



Board of Directors  
Bruce E. Dandy, President  
Sheldon G. Berger, Vice President  
Lynn E. Maulhardt, Secretary/Treasurer  
Mohammed A. Hasan  
Edwin T. McFadden III  
Michael Mobley  
Daniel C. Naumann

General Manager  
Mauricio E. Guardado, Jr.

Legal Counsel  
David D. Boyer

**AGENDA**  
**ENGINEERING and OPERATIONS COMMITTEE**  
**Thursday, April 7, 2022, at 9:00 a.m.**  
**UNITED WATER CONSERVATION DISTRICT**  
**Boardroom, 1701 N. Lombard Street, Oxnard CA 93030**

**Call to Order – Open Session**  
**Committee Members roll call**

**1. Public Comment (Proposed Time: 5 minutes)**

The public may comment on any matter not on the agenda within the jurisdiction of the Committee. All comments are subject to a five-minute time limit.

**2. Approval of Minutes (Proposed Time: 5 minutes)**

**Motion**

The Committee will review and consider approving the Minutes from the February 3, 2022 Engineering and Operations Committee meeting.

**3. Project Highlights**

**3.1 Engineering Department Monthly Update** (Engineering Department, Maryam Bral) (Proposed Time: 20 minutes)

**3.2 Environmental Services Department Monthly Update** (Environmental Services Department, Linda Purpus) (Proposed Time: 15 minutes)

**3.3 Operations and Maintenance Department Monthly Update** (Operations and Maintenance Department, Brian Collins) (Proposed Time: 15 minutes)

**FUTURE AGENDA ITEMS**

**ADJOURNMENT**

**Directors:**

Edwin T. McFadden III, Chair  
Lynn E. Maulhardt  
Daniel C. Naumann

**Staff:**

Mauricio E. Guardado, Jr.	Dr. Maryam Bral
Anthony Emmert	Brian Collins
John Carman	Craig Morgan
Michel Kadah	Robert Richardson
Adrian Quiroz	Linda Purpus
Randall McInvale	Evan Lashly
Hannah Garcia-Wickstrum	Tessa Lenz

*The Americans with Disabilities Act provides that no qualified individual with a disability shall be excluded from participation in, or denied the benefits of, the District's services, programs or activities because of any disability. If you need special assistance to participate in this meeting, or if you require agenda material in an alternative format, please contact the District's offices at (805) 525-4431. Notification of at least 48 hours prior to the meeting will enable the District to make appropriate arrangements.*



Engineering and Operations Committee Meeting Agenda

Thursday, April 7, 2022

Page 2

Approved:

A handwritten signature in blue ink, appearing to read 'M. Guardado'.

Mauricio E. Guardado, Jr., General Manager

A handwritten signature in blue ink, appearing to read 'M. Bral'.

Dr. Maryam Bral, Chief Engineer

A handwritten signature in blue ink, appearing to read 'B. Collins'.

Brian Collins, Chief Operations Officer

Posted: (date) March 31, 2022

(time) 4:45 p.m.

(attest) *Destiny Rubio*

At: UWCD Headquarters, 1701 N. Lombard Street, Oxnard CA 93030

Posted: (date) March 31, 2022

(time) 5:00 p.m.

(attest) *Destiny Rubio*

At: [www.unitedwater.org](http://www.unitedwater.org)



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**MINUTES**  
**ENGINEERING AND OPERATIONS**  
**COMMITTEE MEETING**  
**Thursday, February 3, 2022, 9:00 A.M.**  
**Board Room, UWCD Headquarters**  
**1701 N. Lombard Street, Oxnard CA 93030**

**COMMITTEE MEMBERS IN ATTENDANCE**

Lynn E. Maulhardt, Chair  
Edwin T. McFadden III, Director  
Daniel C. Naumann, Director

**STAFF IN ATTENDANCE**

Dr. Maryam Bral, chief engineer  
Brian Collins, chief operations officer  
John Carman, operations and maintenance program supervisor  
Anthony Emmert, assistant general manager  
Tessa Lenz, associate environmental scientist  
Randall McInvale, environmental scientist regulatory affairs  
Craig Morgan, engineering manager  
Josh Perez, chief human resources officer  
Zachary Plummer, technology systems manager  
Linda Purpus, environmental services manager

**PUBLIC IN ATTENDANCE**

None

**Call to Order – Open Session**

Chair Maulhardt called the Committee to order at 9:00a.m. All Committee members were present (Maulhardt, McFadden, Naumann)

**1. Public Comments**  
**Information Item**

Chair Maulhardt asked if there were any comments or questions from the public for the Committee. None were offered.

Director Naumann stated that he attended the Regional Defense Partnership for the 21<sup>st</sup> Century meeting and that there were about 35 participants on the zoom call who were also engineers. He stated that Dr. Bral did a great job presenting the Iron and Manganese Treatment Project and the Coastal Brackish Groundwater Extraction Treatment Plant Project.

**2. Approval of Minutes**  
**Motion**

Motion to approve the Minutes from the January 6, 2022, Engineering and Operations Committee meeting, Director McFadden; Second, Director Naumann. Voice vote: three ayes (Maulhardt, McFadden, Naumann). Motion carries unanimously 3/0.

**3. February 9, 2022 Board Meeting Agenda Motion Items**

**3.1 Authorize an Amendment to the Bureau of Reclamation's Agreement for the Physical Modeling of the Hardened Ramp for the Freeman Expansion Project**

Chief Operations Officer Brian Collins addressed the Committee and shared a slide regarding this motion item (see attached). He asked the Committee to recommend approval of the amendment to the Bureau of Reclamation's (BoR) agreement for physical modeling of the Hardened Ramp for the Freeman Expansion Project in the amount of \$683,633, to the full Board.

Director Naumann asked if this will keep the District on schedule. Mr. Collins stated that the amendment covers work through October 31, 2022. He added, the amendment also extends the deadline of the contributed funds agreement to March 2023 to allow response to comments from agencies which are anticipated to be received December 31, 2022.

Director McFadden moved the Committee recommend approval of the amendment to the full Board; Director Naumann concurred. Chair Maulhardt approved the recommendation of the motion item to the full Board.

**3.2 Authorize an Amendment to the Iowa Institute of Hydraulic Research Contract for the Physical Modeling of the Vertical Slot for the Freeman Expansion Project**

Mr. Collins addressed the Committee and shared a slide regarding this motion item (see attached). He asked the Committee to recommend approval of the amendment to the Iowa Institute of Hydraulic Research (IIHR) agreement for physical modeling of the Vertical Slot for the Freeman Expansion Project in the amount of \$1,004,495, to the full Board.

Mr. Collins stated that this amendment includes the fifth model of the fish screen. The District will decide whether this model is needed by May. He added, these contracts are related to the supplemental appropriation which was approved at the January Board of Directors meeting. Director McFadden asked that staff report back on whether the fifth model will be needed.

Director McFadden moved the Committee recommend approval of the amendment to the full Board; Director Naumann concurred. Chair Maulhardt approved the recommendation of the motion item to the full Board.

**3.3 Resolution 2022-06 A Resolution of the United Water Conservation District Board of Directors supporting the submission of the 2021 Sustainable Groundwater Management (SGM) Grant Program SGMA Implementation Round 1 application to the California Department of Water Resources**

Chief Engineer Dr. Bral addressed the Committee and shared a slide regarding this resolution (see attached). She asked the Committee to recommend approval of

Resolution 2022-06 related to supporting the submission of a 2021 Sustainable Groundwater Management (SGM) grant program application by the Fox Canyon Groundwater Management Agency to the California Department of Water Resources, to the full Board.

Director McFadden moved the Committee recommend approval to the Resolution to the full Board. Director Naumann concurred. Chair Maulhardt approved the recommendation of the Resolution to the full Board.

#### **4. Project Highlights**

##### **4.1 Engineering Department Monthly Update** (see attached slides)

Dr. Bral made a presentation updating the Committee of the Engineering Departments activities during January, including NEPA and environmental permitting for the Santa Felicia Dam (SFD) Safety Improvement Project (SIP). The District held four technical assistance meetings with FERC, NMFS, CDFW, and the SWRCB to facilitate discussions on the design of the release reach channel downstream of the SFD Outlet Works. She stated that as part of the SFDSIP, the Outlet Works (OW) will be relocated to the east abutment. As a result of this, the current channel will be abandoned and a new one will be created as mitigation. Staff completed the 30 percent design and submitted them to FERC on February 1 to begin the 30-day review process by FERC and NMFS. She added, once this has been finalized staff will submit the Biological Assessment (BA) to FERC and initiate formal Section 7 consultation with NMFS.

The Committee engaged in a lengthy discussion regarding the purpose of the mitigation effort, the topography of the proposed channel design, and how reliable the channel would be in the event of a massive release. The committee expressed concern about having to rebuild the channel in the event of an emergency water release and suggested that funds for this be possibly included in future reserves. Staff responded and stated that the purpose of the new channel is to accommodate controlled releases. The channel is not designed to convey emergency releases. In such event, the purpose is to save the dam and the channel will reestablish itself following an emergency release.

Dr. Bral also provided updates on the Lake Piru Water Treatment Plant Slope Repair and Drainage Improvement Project and the Oxnard Hueneme System Backup Generator Project.

##### **4.2 Environmental Services Department Update** (see attached slides)

Environmental Services Department Manager Linda Purpus addressed the Committee, offering departmental updates and a key highlight regarding CalTrout's petition to CDFW to list Southern California Steelhead under CESA. Ms. Purpus then introduced Environmental Scientist Regulatory Affairs Randall McInvale to present the key highlight. Mr. McInvale provided an overview of the activities the District has conducted since the petition was submitted. He also provided an in-

depth explanation on what is specifically being asked for within the petition and the potential implications.

**4.3 Operations and Maintenance Department Update and Modeling Presentation** (see attached slides)

Mr. Collins made a presentation updating the Committee of the Operations and Maintenance Departments activities during January, including an update on the modeling efforts. Mr. Collins stated that staff will be traveling to Iowa at the end of the month and that the 1:12 model is complete, the agencies have submitted the draft and staff will be reviewing the 120-page report. Chair Maulhardt asked if anything has been done to simulate the wave pattern of the concrete steel over time. Engineering Manager Craig Morgan stated that staff is currently at the 30 percent design and there are no motion sensors in place, he added, the thought is to have steel baffles included in the channel to keep it in place. Chair Maulhardt then asked if there have been tests on the pounding. Mr. Collins stated that this is strictly hydraulic modeling. Chair Maulhardt then asked if the structure will be anchored to the bedrock. Mr. Morgan stated that yes it will be anchored like how the structure is anchored now.

The Committee members recommended staff to present updates on the SGM Grant application, the CESA listing and updates on the physical modeling, to the full Board.

**5. Future Agenda Topics**

None were offered

**ADJOURNMENT 10:30a.m.**

Chair Maulhardt adjourned the meeting at 10:30a.m.

I certify that the above is a true and correct copy of the minutes of the Engineering and Operations Committee Meeting of February 3, 2022.

**ATTEST:** \_\_\_\_\_  
Lynn Maulhardt, Chair

## Motion Item 3.1

### **Amendment to the Bureau of Reclamation CFA for the Physical Modeling of the Hardened Ramp for the Freeman Expansion Project.**

- ☐ CFA/Change order with Bureau of Reclamation for \$683,633
  - ☐ Physical Modeling Scope Changes include:
    - ☐ Extended schedule for design development work to conclude by September 30, 2022. Draft report due by October 31, 2022.
    - ☐ Evaluate Mod 6 and Mod 9 designs baseline.
    - ☐ Covid related material cost increases.
    - ☐ Support BoR response to Agency comments on draft report for finalization.



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## Motion Item 3.2

### **Amendment to the University of Iowa Contract for the Physical Modeling of the Vertical Slot for the Freeman Expansion Project.**

- ☐ Contract with University of Iowa for \$1,004,495
  - ☐ Physical Modeling Scope Changes include:
    - ☐ 72 tons of Sediment sourced from Texas (match BoR).
    - ☐ Sediment volume increase in 1:12 model.
    - ☐ Increase the AWS flow from 600 to 750 cfs.
    - ☐ Modeling 1,200 cfs AWS flow condition via 1:24 fish entrance gates.
    - ☐ Simulating fish pipe discharge from fish counting stations.
    - ☐ Project schedule extension to October 31, 2022.
    - ☐ 1:8 scale screen model (decision by May 1, 2022).



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# Motion Item 3.3

**A Resolution of the United Water Conservation District  
Board of Directors supporting the submission of the 2021  
Sustainable Groundwater Management (SGM) Grant  
Program SGMA Implementation Round 1 application to  
the California Department of Water Resources**










# ENGINEERING DEPARTMENT MONTHLY UPDATE

February 3, 2022



## Santa Felicia Dam Safety Improvement Project NEPA Process





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# Lake Piru Water Treatment Plant and Crack Repair Construction



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# Iron and Manganese Treatment Project



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# OH System Backup Generator Project



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## Projects for inclusion in Oxnard Basin’s Annual Report

Project	Proponent	Projected Yield (AFY)
Freeman Diversion Expansion	UWCD	8000
Extraction Barrier and Brackish Water Treatment	UWCD	15,000 (12,000)
Ferro-Rose Artificial Recharge of Groundwater	UWCD	2000-3000
Laguna Rd Recycled Water Pipeline Interconnection	UWCD	1500
Nauman-Hueneme Rd Recycled Water Pipeline Interconnection	UWCD	1500
Purchase of Supplemental State Water	UWCD	6000
Advanced Water Purification Facility (AWPF) Improvements (Phase II)	Oxnard	7000
Seawater Intrusion Barrier	FCGMA	Unknown

Additionally, 4 Monitoring Wells related Projects proposed by FCGMA



6



## Projects for inclusion in Pleasant Valley Basin's Annual Report

Project	Proponent	Projected Yield (AFY)
PVCWD Private Reservoir Program	PVCWD	500-1000
PVCWD Recycled Water Connection Pipeline	PVCWD	1,000-2,000
Extraction Barrier and Brackish Water Treatment	UWCD	15,000 (12,000)
Freeman Diversion Expansion	UWCD	2000
Laguna Rd Recycled Water Pipeline Interconnection	UWCD	
Purchase of Supplemental State Water	UWCD	6000
Houweling Nursery's Indoor Grow Facility RO Brine Recovery Project	Houweling	300

Additionally, 3 Monitoring Wells Type Projects proposed by FCGMA, and 5 feasibility Study Projects proposed by Camarillo



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## DWR SGM Grant Round 1 Proposed Projects for Oxnard Basin

Project Name	Proponent	Score	Total Project Cost	Min-Max Grant Request	Recommended Project Amount	% of Project Total Costs
Ferro-Rose Artificial Recharge of Groundwater	UWCD	26	\$4.0M	\$1.0M - \$3.8M	\$2.51M	33
Laguna Road RW Interconnection	UWCD	24	\$4.2M	\$2.0M - \$4.0M	\$2.65M	35
MW Construction and Data Collection for Design of Extraction Barrier and Brackish Water Treatment	UWCD	20	\$2.1M	\$1.0M - \$1.9M	\$1.31M	17
Installation of 3 Monitoring Wells to Assess the Hydraulic Connectivity Between Surface Water Bodies, Semi-Perched Aquifer, the Principal Aquifers	FCGMA	18	\$493,442	\$127,500 - \$382,500	\$382,500	5
Install Multi-Depth Monitoring Wells at Two Locations in the Oxnard Subbasin	FCGMA	18	\$1.7M	\$625,500 - \$1.3M	\$737,800	10



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DWR SGM Grant Round 1  
Proposed Projects for Pleasant Valley Basin

Project Name	Proponent	Score	Total Project Cost	Min-Max Grant Request	Recommended Project Amount	% of Project Total Costs
RW Connection Pipeline	PVCWD	22	\$5.60M	\$5.26M	\$5.26M	69
Private Reservoir Program	PVCWD	22	\$590,000	\$550,000	\$550,000	7
Install Multi-Depth Monitoring Wells and Three Locations in the Pleasant Valley Basin (PVB)	FCGMA	19	\$2.55M	\$652,500 - \$2.10M	\$1.07M	14
Installation of 3 Monitoring Wells to Assess the Hydraulic Connectivity Between Surface Water Bodies, Semi-Perched Aquifer, the Principal Aquifers	FCGMA	18	\$493,442	\$127,500 - \$382,500	\$382,500	5
Stormwater Diversion to WRP Feasibility Study	City of Camarillo	18	\$350,000	\$332,500	\$332,500	4



QUESTIONS





# ENVIRONMENTAL SERVICES MONTHLY UPDATE

February 3, 2022



## Department Updates

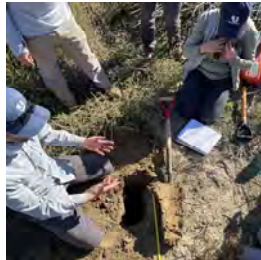
- Freeman Fish Passage Operations
- FERC License Habitat Releases
- Internal Training Opportunities

## Key Highlight

- Southern California Steelhead CESA Listing



## Summary Updates



- Freeman Fish Ladder Operations
- FERC License for Santa Felicia Dam
  - Enhanced habitat water releases triggered through March 2022
- Facilitation of Internal Training Opportunities



## Key Highlight

District-led effort to address and oppose listing of southern California steelhead under CESA

- Science-based evaluation and development of comments on:
  1. CalTrout petition to list
  2. CDFW evaluation of petition
- Engaged and informed stakeholder coalition to oppose listing



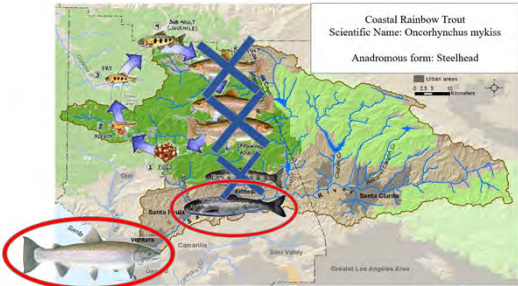
# Building Coalitions and Leading the Charge

- Diversity of stakeholder groups
- Providing leadership on technical and regulatory review
- Highlighting the future challenges
- Commenting directly to the Commission

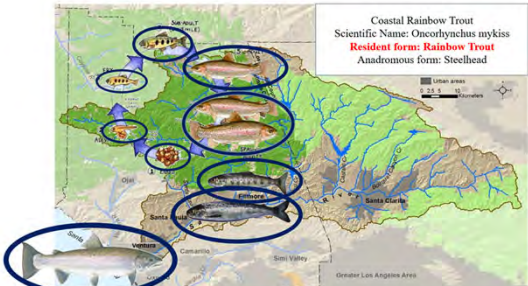


# CESA Listing Petition Proposal

Current Federal Listing



Proposed State Listing



VS







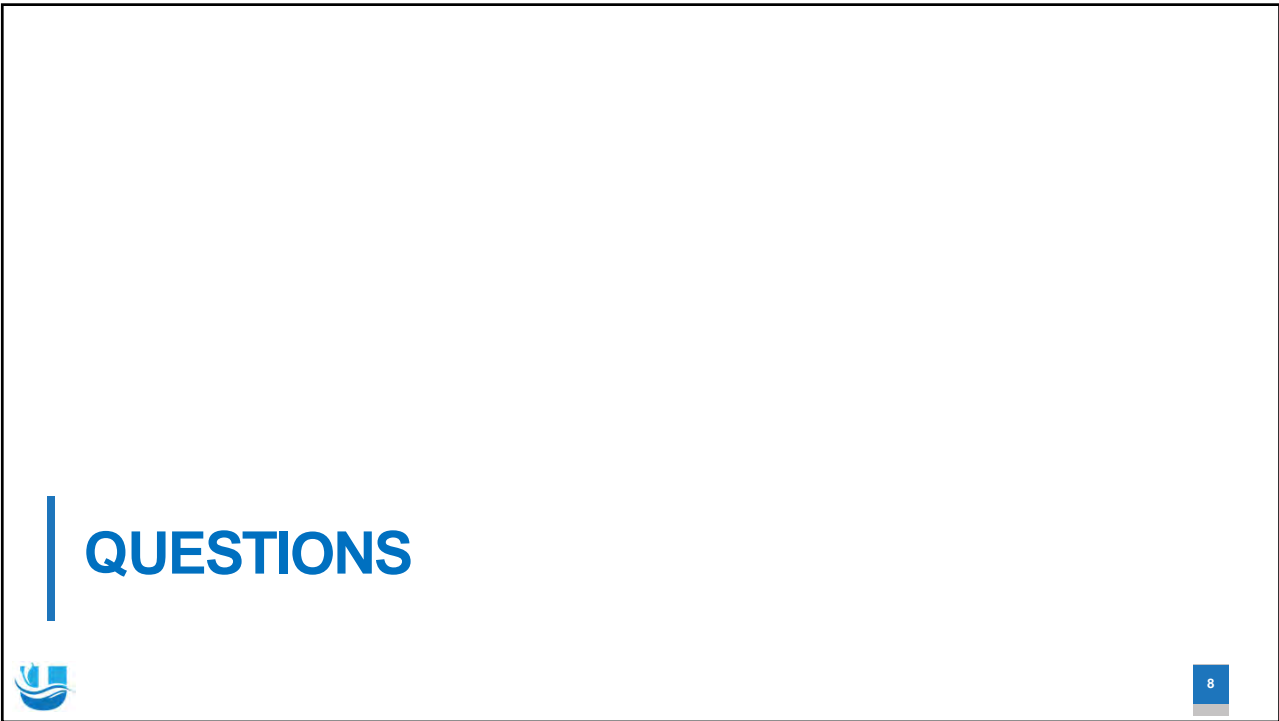
## Looking Ahead

- Comments provided to stakeholders and submitted to the Commission in preparation for the February 16-17, 2022 meeting
- Strategy for additional engagement




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# OPERATIONS AND MAINTENANCE UPDATE

February 3, 2022



## SANTA FELICIA DAM





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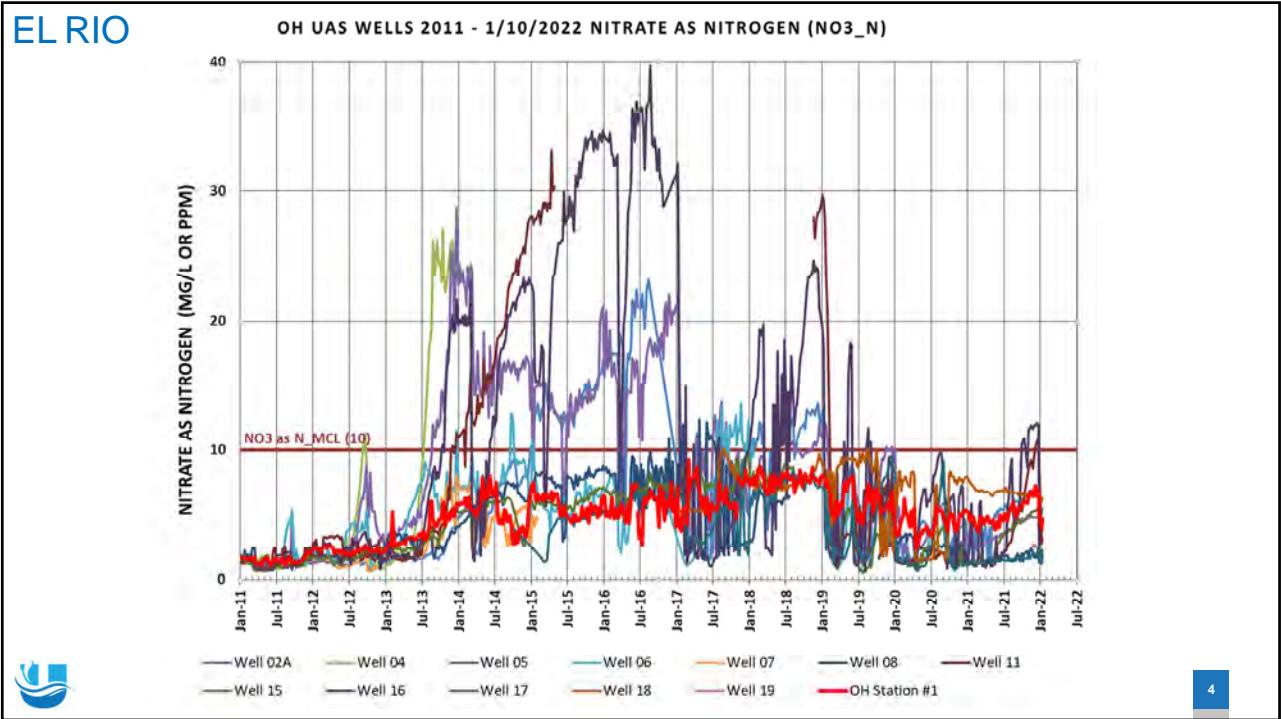
SATICOY OPERATIONS





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4



# OH BOOSTER PLANT

Drainage Erosion Repair



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5

# PTP Delivery System




6

6


### MODELING

#### 1:24 Model at 226 kcfs




**IOWA**

IIHR – HYDROSCIENCE & ENGINEERING



#### Dam and Diversion



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### 1:12 Construction Update





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### 1:24 MOD-6 Upstream Photos – 3,000 cfs

Flushing Channel Closed

Flushing Channel Open

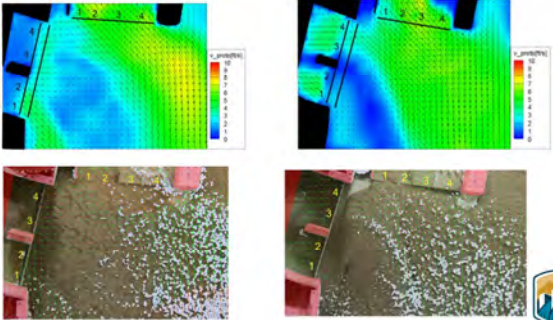
Flushing Channel Removed




### 1:24 PIV Flushing Closed – 3,000 cfs

MOD-6

MOD-9





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# QUESTIONS?



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### **Staff Report**

**To:** Engineering and Operations Committee Members

**Through:** Mauricio E. Guardado, Jr., General Manager

**From:** Maryam A. Bral, Chief Engineer  
Craig A. Morgan, Engineering Manager  
Robert J. Richardson, Senior Engineer  
Michel Kadah, Engineer  
Adrian Quiroz, Associate Engineer  
Erik Zvirbulis, GIS Analyst

**Date:** April 5, 2022 (April 7, 2022, meeting)

**Agenda Item:** 3.1 Monthly Engineering Department Report  
**Information item**

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#### **Staff Recommendation:**

The Engineering and Operations Committee members will receive this summary report from the Engineering Department regarding its activities for the month of March 2022.

#### **Discussion:**

##### 1. Santa Felicia Dam Safety Improvement Projects

- Spillway Improvement Project
    - The 30% design analyses continued during the month of March. Staff briefly reviewed the supplemental hydraulic analyses of the end of the spillway chute.
    - Staff attended the bi-weekly progress meetings and discussed the design progress with GEI Consultants (GEI).
    - Staff provided comments on GEI's proposed responses to the Board of Consultants (BOC) recommendations provided during the BOC meeting No. 5 last September.
  - Outlet Works Improvement Project
    - The above updates reported for the Spillway Improvement Project are also applicable to the Outlet Works Improvement Project.
    - Staff attended the 60% design workshop with GEI and Operations staff. GEI presented 60% design modifications and received staff input and comments which will be incorporated in the final 60% design packet.
    - Staff provided comments to GEI on the Downstream Control Facility (DCF) Removable Roof Alternatives Technical Memorandum (TM) and the DCF Passive Aerator TM.
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### 3.1 Monthly Engineering Department Report Information Item

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- Staff visited San Vicente and Olivenhain dams on April 6 and observed the fish screen systems at both dams. Staff discussed the fish screen operation with the City of San Diego and San Diego Water Authority staff. The lessons-learned will be incorporated in the current design phase.
  - FERC License Amendment Application, NEPA Documentation and Section 7 Consultation
    - On February 4, 2022, Engineering and ESD Staff met with Catalyst Environmental Solutions (Catalyst) and GEI to discuss NMFS comments on the design criteria of the fish screens for the SFD new intake facility. The agency's comment letter was submitted to FERC on January 27, 2022. Staff met with the consultants on February 18 to discuss the District's draft response letter to FERC and is currently in the process of finalizing the response letter to FERC. It should be noted that a copy of the Fish Screen Design Technical Memorandum was also submitted to CDFW by Staff via email on October 28, 2021. The design of the fish screen is currently at 60% design level.
    - On February 15, 2022, FERC released a supplemental notice of technical conference to be held on April 26, 2022. Three panels are planned for this event. Panel 1 will discuss Protecting Hydroelectric Facilities and Communities with Financial Assurance requirements. Panel 2 will discuss Establishing a Financial Assurance Requirement. Panel 3 will discuss Evaluating Mechanisms for Financial Assurance. The conference is open to the public and allows virtual participation. FERC allows individuals to self nominate themselves as panelists. Engineering Staff has continued working with Mike Swiger with Van Ness Feldman and several other public agencies to continue providing comments to FERC. UWCD and DWR have expressed interest to participate in Panel 1 discussions. Mike Swiger has received confirmation to be on Panel 2.
    - On March 8, Engineering and Environmental Services Staff met with FERC to discuss updates on the NEPA process and the path forward regarding Section 7 consultation with FERC, NMFS and CDFW. Staff and FERC agreed that NMFS review comments on the 30% design documents for the new release channel would be beneficial for the project and help utilize the agency staff time effectively during Section 7 consultation. Per Staff request, FERC inquired an update from NMFS.
    - On March 10, per Staff request, FERC contacted NMFS via email to provide the agency with an extended review period and to inform the agency about United's request for receiving NMFS comments on the 30% channel design technical memorandum.
    - The State Water Resources Control Board has issued a final 401 water quality certification for the Project.
  - Loan and Grant Applications
    - 2021 FEMA HMGP
      - On March 1, Staff participated in CalOES Sub-application Development Series on Structural Benefits Cost Analysis.
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### 3.1 Monthly Engineering Department Report Information Item

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- On March 16, Staff attended sub-application technical assistance support meeting with CalOES.
- Staff prepared and submitted the Hazard Mitigation Grant Program (HMGP) sub-application for the outlet works improvement project to CalOES on April 7. The total project cost is estimated at \$68M. The requested grant amount is \$51M (75% federal share cost). The non-federal share cost is \$17M or 25% of the total project cost.

#### PrepareCA Match – FEMA HMGP

- The non-federal share cost (\$17M) included in the HMGP sub-application for the outlet works improvement project may qualify for CalOES grant supplement program (PrepareCA Match Program). Staff included the requested documents and information for the PrepareCA Match Program in the HMGP sub-application submitted to CalOES on April 7.

#### WIFIA Loan

- On March 29, Staff attended a kickoff meeting with ESD and Finance to review the WIFIA loan application. Staff is planning to submit the application by April 29.

#### ● Santa Felicia Dam Safety

- Staff has begun work on the 2022 SFD Vulnerability and Security Assessment Updates and Reprints. FERC requires these assessments to be conducted on a 5-year basis. Staff has conducted a series of planning meetings to develop a strategy for completing these assessments in 2022. Staff plan to complete a portion of these assessments using in-house resources and may potentially reach out to consultants for support.
- Staff has received a proposal from Gannett Fleming, Inc. (GF) for performing the 2022 SFD Owner Dam Safety Program (ODSP) External Audit. FERC requires an external audit of the ODSP on a 5-year basis. As required by FERC, the District must submit the resume of the proposed auditor to FERC for review and approval. District staff submitted the resume of the proposed GF ODSP auditor on January 28, 2022. FERC approved the GF ODSP auditor on March 30, 2022. The external audit will be performed by GF beginning in July 2022. The External ODSP Audit Report will be submitted to FERC by December 31, 2022.
- The FERC requires an Independent Consultant (IC) to conduct a Part 12D Inspection for SFD on a 5-year basis. In a letter dated May 26, 2021, FERC notified the District that the twelfth Part 12D Independent Consultant's Safety Inspection Report for SFD is due on November 1, 2022. On February 11, 2022, Staff issued a Request for Proposal/Qualifications (RFP/Q) to two (2) consultants for the Independent Consultant for the 2022 SFD Part 12D Inspection. Two proposals were submitted to the District on March 10, 2022. Staff met internally to review and evaluate the proposals and selected GF to as the IC for the 2022 SFD Part 12D inspection. As required by FERC, the GF team resumes were submitted to FERC on March 24, 2022. The Part 12D process is expected to begin in May 2022, pending FERC approval of the GF resumes.

### 3.1 **Monthly Engineering Department Report Information Item**

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- On April 1, Staff submitted the updated plan and schedule for the SFD physical and cyber security measures. These semiannual updates are requested by FERC. The first semiannual update was submitted to FERC on October 1, 2021.
- Staff has received a proposal from Hi-Tech Rockfall Construction for inspecting and fixing the existing and installing new wire mesh and anchors at the east side of the spillway access way.

#### 2. Santa Felicia Dam Sediment Management Project

- With the support of SFD O&M staff, four (4) test pits were excavated at the north end of Lake Piru lakebed on February 23, 2022, per the Lake Piru Reservoir Sediment Sampling and Testing Plan. Test pit depth ranged between 9 – 12 feet. A geologist from Earth Systems Pacific was present to perform the test pit logging. Also on hand was a Recreation staff member performing bio monitoring to ensure the work was conducted per the conditions outlined in the environmental permits. Prior to the work, the Environmental Services Department conducted a nesting bird survey on February 18, 2022. Test pit logs were submitted by Earth Systems on March 3, 2022, for the District's and GEI's review. Based on these samples, GEI recommended which sediment samples should undergo laboratory testing for physical properties. A geotechnical report summarizing the observations of the test pits and the lab results from the test pit samples will be prepared by Earth Systems and submitted to GEI to supplement their Lake Piru Reservoir Sediment Removal Study. The report is expected in early April 2022.

#### 3. Pothole Trailhead Parking Area

- Engineering Staff participated in the Annual Forest Service Consultation Meeting on March 3, 2022 and provided an update on the status on the public use easements for the Pothole Trailhead and portions of the Pothole Trail that lie on District property. A follow-up meeting will be scheduled with the Forest Service to discuss the completion of the easements. Staff received a proposal from ECG Consultants on March 24, 2022, to support the District with the preparation of the legal descriptions for the easements.

#### 4. Lake Piru Water Treatment Plant Slope Evaluation

- Staff verified that the new storm drain system at the Lake Piru Water Treatment Plant was draining as designed. Staff received verification from O&M staff during the March 28, 2022, rain event that the storm drain system was properly draining the facility (See Figure 1).

#### 5. Freeman Diversion Expansion.

- Staff, USBR, University of Iowa, Stantec and NHC participate in rotating weekly calls with NMFS and CDFW to provide updates on physical modeling, CFD modeling and design alternations.

### 3.1 Monthly Engineering Department Report Information Item

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#### 6. Iron and Manganese Treatment Facility

- Grants:
  - DWR Integrated Regional Water Management (IRWM) Prop 1 (\$2.5M)
    - i. January 7, 2022 - Draft Project Monitoring Plan submitted by Kennedy Jenks Consultants (KJ) is currently under review by District staff.
    - ii. 4<sup>th</sup> Quarterly Progress Report is due at the end of April 2022.
  - DOD OLDCC Defense Community Infrastructure Program (\$4.23M)
    - i. 2<sup>nd</sup> Quarterly Progress Report was submitted on March 31, 2022, by District Staff.
- Meetings:
  - Weekly coordination meetings between Staff and the District's construction manager (HDR, Inc.)
  - Weekly construction progress meetings hosted by HDR and attended by GSE Construction, Taft Electric, KJ and Staff.
- GSE Construction has submitted approximately 205 out of a total of 327 submittal packages anticipated for the project. HDR and design engineer (KJ) have provided responses on approximately 184 submittal packages including a requirement to comply with the Buy American Act.
- GSE Construction has submitted approximately 63 Requests for Information (RFI) to date. HDR, KJ and the District have been providing responses.
- GSE Construction completed approximately 98 potholes and rough grading operations in Pond 8.
- GSE Construction advanced construction of the 4-inch HDPE sewer line. Approximately 500 of 1,243 linear feet installed.
- GSE Construction partially completed construction of the Filter Drain Pump Station, most recently the addition of the Cast-In-Place Concrete Filter Drain Pump Station Equipment Pad on March 31, 2022.
- GSE Construction advanced work on the Fe/Mn building. The Fe/Mn building concrete slab was placed on March 25, 2022 (See Figure 2). The concrete starter wall was placed on March 31, 2022.
- GSE Construction completed the Cast-In-Place Concrete Washwater Return Pump Station Pad on March 31, 2022 (See Figure 3).
- GSE Construction advanced construction of the 20" Ductile Iron Surface Wash Water/Filter to Waste pipeline. Approximately 50 of 205 linear feet installed (See Figure 4).
- The tentative date for construction completion and implementation is January 3, 2023. A total of five (5) inclement weather days have been counted.

#### 7. OH System Backup Generator at the El Rio Booster Plant

- On March 7, Staff received a notification from CalOES regarding FEMA's approval of the Hazard Mitigation Grant Program (HMGP) subrecipient management costs in the amount
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### 3.1 Monthly Engineering Department Report Information Item

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of \$26,581.00. The funding for management costs is distinct from project expenditures and is eligible for recovering the administrative and management costs related to the HMGP grant funding that the District received for the OH System Backup Generator project in October 2021. Staff submitted the subapplication for grant management costs to CalOES on June 22, 2020.

- On March 9, Staff prepared and submitted the HMGP grant compliance assessment documentation to CalOES. An informal exit meeting will be held between CalOES and the District to discuss the results of the assessment.
- On March 10, the Notice of Completion (NOC) for the project was mailed to the Ventura County Recorder's Office and was recorded on March 15.
- Staff began preparation of the grant close-out documents which will be submitted to CalOES by April 25.

#### 8. PTP Metering Improvement Project

- Total number of meters installed: 34 of 61 or 55.7% complete. (no change)
- An additional four (4) meter installations are planned by mid-2022.
- Easement acquisition completion: 19 of 42 obtained or 45.2% complete (no change)
- All modified easement deeds have been sent to the property owners. Hamner, Jewell and Associates will begin contacting the owners to try and expedite signatures.
- On March 23, staff met to discuss the next steps in dealing with turnouts owners who refuse to grant easement deeds.

#### 9. PTP Recycled Water Connection – Laguna Road Pipeline Project

- On March 29, Staff issued Task Order No. 1 to Encompass Consultant Group (ECG) to provide survey services for the project.
- On March 31, Staff met with Mr. Paul Debusschere, the owner of the private properties located along the proposed 24-inch recycled water pipeline to discuss permission to access his properties for conducting a geotechnical subsurface investigation. During the meeting, installation of the proposed 24-inch pipeline within the private properties as an alternative to constructing the pipeline in the public right of way was also discussed. More investigations are needed to locate the existing utilities in the area.

#### 10. State Water Project (SWP) Interconnection Pipeline Project

- Casitas and City of Ventura continue to discuss terms and conditions of an Exchange Agreement (previously referred to as the “In-Lieu” Agreement) and a Construction/Operations Interagency Agreement. The draft exchange agreement will be potentially presented to Water Commission in May.

### 3.1 Monthly Engineering Department Report Information Item

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- Stantec continues to develop the Preliminary Design Report (PDR) and hydraulic analysis for the pipeline and may finalize the 10% design plans to help start the right of way acquisition process.

#### 11. Rice Avenue Grade Separation Project and Impact on PTP

- On March 11, 2022, United received a right of way contract agreement and supporting documents including an appraisal report of the APN 218-0-011-435, State Parcels 81216-1 and 81216-2, and a summary statement relating to the purchase of real property proposed by the State of California Department of Transportation (DoT). APN 218-0-011-435 located at 910 South Rice Avenue is owned by the District and houses the PTP Well Site No. 4. The District had been informed that a portion of this parcel will be impacted by the Rice Avenue Grade Separation Project. DoT is seeking a permanent easement for Parcel 81216-1 (3000 square feet [sf]) and a temporary construction easement (TCE) for Parcel 81216-2 (1,436 sf) for a period of 45 months starting November 17, 2023, and expiring July 16, 2027, within APN 218-0-011-435. The purchase price of \$1,000 is offered by DoT for the combined values of the two parcels. The appraisal report dated December 1, 2021, includes an appraisal value of \$6,276 less \$220,856 withheld for estimated soil remediation costs for the two parcels combined. The proposed soil remediation costs of \$220,856 are based on the soil samples results that suggest the presence of hazardous material (4.4'DDE and toxaphene in the top 7 feet of the soil. If the District decides to obtain an independent appraisal, the DoT will pay up to \$5,000 to cover the cost but the District should follow specific conditions set forth in the above listed documents.

#### 12. Extraction Barrier and Brackish Water Treatment Project

- Meetings:
  - March 17, 2022 – Held monthly progress meeting with Navy and District staff.
  - March 21, 2022 – Planning meeting with Navy and District staff for Phase 1A license agreement. Discussed the scope of work for Phase 1A (exploration phase) that includes installation of monitoring wells, civil site surveys, geotechnical borings and reporting, geophysics surveys, environmental surveys and assistance from Navy staff. Also discussed CEQA strategy of a categorical exemption under 15306 for information collection to support data collection and exploration phase. Phase 1B is the demonstration phase and would involve the construction of production wells.
- Grants:
  - Prop 1 Round 3 Ground Water Grant Program (GWGP)
    - The State Water Resources Control Board (SWRCB) was originally anticipating invitations in November 2021, but it has been pushed back to “early 2022”. The District has not received an invitation from its concept proposal to date.
  - Sustainable Groundwater Management Grant Program

### 3.1 Monthly Engineering Department Report Information Item

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- Water Resources and Engineering staff prepared a grant application related to the Phase 1 project (construction of up to six monitoring wells) which was submitted to the Department of Water Resources through the Fox Canyon Groundwater Management Agency. Award announcement is expected on April 30, 2022.
- Design:
  - Continued coordination on baseline groundwater sampling effort involving Eurofins Laboratory and Blaine Tech Environmental Sampling which is anticipated to take place on April 20 to 21, 2022.
  - Developed Phase 1A license agreement map exhibits including five (5) proposed Phase 1 extraction well sites and pipelines and survey areas.
  - March 7, 2022 – Held scoping meeting with Carollo Engineers to finalize scope of work for a brine management and evaluation study. Carollo has been engaged with Calleguas’ Salinity Management Pipeline (SMP) and the City of Ventura’s proposed ocean outfall for their VenturaWaterPure project.
  - March 22, 2022 – Held meeting to review and discuss final report and evaluation criteria for the distribution alternatives analysis technical memorandum prepared by Kennedy/Jenks Consultants.
  - March 31, 2022 - Held scoping meeting with Trussell Technologies to develop a treatment pilot study test plan including assistance with the applicability of regulations related to groundwater under the influence.
- CEQA/NEPA:
  - Held bi-weekly meetings with GEI Consultants related to development of CEQA documents.
  - March 28, 2022 – GEI consultants delivered the 2<sup>nd</sup> Draft Project Description, Initial Study (IS) and Permitting Work Plan (PWP).
  - April 5, 2022 – District staff provided comments to GEI on the draft Project Description, IS and PWP.
- Upcoming (scheduled and tentative dates):
  - April 20-21 – Conduct baseline groundwater sampling at monitoring wells CM1A, Q2 and GP1
  - April – Prepare and negotiate draft license agreement with U.S. Navy for the Phase 1A project
  - April – Develop scope of work for brine concentrate discharge and management evaluation
  - April – Develop scope of work for pre-treatment and main process pilot test plan with Trussell Technologies
  - April – Complete CEQA Initial Study and Permitting Matrix
  - March to June – Potential invitation to submit full proposal for SWRCB Prop 1 GWGP Round 3 Implementation Grants.

### **3.1 Monthly Engineering Department Report Information Item**

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- May to June – Leadership Meeting No. 4 between District and U.S. Navy

#### **13. Asset Management/ CMMS System**

- March 23 – EOS Arrow Gold units have begun shipping and orders are being shipped in the order they were received.
- Staff is working on tables and graphs for the end of year reporting from Santa Felicia Dam monthly reporting Survey123 app data exports.

#### **14. California American Water (CalAm)**

- No new update to report.

#### **15. Condor Point Improvement Project**

- Staff received an extension of time from FERC to complete the swim beach element of the project. This is because the swim beach currently permitted under USACE General Maintenance Permit is located over 1000 feet away from the Condor Point Picnic Area and not immediately accessible to visitors of the improvements. In addition, the location of the currently permitted swim beach at the end of Reasoner Creek has resulted in many maintenance challenges. Therefore, Staff would like to relocate the permitted swim beach to be closer to the Condor Point Improvements. Staff submitted a request for a two-year extension of time to FERC on October 29, 2021. This schedule extension would give staff enough time to apply for the required permits to relocate the swim beach. On January 5, 2021, FERC requested additional information to justify the need for a schedule extension. Staff met with FERC staff on January 21, 2022, to discuss the FERC's request for additional information. Staff submitted additional information to supplement the original request for extension of time on March 4, 2022. The request for extension was accepted by FERC on March 14, 2022.
- MNS Engineers, Inc. (MNS) is currently developing the 100% design package for the Project and expected to submit it to the District for review on April 14, 2022.
- Engineering Staff collaborated with Environmental Services staff to prepare an arborist report for the Condor Point Area as a requirement to obtain a Zoning Clearance for the project from Ventura County Planning. A tree survey was conducted on January 26, 2022. The arborist report will be submitted to Ventura County Planning along with a Conditional Use Permit minor adjustment application to Ventura County Planning in April 2022.

#### **Other Topics, Meetings and Training**

- March 17 – Staff attended the AWA Waterwise meeting. The guest speaker, Mr. Mauricio Guardado provided a presentation on the following topic: “Using the Courts to Monetize our Water Supply”.
  - March 22 - Maryam Bral presented select CIP projects at the Business Opportunities/ Sustaining Members Forum held virtually by the SAME– Oxnard-Ventura Post.
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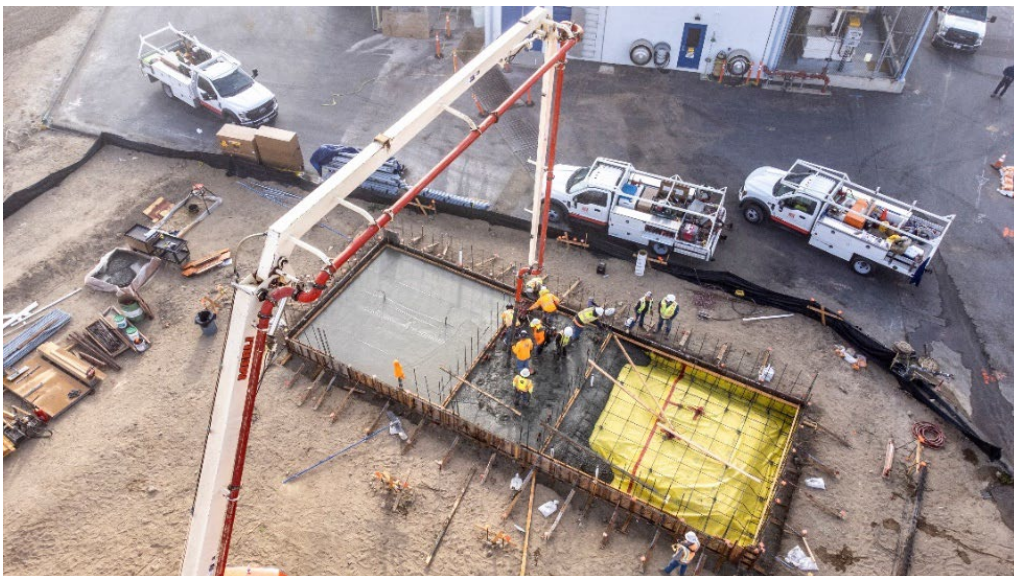
### 3.1 Monthly Engineering Department Report Information Item

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- March 22-24 - Maryam Bral attended an ASDSO training – Inspection and Assessment of Dams
- April 6 – Engineering Staff, including Maryam Bral, Craig Morgan, Michel Kadah and Adrian Quiroz visited San Vicente and Olivenhain dams in San Diego County.



**Figure 1 – Runoff at LPWTP on March 28, 2022**



**Figure 2 – Fe/Mn Building Concrete Placement on March 25**



### 3.1 Monthly Engineering Department Report Information Item

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**Figure 3 – Washwater Return Pump Station Concrete Placement on March 31**



**Figure 4 – Surface Wash Water (SWW)/Filter to Drain (FTD) Concrete Encasement Placement on March 31**



### **Staff Report**

**To:** Engineering and Operations Committee Members

**Through:** Mauricio E. Guardado, Jr., General Manager  
Anthony A. Emmert, Assistant General Manager

**From:** Linda Purpus, Environmental Services Manager

**Date:** April 5, 2022 (April 7, 2022, meeting)

**Agenda Item:** 3.2 Monthly Environmental Services Department Report  
**Information Item**

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#### **Staff Recommendation:**

The Engineering and Operations Committee members will receive this staff report from the Environmental Services Department regarding its activities for the month of March 2022.

#### **Discussion:**

1. Santa Felicia Project Operations and Federal Energy Regulatory Commission (FERC) License Support

- Water Release Plan and Water Release and Ramping Rate Implementation Plan

Under the Water Release Plan and FERC license for the Santa Felicia Project, United Water Conservation District (United a.k.a. District) is required to make certain water releases from Santa Felicia Dam for steelhead habitat and migration, when specific triggers are met. Triggers for habitat water releases are based on cumulative rainfall within the water year. United evaluates whether the trigger is met on the first day of each month, between January and June. The table below presents trigger criteria for each month and minimum required releases if those triggers are met. Each month that the trigger is not met, the minimum required habitat water release is 7 cubic feet per second (cfs). The trigger was not met on April 1, 2022. The minimum required habitat water release for the month of April is 7 cfs.

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**Monthly Environmental Services Department Report**  
**Information Item**

<b>2022 Habitat water release trigger date</b>	<b>Trigger criteria (total cumulative precipitation on trigger date)</b>	<b>Minimum required water release if trigger is met</b>	<b>2022 Measured cumulative precipitation</b>	<b>Actual minimum required habitat water release for mo.</b>
<b>January 1</b>	4.80 inches	15 cfs	12.48 inches	15 cfs
<b>February 1</b>	8.10 inches	20 cfs	12.88 inches	20 cfs
<b>March 1</b>	12.00 inches	20 cfs	12.98 inches	20 cfs
<b>April 1</b>	14.90 inches	20 cfs	14.45 inches	7 cfs
<b>May 1</b>	16.30 inches	10 cfs	TBD	TBD
<b>June 1</b>	17.50 inches	9 cfs*	TBD	TBD

\*If triggered, the minimum required water release will remain at 9 cfs through October 1, at which time, minimum required water release will be 7 cfs through January 1 of next calendar year.

- **Santa Felicia Fish Passage Pre-Implementation Studies**

During the weeks of March 7 and 14, 2022, Environmental Services and Cramer Fish Sciences staff completed spring monitoring for *Oncorhynchus mykiss* (*O. mykiss*) in middle Piru and Agua Blanca Creeks via backpack electrofishing. Approximately 200 *O. mykiss* were captured, 173 were implanted with PIT tags, and 11 individuals were recaptured (previously captured and PIT tagged during the fall monitoring event). Throughout the reporting period, Environmental Services staff and our consultant, Cramer Fish Sciences, operated the fyke net fish trap in middle Piru Creek. On March 28, 2022, the rotary screw trap was successfully deployed and operated for approximately four hours during the elevated flow that resulted from a recent storm event. On March 30, 2022, three *O. mykiss* were captured in the fyke trap. These fish were photographed, measured, and sampled for genetic material (tail clip) before being released downstream of the trap.

- **Dissolved Oxygen Monitoring Plan**

On March 24, 2022, Environmental Services staff filed an annual report with the State Water Resources Control Board (SWRCB) in accordance with the Dissolved Oxygen Monitoring Plan (DOMP). The annual report detailed the results of monitoring activities conducted during the 2021 calendar year, consultation meetings held between United and SWRCB staff, and improvements to the Santa Felicia outlet works intended to provide supplemental dissolved oxygen to water releases conducted through the hydropower turbine units. In accordance with the DOMP, Environmental Services staff will consult with SWRCB staff on the contents of the annual report and continue monitoring dissolved oxygen concentrations below Santa Felicia Dam during 2022. Per the subject plan, the annual report will be filed with FERC within 30 days of receipt of comments from SWRCB staff.



- Arroyo Toad Protection Plan and Herpetological Monitoring Plan

On March 30, 2022, Environmental Services staff hosted an annual consultation meeting with agency representatives from US Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) to provide an update on activities conducted under the subject plans during the 2021 calendar year. Activities conducted under the subject plans were largely suspended in 2020 and 2021 due to COVID-19 restrictions. For 2022, activities have been resumed at a level of effort similar to those undertaken prior to the COVID interruption. Data collected in 2022 may provide insight on how the non-native aquatic community responded to the two-year suspension of invasive control activities. The week of March 21, 2022, Environmental Services field staff completed the first surveys of the season which resulted in capture of twenty-two adult African clawed frogs, four largemouth bass, two adult bullfrogs, and one red swamp crayfish.

- Vegetation and Noxious Weed Management Plan

On March 22, 2022, Environmental Services staff filed the 2021 Annual Vegetation and Noxious Weed Management Plan Report with FERC. The annual report outlines activities conducted between January 1 and December 31, 2021, in accordance with the Vegetation and Noxious Weed Management Plan. Activities included tamarisk treatment, monitoring to evaluate the success of prior tamarisk treatments, 5-year noxious weed baseline inventory update, and consultation with regulatory agencies to review activities and strategize on future vegetation management strategies.

- Annual U.S. Forest Service (Forest Service) Consultation

On March 3, 2022, Environmental Services, Recreation, and Engineering staff met with the Los Padres National Forest Service District Ranger and Botanist for an annual consultation in accordance with the FERC license 4(e) terms and conditions. Staff provided updates on activities conducted during 2021 and discussed future plans related to United's projects that have the potential to affect Forest Service lands or have special interest for the Forest Service. On March 22, 2022, United filed a Record of Consultation with FERC detailing the meeting.

- Santa Felicia Dam Safety Improvement Project (SFDSIP)

On March 3, 2021, United submitted an application for a Water Quality Certification under Section 401 of the Clean Water Act to the State Water Resources Control Board (SWRCB). On March 2, 2022, the SWRCB issued a 401 water quality certification for the SFDSIP.

- United Water Conservation District v. FERC, Court Case in Abeyance

On September 29, 2010, the U.S. Court of Appeals granted the District a motion to hold the court case “United Water Conservation District v. FERC” in abeyance and directed the District to file status reports every 60-days. United filed the court case to challenge the biological opinion issued by National Marine Fisheries Service (NMFS) on FERC’s issuance of a license for the Santa Felicia Project. On March 14, 2022, United filed the sixty-ninth status update with the U.S. Court of Appeals for District of Columbia Circuit.

- California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) FERC License (No. 2426) – South State Water Hydropower Project (Pyramid Lake)

On January 26, 2022, the SWRCB issued a 401 Water Quality Certificate (Certificate) for DWR and LADWP’s South State Water Hydropower Project FERC relicensing process. In the final Certificate, it specifies that DWR make a good faith effort to obtain United’s agreement to specific ramping schedules for release of United’s State Water Project deliveries through middle Piru Creek. The Certificate does not become effective until Pyramid’s FERC license is reissued. Environmental Services staff is engaged with DWR, LADWP, and SWRCB regarding multiple conditions outlined in the Certificate and their implications on United’s interests. As the license holder, DWR, and LADWP have committed to request an amendment of the Certificate to address specific conditions outlined in the document which concern both licensees and United. United will participate and support the licensees in the Certificate amendment process.

## 2. California Endangered Species Act (CESA) Listing Petition for Southern California Steelhead

In the California Fish and Game Commission’s (Commission) proceedings addressing CalTrout’s petition to list southern California steelhead under the California Endangered Species Act (CESA), on February 17, 2022, the Commission directed staff to work with CDFW and interested parties on developing a proposal for a regulation under Fish and Game Code 2084 for consideration by the Commission at the April 20-21, 2022, meeting. In addition, the Commission will continue the deliberation and vote on the “may be warranted” to list decision during the upcoming April 20-21, 2022, meeting. On March 8, 2022, the United met with CDFW management and legal to discuss the Fish and Game Code 2084 regulation process. CDFW has prepared a draft 2084 regulation which includes four criteria that must be met to qualify a project or activity for coverage during the candidacy period. United and CDFW discussed projects and activities that would meet these criteria and be presented to the Commission during their April 20-21, 2022, meeting. Separate from and in addition to the CDFW draft 2084 regulation, United staff and legal is in the process of preparing a proposal for the Commission’s consideration of United’s ongoing operations and activities that will require incidental take coverage under the 2084 regulation during the southern California steelhead CESA listing candidacy period. United staff is actively engaging with stakeholder agencies in the regulated community on a coordinated response to CDFW and the Commission regarding the scope of the 2084 regulation.

### 3. Freeman Diversion Operations

A storm in late March resulted in a moderate to small amount of flow arriving at the Freeman Diversion on March 28, 2022. On March 25, 2022, prior to the storm, United issued advanced notifications to NMFS and CDFW staff regarding the potential for the forecasted storm to result in triggering bypass flow and fish ladder operations. The storm subsequently did not generate runoff sufficient to trigger these operations. However, Operations and Maintenance (O&M) staff identified a need to turn-out storm flows and open the roller gate for facility maintenance. Environmental Services staff assisted O&M staff with this operation by providing operational recommendations, requesting agency support, and conducting downstream fish stranding surveys on March 28 and 29, 2022. No *O. mykiss* were observed during surveys. Agency staff did not respond to notifications regarding this event.

### 4. Lake Piru Sediment Sampling Project

On March 16, 2022, Environmental Services staff submitted post-project implementation reports to the U.S. Army Corps of Engineers and the Los Angeles Regional Water Resources Control Board. Project permitting requirements have been completed. Project activities were conducted in compliance with all permit and authorization requirements on February 23, 2022.

### 5. Quagga Mussel Management

- **Monitoring**

Environmental Services staff continues to conduct routine monitoring under the Quagga Mussel Monitoring and Control Plan (QMMCP) including monthly water quality sampling; monthly veliger (microscopic planktonic larvae) sampling; monthly artificial substrate sampling in Lake Piru (plate sampling); and natural substrate sampling in Piru Creek (surface surveys).

The March water quality sampling results indicate a thermocline is not present in Lake Piru; seasonal stratification has not yet occurred.

### 6. Miscellaneous

- On March 17, 2022, Environmental Services staff attended the Association of Water Agencies' WaterWise meeting with guest speaker United's General Manager Mauricio Guardado. Mr. Guardado's presentation "Using the Courts to Monetize Our Water Supply" focused on basin adjudication with discussion of timelines, fiscal cost, as well as unforeseen costs to the community.
- On March 21, 2022, Tessa Lenz, Hannah Garcia-Wickstrum, and Randall McInvale attended the Association of Environmental Professionals 2022 California Environmental Quality Act Legislative Update Webinar.

- On March 23, 2022, Linda Purpus, Randall McInvale, Evan Lashly, and Hannah Garcia-Wickstrum attended the Channel Counties Water Utilities Committee’s presentation on “Cyber-Security for the Public Sector.”
- On March 22, 2022, Evan Lashly attended a webinar entitled “Contemporary Oak Decline and Management,” to fulfill continuing education requirements related to his Arborist Certification.
- On March 24, 2022, Hannah Garcia-Wickstrum, Evan Lashly, and Randall McInvale attended a Santa Clara River Watershed Committee meeting.
- On March 29, 2022, Evan Lashly and Randall McInvale provided a tour of the Freeman Diversion facility to Andrew Dennhardt, USFWS. The tour focused primarily on a USFWS led effort to survey least Bell’s vireo throughout the Santa Clara River watershed but also provided an opportunity for United staff to brief Mr. Dennhardt on the Freeman Multiple Species Habitat Conservation Plan.
- On March 29, 2022, Tessa Lenz presented the FERC Historical Properties Management Plan to O&M staff at the monthly safety meeting. The presentation introduced staff to United’s obligations under the plan. The plan was filed with FERC in February 2022, and approval is expected in the next six months.



### **Staff Report**

**To:** Engineering and Operations Committee Members

**Through:** Mauricio E. Guardado, Jr., General Manager  
Brian Collins, Chief Operations Officer

**From:** John Carman, Programs Supervisor

**Date:** April 1, 2022 (April 7, 2022, Meeting)

**Agenda Item:** 3.3 Monthly Operations and Maintenance Department Report  
**Information Item**

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#### **Staff Recommendation:**

The Engineering and Operations Committee members will receive this staff report from the Operations and Maintenance department regarding its activities for the month of March.

#### 1. Water Releases, Diversions and Deliveries

- Lake Piru dropped 0.75 feet in March to 18,695 acre-feet (AF) of storage.
- 1445 AF of water was diverted by the Freeman Diversion facility in March.
- 468 AF of water was diverted to the Saticoy recharge basins in March.
- 744 AF of surface water was delivered to the El Rio recharge basins in March.
- 311 AF of surface water was delivered to the PTP system in March.
- 0 AF of surface water was delivered to Pleasant Valley County Water District in March.

#### 2. Major Facilities Update

- **Santa Felicia Dam**
    - Lake Piru dropped 0.75 feet March 1, 2022 through April 1, 2022, to 18,695 AF of storage.
    - On April 1, 2022 the lake level was 70.9 feet below the spillway lip.
    - Habitat water releases from Santa Felicia Dam (SFD) were maintained at 20 cubic feet per second (cfs), for the month of March, as per the Water Release and Ramping Rate Implementation Plan for lower Piru Creek.
    - An aeration tailrace pump and plumbing installed to improve outlet dissolved oxygen.
    - Staff installed new Hydro Plant step-up transformer.
    - Filed the Energy Information Administration and California Energy Commission generation annual reports for 2021.
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**Agenda Item: 3.3 Monthly Operations and Maintenance Department Report –  
Information Item**

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- **Freeman Diversion, Saticoy, and El Rio Recharge Facilities**

- Flows at the Freeman Diversion averaged 47 cfs for the month of March, with 45 cfs of surface water being diverted on April 1, 2022.
- During the month of March, 468 AF of surface water deliveries were made to the Saticoy Recharge Facility.
- During the month of March, 744 AF of surface water deliveries were made to the El Rio Recharge Facility.
- Flocculation building 12Kw emergency generator installation was completed.
- Staff widened existing roadway and extended 36 inch cement piping at El Rio Recharge basin, adjacent to “C” structure outlet.
- Static water levels (distance of water from the well pad to the water table):

	<b>2022</b>	<b>2021</b>	<b>2020</b>
Saticoy	114'	118'	96'
El Rio	131.4'	117.2'	107.5'
PTP	113' - 152'	100' - 132'	92' - 129'

- **Noble/Rose/Ferro Basins**

- 0 AF of surface water was delivered to the Noble & Rose basins during March.

- **Oxnard-Hueneme (OH) Delivery System**

- North and South wellfield manifold turbidimeters upgraded to Hach Laser TU 5400.
- Staff upgraded OH Well #12 check-valve.
- Staff installed new Chlorine Residual Analyzer “Hach CL17” measuring effluent Total Chlorine at El Rio Booster Plant.

- **Pleasant Valley County Water District (PVCWD)**

- During the month of March PVCWD received 0 AF of surface water from United and PVCWD continued to receive surface water from the Conejo Creek Project and also received some highly treated recycled water from the City of Oxnard’s Advanced Water Purification Facility (AWPF).

- **Pumping Trough Pipeline (PTP)**

- During the month of March PTP system demand was met with a combination of surface water from the Freeman Diversion and PTP wells.
- On March 30, 2022, staff installed a new Endress Houser 16 inch mag flowmeter and manifold piping at the PTP reservoir.
- Staff assisted contractor Travis Ag with repairs to a damaged air vac assembly adjacent to Turnout 143.
- A vehicle damaged an air vac assembly, Contractor Travis Ag replaced the assembly on Rice Road, adjacent to PTP Well #4.
- Contractor Diener Electric installed meter upgrade project solar panel poles at turnouts 101 and 162

**Agenda Item: 3.3 Monthly Operations and Maintenance Department Report –  
Information Item**

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- **Instrumentation**

- New Fe & Mn construction site camera installed on network tower.
- The Santa Felicia Dam Accusonic flow meter was repaired and tested.
- Instrumentation staff configured and commissioned a new 16” Endress Hauser electromagnetic flow meter at the PTP reservoir.
- Staff configured and installed a new Compact Logix controller at Saticoy Well #4.

- **Lake Piru Water System**

- All chlorine residuals and turbidity readings for the drinking water system were within proper ranges for the month of March.
- Monthly pH, turbidity and coliform samples were obtained for Lake Piru, as part of the Long Term 2 Enhanced Surface Water Treatment Rule compliance monitoring.

3. Operations and Maintenance Projects Update

- Iron and Manganese grant funded project progressing at El Rio Booster Plant.

4. Other Operations and Maintenance Activities

- The Santa Felicia Dam Emergency Action Plan sirens, located in Piru, were exercised on March 4, 2022.
- On March 16, 2022 staff attended the Santa Paula Chamber of Commerce board meeting remotely.
- Submitted the Stage 2 Disinfection Byproduct Quarterly report to the State Water Resource Control Board, Division of Drinking Water.
- Contractor Rayco installed upgraded security system at Saticoy Shop.
- Monthly inspection of Santa Felicia Dam was performed.
- Monthly bacteria samples were obtained for the PTP system.
- Monthly meter readings were obtained for the OH, PTP, and PV Pipelines.
- Completed and electronically transmitted the monthly OH Pipeline report to the State Water Resources Control Board, Division of Drinking Water.
- Static water levels were obtained for all El Rio, Saticoy, and PTP wells.
- Weed abatement continued throughout the District.
- Action priority update biweekly meetings for operations staff were continued.

5. Safety and Training

- During the month of March, approximately 3100 hours of work, within the O & M department, were performed with no reportable accidents. The department’s YTD safety record is 0 recordable injury.
- One Safety Meeting was conducted on site at the UWCD Headquarters. One safety video was provided to staff entitled *Understanding Silicosis* by the American Lung Association.

**Agenda Item: 3.3 Monthly Operations and Maintenance Department Report –  
Information Item**

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The primary objective was to provide awareness of respirable crystalline silica. SDRMA Safety Talk handout entitled “Portable Ladder Safety” was briefed to staff. The purpose was to emphasize the importance of safe practices while using ladders. O&M staff at SFD also provided a site overview and access for confined space tunnel rescue exercises for the Ventura County Fire Department.

- Tailgate safety meetings were conducted at all individual O&M field locations and the topics included refresher training on equipment used at the various O&M locations. The online Target Safety assignments for March was “Respirable Crystalline Silica.”

Attachments: A - Operations Log for March



### **Staff Report**

**To:** Engineering and Operations Committee Members

**Through:** Mauricio E. Guardado, Jr., General Manager

**From:** Maryam A. Bral, Chief Engineer  
Craig A. Morgan, Engineering Manager  
Robert J. Richardson, Senior Engineer  
Michel Kadah, Engineer  
Adrian Quiroz, Associate Engineer  
Erik Zvirbulis, GIS Analyst

**Date:** April 5, 2022 (April 7, 2022, meeting)

**Agenda Item:** 4.1 Monthly Engineering Department Report  
**Information item**

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#### **Staff Recommendation:**

The Engineering and Operations Committee members will receive this summary report from the Engineering Department regarding its activities for the month of March 2022.

#### **Discussion:**

##### 1. Santa Felicia Dam Safety Improvement Projects

- Spillway Improvement Project
    - The 30% design analyses continued during the month of March. Staff briefly reviewed the supplemental hydraulic analyses of the end of the spillway chute.
    - Staff attended the bi-weekly progress meetings and discussed the design progress with GEI Consultants (GEI).
    - Staff provided comments on GEI's proposed responses to the Board of Consultants (BOC) recommendations provided during the BOC meeting No. 5 last September.
  - Outlet Works Improvement Project
    - The above updates reported for the Spillway Improvement Project are also applicable to the Outlet Works Improvement Project.
    - Staff attended the 60% design workshop with GEI and Operations staff. GEI presented 60% design modifications and received staff input and comments which will be incorporated in the final 60% design packet.
    - Staff provided comments to GEI on the Downstream Control Facility (DCF) Removable Roof Alternatives Technical Memorandum (TM) and the DCF Passive Aerator TM.
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#### 4.1 Monthly Engineering Department Report Information Item

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- Staff visited San Vicente and Olivenhain dams on April 6 and observed the fish screen systems at both dams. Staff discussed the fish screen operation with the City of San Diego and San Diego Water Authority staff. The lessons-learned will be incorporated in the current design phase.
  - FERC License Amendment Application, NEPA Documentation and Section 7 Consultation
    - On February 4, 2022, Engineering and ESD Staff met with Catalyst Environmental Solutions (Catalyst) and GEI to discuss NMFS comments on the design criteria of the fish screens for the SFD new intake facility. The agency's comment letter was submitted to FERC on January 27, 2022. Staff met with the consultants on February 18 to discuss the District's draft response letter to FERC and is currently in the process of finalizing the response letter to FERC. It should be noted that a copy of the Fish Screen Design Technical Memorandum was also submitted to CDFW by Staff via email on October 28, 2021. The design of the fish screen is currently at 60% design level.
    - On February 15, 2022, FERC released a supplemental notice of technical conference to be held on April 26, 2022. Three panels are planned for this event. Panel 1 will discuss Protecting Hydroelectric Facilities and Communities with Financial Assurance requirements. Panel 2 will discuss Establishing a Financial Assurance Requirement. Panel 3 will discuss Evaluating Mechanisms for Financial Assurance. The conference is open to the public and allows virtual participation. FERC allows individuals to self-nominate themselves as panelists. Engineering Staff has continued working with Mike Swiger with Van Ness Feldman and several other public agencies to continue providing comments to FERC. UWCD and DWR have expressed interest to participate in Panel 1 discussions. Mike Swiger has received confirmation to be on Panel 2.
    - On March 8, Engineering and Environmental Services Staff met with FERC to discuss updates on the NEPA process and the path forward regarding Section 7 consultation with FERC, NMFS and CDFW. Staff and FERC agreed that NMFS review comments on the 30% design documents for the new release channel would be beneficial for the project and help utilize the agency staff time effectively during Section 7 consultation. Per Staff request, FERC inquired an update from NMFS.
    - On March 10, per Staff request, FERC contacted NMFS via email to provide the agency with an extended review period and to inform the agency about United's request for receiving NMFS comments on the 30% channel design technical memorandum.
    - The State Water Resources Control Board has issued a final 401 water quality certification for the Project.
  - Loan and Grant Applications
    - 2021 FEMA HMGP
      - On March 1, Staff participated in CalOES Sub-application Development Series on Structural Benefits Cost Analysis.
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#### 4.1 Monthly Engineering Department Report Information Item

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- On March 16, Staff attended sub-application technical assistance support meeting with CalOES.
- Staff prepared and submitted the Hazard Mitigation Grant Program (HMGP) sub-application for the outlet works improvement project to CalOES on April 7. The total project cost is estimated at \$68M. The requested grant amount is \$51M (75% federal share cost). The non-federal share cost is \$17M or 25% of the total project cost.

##### PrepareCA Match – FEMA HMGP

- The non-federal share cost (\$17M) included in the HMGP sub-application for the outlet works improvement project may qualify for CalOES grant supplement program (PrepareCA Match Program). Staff included the requested documents and information for the PrepareCA Match Program in the HMGP sub-application submitted to CalOES on April 7.

##### WIFIA Loan

- On March 29, Staff attended a kickoff meeting with ESD and Finance to review the WIFIA loan application. Staff is planning to submit the application by April 29.

- Santa Felicia Dam Safety

- Staff has begun work on the 2022 SFD Vulnerability and Security Assessment Updates and Reprints. FERC requires these assessments to be conducted on a 5-year basis. Staff has conducted a series of planning meetings to develop a strategy for completing these assessments in 2022. Staff plan to complete a portion of these assessments using in-house resources and may potentially reach out to consultants for support.
- Staff has received a proposal from Gannett Fleming, Inc. (GF) for performing the 2022 SFD Owner Dam Safety Program (ODSP) External Audit. FERC requires an external audit of the ODSP on a 5-year basis. As required by FERC, the District must submit the resume of the proposed auditor to FERC for review and approval. District staff submitted the resume of the proposed GF ODSP auditor on January 28, 2022. FERC approved the GF ODSP auditor on March 30, 2022. The external audit will be performed by GF beginning in July 2022. The External ODSP Audit Report will be submitted to FERC by December 31, 2022.
- The FERC requires an Independent Consultant (IC) to conduct a Part 12D Inspection for SFD on a 5-year basis. In a letter dated May 26, 2021, FERC notified the District that the twelfth Part 12D Independent Consultant's Safety Inspection Report for SFD is due on November 1, 2022. On February 11, 2022, Staff issued a Request for Proposal/Qualifications (RFP/Q) to two (2) consultants for the Independent Consultant for the 2022 SFD Part 12D Inspection. Two proposals were submitted to the District on March 10, 2022. Staff met internally to review and evaluate the proposals and selected GF to as the IC for the 2022 SFD Part 12D inspection. As required by FERC, the GF team resumes were submitted to FERC on March 24, 2022. The Part 12D process is expected to begin in May 2022, pending FERC approval of the GF resumes.

#### **4.1 Monthly Engineering Department Report Information Item**

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- On April 1, Staff submitted the updated plan and schedule for the SFD physical and cyber security measures. These semiannual updates are requested by FERC. The first semiannual update was submitted to FERC on October 1, 2021.
- Staff has received a proposal from Hi-Tech Rockfall Construction for inspecting and fixing the existing and installing new wire mesh and anchors at the east side of the spillway access way.

#### **2. Santa Felicia Dam Sediment Management Project**

- With the support of SFD O&M staff, four (4) test pits were excavated at the north end of Lake Piru lakebed on February 23, 2022, per the Lake Piru Reservoir Sediment Sampling and Testing Plan. Test pit depth ranged between 9 – 12 feet. A geologist from Earth Systems Pacific was present to perform the test pit logging. Also on hand was a Recreation staff member performing bio monitoring to ensure the work was conducted per the conditions outlined in the environmental permits. Prior to the work, the Environmental Services Department conducted a nesting bird survey on February 18, 2022. Test pit logs were submitted by Earth Systems on March 3, 2022, for the District's and GEI's review. Based on these samples, GEI recommended which sediment samples should undergo laboratory testing for physical properties. A geotechnical report summarizing the observations of the test pits and the lab results from the test pit samples will be prepared by Earth Systems and submitted to GEI to supplement their Lake Piru Reservoir Sediment Removal Study. The report is expected in early April 2022.

#### **3. Pothole Trailhead Parking Area**

- Engineering Staff participated in the Annual Forest Service Consultation Meeting on March 3, 2022 and provided an update on the status on the public use easements for the Pothole Trailhead and portions of the Pothole Trail that lie on District property. A follow-up meeting will be scheduled with the Forest Service to discuss the completion of the easements. Staff received a proposal from ECG Consultants on March 24, 2022, to support the District with the preparation of the legal descriptions for the easements.

#### **4. Lake Piru Water Treatment Plant Slope Evaluation**

- Staff verified that the new storm drain system at the Lake Piru Water Treatment Plant was draining as designed. Staff received verification from O&M staff during the March 28, 2022, rain event that the storm drain system was properly draining the facility (See Figure 1).

#### **5. Freeman Diversion Expansion.**

- Staff, USBR, University of Iowa, Stantec and NHC participate in rotating weekly calls with NMFS and CDFW to provide updates on physical modeling, CFD modeling and design alternations.

#### **4.1 Monthly Engineering Department Report Information Item**

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##### **6. Iron and Manganese Treatment Facility**

- Grants:
  - DWR Integrated Regional Water Management (IRWM) Prop 1 (\$2.5M)
    - i. January 7, 2022 - Draft Project Monitoring Plan submitted by Kennedy Jenks Consultants (KJ) is currently under review by District staff.
    - ii. 4<sup>th</sup> Quarterly Progress Report is due at the end of April 2022.
  - DOD OLDCC Defense Community Infrastructure Program (\$4.23M)
    - i. 2<sup>nd</sup> Quarterly Progress Report was submitted on March 31, 2022, by District Staff.
- Meetings:
  - Weekly coordination meetings between Staff and the District's construction manager (HDR, Inc.)
  - Weekly construction progress meetings hosted by HDR and attended by GSE Construction, Taft Electric, KJ and Staff.
- GSE Construction has submitted approximately 205 out of a total of 327 submittal packages anticipated for the project. HDR and design engineer (KJ) have provided responses on approximately 184 submittal packages including a requirement to comply with the Buy American Act.
- GSE Construction has submitted approximately 63 Requests for Information (RFI) to date. HDR, KJ and the District have been providing responses.
- GSE Construction completed approximately 98 potholes and rough grading operations in Pond 8.
- GSE Construction advanced construction of the 4-inch HDPE sewer line. Approximately 500 of 1,243 linear feet installed.
- GSE Construction partially completed construction of the Filter Drain Pump Station, most recently the addition of the Cast-In-Place Concrete Filter Drain Pump Station Equipment Pad on March 31, 2022.
- GSE Construction advanced work on the Fe/Mn building. The Fe/Mn building concrete slab was placed on March 25, 2022 (See Figure 2). The concrete starter wall was placed on March 31, 2022.
- GSE Construction completed the Cast-In-Place Concrete Washwater Return Pump Station Pad on March 31, 2022 (See Figure 3).
- GSE Construction advanced construction of the 20" Ductile Iron Surface Wash Water/Filter to Waste pipeline. Approximately 50 of 205 linear feet installed (See Figure 4).
- The tentative date for construction completion and implementation is January 3, 2023. A total of five (5) inclement weather days have been counted.

##### **7. OH System Backup Generator at the El Rio Booster Plant**

- On March 7, Staff received a notification from CalOES regarding FEMA's approval of the Hazard Mitigation Grant Program (HMGP) subrecipient management costs in the amount
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#### **4.1 Monthly Engineering Department Report Information Item**

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of \$26,581.00. The funding for management costs is distinct from project expenditures and is eligible for recovering the administrative and management costs related to the HMGP grant funding that the District received for the OH System Backup Generator project in October 2021. Staff submitted the subapplication for grant management costs to CalOES on June 22, 2020.

- On March 9, Staff prepared and submitted the HMGP grant compliance assessment documentation to CalOES. An informal exit meeting will be held between CalOES and the District to discuss the results of the assessment.
- On March 10, the Notice of Completion (NOC) for the project was mailed to the Ventura County Recorder's Office and was recorded on March 15.
- Staff began preparation of the grant close-out documents which will be submitted to CalOES by April 25.

#### **8. PTP Metering Improvement Project**

- Total number of meters installed: 34 of 61 or 55.7% complete. (no change)
- An additional four (4) meter installations are planned by mid-2022.
- Easement acquisition completion: 19 of 42 obtained or 45.2% complete (no change)
- All modified easement deeds have been sent to the property owners. Hamner, Jewell and Associates will begin contacting the owners to try and expedite signatures.
- On March 23, staff met to discuss the next steps in dealing with turnouts owners who refuse to grant easement deeds.

#### **9. PTP Recycled Water Connection – Laguna Road Pipeline Project**

- On March 29, Staff issued Task Order No. 1 to Encompass Consultant Group (ECG) to provide survey services for the project.
- On March 31, Staff met with Mr. Paul Debusschere, the owner of the private properties located along the proposed 24-inch recycled water pipeline to discuss permission to access his properties for conducting a geotechnical subsurface investigation. During the meeting, installation of the proposed 24-inch pipeline within the private properties as an alternative to constructing the pipeline in the public right of way was also discussed. More investigations are needed to locate the existing utilities in the area.

#### **10. State Water Project (SWP) Interconnection Pipeline Project**

- Casitas and City of Ventura continue to discuss terms and conditions of an Exchange Agreement (previously referred to as the “In-Lieu” Agreement) and a Construction/Operations Interagency Agreement. The draft exchange agreement will be potentially presented to Water Commission in May.

#### 4.1 Monthly Engineering Department Report Information Item

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- Stantec continues to develop the Preliminary Design Report (PDR) and hydraulic analysis for the pipeline and may finalize the 10% design plans to help start the right of way acquisition process.

#### 11. Rice Avenue Grade Separation Project and Impact on PTP

- On March 11, 2022, United received a right of way contract agreement and supporting documents including an appraisal report of the APN 218-0-011-435, State Parcels 81216-1 and 81216-2, and a summary statement relating to the purchase of real property proposed by the State of California Department of Transportation (DoT). APN 218-0-011-435 located at 910 South Rice Avenue is owned by the District and houses the PTP Well Site No. 4. The District had been informed that a portion of this parcel will be impacted by the Rice Avenue Grade Separation Project. DoT is seeking a permanent easement for Parcel 81216-1 (3000 square feet [sf]) and a temporary construction easement (TCE) for Parcel 81216-2 (1,436 sf) for a period of 45 months starting November 17, 2023, and expiring July 16, 2027, within APN 218-0-011-435. The purchase price of \$1,000 is offered by DoT for the combined values of the two parcels. The appraisal report dated December 1, 2021, includes an appraisal value of \$6,276 less \$220,856 withheld for estimated soil remediation costs for the two parcels combined. The proposed soil remediation costs of \$220,856 are based on the soil samples results that suggest the presence of hazardous material (4.4'DDE and toxaphene in the top 7 feet of the soil. If the District decides to obtain an independent appraisal, the DoT will pay up to \$5,000 to cover the cost but the District should follow specific conditions set forth in the above listed documents.

#### 12. Extraction Barrier and Brackish Water Treatment Project

- Meetings:
  - March 17, 2022 – Held monthly progress meeting with Navy and District staff.
  - March 21, 2022 – Planning meeting with Navy and District staff for Phase 1A license agreement. Discussed the scope of work for Phase 1A (exploration phase) that includes installation of monitoring wells, civil site surveys, geotechnical borings and reporting, geophysics surveys, environmental surveys and assistance from Navy staff. Also discussed CEQA strategy of a categorical exemption under 15306 for information collection to support data collection and exploration phase. Phase 1B is the demonstration phase and would involve the construction of production wells.
- Grants:
  - Prop 1 Round 3 Ground Water Grant Program (GWGP)
    - The State Water Resources Control Board (SWRCB) was originally anticipating invitations in November 2021, but it has been pushed back to “early 2022”. The District has not received an invitation from its concept proposal to date.
  - Sustainable Groundwater Management Grant Program

#### 4.1 Monthly Engineering Department Report Information Item

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- Water Resources and Engineering staff prepared a grant application related to the Phase 1 project (construction of up to six monitoring wells) which was submitted to the Department of Water Resources through the Fox Canyon Groundwater Management Agency. Award announcement is expected on April 30, 2022.
  - Design:
    - Continued coordination on baseline groundwater sampling effort involving Eurofins Laboratory and Blaine Tech Environmental Sampling which is anticipated to take place on April 20 to 21, 2022.
    - Developed Phase 1A license agreement map exhibits including five (5) proposed Phase 1 extraction well sites and pipelines and survey areas.
    - March 7, 2022 – Held scoping meeting with Carollo Engineers to finalize scope of work for a brine management and evaluation study. Carollo has been engaged with Calleguas’ Salinity Management Pipeline (SMP) and the City of Ventura’s proposed ocean outfall for their VenturaWaterPure project.
    - March 22, 2022 – Held meeting to review and discuss final report and evaluation criteria for the distribution alternatives analysis technical memorandum prepared by Kennedy/Jenks Consultants.
    - March 31, 2022 - Held scoping meeting with Trussell Technologies to develop a treatment pilot study test plan including assistance with the applicability of regulations related to groundwater under the influence.
  - CEQA/NEPA:
    - Held bi-weekly meetings with GEI Consultants related to development of CEQA documents.
    - March 28, 2022 – GEI consultants delivered the 2<sup>nd</sup> Draft Project Description, Initial Study (IS) and Permitting Work Plan (PWP).
    - April 5, 2022 – District staff provided comments to GEI on the draft Project Description, IS and PWP.
  - Upcoming (scheduled and tentative dates):
    - April 20-21 – Conduct baseline groundwater sampling at monitoring wells CM1A, Q2 and GP1
    - April – Prepare and negotiate draft license agreement with U.S. Navy for the Phase 1A project
    - April – Develop scope of work for brine concentrate discharge and management evaluation
    - April – Develop scope of work for pre-treatment and main process pilot test plan with Trussell Technologies
    - April – Complete CEQA Initial Study and Permitting Matrix
    - March to June – Potential invitation to submit full proposal for SWRCB Prop 1 GWGP Round 3 Implementation Grants.
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#### **4.1 Monthly Engineering Department Report Information Item**

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- May to June – Leadership Meeting No. 4 between District and U.S. Navy

##### **13. Asset Management/ CMMS System**

- March 23 – EOS Arrow Gold units have begun shipping and orders are being shipped in the order they were received.
- Staff is working on tables and graphs for the end of year reporting from Santa Felicia Dam monthly reporting Survey123 app data exports.

##### **14. California American Water (CalAm)**

- No new update to report.

##### **15. Condor Point Improvement Project**

- Staff received an extension of time from FERC to complete the swim beach element of the project. This is because the swim beach currently permitted under USACE General Maintenance Permit is located over 1000 feet away from the Condor Point Picnic Area and not immediately accessible to visitors of the improvements. In addition, the location of the currently permitted swim beach at the end of Reasoner Creek has resulted in many maintenance challenges. Therefore, Staff would like to relocate the permitted swim beach to be closer to the Condor Point Improvements. Staff submitted a request for a two-year extension of time to FERC on October 29, 2021. This schedule extension would give staff enough time to apply for the required permits to relocate the swim beach. On January 5, 2021, FERC requested additional information to justify the need for a schedule extension. Staff met with FERC staff on January 21, 2022, to discuss the FERC's request for additional information. Staff submitted additional information to supplement the original request for extension of time on March 4, 2022. The request for extension was accepted by FERC on March 14, 2022.
- MNS Engineers, Inc. (MNS) is currently developing the 100% design package for the Project and expected to submit it to the District for review on April 14, 2022.
- Engineering Staff collaborated with Environmental Services staff to prepare an arborist report for the Condor Point Area as a requirement to obtain a Zoning Clearance for the project from Ventura County Planning. A tree survey was conducted on January 26, 2022. The arborist report will be submitted to Ventura County Planning along with a Conditional Use Permit minor adjustment application to Ventura County Planning in April 2022.

##### **Other Topics, Meetings and Training**

- March 17 – Staff attended the AWA Waterwise meeting. The guest speaker, Mr. Mauricio Guardado provided a presentation on the following topic: “Using the Courts to Monetize our Water Supply”.
  - March 22 - Maryam Bral presented select CIP projects at the Business Opportunities/ Sustaining Members Forum held virtually by the SAME– Oxnard-Ventura Post.
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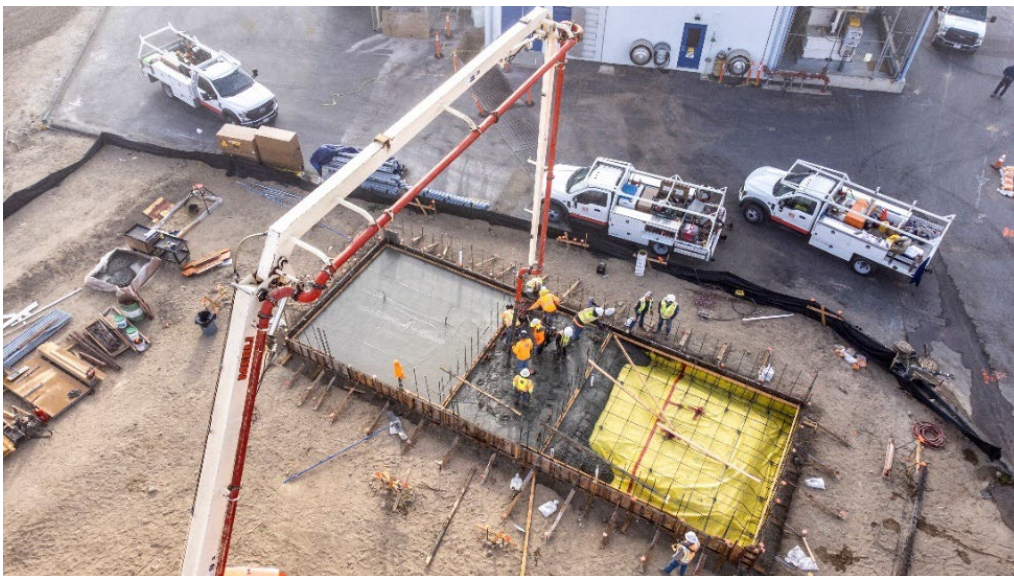
#### 4.1 Monthly Engineering Department Report Information Item

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- March 22-24 - Maryam Bral attended an ASDSO training – Inspection and Assessment of Dams
- April 6 – Engineering Staff, including Maryam Bral, Craig Morgan, Michel Kadah and Adrian Quiroz visited San Vicente and Olivenhain dams in San Diego County.



**Figure 1 – Runoff at LPWTP on March 28, 2022**



**Figure 2 – Fe/Mn Building Concrete Placement on March 25**



#### 4.1 Monthly Engineering Department Report Information Item

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**Figure 3 – Washwater Return Pump Station Concrete Placement on March 31**



**Figure 4 – Surface Wash Water (SWW)/Filter to Drain (FTD) Concrete Encasement Placement on March 31**



### **Staff Report**

**To:** Engineering and Operations Committee Members

**Through:** Mauricio E. Guardado, Jr., General Manager  
Anthony A. Emmert, Assistant General Manager

**From:** Linda Purpus, Environmental Services Manager

**Date:** April 5, 2022 (April 7, 2022, meeting)

**Agenda Item:** 4.2 Monthly Environmental Services Department Report  
**Information Item**

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#### **Staff Recommendation:**

The Engineering and Operations Committee members will receive this staff report from the Environmental Services Department regarding its activities for the month of March 2022.

#### **Discussion:**

1. Santa Felicia Project Operations and Federal Energy Regulatory Commission (FERC) License Support

- Water Release Plan and Water Release and Ramping Rate Implementation Plan

Under the Water Release Plan and FERC license for the Santa Felicia Project, United Water Conservation District (United a.k.a. District) is required to make certain water releases from Santa Felicia Dam for steelhead habitat and migration, when specific triggers are met. Triggers for habitat water releases are based on cumulative rainfall within the water year. United evaluates whether the trigger is met on the first day of each month, between January and June. The table below presents trigger criteria for each month and minimum required releases if those triggers are met. Each month that the trigger is not met, the minimum required habitat water release is 7 cubic feet per second (cfs). The trigger was not met on April 1, 2022. The minimum required habitat water release for the month of April is 7 cfs.

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## Monthly Environmental Services Department Report

### Information Item

2022 Habitat water release trigger date	Trigger criteria (total cumulative precipitation on trigger date)	Minimum required water release if trigger is met	2022 Measured cumulative precipitation	Actual minimum required habitat water release for mo.
<b>January 1</b>	4.80 inches	15 cfs	12.48 inches	15 cfs
<b>February 1</b>	8.10 inches	20 cfs	12.88 inches	20 cfs
<b>March 1</b>	12.00 inches	20 cfs	12.98 inches	20 cfs
<b>April 1</b>	14.90 inches	20 cfs	14.45 inches	7 cfs
<b>May 1</b>	16.30 inches	10 cfs	TBD	TBD
<b>June 1</b>	17.50 inches	9 cfs*	TBD	TBD

\*If triggered, the minimum required water release will remain at 9 cfs through October 1, at which time, minimum required water release will be 7 cfs through January 1 of next calendar year.

- **Santa Felicia Fish Passage Pre-Implementation Studies**

During the weeks of March 7 and 14, 2022, Environmental Services and Cramer Fish Sciences staff completed spring monitoring for *Oncorhynchus mykiss* (*O. mykiss*) in middle Piru and Agua Blanca Creeks via backpack electrofishing. Approximately 200 *O. mykiss* were captured, 173 were implanted with PIT tags, and 11 individuals were recaptured (previously captured and PIT tagged during the fall monitoring event). Throughout the reporting period, Environmental Services staff and our consultant, Cramer Fish Sciences, operated the fyke net fish trap in middle Piru Creek. On March 28, 2022, the rotary screw trap was successfully deployed and operated for approximately four hours during the elevated flow that resulted from a recent storm event. On March 30, 2022, three *O. mykiss* were captured in the fyke trap. These fish were photographed, measured, and sampled for genetic material (tail clip) before being released downstream of the trap.

- **Dissolved Oxygen Monitoring Plan**

On March 24, 2022, Environmental Services staff filed an annual report with the State Water Resources Control Board (SWRCB) in accordance with the Dissolved Oxygen Monitoring Plan (DOMP). The annual report detailed the results of monitoring activities conducted during the 2021 calendar year, consultation meetings held between United and SWRCB staff, and improvements to the Santa Felicia outlet works intended to provide supplemental dissolved oxygen to water releases conducted through the hydropower turbine units. In accordance with the DOMP, Environmental Services staff will consult with SWRCB staff on the contents of the annual report and continue monitoring dissolved oxygen concentrations below Santa Felicia Dam during 2022. Per the subject plan, the annual report will be filed with FERC within 30 days of receipt of comments from SWRCB staff.



- Arroyo Toad Protection Plan and Herpetological Monitoring Plan

On March 30, 2022, Environmental Services staff hosted an annual consultation meeting with agency representatives from US Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) to provide an update on activities conducted under the subject plans during the 2021 calendar year. Activities conducted under the subject plans were largely suspended in 2020 and 2021 due to COVID-19 restrictions. For 2022, activities have been resumed at a level of effort similar to those undertaken prior to the COVID interruption. Data collected in 2022 may provide insight on how the non-native aquatic community responded to the two-year suspension of invasive control activities. The week of March 21, 2022, Environmental Services field staff completed the first surveys of the season which resulted in capture of twenty-two adult African clawed frogs, four largemouth bass, two adult bullfrogs, and one red swamp crayfish.

- Vegetation and Noxious Weed Management Plan

On March 22, 2022, Environmental Services staff filed the 2021 Annual Vegetation and Noxious Weed Management Plan Report with FERC. The annual report outlines activities conducted between January 1 and December 31, 2021, in accordance with the Vegetation and Noxious Weed Management Plan. Activities included tamarisk treatment, monitoring to evaluate the success of prior tamarisk treatments, 5-year noxious weed baseline inventory update, and consultation with regulatory agencies to review activities and strategize on future vegetation management strategies.

- Annual U.S. Forest Service (Forest Service) Consultation

On March 3, 2022, Environmental Services, Recreation, and Engineering staff met with the Los Padres National Forest Service District Ranger and Botanist for an annual consultation in accordance with the FERC license 4(e) terms and conditions. Staff provided updates on activities conducted during 2021 and discussed future plans related to United's projects that have the potential to affect Forest Service lands or have special interest for the Forest Service. On March 22, 2022, United filed a Record of Consultation with FERC detailing the meeting.

- Santa Felicia Dam Safety Improvement Project (SFDSIP)

On March 3, 2021, United submitted an application for a Water Quality Certification under Section 401 of the Clean Water Act to the State Water Resources Control Board (SWRCB). On March 2, 2022, the SWRCB issued a 401 water quality certification for the SFDSIP.

- United Water Conservation District v. FERC, Court Case in Abeyance

On September 29, 2010, the U.S. Court of Appeals granted the District a motion to hold the court case “United Water Conservation District v. FERC” in abeyance and directed the District to file status reports every 60-days. United filed the court case to challenge the biological opinion issued by National Marine Fisheries Service (NMFS) on FERC’s issuance of a license for the Santa Felicia Project. On March 14, 2022, United filed the sixty-ninth status update with the U.S. Court of Appeals for District of Columbia Circuit.

- California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) FERC License (No. 2426) – South State Water Hydropower Project (Pyramid Lake)

On January 26, 2022, the SWRCB issued a 401 Water Quality Certificate (Certificate) for DWR and LADWP’s South State Water Hydropower Project FERC relicensing process. In the final Certificate, it specifies that DWR make a good faith effort to obtain United’s agreement to specific ramping schedules for release of United’s State Water Project deliveries through middle Piru Creek. The Certificate does not become effective until Pyramid’s FERC license is reissued. Environmental Services staff is engaged with DWR, LADWP, and SWRCB regarding multiple conditions outlined in the Certificate and their implications on United’s interests. As the license holder, DWR, and LADWP have committed to request an amendment of the Certificate to address specific conditions outlined in the document which concern both licensees and United. United will participate and support the licensees in the Certificate amendment process.

## 2. California Endangered Species Act (CESA) Listing Petition for Southern California Steelhead

In the California Fish and Game Commission’s (Commission) proceedings addressing CalTrout’s petition to list southern California steelhead under the California Endangered Species Act (CESA), on February 17, 2022, the Commission directed staff to work with CDFW and interested parties on developing a proposal for a regulation under Fish and Game Code 2084 for consideration by the Commission at the April 20-21, 2022, meeting. In addition, the Commission will continue the deliberation and vote on the “may be warranted” to list decision during the upcoming April 20-21, 2022, meeting. On March 8, 2022, the United met with CDFW management and legal to discuss the Fish and Game Code 2084 regulation process. CDFW has prepared a draft 2084 regulation which includes four criteria that must be met to qualify a project or activity for coverage during the candidacy period. United and CDFW discussed projects and activities that would meet these criteria and be presented to the Commission during their April 20-21, 2022, meeting. Separate from and in addition to the CDFW draft 2084 regulation, United staff and legal is in the process of preparing a proposal for the Commission’s consideration of United’s ongoing operations and activities that will require incidental take coverage under the 2084 regulation during the southern California steelhead CESA listing candidacy period. United staff is actively engaging with stakeholder agencies in the regulated community on a coordinated response to CDFW and the Commission regarding the scope of the 2084 regulation.



### 3. Freeman Diversion Operations

A storm in late March resulted in a moderate to small amount of flow arriving at the Freeman Diversion on March 28, 2022. On March 25, 2022, prior to the storm, United issued advanced notifications to NMFS and CDFW staff regarding the potential for the forecasted storm to result in triggering bypass flow and fish ladder operations. The storm subsequently did not generate runoff sufficient to trigger these operations. However, Operations and Maintenance (O&M) staff identified a need to turn-out storm flows and open the roller gate for facility maintenance. Environmental Services staff assisted O&M staff with this operation by providing operational recommendations, requesting agency support, and conducting downstream fish stranding surveys on March 28 and 29, 2022. No *O. mykiss* were observed during surveys. Agency staff did not respond to notifications regarding this event.

### 4. Lake Piru Sediment Sampling Project

On March 16, 2022, Environmental Services staff submitted post-project implementation reports to the U.S. Army Corps of Engineers and the Los Angeles Regional Water Resources Control Board. Project permitting requirements have been completed. Project activities were conducted in compliance with all permit and authorization requirements on February 23, 2022.

### 5. Quagga Mussel Management

- **Monitoring**

Environmental Services staff continues to conduct routine monitoring under the Quagga Mussel Monitoring and Control Plan (QMMCP) including monthly water quality sampling; monthly veliger (microscopic planktonic larvae) sampling; monthly artificial substrate sampling in Lake Piru (plate sampling); and natural substrate sampling in Piru Creek (surface surveys).

The March water quality sampling results indicate a thermocline is not present in Lake Piru; seasonal stratification has not yet occurred.

### 6. Miscellaneous

- On March 17, 2022, Environmental Services staff attended the Association of Water Agencies' WaterWise meeting with guest speaker United's General Manager Mauricio Guardado. Mr. Guardado's presentation "Using the Courts to Monetize Our Water Supply" focused on basin adjudication with discussion of timelines, fiscal cost, as well as unforeseen costs to the community.
- On March 21, 2022, Tessa Lenz, Hannah Garcia-Wickstrum, and Randall McInvale attended the Association of Environmental Professionals 2022 California Environmental Quality Act Legislative Update Webinar.

- On March 23, 2022, Linda Purpus, Randall McInvale, Evan Lashly, and Hannah Garcia-Wickstrum attended the Channel Counties Water Utilities Committee’s presentation on “Cyber-Security for the Public Sector.”
- On March 22, 2022, Evan Lashly attended a webinar entitled “Contemporary Oak Decline and Management,” to fulfill continuing education requirements related to his Arborist Certification.
- On March 24, 2022, Hannah Garcia-Wickstrum, Evan Lashly, and Randall McInvale attended a Santa Clara River Watershed Committee meeting.
- On March 29, 2022, Evan Lashly and Randall McInvale provided a tour of the Freeman Diversion facility to Andrew Dennhardt, USFWS. The tour focused primarily on a USFWS led effort to survey least Bell’s vireo throughout the Santa Clara River watershed but also provided an opportunity for United staff to brief Mr. Dennhardt on the Freeman Multiple Species Habitat Conservation Plan.
- On March 29, 2022, Tessa Lenz presented the FERC Historical Properties Management Plan to O&M staff at the monthly safety meeting. The presentation introduced staff to United’s obligations under the plan. The plan was filed with FERC in February 2022, and approval is expected in the next six months.



### **Staff Report**

**To:** Engineering and Operations Committee Members

**Through:** Mauricio E. Guardado, Jr., General Manager  
Brian Collins, Chief Operations Officer

**From:** John Carman, Programs Supervisor

**Date:** April 1, 2022 (April 6, 2022, Meeting)

**Agenda Item:** 4.3 Monthly Operations and Maintenance Department Report  
**Information Item**

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#### **Staff Recommendation:**

The Engineering and Operations Committee members will receive this staff report from the Operations and Maintenance department regarding its activities for the month of March.

#### 1. Water Releases, Diversions and Deliveries

- Lake Piru dropped 0.75 feet in March to 18,695 acre-feet (AF) of storage.
- 1445 AF of water was diverted by the Freeman Diversion facility in March.
- 468 AF of water was diverted to the Saticoy recharge basins in March.
- 744 AF of surface water was delivered to the El Rio recharge basins in March.
- 311 AF of surface water was delivered to the PTP system in March.
- 0 AF of surface water was delivered to Pleasant Valley County Water District in March.

#### 2. Major Facilities Update

- **Santa Felicia Dam**
    - Lake Piru dropped 0.75 feet March 1, 2022 through April 1, 2022, to 18,695 AF of storage.
    - On April 1, 2022 the lake level was 70.9 feet below the spillway lip.
    - Habitat water releases from Santa Felicia Dam (SFD) were maintained at 20 cubic feet per second (cfs), for the month of March, as per the Water Release and Ramping Rate Implementation Plan for lower Piru Creek.
    - An aeration tailrace pump and plumbing installed to improve outlet dissolved oxygen.
    - Staff installed new Hydro Plant step-up transformer.
    - Filed the Energy Information Administration and California Energy Commission generation annual reports for 2021.
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**Agenda Item: 4.3 Monthly Operations and Maintenance Department Report –  
Information Item**

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- **Freeman Diversion, Saticoy, and El Rio Recharge Facilities**

- Flows at the Freeman Diversion averaged 47 cfs for the month of March, with 45 cfs of surface water being diverted on April 1, 2022.
- During the month of March, 468 AF of surface water deliveries were made to the Saticoy Recharge Facility.
- During the month of March, 744 AF of surface water deliveries were made to the El Rio Recharge Facility.
- Flocculation building 12Kw emergency generator installation was completed.
- Staff widened existing roadway and extended 36 inch cement piping at El Rio Recharge basin, adjacent to “C” structure outlet.
- Static water levels (distance of water from the well pad to the water table):

	<b>2022</b>	<b>2021</b>	<b>2020</b>
Saticoy	114'	118'	96'
El Rio	131.4'	117.2'	107.5'
PTP	113' - 152'	100' - 132'	92' - 129'

- **Noble/Rose/Ferro Basins**

- 0 AF of surface water was delivered to the Noble & Rose basins during March.

- **Oxnard-Hueneme (OH) Delivery System**

- North and South wellfield manifold turbidimeters upgraded to Hach Laser TU 5400.
- Staff upgraded OH Well #12 check-valve.
- Staff installed new Chlorine Residual Analyzer “Hach CL17” measuring effluent Total Chlorine at El Rio Booster Plant.

- **Pleasant Valley County Water District (PVCWD)**

- During the month of March PVCWD received 0 AF of surface water from United and PVCWD continued to receive surface water from the Conejo Creek Project and also received some highly treated recycled water from the City of Oxnard’s Advanced Water Purification Facility (AWPF).

- **Pumping Trough Pipeline (PTP)**

- During the month of March PTP system demand was met with a combination of surface water from the Freeman Diversion and PTP wells.
- On March 30, 2022, staff installed a new Endress Houser 16 inch mag flowmeter and manifold piping at the PTP reservoir.
- Staff assisted contractor Travis Ag with repairs to a damaged air vac assembly adjacent to Turnout 143.
- A vehicle damaged an air vac assembly, Contractor Travis Ag replaced the assembly on Rice Road, adjacent to PTP Well #4.
- Contractor Diener Electric installed meter upgrade project solar panel poles at turnouts 101 and 162

**Agenda Item: 4.3 Monthly Operations and Maintenance Department Report –  
Information Item**

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- **Instrumentation**

- New Fe & Mn construction site camera installed on network tower.
- The Santa Felicia Dam Accusonic flow meter was repaired and tested.
- Instrumentation staff configured and commissioned a new 16” Endress Hauser electromagnetic flow meter at the PTP reservoir.
- Staff configured and installed a new Compact Logix controller at Saticoy Well #4.

- **Lake Piru Water System**

- All chlorine residuals and turbidity readings for the drinking water system were within proper ranges for the month of March.
- Monthly pH, turbidity and coliform samples were obtained for Lake Piru, as part of the Long Term 2 Enhanced Surface Water Treatment Rule compliance monitoring.

3. Operations and Maintenance Projects Update

- Iron and Manganese grant funded project progressing at El Rio Booster Plant.

4. Other Operations and Maintenance Activities

- The Santa Felicia Dam Emergency Action Plan sirens, located in Piru, were exercised on March 4, 2022.
- On March 16, 2022 staff attended the Santa Paula Chamber of Commerce board meeting remotely.
- Submitted the Stage 2 Disinfection Byproduct Quarterly report to the State Water Resource Control Board, Division of Drinking Water.
- Contractor Rayco installed upgraded security system at Saticoy Shop.
- Monthly inspection of Santa Felicia Dam was performed.
- Monthly bacteria samples were obtained for the PTP system.
- Monthly meter readings were obtained for the OH, PTP, and PV Pipelines.
- Completed and electronically transmitted the monthly OH Pipeline report to the State Water Resources Control Board, Division of Drinking Water.
- Static water levels were obtained for all El Rio, Saticoy, and PTP wells.
- Weed abatement continued throughout the District.
- Action priority update biweekly meetings for operations staff were continued.

5. Safety and Training

- During the month of March, approximately 3100 hours of work, within the O & M department, were performed with no reportable accidents. The department’s YTD safety record is 0 recordable injury.
- One Safety Meeting was conducted on site at the UWCD Headquarters. One safety video was provided to staff entitled *Understanding Silicosis* by the American Lung Association.

**Agenda Item: 4.3 Monthly Operations and Maintenance Department Report –  
Information Item**

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The primary objective was to provide awareness of respirable crystalline silica. SDRMA Safety Talk handout entitled “Portable Ladder Safety” was briefed to staff. The purpose was to emphasize the importance of safe practices while using ladders. O&M staff at SFD also provided a site overview and access for confined space tunnel rescue exercises for the Ventura County Fire Department.

- Tailgate safety meetings were conducted at all individual O&M field locations and the topics included refresher training on equipment used at the various O&M locations. The online Target Safety assignments for March was “Respirable Crystalline Silica.”

Attachments: A - Operations Log for March



DATE	SANTA FELICIA DAM								FREEMAN DIVERSION**					RECHARGE				IRRIGATION						O-H		
	SFD El.	Stor.	Surface	Evap.	Inflow Balance	Outflow USGS	Hydro	Rain 106E	River	Diverted	Fish*** Facility	Bypass Channel	Crest	El Rio	Saticoy Facility		Noble/ Rose	Piru	T.I.D.	P.T.P.	PVCWD		L.P.	Saticoy Wells	Total	Cl2
	Ft.	A/F	Acres	Inches	Av. CFS	Av. CFS	Kw	Inches	Av. CFS	Av. CFS	Av. CFS	Av. CFS	Av. CFS	Av. CFS	Misc CFSI	Weir CFS	Av. CFS	Av. CFS	A/F	A/F	A/F	%	A/F	A/F	A/F	Lbs.
A/F*		18673			8,002	3,493		12.98	28,030	10,884	1,784	3,473		5,929	3665		0	0.0	1,211	847	409		0.0	0	6,143	47,655
3/1/22	984.85	18656	549.80	0.150	14	20.6	0	0.00	20	20	0	0	0	9.61	-1	0	0	0.0	22.1	29.3	0.0	0.00	0.0	0.0	38.4	306
3/2/22	984.81	18634	549.50	0.282	13	20.6	0	0.00	16	16	0	0	0	7.57	3	0	0	0.0	11.1	14.4	0.0	0.00	0.0	0.0	42.8	320
3/3/22	984.78	18618	549.20	0.058	13	20.6	0	0.00	18	18	0	0	0	5.27	5	0	0	0.0	14.6	17.9	0.0	0.00	0.0	0.0	36.3	294
3/4/22	984.75	18602	549.00	0.120	14	20.6	0	0.01	17	17	0	0	0	9.37	2	0	0	0.0	10.8	14.0	0.0	0.00	0.0	0.0	37.3	309
3/5/22	984.71	18580	548.70	0.062	10	20.7	0	0.00	16	16	0	0	0	5.98	3	0	0	0.0	13.5	18.3	0.0	0.00	0.0	0.0	45.0	377
3/6/22	984.67	18558	548.40	0.166	12	20.7	0	0.00	17	17	0	0	0	11.17	4	0	0	0.0	2.8	3.7	0.0	0.00	0.0	0.0	40.6	319
3/7/22	984.65	18547	548.20	0.080	16	20.6	0	0.00	19	19	0	0	0	7.26	4	0	0	0.0	14.2	18.9	0.0	0.00	0.0	0.0	40.4	319
3/8/22	984.61	18525	547.90	0.133	11	20.6	0	0.00	17	17	0	0	0	8.23	2	0	0	0.0	13.7	17.8	0.0	0.00	0.0	0.0	43.1	358
3/9/22	984.57	18503	547.60	0.162	11	20.6	0	0.00	17	17	0	0	0	9.97	3	0	0	0.0	8.1	10.4	0.0	0.00	0.0	0.0	41.8	330
3/10/22	984.50	18465	547.00	0.108	2	20.4	0	0.00	15	15	0	0	0	8.82	0	0	0	0.0	11.6	14.7	0.0	0.00	0.0	0.0	38.4	310
3/11/22	984.49	18459	546.90	0.182	20	20.6	0	0.00	13	13	0	0	0	3.71	3	0	0	0.0	12.0	15.6	0.0	0.00	0.0	0.0	41.5	319
3/12/22	984.45	18438	546.60	0.154	12	20.6	0	0.00	12	12	0	0	0	4.07	4	0	0	0.0	8.0	11.8	0.0	0.00	0.0	0.0	46.4	377
3/13/22	984.41	18416	546.30	0.202	12	20.6	0	0.00	15	15	0	0	0	8.19	5	0	0	0.0	3.5	4.8	0.0	0.00	0.0	0.0	38.5	330
3/14/22	984.38	18400	546.00	0.144	14	20.6	0	0.00	16	16	0	0	0	9.38	3	0	0	0.0	6.7	9.9	0.0	0.00	0.0	0.0	41.6	330
3/15/22	984.33	18372	545.60	0.150	8	20.6	0	0.00	13	13	0	0	0	7.57	1	0	0	0.0	8.2	10.9	0.0	0.00	0.0	0.0	41.9	331
3/16/22	984.30	18356	545.40	0.135	14	20.6	0	0.00																		