Is the river large enough to create a whitewater park?

Boulder Creek in Colorado is approximately half as wide as the Yahara River and is one of the more popular whitewater parks in the county.

Is there enough water flow to create a whitewater park?

The Yahara River flow fluctuates between approximately 1300 CFS to 300 CFS. These are within the parameters needed to create a whitewater park. The Boulder Creek whitewater park is functional at 102 CFS.

Is there enough elevation change to create a whitewater park?

There is a 11-foot elevation change where the 4th Street dam is. Water features require between 6 and 18 inches of drop.

Will people be able to fish and how does it impact fishing?

These projects have improved fishing in other communities that have parks. Engineers are able to incorporate fish passages into the rapids to aid in fish migration. The project will also enhance public access to the river. Additionally, the removal of the dam and inclusion of the water features will create an environment that is unhospitable for invasive species like carp while being preferable for native species like smallmouth bass. The Wollen Mills Dam removal project in Milwaukee is an example of this.

Charles City Whitewater Park & Fishing Article - https://www.desmoinesregister.com/story/opinion/readers/2016/05/12/charles-city-fishing-better-than-ever/84196644/

Wollen Mills Dam Removal - https://dnr.wi.gov/topic/Dams/documents/CaseStudy.pdf

Will the project force the Stoughton Fair out of Mandt Park?

The project will not force the fair out of Mandt Park. In fact, the City has hired MSA to complete a master plan for Mandt Park. The Stoughton Fair was included as a stakeholder and MSA included them in stakeholder group meetings. The goal of the master plans is to determine what type of improvements are possible in a given space and to provide a layout for the development of those improvements. This will lead to more efficient use of space so that the whitewater park and fair can coexist.

How will the dam removal and whitewater park affect water levels?

The preliminary hydraulic analysis shows that the dam removal and whitewater park will cause a 2.9 foot drop in water levels at Main Street, 1.3 foot drop in water levels at Forton Street, a 1.2 foot drop at

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the railroad bridge, 1.0 foot drop at Skaalen Road, and a 0.25 foot drop at the Lake Kegonsa Dam. This is the projection under 380 CFS which is the average flow for the river. The water levels and flow downstream of the Fourth Street dam will be unaffected.

What will the drop in water levels look like?

The river will narrow considerably in the millpond with less impact upstream. Exposed riverbed will initially look like a mudflat, but will turn into a natural area after the restoration is complete.

Before and after examples - https://www.wisconsinrivers.org/wp-content/uploads/2017/10/dam_before_after_pix.pdf

Will there be an increase in flooding?

No. The Fourth Street dam is not a flood control dam. The park's design lowers the floodplain.

What will this project do to property values?

Studies have not shown strong correlations between dam removal and changes in property values. For instance, if a dam removal restores sport fishing, property values may increase. If, on the other hand, a dam is removed that creates a pond unique to the area, property values may decline. As shown at sites across the country, the removal of a particular dam will be seen as a good thing to some potential buyers and a bad thing to others. One person's lost pond is another person's restored river.

However, this project is not just a dam removal. It is the creation of a recreational amenity that will create pedestrian paths, natural open space, and other amenities. These have all shown to increase property values.

Does Small Dam Removal Affect Local Property Values? An Empirical Analysis - https://api.aae.wisc.edu/pubs/pdf/sps/stpap501.pdf

Is the river safe to use?

The City had the sediment in the millpond sampled in the summer of 2019. The results show contamination sediment that is typical of an urban environment. The site will be remediated as part of the project.

Is the water quality conducive to paddling?

Water quality will be improved through the removal of the dam and whitewater features. It will create an environment that promotes cooler waters and faster moving water. Blue-green algae needs an environment with warmer waters and slow moving water or stagnant water to flourish.

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Blue-Green Algae Information - https://dnr.wi.gov/lakes/bluegreenalgae/

https://dnr.wi.gov/lakes/bluegreenalgae/

Does the dam have historical value?

What does the project cost?

TBD

What does it cost to keep the dam?

TBD – Need to get information from DPW

Are there any operational costs to having the project?

TBD

https://www.americanrivers.org/conservation-resources/river-restoration/removing-dams-faqs/

http://scrcog.org/wp-content/uploads/hazard_mitigation/background_material/dam_removal/Exploring_Dam_Removal-A_Decision_Making_Guide.pdf

https://assets.aspeninstitute.org/content/uploads/files/content/docs/ee/damremovaloption.pdf

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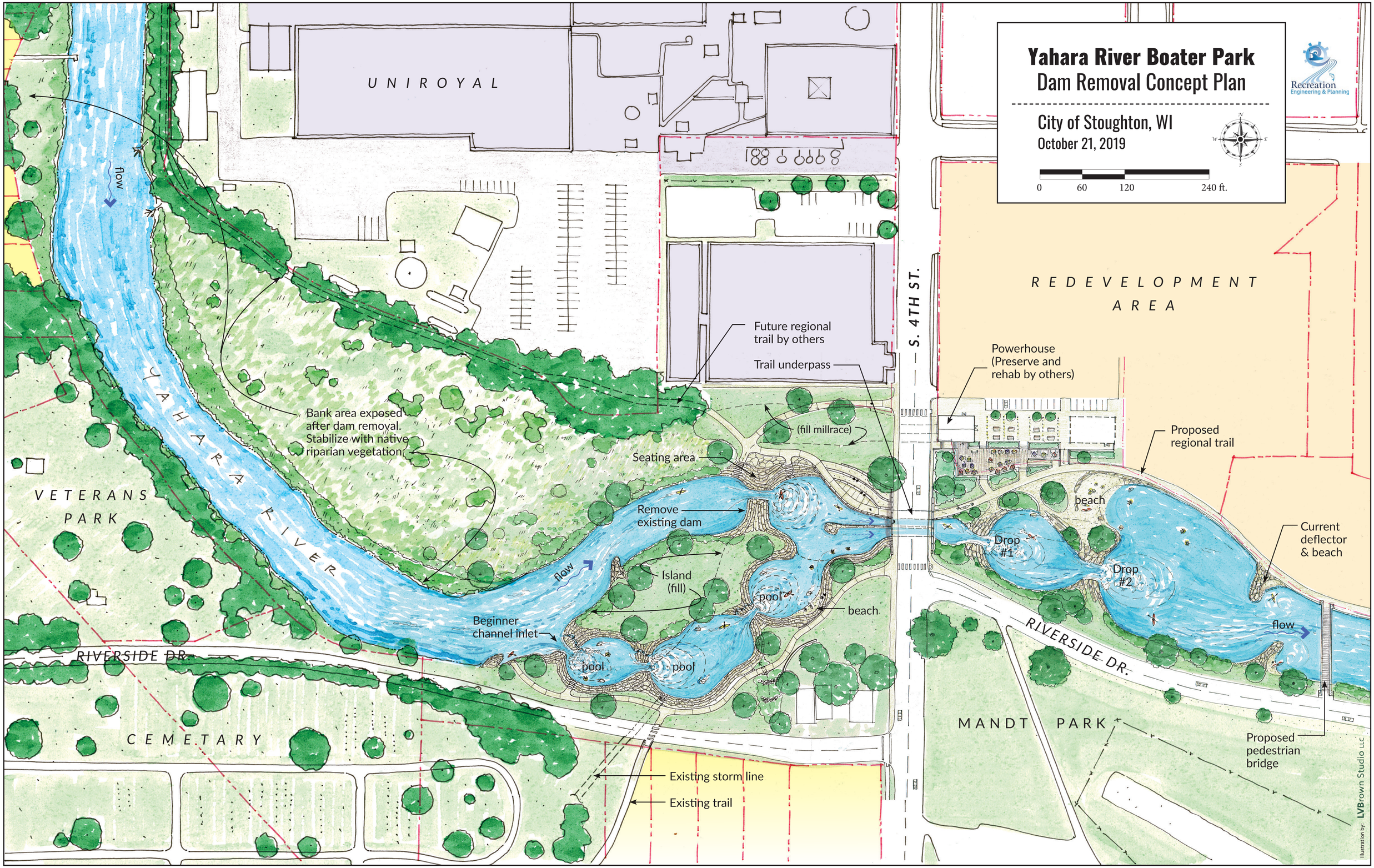
Yahara River Boater Park
Dam Removal Concept Plan

City of Stoughton, WI
October 21, 2019

0 60 120 240 ft.

Recreation Engineering & Planning



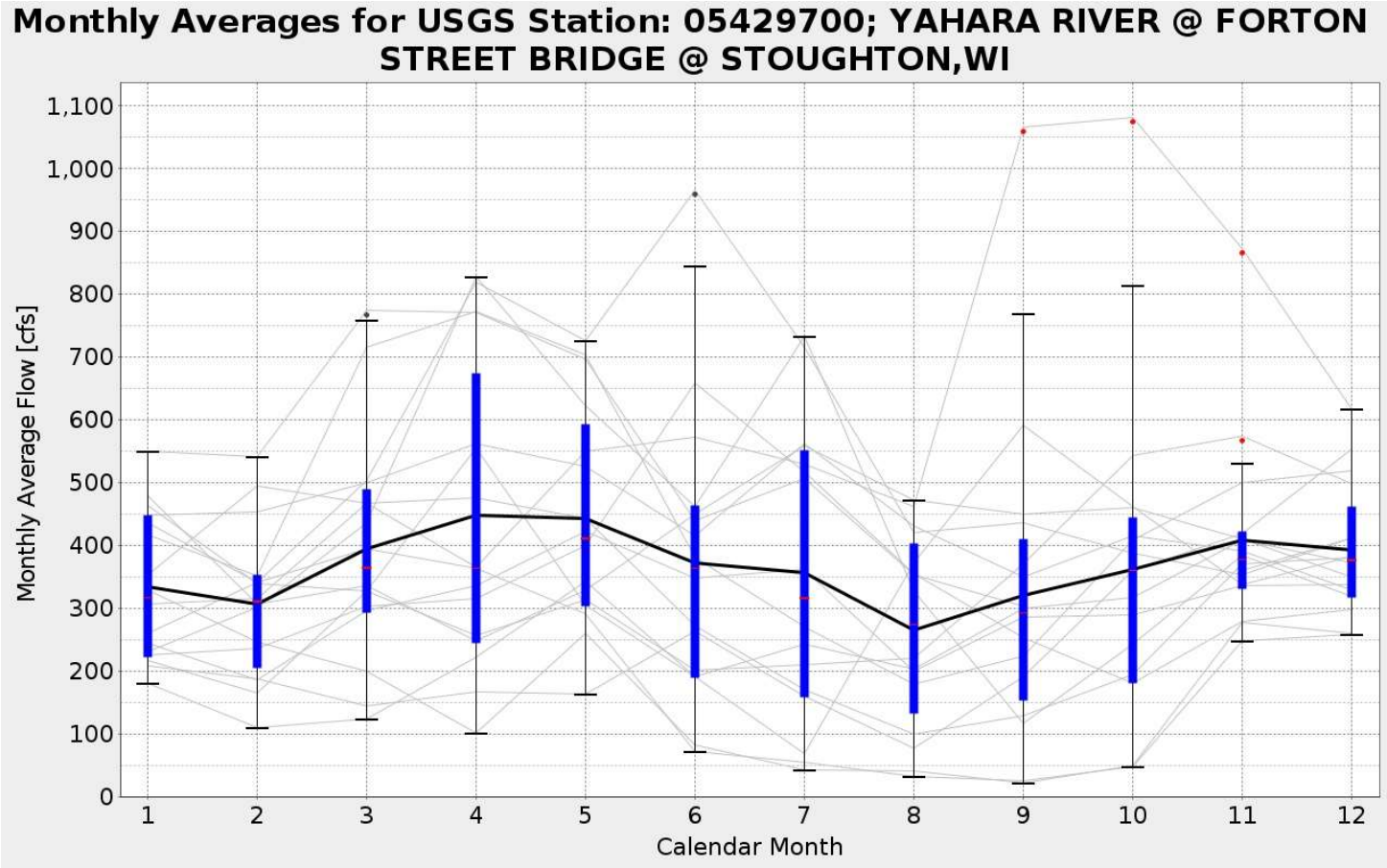
Preliminary Hydraulic Analysis Results

Yahara River

Stoughton, WI

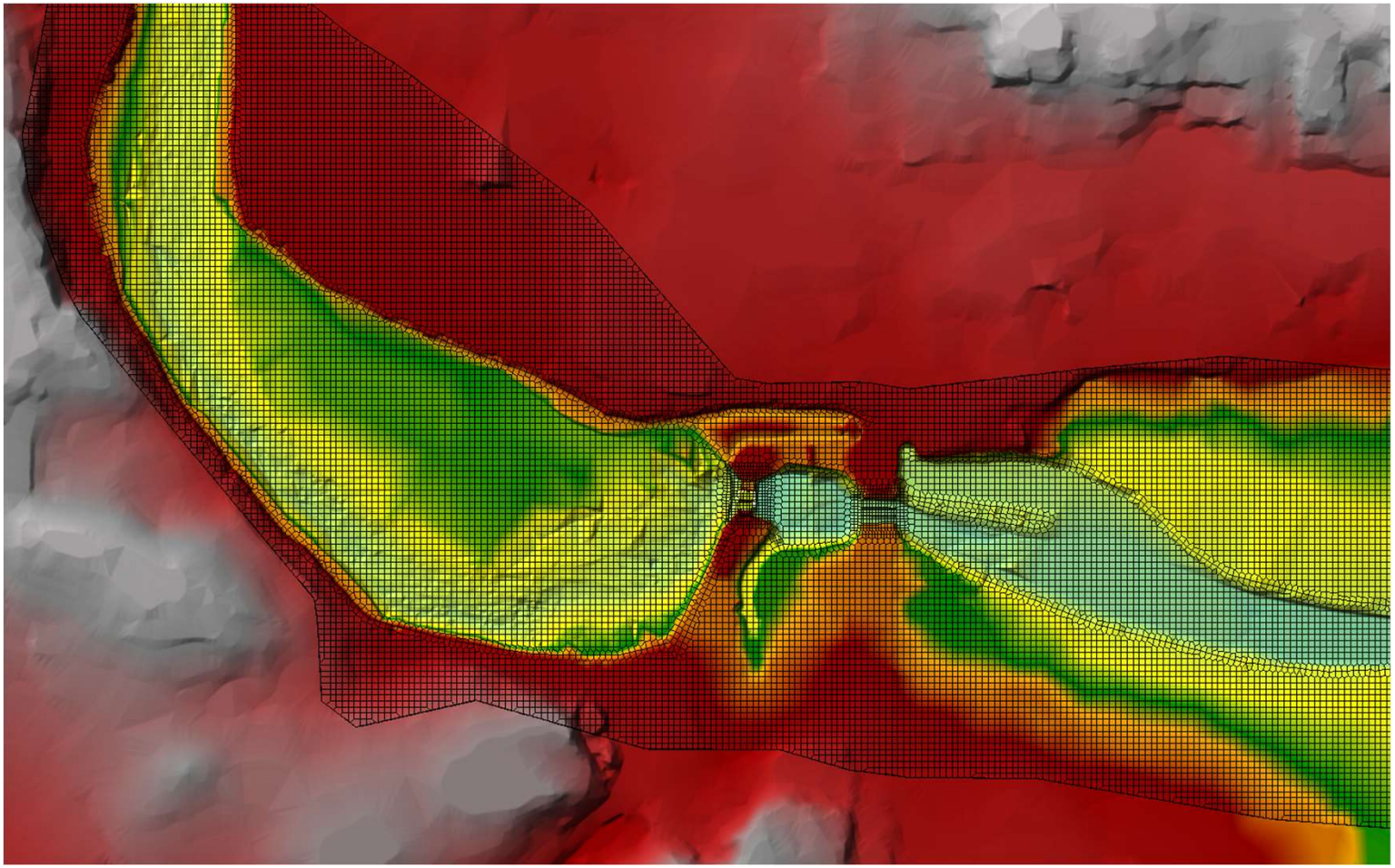
Developed for discussion at Sept 16, 2019 steering committee meeting

Hydrology



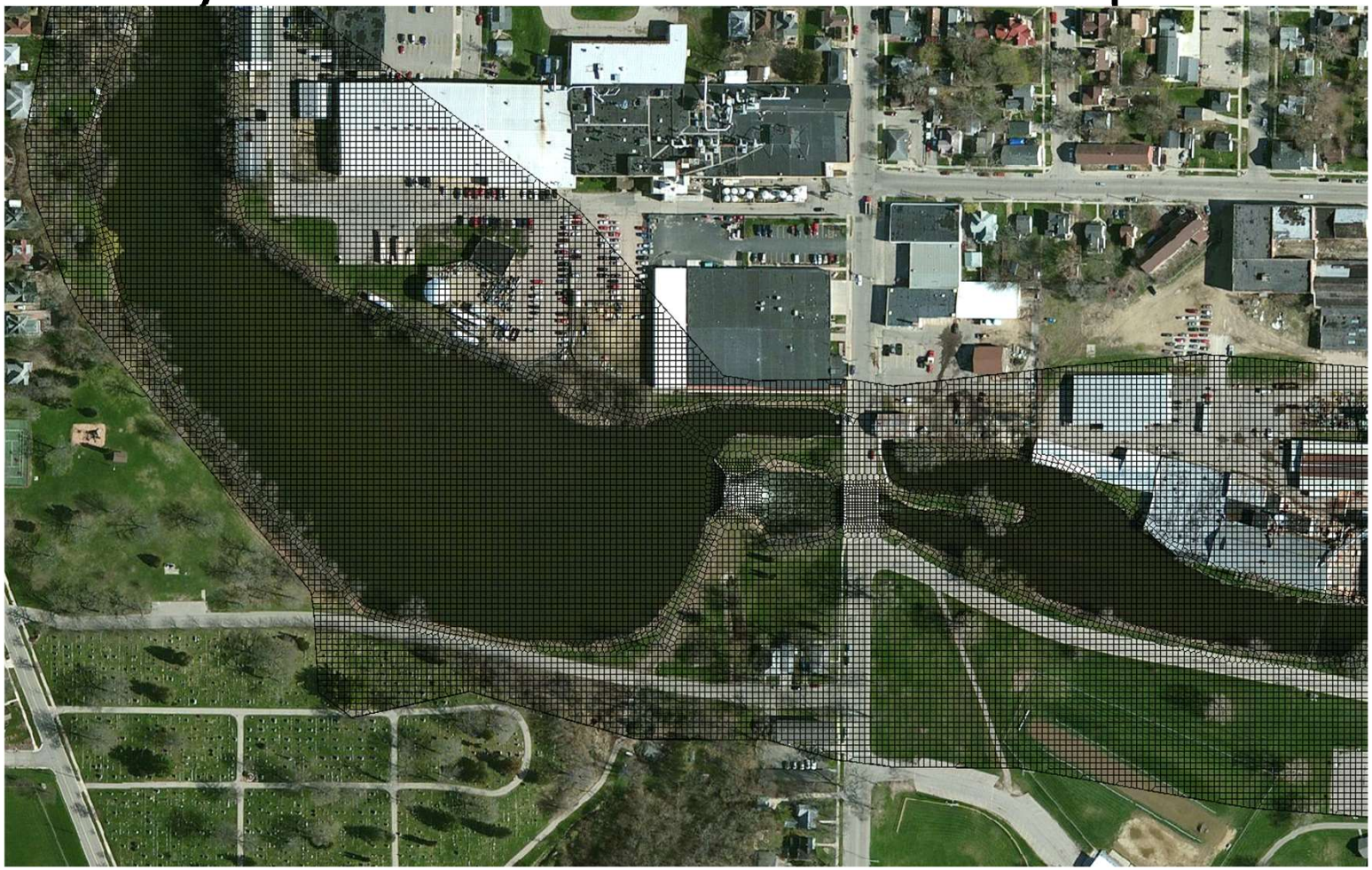
- Mean annual flow: 380cfs
- 1% annual exceedance probability flow (100-yr): 1,304cfs

2D hydraulic model development



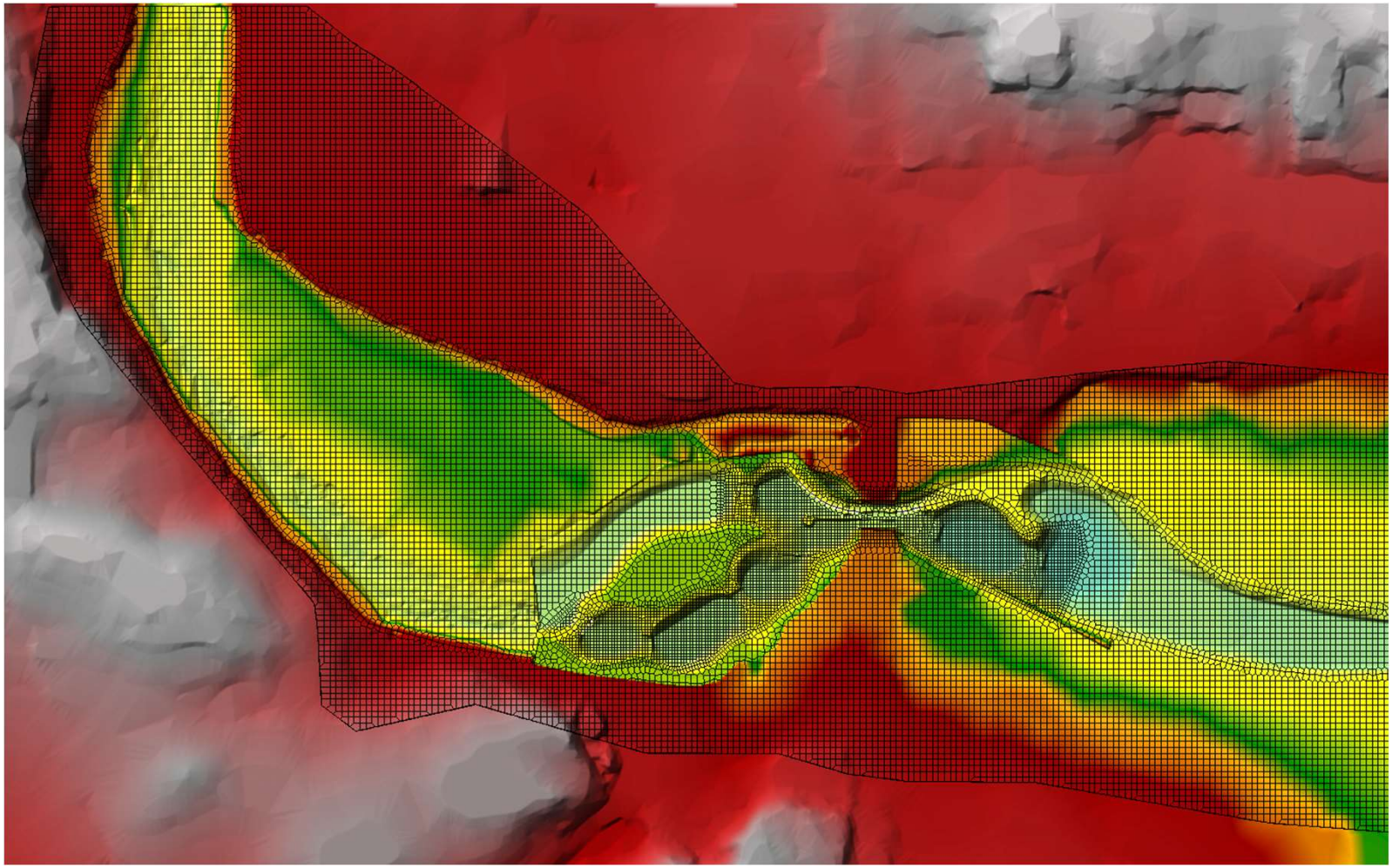
- Addition of 2D flow area to existing DNR hydraulic model

2D hydraulic model development

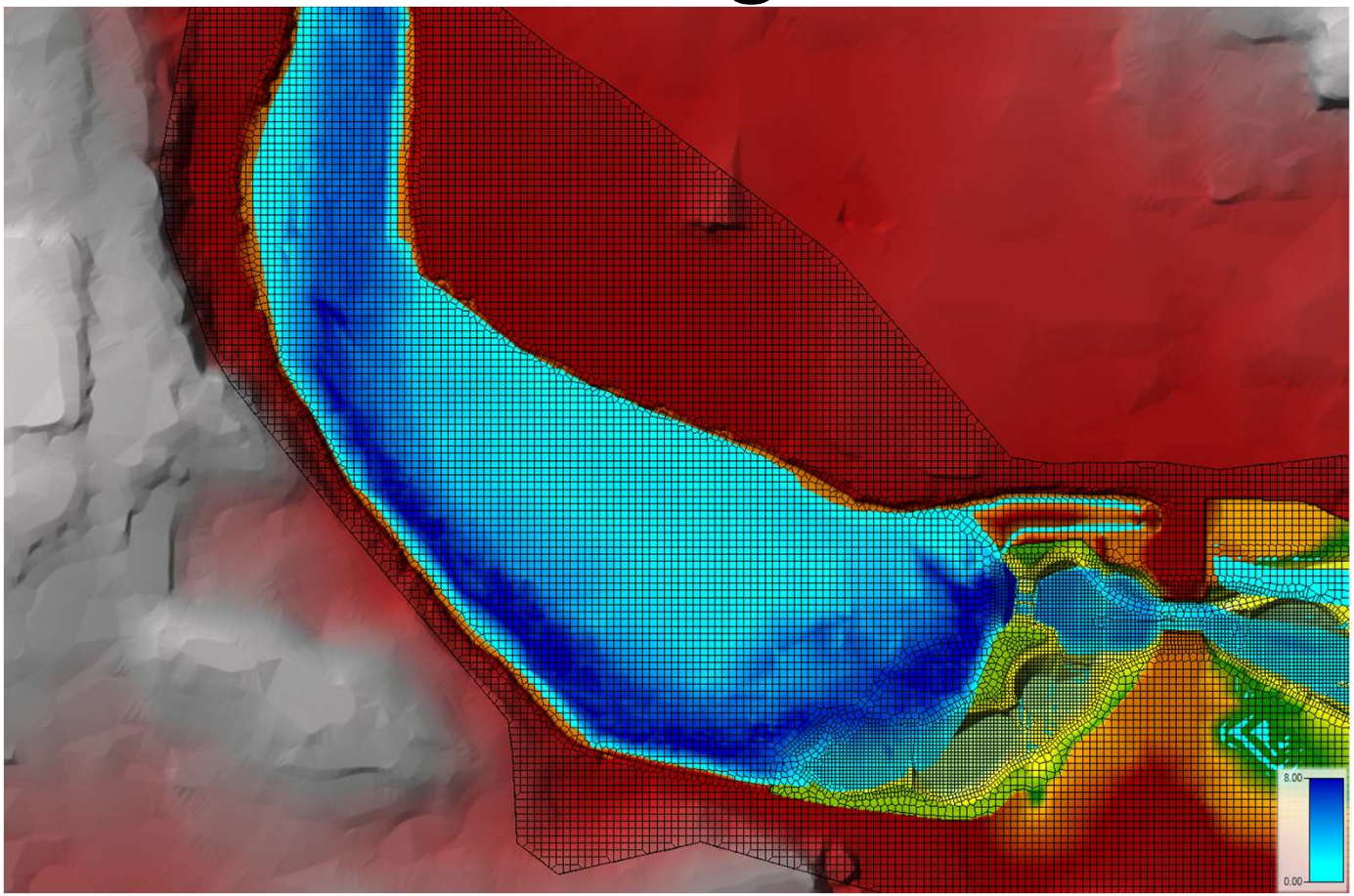


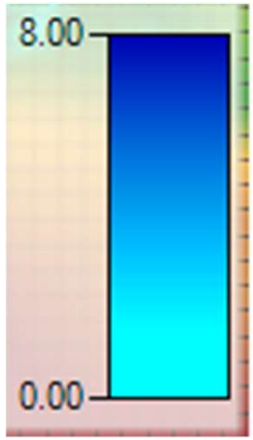
- Addition of 2D flow area to existing DNR hydraulic model

Proposed geometry



Results – Existing 380cfs

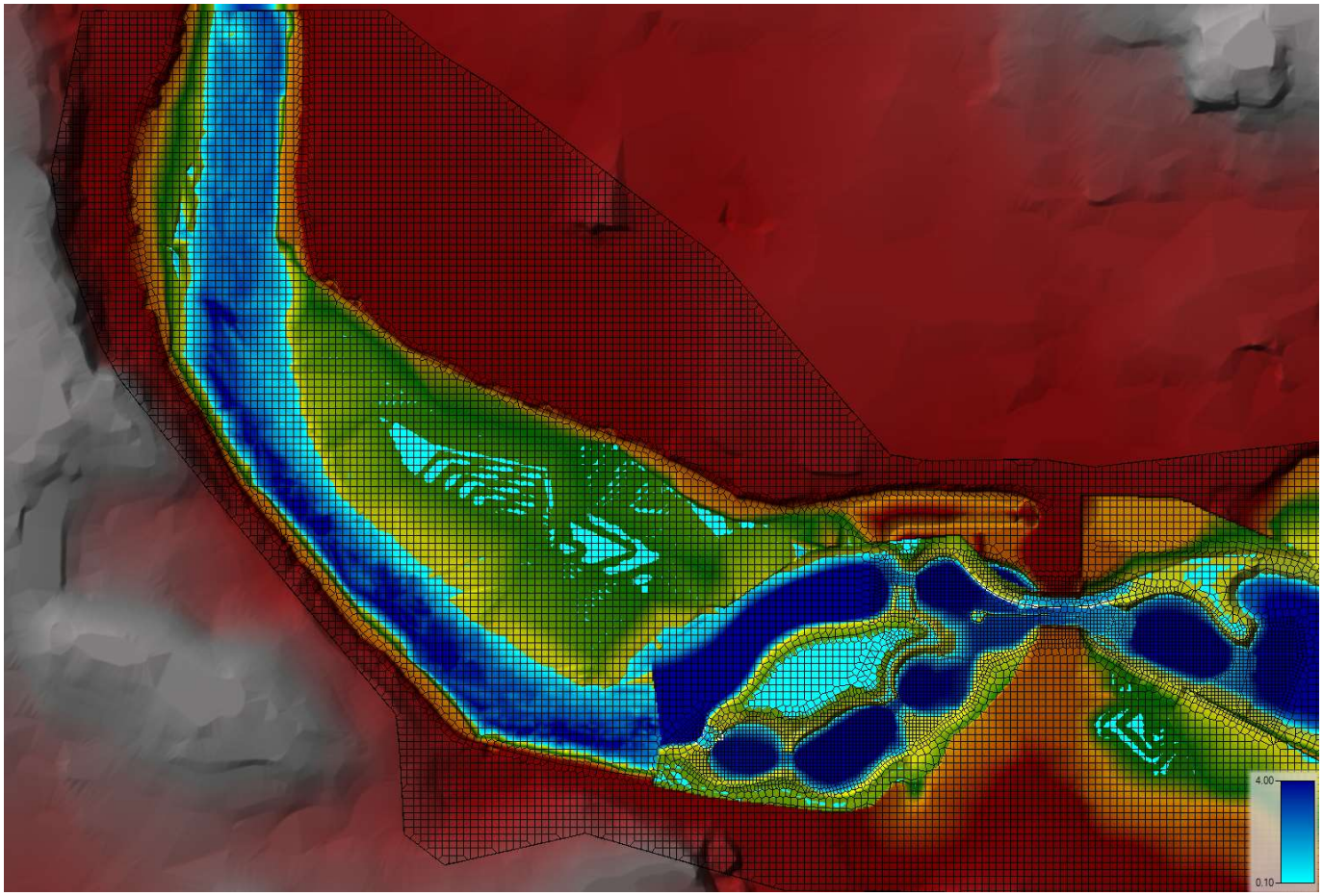


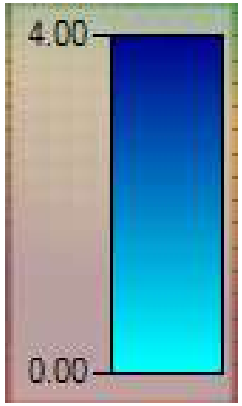


- Shaded by depth (ft). WSE upstream of dam: 841.4

PRELIMINARY RESULTS – FOR DISCUSSION ONLY

Results – Proposed 380cfs

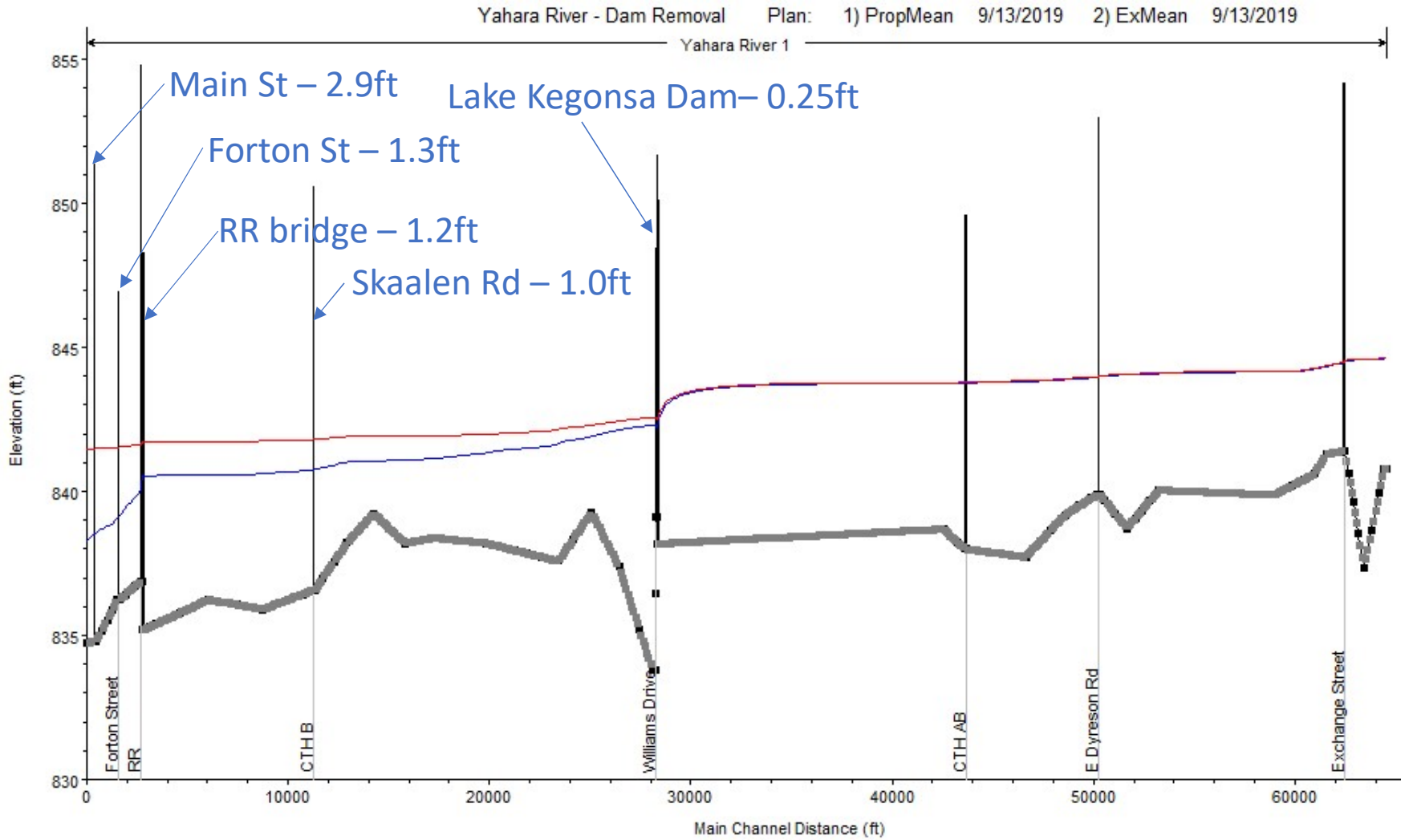




- Shaded by depth (ft). WSE upstream of dam: 837.2

PRELIMINARY RESULTS – FOR DISCUSSION ONLY

Upstream Water Surface – 380cfs



- Red is existing water surface, Blue is proposed
- Blue text is approximate lowering from exist to proposed

PRELIMINARY RESULTS – FOR DISCUSSION ONLY