



Wexford Pond Dredging

Public Information Meeting
City of Madison Engineering Division
August 23, 2022

Thank you for attending. We will begin shortly...



Meeting Technical Housekeeping

- This meeting will be **recorded** and posted to the project page.
- All attendees should be **muted** to keep background noise to a minimum.
- Use the **“chat”** button for technical issues with meeting to troubleshoot with staff to assist.
- Use the **“Q and A”** button to type questions about presentation. Questions will be answered live after the presentation.
- Inappropriate questions may be dismissed.
- Use the **“raise your hand”** button to verbally ask your question. You will be prompted to unmute when it is your turn.



This meeting is being recorded.

It is a public record subject to disclosure.

By continuing to be in the meeting, you are consenting to being recorded and consenting to this record being released to public record requestors.



How to Participate

The screenshot displays a Zoom meeting interface. At the top, a green banner reads "You are viewing City of Madison's screen" with a "View Options" dropdown. The main content is a shared screen of a Microsoft Excel spreadsheet. The spreadsheet has a header row with columns labeled A through Z. Row 1 contains the name "Sally" in column A. Row 2 contains a calendar grid for the years 2019 and 2020, with months listed from May to August. Below the spreadsheet, there are two audio options: "Phone Call" and "Computer Audio". A blue button labeled "Join Audio by Computer" is positioned below these options, with a red arrow pointing to it. In the bottom left corner, there is a "Join Audio" button with a headset icon, also indicated by a red arrow. The bottom right corner features a "Leave Webinar" button. The Zoom toolbar at the bottom includes icons for "Join Audio", "Q&A", "Chat", and "Raise Hand".



Make sure to join audio



How to Participate

The screenshot displays a Zoom meeting interface. At the top, a green banner reads "You are viewing City of Madison's screen" with a "View Options" dropdown. The main area shows a shared Microsoft Excel spreadsheet with a calendar view for 2019 and 2020. A "City of Madison" window is overlaid on the right. At the bottom, a dark control bar contains icons for "Join Audio", "Q&A", "Chat", and "Raise Hand". A red arrow points to the "Raise Hand" icon. A blue button labeled "Join Audio by Computer" is also visible.

Raise your hand to be unmuted
For comments or ask additional questions.



CITY OF MADISON



How to Participate

The screenshot displays a Zoom meeting interface. At the top, a green banner reads "You are viewing City of Madison's screen" with a "View Options" dropdown. The main area shows a shared Microsoft Excel spreadsheet with a calendar view for 2019 and 2020. The spreadsheet has columns for months and rows for years. A "City of Madison" window is overlaid on the right side of the spreadsheet. Below the spreadsheet, there are two buttons: "Phone Call" and "Computer Audio". A large blue button in the center says "Join Audio by Computer". At the bottom of the Zoom interface, there are icons for "Join Audio", "Q&A", "Chat", and "Raise Hand". A "Leave Webinar" button is visible in the bottom right corner.

Use chat if you have technical issues or a question for the panelists



How to Participate

The screenshot displays a Zoom meeting interface. At the top, a green banner reads "You are viewing City of Madison's screen" with a "View Options" dropdown. The main content is a Microsoft Excel spreadsheet with a header row for months from May to August and a row for the years 2019 and 2020. A name tag for "Sally" is visible in the top-left corner of the spreadsheet. Below the spreadsheet, there are two buttons: "Phone Call" and "Computer Audio". A large blue button in the center says "Join Audio by Computer". At the bottom of the screen, there is a toolbar with icons for "Join Audio", "Q&A", "Chat", and "Raise Hand". A red arrow points to the "Q&A" icon. In the bottom right corner, there is a "Leave Webinar" button.

Use Q/A if you have questions.
We will answer after the presentation



How to Participate

The screenshot displays a Zoom meeting interface. At the top, a green banner reads "You are viewing City of Madison's screen" with a "View Options" dropdown. Below this is a shared screen showing an Excel spreadsheet with a calendar view for 2019 and 2020. The spreadsheet has columns for months and rows for years. A "City of Madison" window is overlaid on the right side of the spreadsheet. In the center of the meeting area, there are two buttons: "Phone Call" and "Computer Audio". Below these is a large blue button that says "Join Audio by Computer". At the bottom of the meeting area, there are icons for "Join Audio", "Q&A", "Chat", and "Raise Hand". In the bottom right corner, there is a red text link that says "Leave Webinar".

To leave the meeting
click here

CITY OF MADISON



Introductions

- City of Madison
 - Sarah Lerner, PLA, LEED AP, ENV SP
 - Caroline Burger, PE, ENV SP
 - Janet Schmidt, PE
- Strand Associates
 - Eric Vieth, PE
 - Mike Williams, PE





Background

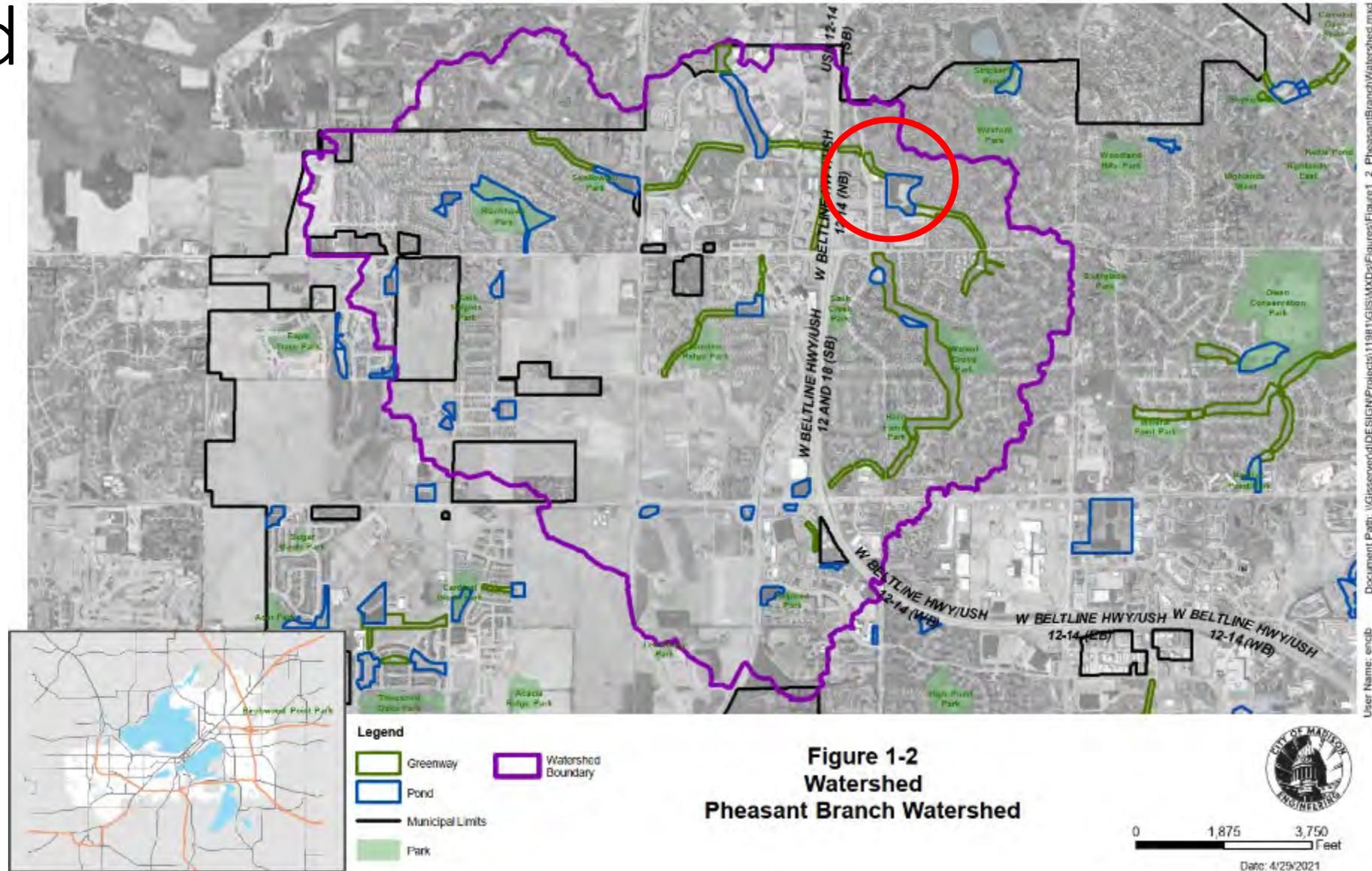
Watershed
Modeling

Proposed Design

Questions we've
Received

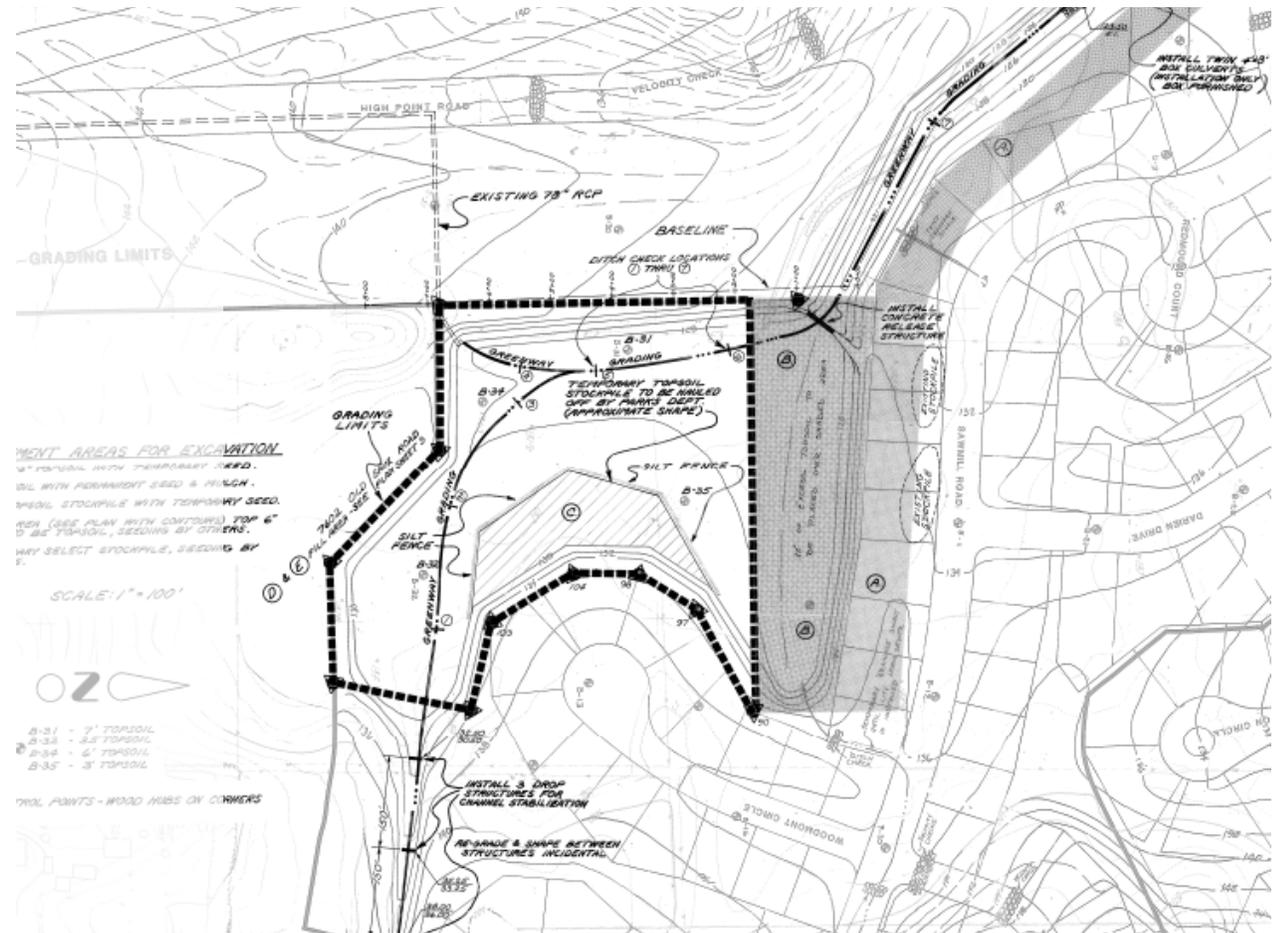
Q&A

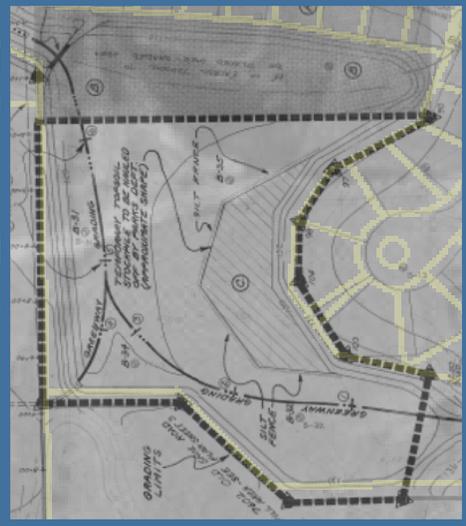
Background Project Location



Background

- Pond plans from 1989
- Pond plans from 1997
- 2018 Flood & Subsequent Citywide Watershed Study Program
- 2019 Began Pheasant Branch Watershed Study
- 2020 Proposed dredging in 2020 budget per neighborhood request, but added additional funding to evaluate in conjunction with PB Watershed.
- 2020 RFP for Wexford Pond Design
- 2021 Contract with Strand Associates for Engineering

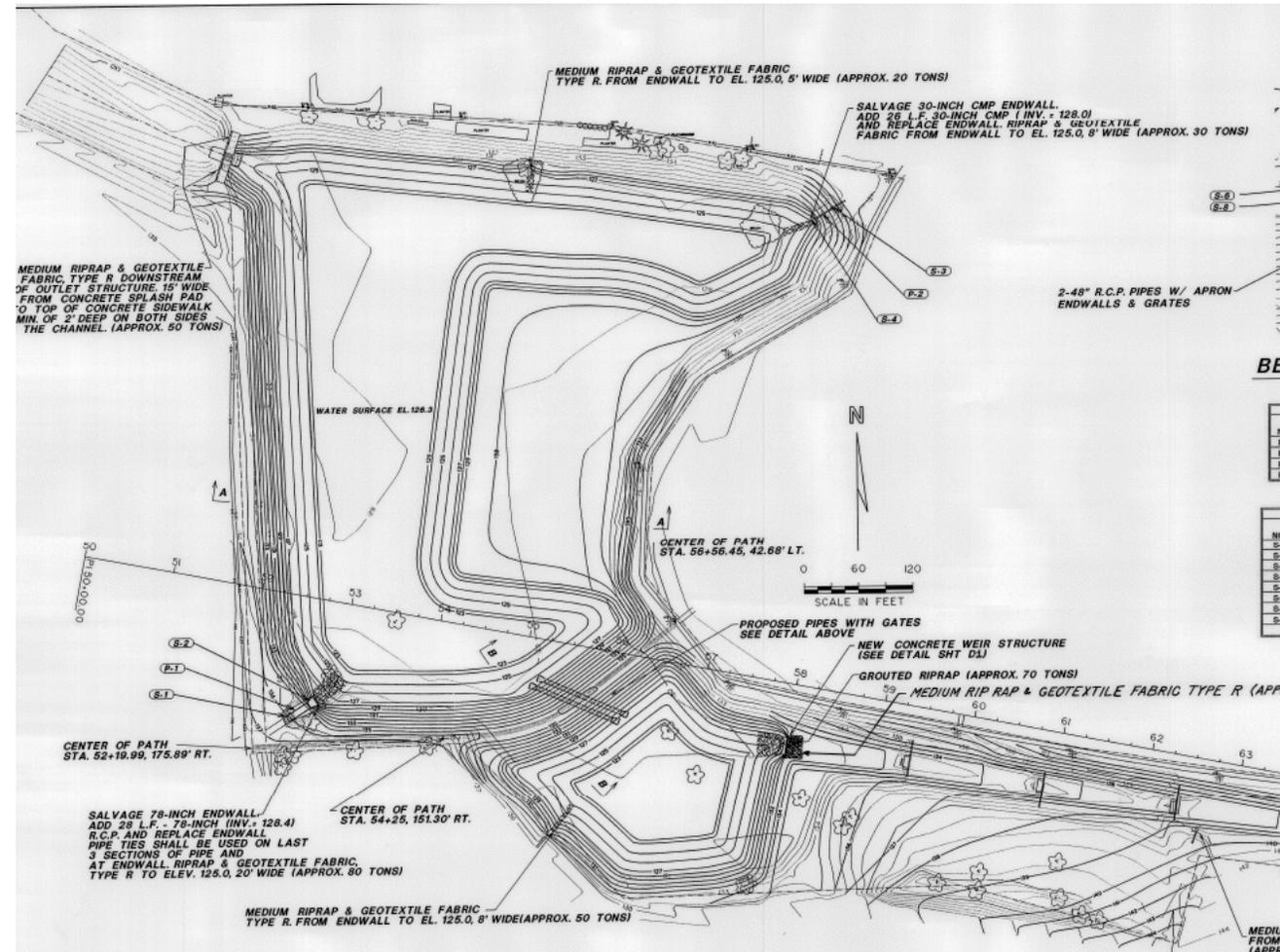




1987

Background

- 1989 Pond plans
- 1997 Pond plans
- 2018 Flood & Subsequent Citywide Watershed Study Program
- 2019 Began Pheasant Branch Watershed Study
- 2020 Wexford Capital Budget Request
- 2020 RFP for Wexford Pond Design
- 2021 Contract with Strand Associates for Engineering





1995

How does Wexford Pond help with Stormwater?



Peak Flow Control



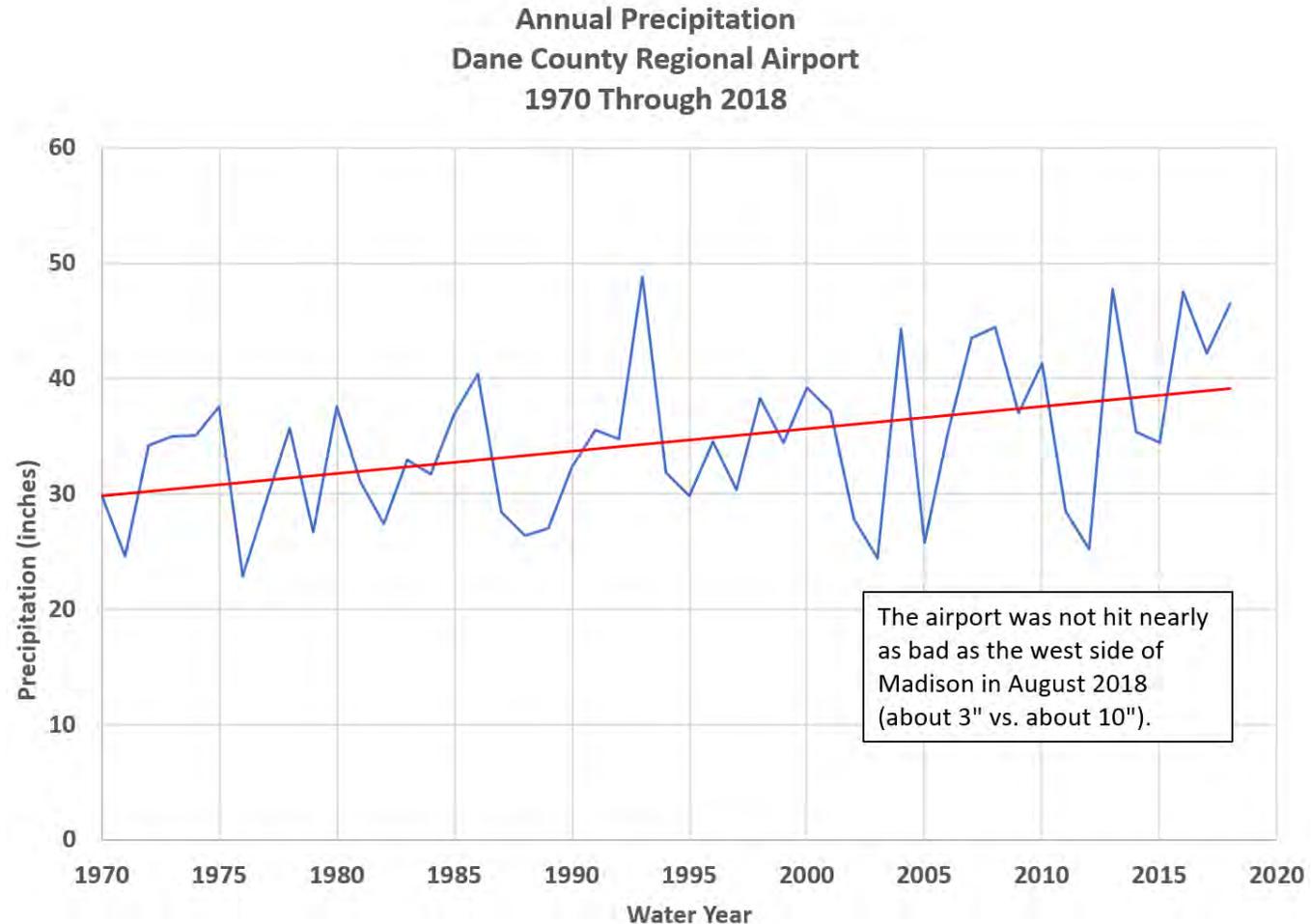
**Flood Storage above
Water Surface Elevation**



Water Quality
Sediment and Pollutants

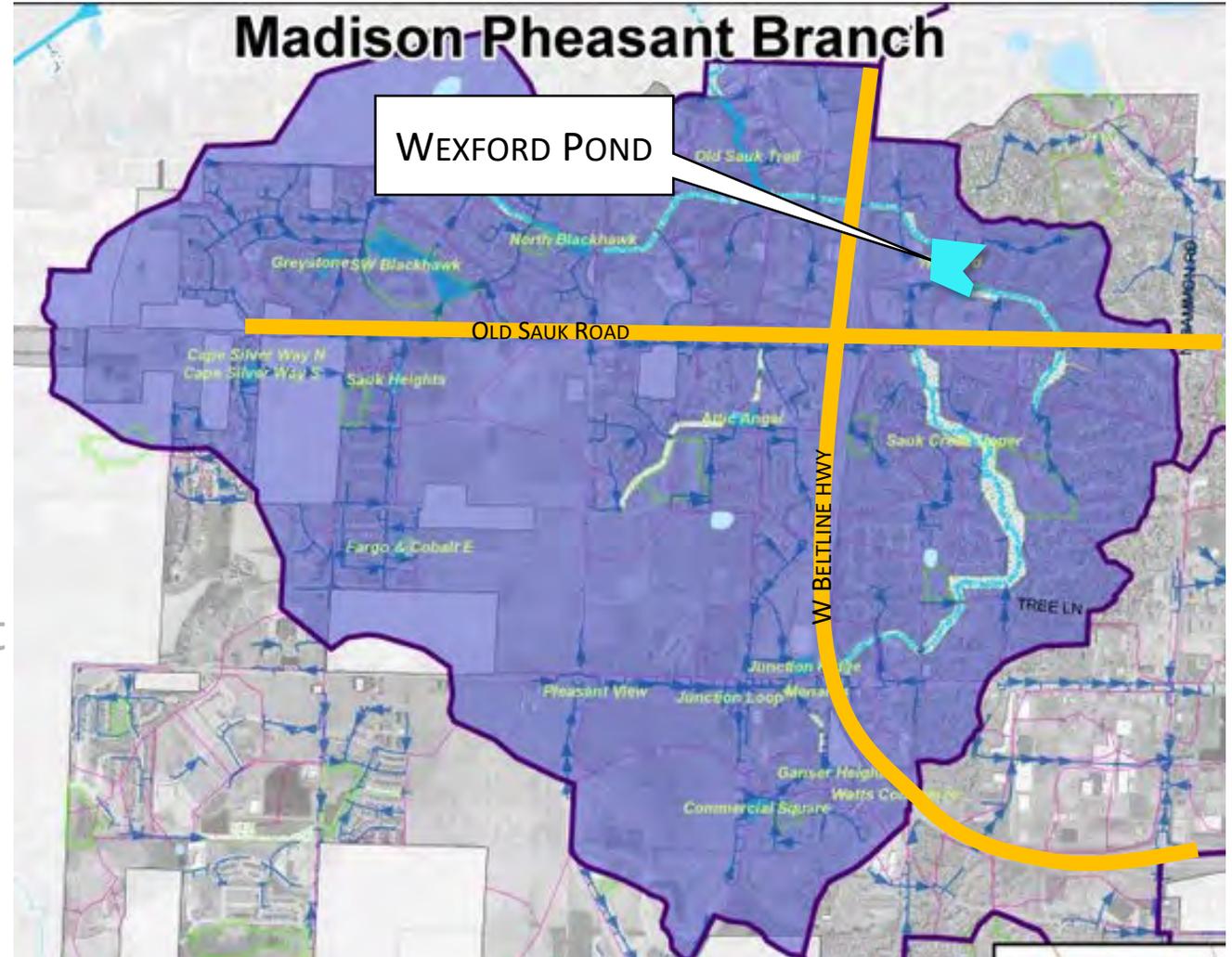
Background

- 1989 Pond plans
- 1997 Pond plans
- **2018 Flood & Subsequent Citywide Watershed Study Program**
- 2019 Began Pheasant Branch Watershed Study
- 2020 Wexford Capital Budget Request & Preliminary Background Analysis
- 2021 RFP for Wexford Pond Design
- 2021 Contract with Strand Associates for Engineering



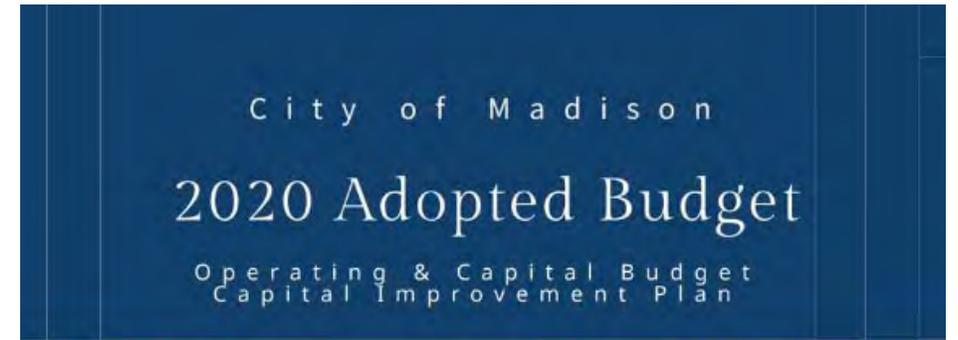
Background

- 1989 Pond plans
- 1997 Pond plans
- 2018 Flood & Subsequent Citywide Watershed Study Program
- **2019 Began Pheasant Branch Watershed Study**
- 2020 Wexford Capital Budget Request & Preliminary Background Analysis
- 2021 RFP for Wexford Pond Design
- 2021 Contract with Strand Associates for Engineering



Background

- 1989 Pond plans
- 1997 Pond plans
- 2018 Flood & Subsequent Citywide Watershed Study Program
- 2019 Began Pheasant Branch Watershed Study
- **2020 Wexford Capital Budget Request & Preliminary Background Analysis**
- 2021 RFP for Wexford Pond Design
- 2021 Contract with Strand Associates for Engineering



Background

- 1989 Pond plans
- 1997 Pond plans
- 2018 Flood & Subsequent Citywide Watershed Study
- 2019 Began Pheasant Branch Watershed Study Program
- 2020 Wexford Capital Budget Request & Preliminary Background Analysis
- 2021 RFP for Wexford Pond Design
- 2021 Contract with Strand Associates for Engineering



Plan Distribution | Contact Us

Search ...

About Us Services Projects Careers Locations

ABOUT US

Home | About Us

About Us

- Corporate
- News
- Awards
- Conferences

Established in 1946, we are a thriving corporation with 12 offices and projects in 48 states. In 2022, we were ranked 173 out of the Top 500 Design Firms in the USA by *Engineering News-Record*.

Our staff consists of bright, talented professionals — individuals with diverse specialties, extensive training, and in-depth project experience. Along with experienced professional engineers, a full complement of technical, office, and field personnel are assigned to each project team to effectively and efficiently manage every project from start to finish.

We are proud of the real value our services provide. The fact that our relationship with many clients extends for decades clearly demonstrates the sense of satisfaction with the value our clients receive on every project we deliver.



JOIN OUR E-NEWSLETTER MAILING LIST →



12 OFFICES NATIONWIDE

PHOENIX, ARIZONA
JOLIET, ILLINOIS
COLUMBUS, INDIANA
AMES, IOWA
LEXINGTON, KENTUCKY
LOUISVILLE, KENTUCKY
CINCINNATI, OHIO
COLUMBUS, OHIO
BRENNHAM, TEXAS
NASHVILLE, TENNESSEE
MADISON, WISCONSIN*
MILWAUKEE, WISCONSIN

DEDICATED TO HELPING OUR CLIENTS SUCCEED THROUGH EXCELLENCE IN ENGINEERINGSM

Established in 1946, we are a dynamic, multidisciplinary engineering firm serving the needs of public and private sector clients throughout the USA. We have 12 offices across the country, including Arizona, Illinois, Indiana, Iowa, Kentucky, Ohio, Tennessee, Texas, and Wisconsin. In 2022, we were ranked 173 out of the Top 500 Design firms in the USA by Engineering News-Record.

Phone: 608.251.4843

Coordination with Pheasant Branch Watershed Study

Pheasant Branch Watershed

2019

- Ground/storm sewer survey
- Monitoring
- Flood Reports
- Focus Groups
- Public Input Meeting #1a

2020

- Modeling
- Calibrating Modeling to Monitored Results
- Existing Conditions Presented at Public Input Meeting #2

2021

- Developed design solutions
- Analyzed additional information from Wexford Analysis
- Ran approximately 18 various models to better understand Wexford Design Impacts on Flooding

2022

- Draft solutions presented at Public Input Meeting #3
- Draft Final Report Posted THIS MONTH!

Wexford Pond Analysis

2019

2020

- Budget request
- Initial Analysis
- Developed RFP

2021

- Bathymetry and Survey
- Wetland Delineation
- Tree Inventory
- Low Openings Analysis
- Sediment Analysis
- Geotechnical Analysis
- Watershed Modeling

2022

- Additional Geotechnical Analysis
- Design Alternatives
- Additional Surveying
- Grant application
- Stakeholder Meeting
- Public Input Meeting

Preliminary Modeling /Alternative Analysis

- Several Alternatives and 18 total scenarios were investigated to mitigate flooding
 - Detention basin shape and size
 - Lower normal water elevation
 - Outlet control structure configuration
 - Allowable high-water elevation



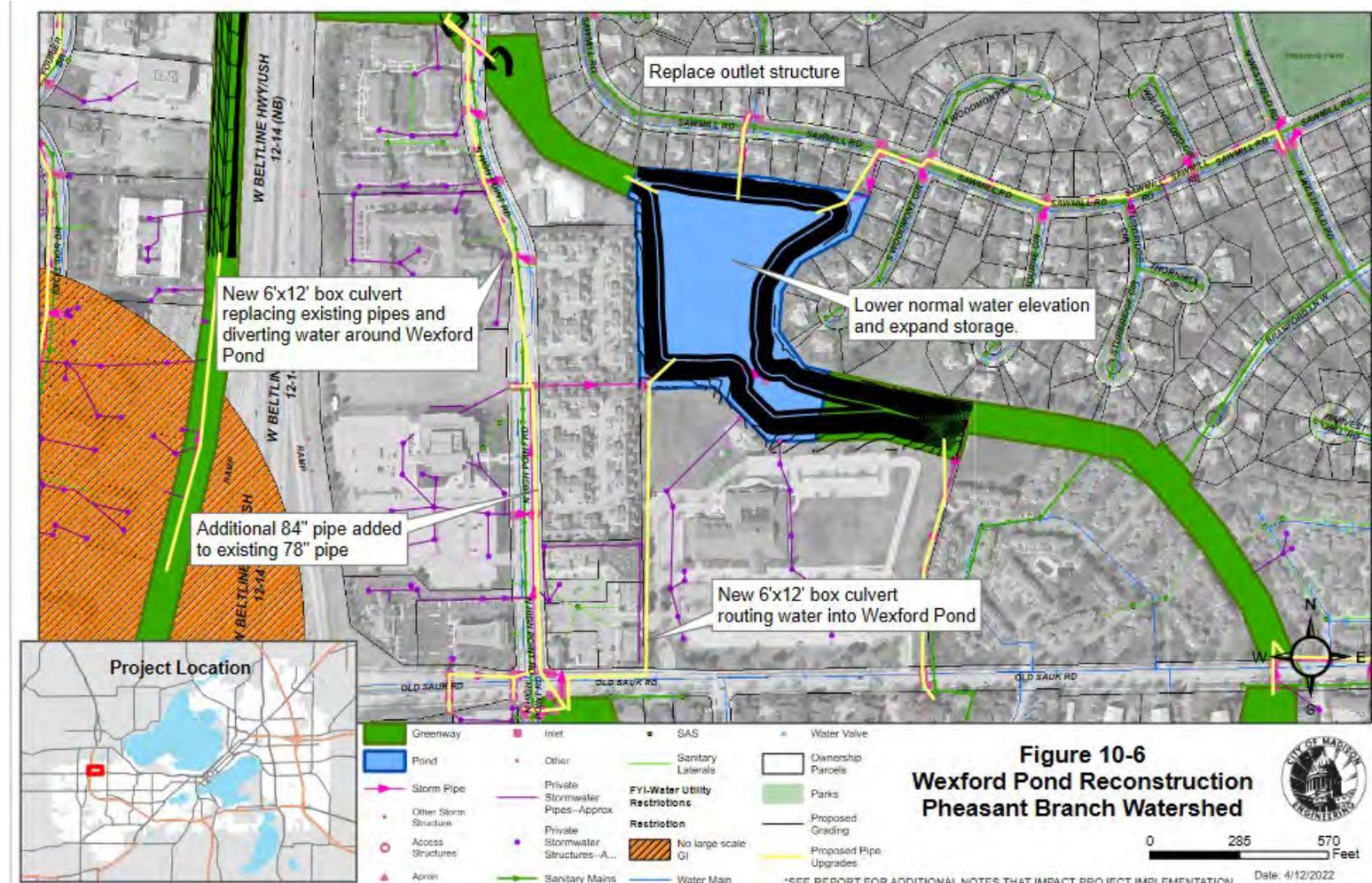
Critical Structure Survey

- Survey of structure low entry elevations were completed to determine an allowable highwater elevation.
- Alternative Analysis was shared with City staff for use in Pheasant Branch Watershed Study.



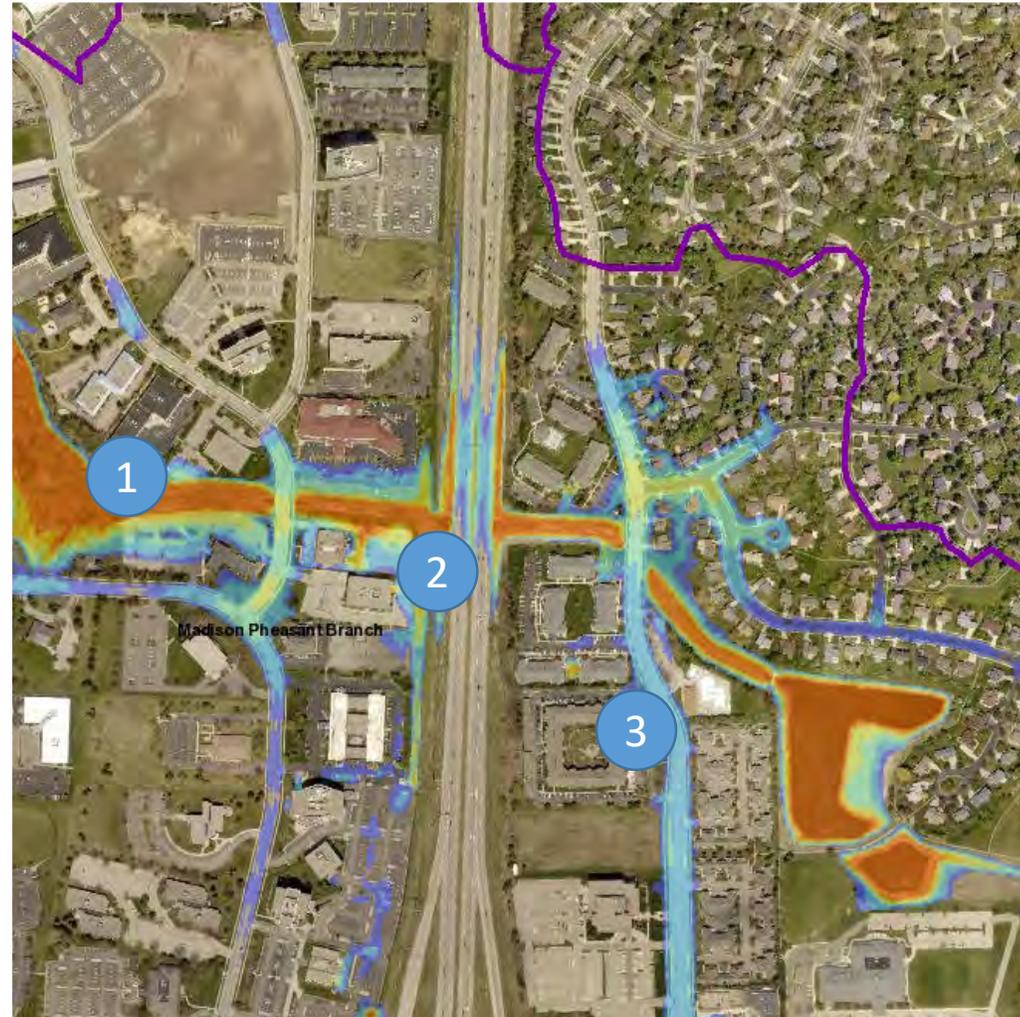
Long-term Plan

- Order of completion is important to solve flooding where we saw issues in 2018
 - Old Sauk
 - Beltline
 - High Point Bypass
- Without doing this first, long term Wexford design will exacerbate issues
- Long Term ~ \$5M



Results

- Timing is critical
- Downstream projects
- Limited Funding
 - 22 watersheds
 - Improvements in PB alone = \$75 M
- Typical Budget for Stormwater Projects for Entire City
 - ~\$10-\$15M/year



Old Sauk
Trails
Business
Park \$9.1 M



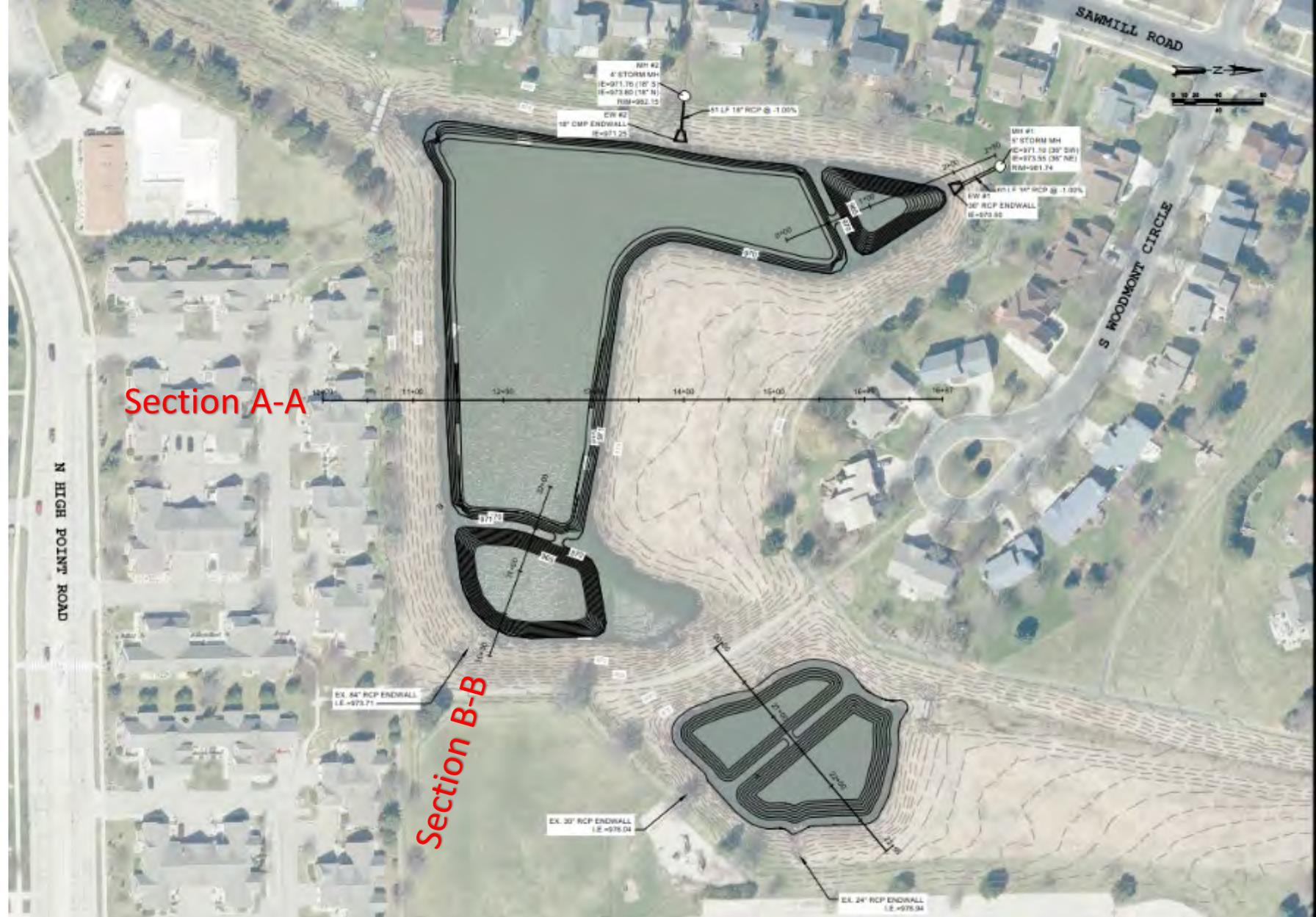
Beltline
Culvert
Expansion
\$5.3 M



High Point
Road
Bypass
\$10.5 M

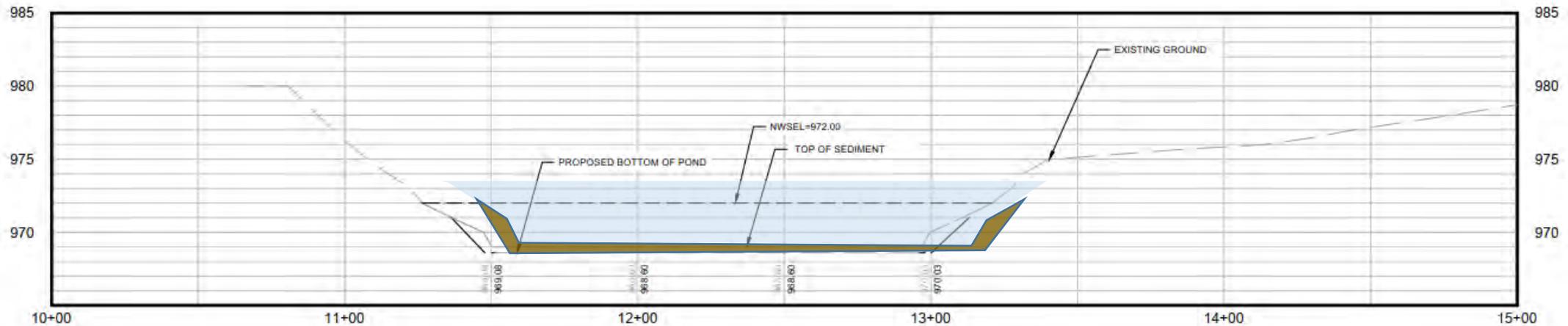
Proposed Design

- Sediment Removal
- Forebay Construction
- Storm Sewer Outfalls Reconstruction



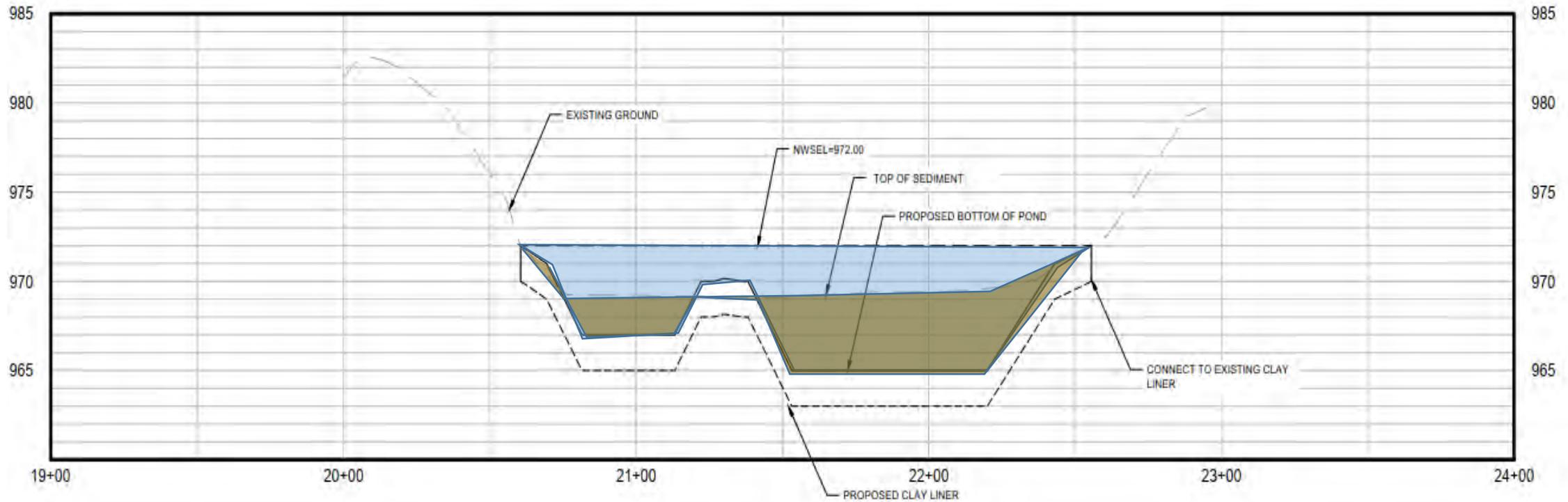
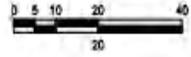
Proposed Design (Cont.)

SECTION A-A



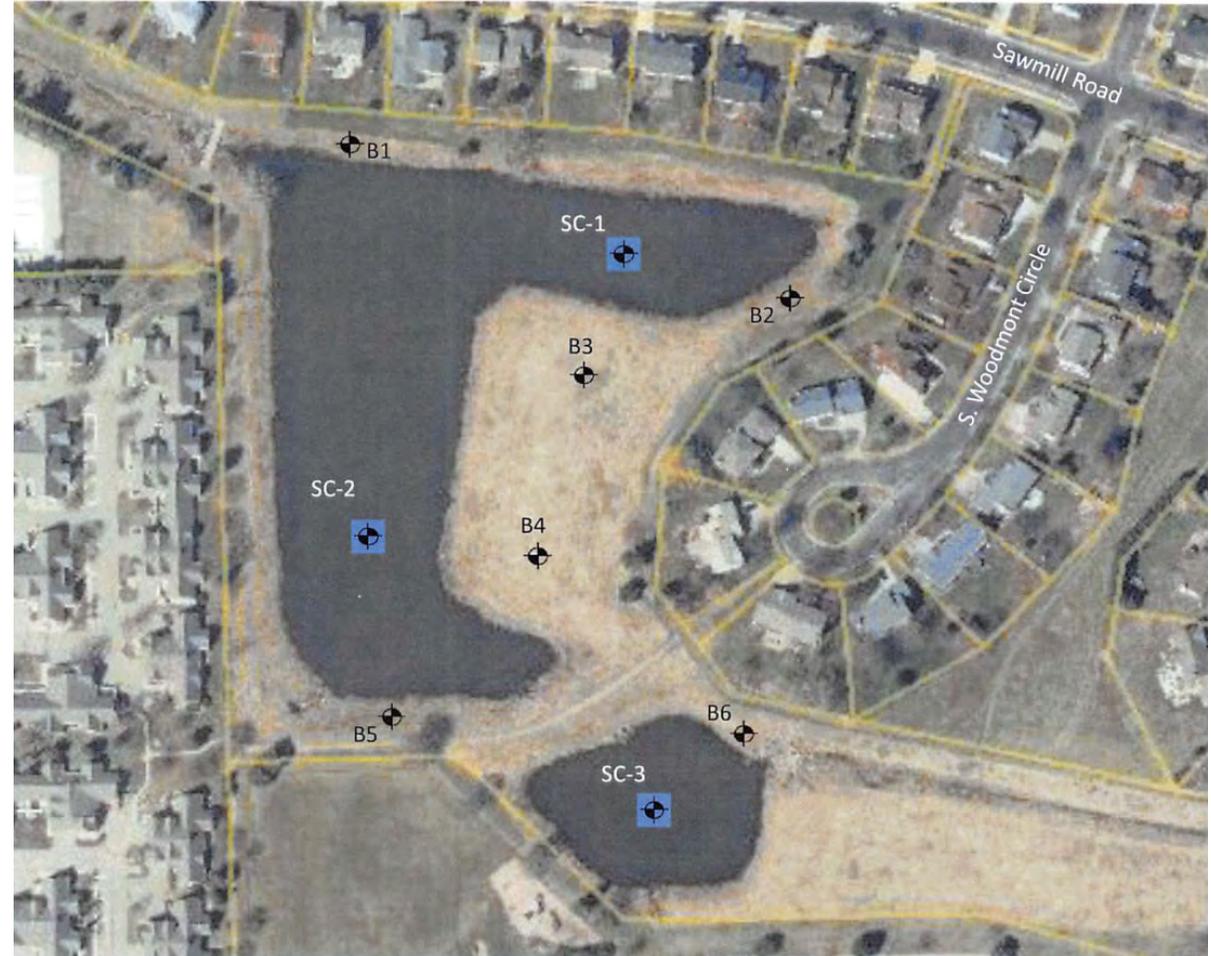
Proposed Design (Cont.)

SECTION B-B

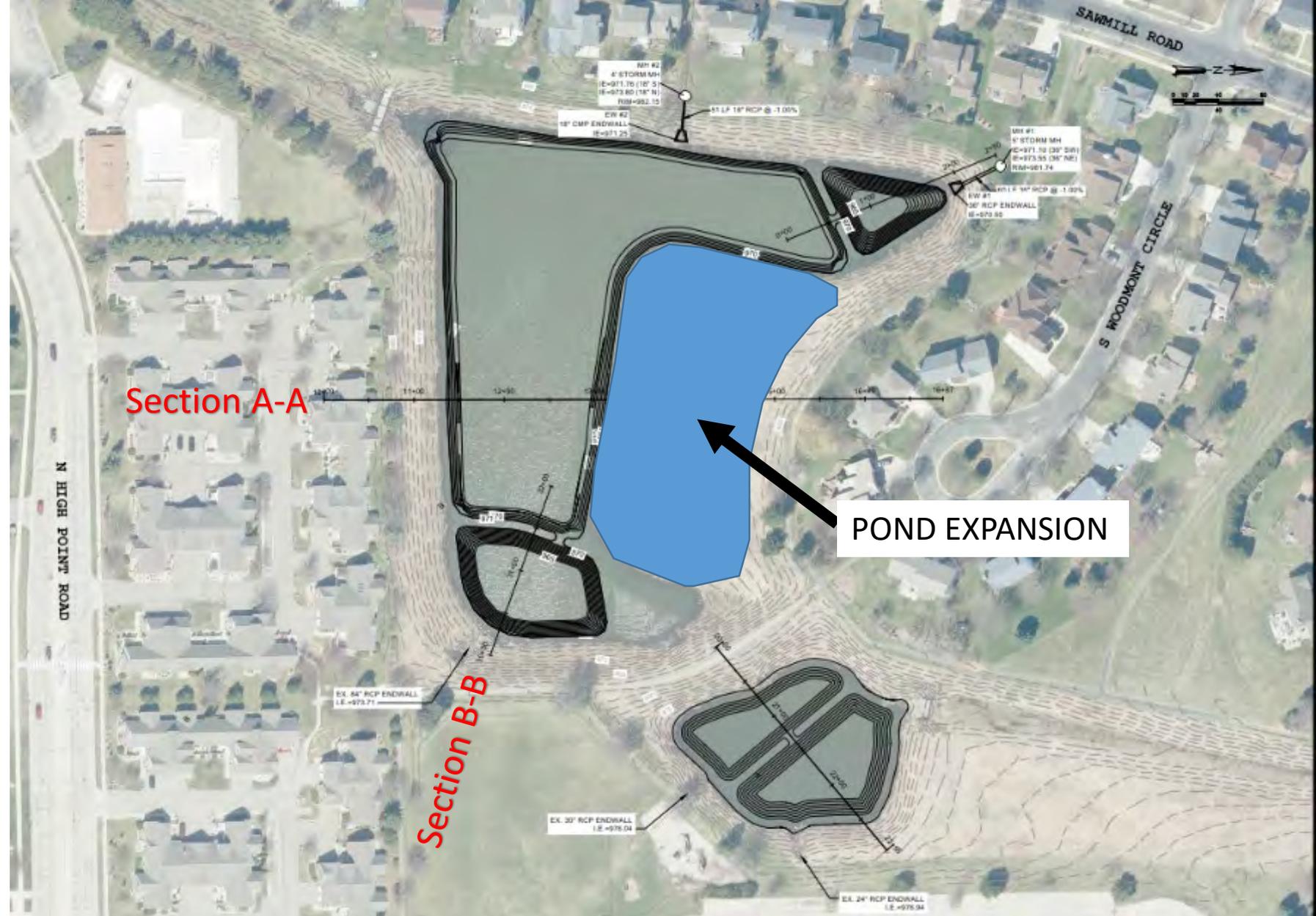


Existing Soils Investigations

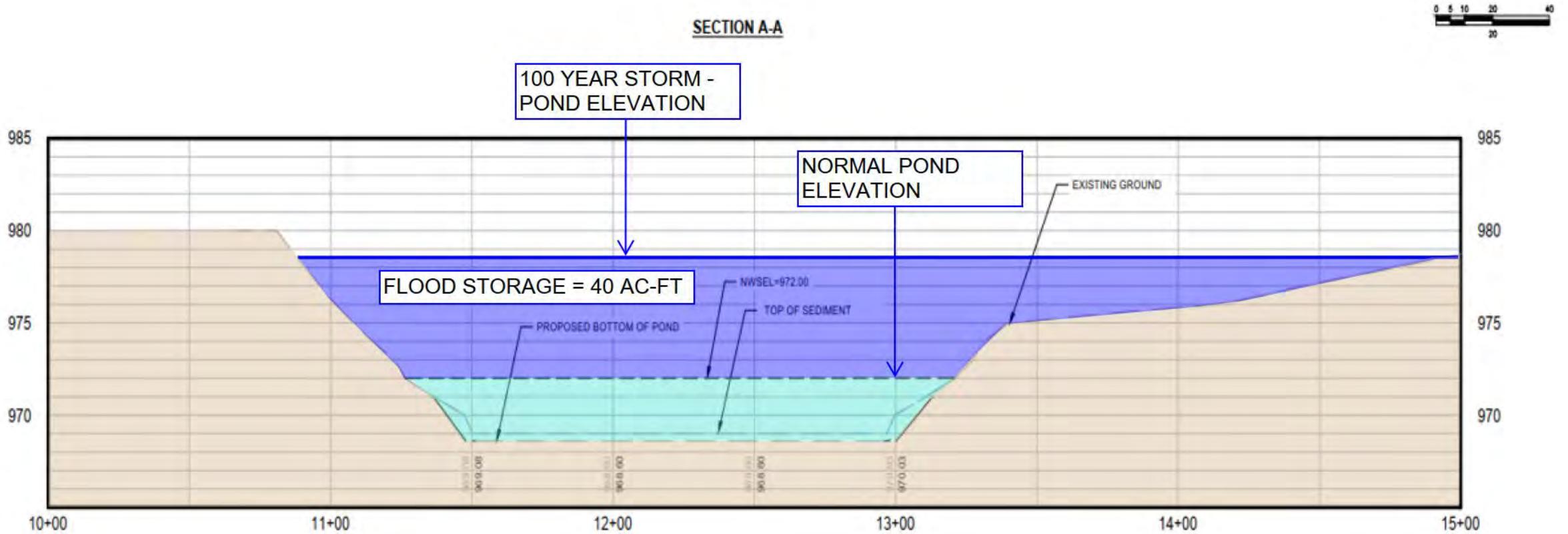
- 3 Sediment Samples
 - No Contamination
- 6 Geotechnical Borings
 - 15 foot Depth (10' below normal water level)
 - No Groundwater Observed
 - Sandy Free Draining Soils
 - Existing Pond has Clay Liner
 - Geotechnical Engineer recommends new clay liner in forebays



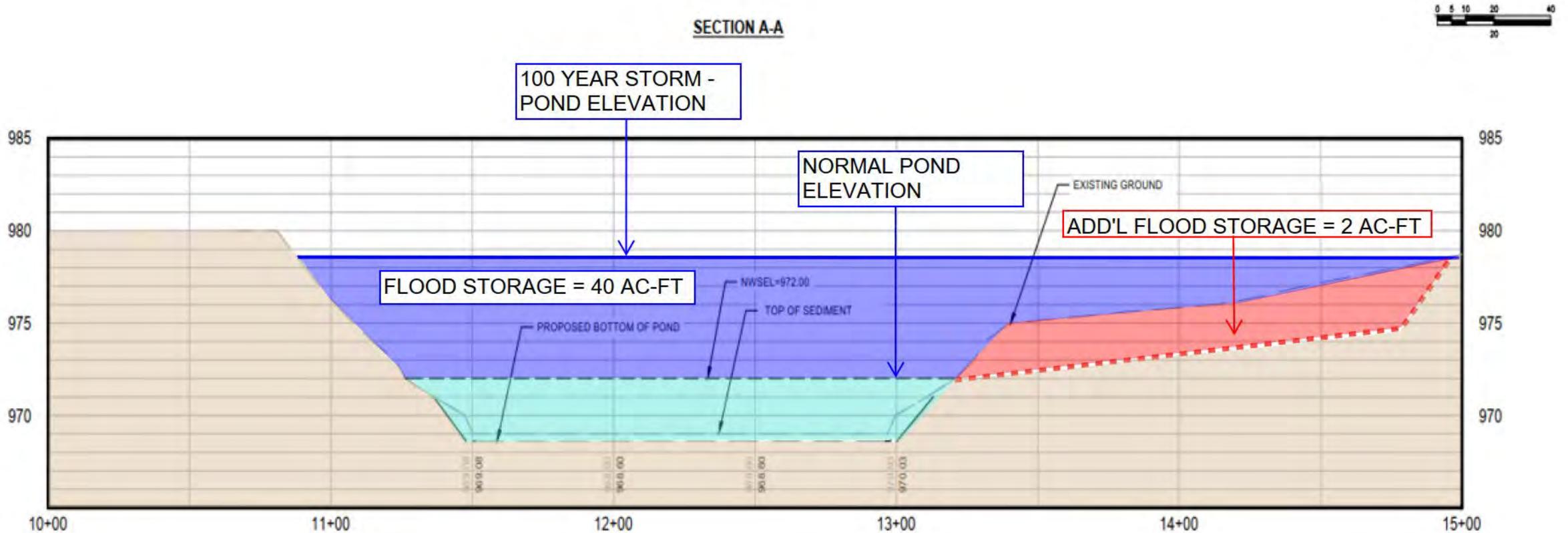
Pond Expansion Concepts Evaluated



Existing Pond Cross Section

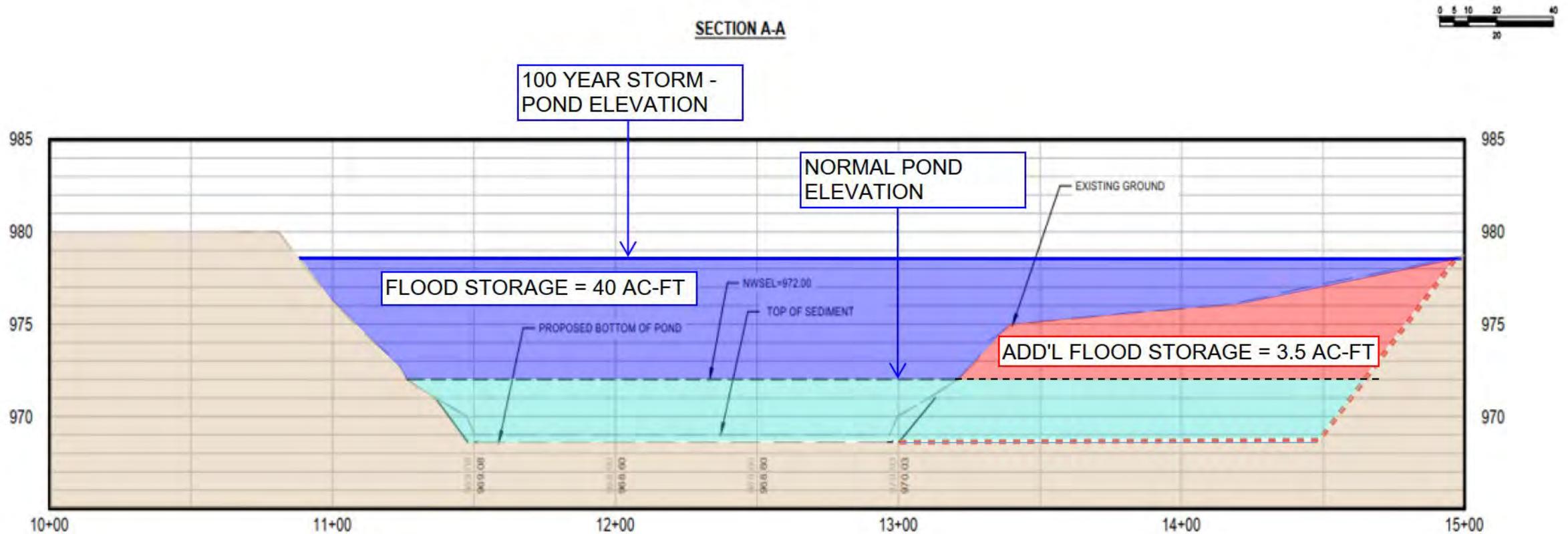


Pond Expansion (Option 1)



2 ac-ft additional pond storage (40 ac-ft existing)

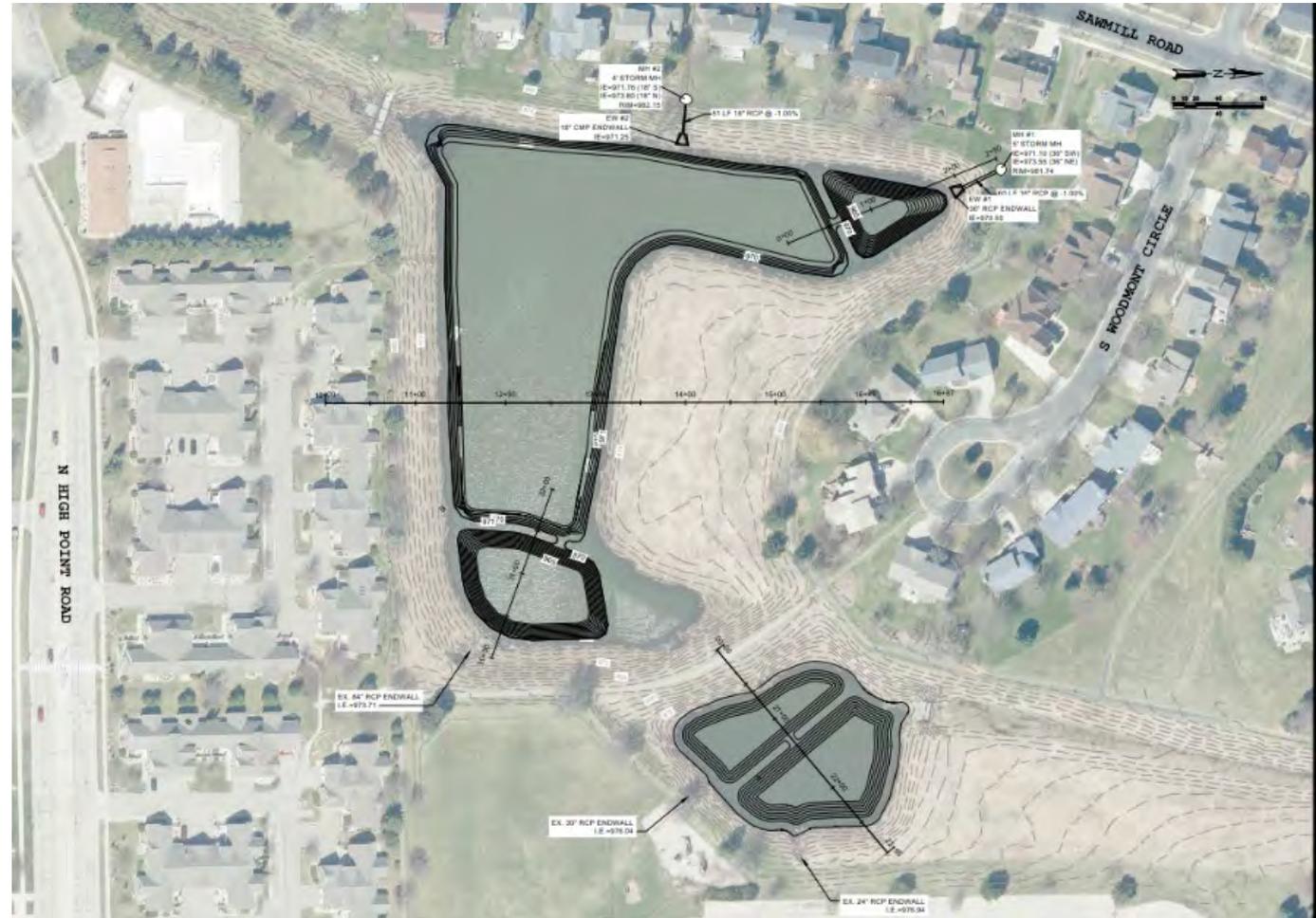
Pond Expansion (Option 2)



3.5 ac-ft additional pond storage (40 ac-ft existing)

Watershed Modeling

- Model Evaluation
 - 18 Various Scenarios
 - Difference between removing and keeping peninsula 0-2" WSE during 100 year storm event

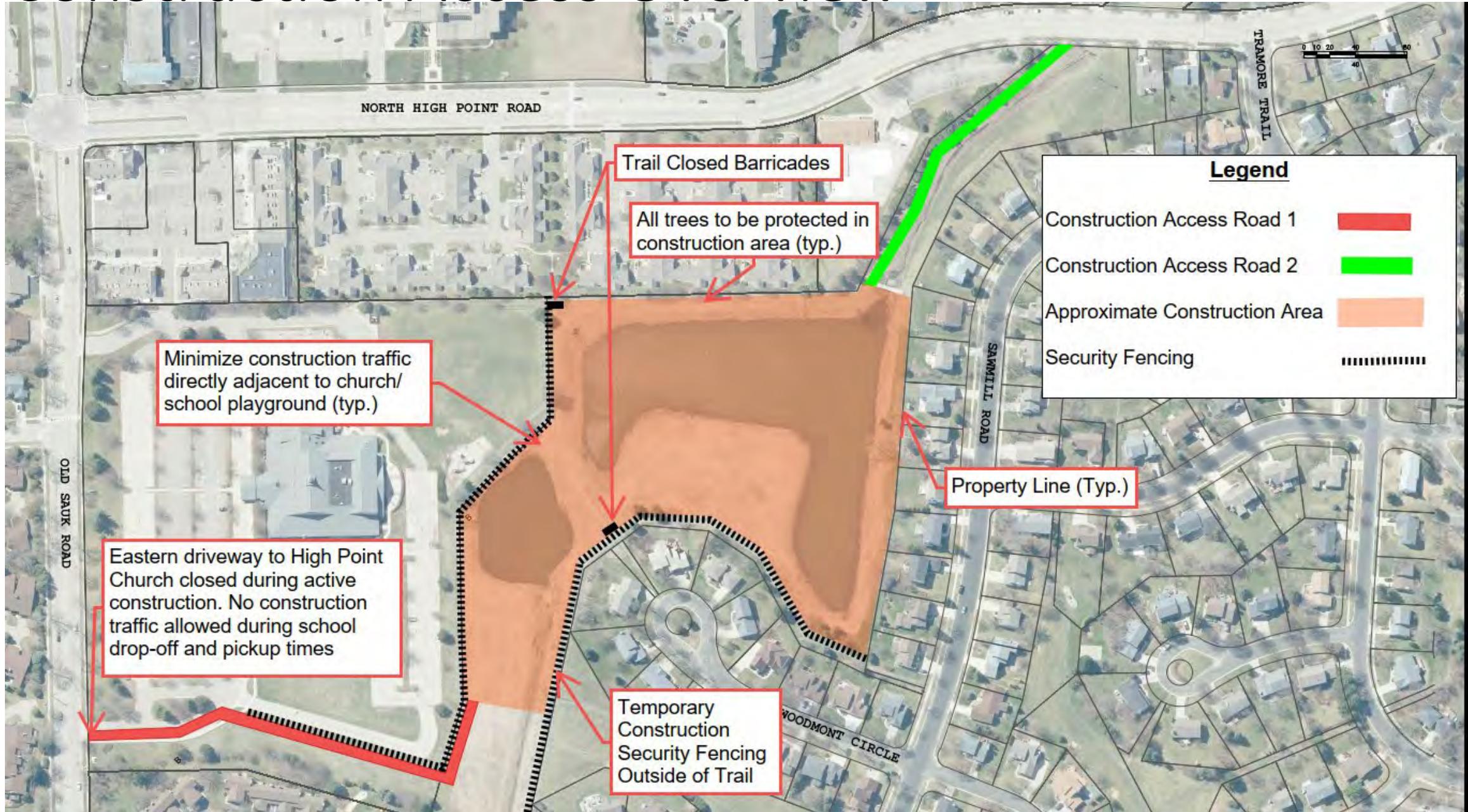


Project Details

- Construction Access
- Construction Timing
- Project Costs
- Habitat and Wildlife
- Long term Restoration



Construction Access Overview



Wildlife Mitigation

Birds

- Nesting Mid-March thru Mid August
- Migration Late Fall thru Spring
- Winter Construction Ideal

Amphibians/Reptiles

- Active Mid-March thru Early November
- Hibernation November thru March
- Relocation/Winter Construction Ideal

Endangered Species Review (on-going)

- Rusty Patched Bumble Bee
- Carner Blue Butterfly



Painted Turtle

Photo Credit: Gary Eslinger/USFWS

Construction Schedule (3-4 Months) - Bidding Options

- 1) Summer Construction (2023)
- 2) Winter Construction (2023-2024)



Construction Timing (~ 3 Months)

➤ **Winter Construction (2023-2024)**

Benefits

- Minimal Stormwater Handling
- Potential For Lower Groundwater
- Contractor Availability
- Potential Lower Costs
- Avoid Bird Nesting Season

Drawbacks

- Frozen Soil, Compaction
- Limited Work Hours/Daylight
- Impacts to Herptiles (frogs/turtles)

Restoration

- Current Ecological Conditions
 - Lawn, Private landscaping/gardens
 - Invasive plants including:
 - Wild Parsnip has been outcompeting native wildflowers
 - Have been mowing mid-summer to try to control
 - Low biodiversity and native plants that can not compete with wild parsnip



Wild Parsnip (and stinging nettle)



Restoration

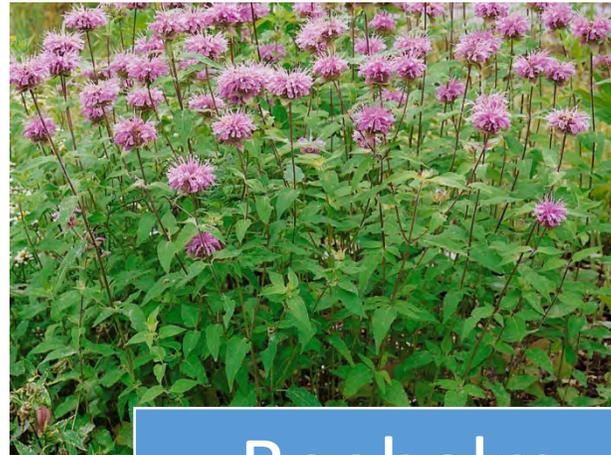
- Proposed Ecological Restoration
 - Reseed damaged areas with dredging project with aggressive native grass mix
 - Remove 2 box elder, 4 buckthorn, and 2 ash trees
 - Targeted removal of parsnip infestation
 - Reseed with aggressive native wildflower mix
 - Remove private raised garden beds on city property



Fox sedge



Big bluestem



Beebalm



Native rudbeckia

Restoration



Clear cattails, reseed with natives

Proposed Tree Approximate Location

Ecological restoration planned for area in green

Remove (1) Box Elder, (4) Buckthorn

Remove (1) Box Elder



Restoration

- Long Term Management
 - Ecological restoration contract for 2-3 years
 - Initial 1-3 years more maintenance intensive
 - Prescribed burning as able
 - After plants established, hopefully less mowing and only spot treatments for parsnip control



Questions We've Received

- Will the pond have less algae and other plant material?
- Would removing the peninsula in Wexford pond “flush” the algae more regularly?
- Can the peninsula in Wexford Pond be removed to alleviate some of the improvement proposed to the Sauk Creek Greenway Project?
- Why can't we build the Wexford Pond larger now as shown in the Pheasant Branch Draft Final Watershed Report?
- How does this address Sawmill Rd and Tramore Trail flooding?



Will the pond have less algae and other plant material?

Would removing the peninsula in Wexford pond “flush” the algae more regularly?

Pond Water Quality

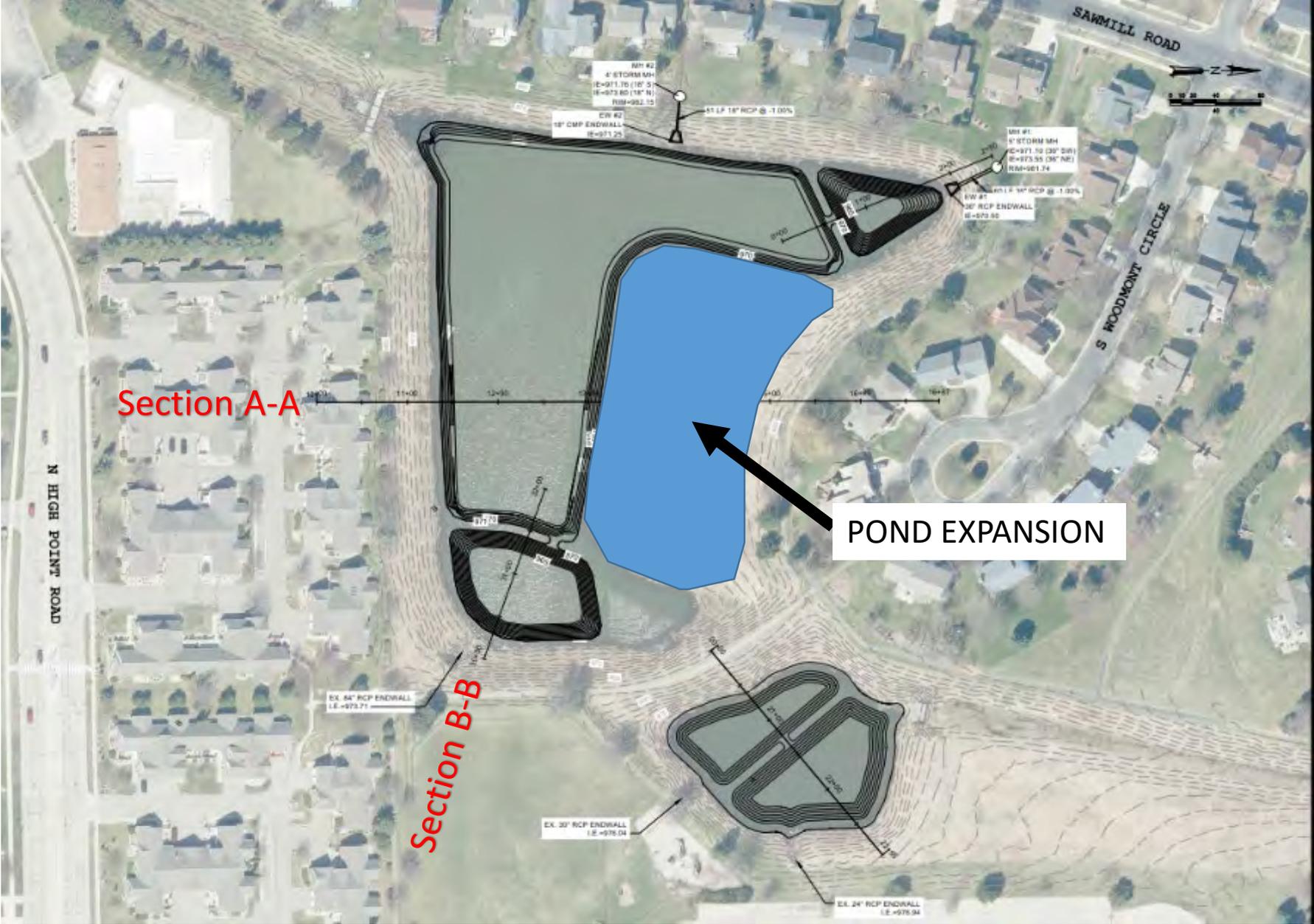
Contributing Factors of Poor Water Quality

- Nutrient Loading (Lawn Fertilizers)
- Nutrient Loading (Soil Loss/Deposition)
- Lack of Water Depth
- Lack of Water Circulation, Aeration
- High Temperatures

1 LB of Phosphorus = 500 LB of Algae



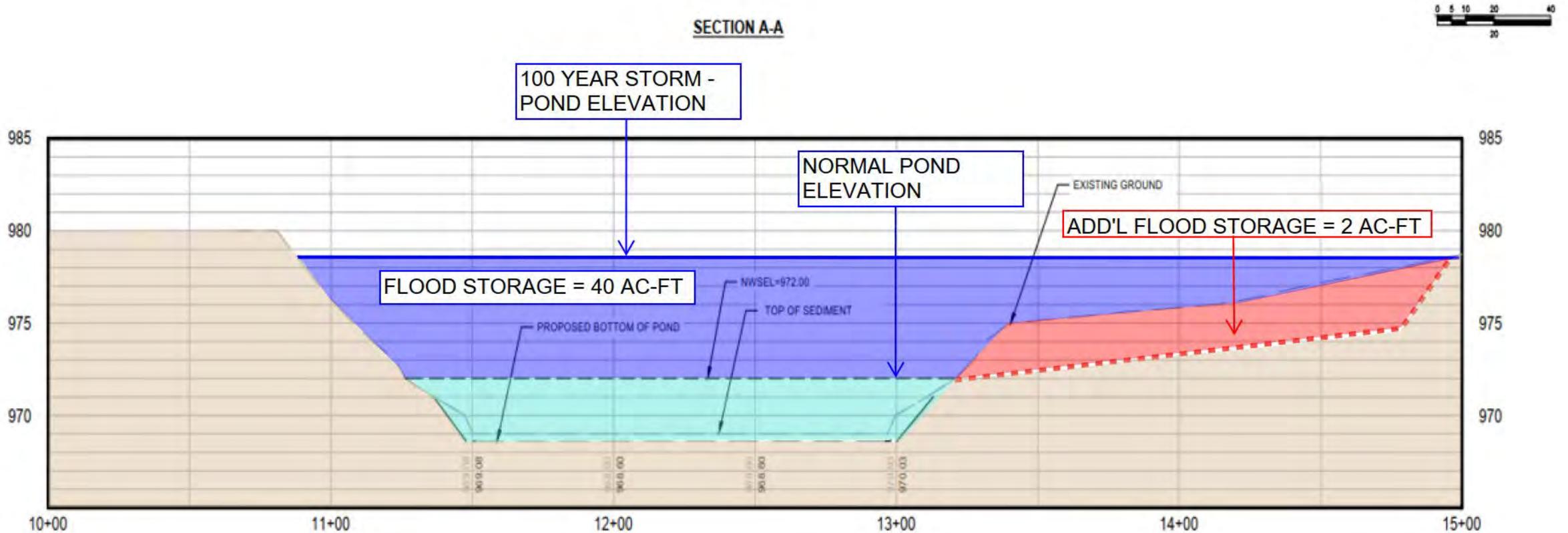
Pond Expansion Concepts Evaluated



Can the peninsula in Wexford Pond be removed to alleviate some of the improvements proposed to the Sauk Creek Greenway Project?

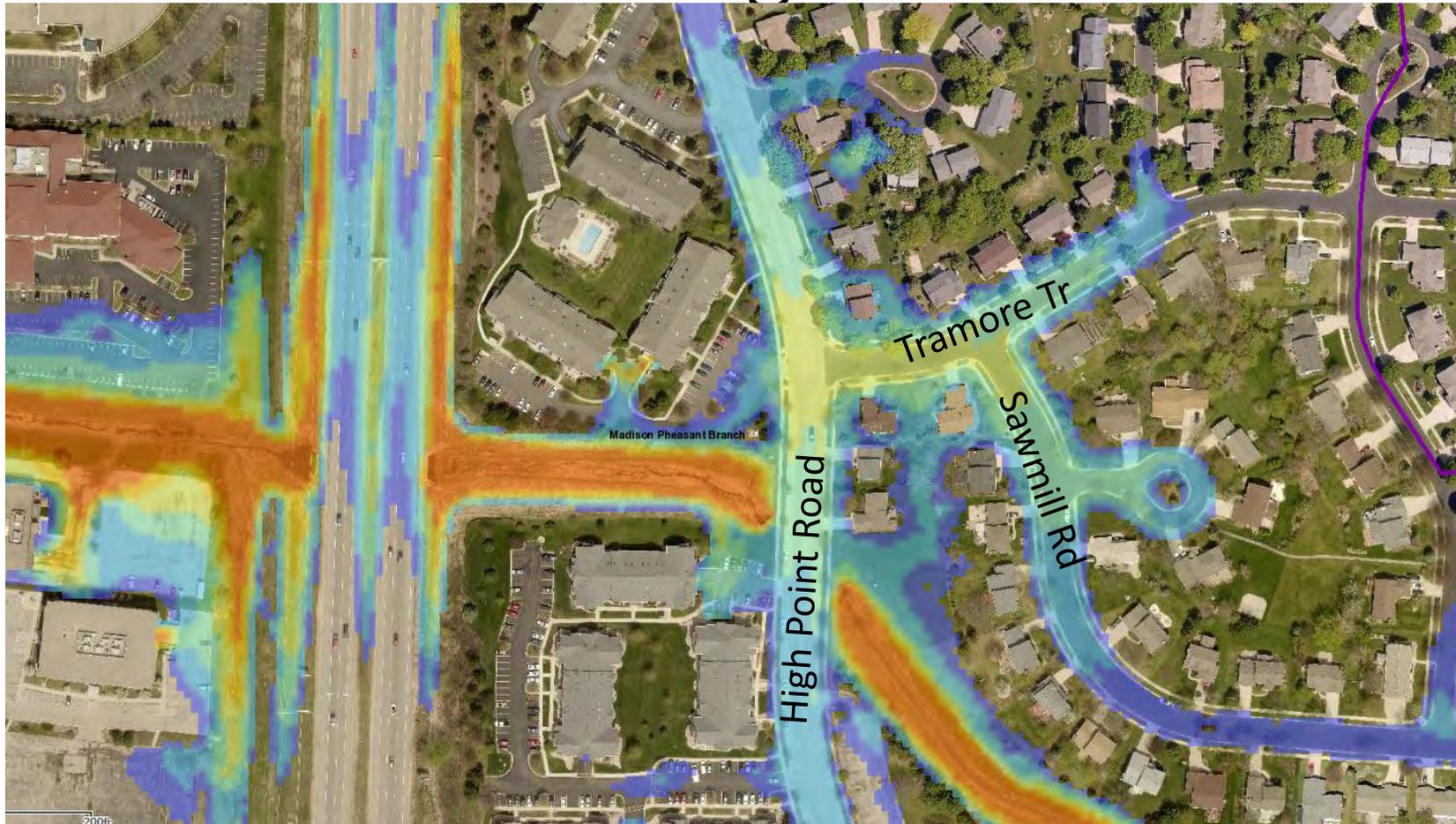


Pond Expansion (Option 1)



2 ac-ft additional pond storage (40 ac-ft existing)

How does this project solve flooding at the intersection of High Point Road, Tramore Trail, and Sawmill Rd flooding?



Why can't we build the Wexford Pond larger now as shown in the Pheasant Branch Draft Final Watershed Report?



- Timing is critical
- Downstream projects
- Limited Funding
 - 22 watersheds
 - Improvements in PB alone = \$75 M
- Typical Budget for Stormwater Projects for Entire City
 - ~\$10-\$15M/year



1
Old Sauk
Trails
Business
Park \$9.1 M

2
Beltline
Culvert
Expansion
\$5.3 M

3
High Point
Road
Bypass
\$10.5 M

Question and Answer

The screenshot shows a Zoom meeting in progress. At the top, a green banner reads "You are viewing City of Madison's screen" with a "View Options" dropdown. The main content is a presentation slide showing a calendar for 2019 and 2020. The calendar for 2019 lists months from May to August, and the 2020 calendar lists months from May to August. A "City of Madison" logo is visible in the top right corner of the presentation. Below the presentation, there are controls for "Phone Call" and "Computer Audio". A blue button labeled "Join Audio by Computer" is centered. At the bottom of the Zoom interface, there are icons for "Join Audio", "Q&A", "Chat", and "Raise Hand". A red arrow points to the "Q&A" icon. In the bottom right corner, there is a "Leave Webinar" button.

Use Q/A if you have questions.
We will answer after the presentation



Contact Information & Resources

- Engineering
 - Wexford Pond Dredging, Sarah Lerner, (608) 261-8592, slerner@cityofmadison.com
 - Pheasant Branch Watershed Study, Caroline Burger, (608) 266-4913, cburger@cityofmadison.com
- Project Website: cityofmadison.com/engineering/projects/wexford-pond-dredging
 - Sign-up for project email updates on the website
 - Updates on closures & work progress will be posted to the project website
 - Recording for this meeting will be posted on project webpage
- Facebook – City of Madison Engineering
- Twitter – @MadisonEngr
- Engineering Podcast: Everyday Engineering on iTunes, GooglePlay



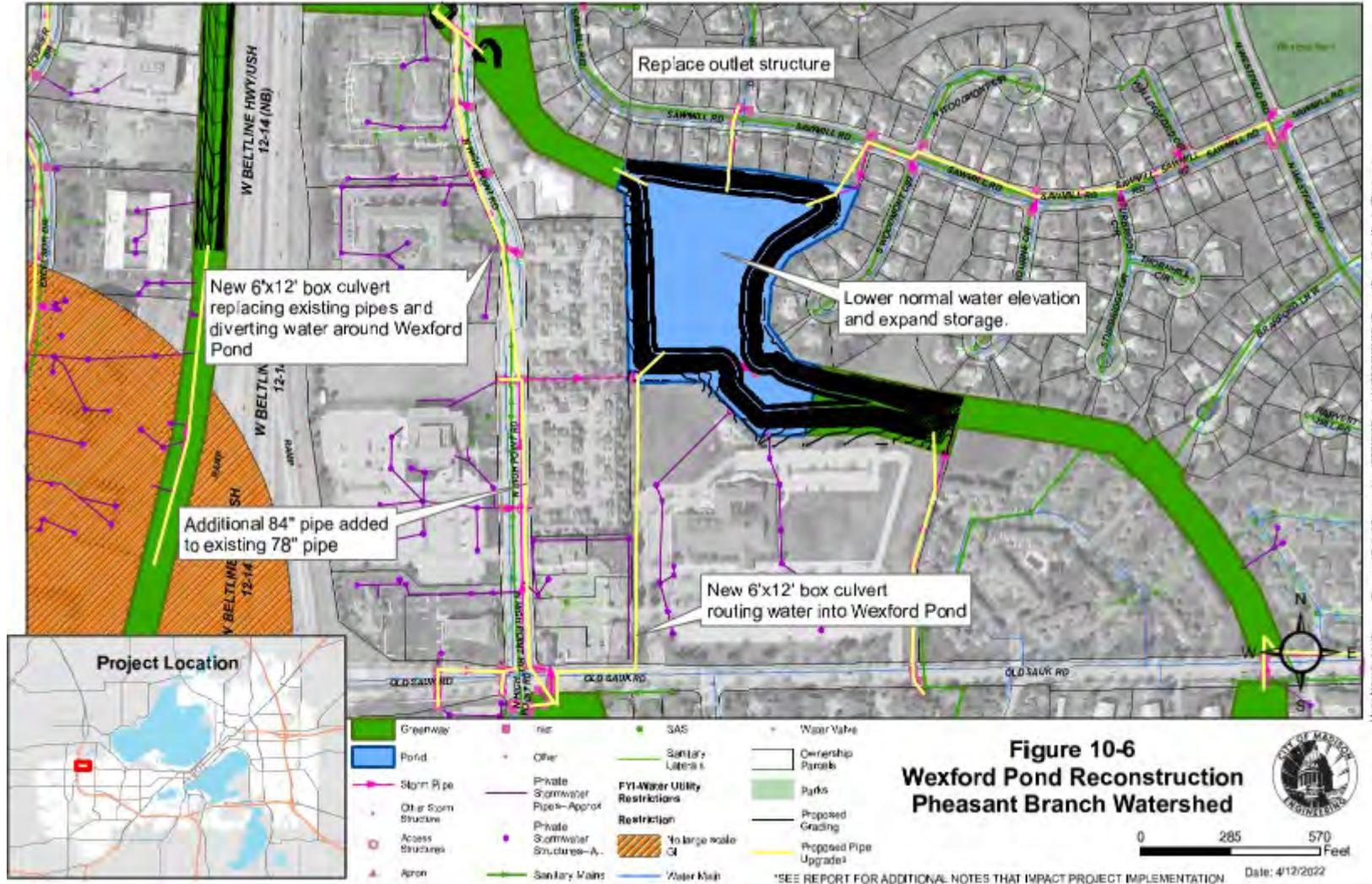
CITY OF **MADISON**



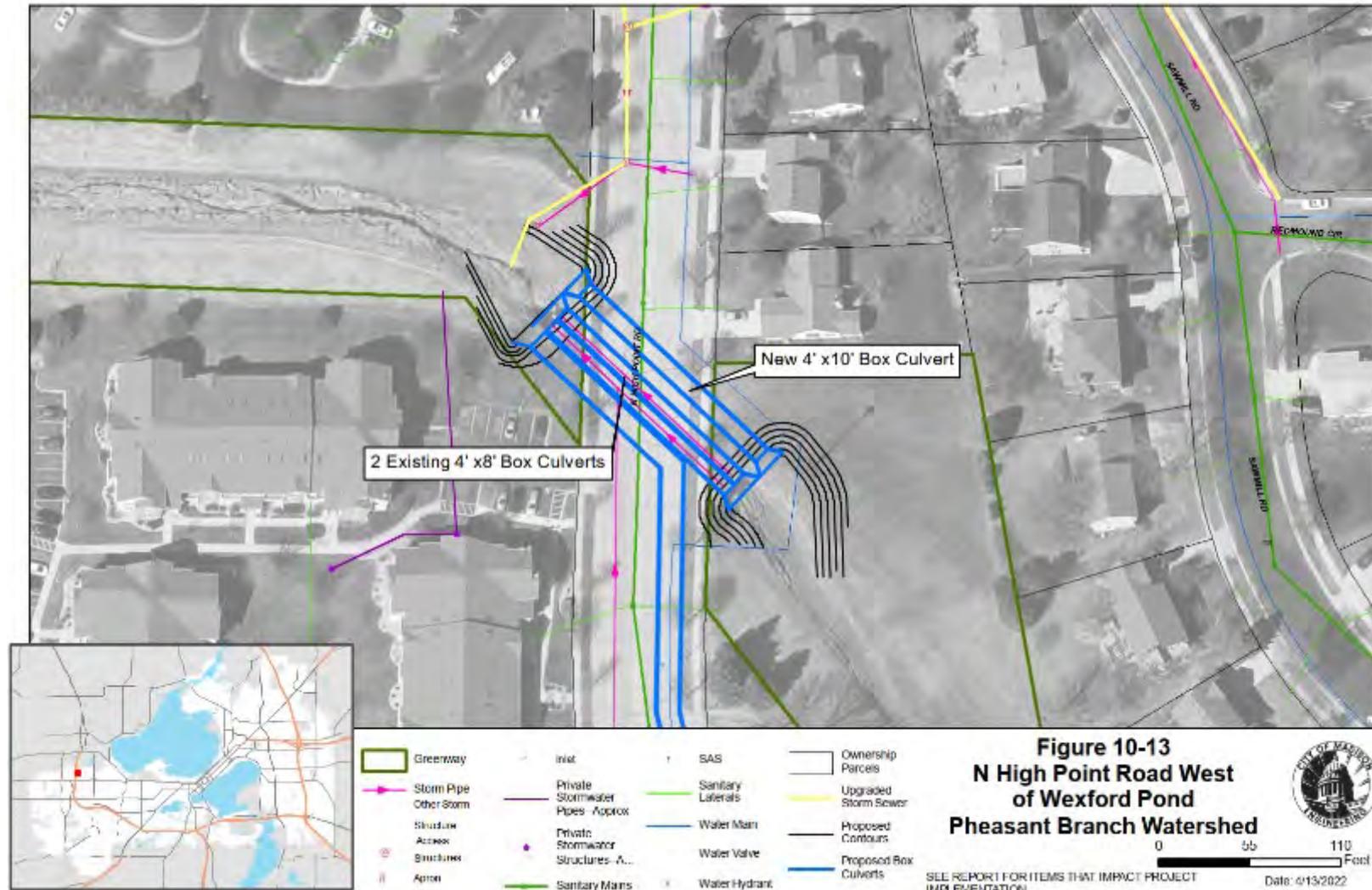
Backup Slides



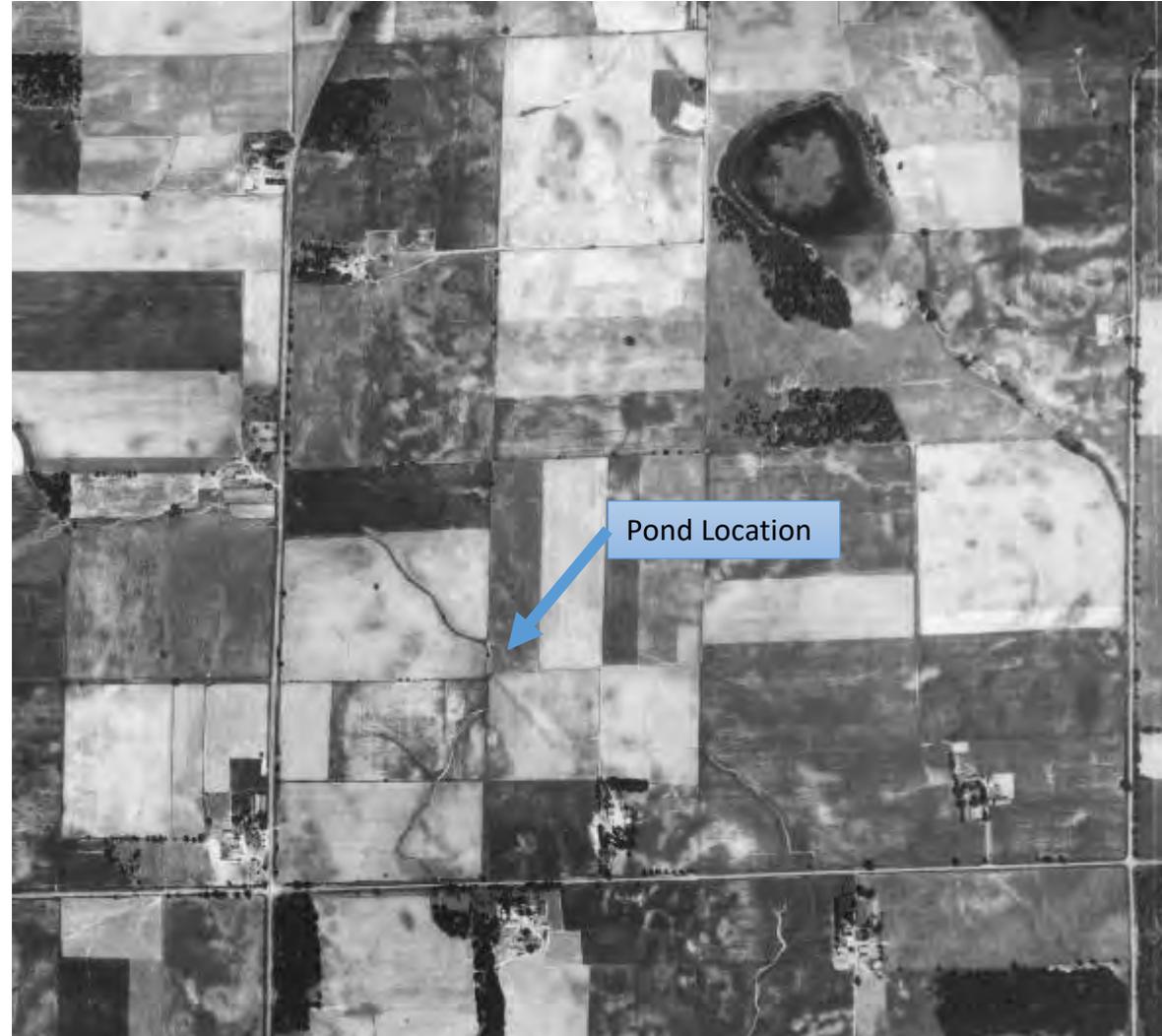
Future Condition Wexford Pond



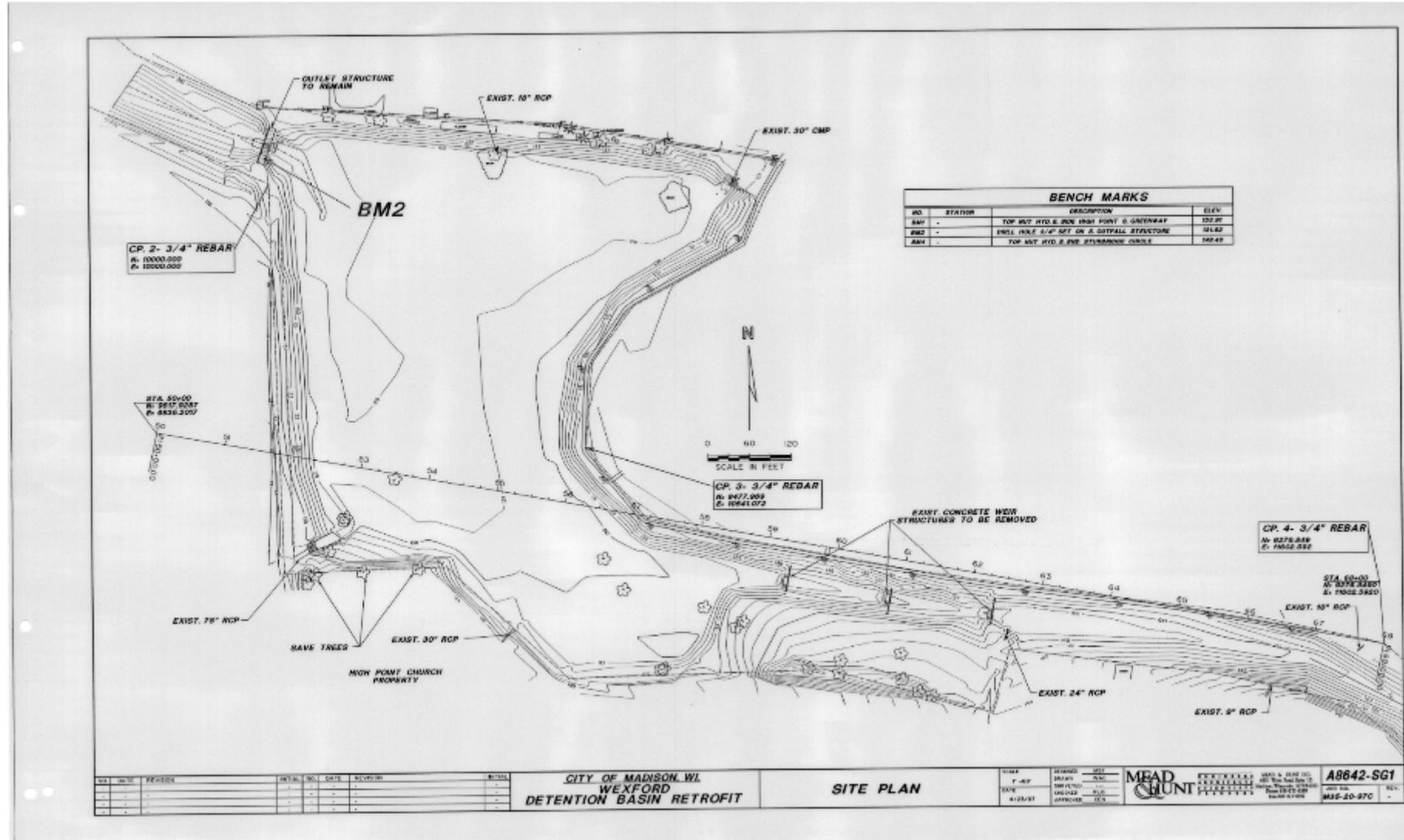
Future Condition Highpoint Road Crossing



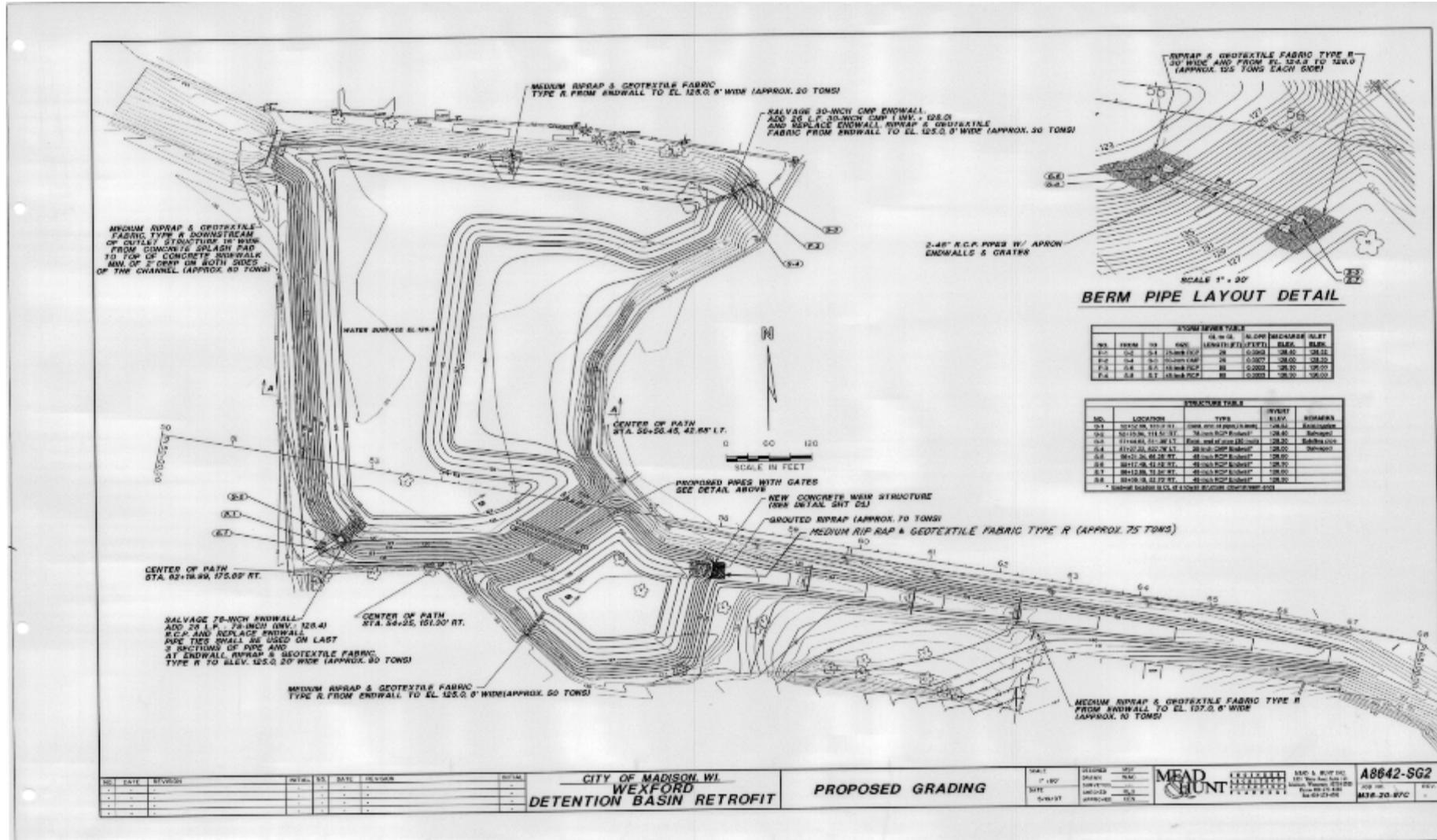
1937 Aerial Photograph



1997 Wexford Pond Survey



1997 Wexford Pond Design





- View from N High Point Road looking southeast into Wexford Pond



- Photo looking from the pond to S Woodmont Circle





CITY OF MADISON







- Looking back towards High Point Church parking lot



- Potential construction access location to the site