MINUTES
ENGINEERING AND OPERATIONS COMMITTEE MEETING
Thursday, October 6, 2022, at 9:00 a.m.
Board Room, UWCD Headquarters
1701 N. Lombard Street, Oxnard, CA 93030

COMMITTEE MEMBERS IN ATTENDANCE
Lynn E. Maulhardt, chair
Gordon Kimball, 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
Hannah Garcia-Wickstrom, associate environmental scientist
Michel Kadah, Engineer
Evan Lashly, environmental scientist
Tessa Lenz, associate environmental scientist
Jackie Lozano, administrative assistant
Craig Morgan, engineering manager
Josh Perez, chief human resources officer
Zachary Plummer, technology systems manager
Linda Purpus, environmental services manager
Ed Reese, technology systems specialist
Daryl Smith, controller
Ambry Tibay, senior accountant
Vanessa Vasquez, administrative assistant
Brian Zahn, chief financial officer

PUBLIC IN ATTENDANCE
One member of the public was in attendance but chose not to sign the attendance sheet.

Call to Order – Open Session
Chair Maulhardt called the Committee meeting to order at 9:01 a.m. All Committee members were present.

1. Public Comments
Information Item
Chair Maulhardt asked if there were any comments or questions from the public for the Committee. None were offered.

2. Approval of Minutes

Motion

Motion to approve the Minutes of September 1, 2022, Engineering and Operations Committee meeting, Director Naumann; Second, Chair Maulhardt. Voice vote: two ayes (Maulhardt, Naumann), none opposed, and one abstained (Kimball). Motion carried 2/0/1.

3. October 12, 2022, Board Meeting Agenda Motion Items

The Committee reviewed and discussed the following motion items for the October 12, 2022, UWCD Board of Directors meeting to formulate Committee recommendations:

3.1 Contract with Northwest Hydraulic Consultants for the Freeman Diversion Hardened Ramp Additional Modeling and Design Updates

Engineering Manager Craig Morgan presented the motion item to the Committee (presentation attached). There was one question from Director Naumann. It was recommended by the Committee that Mr. Morgan bring forward the same presentation to the Board.

No public comments or questions were offered.

The Committee members were in favor of recommending approval of the motion item to the full Board.

3.2 Pre-implementation Studies in Support of Federal Energy Regulatory Commission Fish Passage Assessment – Amendment to Professional Consulting Services Agreement with Cramer Fish Sciences - $425,633

Environmental Services Manager Linda Purpus introduced the motion to the Committee and welcomed Environmental Scientist Evan Lashly to the podium to present (presentation attached).

Chair Maulhardt requested that the photos depicted in the presentation be date stamped for the purpose of referencing the condition of the streams at that moment. Director Naumann agreed and added that also including the length of time showing the months of when there was a wet period and dry period would be helpful.

Upon review of the Sampling Summary slide, Chair Maulhardt suggested Mr. Lashly include a statement that references the natural environmental conditions. It was the Committee's request to bring this presentation to the Board and going forward the Committee would like to see regular updates.

No public comments or questions were offered.

With the full support from the Committee on staff's ongoing work, the Committee members were all in favor of recommending approval of the motion item to the full Board.

3.3 Verizon Request for Easement for Cell Tower Fiber Optic Conduit
Chief Operations Officer Brian Collins presented this motion item to the Committee. There were no comments or questions from the Committee.

No public comments or questions were offered.

The Committee members were all in agreement to recommend approval of the motion item to the full Board.

4. Project Highlights (September 2022)

4.1 Engineering Department Update (see attached slides)
Dr. Maryam Bral presented an overview of the Engineering Department's activities which included updates on the progress of the Condor Point picnic sites, the Santa Felicia Dam Safety Program Audit and site visit, and the Integrated Regional Water Management Grant (IRWM) Round 2 Implementation in support of the District project related to the Noble and Ferro basins interconnection. Regarding IRWM, Director Naumann requested an additional slide be added to show the undercrossing connection from the Noble to Ferro basins. Dr. Bral also provided updates on the Extraction Barrier and Brackish Water Treatment Project as well as ongoing work at the Iron and Manganese Treatment Facility. The department participated in one public outreach event with Navy staff. Chair Maulhardt felt the slides were a good summary on highlights and it was his recommendation to bring forward all slides to the Board for presentation.

Information Item. There were no further comments or questions from the Committee. No public comments or questions were offered.

4.2 Environmental Services Department Update (see attached slides)
Ms. Purpus provided an introduction of this agenda item to the Committee. It was at that time that she invited Mr. Lashly to the podium to present their departmental updates which included submission of the Historical Properties Management Plan, and permitting efforts in support of the Santa Felicia Dam, Lake Piru Recreation Area, and Freeman Sediment Management Project. There was some discussion between the Committee and staff regarding the District's comment letter for CDFW consideration in evaluating status of species under CESA. The Committee members agreed to bring forward the full presentation to the Board.

Information Item. There were no further comments or questions from the Committee. No public comments or questions were offered.

4.3 Operations and Maintenance Department Update (see attached slides)
Mr. Collins presented an overview of the Operations and Maintenance Department activities. Included in the overview presentation were images depicting staff's sediment management efforts at the Freeman Diversion, and the work being done on the OH and PTP pipelines. Director Maulhardt was pleased on the ongoing work put forth by staff.

Upon conclusion of the regular monthly updates, Mr. Collins moved into a special presentation and video on the modeling project taking place at the University of Iowa. There was great conversation between the Committee members and staff regarding the model. The Committee was pleased to see the progress and asked to share the details and video at the upcoming Board meeting. At 10:44 a.m., Director Naumann excused himself from the meeting.

Information item. There were no additional comments or questions from the Committee. No public comments were offered.

5. Future Agenda Topics

None were offered. On a separate note, Chair Maulhardt asked to publicly express his apology for referring to Mr. Craig Morgan as "Greg" citing his relationships with many friends with that name.

ADJOURNMENT 10:59 a.m.

Chair Maulhardt adjourned the meeting at 10:59 a.m.

I certify that the above is a true and correct copy of the minutes of the Engineering and Operations Committee Meeting of October 6, 2022.

ATTEST: 

Chair Lynn E. Maulhardt

Motion Item 3.1

Freeman Hardened Ramp Additional Modeling and Design Updates

- Contract with Northwest Hydraulic Consultants for $645,515
  - Additional Modeling and Design Updates to include:
    - Design development and criteria
    - Design documentation
    - CFD model runs to correlate physical model results
    - Alternative selection support

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SANTA FELICIA FISH PASSAGE FEASIBILITY ASSESSMENT DOWNSTREAM MIGRANTS

Engineering and Operations Committee Meeting Agenda Item 3.2

October 6, 2022

United Water CONSERVATION DISTRICT

1

Engineering and Operations Committee Meeting Agenda Item 3.2

Request to consider recommending that the Board authorize the General Manager to execute a contract amendment with Cramer Fish Sciences to complete field work associated with their study plan regarding Santa Felicia fish passage pre-implementation studies in the amount of $425,633

Project Background

2008 – NMFS Biological Opinion
- Stipulated a process for evaluating the feasibility of fish passage

2017 – Fish Passage Feasibility Report
- Identified "trap and haul" as potentially feasible, contingent upon resolving specific uncertainties

2019 – Pre-implementation Study Plan
- Study plan designed to address uncertainties related to passage of downstream migrants

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Study Plan Overview

- Spring-fall sampling (years 1-3)
  - Mark-recapture, demographics, movement, genetic sampling
- Operate Passive Integrated Transponder (PIT) antennas (years 1-3)
  - Movement
- Operate low-tech fish traps (years 2-3)
  - Test various trap designs, movement, genetic sampling
- Develop summary documents and analysis
  - Conceptual and quantitative life-cycle model, emigrant harvest model, feed into biological trigger development and IAMP

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Project Activities Overview

- Spring-fall field sampling
  - Fall 2018, spring 2019, fall 2019, fall 2021, spring 2022
  - COVID interrupted planned spring and fall 2020, spring 2021 activities
- Operate Passive Integrated Transponder (PIT) antennas (years 1-3)
  - Installed in 2018 and operated (mostly) continuously since
- Operate low-tech fish traps (years 2-3)
  - Installed/operated in 2020; interrupted due to COVID-19
  - 2021-22 year successful

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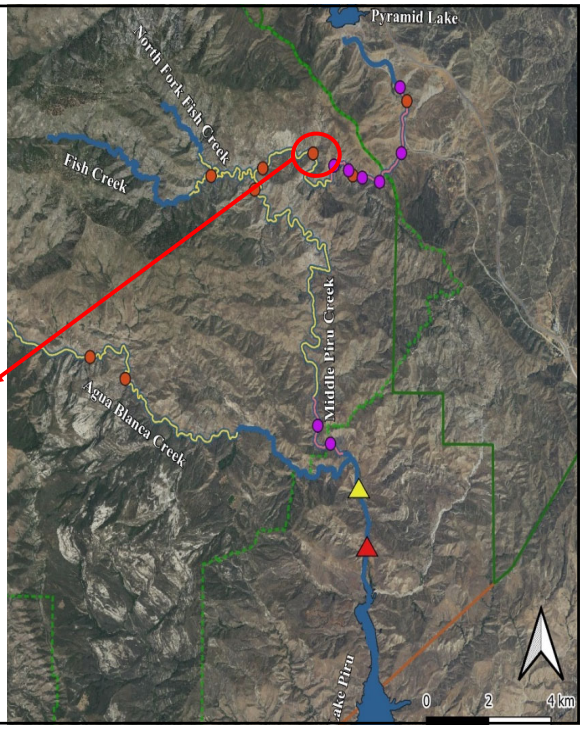
Project Activities Overview



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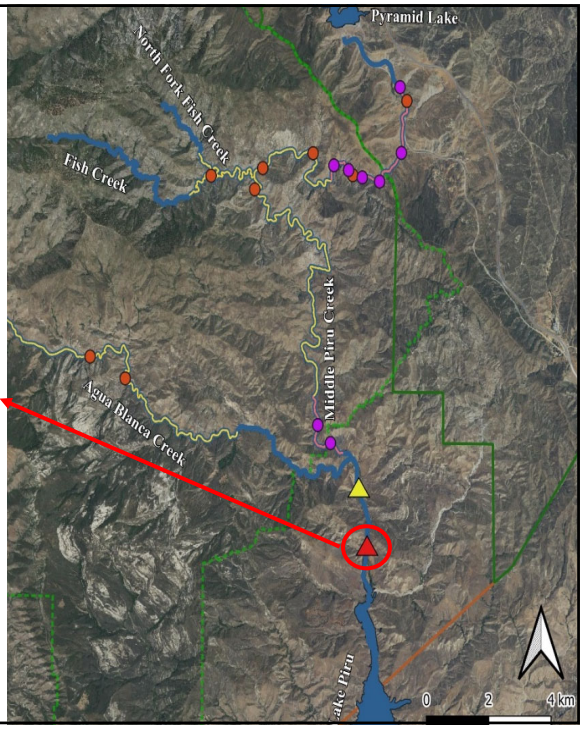
Project Activities Overview



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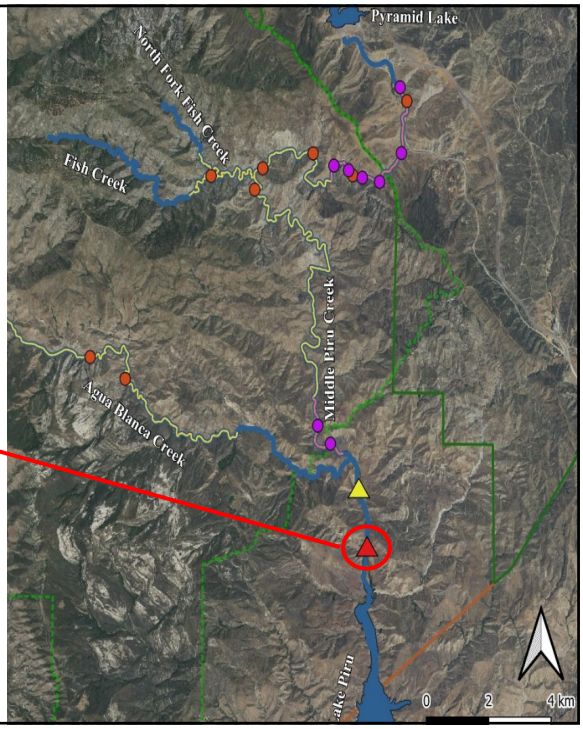
Project Activities Overview



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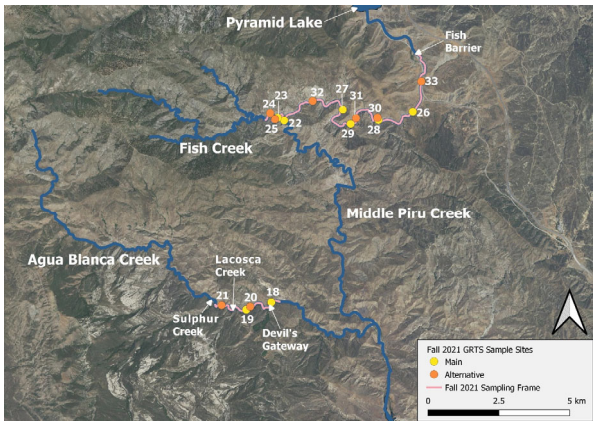
Sampling Summary

Location	Tagged	Average Density (trout/m)
Middle Piru	1,260	0.36
Agua Blanca	236	0.23
Fish Creek	211	0.42
Total/Average	**1,707**	**0.34**



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PIT Antenna Results

2018-2020

Five PIT antenna detections

- Two from Agua Blanca
- Two from Fish Creek
- One from Piru mainstem
- Two detected heading back upstream

2021-2022 *(preliminary data)*

Six PIT antenna detections

- Three from Agua Blanca
- Three from Piru mainstem
- Two detected heading back upstream
- One known missed detection (from trap)

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Trapping Summary

Feb 2020-March 2020

COVID-19

- One *O. mykiss* captured

Dec 2021-May 2022

Low flows/high temps

- Five *O. mykiss* captured
  - One all smolt characteristics
  - Four some or none
- Five days/week Dec-March
- Seven days/week March-May

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2021-2022 Trap Operations

High flow and debris damaged one fyke net (early Dec) and sunk the rotary screw trap (late Dec).

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Caught 11/10/2021
Fork length: 78 mm
Weight: 6.4 g

Recapture 4/7/2022
Fork length: 166 mm
Weight: 39.5 g

** Captured at Canton Crossing fyke*

12

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Preliminary Genetic Results

Effective population size low
- N_e < 50

Relatedness high
- Families up to 70 individuals

Sex ratio typical
- 58% females

Successful spawners ~250
- Parents contributing to juveniles collected

OMY5 frequency intermediate
- 36% frequency of anadromous allele

13

Next Steps

- Complete final phase of field work
- Continue agency consultation
  - CESA implications
  - Experimental transport
- Complete genetic analysis and project deliverable

Value for Final Phase

- Information about fish movement and trap operations is *critical*

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14

QUESTIONS

15

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ENGINEERING DEPARTMENT MONTHLY UPDATE

October 6, 2022

United Water CONSERVATION DISTRICT

1

Lake Piru Recreation Area - Condor Point Project

Six concrete pads for the new Ramada Shaded Picnic Sites were poured on September 16th

2

2

Dam Safety and Regulatory Compliance
Santa Felicia Dam Owner Dam Safety Program (ODSP) Audit

Auditors Site Visit and Tour of Headquarters on September 26

Auditors report to FREC is due by December 31

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Integrated Regional Water Management Grant Program
Round 2 - Implementation

Groundwater Recharge Capacity Expansion Project

- $1,000,000 State grant funding, requiring a 50 percent local match
- One of five projects endorsed by the Watershed Coalition of Ventura County
- Other projects include Casitas MWD Intertie, Calleguas-Ventura SWP Interconnection, Shallow Groundwater and Ecosystem Function (UCSB), Camarillo AMI

- **UWCD Project**
  - Undercrossing at Vineyard Ave. To connect Noble to Ferro basins to increase groundwater recharge capacity
- **Project Completion:**
  - January 2027

4

4

Iron and Manganese Treatment Facility

Completed roof on new Fe/Mn Building

Advancement of Filter Face Piping at new 40' long Filter Vessels

Expected Construction Completion Date - January 26, 2023

5

5

Extraction Barrier and Brackish Water Treatment Project

Site Visit on September 7 to establish the location of new monitoring wells.

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Public Outreach

- September 20 - Tour of the PHWA Brackish Water Reclamation Demonstration Facility by Robert Richardson and Navy staff

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QUESTIONS

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ENVIRONMENTAL SERVICES DEPARTMENT MONTHLY UPDATE

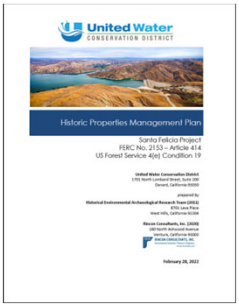
October 6, 2022

United Water CONSERVATION DISTRICT

1

Department Summary Updates

- FERC Approval
  - Historic Properties Management Plan
- Permitting
  - Application submittals and implementation
    - SFD and Lake Piru Recreation Area
    - Freeman Sediment Management Project
- CESA
  - Comment letter for CDFW consideration in evaluating status of species under CESA



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QUESTIONS

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OPERATIONS AND MAINTENANCE DEPARTMENT MONTHLY UPDATE

October 6, 2022

United Water CONSERVATION DISTRICT

1

Freeman Diversion

Sediment Management Project





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OH Delivery

Natural Gas Waukesha #4 Engine Rebuild – Removal of Heat Exchanger

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PTP

PTP Turnout 146 Meter Upgrade – PTP Well #2 Mag Meter Upgrade

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Questions?

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Intake without Desander

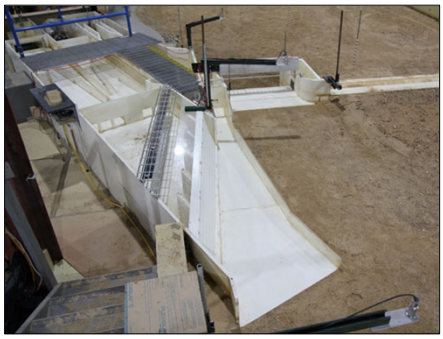


Photo of completed 1:24 model

Sediment deposit after test DD-2
(6,000 cfs river, 1,500 cfs diversion)

IOWA IIHR – HYDROSCIENCE & ENGINEERING

1

Desander V1.0

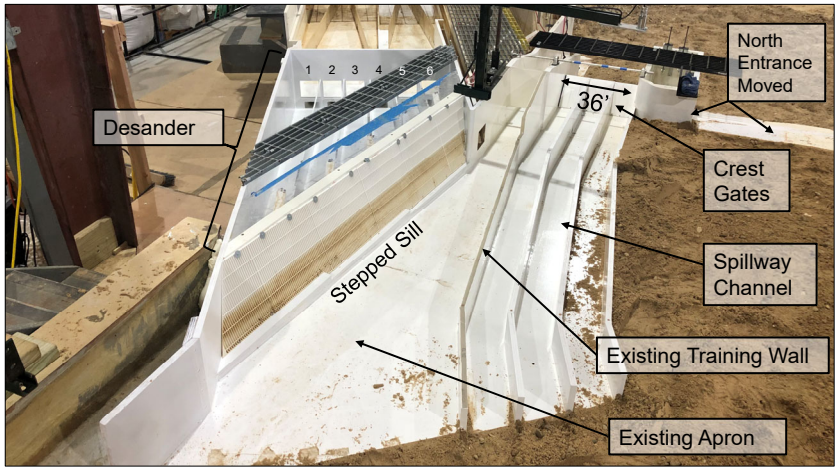
→Design changes:

- Added six desanding channels inside diversion
- Added Obermeyer-style flap gates to upstream end of desanding channels between existing piers
- Added sixth gate into screen bays
- Removed portion of screen bay dividing wall and moved AWS screens downstream
- Provided two desanding outfall locations (A and C)
- Reduced crest gate width to 36’ and lowered crest gate sill by 5’
- Added three-bay spillway channel upstream of crest gates
- Converted bypass channel gate to Obermeyer-style gate

IOWA IIHR – HYDROSCIENCE & ENGINEERING

2

Desander V1.0



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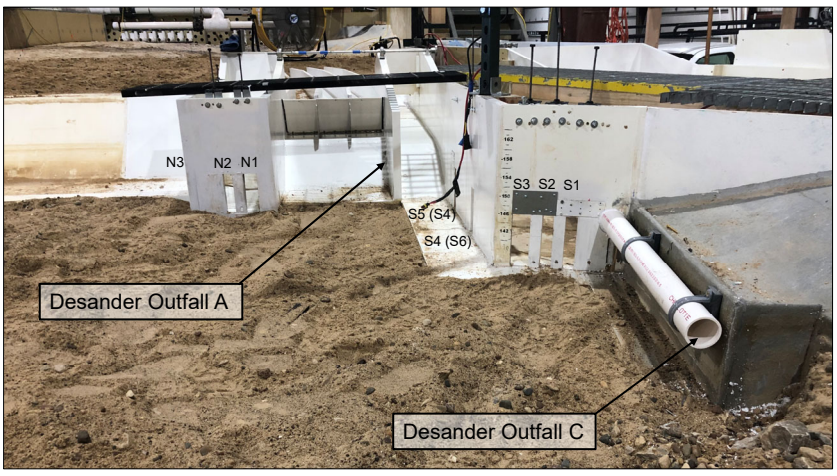
3

Desander V1.0



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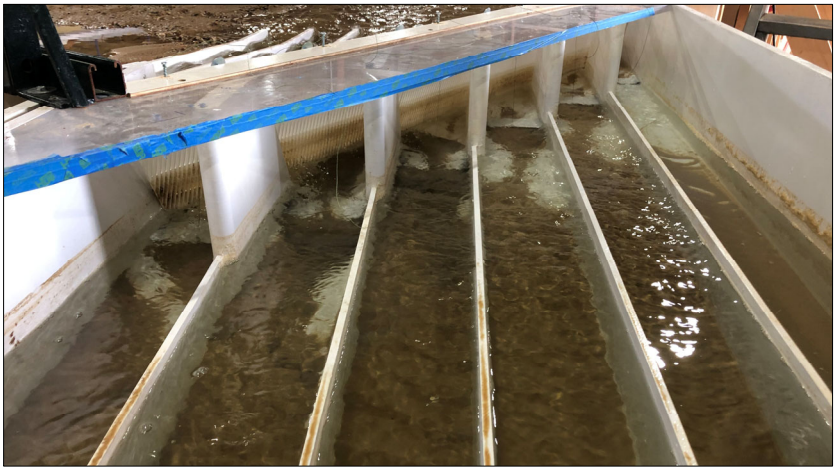
4

Desanding channels



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5

Desanding channel head gates

Gate Raised

Gate Lowered

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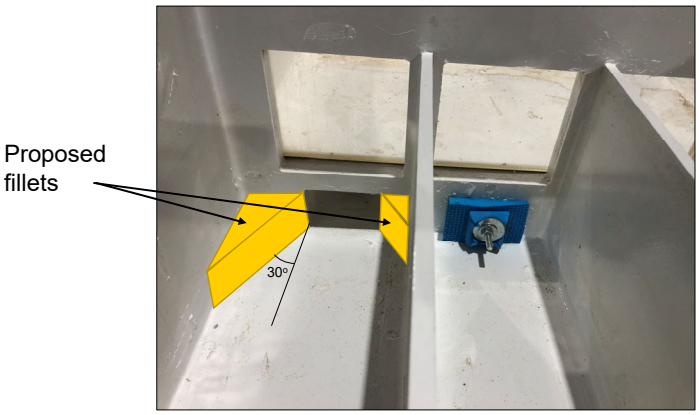
6

Desanding channel outlets



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7

Desanding Bay 5

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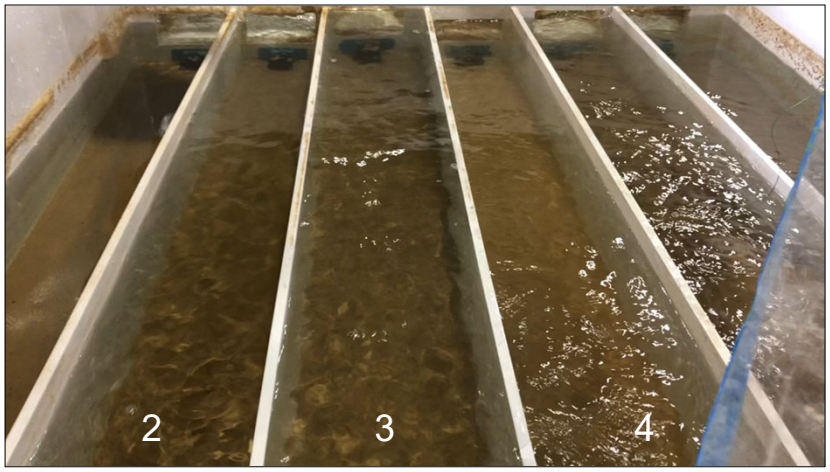
8

Desanding Bay 3 (playback 4X)



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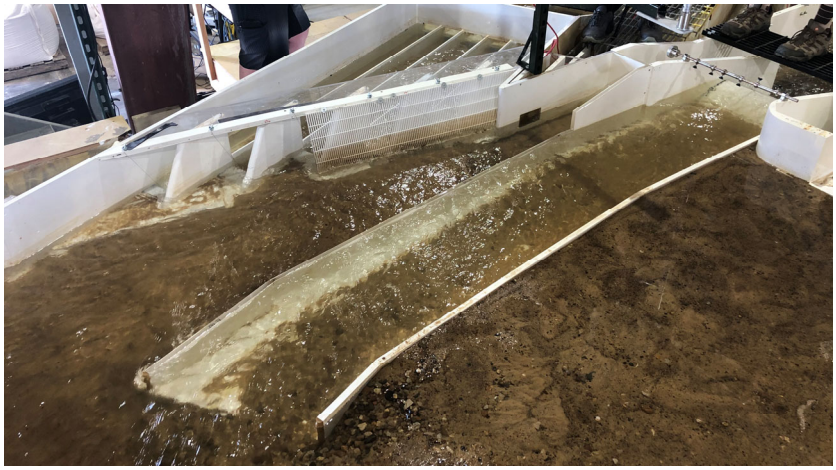
Spillway channel with intermediate walls

10

Intermediate spillway channel walls and trash rack panels removed



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Sluicing spillway channel

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Sluicing spillway channel

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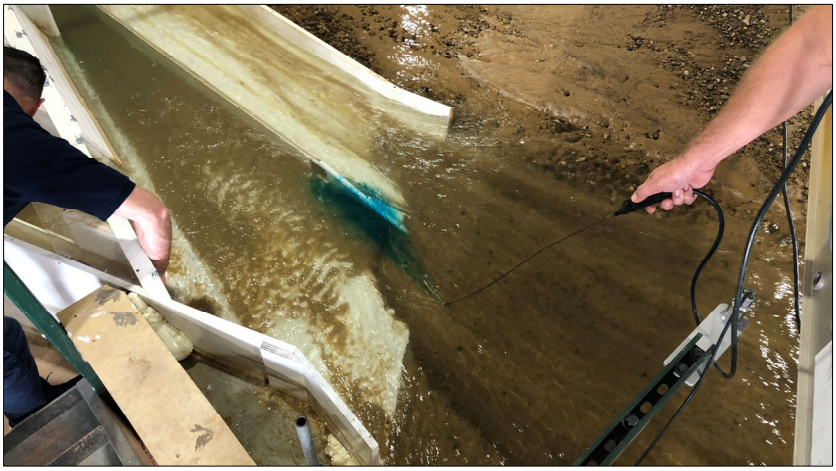
Modified training walls

IOWA IIHR – HYDROSCIENCE & ENGINEERING

14

Modified training wall



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Desander outfall location C

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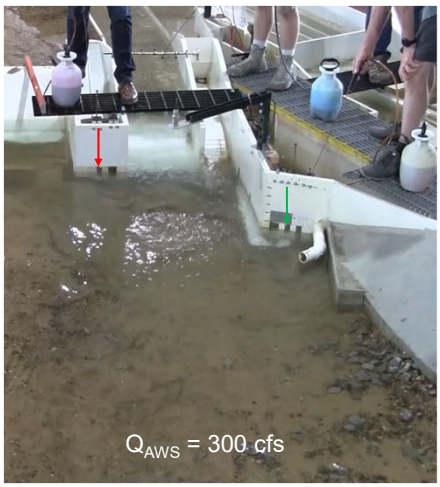
16

Q_{river} = 1,500 cfs

20%



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17

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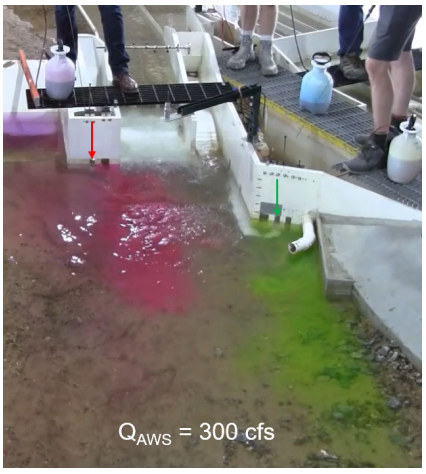

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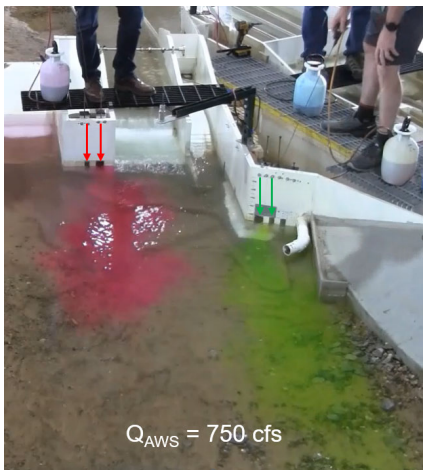

IOWA IIHR – HYDROSCIENCE & ENGINEERING

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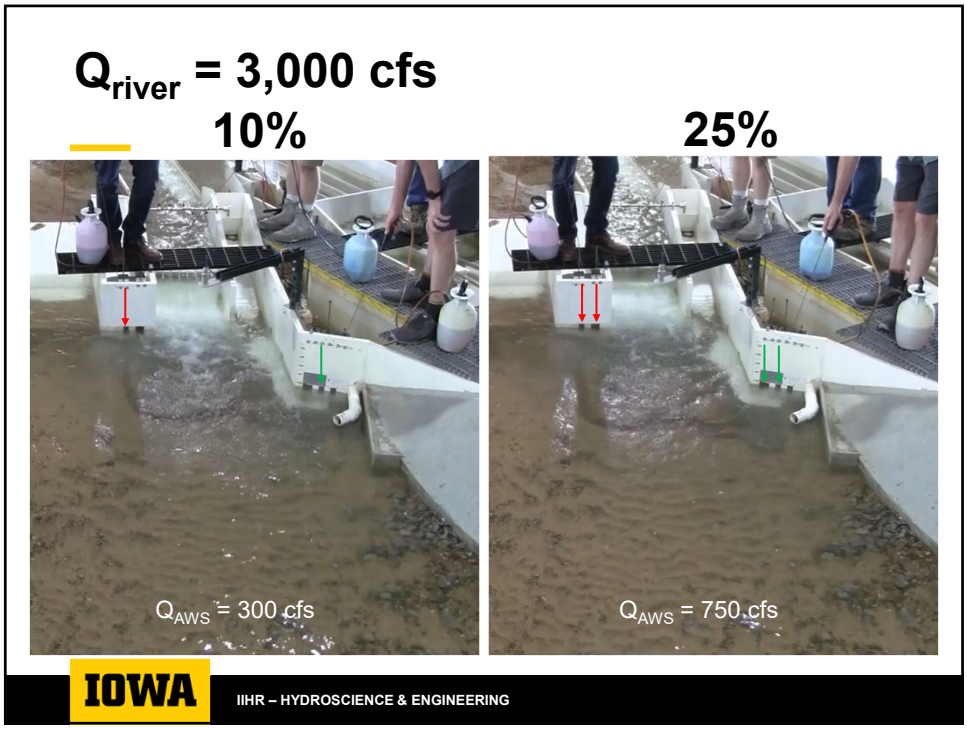
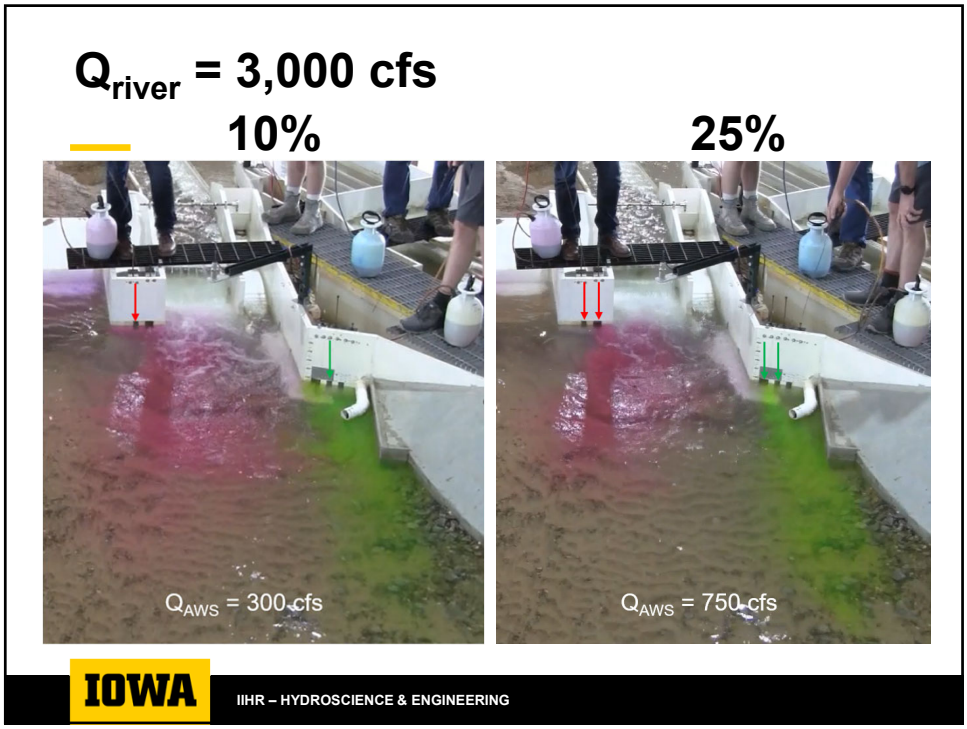

Q_{river} = 3,000 cfs
10%
25%
Q_{AWS} = 300 cfs
Q_{AWS} = 750 cfs
IOWA
IIHR – HYDROSCIENCE & ENGINEERING

19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IOWA
IIHR – HYDROSCIENCE & ENGINEERING

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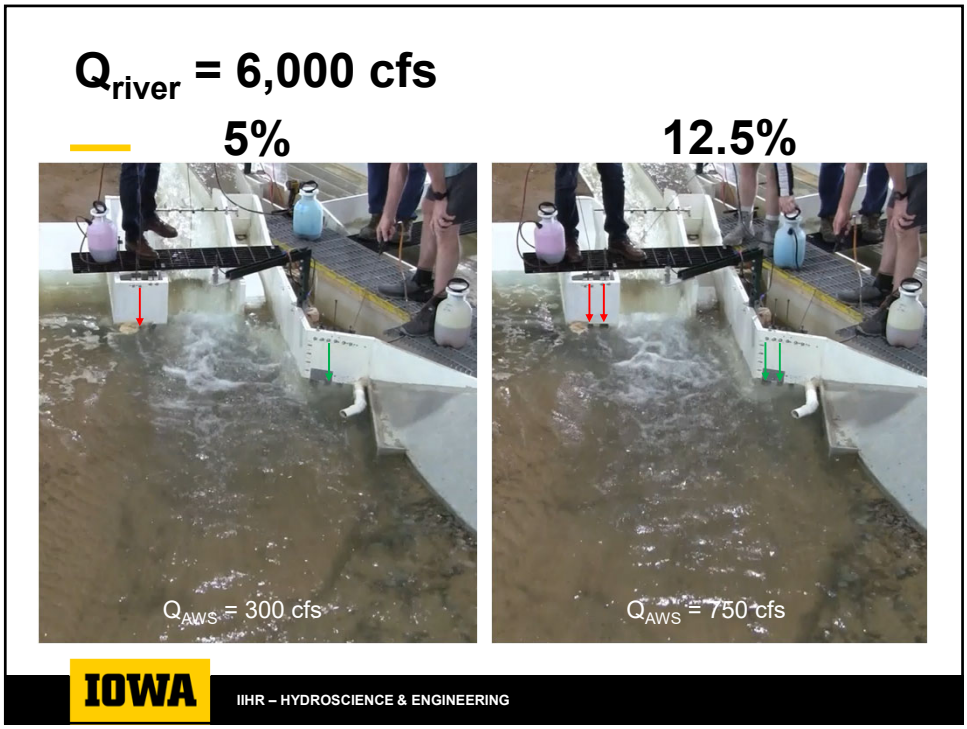
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IIHR – HYDROSCIENCE & ENGINEERING

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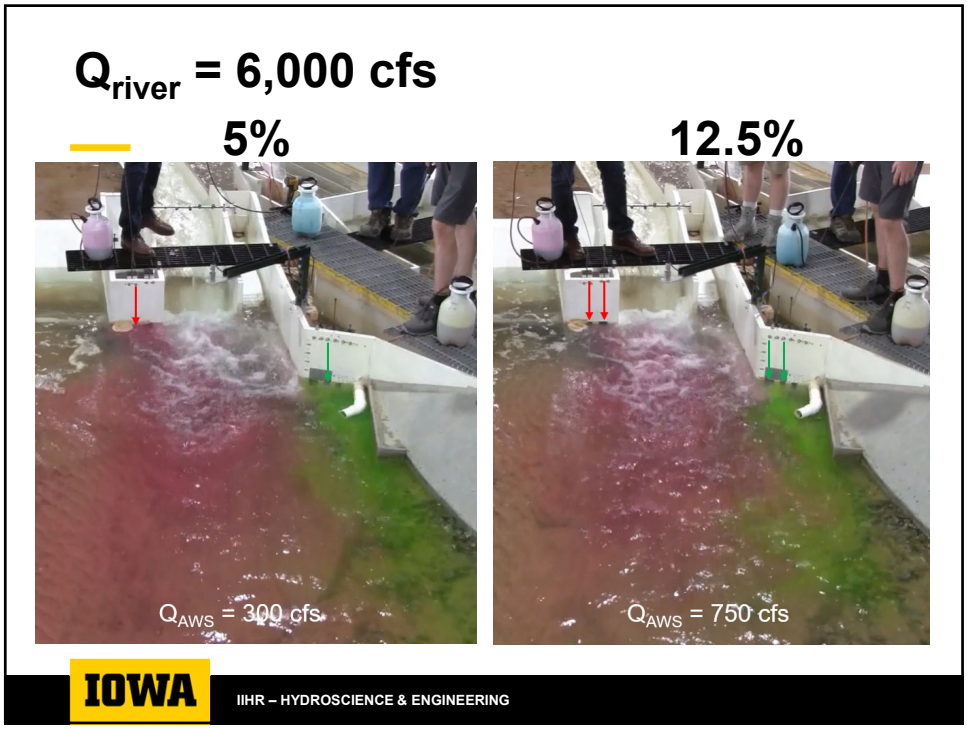
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IOWA
IIHR – HYDROSCIENCE & ENGINEERING

22

Desander V2.0

→Design Changes:

- Lower intake sill to reduce headloss and increase diversion flow capacity
- Add taller Obermeyer desanding channel head gates
- Modify trash rack piers (i.e., extend to floor and d/s)
- Evenly align desanding channel walls and lower-level outlets
- Add fillets to streamline desanding channel outlets
- Re-design desanding manifold with new exit location between S3 and S4
- Evenly align screen bay head gates
- Add gates between screen bays
- Move bypass channel gate downstream to align with crest gates
- Reshape bypass channel floor profile
- Remove intermediate walls in spillway channel
- Reorient upstream end of existing and new training walls
- Adjust spillway channel floor slope
- Add curved surface to improve transition from crest gate to apron floor

IOWA IIHR – HYDROSCIENCE & ENGINEERING

23

Desander V2.0

→Performance to be observed during Oct. 17-19 Iowa lab visit

→Modifications in progress

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24

Next Steps

1:24-scale model

- Implement full desander concept
- Performance demonstration (Oct. 17-19)
- Testing results for report

1:12-scale model

- Implement changes to the crest gates, spillway channel, bypass channel, and fish entrances
- Performance demonstration (Oct. 17-19)
- Testing results for report

IOWA IIHR – HYDROSCIENCE & ENGINEERING

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IOWA

IIHR – HYDROSCIENCE & ENGINEERING

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