

# CENTRAL VALLEY FLOOD PROTECTION BOARD

## EXECUTIVE OFFICER'S REPORT

### June 23, 2023




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## FLOOD SYSTEM IMPROVEMENT BRANCH

### Status Report and Work Activities

#### 1.0 Operational Program: Flood System Improvement Projects

The Flood System Improvement Projects Operational Program manages the technical and regulatory review of projects to be constructed by the State, local, or other non-federal entities without federal sponsorship that would reduce the flood risk or otherwise strengthen the existing federal flood control system. These projects require authorization from the United States Army Corps of Engineers (USACE) pursuant to Title 33, United States Code Section 408 and a permit from the Central Valley Flood Protection Board (Board). Projects are categorized into phases that group specific project activities: Pre-Application Review, Permitting, Pre-Construction/Construction, and Post-Construction.

##### Pre-Application Review

Pre-application activities include the development of alternative designs, initial requests to the USACE, and coordination on funding agreements and environmental compliance.

- *Colusa Bypass Improvement* – DWR is preparing a request to improve the levees in the Colusa Bypass near the sediment storage sites. A pre-application meeting will be held this month.
- *Tudor Flood Risk Reduction Project* – Staff is preparing an initial No Objection Letter submittal to the USACE and will be seeking Board's approval at this month's Board meeting.

*Climate Resiliency Project* – The Three Rivers Levee Improvement Authority (TRLIA) proposes to mitigate flood risk and build resiliency to climate change into the levees that surround RD 784 from flooding from the Yuba River, Feather River, Bear River, and Western Pacific Interceptor Canal by increasing the level of protection to withstand a 300-year event at a minimum for the urban portion of the RD 784 levees. A pre-application meeting will be held this month.

## Permitting

The permitting and project-review phase begins once an application is submitted to the Board and includes technical and environmental review, as well as continue coordination with the USACE.

- *Lower San Joaquin Eastside Bypass (Application No. 19527)* – DWR was delayed from the recent flooding events but is planning to apply for a permit in the summer.
- *Butte Slough Outfall Gates (Application No. 19529)* – DWR is planning to submit 65% design drawings this summer for a repair project of the most crucial items which were revised down from the previously submitted 408 designs.
- *Tisdale Weir Rehabilitation and Fish Passage (Application No. 19621)* – DWR continues to address technical comments on the project design. DWR plans to submit a revised biological assessment to the National Marine Fisheries Service (NMFS) that will inform the final design of the project and is also working on obtaining State agency permits.
- *Black Rascal Creek Flood Control (Application No. 19643)* – Merced Co. is addressing technical comments on the 65% design documents and is expecting to submit 90% design documents by the end of this month. The USACE is reviewing the Environmental Assessment and coordinating with the Natural Resources Conservation Service on obtaining federal permits and approvals. Merced Co. is developing a plan on acquiring land rights consistent with the design.
- *Natomas Cross Canal Channel Enhancement (Application No. 19699)* – RD 1001 is addressing comments from the USACE on the project. Staff provided comments on the 65% design documents. The USACE is reviewing environmental documents and is expected to complete consultations with cultural and wildlife resources agencies this year.
- *Grimes Floodplain Restoration and Levee Resiliency (Application No. T2022060)* – The Sacramento River West Side Levee District (District) submitted a revised 60% design in April 2023. The USACE is reviewing the cultural report. The District is preparing biological assessments and documents pursuant to the California Environmental Quality Act (CEQA).
- *SR 70 Expansion/Marysville Railroad Bridge Rehabilitation (Application No. T2018093)* – Caltrans is developing information to support the transmittal to the USACE.

## Construction

Construction activities occur after a permit is issued and include activities such as attending pre-construction conferences and monitoring construction methods for compliance with the issued permit and USACE conditions.

- *Lower Elkhorn Basin Levee Setback (Permit No. 19153)* – The California Department of Water Resources (DWR) is hosting a groundbreaking and media event on June 20 to celebrate substantial completion of the setback levee. DWR is coordinating with the State Water Resources Control Board on remediating soil contamination near the landside seepage berm at Sta 156+00 identified in February 2023. The USACE approved plans for AT&T to relocate a temporary fiber optic line away from the landside toe within the easement acquired by DWR. AT&T began site preparation and pre-construction work. The USACE also approved DWR's request to degrade the existing Yolo and Sacramento Bypass levees. Staff received plans to replace the concrete liner at the southern tie-in with the Sacramento Bypass and is reviewing before issuing an update to the permit. Staff also received plans for PG&E to abandon a natural gas pipeline through the existing levee and will issue a minor alteration letter, if approved.
- *Smith Canal Gate (Permit No. 19233)* – Construction of the cofferdam continues as well as the land operations at Dads Point.
- *Lookout Slough Tidal Habitat Restoration and Flood Improvements (Permit No. 19477-1)* – Staff is reviewing emergency operations plans for RD 2068 and RD 2098. The Duck Slough setback levee is nearing completion. DWR is preparing revisions to the federal O&M manual and expects to breach the Shag Slough levee in Fall 2024. DWR also provided a revised plan to remove the Shag Slough bridge that includes removal of a pair of abutments. The plan is being reviewed by staff as a maintenance action and will consult the USACE on any Section 408 requirements.
- *Yolo Bypass Salmonid Habitat Restoration and Fish Passage (Big Notch) (Permit No. 19523)* – DWR presented a plan to increase the height of the temporary cofferdam (currently underwater) so that construction of the transport channel and pedestrian bridge can continue. DWR is reviewing comments by federal and State environmental agencies.
- *Phase III 100-Year Levee Seepage Repair Project (Permit No. 18980)* – RD 17 received approval in early June to begin construction of Element VI and construction is estimated to take three months. The concern of peak snow melt held up the construction start.

- *Old Sutter Pumping Plant Rehabilitation (Permit No. 18533-1, 18534-1, and 18535-1)* – DWR awarded a contract on May 17 and is planning to begin construction work over the next few weeks

### Post-Construction

Post-construction activities include reviewing project completion reports, updating the federal operation and maintenance (O&M) manual, and acquiring real estate.

- *Phase III 100-Year Levee Seepage Repair (Permit No. 18980-1)* – Reclamation District (RD) 17 is currently reviewing the USACE comments for the updated O&M manual and as-built drawings.
- *Southport Levee Improvement Project–Floodplain Restoration (Permit No. 18313-4)* – The USACE approved the update to the supplemental O&M manual for the federal project. Staff will review the revised manual and transfer the O&M responsibilities to the local maintaining agency. Staff continues to review a request by the West Sacramento Area Flood Control Agency to modify special conditions of the permit that conflict with environmental mitigation requirements.
- *Bear River Setback Levee (Permit No. 19486)* – RD 784 is working on a permit application to replace the irrigation pipe found downstream of the setback levee and proposed revisions to the federal O&M manual due by May 2023. RD 784 plans on requesting an extension for more time.

## **2.0 Operational Program: Federal Water Resources Studies and Projects**

The Federal Water Resources Studies and Projects program manages the responsibilities of the non-federal sponsor for federal projects, including approving project agreements, project coordination, technical and environmental review, utility relocations, and updating operation and maintenance manuals. This section also includes projects authorized by Congress but implemented by a non-federal agency.

### Sutter Basin Project

Staff is processing 12 pipe post-permission permits and is looking to have them reviewed and approved by the Executive Officer (EO) in June. Staff has also started processing 21 ramp post-permission permits and expects approval from the EO in August.

### Marysville Ring Levee Project

Coordination on the relocation of utilities continues for Phase 2B. The USACE is preparing 95% design documents for the SR 70 gap segment. The USACE is working

through post-construction items for Phase 3 and expects to submit as-built drawings by December 2023. The USACE continues planning efforts for the project-wide risk assessment. Staff is reviewing encroachment permit applications from AT&T and PG&E for utility relocations in Phase 3.

#### West Sacramento Project

Design documents are being developed for the Sacramento River West North Levee segment. The USACE will host a groundbreaking ceremony in October for the Yolo Bypass East Levee (YBEL) – South segment. A request for bids for the YBEL – North segment was issued in May.

#### Goldfields 200-Year Levee Improvement Project

Staff will present an amendment to the 1953 Memorandum of Understanding for approval at the June 2023 Board meeting. Staff is reviewing responses to comments on the construction documentation report.

#### Lower San Joaquin River Project

##### Phase 1 - California Project

Staff continues to support the monthly Project Leadership Board (PLB) meetings and the coordination effort for the Ten-Mile and Fourteen-Mile Slough project phases.

##### Phase 2 - Lathrop and Manteca Feasibility Study

Staff is meeting regularly with the multiple study design teams including Hydrology and Hydraulics, Economics, and Engineering, in addition to regular PDT meetings.

#### Lower Cache Creek/Woodland Flood Risk Reduction Project

The Project Delivery Team met to discuss in-kind credit contributions along with construction scheduling, project budgeting, and results from the design charette. A project kick-off meeting is being scheduled.

#### Sacramento River Bank Protection Project

Staff will present the Project Partnership Agreement for the supplemental authorization to Phase II to allow construction of an additional 80,000 linear feet of bank protection at the June 2023 Board meeting. The USACE continues efforts to close out completed work under the original authorization of Phase II.

#### Mid-Valley Area, Phase III, Levee Reconstruction Project

Construction crews will degrade the emergency levee fill material placed during the recent winter storms and place permanent fill for Sites 9 and 10. Staff issued the final Statement of No Objection to the USACE that was approved by the Board in May for Site 11.

### 3.0 Sacramento Levees Section

The Board and the Sacramento Area Flood Control Agency coordinate on projects authorized under the Water Resources Development Act of 2016 through the Sacramento Levees Section (SLS). Staff assists with enforcement, permitting, and inspection of encroachments within the USACE's project footprint to allow construction projects to move forward without any major delays.

#### American River Common Features 2016 Project

- *Sacramento Bypass and Sacramento Weir Expansion* – The construction contract was awarded on May 4, 2023, to Granite construction company for a total contract amount of \$172,948,401. Construction is anticipated to begin in August 2023. Staff participated in PDT and real estate meetings.
- *Seepage / Stability – Sacramento River East Levee (SREL)* – The last phase of the SREL Seepage/Stability Project, SREL C4, is currently underway, and expected to be completed in late 2023. **Attachment 1** provides the June monthly progress update for the work along the SREL. Staff participated in PDT and real estate meetings. Staff worked to authorize three temporary cross-levee fences under minor alterations in the Pocket area while processing the permit application for the permanent cross-levee fences. Staff also worked on Public Records Act (PRA) requests related to encroachments in the Pocket Area.
- *Erosion – American River* – Erosion work Contract 1 and 2 (AR C1 & C2) 2022 construction was substantially completed, and remaining construction continues. **Attachment 2** provides the June monthly progress update for the work along the American River.

*Erosion – Sacramento River* – Contract 2 construction is scheduled to begin in July, 2023 and expected to be completed in 2024. Contract 4 is scheduled to start construction in 2024. Staff worked closely with the design team to address numerous boat docks (permitted and unpermitted) identified within the construction footprint. Staff has sent formal notification letters to homeowners notifying them about the upcoming construction, removal of their boat docks and pilings, and possible permit revocation proceedings. Staff participated in PDT and real estate meetings.

South Sacramento County Streams Construction Project

No significant activities to report for the period of this report.

American River Common Features WRDA 96/99 Project

No significant activities to report for the period of this report.

Natomas Basin Project

Improvements to the levees surrounding the Natomas Basin are ongoing. **Attachment 3** provides the quarterly April progress update for the levee construction in the Natomas Basin. The entire project is anticipated to be completed in 2024 or 2025.

Staff participated in utility relocations and real estate meetings to facilitate the utility relocations permitting related to the project.

Folsom Dam Modifications (Joint Federal Project)

No significant activities to report for the period of this report.

Folsom Dam Raise Project

In April, 2023 the USACE awarded a \$114.4 million construction contract for the Folsom Dam Raise project to Folsom Dam Constructors (FDC), a joint venture of California Engineering Contractors, Inc. and Shimmick Construction Company.

FDC will be responsible for raising the main dam and left and right wing dams up to 3.5 feet and modifying the eight spillway gates by adding top seals, strengthening the gates, and raising the gate piers. Dike 8, on the southeastern side of Folsom Lake, was raised 3.5 feet in 2020 as part of the project's first component.

Follow-on work will include the raise of the remaining seven dikes and Mormon Island Auxiliary Dam (MIAD) and reconfiguring the Folsom Dam penstock gates with modernized temperature control shutters. The Folsom Dam Raise project is scheduled for completion in 2027.

**4.0 Operational Program: Adequate Progress**

The Adequate Progress program reviews reports by cities and counties on adequate progress towards achieving the Urban Level of Flood Protection, which is equal to or greater than the level of protection in urban or urbanizing areas.

There are no activities to report for the period of this report.

**5.0 Operational Program: Safety Element Review**

The Safety Element Review program evaluates flood safety in general plan updates for agencies within the Board's jurisdiction.

There are no activities to report for the period of this report.

## 6.0 Operational Program: Special Projects

Special projects are areas of focus that fall outside of our regular operational programs.

### Designated Floodway Modernization Program

Staff meets with the consultant team bimonthly to analyze newly modeled channels within the Designated Floodway (DF) to determine the new extents of the DF boundary. Staff also participates in brainstorming sessions to create a Fact Sheet and Frequently Asked Questions document to help justify the need for the DF program and necessary funding.

Staff submitted a DF Program Budget Change Proposal at the end of April for a funding request to update the entire DF boundary and address legacy encroachments that have been identified within the DF boundary.

### Non-Federal Projects

- *High-Speed Rail Project, Fresno to Bakersfield (Permit No. 18956-1 et seq.)* – The Kings River crossing portion continues construction with the columns and abutments and is continuing to work on the trestle. Work on the Cross Creek and Dutch John Cut Bridge crossings consist of BMP maintenance and vegetation removal. Staff is now also looking into two additional waterway crossings that may require future Board permits.
- *Yuba River North Training Wall Project–Phase 2* – Staff has deemed the permit application complete and will begin the technical and environmental review.

### Delta Conveyance Project

DWR is preparing the Final Environmental Impact Report. DWR will continue geotechnical investigations along the Sacramento River east levee between Courtland and Clarksburg this month.

### Chester Diversion Dam Emergency Action Plan (EAP)

Staff performed an annual EAP update and sent a revised notification flowchart to all stakeholders, and emailed the EAP Status Report to Cal OES for confirmation of the update..





Concrete mattress near Sutterville Rd. to be demolished, disposed of, and replaced with riprap in Erosion Contract 2



# American River Common Features 2016 Sacramento River Levees Monthly Update

Attachment 1

June 2023

## Highlights (last 30 days)

After a slow start with the extended winter season and high water, 2023 construction is underway. We've completed restoration of Zacharias Park and the park is reopen for public access! Due to high river flows, tree-cutting has been delayed until mid-June, prior to clearing and grubbing in preparation for 2023 erosion improvement work. Design efforts are on track for construction on Sacramento River Erosion Contract 4 in 2024 and Contract 3 in 2025/26.

## Looking Ahead (next 30+ days)

### What can I expect?

Evaluation of post-storm related damage, cutoff wall concrete mixture equipment mobilization, construction of a test section of cutoff wall, tree cutting/site prep for 2023 erosion work with environmental monitoring, and material deliveries.

Hours of Operation: Mon – Sat from 7am-7pm.

### Garcia Bend Park Staging

- ◆ Boat ramp closed during construction at the request of the city with intermittent vehicle traffic during work hours
- ◆ 10-20 truck loads of material for approx. 10 consecutive days at some point in June
- ◆ Following cutoff wall test section construction, Garcia Park will have light traffic in and out until mid to late July

### Sump 132

- ◆ Work anticipated to continue through December
- ◆ Operation of equipment used for producing the concrete mixture required for cutoff walls
- ◆ 2-3 cement deliveries daily

### Benham Way Staging Area/North Point Way Access Point

- ◆ Completed and Reopened

### Zacharias Park

- ◆ Completed and Reopened

### Cliff's Marina

- ◆ Temporary fencing installation. Construction beginning mid-May and continuing until December. Levee closed from Freeport Water Tower to Cliff's Marina
- ◆ Haul trucks entering/existing

### Westin

- ◆ Levee work to continue through December
- ◆ Batch plant mobilization and begin test wall construction
- ◆ Deep Mixed Method drilling moving south from Sump 132

### Broadway

- ◆ We don't anticipate work starting until late summer/early fall

## Question of the Month

**Will the concrete mattress running along the Sacramento River perpendicular to Sutterville Rd. be removed? (image above)**

Yes, concrete is not the most effective material to provide erosion protection. Over time, concrete can develop cracks or degrade due to various factors like freeze-thaw cycles, chemical exposure, or physical impacts. It requires periodic inspection and maintenance to ensure effectiveness. The concrete mattress at this location will be replaced with riprap, a more effective longer-term erosion solution.

## Information Resources:

### Project Webpage:

[www.sacleveeupgrades.com](http://www.sacleveeupgrades.com)



### Sacramento District Homepage:

[www.spk.usace.army.mil](http://www.spk.usace.army.mil)

### Contact Information:

For questions or concerns, please contact our Public Affairs Office at  
916-557-5100  
[spk-pao@usace.army.mil](mailto:spk-pao@usace.army.mil)

## Upcoming Milestones

### Seepage/Stability/Overtopping

#### SREL Contract 3

Construction

March 2022 - September 2023

#### SREL Contract 4

Construction

April 2023 - December 2023

### Erosion

#### Contract 2

Tree Removal/Trimming  
June 2023

Construction

July 2023 - October 2024

#### Contract 3

Construction Award

Anticipated January/February  
2025

#### Contract 4

Construction Award

Anticipated January/February  
2024

Additional information can be found on our project web page at [www.sacleveeupgrades.com](http://www.sacleveeupgrades.com)

\*All Dates Subject to Change



# American River Common Features 2016 American River Erosion Monthly Update

June 2023

Attachment 2

## Highlights (last 30+ days)

The 2023 construction season has begun with work at site 2-3 on the right bank near Campus Commons. Higher than average water flows are anticipated through June, so please be cautious around the river.

### Contract 1 (Site 2-1)

All construction work is complete.

### Contract 2 (Site 2-3 & 2-2, Season 2, H St. bridge to Howe Ave)

At site 2-3, the contractor stripped and grubbed remaining vegetation and began excavating and hauling off material for disposal.

**CAUTION:** Haul trucks are now using the access point at University Park. For your safety, please respect all signage and flaggers where the haul route crosses the bike path beneath Howe Ave.

### Mitigation Contract C (Rio Americano and Rossmoor West sites) and Contract E1A (Paradise Bend)

We continued installing irrigation and placing additional plantings within the mitigation sites.

## Looking Ahead (next 30+ days)

### Current Activity - What can I expect?

**Work hours:** Monday-Saturday from 7 a.m. - 6 p.m. and Sunday 9 a.m. - 6 p.m.

### Contract 1 (Site 2-1)

Revegetation for Site 2-1 will begin late July due to current high water conditions.

### Contract 2 (Site 2-3 & 2-2, Season 2, H St. bridge to Howe Ave)

The contractor will finish root and debris removal and continue excavating and hauling off material for disposal.

### Mitigation Contract C (Rio Americano and Rossmoor West sites)

We will continue efforts to install irrigation and placing additional plantings within the mitigation sites.

### Mitigation E1A (Paradise Bend)

We will continue efforts to install irrigation and placing additional plantings within the mitigation sites.

## Question of the Month

**When an Elderberry mitigation site is established what kind of monitoring is done to ensure success?**

After transplanting elderberry shrubs and installing plantings, our landscape contractor monitors the plantings and ensures that signage and irrigation are intact. We also ensure the sites are meeting performance objectives and mitigation goals. While completing a recent survey at a mitigation site, a member of our environmental team discovered a live Valley Elderberry Longhorn Beetle on one of the plants. These endangered beetles are very elusive and finding one demonstrates the success of our efforts.



## Information Resources:

**Project Webpage:**

[www.sacleveeupgrades.com](http://www.sacleveeupgrades.com)

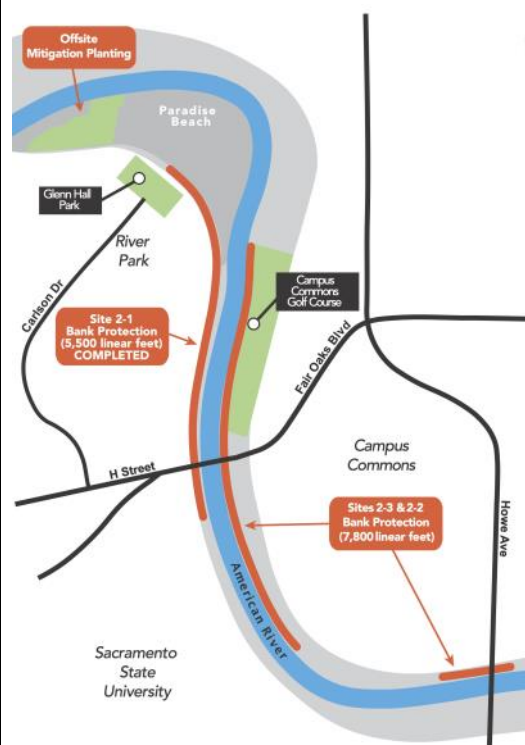


**Contact Information:**

For questions or concerns, contact

Public Affairs: 916-557-5100

[spk-pao@usace.army.mil](mailto:spk-pao@usace.army.mil)



## Upcoming Milestones

### LAR Contract 1 & 2 season 1

Revegetation  
July 2023

### LAR Contract 2

Construction (Season 2)  
May - November 2023

### Mitigation E1A

Final Vegetation Clearing  
November 2023

Additional information regarding this project can be found at

[www.sacleveeupgrades.com](http://www.sacleveeupgrades.com)

*\*All Dates Subject to Change*



# American River Common Features Natomas Basin

APRIL 2023

## Levee Improvement Project Monthly Update

Attachment 3

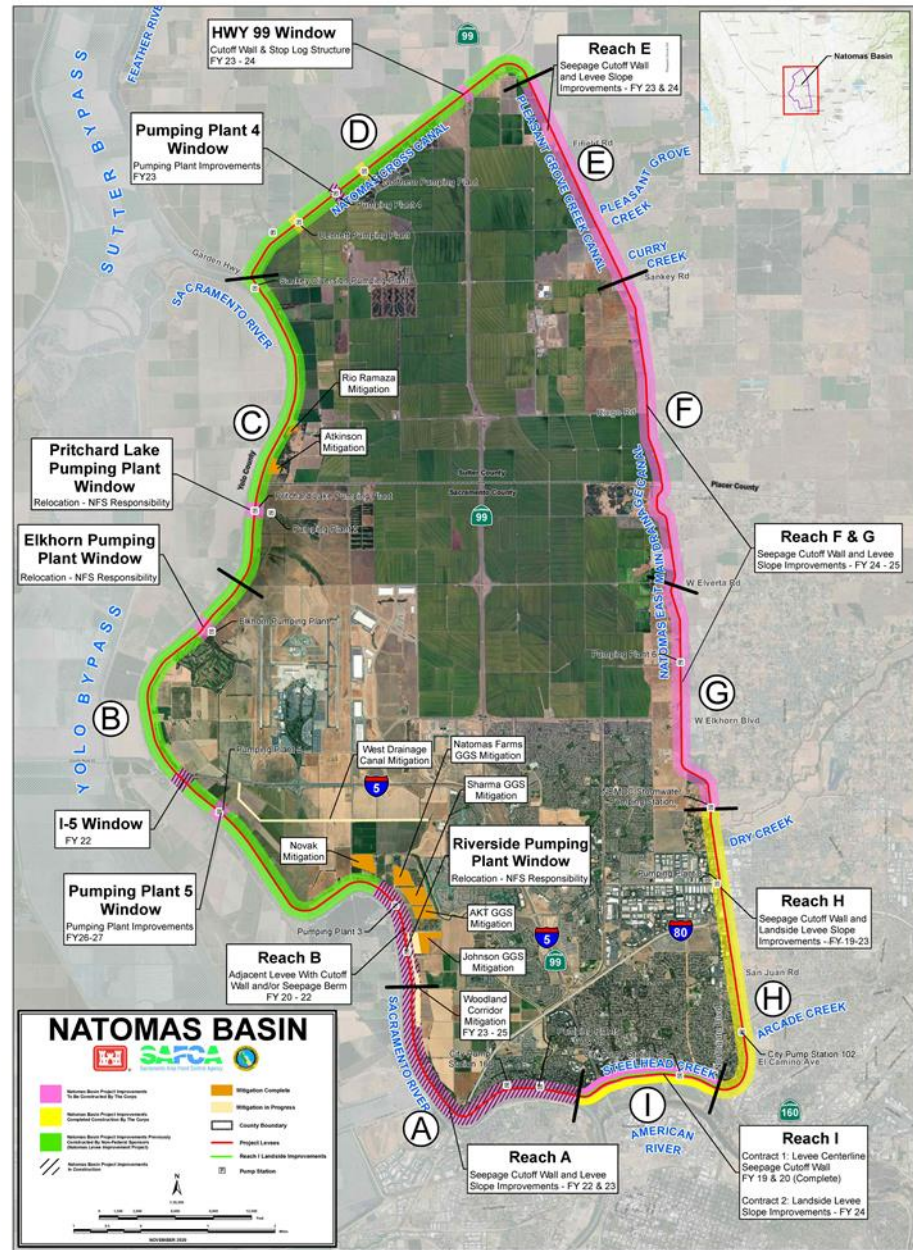


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REACH	SCHEDULE
<b>Reach A</b> Gateway Oaks Dr to Farm Rd	<ul style="list-style-type: none"> <li>Levee construction to resume Spring of 2023 along Garden HWY starting at Farm Rd. and extending to I-80.</li> <li>Additional tree removal resuming Spring 2023.</li> <li>Overhead Utility relocations ongoing, estimated completion Fall 2023.</li> <li>Improvements to Pumping Plant 1B, City Sump 160 and Pumping Plant 1A anticipated to begin in 2024.</li> </ul> <p>Visit <b>Reach A</b> website for the latest project news: <a href="#">Click here</a></p>
<b>Reach B</b> Farm Rd to Elverta Rd	<ul style="list-style-type: none"> <li>Levee construction began July 2020; Adjacent Levee Construction is 95% complete. Final completion, including seepage berm, is expected in the Summer 2023.</li> <li>Irrigation canal improvements are completed.</li> <li>Lift station is operational but will require installation of a new air release valve in Spring 2023.</li> <li>I-5 Window - Construction began Summer 2022 and was declared substantially complete in January 2023.</li> <li>Pumping Plants:                         <ul style="list-style-type: none"> <li>Pumping Plant #3 – Construction completed, and plant is operational. Relief well work is ongoing and expected to finish Spring 2023.</li> <li>Pumping Plant #5 - Construction expected to begin Summer 2024</li> <li>Riverside Pumping Plant Replacement to begin Summer 2022 with discharge pipe relocation to begin 2024.</li> <li>Elkhorn Pumping Plant construction to begin 2024.</li> </ul> </li> </ul>
<b>Reach C</b> Elverta Rd to Sankey Rd	<ul style="list-style-type: none"> <li>Levee construction was completed in 2008/2009 by Sacramento Area Flood Control Agency.</li> <li>Pritchard Lake Pumping Plant to begin construction in 2025.</li> </ul>
<b>Reach D</b> Sankey Rd to Howsley Rd	<ul style="list-style-type: none"> <li>Levee construction was completed in 2008/2009 by Sacramento Area Flood Control Agency.</li> <li>Highway 99 Window – Construction expected to begin Spring 2024.</li> <li>Pumping Plant #4 – Construction began August 2021; expected to be completed Fall 2023.</li> </ul>
<b>Reach E</b> Howsley Rd to Sankey Rd	<ul style="list-style-type: none"> <li>Levee construction expected to begin Spring 2023.</li> <li>Utility Relocations to be completed Spring 2023.</li> <li>Tree Removal completed.</li> </ul>
<b>Reach F&amp;G</b> Sankey Rd to Drainage Pumping Station	<ul style="list-style-type: none"> <li>Levee construction and improvements to the levee slope and Pumping Plant #6 expected to begin Spring 2025.</li> </ul>
<b>Reach H</b> Drainage Pumping Station to Northgate Blvd	<ul style="list-style-type: none"> <li>Levee construction and improvements to Pumping Stations #8 and #102 began 2018; expected to be completed Spring 2024.</li> <li>Seepage berm construction to begin later Summer 2022; completion expected in the Spring 2024.</li> <li>Installation of concrete staircase, monitoring wells, and retaining walls underway.</li> </ul>
<b>Reach I</b> Northgate Blvd to Gateway Oaks	<ul style="list-style-type: none"> <li>Contract 1: Levee construction and improvements to Pump Station #58 completed Fall 2022.</li> <li>Contract 2: Landside levee improvements and installation of maintenance road expected to begin Summer 2024.                         <ul style="list-style-type: none"> <li>Tree Removal efforts ongoing.</li> <li>Utility Relocations expected to begin in 2023.</li> </ul> </li> </ul>



### Get the Latest Natomas Updates Here



Project Website

[www.natomaslevees.com](http://www.natomaslevees.com)

#### CONTACT INFORMATION

For questions or concerns, please contact USACE Public Affairs  
916.557.5100 / [spk-pao@usace.army.mil](mailto:spk-pao@usace.army.mil)



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# American River Common Features Natomas Basin

## Levee Improvement Project Monthly Update

APRIL 2023



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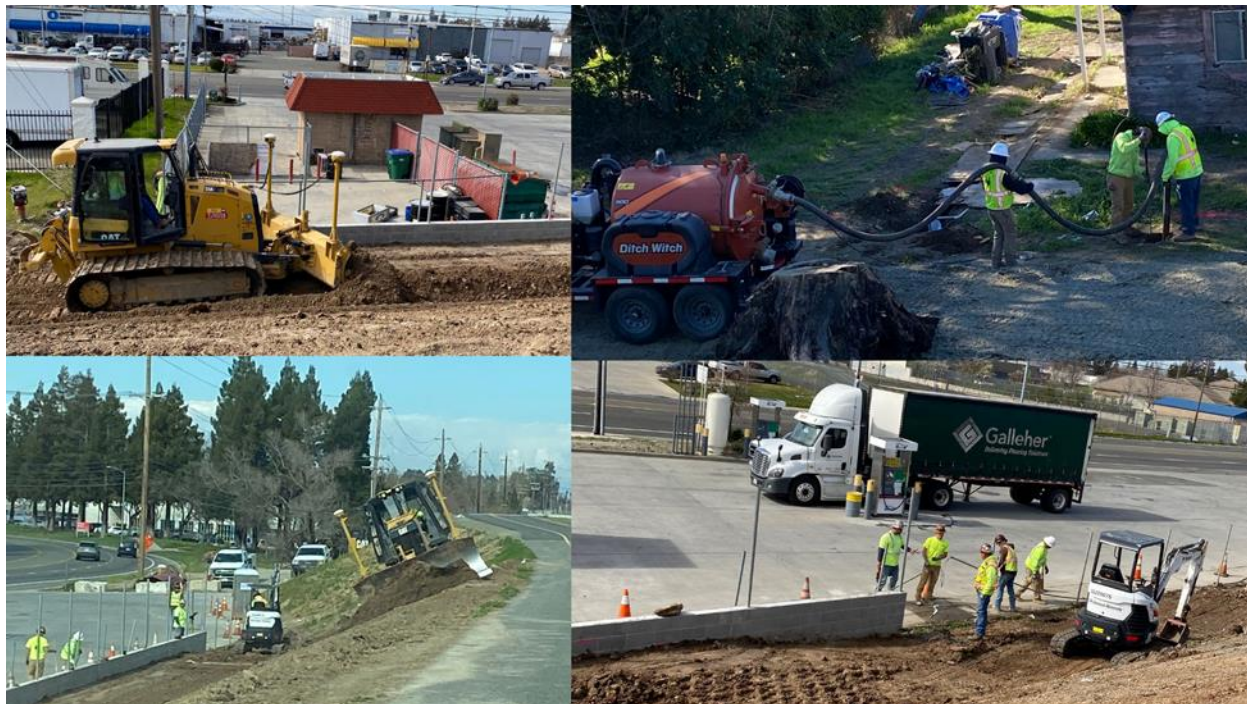


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### Reach B:

Pumping Plant No. 3 Relief Well Controlled Low Strength Material  
backfill



### Reach H:

Levee improvements and Seepage Berm construction



US Army Corps  
of Engineers®

