FLOODPLAIN HYDRAULICS STUDY

TO: Ms. Monika Pedigo, P.E., California Department of Transportation
Mr. Joey Morrison, P.E., California Department of Transportation

FROM: Mr. Cody L. Milligan, P.E., CFM, Wood Rodgers, Inc.

SUBJECT: EA 03-3H900: I-80 Managed Lanes Project, 04-SOL-80-40.7/R44.7; 03-YOL-80-0.00/R11.72; 03-YOL-50-0.00/3.12; 03-SAC-50-0.00/L0.617; 03-SAC-80-M0.00/M1.36 - Floodplain Hydraulics Study

DATE: July 16, 2021

INTRODUCTION

The California Department of Transportation (Caltrans) District 3, in collaboration with a variety of stakeholders, proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System elements along Interstate 80 (I-80) and United States Route 50 (US 50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US 50 in Sacramento County. Together, these improvements are referred to as the Project. **Attachment 1** shows the location of the Project. For illustration purposes, the Project consists of the following three segments:

- Segment 1 stretches from Kidwell Road on I-80 in eastern Solano County (PM 40.7), through Davis, to the eastern end of the Yolo Causeway just west of Enterprise Boulevard in West Sacramento (PM 9.0);
- Segment 2 starts just west of Enterprise Boulevard on I-80 (PM 9.0) and continues on I-80 to West El Camino Avenue (PM M1.4); and
- Segment 3 starts at the I-80/US 50 Separation (PM 0.0) and continues east along US 50 to I-5 near downtown Sacramento (PM L0.6).

The purpose of the Project is to improve multimodal mobility on the I-80 and US-50 corridors in Solano, Yolo, and Sacramento Counties. The Project will decrease congestion growth through the corridor and the effects congestion has on transit and freight and it will improve transit headway times, reliability, access, and viability through the corridor. The Project will also increase people throughput by increasing transit, bicycle/pedestrian, and carpool use. Additionally, the Project will also address non-recurrent congestion caused by incidents, including collisions, by improving incident detection, verification, response and clearing.

The Project Study Report-Project Development Support (PSR-PDS, dated 9/2019) had several project alternatives that were suggested for Project Approval and Environmental Document (PA&ED) phase of the project development. Currently the Project is proceeding with eight separate PA&ED alternatives and one PSR-PDS alternative. A complete list of the alternatives is summarized below in **Table 1**.

Table 1 - Project Alternatives

PID Alternatives	PA&ED Project Alternatives		Managed Lane Type
No Build	Alt 1 (No Build)		No Build
Alt 1A	Rejected due to Cost, ROW & Env		Build Multi-purpose lane and widen to standard lane widths and shoulder widths in Each Direction
Alt 3	Alts 2-6	Alt 2	Build- 1 HOV 2 + Lane in Each Direction
		Alt-3	Build- 1 HOT 2+ Lane in Each Direction
		Alt-4	Build -1 HOT 3+ Lane in Each Direction
		Alt-5	Build- 1 Express Lane in Each Direction (Everyone Pays)
		Alt -6	Build -1 Transit Lane in Each Direction
No Build (because no change to existing footprint)	Alt 7		Build- Repurpose current #1 Lane to HOV 2+
Alt 3A	Alt 8		Build- 1 HOV 2+ Lane in Each Direction with I-80 HOV to HOV Connector Structure at the I-80/US 50 Interchange (same as Alt 2 but with new structure)
Alt 3B	Possible Add-on to all Alternatives		Construct bicycle lane and bicycle path along County Road 32A, including widening County Road 32A between County Road 105 and the existing west end of the Yolo Causeway Levee. Bicycle lane improvements would tie into the existing bike lane that goes onto the levee.

Alternatives 2 through 6 are anticipated to have similar floodplain impacts. Alternative 7 proposed no changes to existing pavement and is therefore anticipated to have no impacts to the floodplain with the exception of the proposed median concrete barrier on I-80 in and near the Yolo Causeway bridge (PM 0.21 - 4.3). Project improvement related to Alternative 8 are outside of the floodplain.

A complete list of the Project alternatives and the proposed scope of those alternatives are as follows:

- PSR-PDS Alternative 1A (Most impact area alternative with standard land and shoulder widths):
    - Kidwell Road to Solano/Yolo County Line - covert one (1) mixed flow lanes to managed lanes;
    - Solano/Yolo County Line to west end of the Yolo Causeway - pave median and widen to the outside to add managed lanes;
    - Yolo Causeway to east of Enterprise Boulevard - remove existing bike lane, restripe bridge to add managed lanes;
    - Construct separate pedestrian/bicycle bridge to the north of and separate from the existing Yolo Causeway (west and east) bridges;
    - East of Enterprise Boulevard and continuing on I-80 to West El Camino Avenue - add managed lanes by constructing a connector and striping managed lanes on paved median, construct a park-n-ride lot at Enterprise Boulevard, restripe Bryte Bend bridge to add managed lanes;
    - I-80/US 50 Separation to Jefferson Boulevard Undercrossing - convert mixed flow lanes to managed lanes;
    - Jefferson Boulevard Undercrossing to just east Interstate 5 - restripe pavement to add managed lanes.
- PA&ED Alternatives 2-6 (PSR-PDS Alternative 3): (Least impact alternative with minimal inside shoulders, standard lane widths and standard outside shoulders and minimal outside pavement widening):
    - Interim project, similar to PSR-PDS Alternative 1A except widen median only between Yolo County line and Yolo Causeway, no new bike/ped bridge or managed lane to managed lane connectors at the I-80/US 50 Interstate
- PA&ED Alternative 8 (PSR-PDS Alternative 3A):
    - Restripe the Yolo Causeway bridges to add a managed lane and keep existing bike/pedestrian path on north side of the bridges.
    - Install concrete median barrier on I-80 from Sol 80 PM R44.44 - R44.50 and Yolo 80 PM 0.21 - 4.3.

  - Includes Yolo 80 HOV to HOV Connector Structure at the I-50 Interchange

- Possible add-on to all Alternatives:
  - Includes addition of the Yolo County Road 32A bike path, west of the Yolo Causeway and north of Yolo 80.

PURPOSE

The purpose of this Floodplain Hydraulics Study (FHS) is to determine any potential impacts to the existing floodplain as a result of the proposed project, and document any mitigation of floodplain impacts. Additionally, it is to document the data sources, assumptions, and findings of the FHS prepared for the Project.

FLOODPLAIN ENCROACHMENT

The Project limits are depicted on the following Flood Insurance Rate Map (FIRM) panel numbers:

- 06067C0157J and 06067C0160J for Sacramento County, California and Incorporated Areas dated 06/16/2015.
- 0607280005B for City of West Sacramento, California, Yolo County dated 01/19/1995
- 06095C0075E and 06095C0100E for Solano County, California and Incorporated Areas dated 05/04/2009.
- 06113C0610G, 06113C0611G, 06113C0620G, and 06113C0630G for Yolo County, California and Incorporated Areas dated 06/18/2010.

These FIRM panels indicate that the Project limits are located in areas designated by the Federal Emergency Management Agency (FEMA) as Special Flood Hazard Area (SFHA) Zone A, SFHA Zone AE, and SFHA Zone 99A. Additionally, the Project limits are also located within areas designated by FEMA as Other Areas of Flood Hazard Zone X (both shaded and unshaded). FEMA uses Zone A to characterize areas subject to inundation by the 1-percent annual chance flood (100-year flood) where no Base Flood Elevations (BFEs) have not been determined. FEMA uses Zone AE to characterize areas subject to inundation by the 1-percent annual chance flood (100-year flood) where Base Flood Elevations have been determined. FEMA uses Zone A99 to characterize areas to be protected from the 1-percent annual chance flood by a Federal flood protection system under construction where no Base Flood Elevations have been determined. FEMA uses shaded Zone X to characterize areas of 0.2-percent annual chance flood (500-year flood); areas of 1-percent annual chance flood (100-year flood) with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1-percent annual chance flood (100-year flood). FEMA uses unshaded Zone X to characterize areas determined to

be outside of the 0.2-percent annual chance flood (500-year flood). The FEMA FIRM panels covering the Project limits have been included as **Attachment 2**.

Three of the Project features will be within a SHFA:

1. Shoulder widening within Segment 1 (from Sol 80 PM 40.7 - R44.7 and Yolo 80 PM 0.0 - 8.92) of the Project for all Project alternatives. Widening within Segment 1 will be within Zone A floodplains. This will be transverse encroachment into the floodplain and will be identical at each bridge location. The current scope of the project will not raise or change the profile of any of the highway within Segment 1, and it is anticipated that there will be no negative impacts to the FEMA mapped floodplain in this area.

2. The proposed separate pedestrian/bicycle bridge to the north of and separate from the existing Yolo Causeway (west and east) bridges for PSR-PDS Alternative 1A. This bridge will span the Yolo Bypass which has been mapped by FEMA as within Zone AE. It is anticipated that changes in water surface elevation within the Yolo Bypass will be minimal. However, due to this fact that this bridge will include piers located in an area mapped as Zone AE by FEMA, it is recommended that should PSR-PDS Alternative 1A be selected as the preferred alternative, a detailed modeling effort be undertaken during the design phase. This detailed modeling effort should quantify the exact changes to the floodplain and should recommend if that a Letter of Map Revision (LOMR) be pursued with FEMA.

3. The proposed concrete median barrier on I-80 in Yolo County from PM 0.21 - 4.3. At this location, I-80 is located within a Zone A floodplain. Due to the nature of Zone A, no BFEs have been established and the extents of flooding are approximate. A review was made of the FEMA Flood Insurance Study (FIS) for Yolo County to determine how the Zone A floodplain was developed in this area. The FIS states that: "Approximate analyses of "behind levee" flooding were conducted for all the levees in Table 7 to indicate the extent of the "behind levee" floodplains. Along the Sacramento River, Sacramento River Toe Drain, and Yolo Bypass, the area shown on the most recent FIRM (prior to this current revision) as protected by the levees was assumed to be the area that would be inundated by the 1% annual chance flood if the levees were to fail."

   As this location is behind the west levee of the Yolo Bypass, thus the floodplain was determined using the above methodology. Flooding at this location is likely due to a failure of the Yolo Bypass, upstream and/or downstream of I-80. Therefore, to determine the depth of flooding on I-80 from PM 0.21 - 4.3, the published BFE in the Yolo Bypass adjacent to the Project was utilized. An elevation of 29.5 was utilized to determined that this area of I-80 is completely submerged during the 100-year flood event, and will continue to be so after the construction of the proposed concrete median. As such it is anticipated that there will be no negative impacts to the FEMA mapped floodplain in this area.

ROADWAY FLOODING RECORD REVIEW

Mr. Daniel Roberts, Caltrans Maintenance Area Superintendent, (916-949-9929; daniel.roberts@dot.ca.gov) was contacted regarding any historical or localized flooding within the Project limits. Mr. Roberts reported that there are some existing drainage issues on Interstate 80 on either side of the Bryte Bend (Sacramento River) Bridge where the water is ponding away from the existing inlets and then flowing over the dikes and causing wash-outs. A focus meeting was held about this existing drainage issue and it was determined that project work to be conducted by the 03-2F250 and 03- 4F650 projects will correct the issue.

CENTRAL VALLEY FLOOD PROTECTION BOARD

Between PM 5.8 and 8.9, Interstate 80 crosses Yolo Bypass. The west and east levees of the Yolo Bypass, located at 5.8 and 8.9 respectively, are State Plan of Flood Control Levees and are part of the Sacramento River Flood Control Project. Consequently, the levees are under the jurisdiction of both the CVFPB and the United States Army Corps of Engineers (USACE). Engineer Circular 1165-2-220 dated September 10, 2018 states that the purpose of a Section 408 Permission is to demonstrate that any proposed work *"will not be injurious to the public interest and will not impair the usefulness of the civil works project"*. If that can be shown, then the Project can receive a Section 408 permission from the USACE and a CVFPB permit before construction begins.

Portions of the Project's proposed improvements classify the Project as falling under the jurisdiction of Section 408:

1. For PSR-PDS Alternative 1A, work related to the pedestrian/bicycle bridge on the landside of the west and east levees of the Yolo Bypass as well as within the waterway of the Yolo Bypass;
2. For the possible add-on alternative and the related bike path improvements on County Road 32A, rehabilitation of the existing bike path on the crown of the west levee of the Yolo Bypass and at the west end and east end approaches to the Yolo Causeway Bike Bridge.

Therefore, the Project will need to receive an encroachment permit from the Central Valley Flood Protection Board (CVFPB) and a Section 408 permit from the USACE prior to construction of the Project if these Alternatives were to be selected.

HYDRAULIC ASSESSMENT

Per the effective FEMA FIRM for Yolo County (effective date May 16, 2012), the 100-year BFE for the Yolo Bypass at I-80 is approximately elevation 29.5 (ft, NAVD 88). This was determined by interpolating BFEs located upstream and downstream of where I-80 crosses the Yolo Bypass. There is a potential for short-term impacts to riparian habitat during construction activities due to

temporary disturbance. No long-term impacts to natural and beneficial floodplain values are anticipated as a result of the proposed project. The purpose of the project is to improve multimodal mobility on the I-80 corridor. The Project will not promote incompatible development within the floodplain.

SUMMARY

The Project proposes to construct improvements consisting of managed lanes and other features along I-80 and US 50 from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and I-5 on US 50 in Sacramento County with eight separate alternatives currently being reviewed. The Project limits are depicted by FEMA as within SFHA Zone A, SFHA Zone AE, and SFHA Zone A99 as well as Other Areas of Flood Hazard Zone X (both shaded and unshaded). If PSR-PDS Alternative 1 or the possible add on Alternative at County Road 32A is selected, the Project will need to receive an encroachment permit from the CVFPB and a Section 408 permit from the USACE. A detailed hydraulic study of the PSR-PDS Alternative 1 pedestrian/bicycle bridge over the Yolo Bypass is recommended during the design phase should PSR-PDS Alternative 1 be selected as the preferred alternative. The Project encroaches transversely into the above referenced floodplains. As currently proposed the Project is expected to have a less than significant impact on the floodplain and the risk of any additional flooding associated with the proposed Project is low.

REFERENCES

1. California Department of Transportation (2019). *Project Study Report-Project Development Support to Request Programming for Capital Support (Project Approval and Environmental Document Phase) On Route Solano 80/Yolo 80/Yolo 50/Sacramento 50/Sacramento 80 Between Kidwell Road in Solano and US 50/I-5 Interchange & I-80/West El Camino Interchange.* July, 2019. Caltrans: Marysville, CA.
2. California Department of Transportation (2020). *Highway Design Manual Seventh Edition.* July 1, 2020. Caltrans: Marysville, CA.
3. California Department of Transportation (2021). *Project Plans for Construction on State Highway in Solano, Yolo, and Sacramento Counties on Route 80 from 0.6 Mile West of Kidwell Road OC near Davis to the West El Camino Avenue OC in Sacramento and on Route 50 from the Route 50/80 Separation in West Sacramento to 0.3 Mile East of the Route 5/50 Separation in Sacramento.* Caltrans: Marysville, CA.
4. Federal Emergency Management Agency (1995). *Flood Insurance Rate Map for City of West Sacramento, California Yolo County.* January19, 1995. FEMA: Washington D.C.
5. Federal Emergency Management Agency (1995). *Flood Insurance Study for City of West Sacramento, California Yolo County.* January19, 1995. FEMA: Washington D.C.
6. Federal Emergency Management Agency (2009). *Flood Insurance Rate Map for Solano County, California and Incorporated Areas.* May 4, 2009. FEMA: Washington D.C.
7. Federal Emergency Management Agency (2010). *Flood Insurance Rate Map for Yolo County, California and Incorporated Areas.* June 18, 2010. FEMA: Washington D.C.
8. Federal Emergency Management Agency (2012). *Flood Insurance Study for Yolo County, California and Incorporated Areas.* May 16, 2012. FEMA: Washington D.C.
9. Federal Emergency Management Agency (2015). *Flood Insurance Rate Map for Sacramento County, California and Incorporated Areas.* June 16, 2015. FEMA: Washington D.C.
10. Federal Emergency Management Agency (2016). *Flood Insurance Study for Solano County, California and Incorporated Areas.* August 3, 2016. FEMA: Washington D.C.
11. Federal Emergency Management Agency (2016). *Flood Insurance Study for Solano County, California and Incorporated Areas.* August 3, 2016. FEMA: Washington D.C.
12. Federal Emergency Management Agency (2018). *Flood Insurance Study for Sacramento County, California and Incorporated Areas.* July 19, 2018. FEMA: Washington D.C.

13. United States Army Corps of Engineers. (2018). *Engineer Circular No. 1165-2-220: Policy and Procedural Guidance for Processing Requests to Alter U.S. Army Corps of Engineers Civil Works Projects.* September 10, 2018. USACE: Washington, DC.

ATTACHMENTS

Attachment 1: Location Map

Attachment 2: FEMA FIRM Panels

Attachment 3: Technical Information for Location Hydraulic Study

Attachment 4: Floodplain Evaluation Report Summary

ATTACHMENT 1

Location Map

INDEX OF PLANS

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

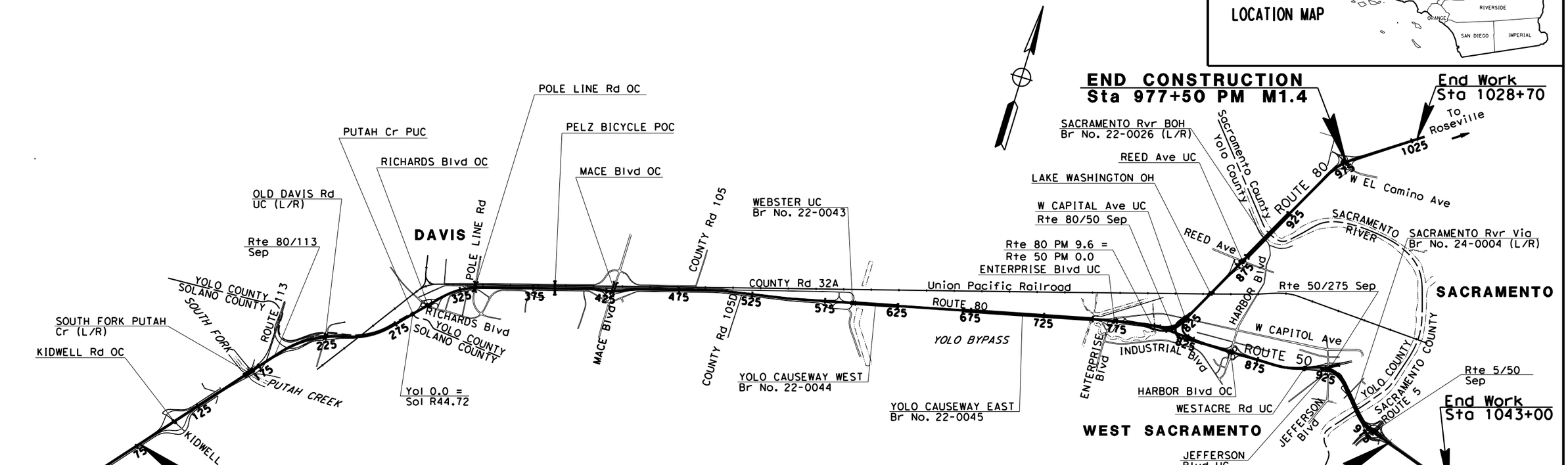
STATE HIGHWAY

IN SOLANO, YOLO, AND SACRAMENTO COUNTIES
ON ROUTE 80 FROM 0.6 MILE WEST OF KIDWELL ROAD OC NEAR DAVIS TO THE WEST EL CAMINO AVENUE OC IN SACRAMENTO AND
ON ROUTE 50 FROM THE ROUTE 50/80 SEPARATION IN WEST SACRAMENTO TO 0.3 MILE EAST OF THE ROUTE 5/50 SEPARATION IN SACRAMENTO

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2018

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Sol	80	40.7/R44.7		
03	Yol, Sac	80,50	VAR		

LOCATION MAP



PROJECT ENGINEER _____ DATE _____
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PROJECT MANAGER: NAWID NESSAR
DESIGN MANAGER: MONIKA PEDIGO

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No.	03-3H9004
PROJECT ID	0318000085

LAST REVISION 05-03-21
DATE PLOTTED => 5/3/2021
TIME PLOTTED => 11:23:01 AM

ATTACHMENT 2

FEMA FIRM Panels

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was California State Plane II zone (FIPSZONE 0402). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242,** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:12,000 from aerial photography dated 2012.

This map may reflect more detailed or up to date stream channel configurations than those shown on the previous FIRM. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations and improved topographic data. The profile baselines depicted on this map represent the hydraulic modeling baselines that match the flood profiles and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

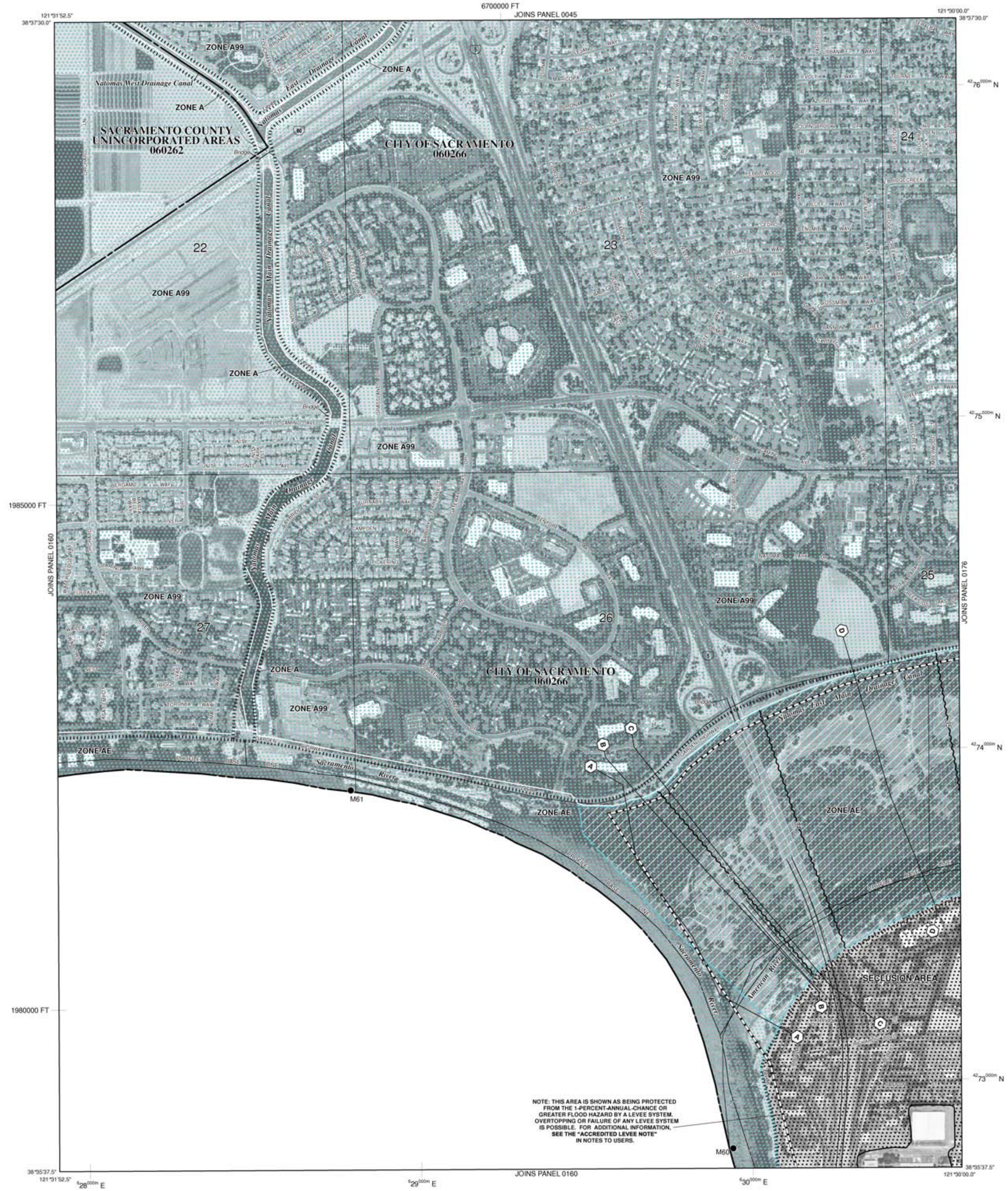
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

SECLUSION NOTE:

ATTENTION: THE LEVEES, DIKES, OR OTHER STRUCTURES INSIDE THIS BOUNDARY HAVE NOT BEEN SHOWN TO COMPLY WITH SECTION 65.10 OF THE NFIP REGULATIONS. AS SUCH, THIS FIRM PANEL WILL BE REVISED AT A LATER DATE TO UPDATE THE FLOOD HAZARD INFORMATION ASSOCIATED WITH THESE STRUCTURES. THE FLOOD HAZARD DATA SHOWN INSIDE THIS BOUNDARY (WHICH HAVE BEEN RE-PUBLISHED FROM THE AUGUST 16, 2012, FIRM FOR SACRAMENTO COUNTY, CALIFORNIA), SHOULD CONTINUE TO BE USED UNTIL THIS FIRM PANEL IS REVISED TO UPDATE THE FLOOD HAZARD INFORMATION IN THIS AREA.

Seclusion Area boundary



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

~~ 513 ~~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

(A)———(A)	Cross section line
(23)- - - - - -(23)	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
$^{42}75^{000m}$N	1000-meter Universal Transverse Mercator grid ticks, zone 10
6000000 FT	5000-foot grid ticks: California State Plane coordinate system, II zone (FIPSZONE 0402), Lambert Conformal Conic
DX5510	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 16, 2012
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
June 16, 2015 - to change zone designations and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0157J

FIRM
FLOOD INSURANCE RATE MAP
SACRAMENTO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 157 OF 705
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SACRAMENTO COUNTY	060262	0157	J
SACRAMENTO, CITY OF	060266	0157	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06067C0157J

MAP REVISED
JUNE 16, 2015

Federal Emergency Management Agency

NOTES TO USERS

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To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was California State Plane II zone (FIPSZONE 0402). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC–3, #9202
1315 East–West Highway
Silver Spring, MD 20910–3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713–3242,** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:12,000 from aerial photography dated 2012.

This map may reflect more detailed or up to date stream channel configurations than those shown on the previous FIRM. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations and improved topographic data. The profile baselines depicted on this map represent the hydraulic modeling baselines that match the flood profiles and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de–annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1–percent–annual–chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

SECLUSION NOTE:

ATTENTION: THE LEVEES, DIKES, OR OTHER STRUCTURES INSIDE THIS BOUNDARY HAVE NOT BEEN SHOWN TO COMPLY WITH SECTION 65.10 OF THE NFIP REGULATIONS. AS SUCH, THIS FIRM PANEL WILL BE REVISED AT A LATER DATE TO UPDATE THE FLOOD HAZARD INFORMATION ASSOCIATED WITH THESE STRUCTURES. THE FLOOD HAZARD DATA SHOWN INSIDE THIS BOUNDARY (WHICH HAVE BEEN RE-PUBLISHED FROM THE AUGUST 16, 2012, FIRM FOR SACRAMENTO COUNTY, CALIFORNIA), SHOULD CONTINUE TO BE USED UNTIL THIS FIRM PANEL IS REVISED TO UPDATE THE FLOOD HAZARD INFORMATION IN THIS AREA.

Seclusion Area boundary

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A	Cross section line
23 — 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4275000mN	1000-meter Universal Transverse Mercator grid ticks, zone 10
6000000 FT	5000-foot grid ticks: California State Plane coordinate system, II zone (FIPSZONE 0402), Lambert Conformal Conic
DX5510	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
August 16, 2012
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
June 16, 2015 –to change zone designations and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0160J

FIRM
FLOOD INSURANCE RATE MAP
SACRAMENTO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

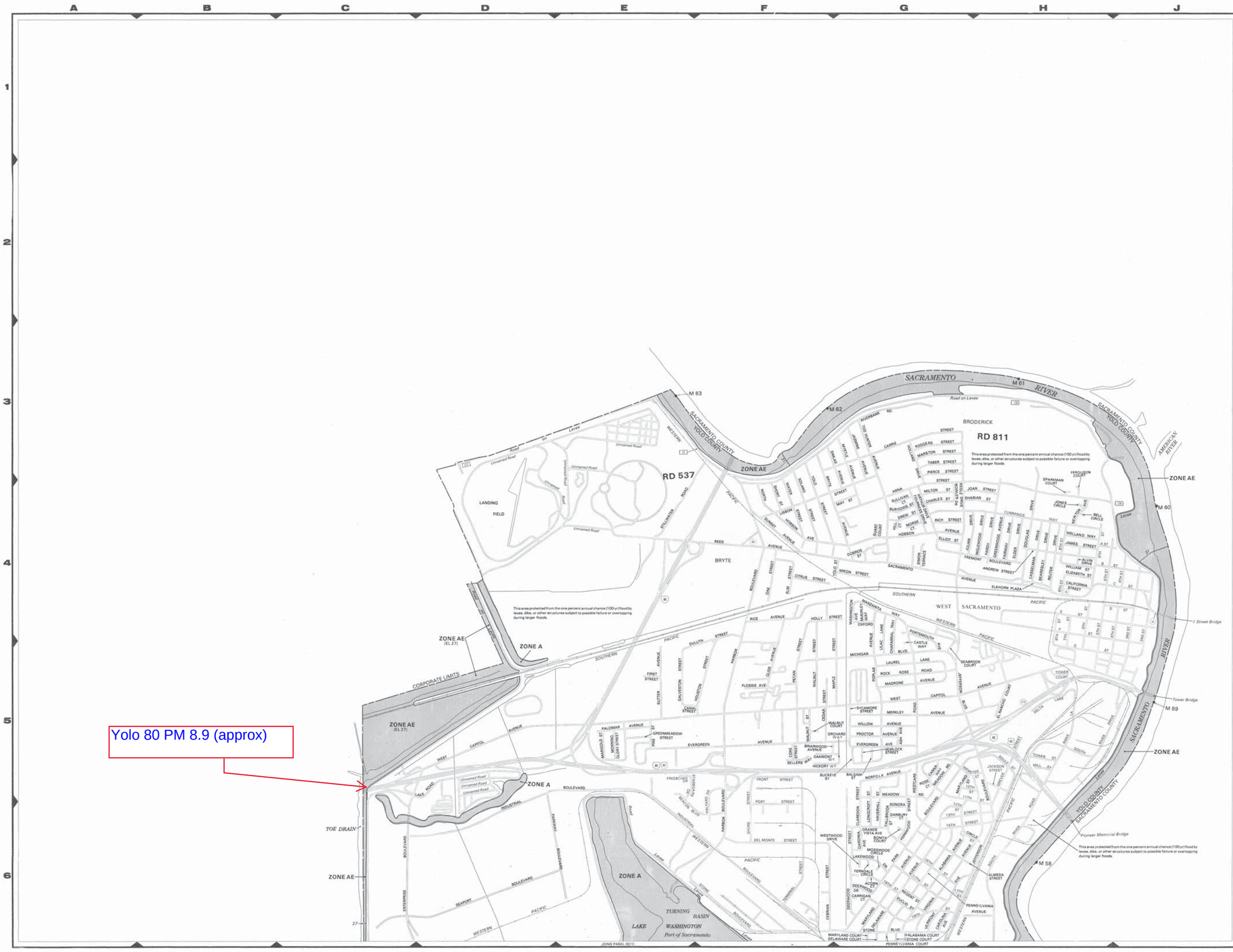
PANEL 160 OF 705
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SACRAMENTO COUNTY	060262	0160	J
SACRAMENTO, CITY OF	060266	0160	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06067C0160J
MAP REVISED
JUNE 16, 2015

Federal Emergency Management Agency



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** — No base flood elevations determined.
- **ZONE AE** — Base flood elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** — To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- **ZONE V** — Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** — Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** — Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside 500-year flood plain.
- **ZONE D** — Areas in which flood hazards are undetermined.

Flood Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

513 — Base Flood Elevation Line; Elevation in Feet*

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone*

RM7 × — Elevation Reference Mark

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Areas of special flood hazard (100 year flood) include Zones A, A1-30, AE, AH, AO, A99, V, V1-30 AND VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

Coastal base flood elevations apply only landward of the shoreline.

Elevations reference marks are described in the Flood Insurance Study Report.

For adjoining map panels see separately printed Map Index

MAP REPOSITORY

Department of Public Works
1951 South River Road
West Sacramento, CA 95691
(Maps available for reference only, not for distribution)

INITIAL IDENTIFICATION:
MARCH 1, 1990

FLOOD HAZARD BOUNDARY MAP REVISIONS:

FLOOD INSURANCE RATE MAP EFFECTIVE:
MARCH 1, 1990

FLOOD INSURANCE RATE MAP REVISIONS:
May revised JANUARY 19, 1995 to increase base flood elevations, to add base flood elevations, to change base flood elevations, to change zone designations, to change special flood hazard areas, to add special flood hazard areas, to delete special flood hazard areas, and to incorporate previously issued letters of map revision.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET
1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
WEST
SACRAMENTO,
CALIFORNIA
YOLO COUNTY

PANEL 5 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
060728 0005 B

MAP REVISED:
JANUARY 19, 1995

Federal Emergency Management Agency

NOTES TO USERS

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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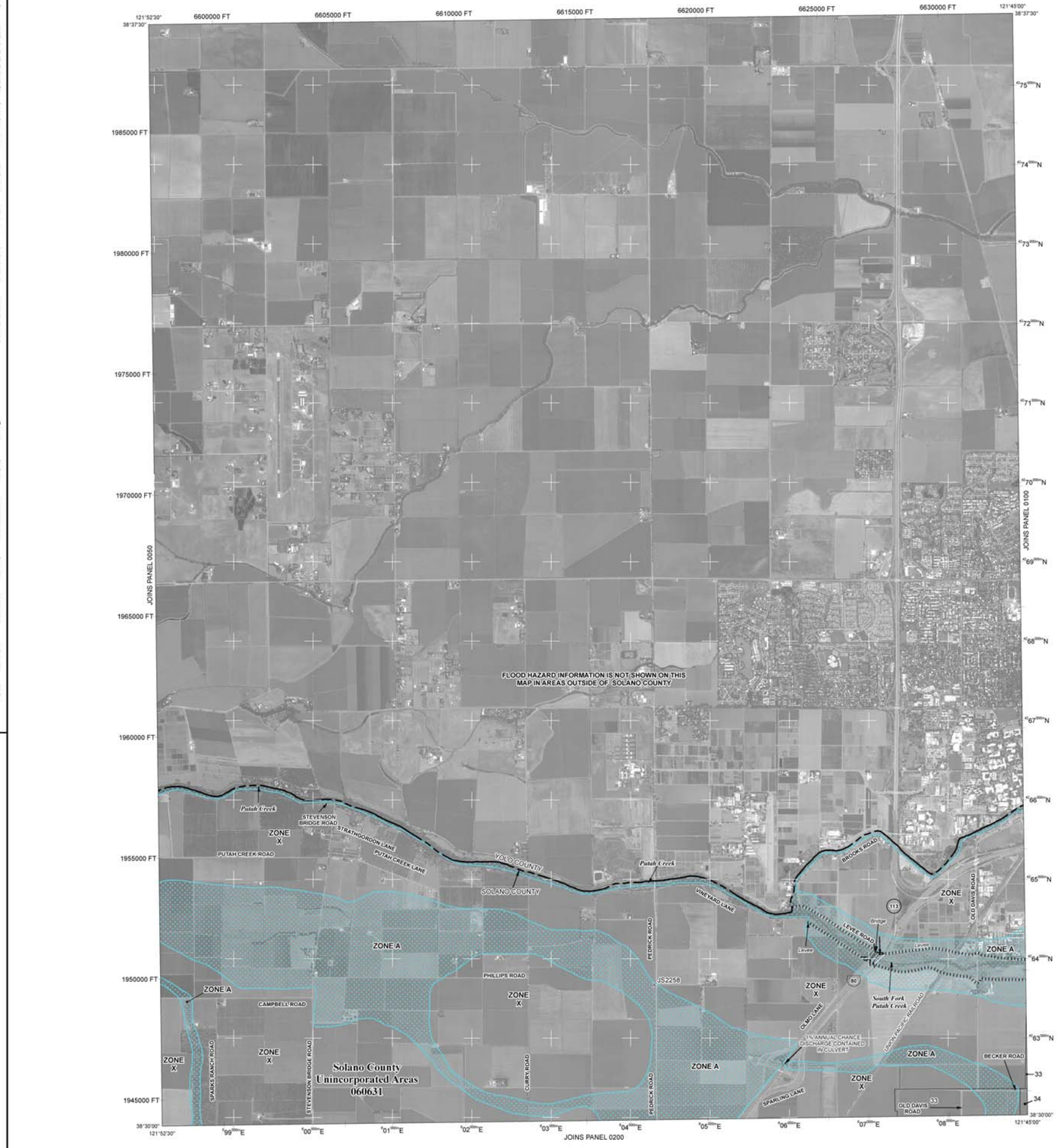
If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL. 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4276000mN	1000-meter Universal Transverse Mercator grid values, zone 10N
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
●M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
May 4, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
600 0 600 1200 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0075E

FIRM
FLOOD INSURANCE RATE MAP

SOLANO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 75 OF 730
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
SOLANO COUNTY	060631	0075	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06095C0075E

EFFECTIVE DATE
MAY 4, 2009

Federal Emergency Management Agency

NOTES TO USERS

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National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:24,000 from aerial photography dated 2005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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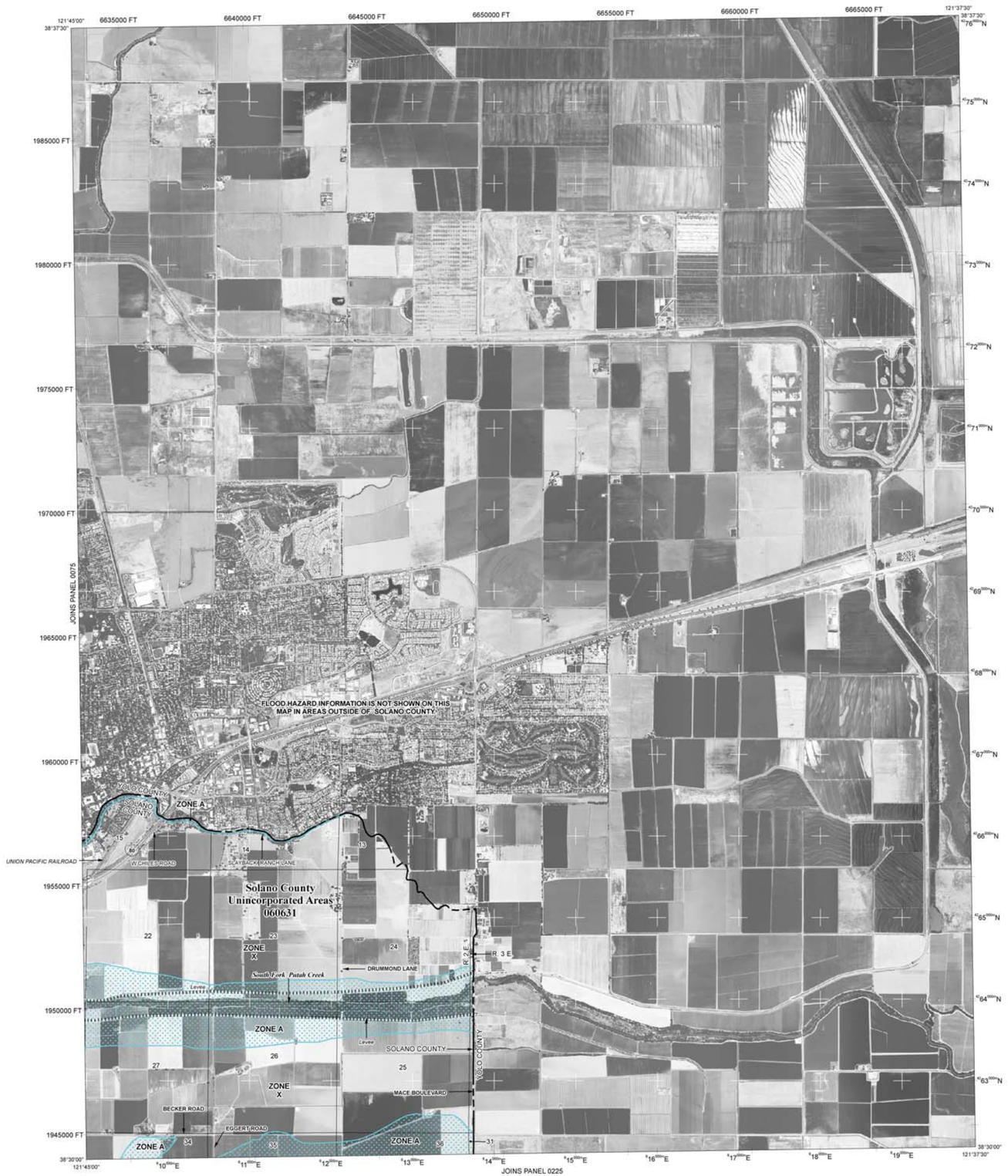

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
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ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL. 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
10 4000m N	1000-meter Universal Transverse Mercator grid values, zone 10N
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
●M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
May 4, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
600 0 600 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0100E

FIRM

FLOOD INSURANCE RATE MAP

SOLANO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 100 OF 730
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SOLANO COUNTY	060631	0100	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06095C0100E

EFFECTIVE DATE
MAY 4, 2009

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map transportation information shown on this FIRM was provided in digital format from Sacramento Area Council of Governments (SACOG). These data were developed in conjunction with the tax assessor's parcel base map and published by SACOG in June 2005. The road centerlines follow the computed centers of the parcel right-of-ways.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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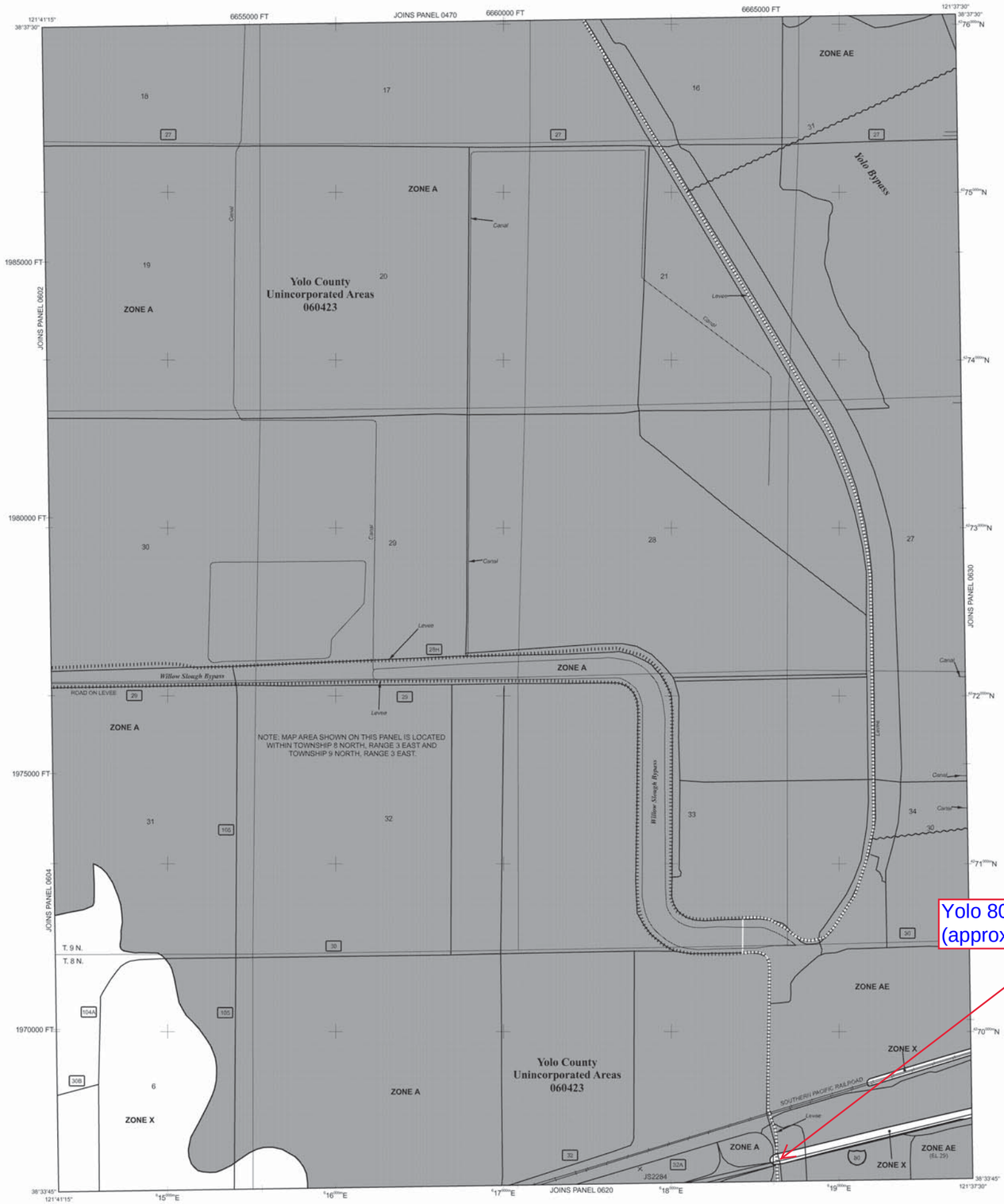
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.



Yolo 80 PM 5.9 (approx)

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section Line
- 23 — — — 23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4276000mN — 1000-meter Universal Transverse Mercator grid values, zone NAD 1983 UTM Zone 10N
- 600000 FT — 5000-foot grid values: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ●M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 18, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0610G

FIRM

FLOOD INSURANCE RATE MAP

YOLO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 610 OF 785

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
YOLO COUNTY	060423	0610	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06113C0610G

EFFECTIVE DATE
JUNE 18, 2010

Federal Emergency Management Agency

NOTES TO USERS

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To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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National Geodetic Survey
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Silver Spring, Maryland 20910-3282
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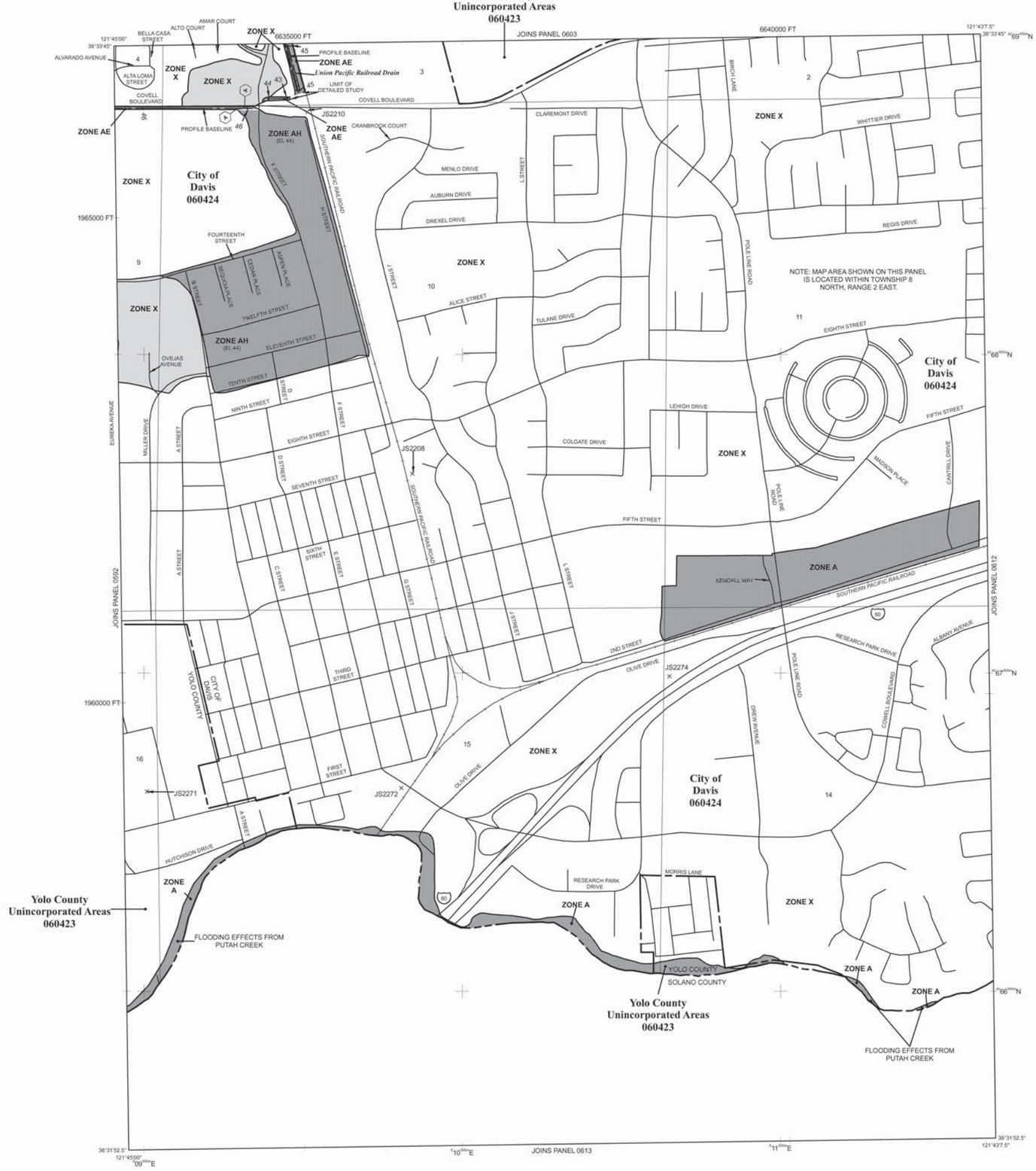

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- (A)—(A) Cross section Line
- (23)—(23) Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4276000mN — 1000-meter Universal Transverse Mercator grid values, zone NAD 1983 UTM Zone 10N
- 600000 FT — 5000-foot grid values: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 18, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0611G

FIRM

FLOOD INSURANCE RATE MAP

YOLO COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 611 OF 785

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DAVIS, CITY OF	060424	0611	G
YOLO COUNTY	060423	0611	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06113C0611G

EFFECTIVE DATE
JUNE 18, 2010

Federal Emergency Management Agency

NOTES TO USERS

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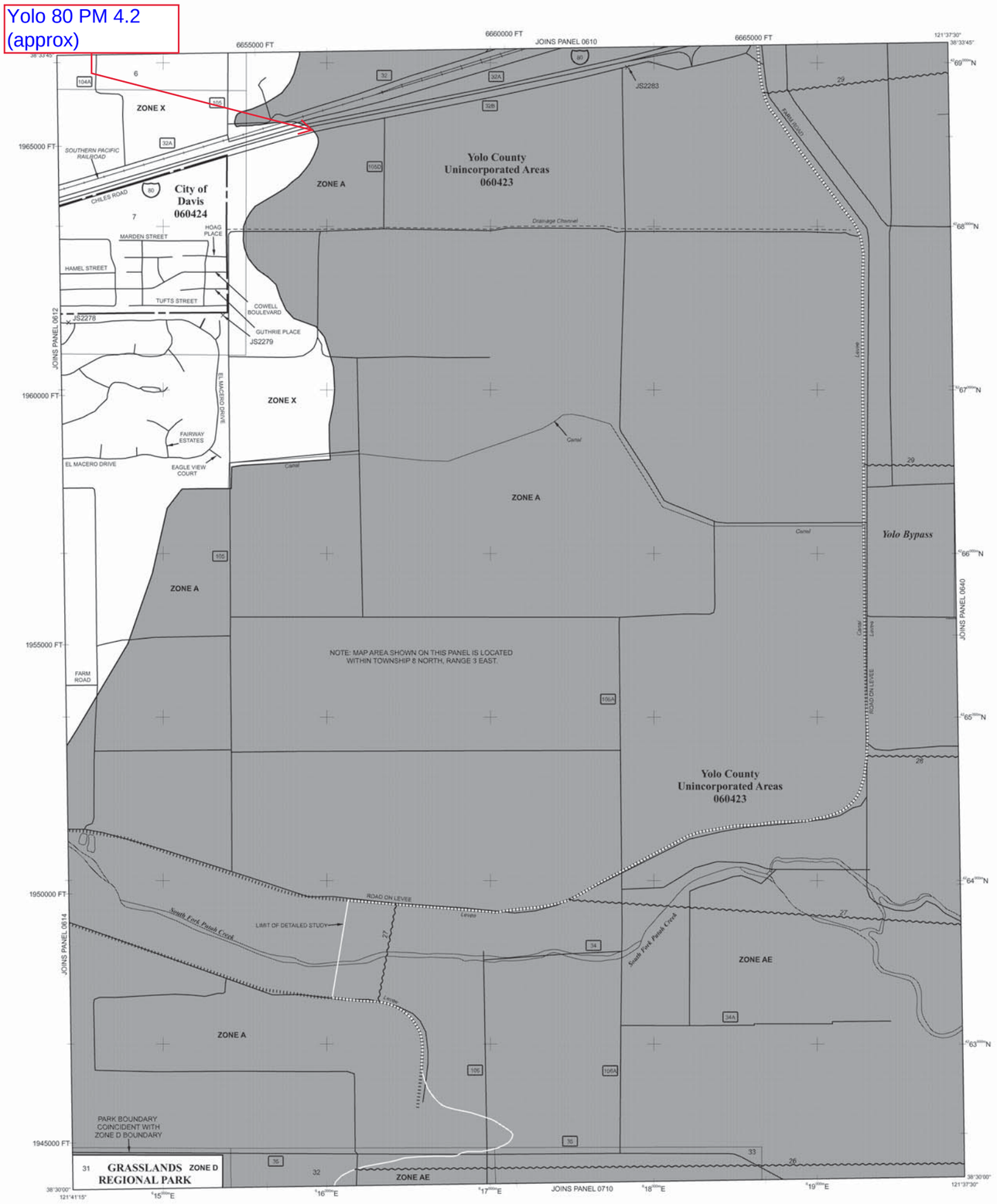

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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FLOODWAY AREAS IN ZONE AE

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OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

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COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

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	Floodplain boundary
	Floodway boundary
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	CBRS and OPA boundary
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●M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 18, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0620G

FIRM

FLOOD INSURANCE RATE MAP

YOLO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 620 OF 785

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DAVIS, CITY OF	060424	0620	G
YOLO COUNTY	060423	0620	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06113C0620G

EFFECTIVE DATE
JUNE 18, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 10N. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map transportation information shown on this FIRM was provided in digital format from Sacramento Area Council of Governments (SACOG). These data were developed in conjunction with the tax assessor's parcel base map and published by SACOG in June 2005. The road centerlines follow the computed centers of the parcel right-of-ways.

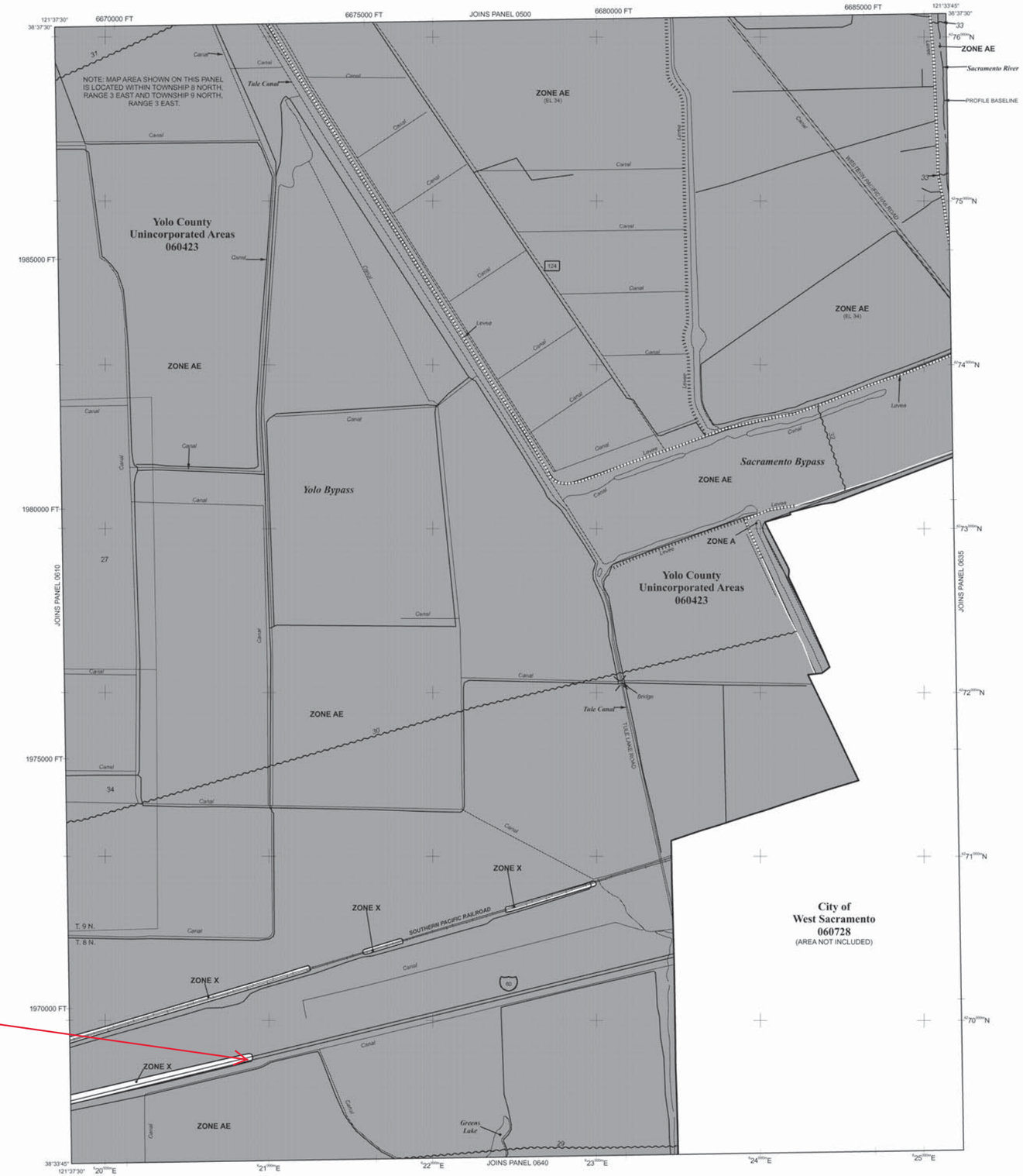
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.



Yolo 80 PM 7.25 (approx)

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section Line
- 27 — 27 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3776000mN — 1000-meter Universal Transverse Mercator grid values, zone NAD 1983 UTM Zone 10N
- 600000 FT — 5000-foot grid values: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ●M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 18, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0630G

FIRM
FLOOD INSURANCE RATE MAP

YOLO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 630 OF 785

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
* WEST SACRAMENTO, CITY OF	060728	-	-
YOLO COUNTY	060423	0630	G

* FIS/FIRM published separately

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06113C0630G

EFFECTIVE DATE
JUNE 18, 2010

Federal Emergency Management Agency

ATTACHMENT 3

Technical Information for Location Hydraulic Study

Technical Information for Location Hydraulic Study – Oversight Projects

EA: 03-3H900 Project ID: 0318000085

District: 03 County: SOL/YOL/SAC Route: 50/80 P.M.: 04-SOL-80-40.7/R44.7; 03-YOL-80-0.00/R11.72; 03-YOL-50-0.00/3.12; 03-SAC-50-0.00/L0.617; 03-SAC-80-M0.00/M1.36

Br. No.: BR 22-077 Br. Name: Richards Boulevard Overcrossing
BR 22-193 Pole Line Road Overcrossing
BR 22-042 Mace Boulevard Overcrossing

Floodplain Description:

1. Description of Proposal (include any physical barriers i.e. concrete barriers, soundwalls, etc. and design elements to minimize floodplain impacts):

   - PSR-PDS Alternative 1A (Most impact area alternative with standard land and shoulder widths):
     - Kidwell Road to Solano/Yolo County Line - convert one (1) mixed flow lanes to managed lanes;
     - Solano/Yolo County Line to west end of the Yolo Causeway - pave median and widen to the outside to add managed lanes;
     - Yolo Causeway to east of Enterprise Boulevard - remove existing bike lane, restripe bridge to add managed lanes;
     - Construct separate pedestrian/bicycle bridge to the north of and separate from the existing Yolo Causeway (west and east) bridges;
     - East of Enterprise Boulevard and continuing on I-80 to West El Camino Avenue - add managed lanes by constructing a connector and striping managed lanes on paved median, construct a park-n-ride lot at Enterprise Boulevard, restripe Bryte Bend bridge to add managed lanes;
     - I-80/US 50 Separation to Jefferson Boulevard Undercrossing - convert mixed flow lanes to managed lanes;
     - Jefferson Boulevard Undercrossing to just east Interstate 5 - restripe pavement to add managed lanes.

- PA&ED Alternatives 2-6 (PSR-PDS Alternative 3): (Least impact alternative with minimal inside shoulders, standard lane widths and standard outside shoulders and minimal outside pavement widening):
    - Interim project, similar to PSR-PDS Alternative 1A except widen median only between Yolo County line and Yolo Causeway, no new bike/ped bridge or managed lane to managed lane connectors at the I-80/US 50 Interstate
- PA&ED Alternative 8 (PSR-PDS Alternative 3A):
    - Restripe the Yolo Causeway bridges to add a managed lane and keep existing bike/pedestrian path on north side of the bridges.
    - Install concrete median barrier on I-80 from Sol 80 PM R44.44 - R44.50 and Yolo 80 PM 0.21 - 4.3.
    - Includes Yolo 80 HOV to HOV Connector Structure at the I-50 Interchange
- Possible add-on to all Alternatives:
    - Includes addition of the Yolo County Road 32A bike path, west of the Yolo Causeway and north of Yolo 80.

2. AADT: Current (Project): _____ Projected (Project + _____ Yrs): _____

3. Hydraulic Data:

	Q (cfs)	WSE (ft)	Return Period (yrs)
Flood of Record (If > Q_{100}):	Unknown	Unknown	Unknown
Base Flood:	Unknown	29.5	100
Overtopping Flood:	Unknown		
Datum:	NAVD 88		

Are NFIP maps available?	Yes	✓	No	
Are NFIP studies available?	Yes	✓	No	

4. Is the highway location alternative within a regulatory floodway? Yes _____ No ✓

5. Attach map with flood limits outlined showing all buildings or other improvements within the base floodplain.
   Potential Q_{100} backwater damages:

A. Residences?	Yes		No	✓
B. Other Bldgs.?	Yes		No	✓
C. Crops?	Yes		No	✓
D. Natural and beneficial floodplain values?	Yes		No	✓

6. Type of Traffic:
   - A. Emergency supply or evacuation route? Yes _____ No _____
   - B. Emergency vehicle access? Yes _____ No _____
   - C. Practicable detour available? Yes _____ No _____
   - D. School bus or mail route? Yes _____ No _____

7. Estimated duration of traffic interruption for 100-year event Unknown hours.

8. Estimated value of Q_{100} flood damages (if any) – moderate risk level.
   - A. Roadway $ _____
   - B. Property $ _____
   - Total $ _____

9. Assessment of Level of Risk
   Low ✓ Moderate _____ High _____
   For High Risk projects, during design phase, additional Design Study Risk Analysis may be necessary to determine design alternative.

10. Is there any significant encroachment (longitudinal or transverse), or any support of incompatible flood plain development? Yes _____ No _____

11. If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.Subpart A Location and Hydraulic Design of Encroachments on Flood Plains.

Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

PREPARED BY:

Cody L. Milligan — 07-16-2021

Signature – Hydraulics Engineer (Items 3-5, 7, & 9) — Date
Project Engineer
Wood Rodgers Inc.

_____ _____

Signature – Project Engineer (Item numbers 1-2, 6, 8, & 10-11) — Date
Title
Company

ATTACHMENT 4

Floodplain Evaluation Report Summary

Floodplain Evaluation Report Summary – Oversight Projects

District	03	EA	03-3H900	County	SOL/ YOL /SAC	Route	50/80	P.M.	04-SOL-80-40.7/R44.7; 03-YOL-80-0.00/R11.72; 03-YOL-50-0.00/3.12; 03-SAC-50-0.00/L0.617; 03-SAC-80-M0.00/M1.36

Project ID: 0318000085

Bridge No.	Bridge Name
BR 22-077	Richards Boulevard Overcrossing
BR 22-193	Pole Line Road Overcrossing
BR 22-042	Mace Boulevard Overcrossing

Project Limits: Project consists of the following three segments:

- Segment 1 stretches from Kidwell Road on I-80 in eastern Solano County (PM 40.7), through Davis, to the eastern end of the Yolo Causeway just west of Enterprise Boulevard in West Sacramento (PM 9.0);
- Segment 2 starts just west of Enterprise Boulevard on I-80 (PM 9.0) and continues on I-80 to West El Camino Avenue (PM M1.4); and
- Segment 3 starts at the I-80/US 50 Separation (PM 0.0) and continues east along US 50 to I-5 near downtown Sacramento (PM L0.6).

Floodplain Description: The Project limits are depicted on the following Flood Insurance Rate Map (FIRM) panel numbers:

- 06067C0157J and 06067C0160J for Sacramento County, California and Incorporated Areas dated 06/16/2015.
- 0607280005B for City of West Sacramento, California, Yolo County dated 01/19/1995
- 06095C0075E and 06095C0100E for Solano County, California and Incorporated Areas dated 05/04/2009.
- 06113C0610G, 06113C0611G, 06113C0620G, and 06113C0630G for Yolo County, California and Incorporated Areas dated 06/18/2010.

These FIRM panels indicate that the Project limits are located in areas designated by the Federal Emergency Management Agency (FEMA) as Special Flood Hazard Area (SFHA) Zone A, SFHA Zone AE, and SFHA Zone 99A. Additionally, the Project limits are also located within areas designated by FEMA as Other Areas of Flood Hazard Zone X (both shaded and unshaded). FEMA uses Zone A to characterize areas subject to inundation by the 1-percent annual chance flood (100-year flood) where no Base Flood Elevations have been determined. FEMA uses Zone AE to

characterize areas subject to inundation by the 1-percent annual chance flood (100-year flood) where Base Flood Elevations have been determined. FEMA uses Zone A99 to characterize areas to be protected from the 1-percent annual chance flood by a Federal flood protection system under construction where no Base Flood Elevations have been determined. FEMA uses shaded Zone X to characterize areas of 0.2-percent annual chance flood (500-year flood); areas of 1-percent annual chance flood (100-year flood) with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1-percent annual chance flood (100-year flood). FEMA uses unshaded Zone X to characterize areas determined to be outside of the 0.2-percent annual chance flood (500-year flood). Shoulder widening within Segment 1 of the Project for all Project alternatives. Widening within Segment 1 will be within Zone A floodplains. This will be transverse encroachment into the floodplain and will be identical at each bridge location. The current scope of the project will not raise or change the profile of any of the highway within Segment 1, and it is anticipated that there will be no negative impacts to the FEMA mapped floodplain in this area.

1. Is the proposed action an encroachment (longitudinal or transverse) of the base floodplain as defined in 23 CFR, Section 650.105? Yes ✓ No _____

2. Are the risks associated with the implementation of the proposed action significant? Yes _____ No ✓

3. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105? Yes _____ No ✓

4. Are Location Hydraulics Studies that document the above answers on file? Yes ✓ No _____
   If not, explain _____

5. Are there any significant impacts on natural and beneficial floodplain values as defined in 23 CFR, Section 650.105? Yes _____ No _____

6. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? Yes _____ No _____
   If yes, explain. _____

7. Will the proposed action support probable incompatible floodplain development? Yes _____ No _____

PREPARED BY:

Cody L. Milligan 07-16-2021

Signature – Hydraulics Engineer (Items 1-4) Date
Project Engineer
Wood Rodgers

Signature – Environmental Specialist (Items 5-7) Date
Title
Company

CONCUR:

Signature – Project Engineer Date
Title
Company

REVIEWED BY:

Signature – Environmental Branch Chief Date
CA DOT, District 03