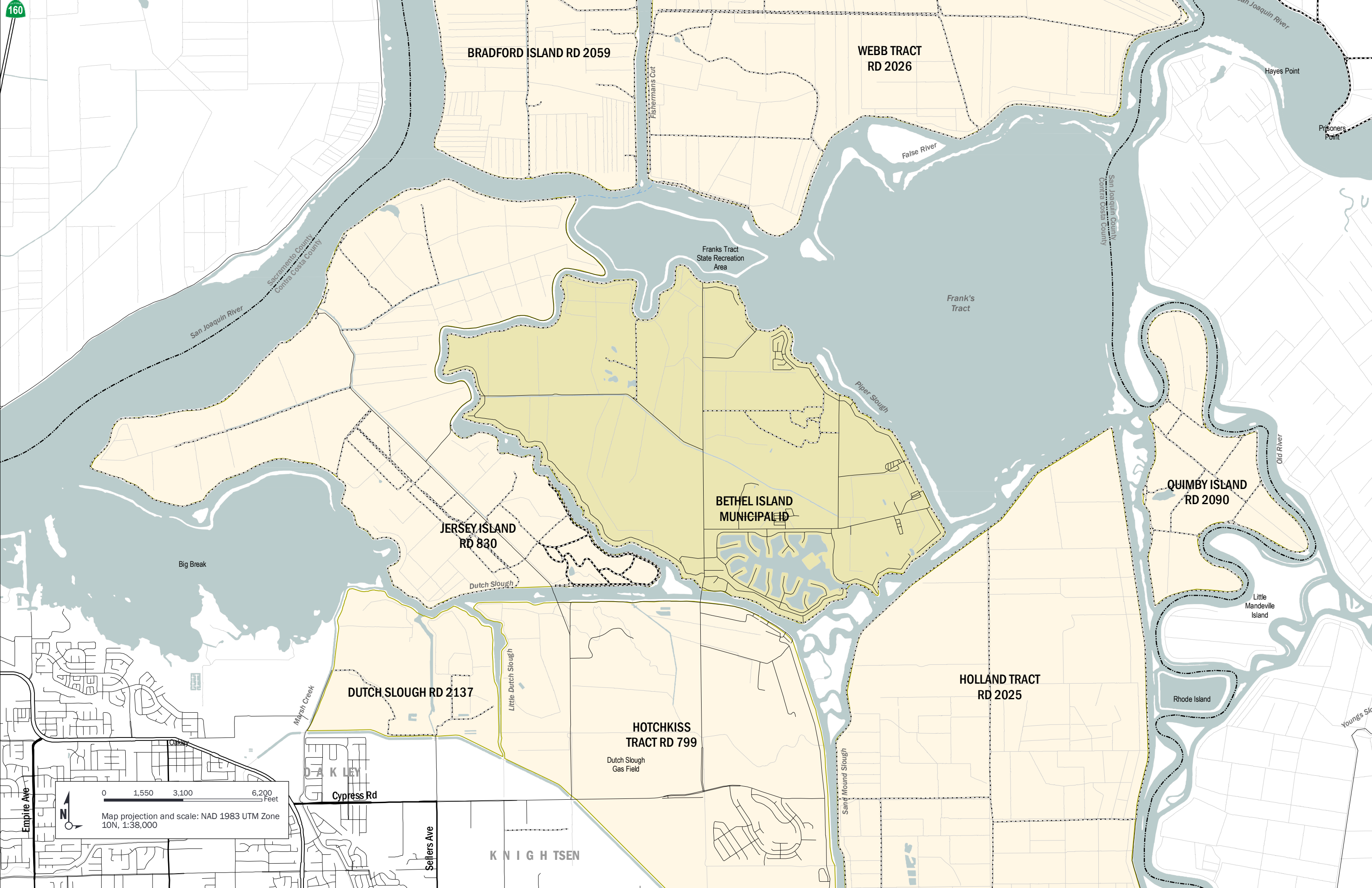
REFERENCE INFORMATION

Ferry
Communication Facility
Potable Water Facility
Waster Water Facility
Solid Waste Facility
Natural Gas Facility
Hazardous Material
Underground Power Line
Transmission Line
Underground Gas Line
County Boundary

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:23,200

Bethel Island





BRADFORD ISLAND RD 2059

WEBB TRACT
RD 2026

San Joaquin River

Sacramento County
Contra Costa County

Franks Tract
State Recreation
Area

False River

San Joaquin County
Contra Costa County

Hayes Point

Prisoners
Point

Frank's
Tract

Piper Slough

QUIMBY ISLAND
RD 2090

Old River

JERSEY ISLAND
RD 830

BETHEL ISLAND
MUNICIPAL ID

Dutch Slough

Big Break

DUTCH SLOUGH RD 2137

Little Dutch Slough

HOTCHKISS
TRACT RD 799

Dutch Slough
Gas Field

HOLLAND TRACT
RD 2025

Rhode Island

Youngs Slough

Empire Ave

OAKLEY

Cypress Rd

Sellers Ave

K N I G H T S E N

0 1,550 3,100 6,200 Feet
Map projection and scale: NAD 1983 UTM Zone 10N, 1:38,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

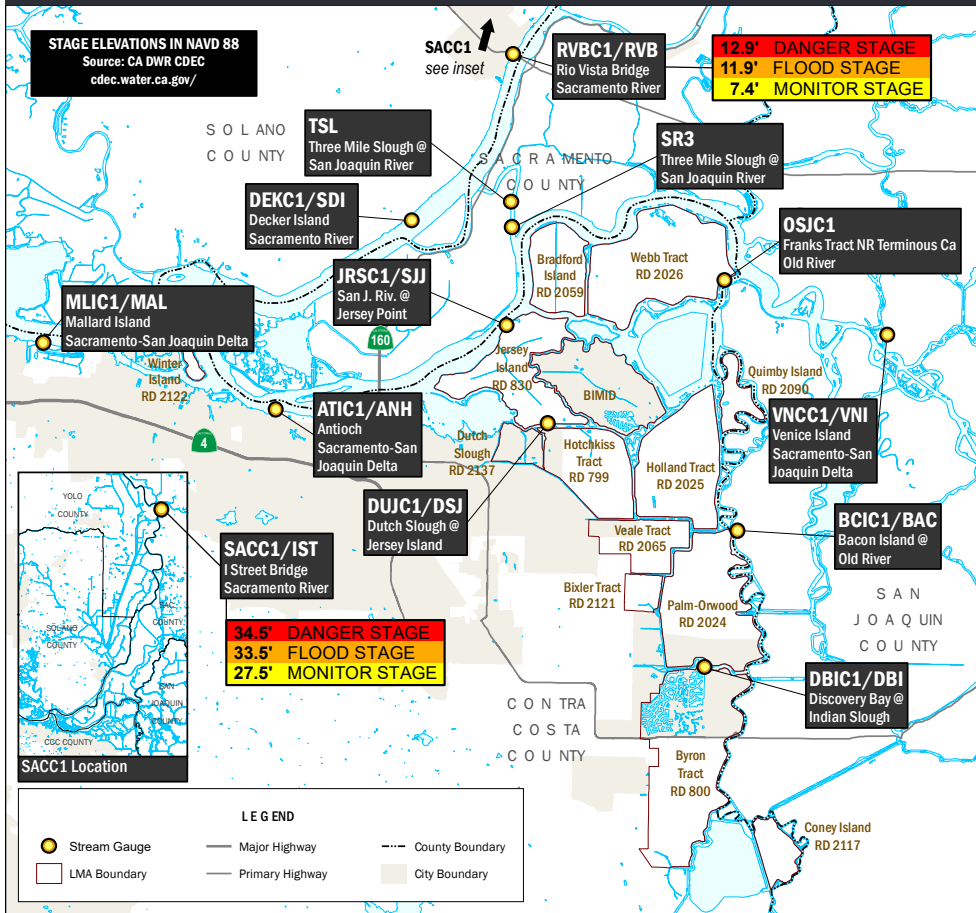
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



<div>LIVE CHART</div> <div>SACC1/IST</div> <div>I Street Bridge</div> <div></div>	<div>LIVE CHART</div> <div>RVBC1/RVB</div> <div>Rio Vista Bridge</div> <div></div>	<div>LIVE CHART</div> <div>DEKC1</div> <div>Decker Island</div> <div></div>
<div>LIVE CHART</div> <div>MLIC1/MAL</div> <div>Mallard Island</div> <div></div>	<div>LIVE CHART</div> <div>JRSC1/SJJ</div> <div>SJ Riv. @ Jersey Pt</div> <div></div>	<div>LIVE CHART</div> <div>OSJC1</div> <div>Franks Tract, Terminous</div> <div></div>
<div>LIVE CHART</div> <div>ATIC1/ANH</div> <div>Antioch</div> <div></div>	<div>LIVE CHART</div> <div>DUJC1/DSJ</div> <div>Dutch Slough @ Jersey Island</div> <div></div>	<div>LIVE CHART</div> <div>VNCC1/VNI</div> <div>Venice Island</div> <div></div>

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

LARGE EQUIPMENT STAGING LOCATION

Heavy equipment - back hoe, excavator, dozers, loaders, graders, etc
38°01'48.55758960"N, 121°37'35.97933720"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

SUPPLY DELIVERY POINT

Designated supply delivery point in yard along Bethel Island Road, central island.
38°01'54.51710520"N, 121°38'22.71482160"W

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

FILL/EARTHEN MATERIAL STOCKPILE

Sand and Rock Material
38°01'48.57424680"N, 121°37'36.05468160"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

CORPS YARD

Equipment Maintenance Yard
38°00'52.82613720"N,
121°38'19.19744160"W

121°37'20.71887240"W

FLOOD FIGHT MATERIAL

FLOOD FIGHT MATERIAL

Sand bag, shovels public
distribution location
38°01'47.77613040"N,

Container with sand bags &
flood fight equipment (stacks
twine, shovels, flashlight, etc)
38°01'48.65090160"N,
121°37'36.06980880"W

FLOOD FIGHT MATERIAL

Sand, Flood Fight Materials
Distribution Location
38°01'55.44544800"N,
121°38'24.83634840"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

EMERALD POINT MARINA Enf./Compliance Activity/ SPCC 3234 Stone Rd BETHEL ISLAND MUTUAL WATER CO Community Water System 38°00'52.25445"N, 121°38'16.12811"W E. CCC FIRE STATION 95 Enf./Compliance Activity 3045 Ranch Ln	18100 RB55 Leaking Underground Storage Tank - Arra 3303 Gateway Rd FLAMINGO MOBILE MANOR Community Water System 38°01'13.10206"N, 121°36'48.13737"W STEVE HANCOCK TRUCKING Transporter 4295 Gateway Rd	FRANKS MARINA Community Water System 38°01'24.68383"N, 121°36'42.49581"W LUNDBORG LANDING Community Water System 38°01'24.68383"N, 121°36'42.49581"W RIGGS ENTERPRISES INC Formal Enforcement Action 1440 Sugar Barge Rd	DELTA IMAGING SERVICE Hazardous Waste Biennial Reporter 1922 Taylor Rd PLEASANTIMES MUTUAL WATER CO Community Water System 38°01'42.75617"N, 121°36'54.93887"W	MARINER COVE MARINA Enf./Compliance Activity/ SPCC 1200 Taylor Rd BETHEL HARBOR LTD Enf./Compliance Activity/ SPCC 3405 Harbor Rd
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C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
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CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for
Support
800.952.5530

CALTRANS

Evacuation/Bridge
Support

916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/
Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
Bus. 925.693.9977
Bus. Cell

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

JERSEY ISLAND (RD 830)

Chad Davidson 925.625.2279
ER Contact 925.727.2938

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300

Bethel Island

The symbology presented in the legend below is global to the project area. Some symbols may not be present on map.

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

EVACUATION

Rally Point

EVACUATION ROUTES

Major Road Local Road

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage
Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

Structure
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

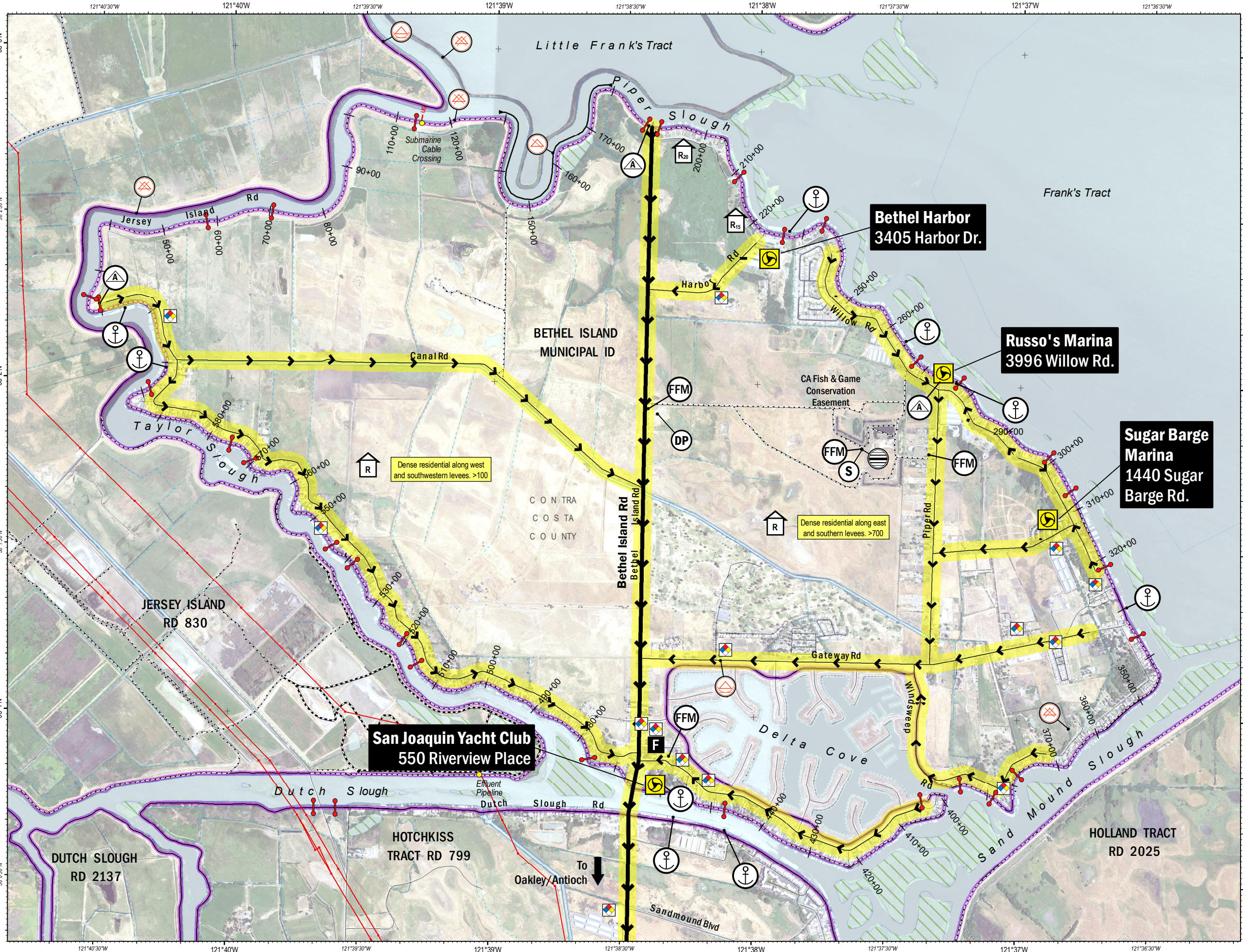
Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam
Underground Power Line
Transmission Line
Underground Gas Line
County Boundary

0 750 1,500 3,000 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:20,300



FLOOD CONTINGENCY PLANNING INFORMATION



A.1. SPECIAL FLOOD CONSIDERATIONS

B1 - EVACUATION CONSIDERATIONS

Bethel Island elevations vary -7 to -15 feet below sea level. Surrounded by 11.5 miles of earthen levee that keeps the Taylor, Piper, Dutch and Sandmound Slough waters out of the island. The middle of the island is generally lower than the surrounding lands toward the levees. Structures or residents in the middle of the island will be inundated first. Structures in the middle of the island vary in height depending upon flood resistant construction methods. Some homes are constructed on elevated pier structures 1 FT above the base flood elevation, which above average sea level.

Depending on time to inundation some residents may choose to shelter in place in flood resistant (elevated structures) (rally points) as a last resort. Residents have been provided emergency indicators for those requiring rescues from structures in the middle of the island.

B2 - BIMID POPULATIONS

Bethel Island has a population of about 2,100 which is the most populated island in the Delta. The total area is about 3,500 acres, mostly rural-agricultural, but with high-density residential development along 2/3 of the island's perimeter.

B3 - EGRESS

Bethel Island Bridge provides the only egress on and off the island for motor vehicles.

B4 - CAR-LESS POPULATION

The primary mode of transportation in an evacuation will be privately owned vehicles. However, some individuals on Bethel Island may not own a car or, for whatever reason, cannot drive or in an emergency may not choose to drive.

B5 - EVACUATION INITIATION

If there is imminent threat of a failure of the BIMID levees or an actual breach occurs, the District is responsible for calling 911 to initiate the evacuation of the residents of Bethel Island under the direction of the Sheriff's Office.

B6 - PUBLIC ALERT

The Community Warning System (CWS) is a comprehensive, integrated system for alerting people in Contra Costa County to imminent threats to their life or health. CWS capabilities include:

- Sirens near major industrial facilities and in other special safety zones
- Countywide telephone notification system
- NOAA Weather Radio
- Radio, TV and cable via the federal Emergency Alert System (EAS)
- Cell phone notification service
- Facebook: CoCoCWS
- NEW Twitter alerts ~ Follow @CoCoCWS

B7 - NOTIFICATION

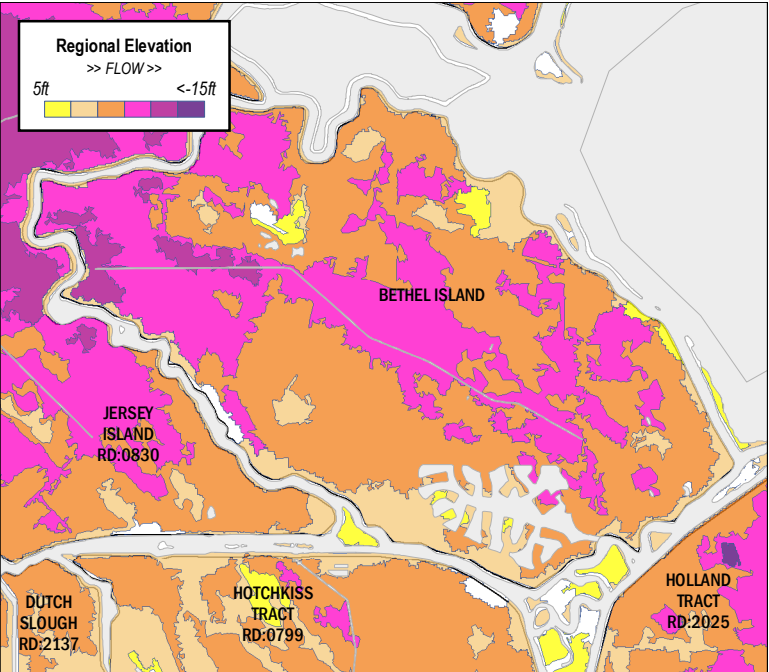
In the event of a Bethel Island levee break or breach, the Bethel Island siren system will be activated by a representative of BIMID. In conjunction with the activation of the siren system, the Contra Costa County Telephone Emergency Notification System (TENS) will be activated and the following message will go out to every telephone with a billing address in the 94511-zip code:

This is a message from the Contra Costa County Sheriff's Office. There is an Immediate Evacuation of Bethel Island. Due to a levee breach _at LOCATION if verified by BIMID_, an immediate evacuation has been ordered for all residents on Bethel Island. Do not attempt to drive off the island or onto the levee, as emergency vehicles need to get through. Move onto

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

B1 - WIND WAVES

Wind waves 1.5 feet in height could occur at this location. Wind waves causing erosion will lead to levee failure if not addressed for long periods of time; protection area approx. 300 feet.

ACTIONS

1. Protect area exposed to wind waves with envelope-style wrap.
- Wave Wash Protection Material Required:
- 300 feet of envelope wave wash will require approximately 6 rolls of 10 mil plastic sheeting, 90 sandbags, 45 cubic feet of sand, 6 rolls of twine, 30 plastic buttons or rocks, and 60 [1-inch x 3-inch x 2-foot] stakes.

B2 - LOCAL HIGH WATER EVENT

Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. East side of BIMID levee system may be lower than regional high water event. Vulnerable area approx. 5,000 feet. Muscle wall or temporary earthen levee is recommended.

ACTIONS

1. Close control gate at intake slough.
 2. Activate workforce for levee patrols.
 3. Move or evacuate cattle population.
 4. Prepare resources for temporary earthen levee or muscle wall.
- Muscle Wall Material Required:
- 5,000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4,170 cubic feet of sand.
- Or:
- Temporary Earthen Levee Material Required:
- 2-foot-high by 4-foot-wide earthen berm. 5,000 feet of levee will require approximately 220 cubic yards of material, 1,500 sandbags, 750 cubic feet of sand, and 50 rolls of 10 mil plastic sheeting.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento
916.374.9501

Labor Ready Concord
925.827.2352

Labor Ready Oakland
510.981.8226

REPAIR CONTRACTORS

Dutra Group

160 River Rd, Rio Vista, CA
707.374.5127

Teichert Construction

24207 County Rd 100A, Davis, CA
530.406.4200

Teichert Construction

4401 Duluth Ave, Roseville, CA
916.645.4800

Teichert Corporate Office

3500 American River Dr, Sacramento, CA
916.484.3011

MATERIALS SUPPLIERS

Dutra Materials

615 River Rd, Rio Vista, CA
707.374.6964

Teichert Aggregates

4249 Hammonton Smartville Rd, Marysville, CA
530.743.6111

Dutra Materials

1000 Point San Pedro Rd, San Rafael, CA
415.459.7740

Teichert Aggregates

3331 Walnut Ave, Marysville, CA
530.749.1230

Syar Industries

16560 County Rd 89, Esparto, CA
530.787.2020

Teichert Aggregates

3417 Grant Line Rd, Rancho Cordova, CA
916.351.0123

Syar Industries

885 Lake Herman Rd, Vallejo, CA
707.643.3261

Teichert Aggregates

13333 White Rock Rd, Rancho Cordova, CA
916.985.2052

LOCAL SUPPLY PROVIDERS

Ace Hardware

Antioch
501 Sunset Dr, Antioch, CA
925.757.2500

Ace Hardware

Pittsburg
125 E Leland Rd, Pittsburg, CA
925.432.6089

Home Depot

Brentwood
5631 Lone Tree Way, Brentwood, CA
925.513.6060

Ace Hardware

Brentwood
8900 Brentwood Blvd, Ste J, Brentwood, CA
925.634.3201

Lowe's

Antioch
1951 Auto Center Dr, Antioch, CA
925.756.0370

Home Depot

Pittsburg
2300 N Park Blvd, Pittsburg, CA
925.473.1900

Ace Hardware

Oakley
305 5th St, Oakley, CA
925.625.2449

Lowe's

Antioch
5503 Lone Tree Way, Antioch, CA
925.779.6060

Bethel Island

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 Flood Contingency Option

D2 Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing

Levee Centerline Tide Gate Agricultural Return Drain/Siphon Levee Access Point Levee Crossing

RESPONSE INFORMATION

Structure T (type) [A - Agricultural, R - Residential, S - Seasonal, U - Unknown] # (count) - [Approx. Structure Count]

Boat Landing Command Post Supply Delivery Point Command Post Secondary Field Stockpile Pump Station Flood Fight Material Pump Station Agricultural Helispot Supply Staging

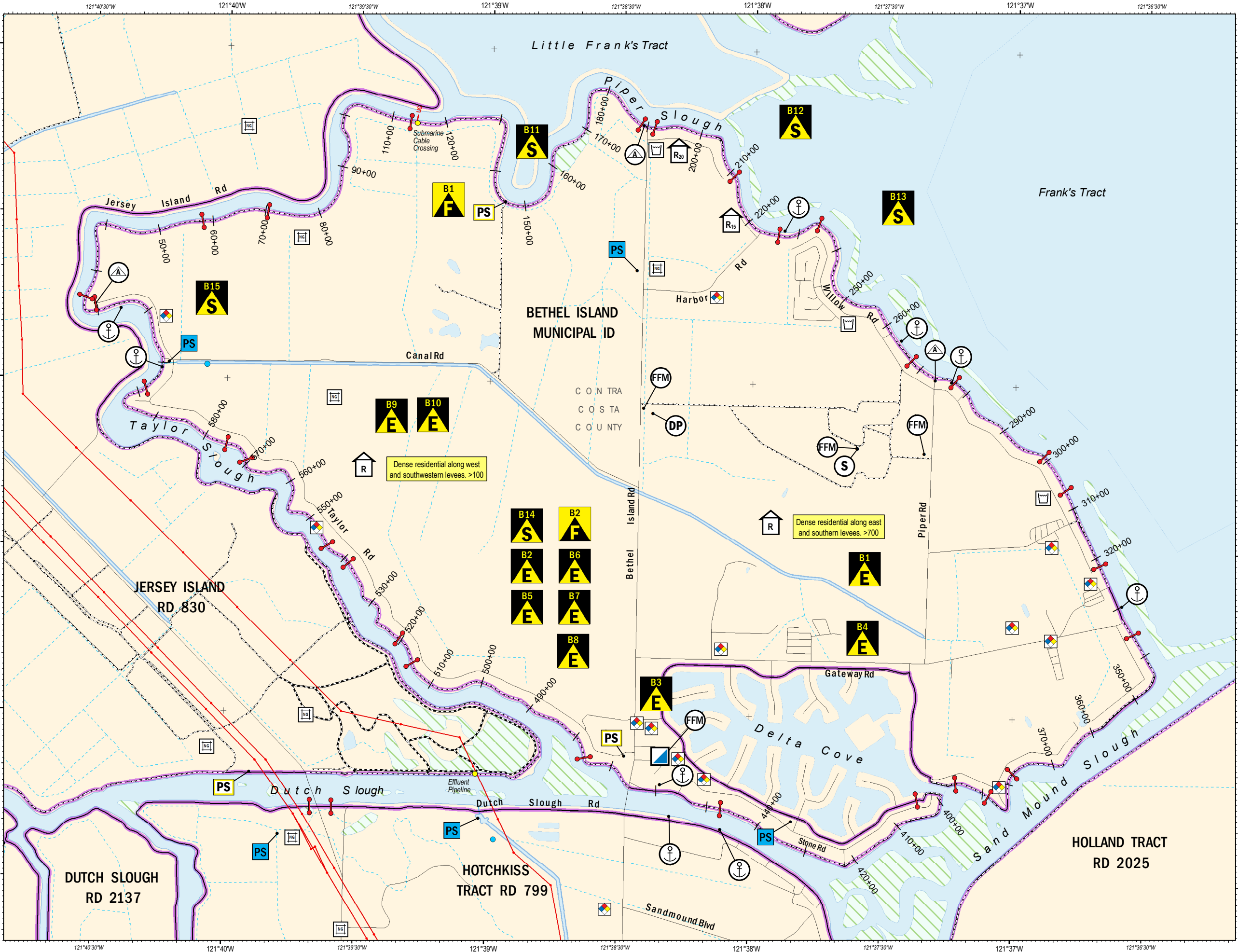
REFERENCE INFORMATION

Ferry Communication Facility Potable Water Facility Waster Water Facility Solid Waste Facility Natural Gas Facility Hazardous Material

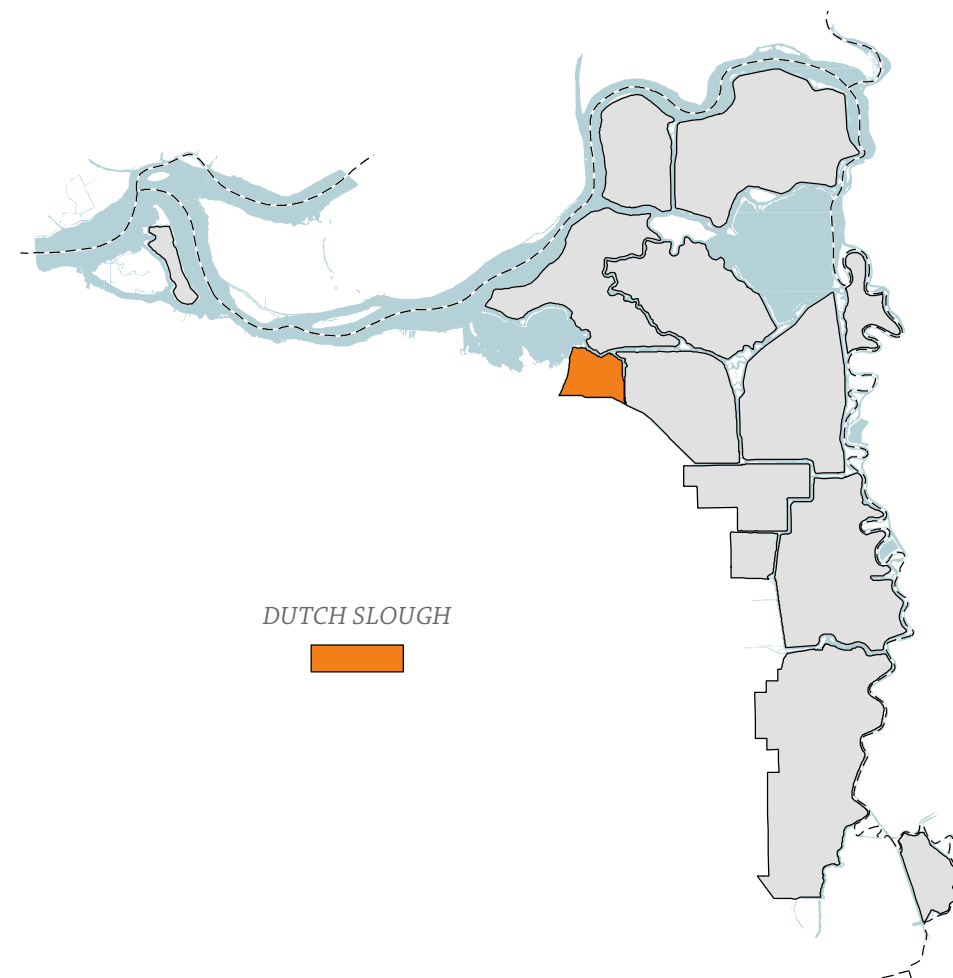
UG Underground Power Line Transmission Line Underground Gas Line County Boundary

0 750 1,500 3,000 Feet

Map projection and scale: NAD 1983 StatePlane California III FIPS 0403 Feet, 1:20,300

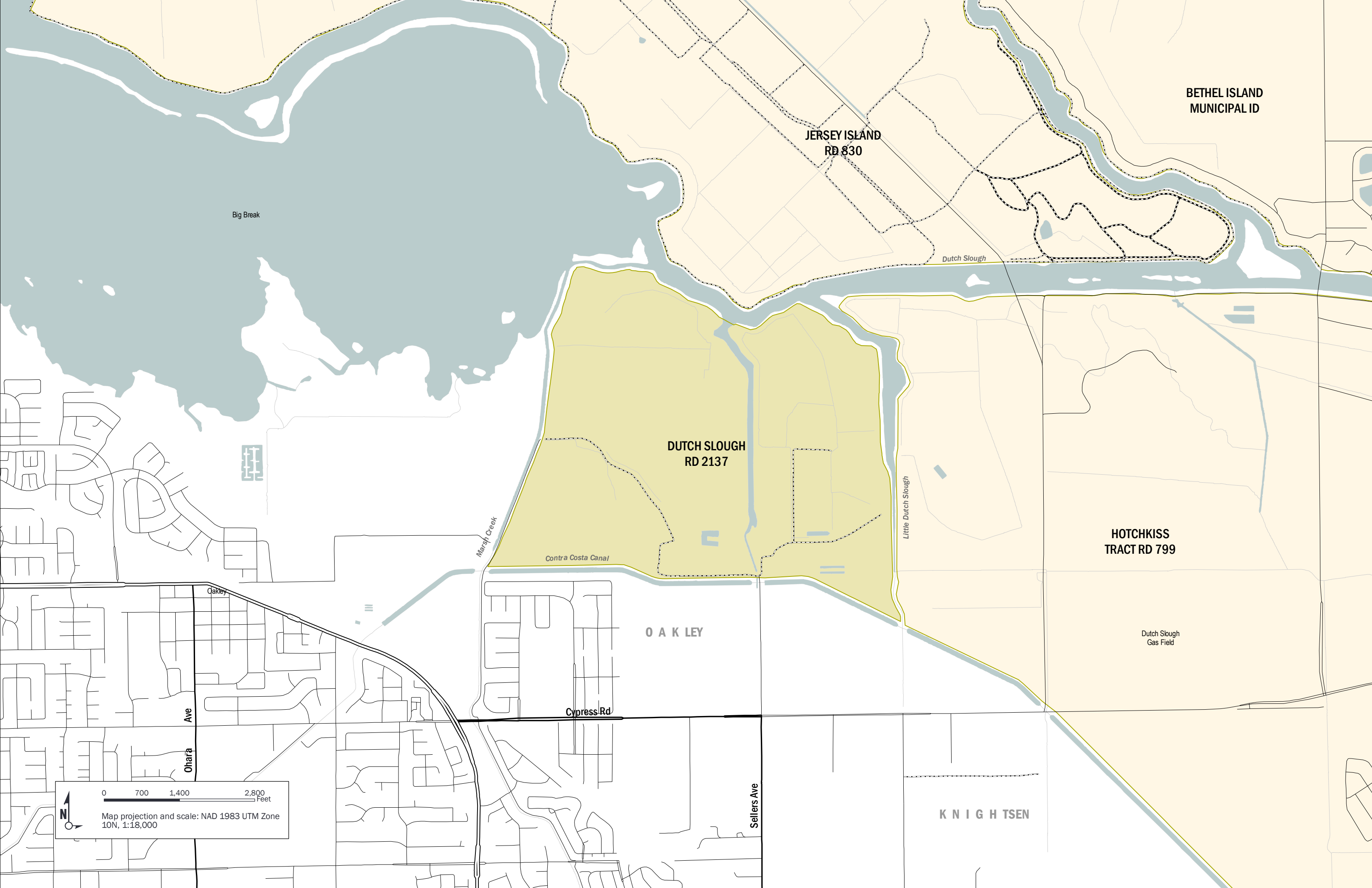


Dutch Slough.....RD 2137



DUTCH SLOUGH





BETHEL ISLAND
MUNICIPAL ID

JERSEY ISLAND
RD 830

Big Break

Dutch Slough

DUTCH SLOUGH
RD 2137

Contra Costa Canal

Little Dutch Slough

HOTCHKISS
TRACT RD 799

Dutch Slough
Gas Field

O A K LEY

K N I G H T S E N

Cypress Rd

Sellers Ave

Ohara Ave

Oakley

N

070014002800
Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:18,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

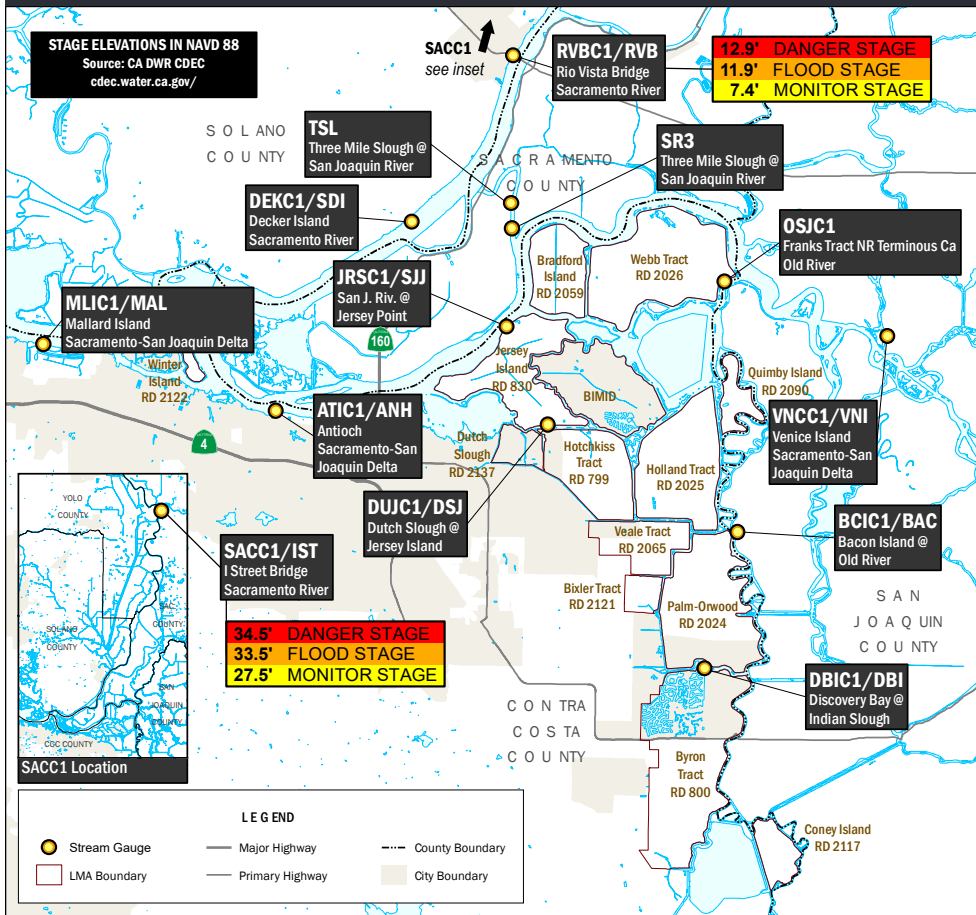
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

FLOOD FIGHT STAGING

Materials for flood fighting can be staged under the open air barn inside the south gate.
37°59'53.19521880"N, 121°40'42.84131520"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

EMERGENCY FILL

In an event where additional on-island fill material is needed, high ground is located on the South-West corner of the Emerson Parcel.
37°59'59.77314240"N, 121°41'30.56424000"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

No Known Flood Fight Materials in Map Extent

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

HOLLAND TRACT (RD 2025)

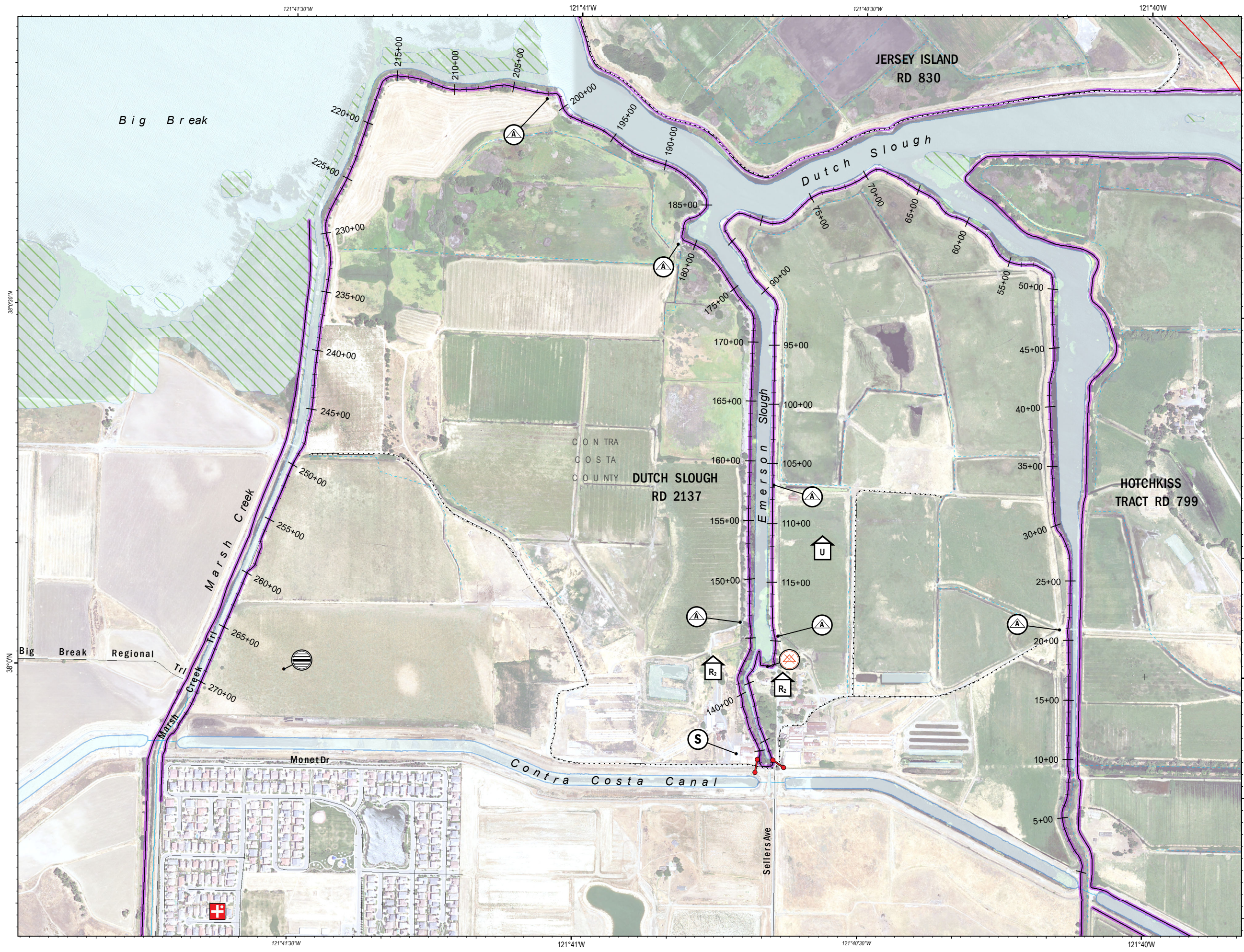
David A. Forkel
925.932.0251
925.693.9977

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Dutch Slough

RD 2137

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage
Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

Structure
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam
Underground Power Line
Transmission Line
Underground Gas Line
County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:9,300

FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

D1 - PUMP STATION 1

Located near station 107+00. This discharge pump may be utilized during a major flood event.

D2 - PUMP STATION 4

Located near station 181+00. This discharge pump may be utilized during a major flood event.

D3 - CYPRESS GROVE DETENTION BASIN

The Cypress Grove Detention Basin operations manual addresses all aspects of the stormwater pond’s maintenance, such as desilting, weed and trash abatement, excessive vegetation growth at the outfall/low flow channel, maintenance of inlet and outlet structures, embankment maintenance, acceptable chemical use and basin access. If the operations manual is not adhered to, the detention basin could overtop, causing flooding in the adjacent neighborhood and the nearby Contra Costa Canal. Consult the City of Oakley and/or the Maintenance POC for Cypress Grove properties.

D4 - DUTCH SLOUGH TIDAL

Dutch Slough restoration plan will degrade levees to restore tidal action on RD 2137 Dutch Slough.

D5 - EVACUATION CONSIDERATIONS

Primary exit route near station 133+50 - exit along Sellers Avenue towards East Cypress Road. Secondary evacuation routes include station 0+00 (southeast) south towards East Cypress Road; Northwest over pedestrian bridge across Marsh Creek near station 250+00; and Southwest at bike trail using levee crown/trail road near station 270+00.

D6 - GENERAL FLOOD THREAT

Dutch Slough is vulnerable to flooding from a number of sources, including excessive runoff in the mountain regions and related reservoir releases. The flooding threat is predominantly tidal, with some local runoff that can influence conditions. Drainage from the south discharges into the south ends of Emerson Slough and Little Dutch Slough. On the west side, Marsh Creek flows north into Dutch Slough. Marsh Creek and Dutch Slough could pose a riverine flooding threat.

D7 - FETCH / WAVE RUN UP

The wave fetch is relatively short and is generally not a concern over much of the District. The northwest corner of the eastern tract has a wave fetch of 1.9 miles across Big Break and up Dutch Slough, from 303 degrees. The northwest corner of the western tract has a wave fetch of 4.4 miles across Big Break, from 286 degrees. Channel widths generally vary from 50 to 480 feet. The levees are mostly armored with riprap and concrete debris.

D8 - LEVEE CONDITIONS

There is no certification status. The levee crown generally meets the height requirements of the Hazard Mitigation Plan (HMP) configuration. As part of the Dutch Slough project, the levees will be rehabilitated to meet or exceed the HMP geometry.

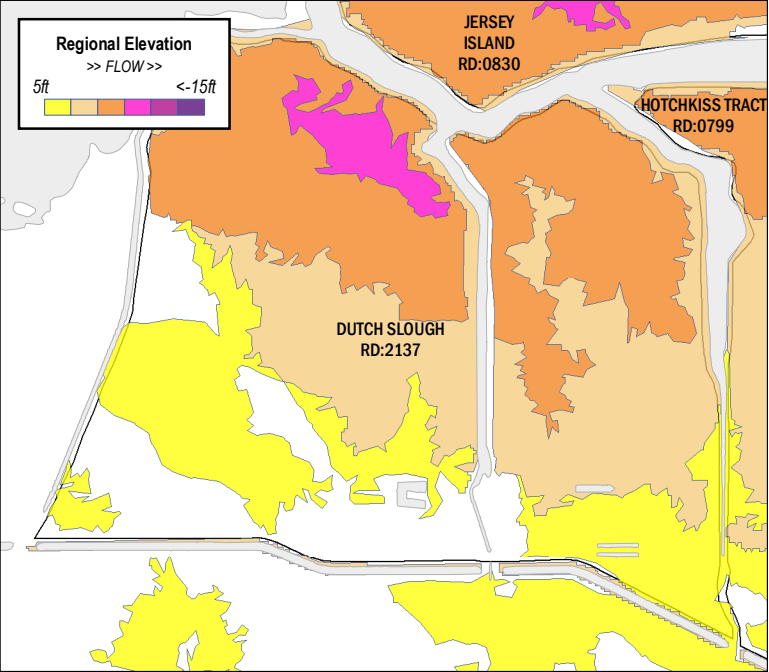
D9 - EVACUATION CONSIDERATIONS

A residence at the south end of Emerson Slough is rented periodically, along with several legacy farming structures. Population ranges from 0 to 5.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

D1 - HIGH WATER EVENT

Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx.. 5,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

Gather flood fight materials and equipment and stockpile them in the staging area.

- 1. Activate workforce for levee patrols.
- 2. Prepare resources for temporary earthen levee or muscle wall.

Muscle Wall Material Required:

5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand.

OR

Temporary Earthen Levee Material Required:

5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill.

Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

D2 - OVERTOPPING

Overtopping due to tide action or weather could occur along dutch slough.

ACTIONS

Gather flood fight materials and equipment and stockpile them in the staging area.

Temporary Earthen Levee Material Required:

4000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 80 rolls of 10 mil plastic sheeting, 1200 sandbags, and 180 cubic yards of fill.

Approximately 22.2 cubic yards of fill for sand bags and 157.8 cubic yards of fill for visqueen fill.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226
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REPAIR CONTRACTORS

Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
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MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
--	---	---

Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
--	--	---

Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
--	---	--

Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	
--	--	--

LOCAL SUPPLY PROVIDERS

Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
---	---	--

Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
--	---	--

Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	
--	--	--

Dutch Slough

RD 2137

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 F Flood Contingency Option D2 S Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline
Tide Gate Agricultural Return Drain/Siphon
Levee Access Point Levee Crossing

RESPONSE INFORMATION

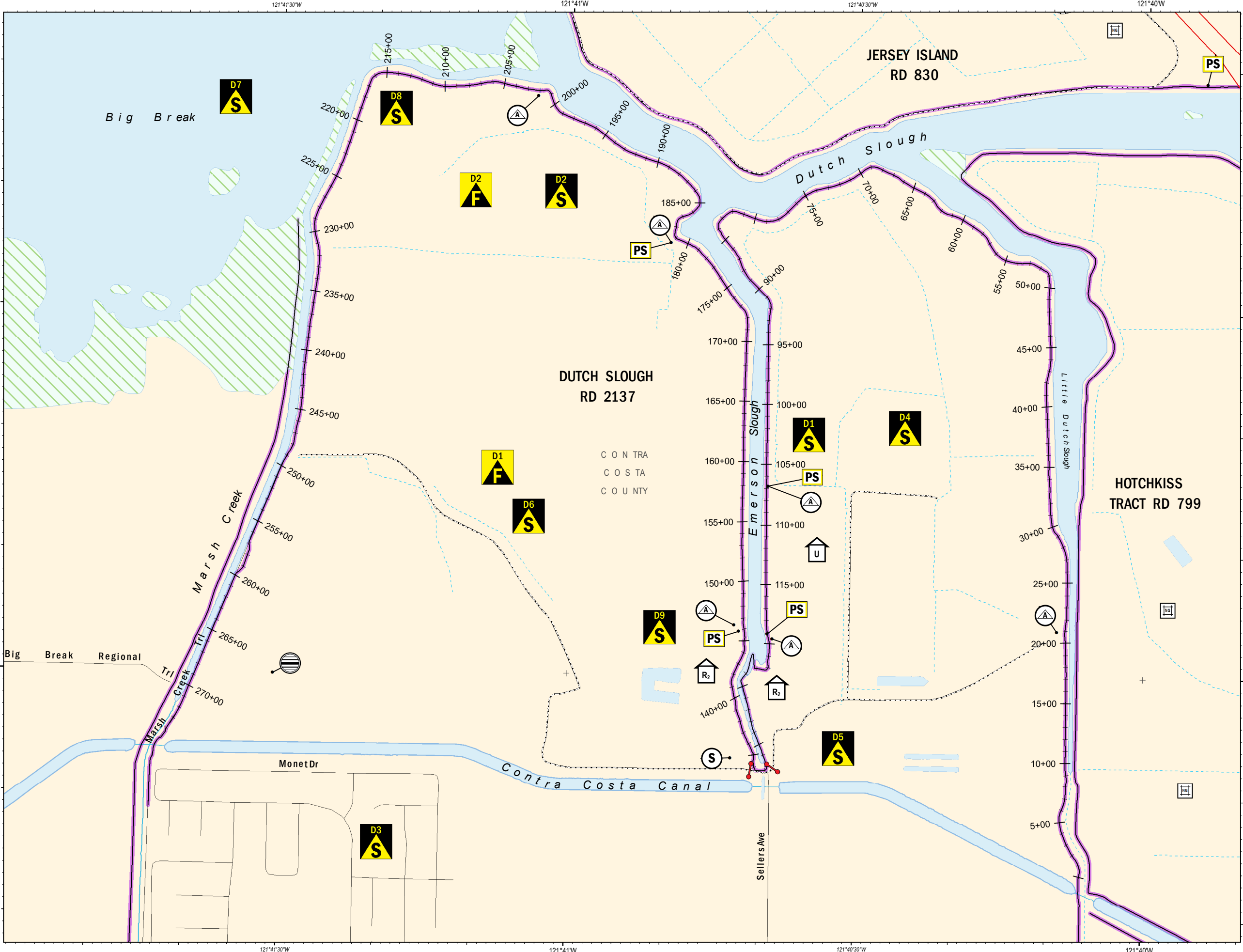
Structure T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
Boat Landing Command Post
Supply Delivery Point Command Post Secondary
Field Stockpile PS Pump Station
FFM Flood Fight Material PS Pump Station Agricultural
H Helispot
S Supply Staging

REFERENCE INFORMATION

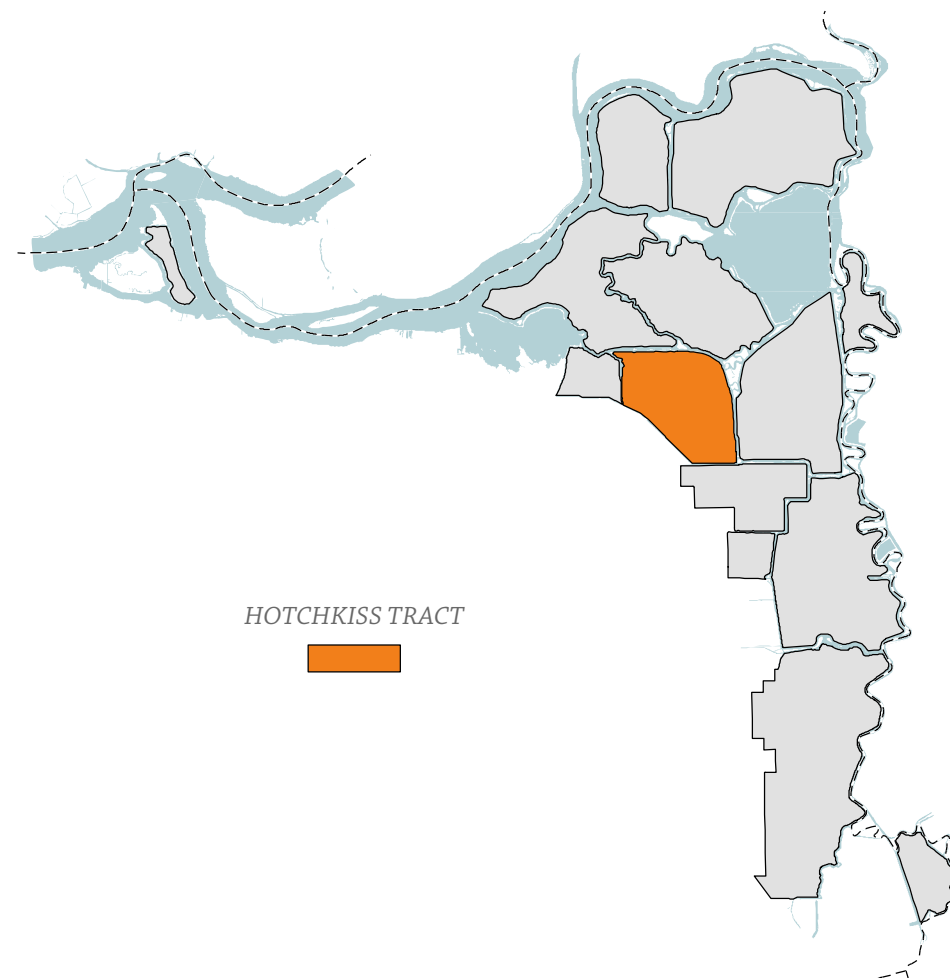
Ferry Communication Facility
Potable Water Facility Waster Water Facility
Solid Waste Facility Natural Gas Facility
Hazardous Material
UG Underground Power Line
Transmission Line
UG Underground Gas Line
County Boundary

0 360 720 1,440 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:9,300

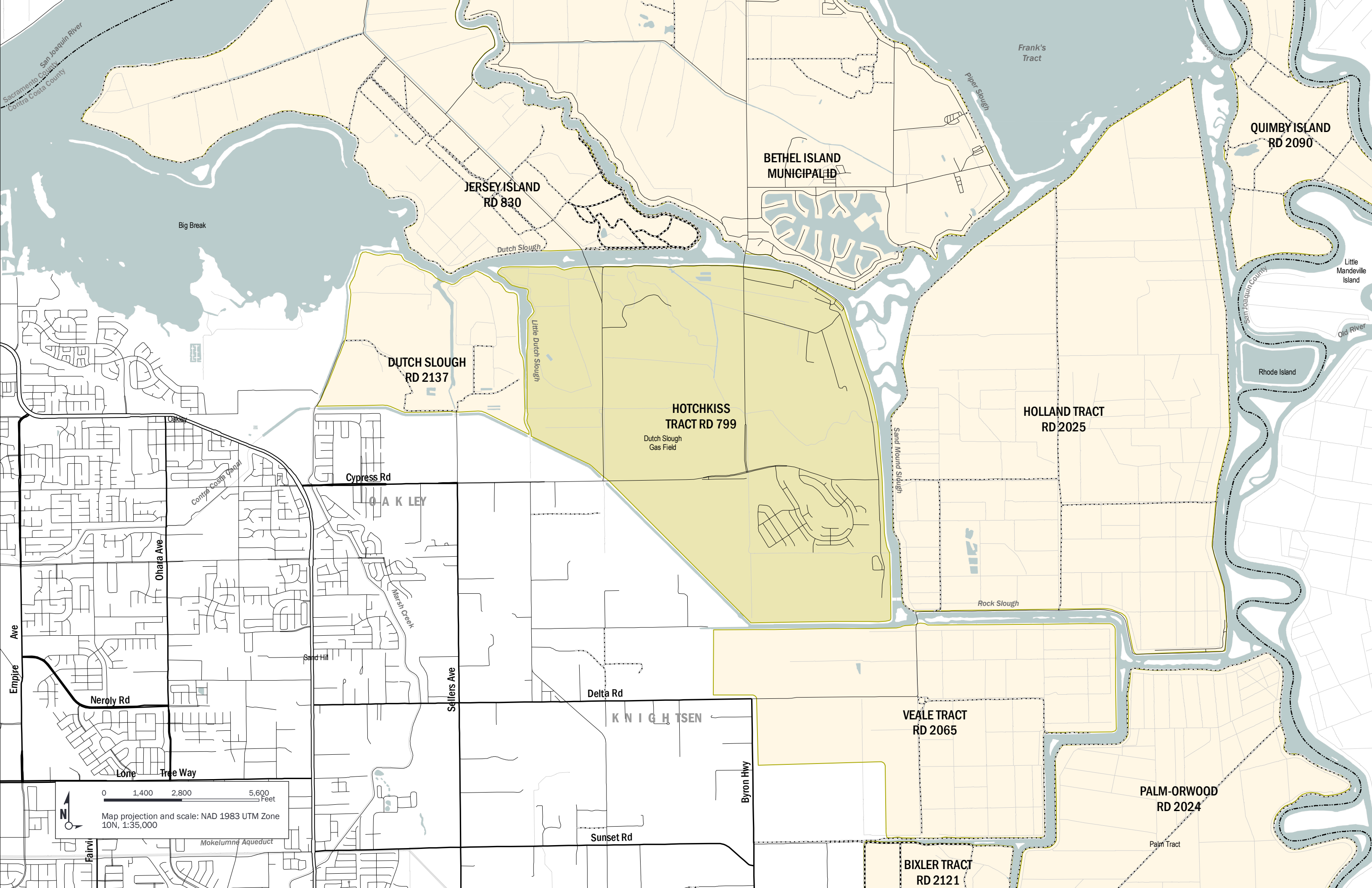


Hotchkiss Tract..... RD 799



HOTCHKISS TRACT





A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

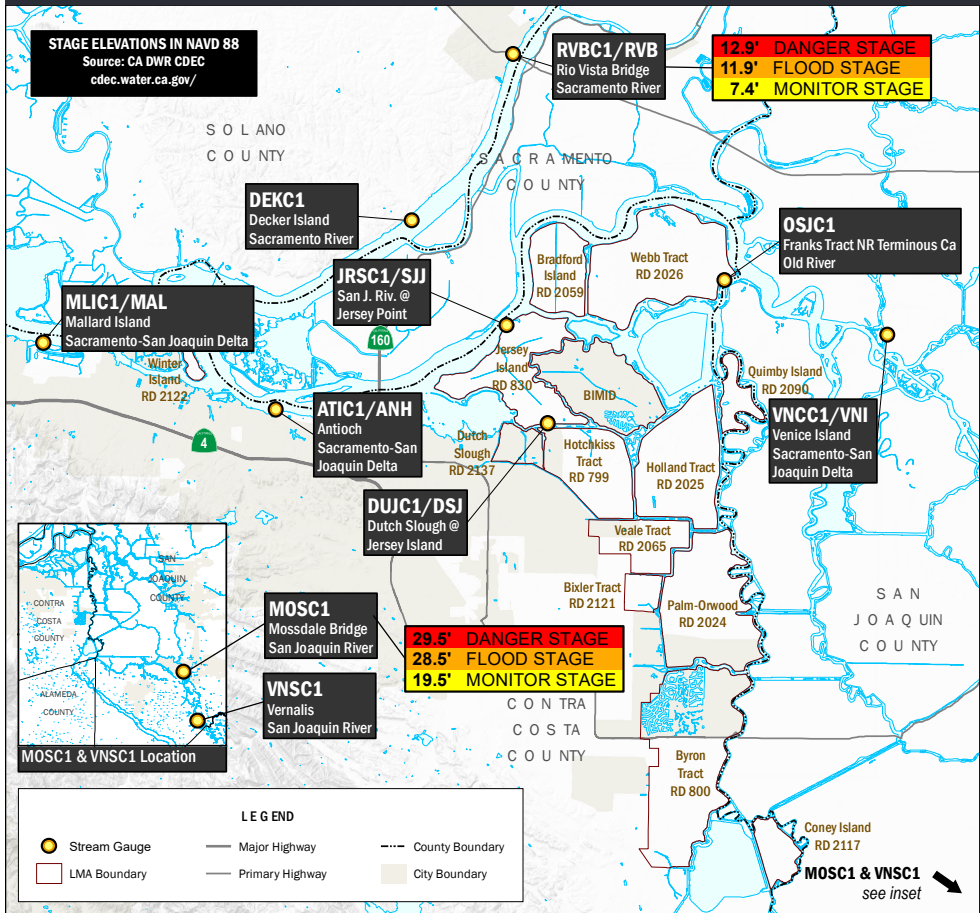
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USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	MOSC1/MSD Mossdale Bridge

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

No Known Staging Areas in Map Extent

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

No Known Stockpile Resources in Map Extent

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT SUPPLIES

DWR recommended flood fight supplies at pump station 3.
37°59'44.82783960"N, 121°37'31.97254080"W

FLOOD FIGHT SUPPLIES

DWR recommended flood fight supplies at pump station 2.
38°00'40.94179560"N, 121°39'02.51730000"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

HAZMAT SITE

Air Monitoring Site
5551 Bethel Island Rd, Bethel Island
38°00'25.02498960"N, 121°38'32.44216560"W

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
800.952.5530

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
Bus. 925.693.9977
Bus. Cell

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

JERSEY ISLAND (RD 830)

Chad Davidson 925.625.2279
ER Contact 925.727.2938

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300

Hotchkiss Tract

RD 799

The symbology presented in the legend below is global to the project area. Some symbols may not be present on map.

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

EVACUATION

Rally Point

EVACUATION ROUTES

Major Road Local Road

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage
Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

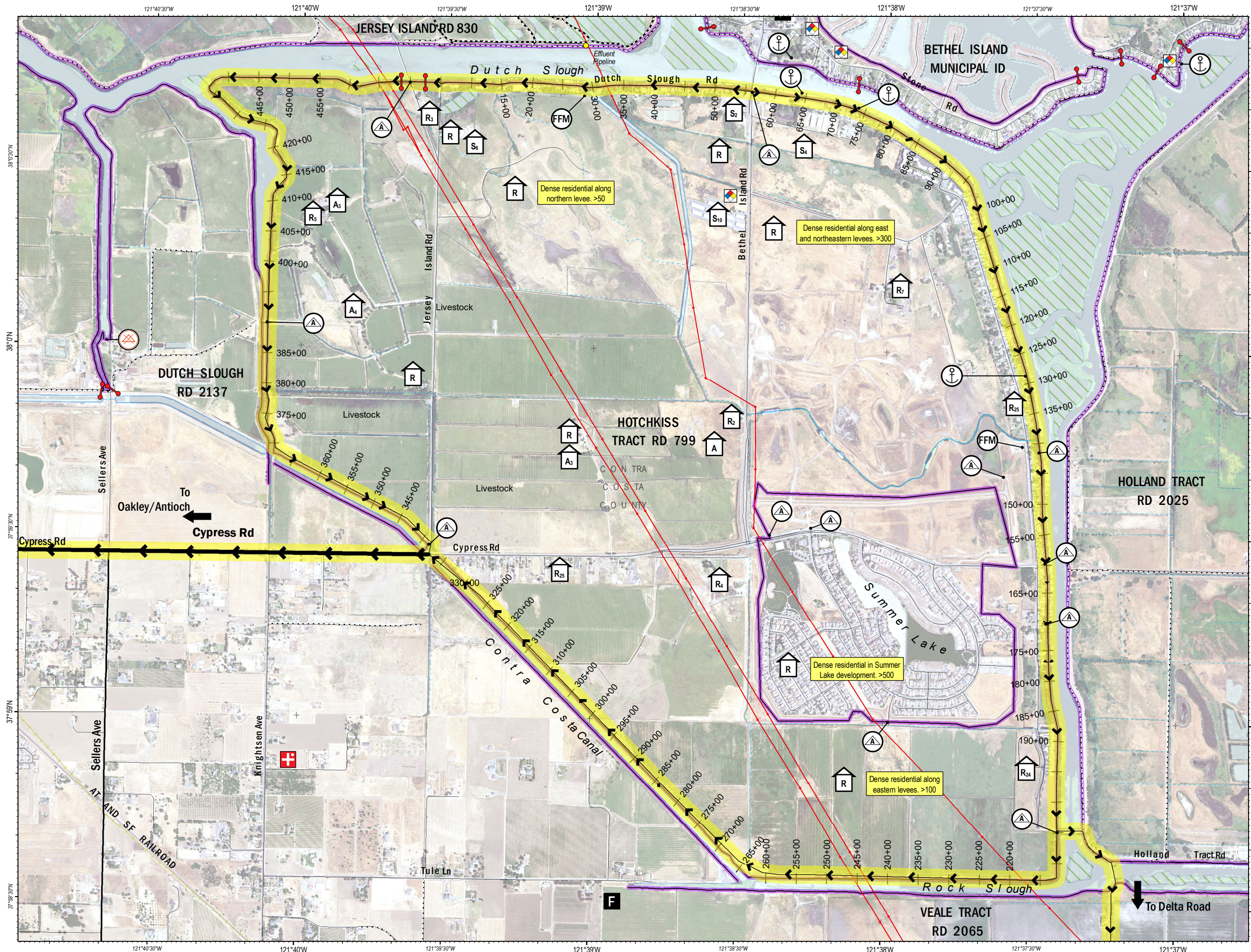
Structure
Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam
Underground Power Line
Transmission Line
Underground Gas Line
County Boundary

0 700 1,400 2,800 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:18,200



FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

T1 - UTILITY INFRASTRUCTURE

Major utility crossings exist in this area. Utility crossings including three sets of high power electrical lines (PG&E and WAPA), and one 42-INCH high-pressure gas main. Coordinate with local county OES office in the event that utilities crews are needed.

T2 - BETHEL ISLAND BRIDGE

Bethel Island Bridge provides the only egress on and off the Bethel Island for motor vehicles. Flood season Communication and Coordination with the Bethel Island Improvement District should be conducted annually at minimum.

T3 - HIGH WATER EVENT

The Contra Costa Canal diverts water from Rock Slough area and conveys water for agricultural and municipal purposes. Contra Costa Canal is the backbone of the Contra Costa Water District (CCWD), delivering water from the Delta to the District’s treatment facilities and raw-water customers. Water is supplied to the canal from Old River via the Los Vaqueros Project pipelines and from Rock Slough. This canal serves a population of approx. 550,000 people in east Contra Costa County. In the event of high water or flooding, OES operators should coordinate with the Contra Costa Water District to monitor levee, flood and water conditions in Rock Slough. The Old River Pumping Plant, which is the intake for Los Vaqueros and an alternate intake for the Contra Costa Canal are protected by levees.

T4 - DISEASE CONTROL

There are and [unspecified] head of cattle on the island at all times. During a flood many head of cattle could become trapped and/or perish. Animal carcass management is a concern for disease control. Coordinate with the California Department of Food and Agriculture through the local county OES for disposal methods.

T5 - SUMMER LAKES

The development of Summer Lakes in Oakley is surrounded by a dry land levee. If the levees around Hotchkiss Tract would fail, Summer Lakes could be isolated by floodwaters. Populations in this area should be evacuated during elevated threat levels. Consult the county OES for evacuation procedures in this area.

T6 - HOTCHKISS GENERAL POPULATION

There is a population of over 1,000 people. Populations are general located within the Summer Lakes Master Planned Community. The Summer Lakes community is surrounded by a dry land levee.

T7 - FETCH CONDITIONS

There is no unusually high fetch conditions for exterior levees. Interior levee system could be subject to high velocities/and fetch in the event of an exterior levee failure.

T8 - LEVEE ACCREDITATION

The interior ring levee is a fully accredited FEMA 100-year levee. The external levee is not accredited. Hotchkiss Tract levees are not certified although elevation height exceeds standards at 11’3”. Hotchkiss Tract consists of one square mile of property with two miles of levees. The highest levee crown elevation is 14’.

T9 - NATURAL GAS AND OIL WELLS

According to the California Department of Conservation, Hotchkiss Tract has 9 active or idle natural gas and oil wells, and approximately 2,880 acres of gas and oil production fields.

T10 - ELECTRICAL TRANSMISSION LINES

Three major electric transmission lines (greater then 500kV) cross Hotchkiss Tract: the California Oregon Transmission Project, operated by the Western Area Power Administration, the Pacific Gas and Electric Company (PG&E) Table Mountain-Tesla line, and the PG&E Vaca-Dixon-Tesla line. The combined load on these three lines is typically around 4,000 Megawatt (MW), though under some circumstances it can be as high as 4,800 MW (Mirzadeh 2006). The loss of all three lines due to the failure of the Hotchkiss Tract levee system could cause load capacity problems in the region. PG&E also operates two other lines with less than 500kV capacity to provide local service to Hotchkiss Tract and nearby Delta Islands. Failure of the Hotchkiss Tract levee system would impact the ability of PG&E to serve the local delta community.

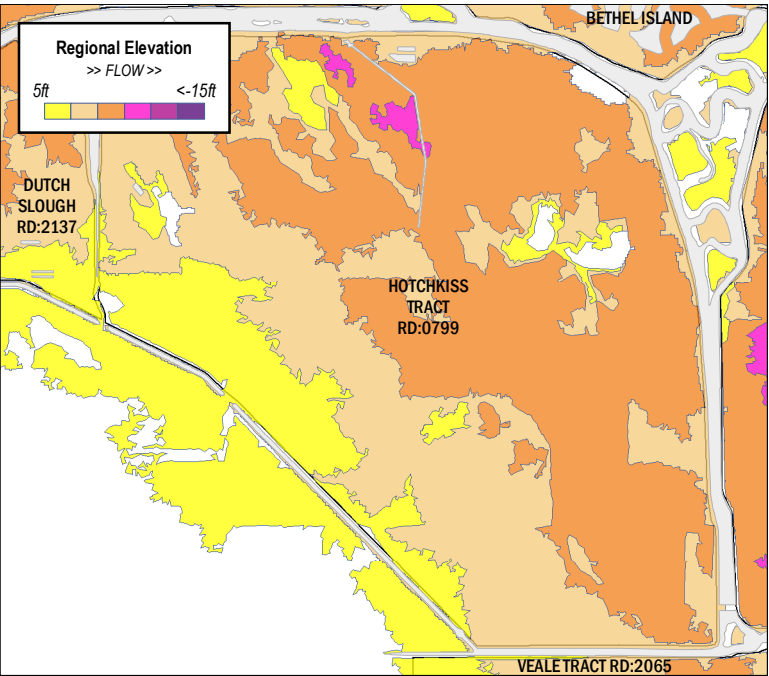
T11 - WORKER'S CAMP POPULATION

Typical worker’s camp population on Hotchkiss Tract totals approx. 9 People. Mostly seasonal Workers. Seasonal worker dwelling units are located at the highest elevations on the tract above most flood threat.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

T1 - LOCAL HIGH WATER EVENT

Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. East side of Hotchkiss Tract Levee System may be lower than regional high water event. Vulnerable area approx. 5,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

1. Close control gate at intake slough. 2. Activate workforce for levee patrols. 3. Move or evacuate cattle population. 4. Prepare resources for temporary earthen levee or muscle wall. Muscle Wall Material Required: 5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand. OR Temporary Earthen Levee Material Required: 5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill. Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

NOTE: This is a hypothetical flood contingency option based on DWR’s flood fight methods to calculate material needs based on a given length of levee vulnerability.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226
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REPAIR CONTRACTORS

Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
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MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
--	---	---

Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
--	--	---

Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
--	---	--

Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	
--	--	--

LOCAL SUPPLY PROVIDERS

Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
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Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
--	---	--

Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	
--	--	--

Hotchkiss Tract

RD 799

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate

Highway

Major Road

Local Road

Trail, Major

Trail

FLOOD CONTINGENCY OPTIONS

Flood Contingency Option

Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing

Levee Centerline

Tide Gate

Levee Access Point

Agricultural Return Drain/Siphon

Levee Crossing

RESPONSE INFORMATION

Structure

Boat Landing

Supply Delivery Point

Field Stockpile

Flood Fight Material

Helispot

Supply Staging

Command Post

Command Post Secondary

Pump Station

Pump Station Agricultural

REFERENCE INFORMATION

Ferry

Communication Facility

Potable Water Facility

Waster Water Facility

Solid Waste Facility

Natural Gas Facility

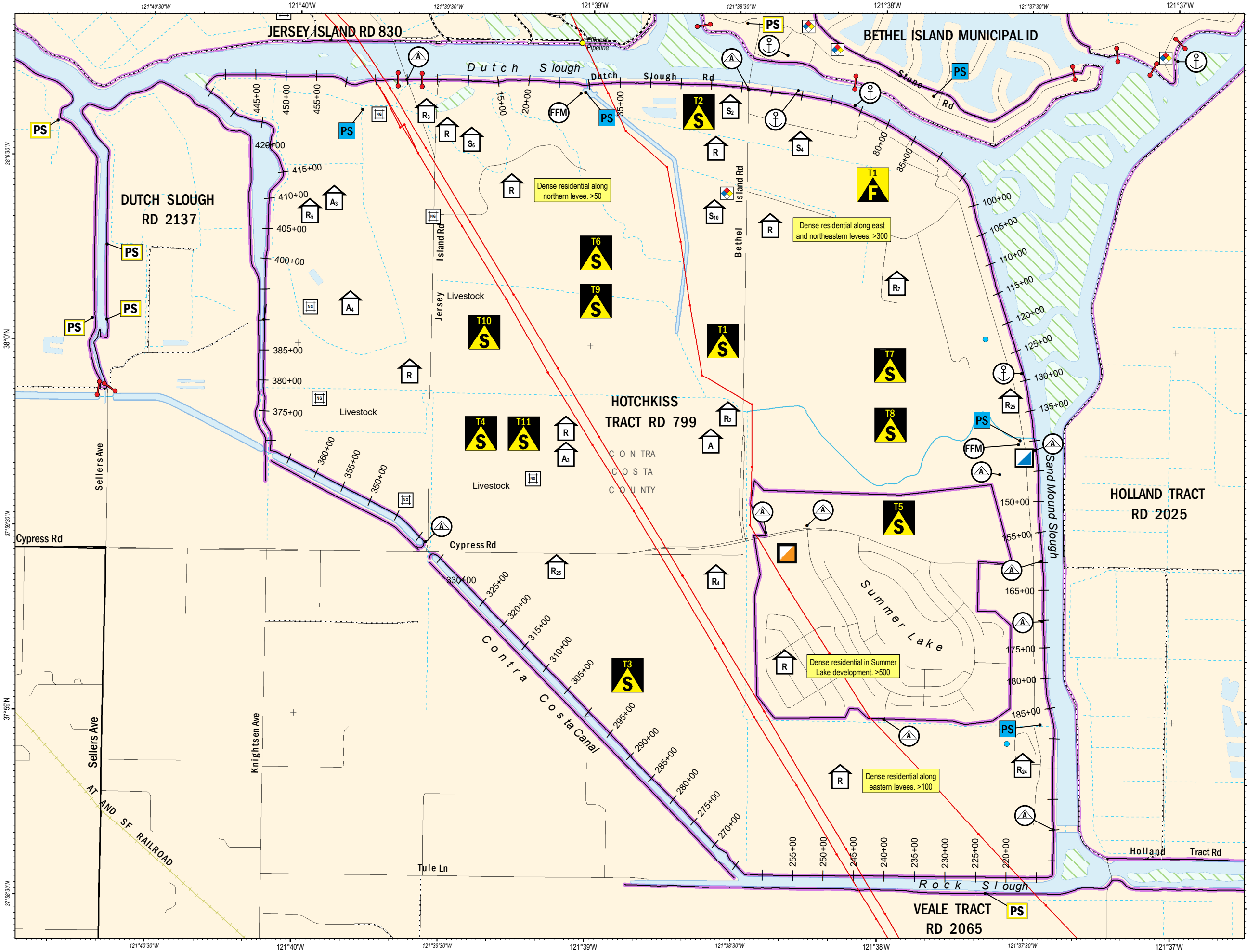
Hazardous Material

UG Underground Power Line

Transmission Line

UG Underground Gas Line

County Boundary



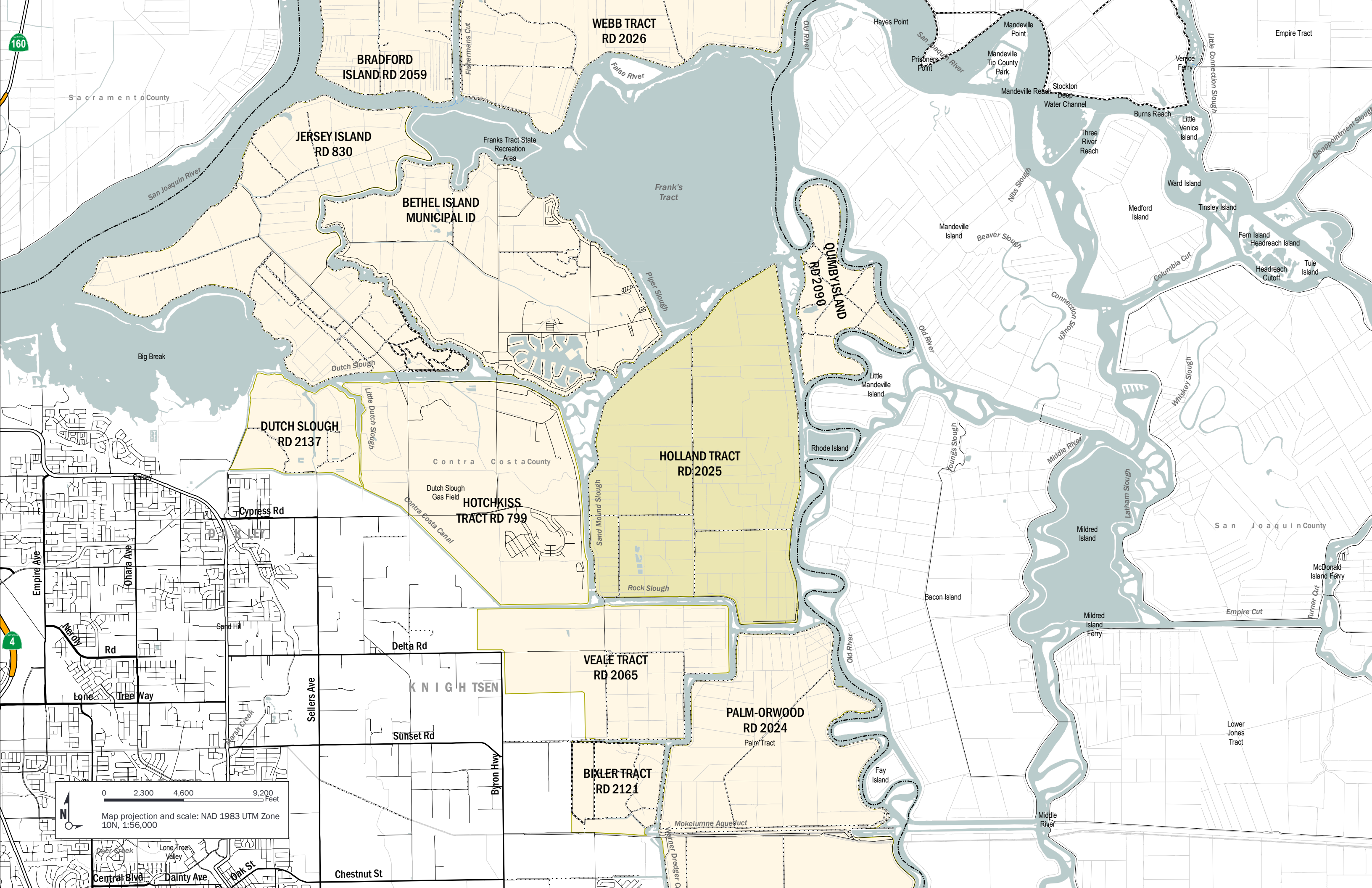
N

0 700 1,400 2,800 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:18,200

Holland Tract RD 2025





N

0

2,300

4,600

9,200

Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:56,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

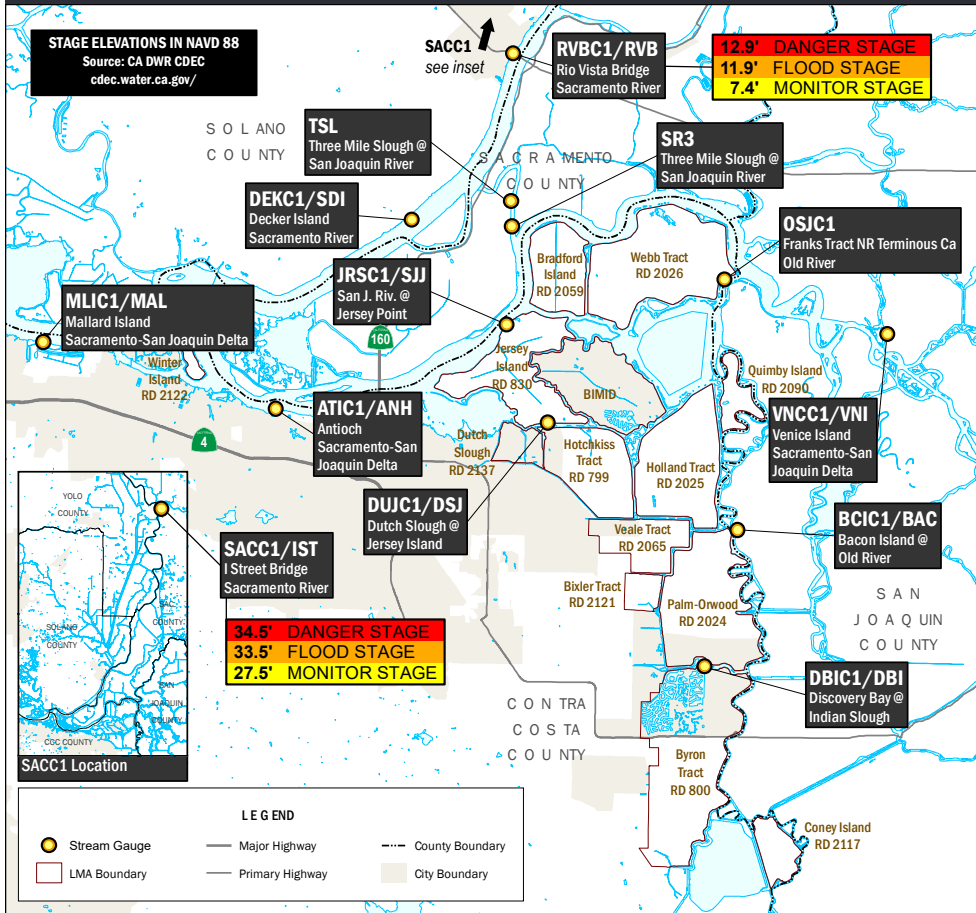
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

FLOOD FIGHT STAGING

The staging area will be located at the south end of Center Road near station 472+00 37°58'38.69887440"N, 121°36'08.57300040"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

RIP RAP STOCKPILE

Rock stockpile stored on island for immediate use in flood fight. 37°59'13.85517480"N, 121°34'58.53153000"W

RIP RAP STOCKPILE

Rock stockpile stored on island for immediate use in flood fight. 37°59'22.88007600"N, 121°37'17.56632360"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT MATERIALS

Inventory meets DWR requirements: Visqueen, sandbags, twine, stakes, tie buttons, pliers, sledge hammers, shovels, life vests, survey lathe, flagging tape, markers, pencils and pads, spotlight, tool box and lock. 38°01'11.73844200"N, 121°35'01.07962440"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support

916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey

916.456.4400

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
925.693.9977

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300

Holland Tract

RD 2025

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage

Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

Structure
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam

Underground Power Line
Transmission Line
Underground Gas Line
County Boundary

0 1,100 2,200 4,400 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:28,600

FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

H1 - PUMP STATION 1
Located near station 19+00. Discharge pump may be used during a major flood event; however, additional pumps would be required to dewater the island.

H2 - PUMP STATION 2
Located near station 73+00. Discharge pump may be used during a major flood event; however, additional pumps would be required to dewater the island.

H3 - PUMP STATION 3
Located near station 239+00. Discharge pump may be used during a major flood event; however, additional pumps would be required to dewater the island.

H4 - HOLLAND TRACT BRIDGE
Holland Tract Bridge is the only motor vehicle egress for Holland Tract. A secondary bridge is located in the general vicinity of Sandmound Blvd. Contact the local Reclamation District to gain access to Sandmound Blvd in the event of an emergency.

H5 - FRANKS TRACK OPEN WATER
The flooding threat is predominantly tidal, with some local runoff that can influence conditions. The Old River (on the east side of the island) could pose a riverine flooding threat. Franks Tract (large expanse of open water) can create erosion due to wind/waves.

H6 - WAVE FETCH
The wave fetch is relatively short on the southern, eastern, and western portions of the island and is generally not a concern over much of the District. The northern portion of the island has a wave fetch of up to 3.5 miles across Franks Tract. Channel widths generally vary from 150 to 1,450 feet. The levees are armored with riprap, except some areas along the southern and eastern levees.

H7 - LEVEE STATUS
There is no levee certification status for Holland Tract. The levee geometry generally meets the PL 84-99 Delta Specific Standard.

H8 - TRACT INHABITANTS
Two active marinas are located along the south levee (Lindquist Landing and Holland Riverside Marina), with up to 40 inhabitants living boats at any given time.

H9 - LEVEE ACCESS
County-maintained road is located on the crown of the south levee and portions of the east levee.

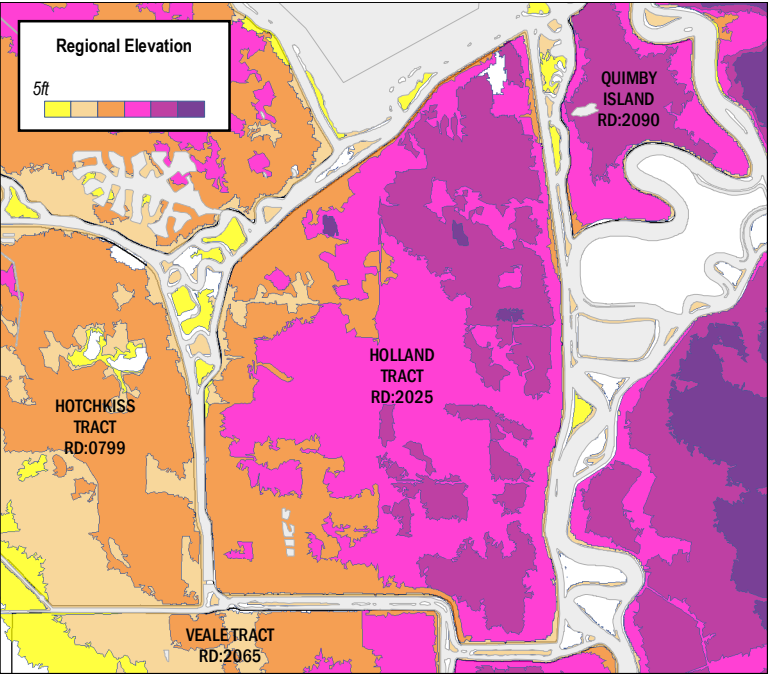
H10 - LAND USES
Portions of the island are farmed or leased for grazing, with operations supported by various facilities and equipment. The island also has permanent habitat sites.

H11 - PUMP STATION INFRASTRUCTURE
Infrastructure includes pumping stations for drainage and associated electrical lines.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

H1 - HIGH WATER EVENT
Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx.. 2,000 feet. Muscle wall or temporary earthen levee is recommended.

ACTIONS
The District maintains stockpiles of riprap on the island and has equipment available to perform levee maintenance and repairs.
1. Deploy flood fight materials to prevent levee degradation and activate workforce for levee patrols.
2. Prepare resources for temporary earthen levee or muscle wall.
Muscle Wall Material Required:
2000 feet of temporary levee will require approximately 334 segments of muscle wall, 3340 sandbags, and 1670 cubic feet of sand.
OR
Temporary Earthen Levee Material Required:
2000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 40 rolls of 10 mil plastic sheeting, 600 sandbags, and 90 cubic yards of fill. Approximately 11.1 cubic yards of fill for sand bags and 78.9 cubic yards of fill for visqueen fill.

H2 - WAVE WASH
Wind waves could occur at this location. Wind waves causing erosion will lead to levee failure if not addressed for long periods of time; protection area approx. 1000 feet.

ACTIONS
The District has flood fight materials stored on-island for use during a flood fight.
1. Deploy flood fight materials to prevent levee degradation.
2. Protect area exposed to wind waves with envelope style wrap.
Wave Wash Protection Material Required:
1000 feet of envelope wave wash will require approximately 20 rolls of 10 mil plastic sheeting, 300 sandbags, 150 cubic feet of sand, 20 rolls of twine, 100 plastic buttons or rocks, and 200 [1" x 3" x 2'] stakes.

H3 - BOIL FROM SEEPAGE THROUGH LEVEE
Boil events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Not associated with wind generated waves and erosion. Response to boils require sack ring, or boil ring, to control water flow and pressure through levee to minimize transport of fine material through seepage that has uncontrolled flow of water and transport of levee material. Tides and low pressure can play a part in both wind and seepage impact potential.

ACTIONS
1. Protect and isolate seepage area with boil sack ring.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS			
Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011

MATERIALS SUPPLIERS		
Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290

Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS		
Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	

Holland Tract

RD 2025

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 Flood Contingency Option D2 Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline
Tide Gate Agricultural Return Drain/Siphon
Levee Access Point Levee Crossing

RESPONSE INFORMATION

Structure T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
Boat Landing Command Post
Supply Delivery Point Command Post Secondary
Field Stockpile PS Pump Station
Flood Fight Material PS Pump Station Agricultural
Helispot
Supply Staging

REFERENCE INFORMATION

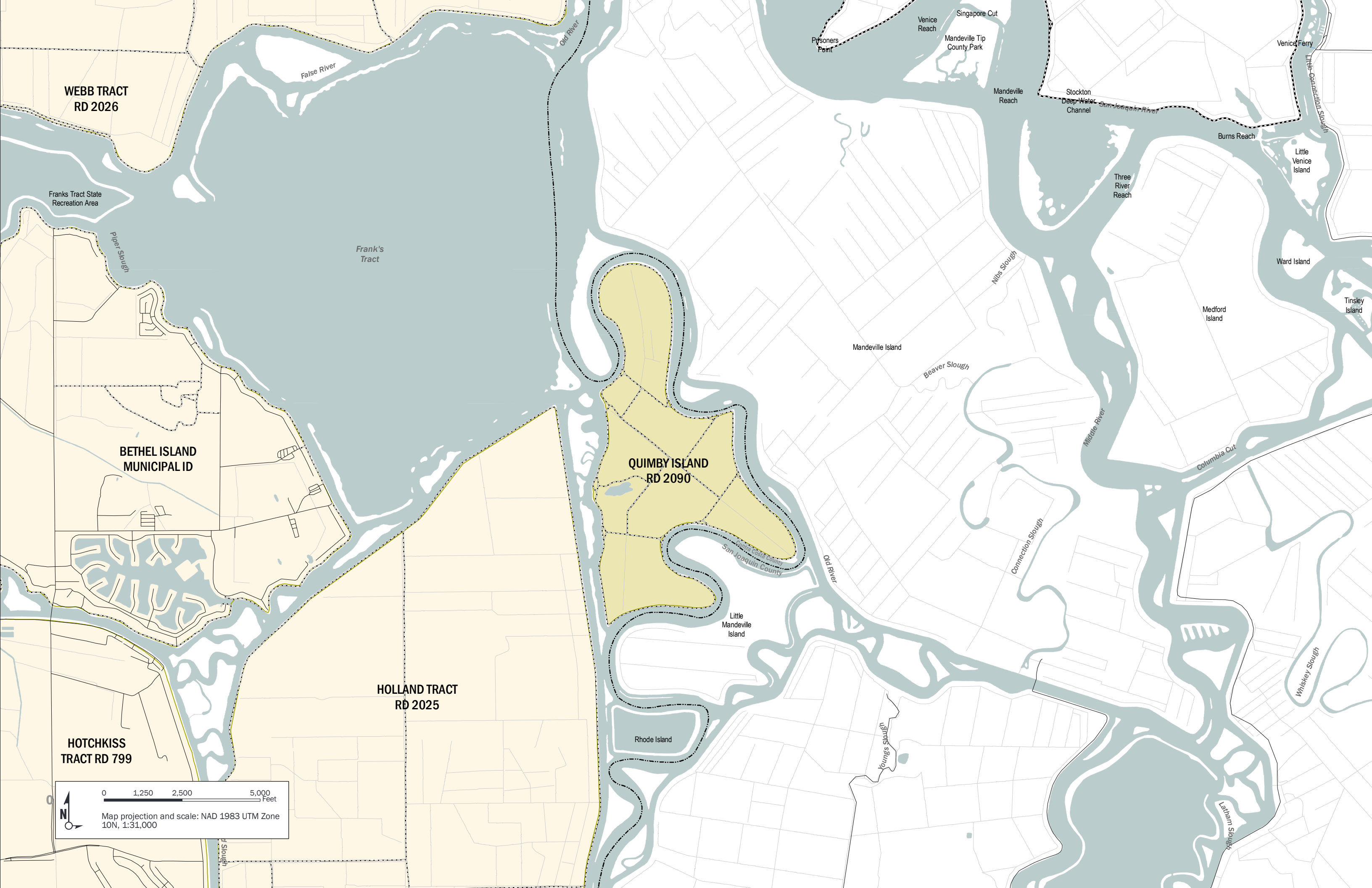
Ferry Communication Facility
Potable Water Facility Waster Water Facility
Solid Waste Facility Natural Gas Facility
Hazardous Material
UG UG Underground Power Line
Transmission Line
UG UG Underground Gas Line
County Boundary

0 1,100 2,200 4,400 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:28,600

Quimby Island..... RD 2090





**WEBB TRACT
RD 2026**

Franks Tract State
Recreation Area

Pipe's Slough

Frank's
Tract

**BETHEL ISLAND
MUNICIPAL ID**

**HOTCHKISS
TRACT RD 799**

**HOLLAND TRACT
RD 2025**

**QUIMBY ISLAND
RD 2090**

San Joaquin County
Alameda County

Little
Mandeville
Island

Rhode Island

Mandeville Island

Beaver Slough

Niles Slough

Connection Slough

Middle River

Columbia Cut

Latham Slough

Whiskey Slough

Ward Island

Little
Venice
Island

Burns Reach

Three
River
Reach

Stockton
Deep Water
Channel

Mandeville
Reach

Mandeville Tip
County Park

Venice
Reach

Singapore Cut

Prisoners
Point

Venice Ferry

Little Connection Slough

Old River

False River



0 1,250 2,500 5,000 Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:31,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

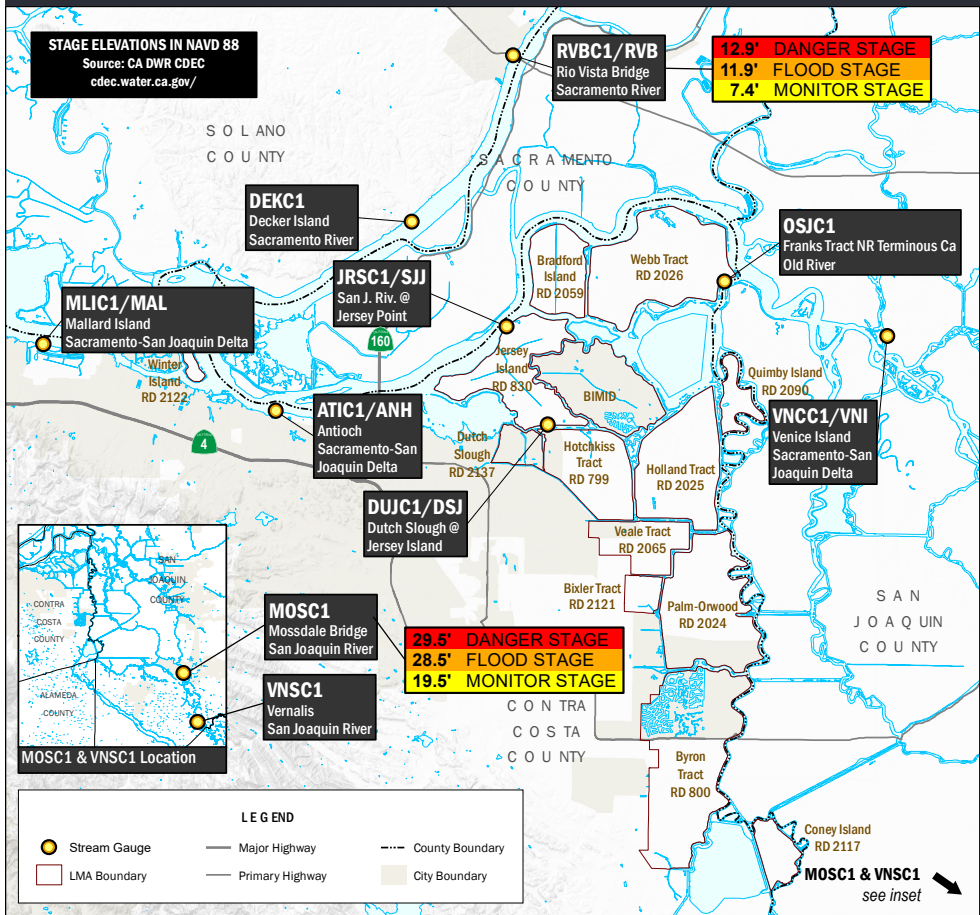
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	MOSC1/MSD Mossdale Bridge

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

No Known Staging Areas in Map Extent

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

FERRY LANDING

Supplies can be delivered via watercraft at ferry landing on northwest side of island.
38°01'48.75926160"N, 121°34'46.40106360"W

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

STOCKPILE

Gravel on levee.
38°00'46.04132520"N, 121°34'03.67330080"W

STOCKPILE

Gravel on levee.
38°00'54.38625480"N, 121°34'20.44008480"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

STORAGE

Flood fight materials storage area on northwest side of island near ferry landing.
38°01'46.92400680"N, 121°34'43.04278200"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support

916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell
DUTCH SLOUGH (RD 2137)

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
925.693.9977

PALM-ORWOOD TRACT (RD 2024)

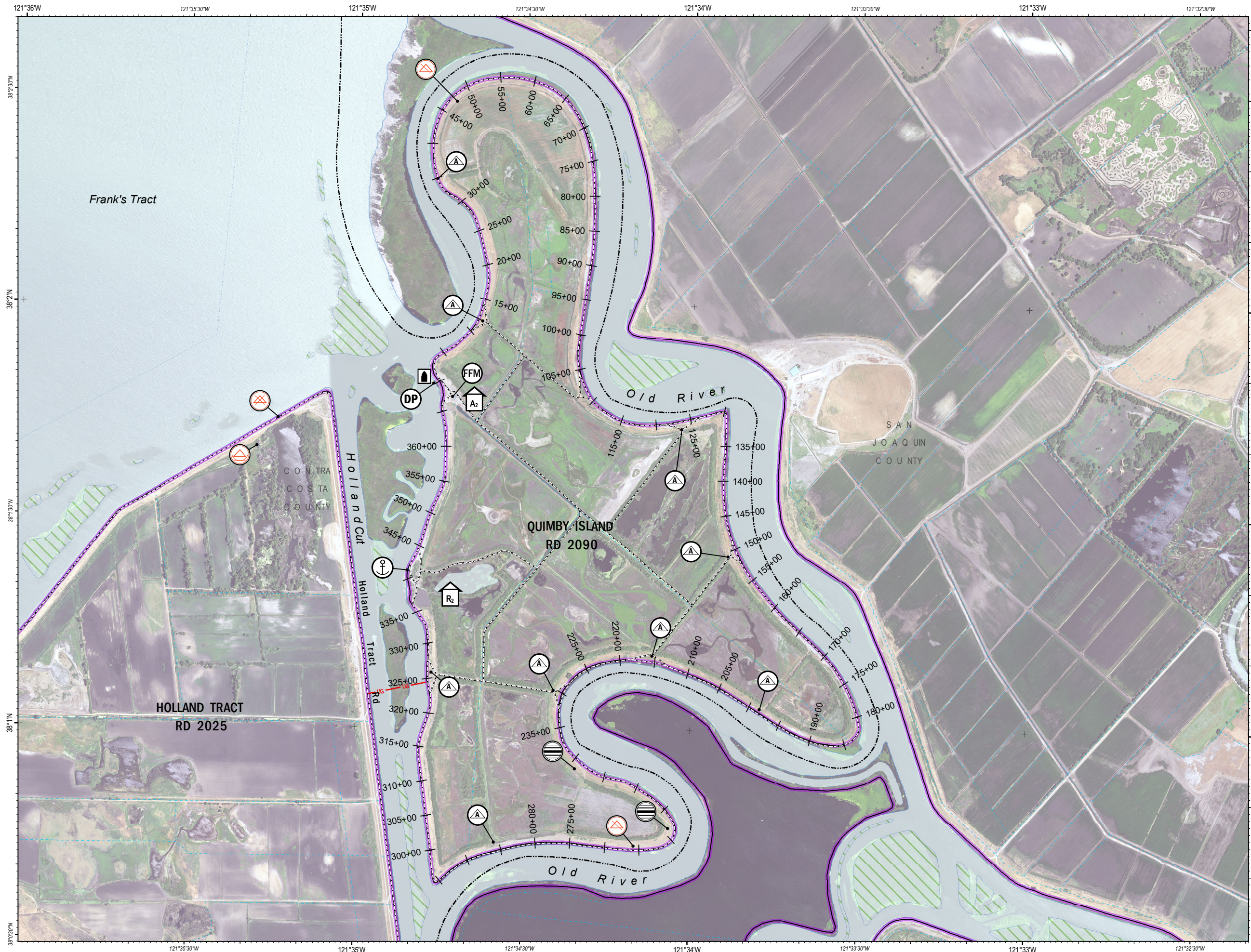
Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Quimby Island

RD 2090

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

- Interstate
- Highway
- Major Road
- Local Road
- Trail, Major
- Trail

LEVEE INFORMATION

- 1000-Foot Levee Stationing
- Levee Centerline
- Tide Gate
 - Levee Access Point
 - Historic Levee Breach
 - Levee Erosion
 - Levee Seepage
 - Agricultural Return Drain/Siphon
 - Levee Crossing

RESPONSE INFORMATION

- Structure
- T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
- Boat Landing
 - Supply Delivery Point
 - Field Stockpile
 - Flood Fight Material
 - Supply Staging

REFERENCE INFORMATION

- Fire Station
- Home Care
- Ferry
- Hazardous Material
- School
- Ag. Worker Camp
- Dam
- Underground Power Line
- Transmission Line
- Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:15,900



A.1. SPECIAL FLOOD CONSIDERATIONS

Q1 - ACCESS TO QUIMBY ISLAND

Access to Quimby Island is by ferry only. The ferry is located on the west side of the Island at the confluence of Sheep Slough, Old River and Holland Cut. Emergency access would be provided barge for flood fight supplies, equipment and other emergency needs.

Q2 - DISTRICT PUMP VULNERABILITIES

Byron Tract pumping stations are below 100-year flood elevation. If a levee breach is imminent, efforts to protect the pump stations should be evaluated.

Q3 - FETCH CONDITIONS

Significant characteristics of this waterway is high fetch conditions from Franks Tract across Holland Cut as well as areas along Old River.

Q4 - SEDIMENT ON OLD RIVER

Reverse flows are also creating sediment accretion on outside bends in Old River that reduce channel capacity and marine navigational capability.

Q5 - LEVEE GEOMETRY

RD 2090 meets its certification status based on Hazard Mitigation Plan (HMP) criteria for levee geometry.

Q6 - STRUCTURES AND POPULATION

RD 2090 protects a single residence and labor housing.

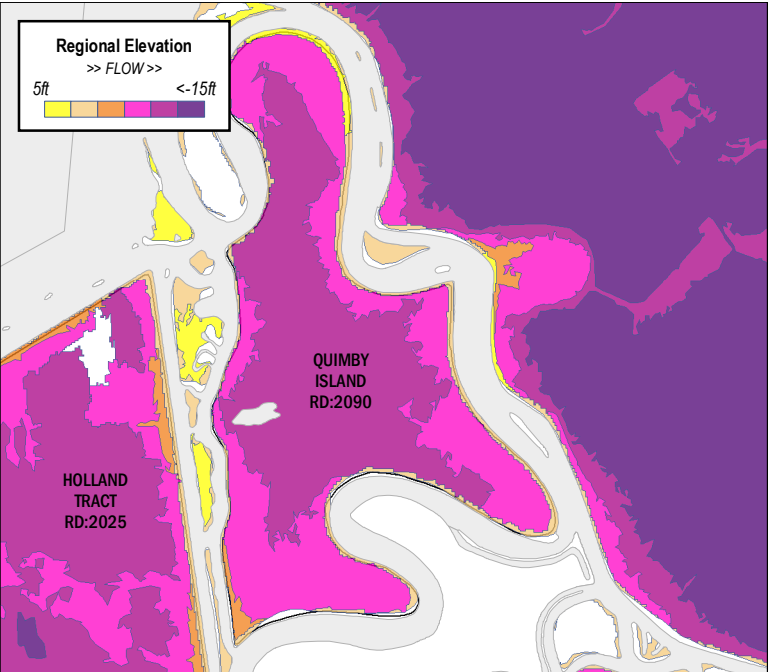
Q7 - LEVEE SCOUR

SWP reverse flow in Old River have been known to scour RD 2090 levees.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

Q1 - HIGH WATER EVENT

Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx. 2,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

1. Activate workforce for levee patrols - regular scheduled levee patrols depending on the severity of the event. 2. Deploy flood fight materials to prevent levee degradation. Prepare resources for temporary earthen levee or muscle wall (utilize borrow material on site, if necessary). Muscle Wall Material Required: 2000 feet of temporary levee will require approximately 334 segments of muscle wall, 3340 sandbags, and 1670 cubic feet of sand. OR Temporary Earthen Levee Material Required: 2000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 40 rolls of 10 mil plastic sheeting, 600 sandbags, and 90 cubic yards of fill. Approximately 11.1 cubic yards of fill for sand bags and 78.9 cubic yards of fill for Visqueen fill.

NOTE: This is a hypothetical flood contingency option based on DWR's flood fight methods to calculate material needs based on a given length of levee vulnerability.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento
916.374.9501

Labor Ready Concord
925.827.2352

Labor Ready Oakland
510.981.8226

REPAIR CONTRACTORS

Dutra Group

160 River Rd, Rio
Vista, CA
707.374.5127

Teichert Construction

24207 County Rd
100A, Davis, CA
530.406.4200

Teichert Construction

4401 Duluth Ave,
Roseville, CA
916.645.4800

Teichert Corporate

Office
3500 American River
Dr, Sacramento, CA
916.484.3011

MATERIALS SUPPLIERS

Dutra Materials

615 River Rd, Rio Vista, CA
707.374.6964

Teichert Aggregates

4249 Hammonton Smartville
Rd, Marysville, CA
530.743.6111

Teichert Aggregates

8760 Kiefer Blvd, Sacramento,
CA
916.386.6905

Dutra Materials

1000 Point San Pedro Rd, San
Rafael, CA
415.459.7740

Teichert Aggregates

3331 Walnut Ave, Marysville,
CA
530.749.1230

Teichert Aggregates

35030 County Rd 20,
Woodland, CA
530.661.4290

Syar Industries

16560 County Rd 89, Esparto,
CA
530.787.2020

Teichert Aggregates

3417 Grant Line Rd, Rancho
Cordova, CA
916.351.0123

Teichert Ready Mix

8950 Cal Center Dr, #165,
Sacramento, CA
916.361.5000

Syar Industries

885 Lake Herman Rd, Vallejo,
CA
707.643.3261

Teichert Aggregates

13333 White Rock Rd, Rancho
Cordova, CA
916.985.2052

LOCAL SUPPLY PROVIDERS

Ace Hardware

Antioch
501 Sunset Dr, Antioch, CA
925.757.2500

Ace Hardware

Pittsburg
125 E Leland Rd, Pittsburg, CA
925.432.6089

Home Depot

Brentwood
5631 Lone Tree Way,
Brentwood, CA
925.513.6060

Ace Hardware

Brentwood
8900 Brentwood Blvd, Ste J,
Brentwood, CA
925.634.3201

Lowe's

Antioch
1951 Auto Center Dr, Antioch,
CA
925.756.0370

Home Depot

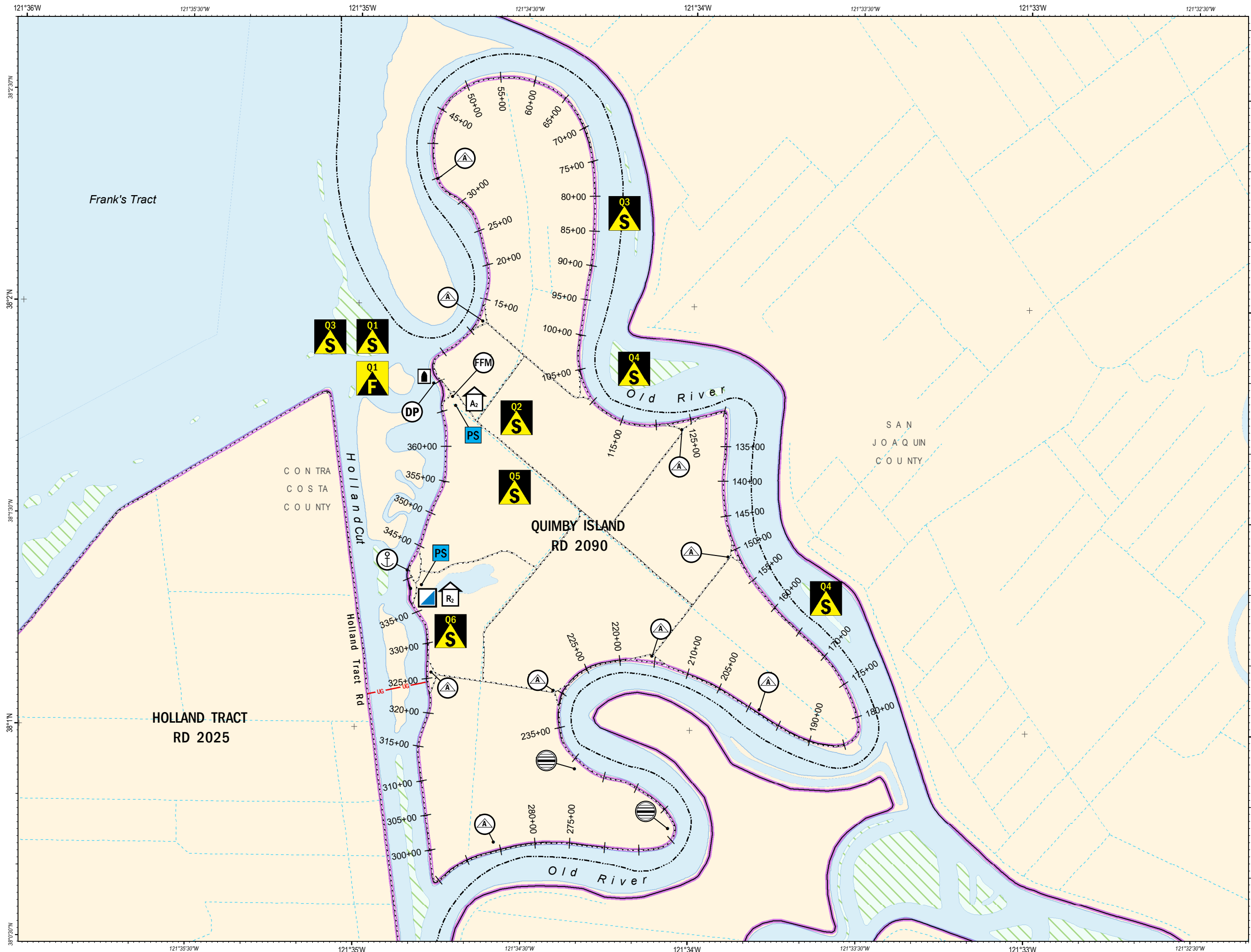
Pittsburg
2300 N Park Blvd, Pittsburg,
CA
925.473.1900

Ace Hardware

Oakley
305 5th St, Oakley, CA
925.625.2449

Lowe's

Antioch
5503 Lone Tree Way, Antioch,
CA
925.779.6060



Quimby Island

RD 2090

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 F Flood Contingency Option **D2 S** Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline
Tide Gate Agricultural Return Drain/Siphon
Levee Access Point Levee Crossing

RESPONSE INFORMATION

Structure T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
Boat Landing Command Post
Supply Delivery Point Command Post Secondary
Field Stockpile PS Pump Station
Flood Fight Material PS Pump Station Agricultural
Helispot
Supply Staging

REFERENCE INFORMATION

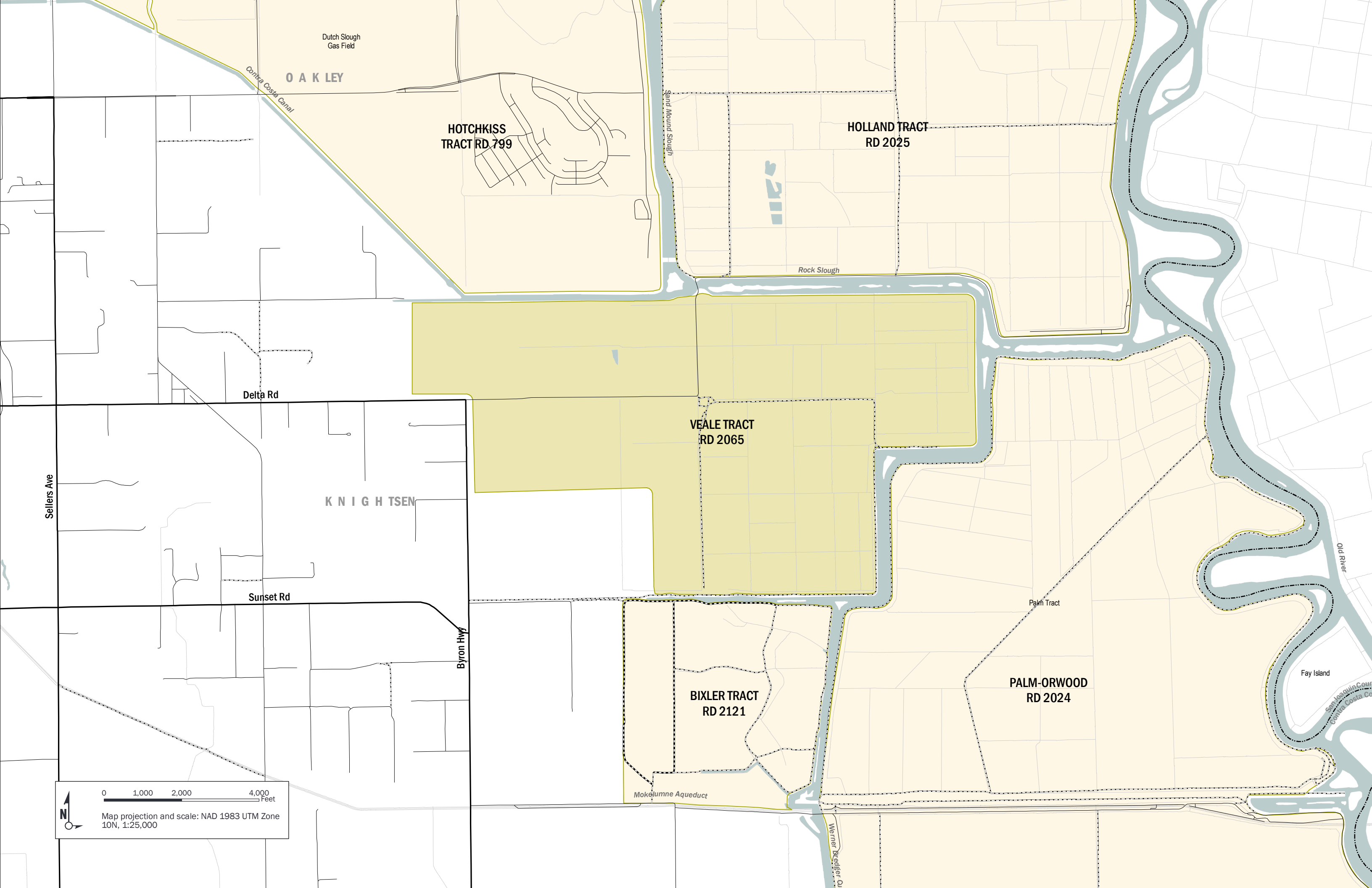
Ferry Communication Facility
Potable Water Facility Waster Water Facility
Solid Waste Facility Natural Gas Facility
Hazardous Material
UG UG Underground Power Line
Transmission Line
UG UG Underground Gas Line
County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:15,900

Veale Tract RD 2065





Dutch Slough
Gas Field

O A K LEY

HOTCHKISS
TRACT RD 799

HOLLAND TRACT
RD 2025

Rock Slough

Delta Rd

VEALE TRACT
RD 2065

K N I G H T S E N

Sunset Rd

Byron Hwy

BIXLER TRACT
RD 2121

PALM-ORWOOD
RD 2024

Palm Tract

Fay Island

Mokelumne Aqueduct

Werner Bredder Ct

Old River

San Joaquin County
Contra Costa County

N

0

1,000

2,000

4,000

Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:25,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

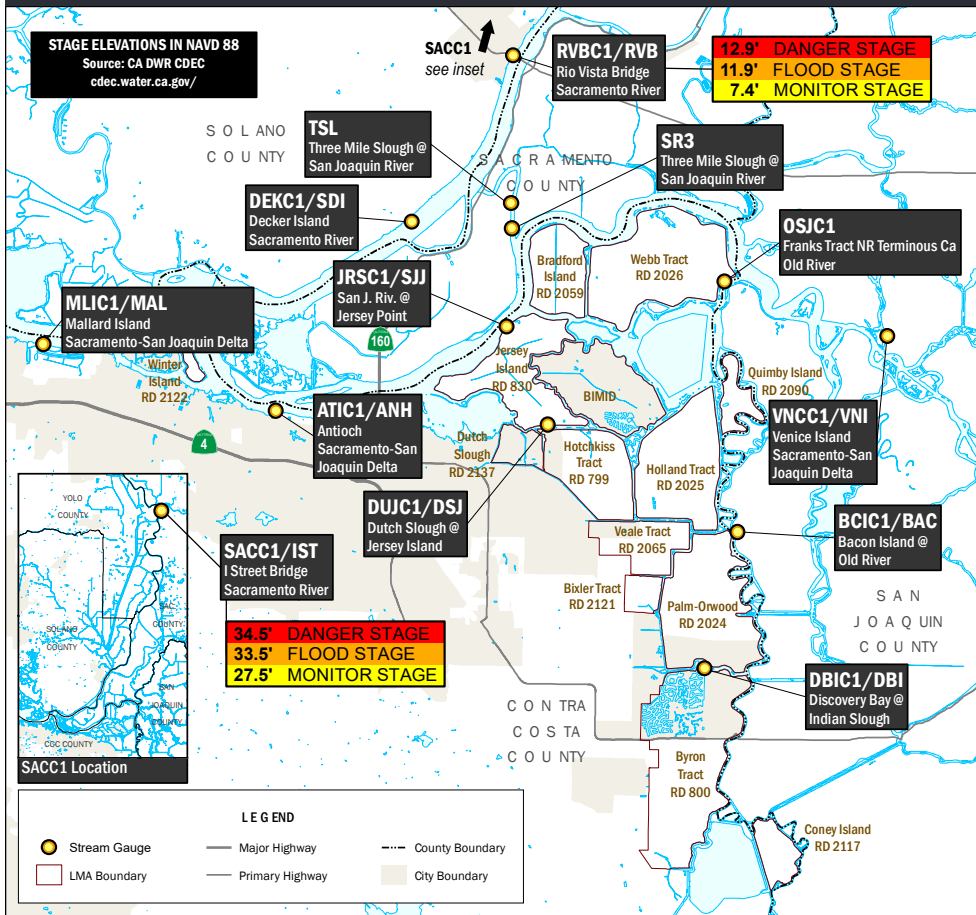
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

FLOOD FIGHT STAGING

The staging area would be located near the District Headquarters off of Delta Road.
37°58'06.99076920"N, 121°37'09.94954800"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

EMERGENCY FILL

In an event where additional on-island fill material is needed, fill stockpile located here in the interior of the district, east of District Headquarters.
37°58'04.64657160"N, 121°36'59.18126040"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

No Known Flood Fight Materials in Map Extent

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

CRAIG ANDREWS PROPERTY

Enforcement/Compliance Activity
3156 Delta Road
37°58'05.80360440"N, 121°38'14.78609880"W

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
925.693.9977

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300

Veale Tract

RD 2065

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage

Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

Structure
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

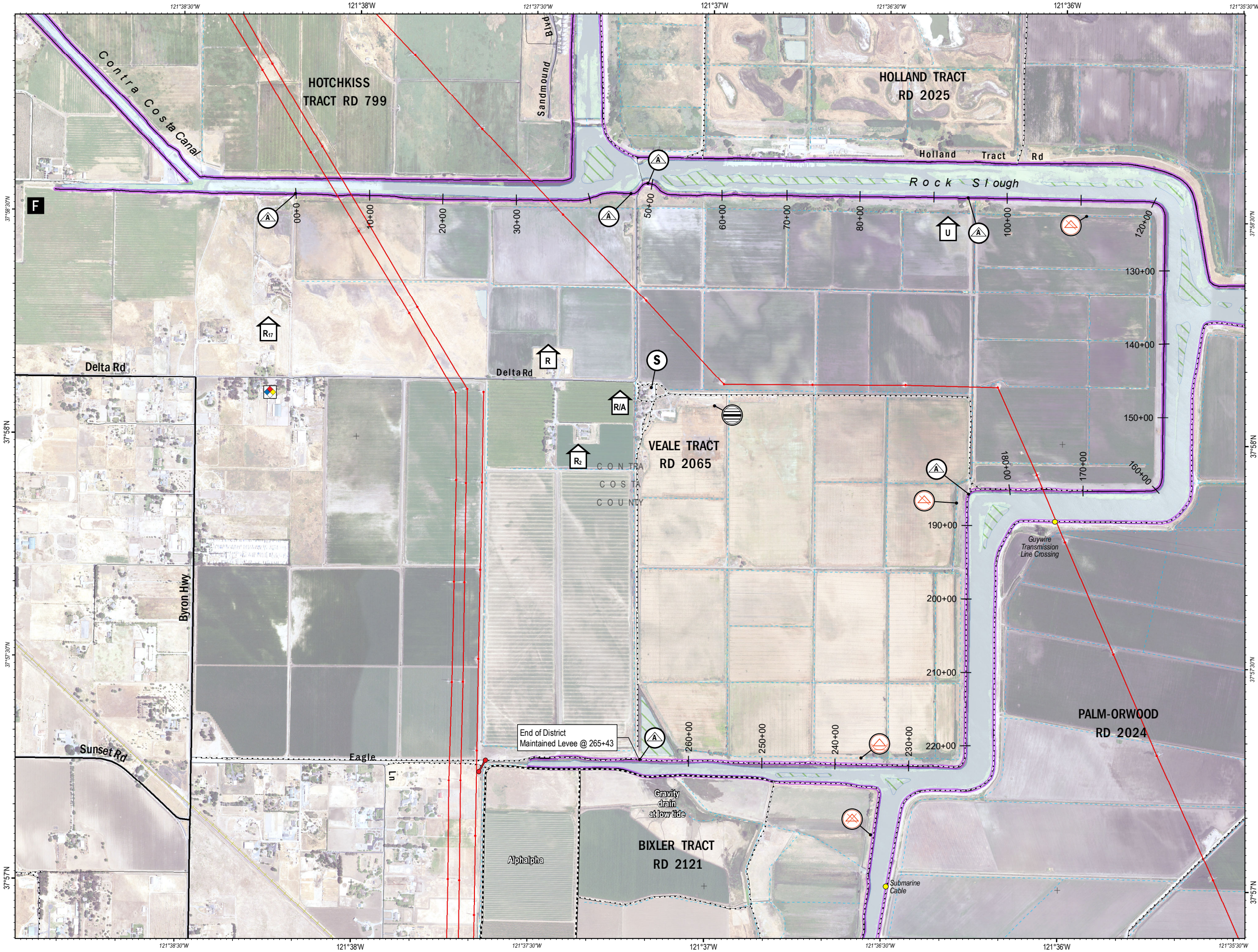
Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam

UG - Underground Power Line
Transmission Line
UG - Underground Gas Line
County Boundary

0 550 1,100 2,200 Feet
Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:15,100



FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

V1 - PUMP STATION 1
Secondary pumps located near station 94+00. These discharge pumps may be utilized during a major flood event, however additional pumps would be needed to dewater the island.

V2 - PUMP STATION 2
Primary pumps located near station 183+00. These discharge pumps may be utilized during a major flood event. These pumps are used daily as the primary pump station for the district.

V3 - EVACUATION CONSIDERATIONS
Primary exit route via district headquarters, proceed along Delta Road towards Knightsen Avenue. Secondary exit along Delta Road towards Knightsen Avenue.

V4 - GENERAL FLOOD THREAT
The flooding threat is predominantly tidal, with some local runoff that can influence conditions.

V5 - LEVEE CONDITIONS
The District is above the Hazard Mitigation (HMP) design standard for the entire levee system. The levee was recently improved during a 2016 construction project. All levees meet and exceed HMP, closer to PL 84-99.

V6 - ROCK SLOUGH BERM
Significant characteristics are remnant berm along Rock Slough east of the Delta Road Bridge. Remnant berm has a width of approx. 400 feet.

V7 - WARNER'S CUT BERM
Significant characteristics are remnant berm along Warner's Cut on east boundary. Remnant berm has a width of approx. varies between 350-500 feet width.

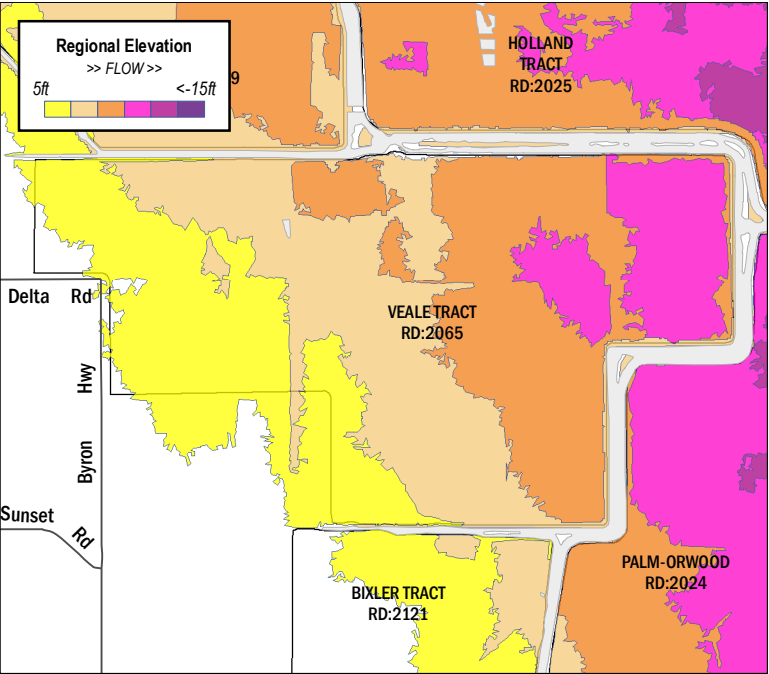
V8 - CRITICAL INFRASTRUCTURE
Critical infrastructure is Delta Road (County road), high voltage power lines traverse through the district, and the Rock Slough Contra Costa Water District (CCWD) intake facility immediately west of District on Rock Slough.

V9 - EVACUATION CONSIDERATIONS
The population of the District does not exceed 20 people during any time of year. Primary land use is agriculture.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

V1 - HIGH WATER EVENT
Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx.. 2,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

- 1. Activate workforce for levee patrols - regular scheduled levee patrols depending on the severity of the event.
 - 2. Deploy flood fight materials to prevent levee degradation. Prepare resources for temporary earthen levee or muscle wall (utilize borrow material on site, if necessary).
- Muscle Wall Material Required:
2000 feet of temporary levee will require approximately 334 segments of muscle wall, 3340 sandbags, and 1670 cubic feet of sand.
OR
Temporary Earthen Levee Material Required:
2000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 40 rolls of 10 mil plastic sheeting, 600 sandbags, and 90 cubic yards of fill.
Approximately 11.1 cubic yards of fill for sand bags and 78.9 cubic yards of fill for visqueen fill.

V2 - BOIL FROM SEEPAGE THROUGH LEVEE

Boil events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Not associated with wind generated waves and erosion. Response to boils require sack ring, or boil ring, to control water flow and pressure through levee to minimize transport of fine material through seepage that has uncontrolled flow of water and transport of levee material. Tides and low pressure can play a part in both wind and seepage impact potential.

ACTIONS

- 1. Protect and isolate seepage area with boil sack ring.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226
--	-------------------------------------	-------------------------------------

REPAIR CONTRACTORS

Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
--	---	--	---

MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS

Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	

Veale Tract

RD 2065

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate | Highway | Major Road | Local Road | Trail, Major | Trail

FLOOD CONTINGENCY OPTIONS

D3 Flood Contingency Option

D2 Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing

Levee Centerline

Tide Gate

Levee Access Point

Agricultural Return Drain/Siphon

Levee Crossing

RESPONSE INFORMATION

Structure

T (type)

[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]

(count) - [Approx. Structure Count]

Boat Landing

Supply Delivery Point

Field Stockpile

Flood Fight Material

Helispot

Supply Staging

Command Post

Command Post Secondary

Pump Station

Pump Station Agricultural

REFERENCE INFORMATION

Ferry

Potable Water Facility

Solid Waste Facility

Hazardous Material

Communication Facility

Waster Water Facility

Natural Gas Facility

UG Underground Power Line

Transmission Line

UG Underground Gas Line

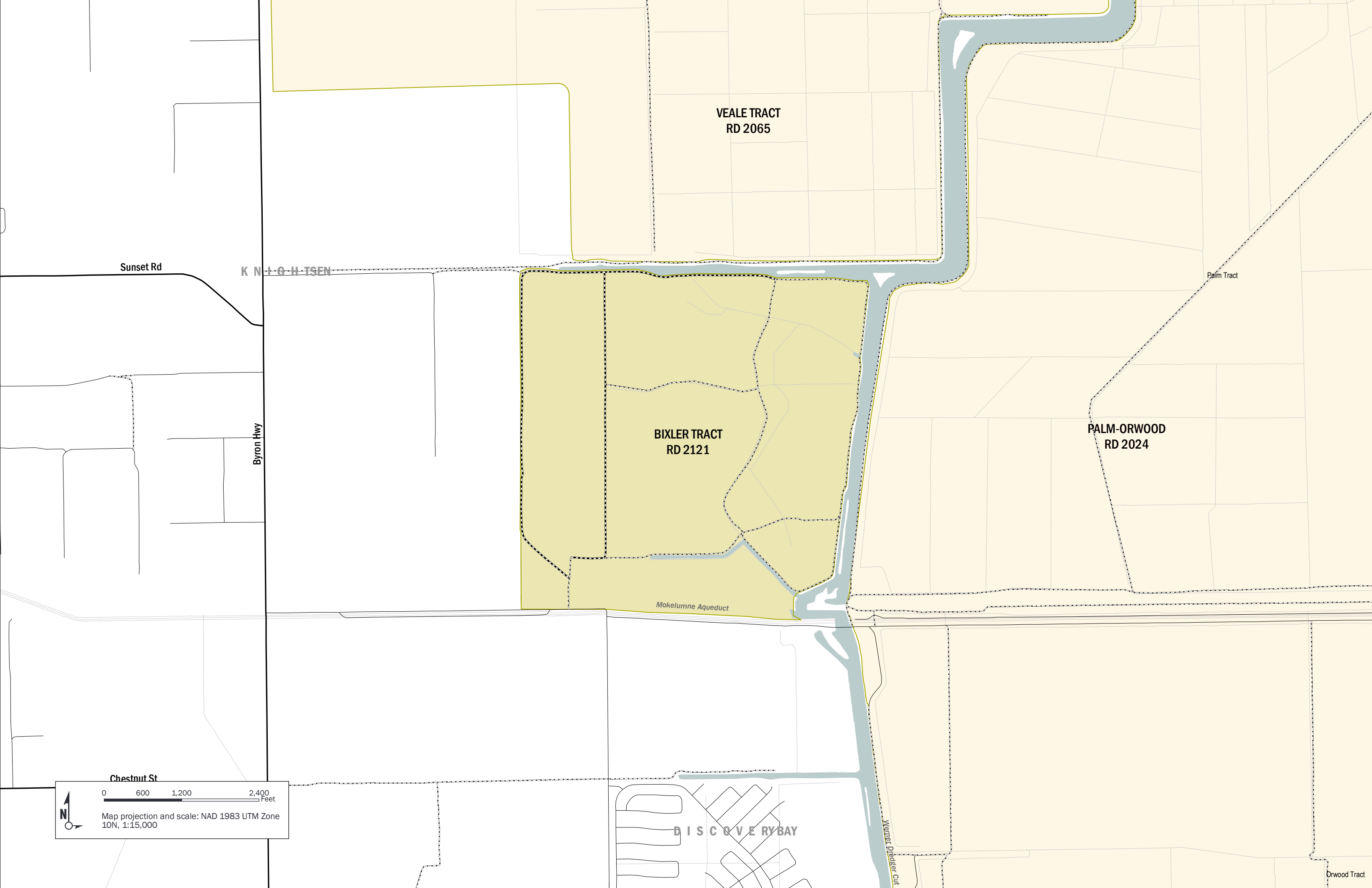
County Boundary

0 550 1,100 2,200 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:15,100

Bixler TractRD 2121





VEALE TRACT
RD 2065

Sunset Rd

K N I G H T S E N

Palm Tract

Byron Hwy

BIXLER TRACT
RD 2121

PALM-ORWOOD
RD 2024

Mokelumne Aqueduct

Wentz Polder Cut

Orwood Tract

D I S C O V E R Y B A Y

Chestnut St



0 600 1,200 2,400 Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:15,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

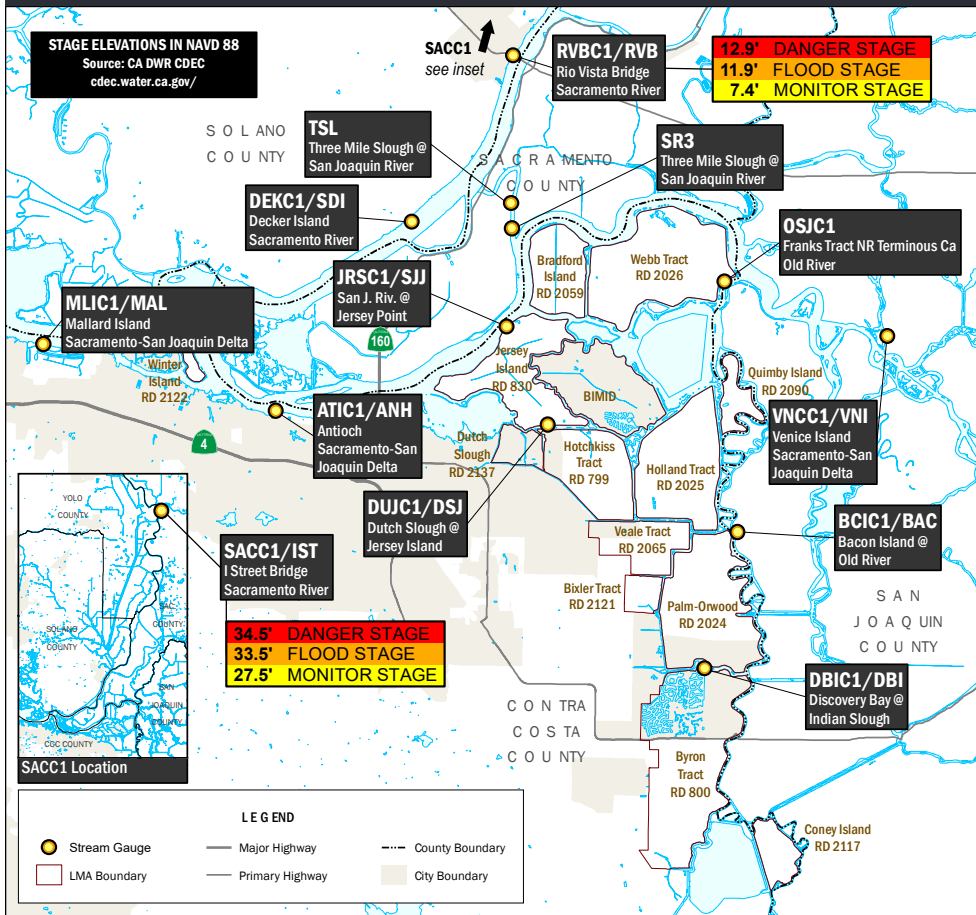
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	VNCC1/VNI Venice Island

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

No Known Staging Areas in Map Extent

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

No Known Supply Delivery Points in Map Extent

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

No Known Stockpile Resources in Map Extent

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

LARGE EQUIPMENT
(1) Cat D6 dozer (1) Cat D4 dozer (1) Small Backhoe
37°56'34.49180040"N, 121°37'29.99180640"W

TRAILERS
Small equipment/material hauling trailers.
37°56'35.44395720"N, 121°37'27.34019400"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

HOLLAND TRACT (RD 2025)

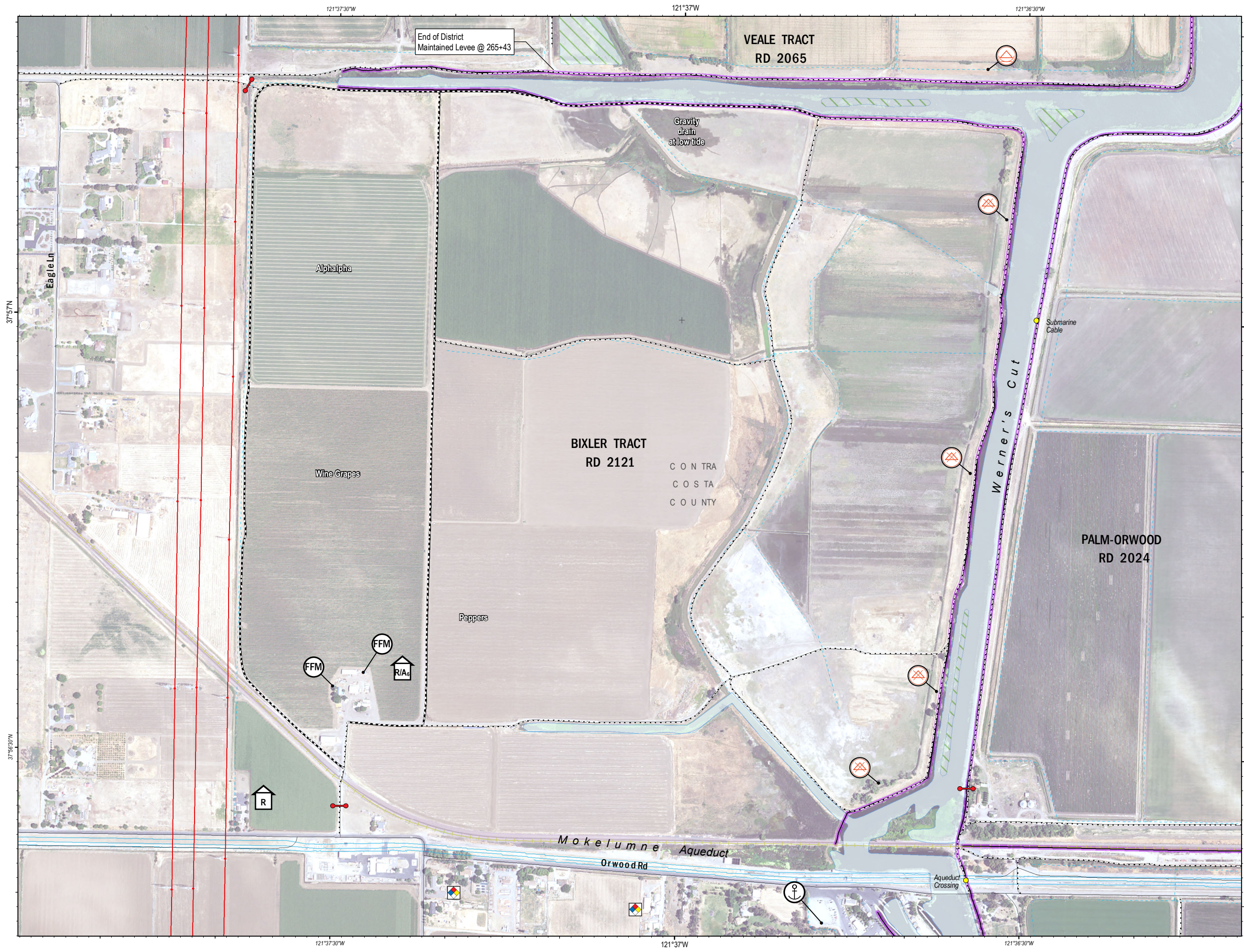
David A. Forkel
925.932.0251
925.693.9977

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Bixler Tract

RD 2121

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

LEVEE INFORMATION

1000-Foot Levee Stationing

Levee Centerline

Tide Gate

Levee Access Point

Historic Levee Breach

Levee Erosion

Levee Seepage

Agricultural Return Drain/Siphon

Levee Crossing

RESPONSE INFORMATION

Structure

T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown] # (count) - [Approx. Structure Count]

Boat Landing

Supply Delivery Point

Field Stockpile

Flood Fight Material

Supply Staging

REFERENCE INFORMATION

Fire Station

Home Care

Ferry

Hazardous Material

School

Ag. Worker Camp

Dam

Underground Power Line

Transmission Line

Underground Gas Line

County Boundary

0 295 590 1,180 Feet

Map projection and scale: NAD 1983 StatePlane California III FIPS 0403 Feet, 1:7,700

FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

X1 - WORKER'S CAMP
Typical population on Bixler Tract totals approx. 9 People. Mostly seasonal Workers. Seasonal worker dwelling units are located at the highest elevations on the tract above most flood threat.

X2 - MATERIAL STORAGE
6 Structures with Conex Boxes for material storage. Storage includes diesel Fuel, pesticides, herbicides, hydraulic Fluids. All HazMat below thresholds for reporting to County.

X3 - GATED ENTRY
Location can be used to access levee and Bixler Tract.

X4 - EMERGENCY ACCESS GATE
If needed property can bed accessed with proper entry keys / combo

X5 - INTAKE PUMP
In-take pump for irrigation supply. Two pipe intake with back flow for low tide. Sand media filters for micro filtration.

X6 - CATTLE POPULATION
~ 200 Head of cattle may reside in this area. Fenced off from rest of Bixler Track via fence and gate system. Fence runs length of drainage area in the center of the Tract.

X7 - BOAT TRAFFIC
Over 1,000 boats are launched at Orwood Resort. This causes wave action in Werner Cut.

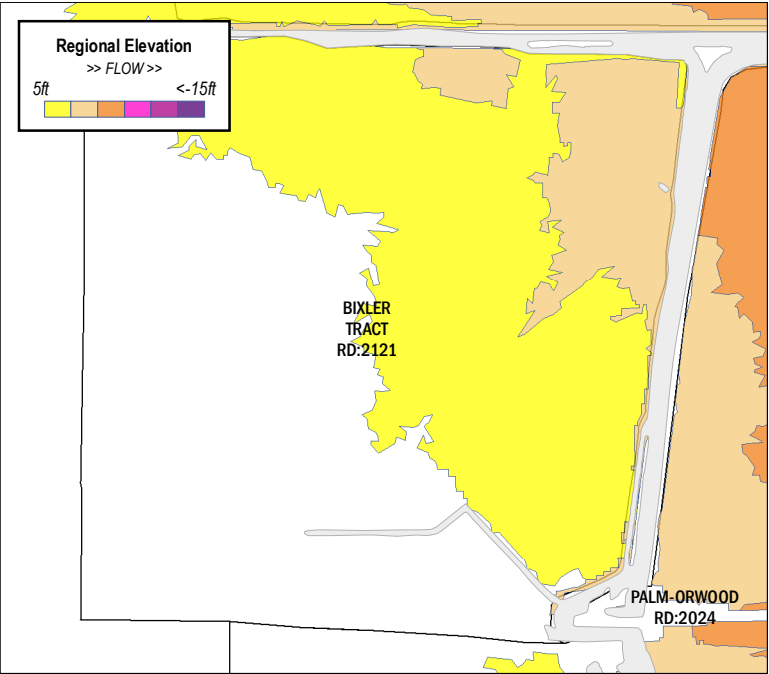
X8 - ANIMAL BURROWS
Animal burrows have caused boil or levee seepage points in 1999 when there was a 20 gallons per minute (G.P.M.) leak from the burrows.

X9 - LEVEE STATUS
Bixler Tract levees are not certified although elevation height exceeds standards at 11’3”. Bixler Tract consists of one square mile of property with two miles of levees. The highest levee crown elevation is 14’.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

- X1 - WIND WAVES**

Wind waves 1.5 FT in height could occur at this location. Wind waves causing erosion will lead to levee failure if not addressed for long periods of time; protection area approx. 300 FT.

ACTIONS

1. Protect area exposed to wind waves with envelope style wrap. Wave Wash Protection Material Required: 300 feet of envelope wave wash will require approximately 6 rolls of 10 mil plastic sheeting, 90 sandbags, 45 cubic feet of sand, 6 rolls of twine, 30 plastic buttons or rocks, and 60 [1” x 3” x 2’] stakes.
- X2 - HIGH WATER EVENT**

Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. East side of Bixler Tract Levee System may be lower than regional high water event. Vulnerable area approx.. 5,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

1. Close control gate at intake slough.
2. Activate workforce for levee patrols.
3. Move or evacuate cattle population.
4. Prepare resources for temporary earthen levee or muscle wall. Muscle Wall Material Required: 5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand. OR Temporary Earthen Levee Material Required: 5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill. Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS

Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
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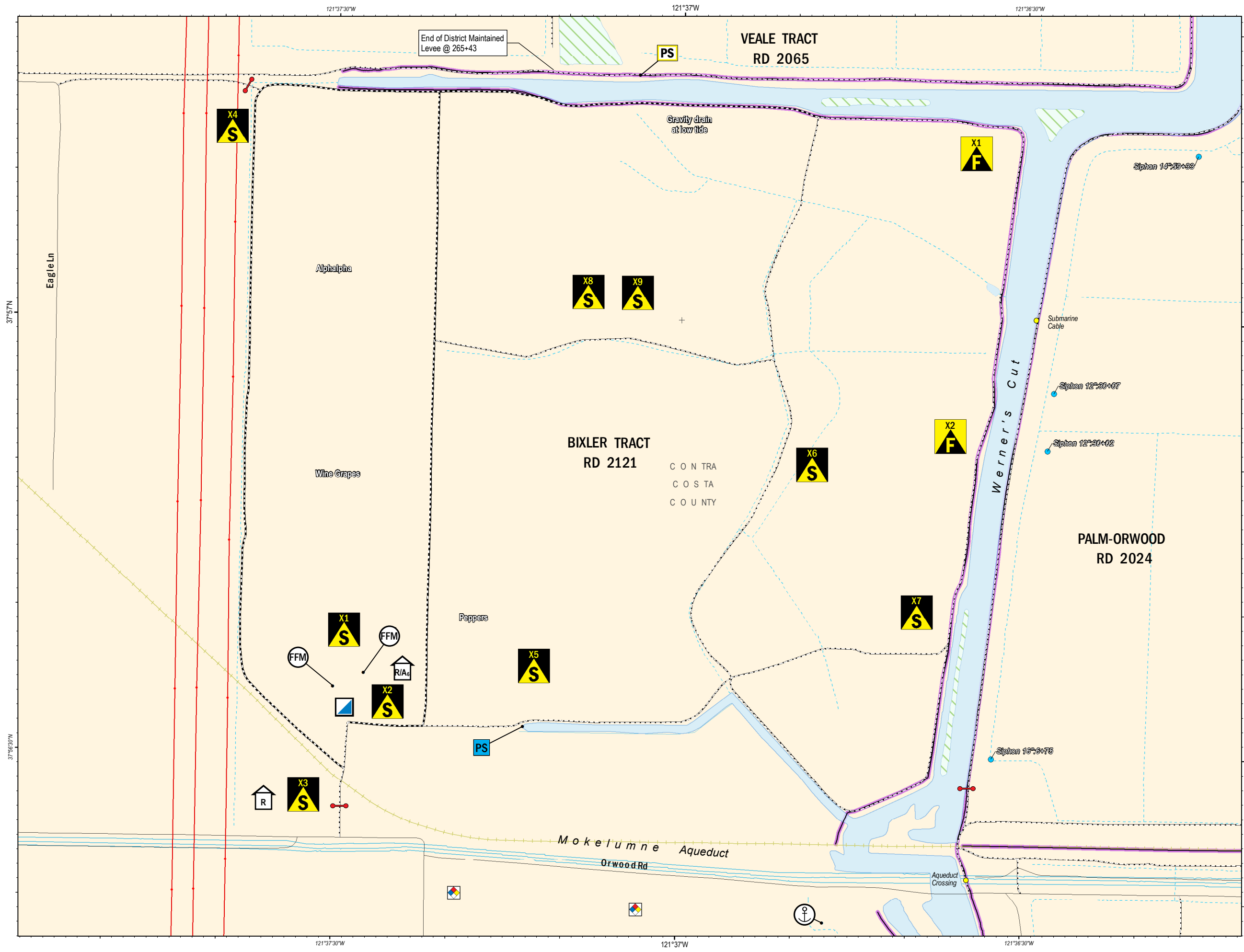
MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000

Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052
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LOCAL SUPPLY PROVIDERS

Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	



Bixler Tract

RD 2121

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

- Gate
- ROADS
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Trail, Major
 - Trail

FLOOD CONTINGENCY OPTIONS

- D3** Flood Contingency Option
- D2** Special Flood Consideration

LEVEE INFORMATION

- 1000-Foot Levee Stationing
- Levee Centerline
- Tide Gate
- Agricultural Return Drain/Siphon
- Levee Access Point
- Levee Crossing

RESPONSE INFORMATION

- Structure
 - T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
 - # (count) - [Approx. Structure Count]
- Boat Landing
- Supply Delivery Point
- Field Stockpile
- Flood Fight Material
- Helispot
- Supply Staging
- Command Post
- Command Post Secondary
- Pump Station
- Pump Station Agricultural

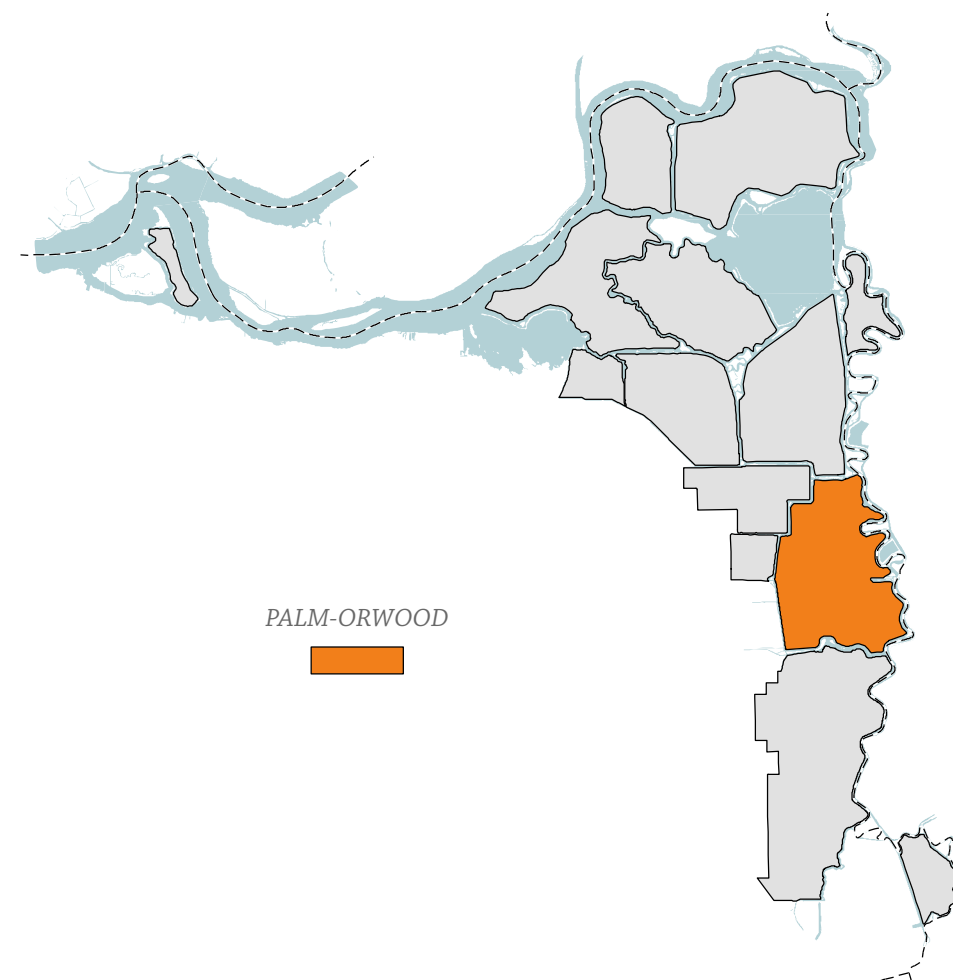
REFERENCE INFORMATION

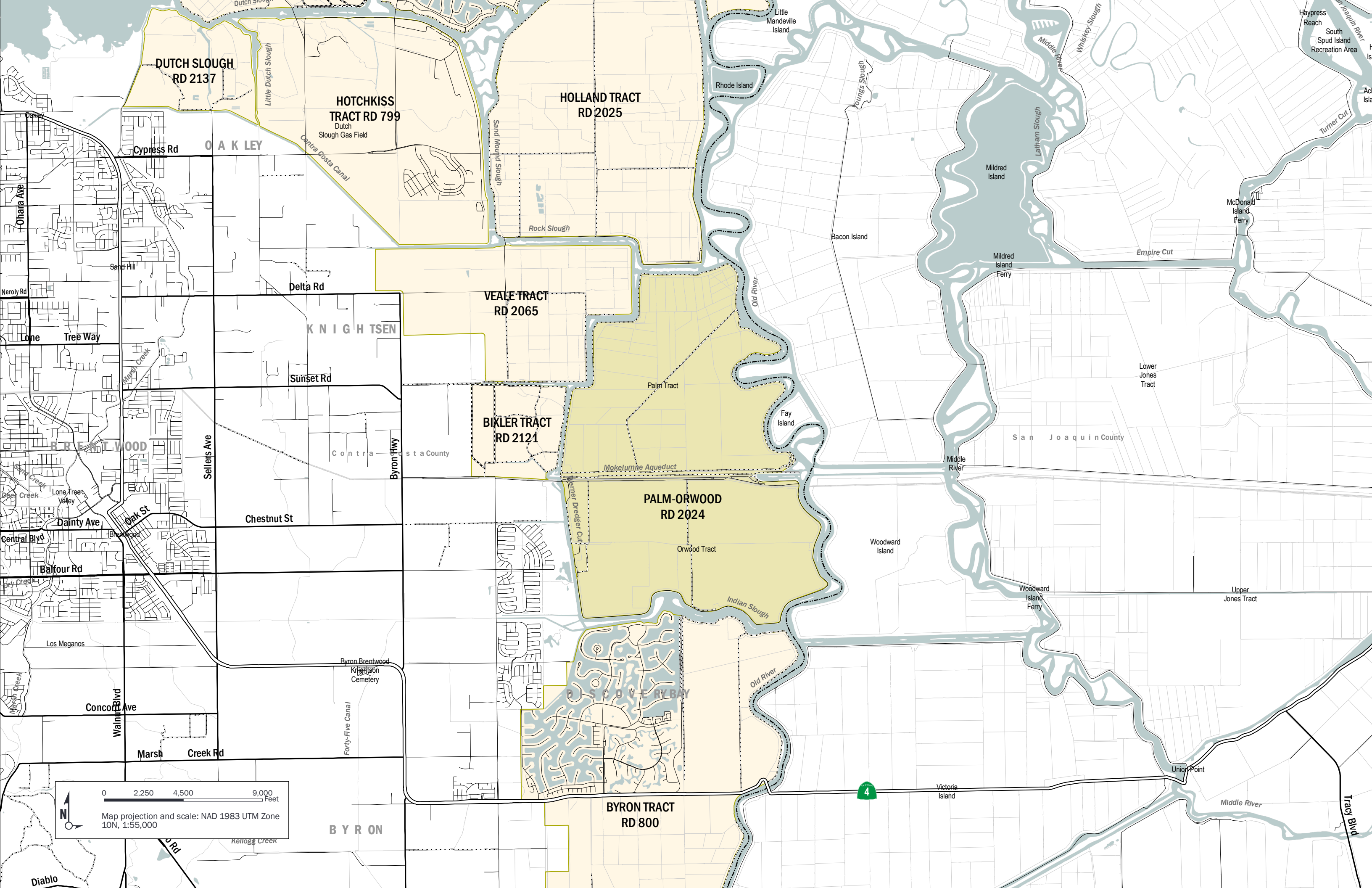
- Ferry
- Potable Water Facility
- Solid Waste Facility
- Hazardous Material
- Communication Facility
- Waster Water Facility
- Natural Gas Facility
- UG - Underground Power Line
- Transmission Line
- UG - Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:7,700

Palm-Orwood Tract.... RD 2024





DUTCH SLOUGH
RD 2137

HOTCHKISS
TRACT RD 799

HOLLAND TRACT
RD 2025

VEALE TRACT
RD 2065

BIXLER TRACT
RD 2121

PALM-ORWOOD
RD 2024

BYRON TRACT
RD 800

N

0

2,250

4,500

9,000

Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:55,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

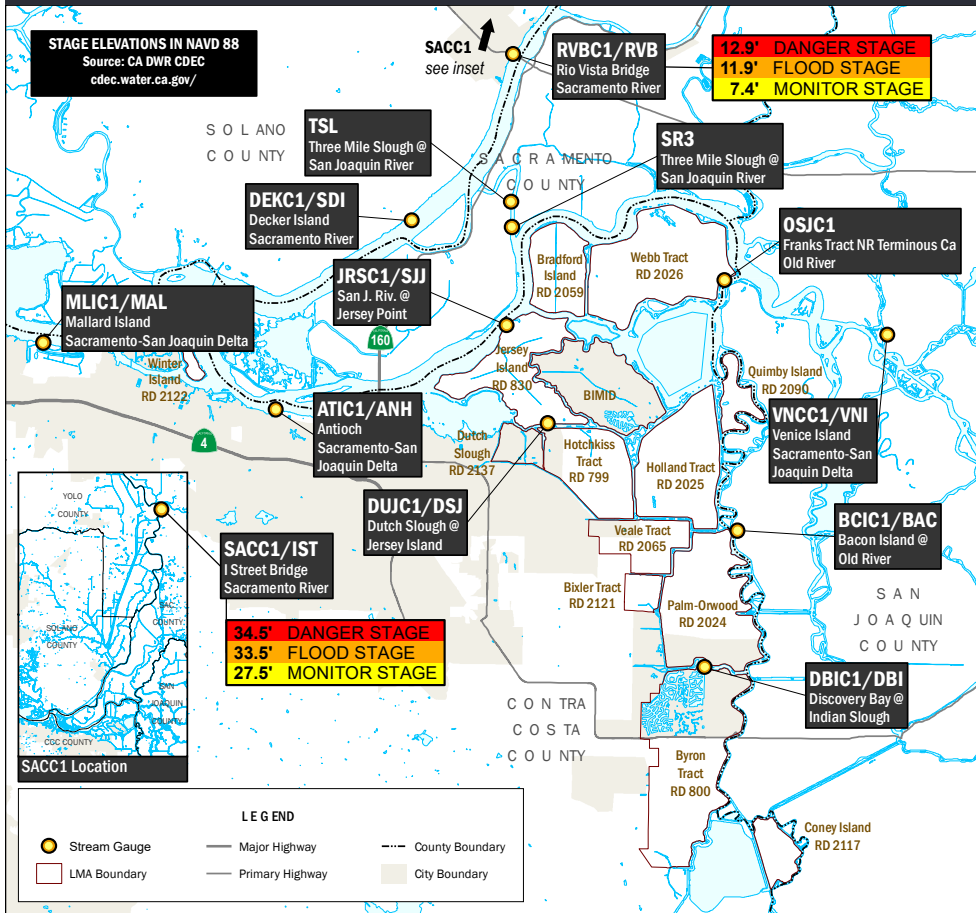
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USGS Mobile Water Data



<div>LIVE CHART</div> <div>SACC1/IST</div> <div>I Street Bridge</div> <div></div>	<div>LIVE CHART</div> <div>RVBC1/RVB</div> <div>Rio Vista Bridge</div> <div></div>	<div>LIVE CHART</div> <div>DEKC1</div> <div>Decker Island</div> <div></div>
<div>LIVE CHART</div> <div>MLIC1/MAL</div> <div>Mallard Island</div> <div></div>	<div>LIVE CHART</div> <div>JRSC1/SJJ</div> <div>SJ Riv. @ Jersey Pt</div> <div></div>	<div>LIVE CHART</div> <div>OSJC1</div> <div>Franks Tract, Terminous</div> <div></div>
<div>LIVE CHART</div> <div>ATIC1/ANH</div> <div>Antioch</div> <div></div>	<div>LIVE CHART</div> <div>DUJC1/DSJ</div> <div>Dutch Slough @ Jersey Island</div> <div></div>	<div>LIVE CHART</div> <div>VNCC1/VNI</div> <div>Venice Island</div> <div></div>

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

LARGE EQUIPMENT STAGING LOCATION

Heavy equipment staging location on southwest corner of Palm Tract (northern island) north of BNSF Railroad and EMBUD aqueduct.
37°56'28.94415720"N, 121°36'29.58541200"W

POTENTIAL STAGING AREA

Area at set-back levee can be used as a staging area in incident command situation.
37°57'17.33916600"N, 121°34'36.80549040"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

GENERAL PRE-PLANNED DELIVERY POINT

EBMUD Bixler maintenance center at Bixler Rd. and Orwood Rd..
37°56'23.17042320"N, 121°37'24.83520240"W

SUPPLY DELIVERY POINT

Potential barge landing area.
37°56'35.63160360"N, 121°33'54.21828600"W

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

RIPRAP STOCKPILE

Riprap stockpile on levee at station 125+70
37°55'04.56795480"N, 121°34'00.45956640"W

RIPRAP STOCKPILE

Riprap stockpile on levee at station 390+00.
37°56'31.46471520"N, 121°33'49.06715400"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT MATERIALS

Various pre-staged flood fight materials at EBMUD yard.
37°56'23.19090000"N, 121°37'24.82121640"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

LAS SERPIENTES

Air Minor
Southern end of Orwood Resort
37°55'59.16000000"N, 121°36'46.44000000"W
JM TRANSPORT
Transporter
4451 Orwood Rd
37°56'08.48400360"N,

ORWOOD RESORT

Community Water System
4451 Orwood Rd
37°56'13.70470920"N, 121°36'42.13856880"W
DOS AMIGOS LANDSCAPE
Transporter
4251 Orwood Rd

EBMUD BIXLER CHLORINATION FACILITY

Hazardous Waste Biennial Reporter/ SQG
Orwood Road And Bixler Road
37°56'20.36112720"N, 121°37'19.27057440"W

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
800.952.5530

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/ Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
Bus. 925.693.9977
Bus. Cell

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

JERSEY ISLAND (RD 830)

Chad Davidson 925.625.2279
ER Contact 925.727.2938

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300

Palm-Orwood Tract

RD 2024

The symbology presented in the legend below is global to the project area. Some symbols may not be present on map.

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

EVACUATION

Rally Point

EVACUATION ROUTES

Major Road Local Road

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

Tide Gate
Levee Access Point
Historic Levee Breach
Levee Erosion
Levee Seepage
Agricultural Return Drain/Siphon
Levee Crossing

RESPONSE INFORMATION

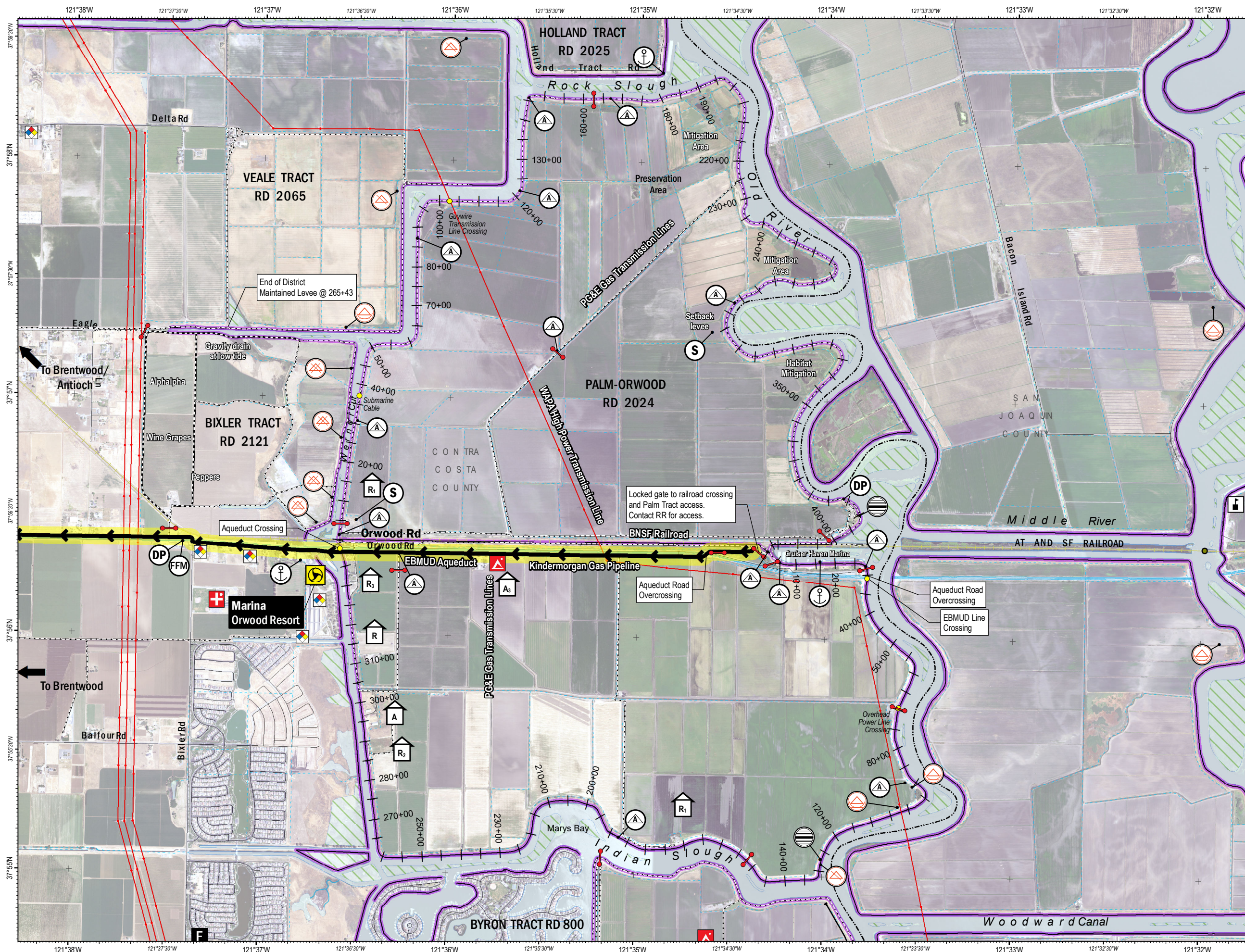
Structure
Boat Landing
Supply Delivery Point
Field Stockpile
Flood Fight Material
Supply Staging
T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

REFERENCE INFORMATION

Fire Station
Home Care
Ferry
Hazardous Material
School
Ag. Worker Camp
Dam
Underground Power Line
Transmission Line
Underground Gas Line
County Boundary

0 1,050 2,100 4,200 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:28,300



FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

P1 - BOAT TRAFFIC
Over 1,000 boats are launched at Orwood Resort. This causes wave action in Werner Cut.

P2 - LEVEE LOADING
The RD 2024 levees are considered frequently loaded levees because they are subject to the tidal fluctuations of the Delta. The RD 2024 levees protect land that is between -12 and -16 Ft. below sea level and constantly holding back the river and sloughs. In the event of a levee breach, the entire island will fill with water until the levee is repaired.

P3 - EVACUATION CONSIDERATIONS
There are approximately thirty (30) to fifty (50) residents which permanently live on Palm and Orwood Tracts and approximately fifty (50) seasonal farm workers on Palm and Orwood Tracts. Depending on the crops, seasonal farm workers could swell this number to over two hundred plus (200+). The number also increases substantially when work is being performed by EBMUD or Kinder Morgan. Additionally, the risk to operators and passengers could be as high as 300 or more people on a passenger train. At any given time, one hundred (100) to six hundred (600) people may need to be evacuated during a flood event.

P4 - EAST BAY MUNICIPAL UTILITY DISTRICT AQUEDUCTS (EBMUD AD)
The EBMUD AD transverse through Orwood Tract and crosses the levees near Orwood Tracts levee stations 0+00 and 372+75. Extensive damage and disruption of service to the EBMUD AD would be expected in the event of a flood on Orwood Tract. Due to the proximity of the levees to the pipelines, a levee break could result in undermining the aqueduct supports, thereby causing a failure of the pipelines. In a typical levee break, the water rushing to fill the Island will scour a deep hole extending outward from the location of the levee. In addition, the aqueducts do not appear to be adequately protected from corrosion, wave impacts, or buoyancy caused by submergence. If the eastern or western levees were breached near the EBMUD AD levees crossings, scour damage to the footings on EMBUD AD could be significant. If flooding is imminent or occurs and EBMUD’s facilities are possibly threatened, contact EBMUD at (209) 946-8001.

P5 - BURLINGTON NORTHERN SANTA FE RAILROAD (BNSF)
The BNSF Railroad transverses thorough the middle Palm and Orwood Palm Tracks from east to west. The railroad is built on an embankment designed only for the use of the railroad. The embankment is not designed to retain water and if the tract floods there could be a high risk of the embankment eroding. This railroad is the main east and west Rail route for a majority of the goods shipped from the Bay Area to the Central Valley as well as a major commuter service. As evidenced from the 1980 flood of Lower Jones Tract, the BNSF Railroad experiences extensive damage due erosion, wave wash, and seepage. If flooding is imminent or occurs and BNSF’s embankment and facilities are possibly threatened, contact BNSF at (209) 942-5438.

P6 - KINDER MORGAN FUEL TRANSMISSION LINE
Palm and Orwood Tracts protects the Kinder Morgan fuel transmission line that carries gasoline and aviation fuel from Bay Area refineries to critical locations including military installations. This pipeline is adjacent to the EBMUD aqueduct. If flooding is imminent or occurs and Kinder Morgan’s facilities are possibly threatened, contact Kinder Morgan at 1-800-733-2490.

P7 - WESTERN AREA POWER ASSOCIATION (WAPA)
The WAPA electrical transmission lines cross Palm and Orwood Tracts. These lines are an important component to the electrical grid for California. In the event of a flood the integrity of the supports could be jeopardized due to saturation of the foundations and exposure to navigation on the resulting open water.

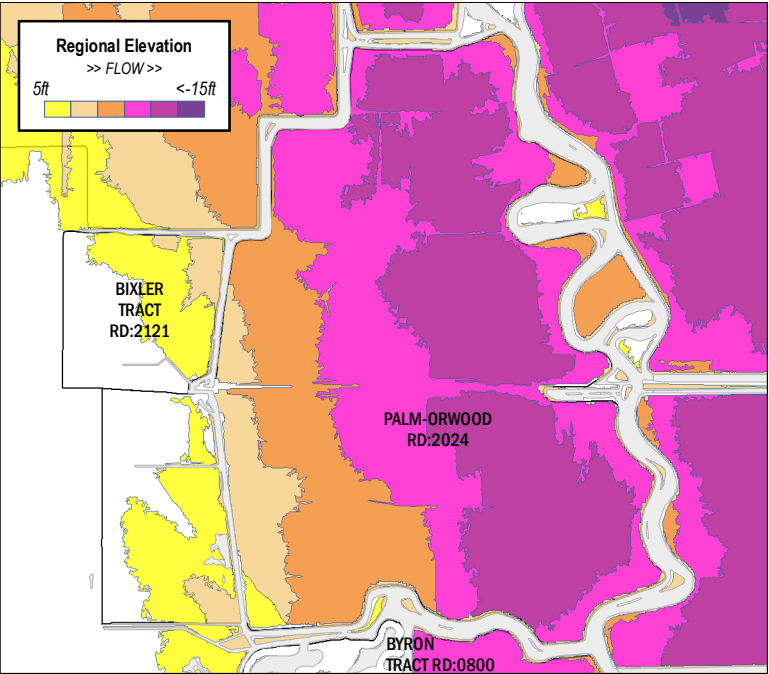
P8 - PG&E GAS TRANSMISSION LINE 57A/57B/57C
There is a major gas transmission line that crosses Palm and Orwood Island. This line carries natural gas between the PG&E McDonald Island gas storage facilities. If flooding is imminent or occurs and PG&E’s facilities are possibly threatened, contact PG&E at 1-800-743-5000.

P9 - RD 2024 DRAINAGE SYSTEM
The land is below the level of the waterbody and requires pumps to get the drainage off the tract. An extended interruption of electrical service will cause water to backup and rise in the RD ditches. There are existing pump stations within the RD’s jurisdictional boundary and located at Palm Tract’s levee stationing. Additional pumps and generators will be brought in during a flood event and place at the existing drainage swale located at the existing pump station. RD Engineer shall determine the size of pumps.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

P1 - HIGHWATER EVENT @ STATION 200+00 TO 260+00
Adding Splash Cap and material to levee.
ACTIONS
Station 200+00-260+00 levee vulnerabilities - AB mix on trucks 6000 feet of splash cap (3’ high [18” compacted] x 9.5’ wide) will require approximately 1875 tons of AB mix equaling 75 truck loads at 25 tons/truck load. Half Distance: 3000 feet of splash cap (3’ high [18” compacted] x 9.5’ wide) will require approximately 938 tons of AB mix equaling 38 truck loads at 25 tons/truck load.

P2 - HIGHWATER EVENT @ STATION 335+00-400+00
Adding Splash Cap and material to levee.
ACTIONS
Station 335+00-400+00 levee vulnerabilities - AB mix on trucks 6500 feet of splash cap (3’ high [18” compacted] x 9.5’ wide) will require approximately 2031 tons of AB mix equaling 82 truck loads at 25 tons/truck load. Half Distance: 3250 feet of splash cap (3’ high [18” compacted] x 9.5’ wide) will require approximately 1016 tons of AB mix equaling 41 truck loads at 25 tons/truck load.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS

Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
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MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS

Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	

Palm-Orwood Tract

RD 2024

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

FLOOD CONTINGENCY OPTIONS

D3 F Flood Contingency Option D2 S Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline
Tide Gate Agricultural Return Drain/Siphon
Levee Access Point Levee Crossing

RESPONSE INFORMATION

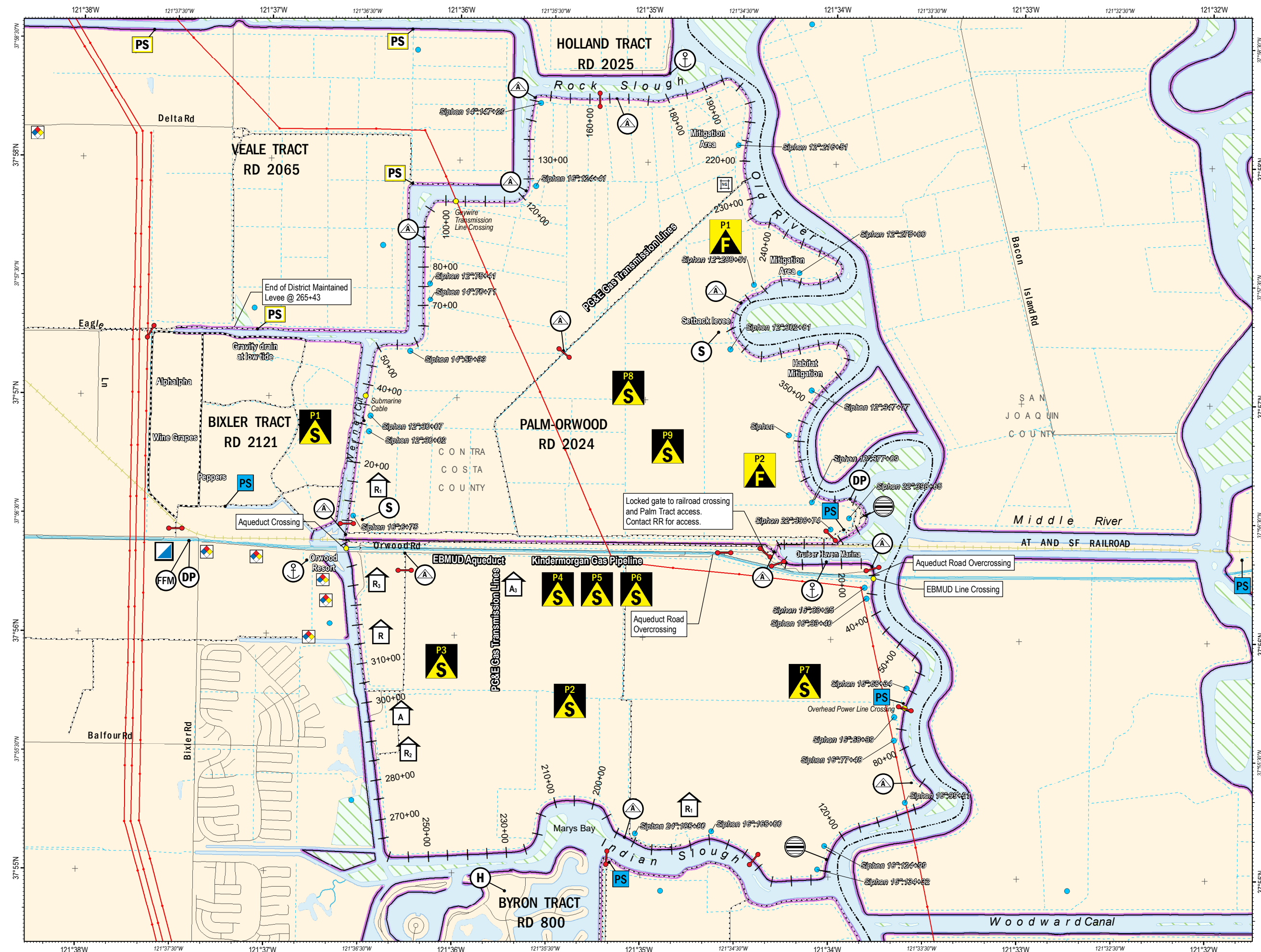
Structure T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]
Boat Landing Command Post
Supply Delivery Point Command Post Secondary
Field Stockpile PS Pump Station
FFM Flood Fight Material PS Pump Station Agricultural
H Helispot
S Supply Staging

REFERENCE INFORMATION

Ferry Communication Facility
Potable Water Facility Waster Water Facility
Solid Waste Facility Natural Gas Facility
Hazardous Material
UG Underground Power Line
Transmission Line
UG Underground Gas Line
County Boundary

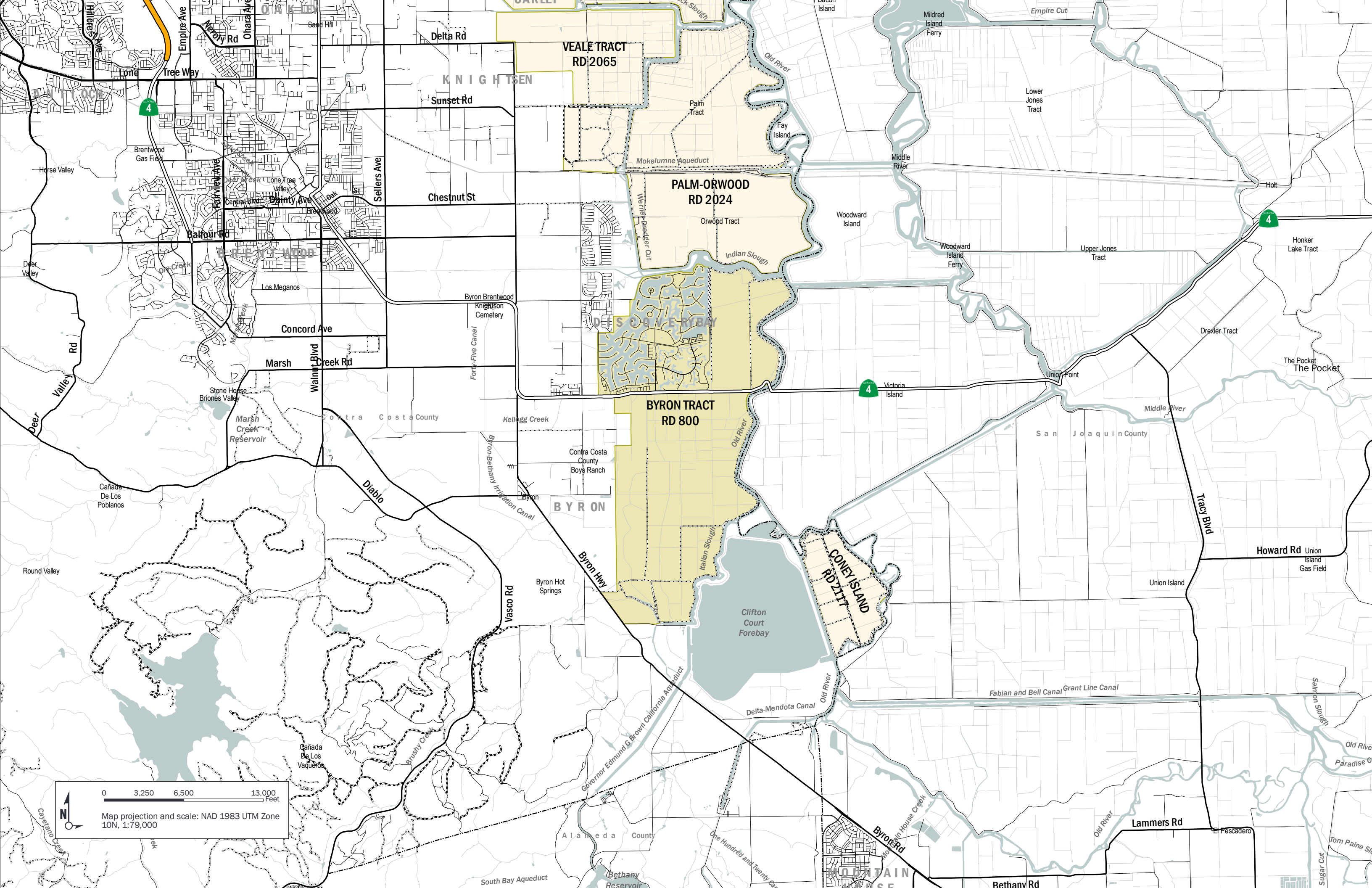
0 1,050 2,100 4,200 Feet

Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:28,300



Byron Tract..... RD 800





0 3,250 6,500 13,000 Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:79,000

EVACUATION / RESCUE INFORMATION

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

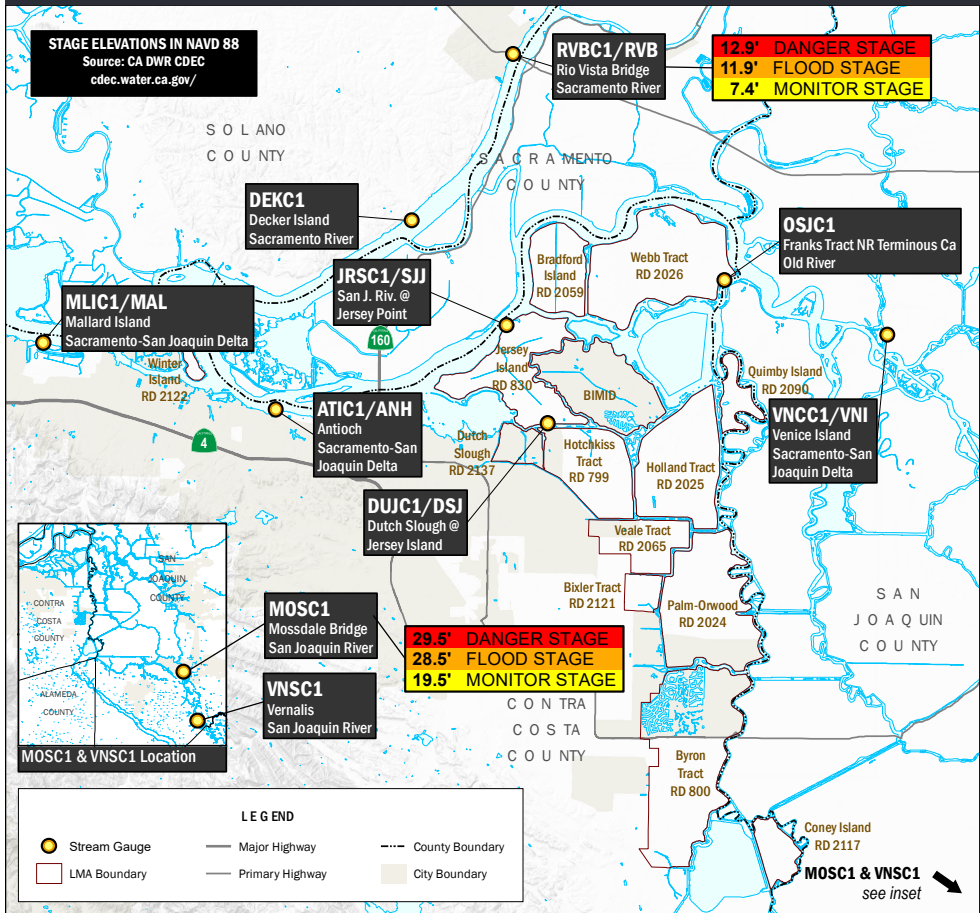
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



<div><div>LIVE CHART</div><div>SACC1/IST I Street Bridge</div><div></div></div>	<div><div>LIVE CHART</div><div>RVBC1/RVB Rio Vista Bridge</div><div></div></div>	<div><div>LIVE CHART</div><div>DEKC1 Decker Island</div><div></div></div>
<div><div>LIVE CHART</div><div>MLIC1/MAL Mallard Island</div><div></div></div>	<div><div>LIVE CHART</div><div>JRSC1/SJJ SJ Riv. @ Jersey Pt</div><div></div></div>	<div><div>LIVE CHART</div><div>OSJC1 Franks Tract, Terminous</div><div></div></div>
<div><div>LIVE CHART</div><div>ATIC1/ANH Antioch</div><div></div></div>	<div><div>LIVE CHART</div><div>DUJC1/DSJ Dutch Slough @ Jersey Island</div><div></div></div>	<div><div>LIVE CHART</div><div>MOSC1/MSD Mossdale Bridge</div><div></div></div>

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

STAGING AREA

South Byron Tract staging in open area on levee road.
37°50'29.18400360"N, 121°36'12.25440000"W

STAGING

Staging near pump station south of Hwy 4 and WWTP on Old River.
37°53'05.54230680"N, 121°34'36.07440960"W

EAST STAGING

Staging at levee access along Old River.
37°54'11.47394880"N, 121°34'25.71664440"W

NORTH STAGING

Staging on levee road on north end of Byron Tract.
37°55'02.22238560"N, 121°35'08.98527840"W

DP B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

SUPPLY DELIVERY

Delivery point at yard/shed at 4250 Camino Diablo.
37°52'04.50225120"N, 121°36'56.68957080"W

DELIVERY POINT CP1

Delivery point in open space at Sand Point Rd. & Discovery Bay Blvd.
37°54'07.91445600"N, 121°36'15.00909840"W

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

No Known Stockpile Resources in Map Extent

FFM B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

FLOOD FIGHT MATERIALS

DWR recommended flood fight materials at yard/shed at 4250 Camino Diablo.
37°52'04.87822800"N, 121°36'58.10257080"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

DISCOVERY BAY WWTP

POTW, Icis-Npdes Major
Hwy 4 & Channel Road
37°53'36.07233360"N, 121°35'15.82580760"W

DISCOVERY BAY YACHT HARBOR

SPCC, Enf./Compliance Activity
5901 Marina Road
37°54'08.58683520"N, 121°35'15.80786880"W

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.313.2000

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
800.952.5530

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BIMID

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925.684.2210
Lawrence Martins
925.383.8310

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
Bus. 925.693.9977
Bus. Cell

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

JERSEY ISLAND (RD 830)

Chad Davidson 925.625.2279
ER Contact 925.727.2938

WEBB TRACT (RD 2026)

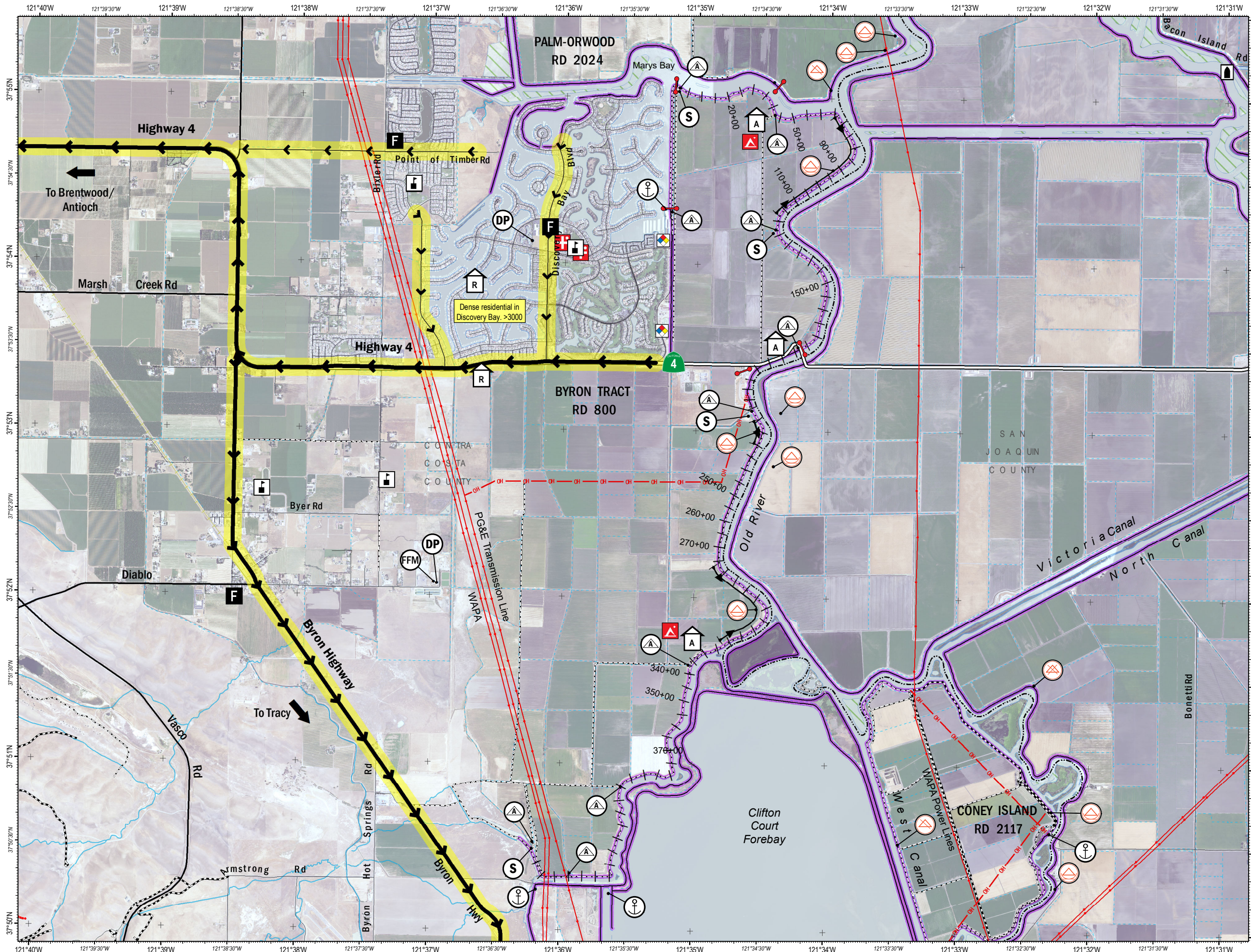
Al Warren Hoslett
209.943.5551, Bus.

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Byron Tract

RD 800

The symbology presented in the legend below is global to the project area. Some symbols may not be present on map.

TRANSPORTATION

- Gate

ROADS

- Interstate
- Highway
- Major Road
- Local Road
- Trail, Major
- Trail

EVACUATION

- Rally Point

EVACUATION ROUTES

- Major Road
- Local Road

LEVEE INFORMATION

- 1000-Foot Levee Stationing
- Levee Centerline
- Tide Gate
- Levee Access Point
- Historic Levee Breach
- Levee Erosion
- Levee Seepage
- Agricultural Return Drain/Siphon
- Levee Crossing

RESPONSE INFORMATION

- Structure (T type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown] # (count) - [Approx. Structure Count]
- Boat Landing
- Supply Delivery Point
- Field Stockpile
- Flood Fight Material
- Supply Staging

REFERENCE INFORMATION

- Fire Station
- Home Care
- Ferry
- Hazardous Material
- School
- Ag. Worker Camp
- Dam
- Underground Power Line
- Transmission Line
- Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:40,400

FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

Y1 - UTILITY INFRASTRUCTURE

Major utility crossings exist in this area. Utility crossings including three sets of high power electrical lines (PG&E and WAPA), and one 42-INCH high-pressure gas main, and the Los Vaqueros Project Old River Pipeline. Coordination with county OES office and utilities are needed.

Y2 - DISEASE CONTROL

There are Approximately 100 head of cattle on the south end of the Reclamation District. Prior to actual flooding and at Stage El. 9 of the Venice Island gauge, the evacuation of the cattle should begin. During a flood, many head of cattle could become trapped and/or perish. Animal carcass management is a concern for disease control. Coordination with the County Agricultural Commissioner and the county OES is needed.

Y3 - LEVEE IMPROVEMENTS

Seepage in levee segments along Old River have been identified during high water events. Seepage alternative investigations are underway with planned improvements following.

Y4 - DISTRICT PUMP VULNERABILITIES

RD 800 pumping stations are below 100-year flood elevation. If a levee breach is imminent, efforts to protect the pump stations should be initiated.

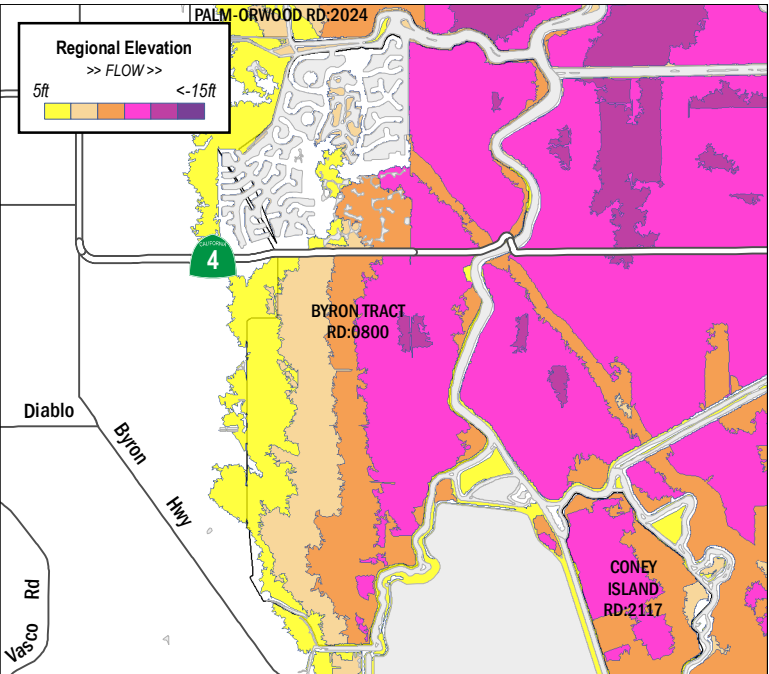
Y5 - CONTRA COSTA WATER DISTRICT

The CCWD Primary levee is set back to provide proper protection for their pumping facility operations as flooding of RD 800 could cause limited to major damage to infrastructure.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

Y1 - LOCAL HIGH WATER EVENT

Multiple high-water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. East side of Byron Tract Levee System may be lower than regional high-water event. Vulnerable area approx. 5,000 FT. Muscle wall or temporary earthen levee is recommended.

ACTIONS

1. Close control gate at intake slough. 2. Activate workforce for levee patrols. 3. Move or evacuate cattle population. 4. Prepare resources for temporary earthen levee or muscle wall. Muscle Wall Material Required: 5000 feet of temporary levee will require approximately 834 segments of muscle wall, 8340 sandbags, and 4170 cubic feet of sand. OR Temporary Earthen Levee Material Required: 5000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 100 rolls of 10 mil plastic sheeting, 1500 sandbags, and 225 cubic yards of fill. Approximately 27.8 cubic yards of fill for sand bags and 197.2 cubic yards of fill for visqueen fill.

NOTE: This is a hypothetical flood contingency option based on DWR's flood fight methods to calculate material needs based on a given length of levee vulnerability.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR

Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226
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REPAIR CONTRACTORS

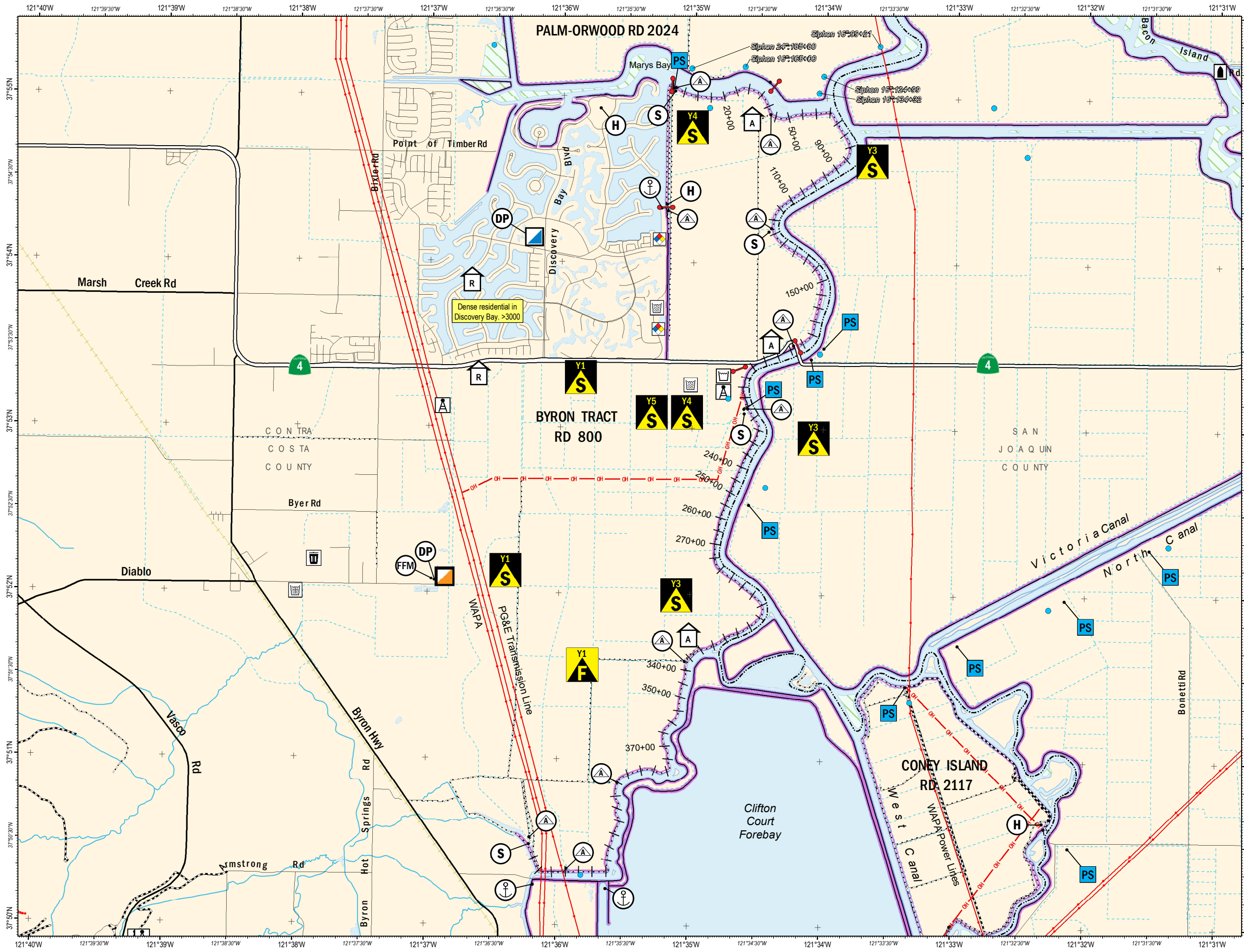
Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011
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MATERIALS SUPPLIERS

Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS

Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	



Byron Tract

RD 800

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

- Gate
- ROADS
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Trail, Major
 - Trail

FLOOD CONTINGENCY OPTIONS

- D3 F** Flood Contingency Option
- D2 S** Special Flood Consideration

LEVEE INFORMATION

- 1000-Foot Levee Stationing
- Levee Centerline
- Tide Gate
- Levee Access Point
- Agricultural Return Drain/Siphon
- Levee Crossing

RESPONSE INFORMATION

- T_r** Structure
 - T (type) [A - Agricultural, R - Residential, S - Seasonal, U - Unknown]
 - # (count) - [Approx. Structure Count]
- Boat Landing
- Supply Delivery Point
- Field Stockpile
- Flood Fight Material
- Helispot
- Supply Staging
- Command Post
- Command Post Secondary
- Pump Station
- Pump Station Agricultural

REFERENCE INFORMATION

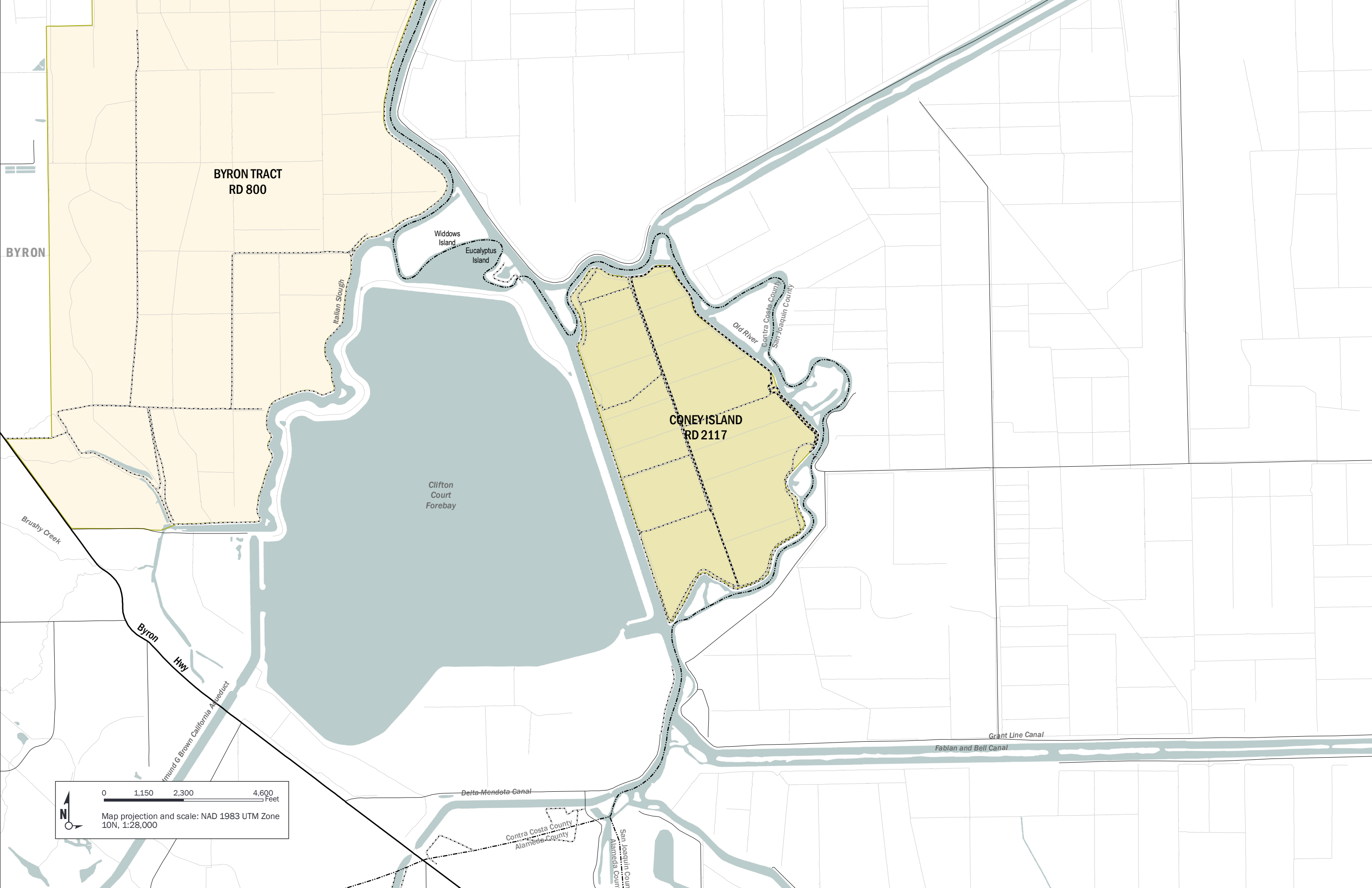
- Ferry
- Potable Water Facility
- Solid Waste Facility
- Hazardous Material
- Communication Facility
- Waster Water Facility
- Natural Gas Facility
- UG — UG — Underground Power Line
- Transmission Line
- UG — UG — Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:40,400

Coney Island RD 2117





BYRON TRACT
RD 800

BYRON

Widdows
Island
Eucalyptus
Island

Italian Slough

Clifton
Court
Forebay

CONEY ISLAND
RD 2117

Old River
Contra Costa County
San Joaquin County

Brushy Creek

Byron
Hwy

Edmund G. Brown California Aqueduct

Delta Mendota Canal

Contra Costa County
Alameda County

San Joaquin County
Alameda County

Grant Line Canal

Fabian and Bell Canal

N

0

1,150

2,300

4,600

Feet

Map projection and scale: NAD 1983 UTM Zone 10N, 1:28,000

A.1. MONITORING

Critical gauges may be accessed on the internet at m.waterdata.usgs.gov or water.weather.gov

The QR codes presented at the right and below can be scanned on a mobile device with any QR code scanning application to link the user directly to the web addresses shown above.

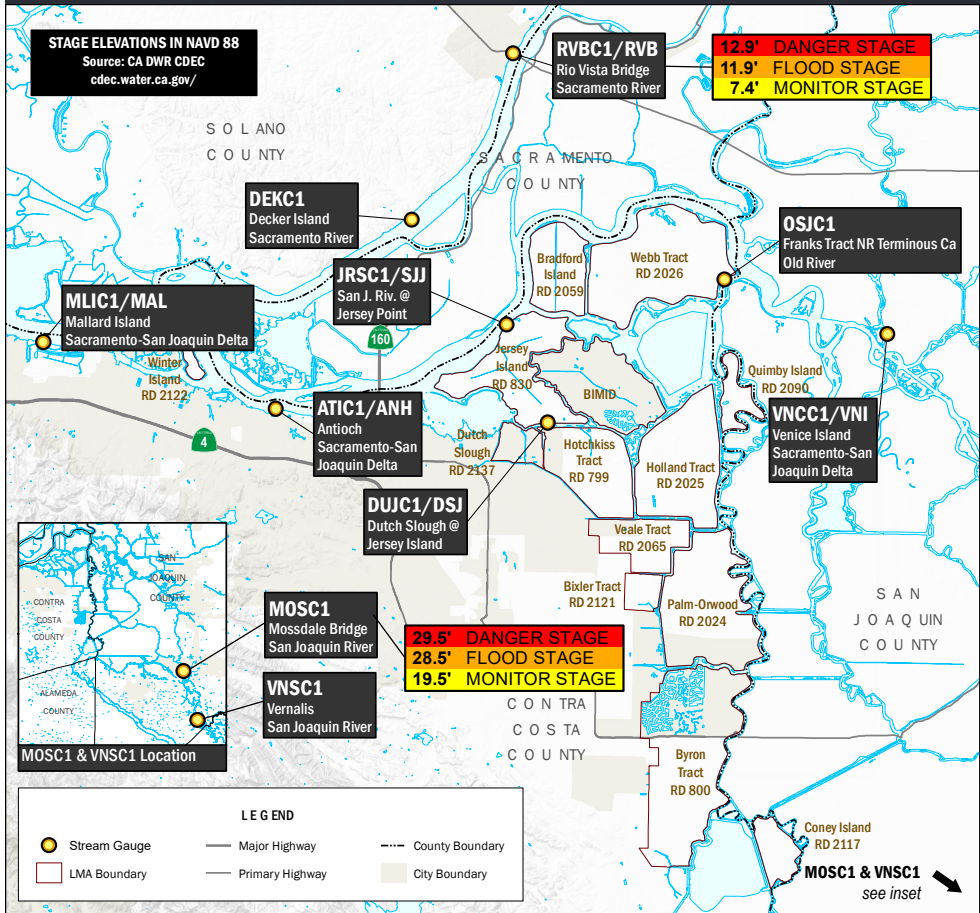
Individual live gauge charts can be accessed via the QR codes below, while the USGS Mobile Water Data web application can be accessed via the QR code to the right.

USGS Mobile Water Data



SACC1/IST I Street Bridge	RVBC1/RVB Rio Vista Bridge	DEKC1 Decker Island
MLIC1/MAL Mallard Island	JRSC1/SJJ SJ Riv. @ Jersey Pt	OSJC1 Franks Tract, Terminous
ATIC1/ANH Antioch	DUJC1/DSJ Dutch Slough @ Jersey Island	MOSC1/MSD Mossdale Bridge

A.2. PATROL TRIGGER



B.1. STAGING AREAS

The following sites have been identified for use as staging areas for incoming resources.

LARGE EQUIPMENT STAGING LOCATION

Open space at residence on southeast Coney Island along Old River.
37°50'38.01391800"N, 121°32'18.45090240"W

LARGE EQUIPMENT STAGING LOCATION

Yard on east side of island on Old River.
37°50'54.65773680"N, 121°32'30.04343160"W

WEST STAGING

Open yard/field on west side of island along West Canal.
37°50'53.38120200"N, 121°33'29.28530880"W

B.2. SUPPLY DELIVERY LOCATION

The following sites have been identified for use as supply delivery points for incoming resources.

SOUTH EAST RESIDENCE

Delivery point at residence on southeast levee. Delivery via levee road bridge or boat dock.
37°50'36.56591160"N, 121°32'17.61732600"W

B.3. STOCKPILE RESOURCES

The following sites have been identified as pre-existing earthen material/fill material stockpiles.

EARTHEN MATERIAL

Stockpile on southwest end of island at canal and Old River.
37°49'50.88644760"N, 121°33'08.59165200"W

EARTHEN MATERIAL

Stockpile on north end of island on Old River.
37°51'30.16478880"N, 121°33'08.38685520"W

EARTHEN MATERIAL

Stockpile on southeast end of island on Old River.
37°50'23.58802320"N, 121°32'22.94079720"W

B.4. FLOOD FIGHT RESOURCES

The following sites are designated equipment resources in a flood fight scenario.

EAST OLD RIVER

DWR recommended flood fight materials at yard on east side of island on Old River.
37°50'55.82278680"N, 121°32'30.95172960"W

B.5. HAZMAT LOCATIONS

The following sites have been identified as containing hazardous materials.

No Known HazMat Locations in Map Extent

C.1. COMMUNICATIONS SUPPORT

COUNTY OFFICES

CONTRA COSTA COUNTY SHERIFF'S OFFICE/DEPARTMENT

Evacuation
925.335.1500, Information
925.646.2441, Emergency

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT

Evacuation/Rescue
925.941.3330

CONTRA COSTA COUNTY OFFICE OF EMERGENCY SERVICES

CCC OES
925-228-5000, 24-HOUR

CONTRA COSTA COUNTY PUBLIC WORKS DEPARTMENT

Debris Management
925.427.8562

COUNTY ICS/EOC OPS

CONTRA COSTA COUNTY

925.646.4461, Office
925.228.5000, 24-Hour

SAN JOAQUIN COUNTY

209.953.6200, Office,
209.468.4400 Emergency

YOLO COUNTY

530.406.4930, Office
530.666.8920 24-Hour

SACRAMENTO COUNTY

916.874.4670, Office
916.875.5000, Night
916.875.6900, Night

SOLANO COUNTY

707.784.1600, Office
707.421.7090, Night

RESPONSE SUPPORT

AMERICAN RED CROSS

Sheltering
800.733.2767

DWR STATE-FEDERAL FLOOD OPERATIONS CENTER

Coordination for Support
916.574.2619

CALTRANS

Evacuation/Bridge Support
916.654.2852

CALIFORNIA CONSERVATION CORPS

Environmental/Disaster Response
916.341.3100

LMA CONTACTS

BIXLER TRACT (RD 2121)

Tom Bloomfield
925.550.5540

BYRON TRACT (RD 800)

Jeff Conway
925.584.8542 Bus.

HOTCHKISS TRACT (RD 799)

Dina Holder
925.684.2398

QUIMBY ISLAND (RD 2090)

Al Warren Hoslett
209.943.5551, Bus.

BIMID

Regina Espinosa
925.684.2210
Lawrence Martins
925.383.8310

CONEY ISLAND (RD 2117)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus. Cell

JERSEY ISLAND (RD 830)

Chad Davidson
925.625.2279
ER Contact
925.727.2938

VEALE TRACT (RD 2065)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

BRADFORD ISLAND (RD 2059)

Dominick Gulli
209.478.6525
Bus. 209.649.4555, Bus. Cell

DUTCH SLOUGH (RD 2137)

Nate Hershey
916.456.4400

PALM-ORWOOD TRACT (RD 2024)

Dante Nomellini
209.465.5883, Bus.
809.969.7755, Bus Cell

HOLLAND TRACT (RD 2025)

David A. Forkel
925.932.0251
925.693.9977

WEBB TRACT (RD 2026)

Al Warren Hoslett
209.943.5551, Bus.

WINTER ISLAND (RD 2122)

Robert Calone
925.432.3300



Coney Island

RD 2117

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate Highway Major Road Local Road Trail, Major Trail

LEVEE INFORMATION

1000-Foot Levee Stationing
Levee Centerline

- Tide Gate
- Levee Access Point
- Historic Levee Breach
- Levee Erosion
- Levee Seepage
- Agricultural Return Drain/Siphon
- Levee Crossing

RESPONSE INFORMATION

- Structure T (type) [A - Agricultural; R - Residential; S - Seasonal; U - Unknown] # (count) - [Approx. Structure Count]
- Boat Landing
- Supply Delivery Point
- Field Stockpile
- Flood Fight Material
- Supply Staging

REFERENCE INFORMATION

- Fire Station
- Home Care
- Ferry
- Hazardous Material
- School
- Ag. Worker Camp
- Dam
- Underground Power Line
- Transmission Line
- Underground Gas Line
- County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:14,200

FLOOD CONTINGENCY PLANNING INFORMATION

A.1. SPECIAL FLOOD CONSIDERATIONS

C1 - CONEY ISLAND
Coney Islands surrounded to the west by the Clifton Court Forebay West Canal and to the east by Old River. The Clifton Court Forebay West Canal conveys water supply to the Clifton Court Forebay tide gates. Coney Island’s western perimeter levee is the eastern bank for the West Canal. The Western Canal levees on the Coney Island embankments have been reported to have scour in a few locations from station 130+00 to 200+00.

C2 - CLIFTON COURT FOREBAY DAILY OPERATIONS
During actual daily project operations, data are transmitted hourly to DWR and Reclamation hydrometeorological systems in their water management control centers in Sacramento. These data consist of river flows, tides, salinity, and wind speed/direction at various Delta locations. If the data indicate a significant deviation from the planned conditions, one or more of the three following operational changes can be implemented: (1) adjust project reservoir releases, (2) adjust Delta export levels, and (3) close or open the Delta Cross Channel gates. Reservoir releases are most effective for meeting Sacramento River salinity criteria or Delta outflow criteria. San Joaquin River salinity criteria (most frequently at Jersey Point) are most effectively met by adjusting the amount of export pumping.

C3 - OLD RIVER SCOUR
Clifton Court Forebay is located directly west across Western Canal from Coney Island and pumps a large amount of water to Southern California. The pumping of enormous volumes of water has caused severe scouring of the river bottom, which possibly will cause an increase in seepage volumes and locations as well as an increase in waterside levee erosion over time. Current depths along the Western Canal from Levee STA. 130+00 to 200+00 is roughly 30-40 FT.

C4 - DISTRICT PUMP VULNERABILITIES
Coney Island pumping stations are below 100-year flood elevation. If a levee breach is imminent, efforts to protect the pump stations should be evaluated.

C5 - ACCESS TO CONEY ISLAND
Only ground access to Coney Island is through RD #2. In the event of flooding of RD 0002, an emergency access plan would be needed to provide Coney Island with flood fight supplies and other emergency needs.

C6 - UTILITY INFRASTRUCTURE WARNING
High voltage electrical transmission lines cross the Island NW through the middle of the Island.

C7 - STATE WATER PROJECT REVERSE FLOW
State Water Projects (SWP) reverse flow in Old River and West Canal have been known to scour RD 2117 levees. Reverse flows are also creating sediment accretion on outside bends in Old River that reduce channel capacity and marine navigational capability.

C8 - HMP LEVEE CRITERIA
RD 2117 meets its certification status based on Hazard Mitigation Plan (HMP) criteria for levee geometry.

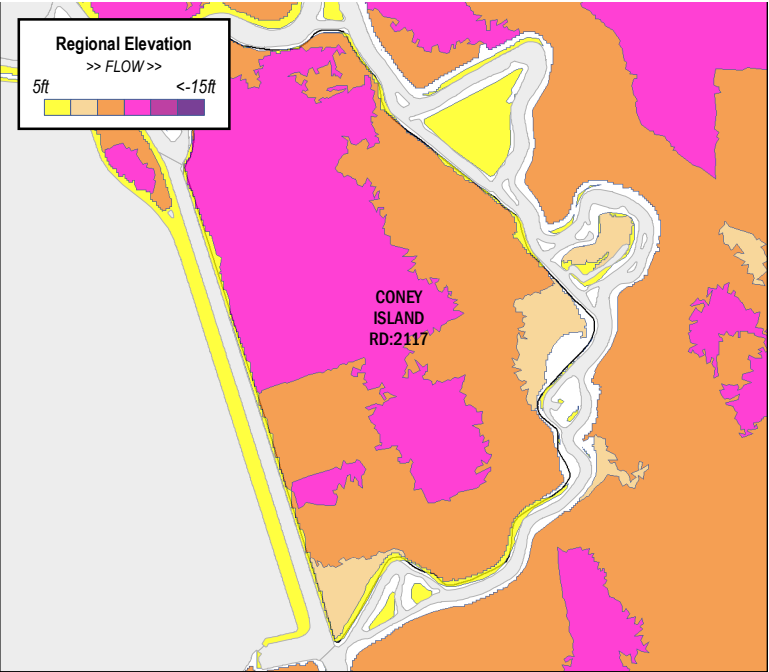
C9 - ISLAND AGRICULTURE AND INFRASTRUCTURE
The District consists of 933 acres of high value agricultural use. Other infrastructure includes Western Area Power Administration (WAPA) power lines.

C10 - STRUCTURES AND POPULATION
RD 2117 protects a single residence and labor housing.

LOCAL TOPOGRAPHY

The general elevation ranges are shown by shading within the levee maintenance area below. General areas of high ground and low ground can be derived from the mapping presented below. Large floods, or a dam failure, could result in extreme flood depths. Flood depths may also be significantly greater in depressions such as channels or road cuts or next to obstructions such as railroad embankments. Flood depths may also be significantly less, depending on individual variations in terrain or where structures are raised above general ground elevation.

MAP DATA SOURCE: DRMS Risk Report [URS/JBA 2008c]



B.1. FLOOD CONTINGENCY OPTIONS

C1 - HIGH WATER EVENT
Multiple high water events caused by large volumes of discharge from regional and local drainage system, coupled with tides and low atmospheric pressure. Vulnerable area approx. 2,000 FT. Muscle wall or temporary earthen levee is recommended.
ACTIONS
1. Activate workforce for levee patrols - regular scheduled levee patrols depending on the severity of the event. 2. Deploy flood fight materials to prevent levee degradation. Prepare resources for temporary earthen levee or muscle wall (utilize borrow material on site, if necessary). Muscle Wall Material Required: 2000 feet of temporary levee will require approximately 334 segments of muscle wall, 3340 sandbags, and 1670 cubic feet of sand. OR Temporary Earthen Levee Material Required: 2000 feet of temporary earthen levee (2ft high x 4ft wide) will require approximately 40 rolls of 10 mil plastic sheeting, 600 sandbags, and 90 cubic yards of fill. Approximately 11.1 cubic yards of fill for sand bags and 78.9 cubic yards of fill for Visqueen fill.

NOTE: This is a hypothetical flood contingency option based on DWR’s flood fight methods to calculate material needs based on a given length of levee vulnerability.

C. REPAIR CONTRACTORS & MATERIAL SUPPLIERS

FLOOD FIGHT LABOR		
Labor Ready Sacramento 916.374.9501	Labor Ready Concord 925.827.2352	Labor Ready Oakland 510.981.8226

REPAIR CONTRACTORS			
Dutra Group 160 River Rd, Rio Vista, CA 707.374.5127	Teichert Construction 24207 County Rd 100A, Davis, CA 530.406.4200	Teichert Construction 4401 Duluth Ave, Roseville, CA 916.645.4800	Teichert Corporate Office 3500 American River Dr, Sacramento, CA 916.484.3011

MATERIALS SUPPLIERS		
Dutra Materials 615 River Rd, Rio Vista, CA 707.374.6964	Teichert Aggregates 4249 Hammonton Smartville Rd, Marysville, CA 530.743.6111	Teichert Aggregates 8760 Kiefer Blvd, Sacramento, CA 916.386.6905
Dutra Materials 1000 Point San Pedro Rd, San Rafael, CA 415.459.7740	Teichert Aggregates 3331 Walnut Ave, Marysville, CA 530.749.1230	Teichert Aggregates 35030 County Rd 20, Woodland, CA 530.661.4290
Syar Industries 16560 County Rd 89, Esparto, CA 530.787.2020	Teichert Aggregates 3417 Grant Line Rd, Rancho Cordova, CA 916.351.0123	Teichert Ready Mix 8950 Cal Center Dr, #165, Sacramento, CA 916.361.5000
Syar Industries 885 Lake Herman Rd, Vallejo, CA 707.643.3261	Teichert Aggregates 13333 White Rock Rd, Rancho Cordova, CA 916.985.2052	

LOCAL SUPPLY PROVIDERS		
Ace Hardware Antioch 501 Sunset Dr, Antioch, CA 925.757.2500	Ace Hardware Pittsburg 125 E Leland Rd, Pittsburg, CA 925.432.6089	Home Depot Brentwood 5631 Lone Tree Way, Brentwood, CA 925.513.6060
Ace Hardware Brentwood 8900 Brentwood Blvd, Ste J, Brentwood, CA 925.634.3201	Lowe's Antioch 1951 Auto Center Dr, Antioch, CA 925.756.0370	Home Depot Pittsburg 2300 N Park Blvd, Pittsburg, CA 925.473.1900
Ace Hardware Oakley 305 5th St, Oakley, CA 925.625.2449	Lowe's Antioch 5503 Lone Tree Way, Antioch, CA 925.779.6060	

Coney Island

RD 2117

The symbology presented in the legend below is global to the project area, some symbols may not be present on map

TRANSPORTATION

Gate

ROADS

Interstate

Highway

Major Road

Local Road

Trail, Major

Trail

FLOOD CONTINGENCY OPTIONS

Flood Contingency Option

Special Flood Consideration

LEVEE INFORMATION

1000-Foot Levee Stationing

Levee Centerline

Tide Gate

Agricultural Return Drain/Siphon

Levee Access Point

Levee Crossing

RESPONSE INFORMATION

Structure

T (type)
[A - Agricultural; R - Residential; S - Seasonal; U - Unknown]
(count) - [Approx. Structure Count]

Boat Landing

Command Post

Supply Delivery Point

Command Post Secondary

Field Stockpile

Pump Station

Flood Fight Material

Pump Station Agricultural

Helispot

Supply Staging

REFERENCE INFORMATION

Ferry

Communication Facility

Potable Water Facility

Waster Water Facility

Solid Waste Facility

Natural Gas Facility

Hazardous Material

Underground Power Line

Transmission Line

Underground Gas Line

County Boundary



Map projection and scale:
NAD 1983 StatePlane California III FIPS 0403 Feet, 1:14,200

Flood Fight Information

Source
Emergency Flood Fighting Methods; Rick Burnett and Elizabeth Bryson; State of California, California Natural Resources Agency, Department of Water Resources; Division of Flood Management, Flood Operations Branch, August 2010.

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 (visqueen), 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.
- 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. 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.

Passing Sandbags

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

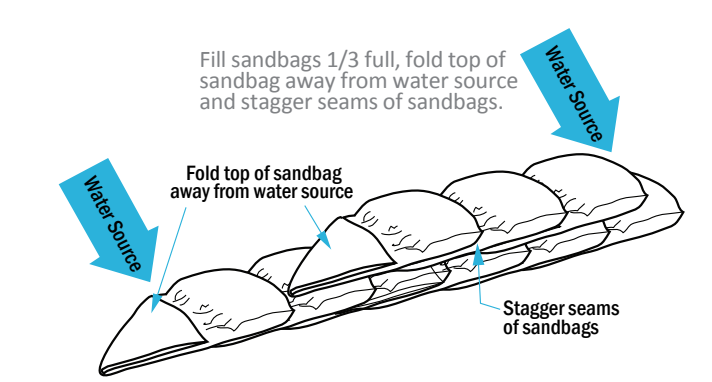
The line is formed by standing facing the next person and slightly off set. The bags are passed down the center of the chain.

Sandbag Construction

The use of sandbags is a simple but effective method of preventing or reducing damage from floodwater and debris. 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 CONSTRUCTION



Control of Overtopping

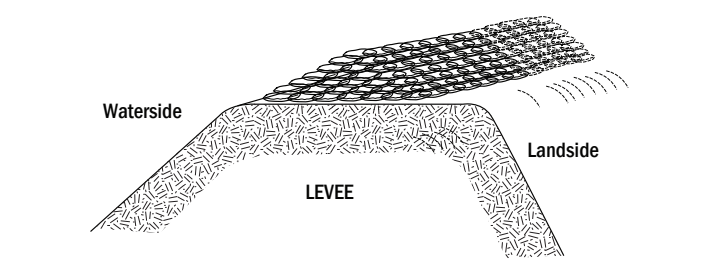
If any levee reach or stream bank is lower than the anticipated high water elevation, an emergency topping should be constructed to raise the grade above the forecast flood height. A sack topping may be required at road or stock crossings, low levee sections, or railroad crossings. The following sections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

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. 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.

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 flow. 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.

Control of Boils (Away from Levee)

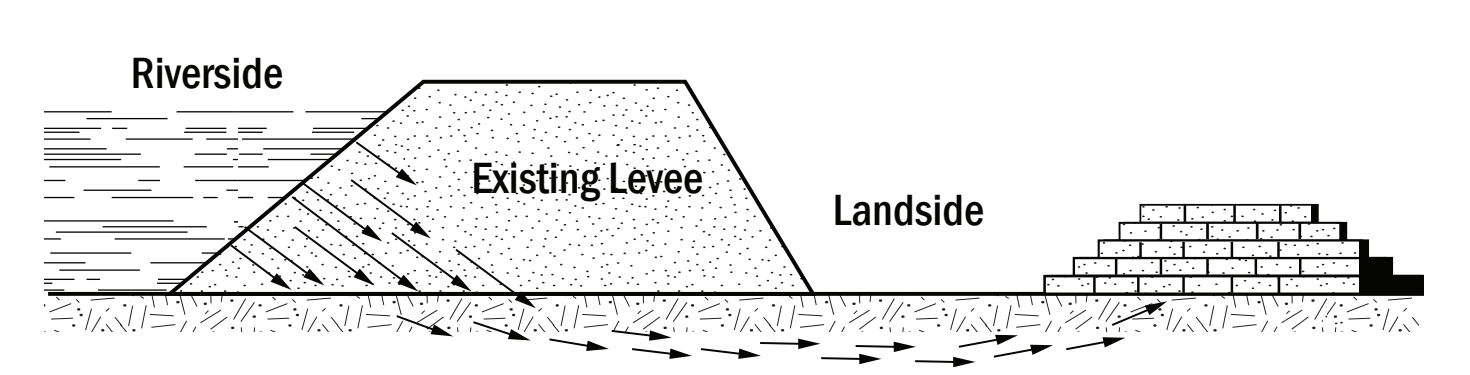
A boil is a condition that occurs when water is “piped” through or under a levee and resurfaces on the landside. These weak points are generally caused by burrowing rodents or decomposed tree roots. High water pressure can begin to erode the interior of the levee and weaken the structure. Levee material 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.

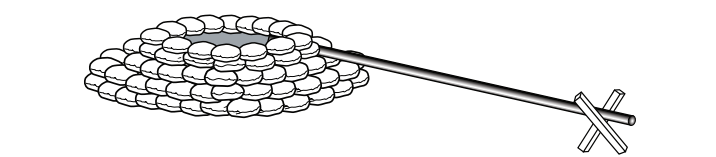
The common method for controlling a boil is to create a watertight sack ring around it. The sandbag structure should be high enough to slow the velocity of the water and prevent further discharge of material from the boil. The flow of water should never be stopped completely, since this may cause the 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.

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.

FLOW OF WATER THROUGH LEVEE



BOIL SACK RING



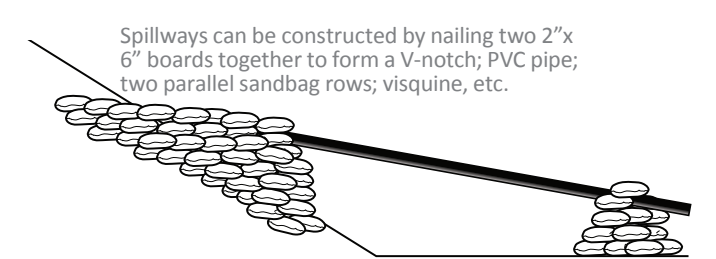
Control of Boils (On Levee Slope)

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.

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. 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.

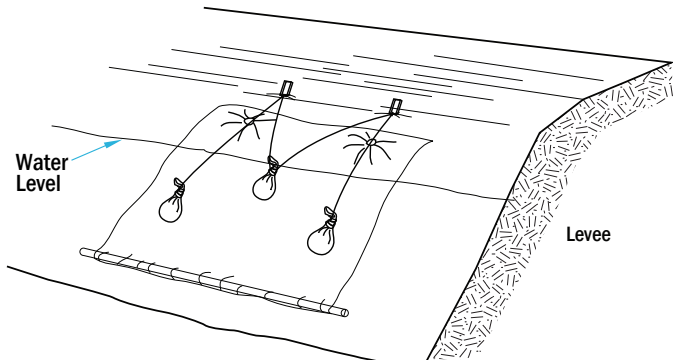
SPILLWAY



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.

WATERSIDE BOIL PROTECTION



Envelope Method

When used correctly, plastic sheeting is useful for wavewash protection. Visqueen 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.

Avoid driving stakes in a straight line; this can 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.

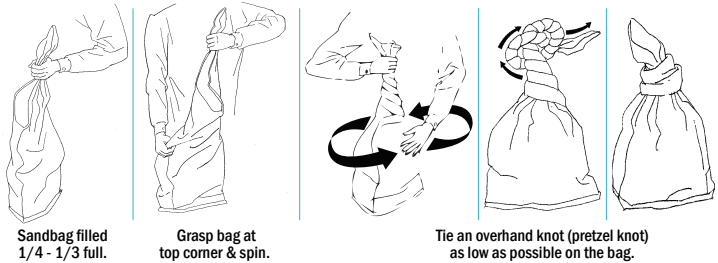
When rolling out the plastic sheeting it is helpful to use a shovel or similar long-handled tool. Eight to ten people should assist in shaking out the folds of the envelope. Be sure that both layers are held while the envelope is shaken out. Hold on tight! Use caution in strong winds. If the wind catches 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 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 visqueen. If a stone is used, tie a slip knot and double half-hitch to secure it. Fasten buttons to the visqueen and tie off to the stakes using a minimum 250 lb. tensile strength twine with these points in mind: 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. 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 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. 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. 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



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.

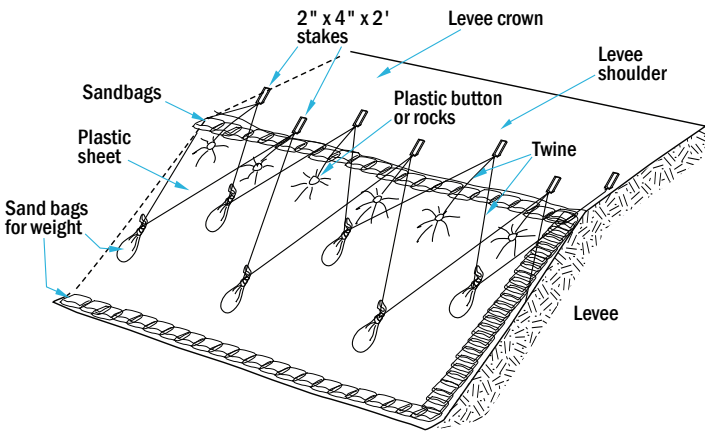
Raincoat Method

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. Use a crisscross method of placing the sandbags 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.

RAINCOAT METHOD



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.

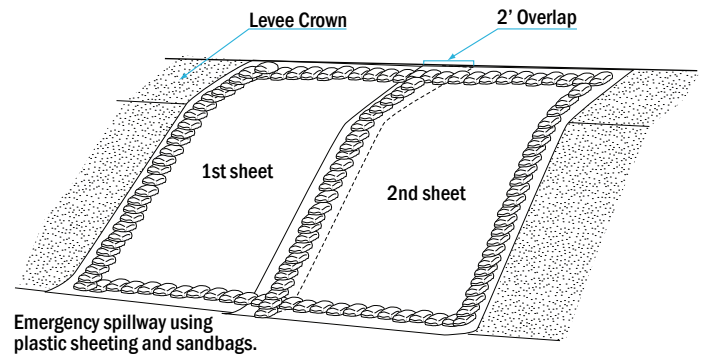
Diverting Water or Debris Flows Away from Structures

Homes and structures can be protected from floodwater or debris flows by redirecting the flow. 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.

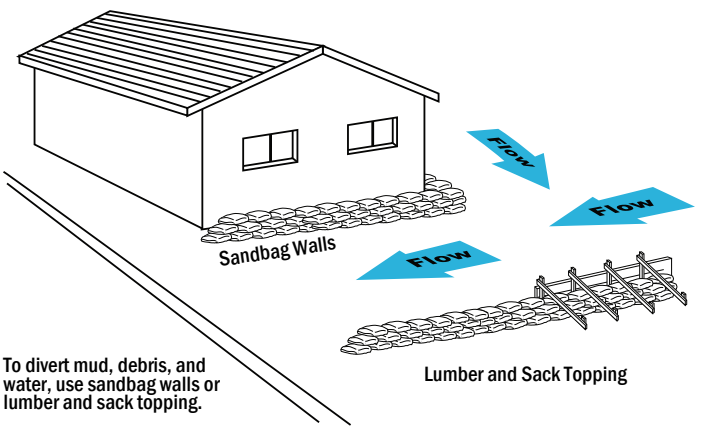
Structure Protection

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. Secure plywood over doors and vents. Overlap plastic sheeting and sandbags at corners of buildings.

EMERGENCY SPILLWAY



STRUCTURE PROTECTION



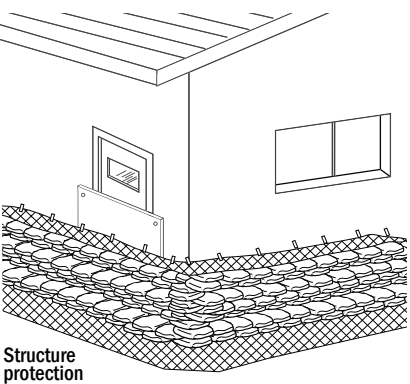
Wet Flood Proofing Requirements for Structures

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.

Water / Storm Drain Protection

Water or sewer systems can be protected by placing corrugated metal pipe (CMP) over the utility hole. 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.

HOME PROTECTION



Flood Fight Information Materials Calculators

MATERIALS CALCULATORS

SACK TOPPING

The most common form of flood control work is using sandbags to construct temporary walls. The use of sandbag walls to increase the height of a levee section is called "sack topping." The sacks are laid as "stretcher rows," or along the levee. The sacks should overlap by at least one-third of the bag and be stomped firmly into place. When properly placed and compacted, one sack layer will provide about 3 to 4 inches of topping.

NECESSARY MATERIAL FOR 100 FEET OF

LEVEE PROTECTION:

- Sandbags
- 600 – 1 foot high x 100 linear feet
- 2,100 – 2 feet high x 100 linear feet
- 4,500 – 3 feet high x 100 linear feet
- 7,800 – 4 feet high x 100 linear feet
- Sand or similar earthen material (0.5 cubic feet per sandbag)
- 300 cubic feet – 1 foot high x 100 linear feet
- 1,050 cubic feet – 2 feet high x 100 linear feet
- 2,250 cubic feet – 3 feet high x 100 linear feet
- 3,900 cubic feet – 4 feet high x 100 linear feet
- LABOR:**
- 3-person team fills 2 bags per minute average over an hour, or 120 bags per hour.
- 5 hours – 1 foot high x 100 linear feet
- 17.5 hours – 2 feet high x 100 linear feet
- 37.5 hours – 3 feet high x 100 linear feet
- 65 hours – 4 feet high x 100 linear feet

MUSCLE WALL TEMPORARY LEVEE (2-FOOT WALL)

Muscle Walls are water-filled, rigid, molded plastic containers that are interlocked on site by manually lifting a container's tongue end over the groove end of another container and sliding them together. Each container is 6 feet long, 2 feet high, and 2.5 feet wide and provides an impervious water barrier (apron and wall). The minimum footprint is 10 feet of width to accommodate a 4-foot apron, the barricade, and a 4-foot monitoring and seepage management area. This is designed for even and firm terrain with minor seepage on impervious surfaces.

NECESSARY MATERIAL FOR 100 FEET OF

LEVEE PROTECTION:

- 10 sandbags for every section of Muscle Wall
- Gloves
- 500-1,000 feet of string
- Trash pump
- Forklift
- Lifting dolly
- Gorilla tape
- Pressure washer
- Foam sealant (for - impervious surface)
- 2 razor knives
- Trencher
- Shovels
- 200-foot measuring tape
- Marking paint
- 2 sledgehammers

ENVELOPE WAVE WASH PROTECTION

When used correctly, plastic sheeting is useful for wave wash protection. Visqueen should be purchased in 10-mil rolls, 20 feet wide by 100 feet long. Drive 1-inch x 3-inch x 2-foot wooden stakes 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. Avoid driving stakes in a straight line; this can 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-inch) 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. While flood workers hold the plastic securely, toss tied sandbags into the bottom of the envelope, with a 1-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 Visqueen. If a stone is used, tie a slipknot and double half-hitch to secure it. Fasten buttons to the Visqueen and tie off to the stakes using a minimum 250-lb. tensile strength twine with these points in mind: the 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 the plastic sheeting.

NECESSARY MATERIAL FOR 100 FEET OF

LEVEE PROTECTION:

- 2 rolls (20 feet x 100 feet) of 10 mil plastic sheeting
- 30 sandbags
- 2 rolls twine
- 10 plastic buttons or rocks
- 20 1-inch x 3-inch x 2-foot stakes
- 15 cubic feet of sand or similar earthen material

TEMPORARY EARTHEN LEVEE

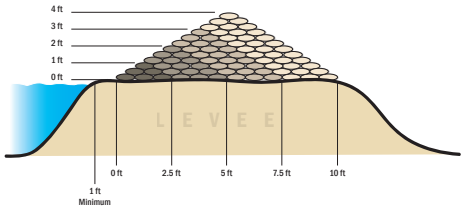
This method is used to raise low areas during high water periods to prevent overtopping of levees, stream and riverbanks, small earthen dams, roadways, etc. To raise low areas, unfold a 20-foot x 100-foot x 10-mil roll of plastic sheeting and lay it out flat on the area to be raised. Place fill material on the plastic. Fold the plastic over the material, and lay a single row of sandbags on the backside lip of the plastic and on all seams. Fill material can be placed using a bottom dump or dump bed truck or a front-end loader, or manually.

NECESSARY MATERIAL FOR 100 FEET OF

LEVEE PROTECTION:

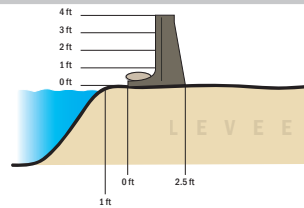
- 2 rolls of 10-mil plastic sheeting
- 4.5 cubic yards of earthen material
- 30 sandbags

SACK TOPPING



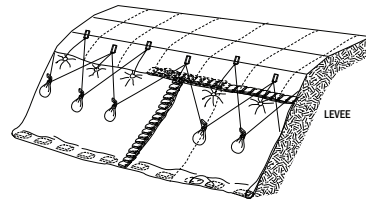
Linear Feet	<i>1' h x 2.5' w cross section</i>			<i>2' h x 5' w cross section</i>			<i>3' h x 7.5' w cross section</i>			<i>4' h x 10' w cross section</i>		
	1-foot height			2-foot height			3-foot height			4-foot height		
	Sand Bags (#)	Fill (ft ³)	Labor (Hours)	Sand Bags (#)	Fill (ft ³)	Labor (Hours)	Sand Bags (#)	Fill (ft ³)	Labor (Hours)	Sand Bags (#)	Fill (ft ³)	Labor (Hours)
50	300	150	2.5	1,050	525	8.8	2,250	1,125	18.8	3,900	1,950	32.5
100	600	300	5.0	2,100	1,050	17.5	4,500	2,250	37.5	7,800	3,900	65.0
150	900	450	7.5	3,150	1,575	26.3	6,750	3,375	56.3	11,700	5,850	97.5
200	1,200	600	10.0	4,200	2,100	35.0	9,000	4,500	75.0	15,600	7,800	130.0
250	1,500	750	12.5	5,250	2,625	43.8	11,250	5,625	93.8	19,500	9,750	162.5
300	1,800	900	15.0	6,300	3,150	52.5	13,500	6,750	112.5	23,400	11,700	195.0
350	2,100	1,050	17.5	7,350	3,675	61.3	15,750	7,875	131.3	27,300	13,650	227.5
400	2,400	1,200	20.0	8,400	4,200	70.0	18,000	9,000	150.0	31,200	15,600	260.0
450	2,700	1,350	22.5	9,450	4,725	78.8	20,250	10,125	168.8	35,100	17,550	292.5
500	3,000	1,500	25.0	10,500	5,250	87.5	22,500	11,250	187.5	39,000	19,500	325.0
550	3,300	1,650	27.5	11,550	5,775	96.3	24,750	12,375	206.3	42,900	21,450	357.5
600	3,600	1,800	30.0	12,600	6,300	105.0	27,000	13,500	225.0	46,800	23,400	390.0
650	3,900	1,950	32.5	13,650	6,825	113.8	29,250	14,625	243.8	50,700	25,350	422.5
700	4,200	2,100	35.0	14,700	7,350	122.5	31,500	15,750	262.5	54,600	27,300	455.0
750	4,500	2,250	37.5	15,750	7,875	131.3	33,750	16,875	281.3	58,500	29,250	487.5
800	4,800	2,400	40.0	16,800	8,400	140.0	36,000	18,000	300.0	62,400	31,200	520.0
850	5,100	2,550	42.5	17,850	8,925	148.8	38,250	19,125	318.8	66,300	33,150	552.5
900	5,400	2,700	45.0	18,900	9,450	157.5	40,500	20,250	337.5	70,200	35,100	585.0
950	5,700	2,850	47.5	19,950	9,975	166.3	42,750	21,375	356.3	74,100	37,050	617.5
1,000	6,000	3,000	50.0	21,000	10,500	175.0	45,000	22,500	375.0	78,000	39,000	650.0
1,050	6,300	3,150	52.5	22,050	11,025	183.8	47,250	23,625	393.8	81,900	40,950	682.5
1,100	6,600	3,300	55.0	23,100	11,550	192.5	49,500	24,750	412.5	85,800	42,900	715.0
1,150	6,900	3,450	57.5	24,150	12,075	201.3	51,750	25,875	431.3	89,700	44,850	747.5
1,200	7,200	3,600	60.0	25,200	12,600	210.0	54,000	27,000	450.0	93,600	46,800	780.0
1,250	7,500	3,750	62.5	26,250	13,125	218.8	56,250	28,125	468.8	97,500	48,750	812.5
1,300	7,800	3,900	65.0	27,300	13,650	227.5	58,500	29,250	487.5	101,400	50,700	845.0
1,350	8,100	4,050	67.5	28,350	14,175	236.3	60,750	30,375	506.3	105,300	52,650	877.5
1,400	8,400	4,200	70.0	29,400	14,700	245.0	63,000	31,500	525.0	109,200	54,600	910.0
1,450	8,700	4,350	72.5	30,450	15,225	253.8	65,250	32,625	543.8	113,100	56,550	942.5
1,500	9,000	4,500	75.0	31,500	15,750	262.5	67,500	33,750	562.5	117,000	58,500	975.0

MUSCLE WALL
TEMPORARY LEVEE



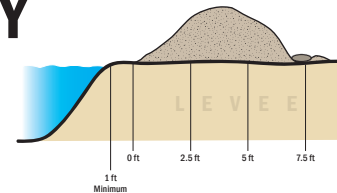
Linear Feet	MUSCLE WALL Segments (#)	Sand Bags (#)	Fill (ft ³)
50	9	90	45
100	17	170	85
150	25	250	125
200	34	340	170
250	42	420	210
300	50	500	250
350	59	590	295
400	67	670	335
450	75	750	375
500	84	840	420
550	92	920	460
600	100	1,000	500
650	109	1,090	545
700	117	1,170	585
750	125	1,250	625
800	134	1,340	670
850	142	1,420	710
900	150	1,500	750
950	159	1,590	795
1,000	167	1,670	835
1,050	175	1,750	875
1,100	184	1,840	920
1,150	192	1,920	960
1,200	200	2,000	1,000
1,250	209	2,090	1,045
1,300	217	2,170	1,085
1,350	225	2,250	1,125
1,400	234	2,340	1,170
1,450	242	2,420	1,210
1,500	250	2,500	1,250

ENVELOPE WAVE
WASH PROTECTION



Linear Feet	10 MIL PLASTIC Sheeting (# Rolls)	Sand Bags (#)	Fill (ft ³)	TWINE Rolls (#)	Plastic Buttons	Stakes
50	1	15	8	1	5	10
100	2	30	15.0	2	10	20
150	3	45	22.5	3	15	30
200	4	60	30.0	4	20	40
250	5	75	38	5	25	50
300	6	90	45.0	6	30	60
350	7	105	52.5	7	35	70
400	8	120	60.0	8	40	80
450	9	135	67.5	9	45	90
500	10	150	75	10	50	100
550	11	165	82.5	11	55	110
600	12	180	90.0	12	60	120
650	13	195	97.5	13	65	130
700	14	210	105.0	14	70	140
750	15	225	113	15	75	150
800	16	240	120.0	16	80	160
850	17	255	127.5	17	85	170
900	18	270	135.0	18	90	180
950	19	285	142.5	19	95	190
1,000	20	300	150	20	100	200
1,050	21	315	157.5	21	105	210
1,100	22	330	165.0	22	110	220
1,150	23	345	172.5	23	115	230
1,200	24	360	180.0	24	120	240
1,250	25	375	188	25	125	250
1,300	26	390	195.0	26	130	260
1,350	27	405	202.5	27	135	270
1,400	28	420	210.0	28	140	280
1,450	29	435	217.5	29	145	290
1,500	30	450	225	30	150	300

TEMPORARY
EARTHEN
LEVEE



Linear Feet	10 MIL PLASTIC Sheeting (# Rolls)	Sand Bags (#)	Fill (yard ³)
50	1	15	2
100	2	30	4.5
150	3	45	6.8
200	4	60	9.0
250	5	75	11
300	6	90	13.5
350	7	105	15.8
400	8	120	18.0
450	9	135	20.3
500	10	150	23
550	11	165	24.8
600	12	180	27.0
650	13	195	29.3
700	14	210	31.5
750	15	225	34
800	16	240	36.0
850	17	255	38.3
900	18	270	40.5
950	19	285	42.8
1,000	20	300	45
1,050	21	315	47.3
1,100	22	330	49.5
1,150	23	345	51.8
1,200	24	360	54.0
1,250	25	375	56
1,300	26	390	58.5
1,350	27	405	60.8
1,400	28	420	63.0
1,450	29	435	65.3
1,500	30	450	68

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Contra Costa County

LOCAL FLOOD SAFETY PLAN

Levee Maintaining Agency Mapbook