

Thurston Pond



Stormwater Repairs Update

July 27, 2021

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Presentation Highlights

- Project Overview
- Investigation Outcome
- Project Details
- Floristic Quality Survey
- Nature Trails Closure Update
- Next Steps

Project Overview



Project Overview

AAPS has recently observed two structural defects in the Thurston Pond storm outlet system:

- **An 18” storm pipe has a structural failure and collapse, starting approx. 60 ft from the pond. The pipe connects the Thurston pond to the City of Ann Arbor storm water system and serves to manage pond water levels**
- **The embankment at the outlet control structure has been undermined and detained storm water is free flowing under the embankment.**

These defects need to be repaired before school goes back into session on August 30, 2021.

The storm sewer repair will require the pipe to be exposed with an excavation approximately 10’ deep and 40’ long.

In order to effectively and safely make the repair, the pond level will need to be lowered to minimize the presence of water during the repair.

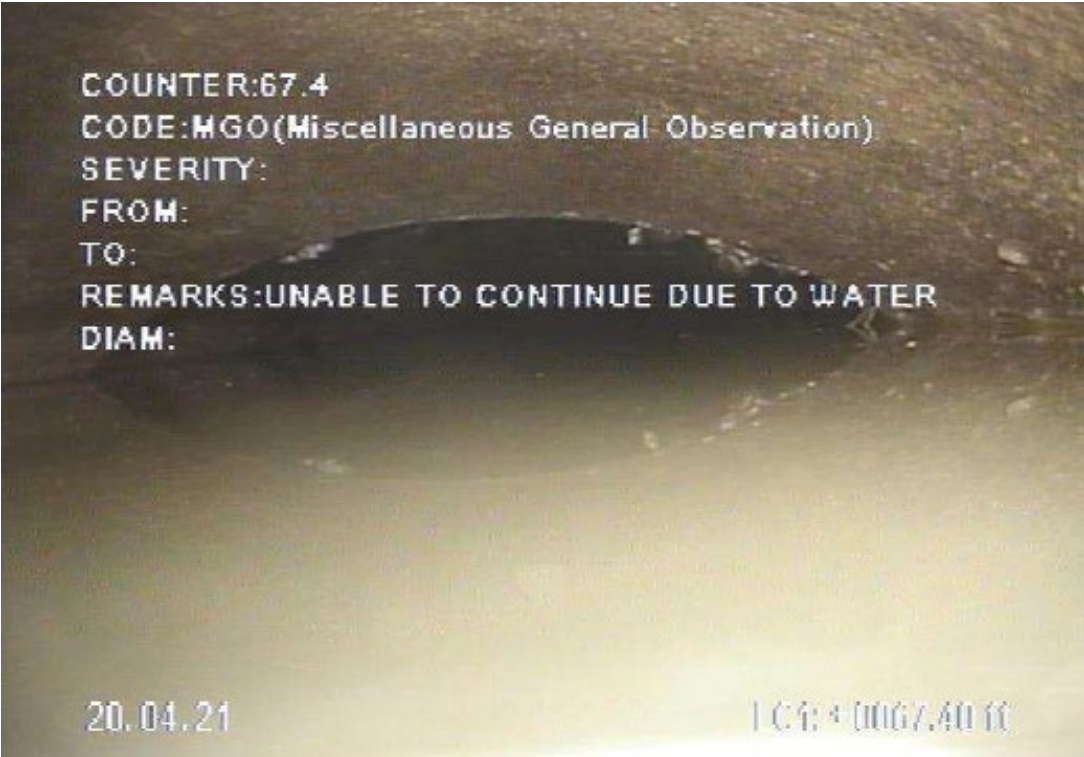
Investigation Outcome

Investigation Report Results:

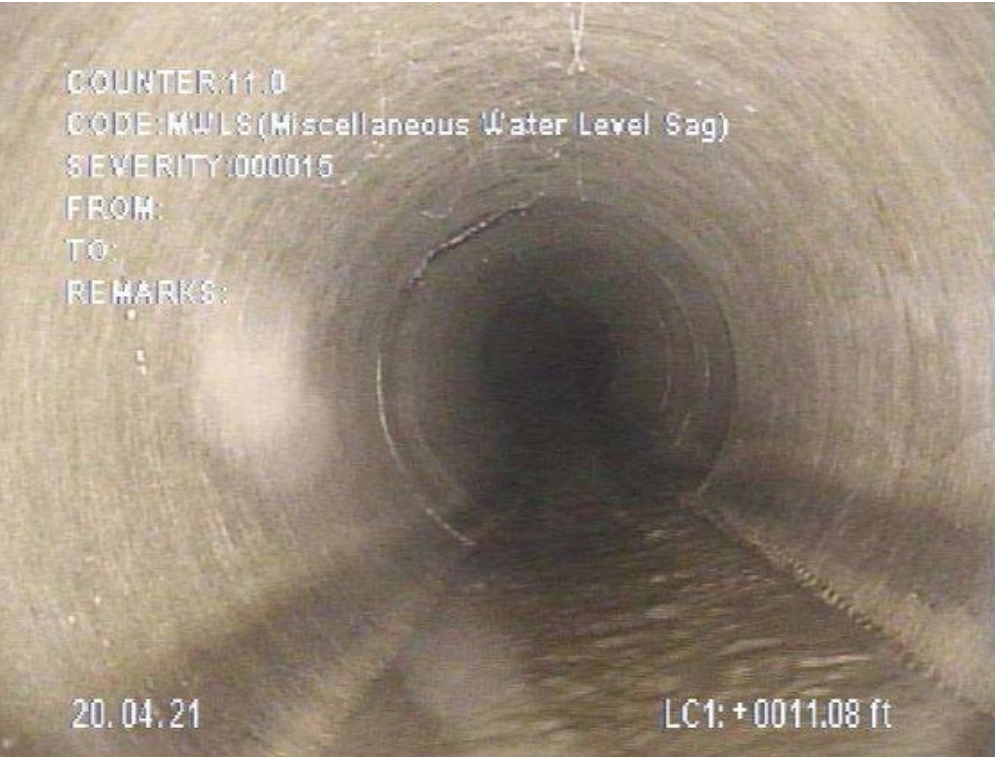
- Upon arrival, little to no water was flowing through Catch Basin # 1 near the sink hole
- Water was flowing steady at the opposite end of the pipe at Catch Basin # 2
- A video inspection was done, starting from Catch Basin # 1
- 67' of pipe was inspected before the water level had risen to 100% and the camera could not continue
- A video inspection was then conducted from Catch Basin # 2.
- 114' of pipe was inspected before the water level had risen to 100% and the camera could not continue.
- A dye test was conducted to see if the dye would find its way from Catch Basin # 1 to Catch Basin # 2
- The dye did not appear downstream at Catch Basin # 2, indicating that the pipe has collapsed or an offset has occurred causing the water to infiltrate somewhere between those 2 points

Investigation Outcome

Water Level at 100% at 67'



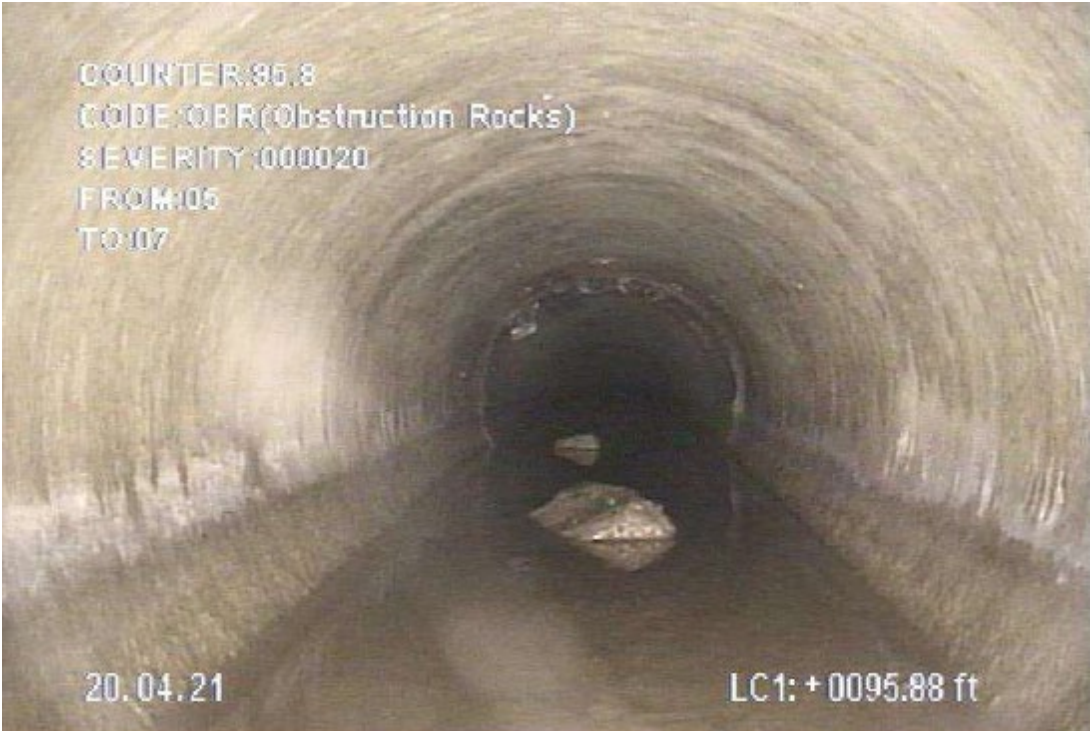
Flow Levels at Downstream End



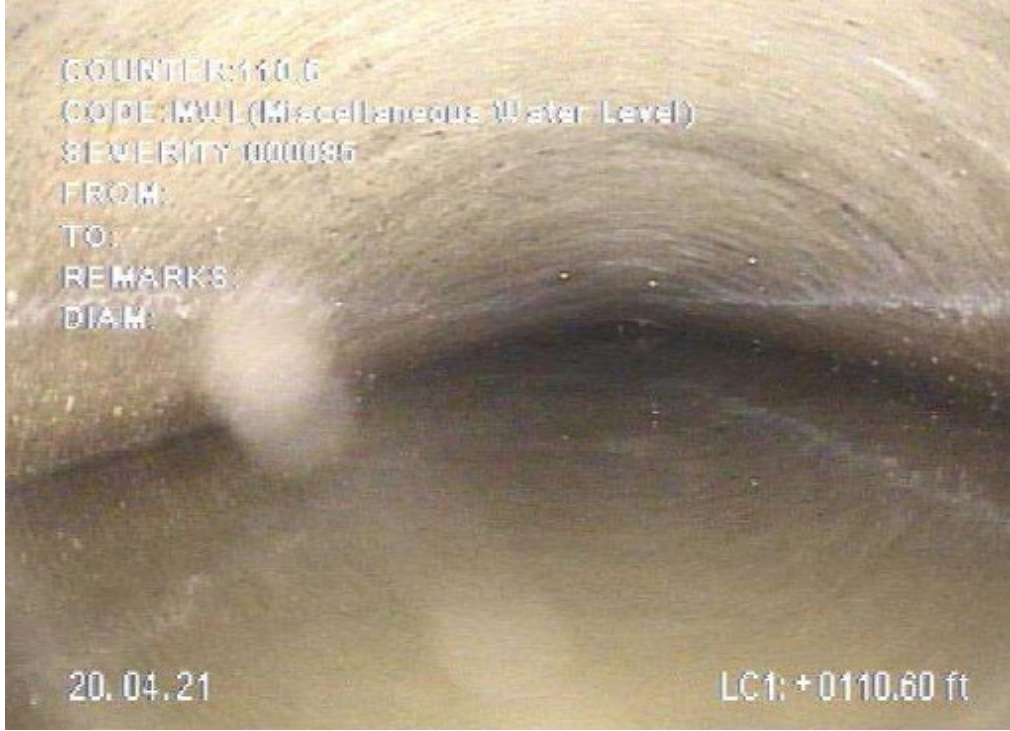
Downstream End of Pipe



Sand and Gravel Debris in Pipe on Downstream Side



Water Level at 100% at 114'

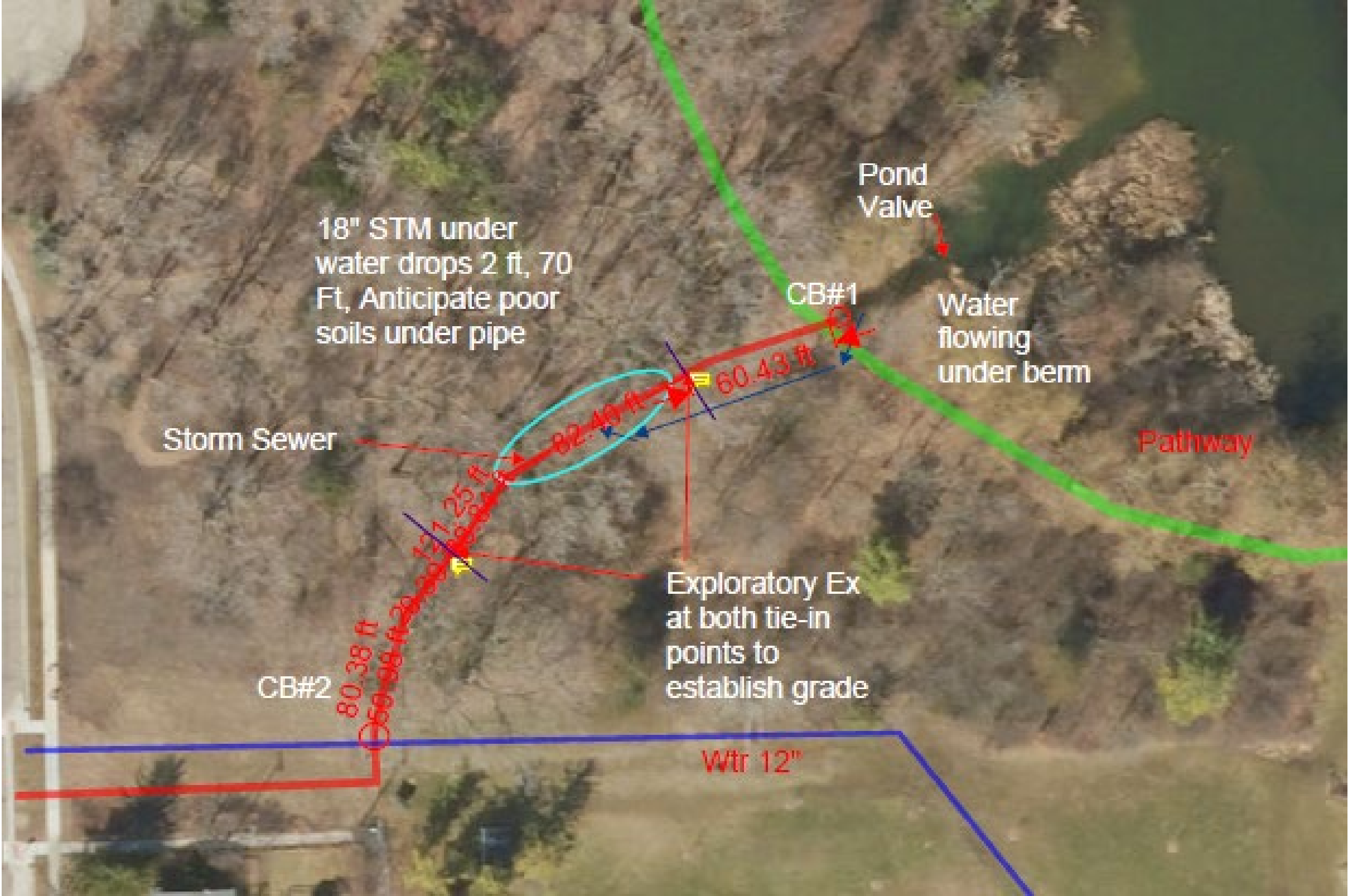


Project Details



Thurston Pond
Storm Clearing
Aerial View

Project Details Cont.



Thurston Pond Storm Repair Plan Aerial View

Floristic Quality Survey



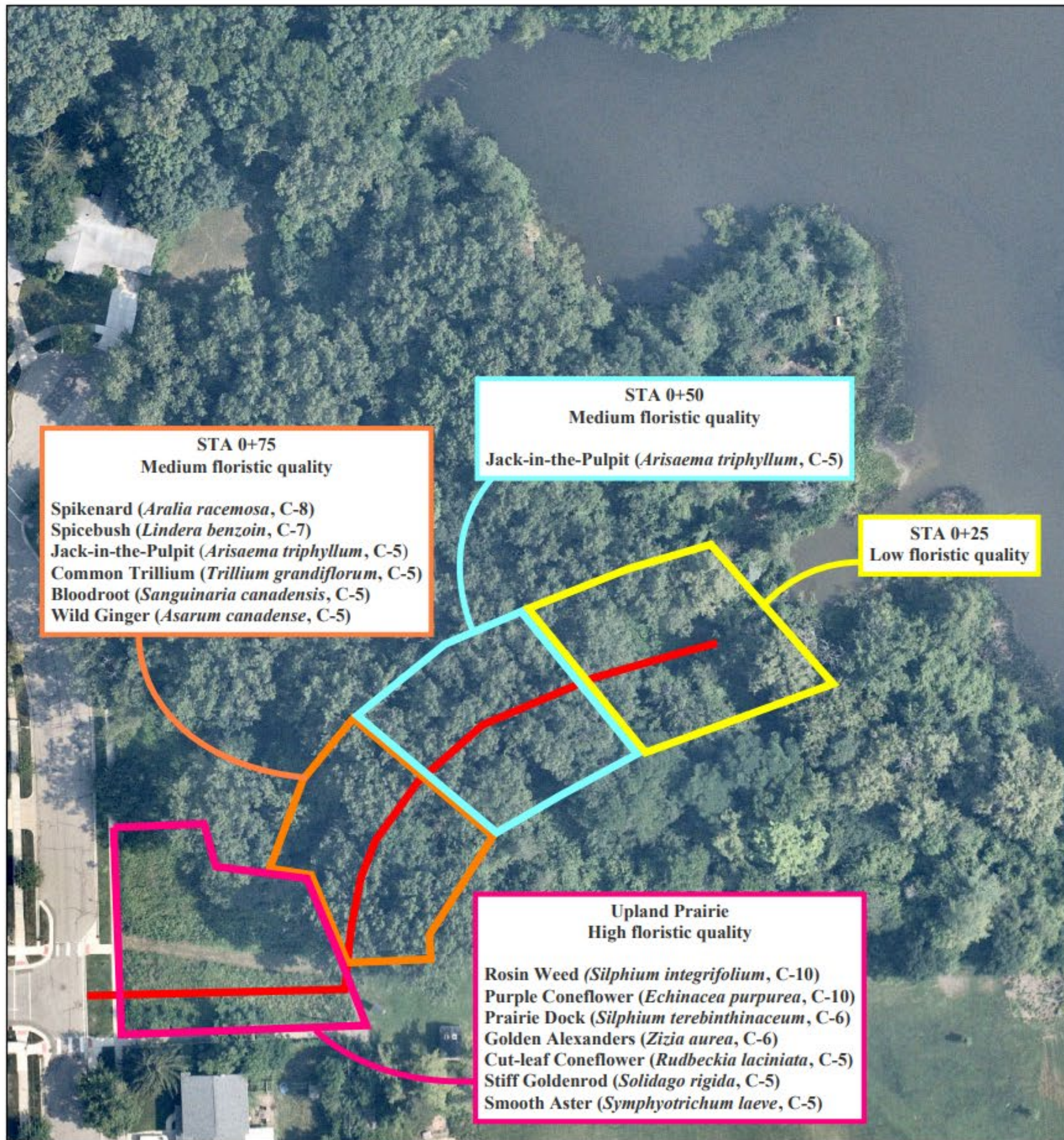
Wade Rose holds a Bachelor of Science degree from the University of Michigan – Dearborn in Environmental Studies with a focus in Land Resource. He has worked in both the forestry and landscape industry for over 20 years. Wade previously worked with The Greening of Detroit as a project manager where he specialized in ecosystem services, installing native plant landscapes, and performing community education and outreach on a variety of projects. Wade is currently working in the EWRG Environmental Planning Group where he works on a variety of projects focused on stormwater mitigation, and environmental impact assessments. Wade has also completed advanced coursework in hydric soils and problematic wetland assessment.



As an ecologist and Project Manager for OHM Advisors' Environmental and Water Resource Group (EWRG), John Deslippe is active in many project aspects related to environmental science. Coastal restoration and shoreline naturalization, stream and watershed restoration, investigative fieldwork, wetland delineation, floral and faunal survey and monitoring, riparian habitat assessment, watershed advisory group technical support, and Geographic Information Systems projects are among the activities John is regularly engaged in with OHM Advisors.

His breadth of experience includes an extensive background in landscape construction, as well as horticultural production and the application of native plants in urban and suburban settings. John is International Society of Arborists certified and State of Michigan certified construction stormwater operator as well as a master raingardener. Professional level trainings completed by John included fluvial geomorphology, wetland ecology and restoration, identification of plants of North Central/Northeast Region, winter woody plant identification, hydric soil analysis, wetland delineation, engineered bioretention design and maintenance, and stream habitat assessment methodology.

Thurston Pond Transplant Candidates



STA 0+75
Medium floristic quality

- Spikenard (*Aralia racemosa*, C-8)
- Spicebush (*Lindera benzoin*, C-7)
- Jack-in-the-Pulpit (*Arisaema triphyllum*, C-5)
- Common Trillium (*Trillium grandiflorum*, C-5)
- Bloodroot (*Sanguinaria canadensis*, C-5)
- Wild Ginger (*Asarum canadense*, C-5)

STA 0+50
Medium floristic quality

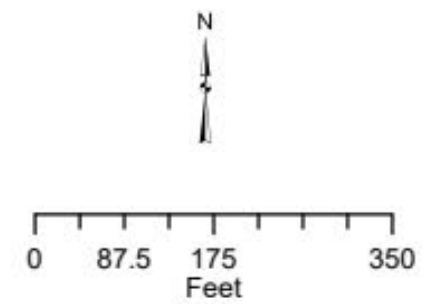
- Jack-in-the-Pulpit (*Arisaema triphyllum*, C-5)

STA 0+25
Low floristic quality

Upland Prairie
High floristic quality

- Rosin Weed (*Silphium integrifolium*, C-10)
- Purple Coneflower (*Echinacea purpurea*, C-10)
- Prairie Dock (*Silphium terebinthinaceum*, C-6)
- Golden Alexanders (*Zizia aurea*, C-6)
- Cut-leaf Coneflower (*Rudbeckia laciniata*, C-5)
- Stiff Goldenrod (*Solidago rigida*, C-5)
- Smooth Aster (*Symphyotrichum laeve*, C-5)

Species	Common Name	C	0+25	0+50	0+75	UPL
<i>Acer negundo</i>	BOX ELDER	0	X	X	X	X
<i>Acer platanoides</i>	NORWAY MAPLE	*			X	
<i>Ambrosia trifida</i>	GIANT RAGWEED	0			X	
<i>Aralia racemosa</i>	SPIKENARD	8			X	
<i>Arctium minus</i>	COMMON BURDOCK	*	X		X	
<i>Arisaema triphyllum</i>	JACK-IN-THE-PULPIT	5		X	X	
<i>Asarum canadense</i>	WILD GINGER	5			X	
<i>Bidens frondosa</i>	COMMON BEGGARS-TICKS	1				X
<i>Calystegia sepium</i>	HEDGE BINDWEED	2				X
<i>Campanula rapunculoides</i>	ROVING/CREeping BELLFLOWER	*			X	
<i>Catalpa speciosa</i>	NORTHERN CATALPA	*		X		
<i>Centaurea stoebe</i>	SPOTTED KNAPWEED	*				X
<i>Cichorium intybus</i>	CHICORY	*				X
<i>Circaea canadensis</i>	ENCHANTER'S NIGHTSHADE	2		X	X	
<i>Cirsium arvense</i>	CANADA/FIELD THISTLE	2			X	X
<i>Daucus carota</i>	QUEEN ANNE'S LACE	*				X
<i>Echinacea purpurea</i>	PURPLE CONEFLOWER	10				X
<i>Elymus canadensis</i>	CANADA WILD RYE	5				X
<i>Erigeron annuus</i>	DAISY FLEABANE	0				X
<i>Eutrochium maculatum</i>	JOE PYE WEED	4	X			
<i>Frangula alnus</i>	GLOSSY BUCKTHORN	*		X		
<i>Fraxinus pennsylvanica</i>	GREEN ASH, RED ASH	2		X		
<i>Geum canadense</i>	WHITE AVENS	1		X		
<i>Gleditsia tricanthos</i>	HONEY LOCUST	8		X		
<i>Helianthus tuberosus</i>	JERUSALEM ARTICHOKE	6				X
<i>Impatiens capensis</i>	JEWELWEED	2	X			
<i>Lamiaceae (mint family)</i>	UNKNOWN					X
<i>Ligustrum sp.</i>	PRIVET	*				X
<i>Lindera benzoin</i>	SPICEBUSH	7				X
<i>Lonicera spp.</i>	HONEYSUCKLE (NON-NATIVE)	*	X	X		
<i>Lotus corniculatus</i>	BIRDSFOOT TREFOIL	*				X
<i>Medicago sativa</i>	ALFALFA	*				X
<i>Melilotus albus</i>	WHITE SWEET-CLOVER	*				X
<i>Monarda fistulosa</i>	WILD BERGAMOT, BEE BALM	2				X
<i>Oenothera villosa</i>	EVENING-PRIMROSE	4				X
<i>Oxalis fontana</i>	YELLOW WOOD-SORREL	0			X	X
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	5	X	X		
<i>Pentstemon digitalis</i>	FOXGLOVE BEARDTONGUE	2				X
<i>Persicaria maculosa</i>	HEART'S EASE, LADY'S THUMB	*				X
<i>Persicaria virginiana</i>	JUMPSEED	4	X			
<i>Phalaris arundanaceae</i>	REED CANARY GRASS	*				X
<i>Phytolacca americana</i>	POKEWEED	2	X	X		
<i>Picea glauca</i>	WHITE SPRUCE	3		X		
<i>Populus deltoides</i>	COTTONWOOD	1		X		
<i>Potentilla sp.</i>	CINQUEFOIL					X
<i>Prunus virginiana</i>	CHOKECHERRY	2			X	
<i>Ratibida pinnata</i>	YELLOW CONEFLOWER	4				X
<i>Rhamnus cathartica</i>	COMMON BUCKTHORN	*	X	X	X	
<i>Rosa multiflora</i>	MULTIFLORA ROSE	*		X	X	
<i>Rubus strigosus</i>	WILD RED RASPBERRY	2	X			
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1				X
<i>Rudbeckia laciniata</i>	CUT-LEAF CONEFLOWER	6				X
<i>Rumex crispus</i>	CURLY DOCK	*				X
<i>Sanguinaria canadensis</i>	BLOODROOT	5			X	
<i>Securigera varia</i>	CROWN VETCH	*				X
<i>Silphium integrifolium</i>	ROSIN WEED	10				X
<i>Silphium terebinthinaceum</i>	PRAIRIE-DOCK	6				X
<i>Solidago altissima</i>	TALL GOLDENROD	1				X
<i>Solidago rigida</i>	STIFF GOLDENROD	5				X
<i>Symphiotrichum sp.</i>	ASTER			X		
<i>Symphyotrichum laeve</i>	SMOOTH ASTER	5				X
<i>Symphyotrichum sp.</i>	ASTER					X
<i>Taraxacum officinale</i>	DANDELION	*			X	
<i>Tilia americana</i>	BASSWOOD, LINDEN	5	X			
<i>Toxicodendron radicans</i>	POISON IVY	2		X		
<i>Trillium grandiflorum</i>	COMMON TRILLIUM	5			X	
<i>Ulmus americana</i>	AMERICAN ELM	1		X	X	
<i>Verbascum thapsus</i>	COMMON MULLEIN	*				X
<i>Verbena stricta</i>	HOARY VERVAIN	*				X
<i>Vitis riparia</i>	RIVERBANK GRAPE	3	X	X		
<i>Zizia aurea</i>	GOLDEN ALEXANDERS	6				X



OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System:
Map Published: July 21, 2021



Plant Protection Laws

State of Michigan

- **NREPA- NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (EXCERPT) Act 451 of 1994**

“A person shall not take, possess, transport, import, export, process, sell, offer for sale, buy, or offer to buy, and a common or contract carrier shall not transport or receive for shipment, any species of fish, plants, or wildlife appearing on the list”

US Federal Law:

- **ENDANGERED SPECIES ACT of 1973**

Designed to protect critically imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation.”

- **LACEY ACT, 1990**

It is unlawful to import, export, sell, acquire, or purchase fish, wildlife or plants that are taken, possessed, transported, or sold: 1) in violation of U.S. or Indian law, or 2) in interstate or foreign commerce involving any fish, wildlife, or plants taken possessed or sold in violation of State or foreign law.

Nature Trails Closure Update



Next Steps

Tentative Construction Schedule

(Subject to Change – based on weather and other factors)

7/21/21	Thurston Pond Temporary Water Draining Begins
7/23/21	Contractor Selected for Work
7/27/21	Thurston Nature Center Committee Update Meeting
8/2/21	Nature Paths Closed for Stormwater Repairs
8/2/21	Contractor Work Begins - Site Clearing/Staging
8/27/21	Contractor Work Complete
Sept/Oct	Site Restoration (Following Completion of Repair)

*****AAPS will provide regular weekly updates throughout the project*****



Questions?
