

# Four Lakes Task Force

## Secord Lake Update

August 10, 2020



**Four Lakes Task Force**

# Agenda

1. Introduction and Welcome (Phil Dast)
2. Frequently Asked Questions (Dave Kepler)
3. FLTF Dam Restoration Concept (Ron Hansen)
3. Erosion Control Options (Terry Cram)
4. Question and Answer (Dave Kepler)

# Four Lakes Task Force

## Secord Lake – FERC Letter and FAQ

Dave Kepler  
August 10, 2020



Four Lakes Task Force

# Frequently Asked Questions on Secord

4

- Will Secord have to pay for Sanford and Wixom repair costs?
  - ▣ **No**, while it makes sense to share operating and implementation costs, the plan is to allocate the upgrades/acquisition cost by lake.
- Can Secord have its own special assessment district?
  - ▣ **Yes technically**, but we believe that to be ill advised. The communities would need to fund the studies and establish the roles and financing and reverse the two counties' resolutions and two circuit court orders, and risk not having an assessment district at all or a legal lake level. **Why would you do that?**
- Does Secord need expanded Spillways;
  - ▣ Under Federal Energy Regulatory Commission (FERC) - **Yes** and likely under state jurisdiction. It is a long-standing fact that the spillways do not pass Probable Maximum Flood (PMF) capacity requirements, the state does not have a decision on Spillway capacity as it's not under their jurisdiction and they have no facts to base a decision; AND the dam did not maintain containment in the last flood

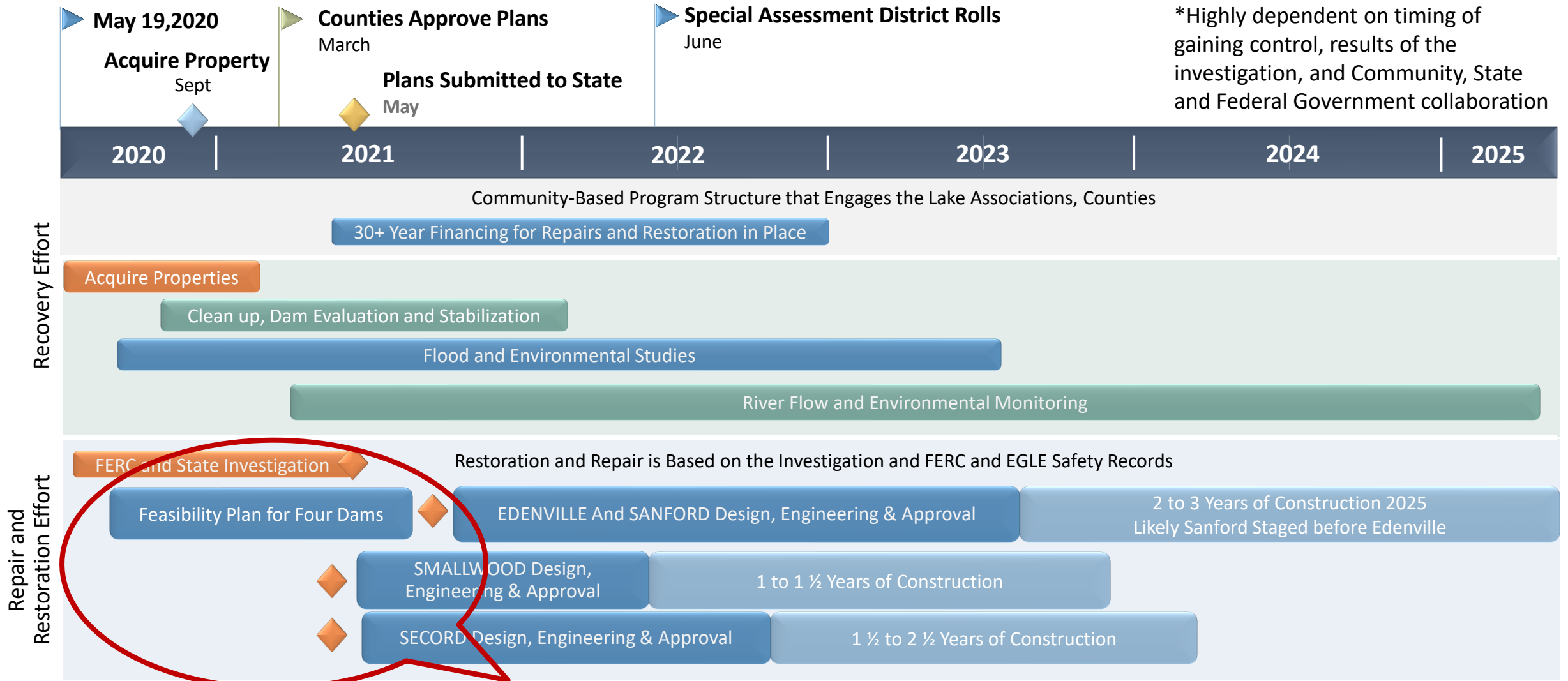
# Frequently Asked Questions on Secord

5

- Why is the FLTF estimated schedule so much longer than Boyce's?
  - ▣ The Boyce estimate is a 'bandaid' on a few obvious items and does not address all 21 deficiencies identified by FERC in their July 21 letter.
  - ▣ The GEI engineering consultant's timetable was based on repairs with 75+ year useful Life, additional spillway capacity for the future, engineering design that can start in a year when there is a financing Plan.
- Can Secord Dam come up before that?
  - ▣ **If deemed safe.** FERC has asked for an operational plan to mitigate lack of spillway capacity. There may be other specific repair requirements and a determination will need to be made if repairs and operational mitigations can be managed to be able to operate on an interim basis while making long term upgrades.

# Recovery and Restoration Timeline\*

Four Lakes Program: Gain Community and Government Support for a Plan to Acquire, Restore and Rebuild the Four Lakes and Dams



\*Highly dependent on timing of gaining control, results of the investigation, and Community, State and Federal Government collaboration

**POINT OF FOCUS TO KEEP TO A 3-6year time-table**

# Recent FERC Letters

- Prior to the May 19 flood event Boyce was out of compliance with FERC requirements to safely pass the PMF.
  - 50% design report due February 2020
  - April 23, 2020 GEI “Preliminary Design Basis Report” commissioned by FLTF was submitted to FERC by Boyce
- May 20, 2020 FERC letter from Dave Capka, Director of Dam Safety
  - Lower reservoir in a safe manner
  - Perform a dam safety inspection within 3 days after flows recede
  - Maintain fully lowered reservoir levels until safe reservoir elevation can be established and implemented
  - Form a fully Independent Forensic Investigation Team within 7 days (May 27)
- July 1, 2020 FERC letter from CarLisa Linton, Director of Hydropower Administration and Compliance
  - Outlines overdue dam safety and public safety information
    - Dam safety inspection report
    - Incident report for the flood and subsequent damage

# Recent FERC letters

- ▣ July 21, 2020, FERC letter from John Zyga,
  - Boyce belatedly submitted Second Dam Emergency Inspection Report prepared by TRC
  - Outlines 21 additional items TRC must address in a Supplemental Report
  - Challenges TRC's observations on left embankment seepage and sloughing of the right embankment and toe drain inspections.
  - Final plans, specifications, Supporting Design report, Quality Control Program, Construction EAP and Environment & Safety Plan must be submitted and authorized before any construction may proceed.
- ▣ Reiterates the inadequate spillway capacity issues and the dam cannot safely pass the Probable Maximum Flood (PMF.)
- ▣ Letter concludes: "The reservoir cannot be returned to normal levels until you receive authorization from FERC and unless all of the outstanding dam safety items are satisfactorily addressed."



# Four Lakes Task Force

## Secord Lake – Restoration Estimate Summary

Ron Hansen, P.E., P.S.  
August 10, 2020



Four Lakes Task Force

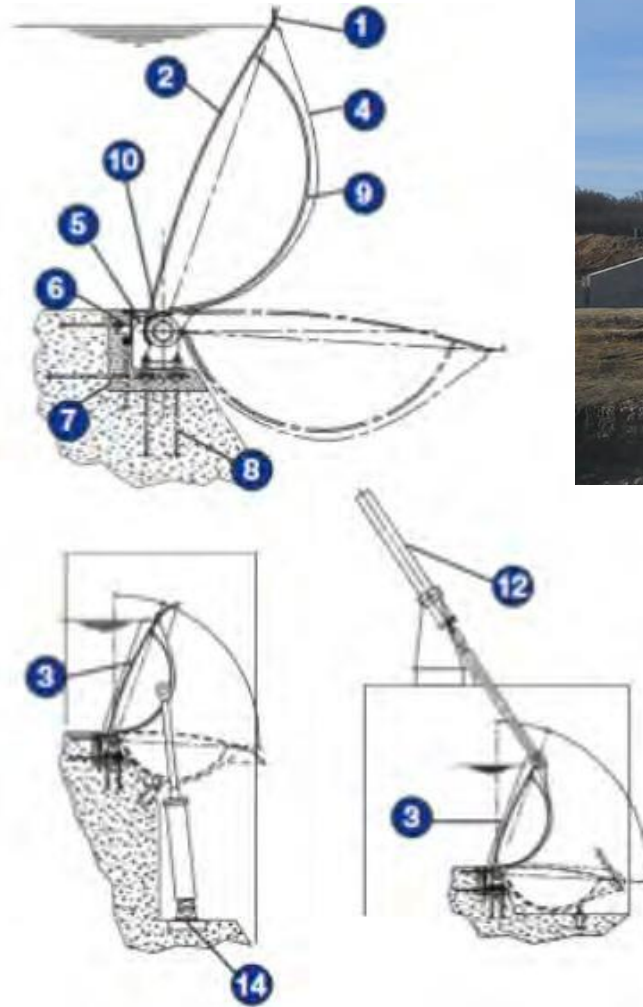
# Summary of GEI Consulting Report

- *After the May 19th event, Four Lakes Task Force requested GEI Consulting to prepare a report for planning purposes. This was done with Spicer Group and Essex Partnership input and review*
  - This presentation summarizes that report, which is posted on the FLTF website
  - Report is for planning level purposes and include design concept assumptions
  - Detailed engineering and studies must be completed to confirm assumptions
- **Design Criteria Assumptions include:**
  - Provide 75+ year service life
  - Meet current standard of practice for dam engineering
  - Pass the 1/2 Probable Maximum Flood (PMF)
- **Restoration Assumptions**
  - Restoration of Existing Spillway
  - New Gates
  - Reinforce Embankment
  - New Auxiliary Spillway
  - Improved Flood Control
  - No Hydro Power, based on Economics and time, but potential future option

# Concepts for Secord Dam Restoration

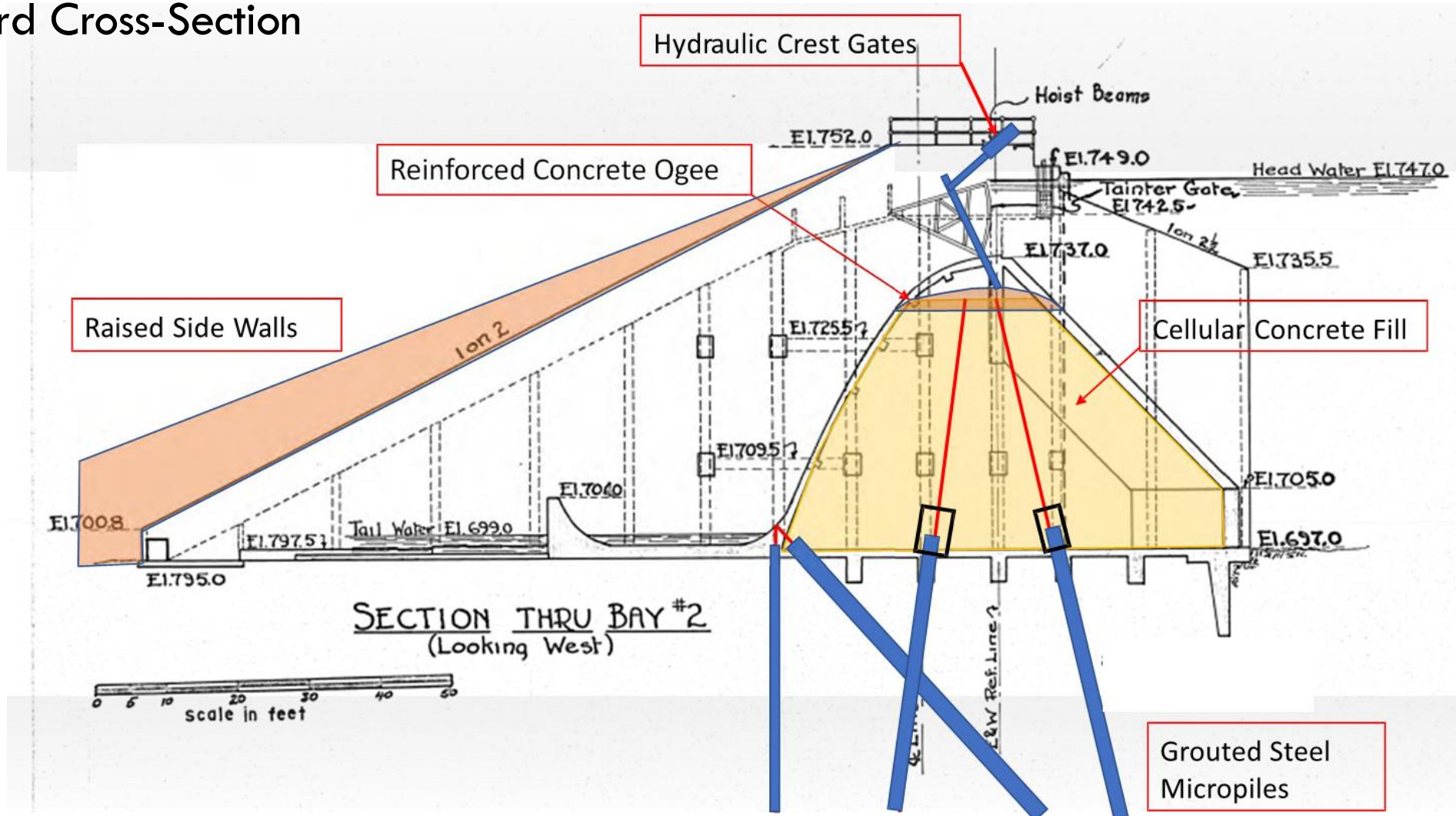
- Pass 1/2 Probable Maximum Flood
  - ▣ PMF Study ongoing – initial estimate 15,000 cfs
- Decommission powerhouse
- Embankment repairs and upgrades
  - ▣ Add sheet pile cutoff wall
  - ▣ Widen embankment
- Primary (gated) spillway rehabilitation
  - ▣ Improve spillway capacity
  - ▣ Add new crest gates
  - ▣ Rehabilitate concrete
- New auxiliary spillway

# Typical Crest Gate Detail



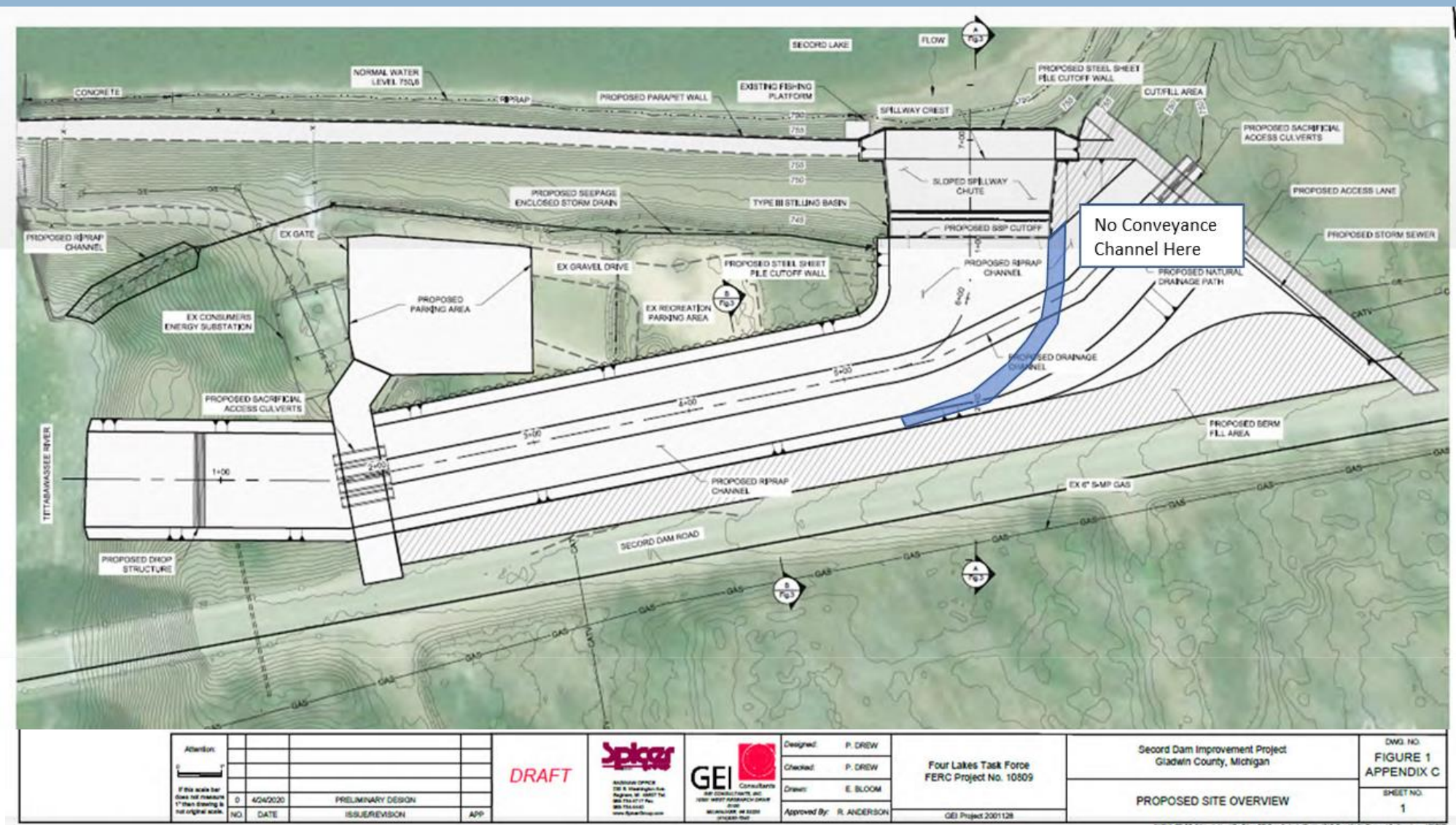
# Secord Dam – Primary Spillway Concept

## Second Cross-Section

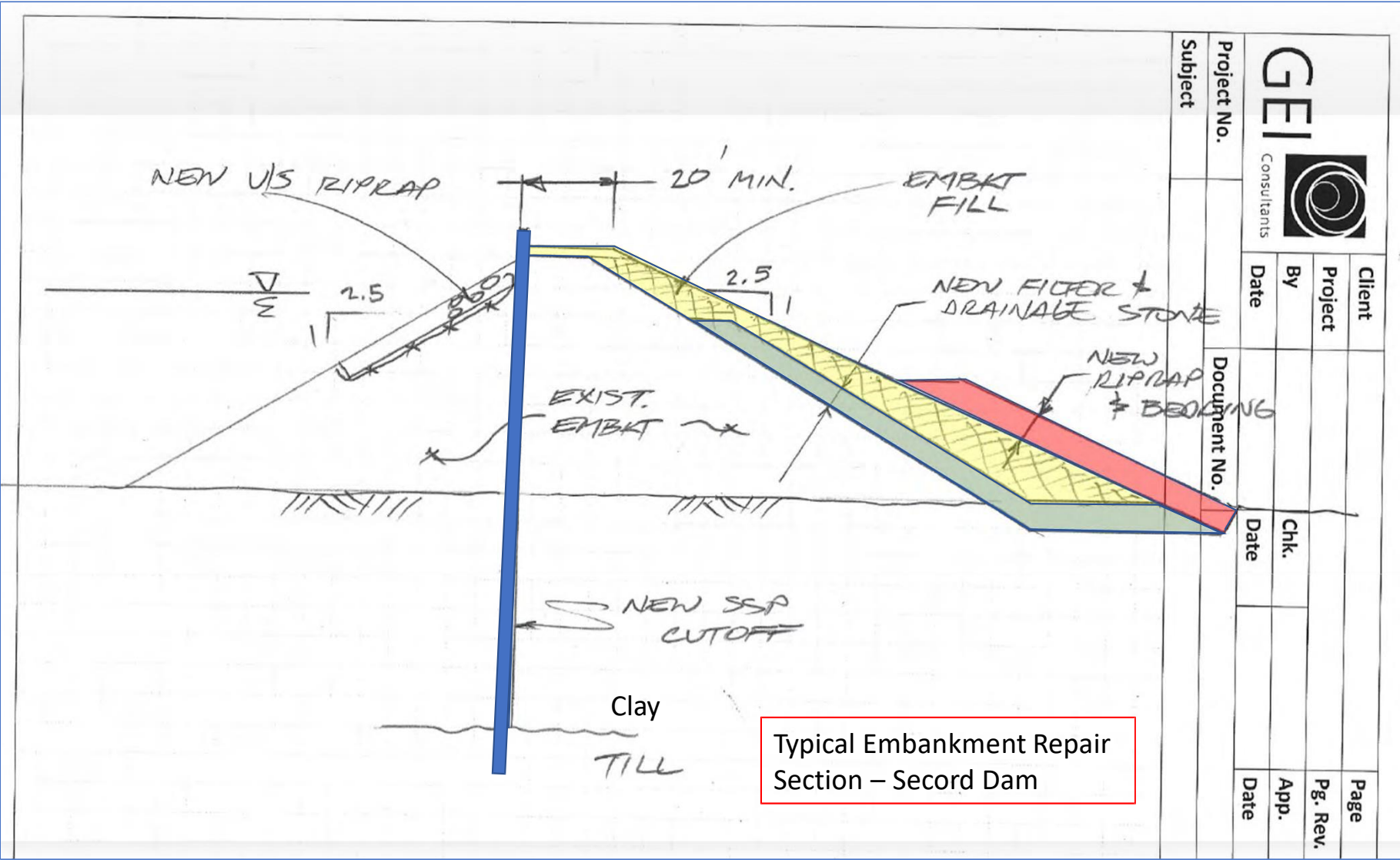




# Secord Dam – Auxiliary Spillway Concept



# Secord Dam – Embankment Concept



Typical Embankment Repair  
Section – Secord Dam

# Planning Level Opinion of Costs

- \$24 million to have dam pass the  $\frac{1}{2}$  PMF
  - ▣ Meet or exceed State requirements
  - ▣ Confidence levels at this phase are between -30% to +50%
- Planning level opinion of cost includes:
  - Site Investigations
  - Engineering
  - Dam Safety Permitting
  - Construction
  - Construction Management
  - Contingency



# Factors That Could Impact Costs

- Increasing spillway capacity to full PMF will increase costs
- Basin-wide flood studies could:
  - ▣ Establish an Inflow Design Flood (IDF) which would decrease costs
  - ▣ Identify the need to armor embankments which could increase costs
  - ▣ Identify flood protection measures for downstream communities
- Findings of the Independent Forensic Investigation Team could identify additional operational or physical measures.
- Value Engineering – opportunity to optimize design and reduce costs
- Environmental restoration

# Erosion Report

## Gladwin and Midland County Four Lakes

Dave Rothman and Terry Kram

FLTF Board Member and FLTF Leader on Erosion Control



**Four Lakes Task Force**

# Shoreline Erosion

- ❑ Four Lakes Task Force hosted two Erosion Engineering fairs, one in Midland and one in Gladwin counties
- ❑ FLTF is collecting data on properties with erosion damage in the Midland County GIS system
- ❑ If you attended the erosion fair and spoke to an engineer, your property is already entered in GIS
- ❑ National Resources Conservation Service (NRCS) will inspect those properties for funding eligibility
- ❑ FLTF volunteers will contact property owners when FLTF has plans for approved sites and cost estimates

# Contact for Shoreline Erosion

- ❑ FLTF encourages individuals with erosion concerns that have not already reached out to do so ASAP
- ❑ Email is the preferred method of communication:  
[kaylas@fourlakestaskforce.org](mailto:kaylas@fourlakestaskforce.org)
  - ❑ In your email please include your name, address, phone number and a brief description of your erosion concern
- ❑ You may also call: (989) 941-3005

# Cost Sharing

- ❑ Working on preliminary engineering cost estimates
- ❑ 75/25 cost sharing on NRCS funds
  - ❑ Homeowner's should be prepared to pay 25% of erosion expenses
- ❑ Neighborhoods can work together to raise funds
- ❑ Small Business Association (SBA) Loans 1 1/4 - 2 1/2 %
  - ❑ Call SBA -- (571) 422-8013, (571) 422-6016 or (571) 422-0331
  - ❑ SBA application deadline is Sept. 4, 2020
  - ❑ Only available to primary homeowners



Questions?