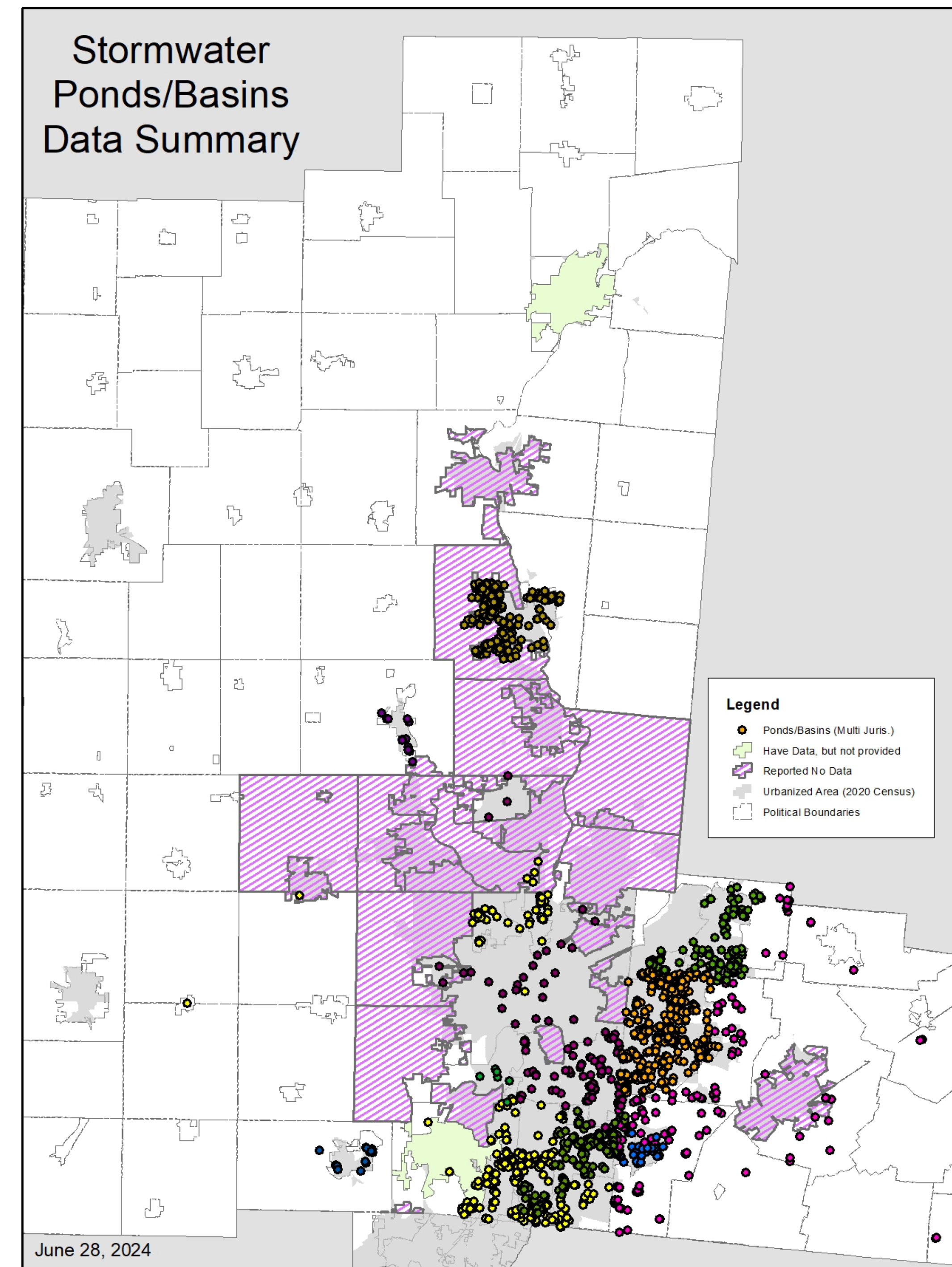


Regional Stormwater Data Review

- Surveyed all MS4 jurisdictions in the 6 counties
- Have any data:
 - ~55% of jurisdictions had some pond data – almost all in electronic format
 - ~45% of jurisdictions did not
- Attributes of electronic data was unique to each jurisdiction:
 - Common – location information, pond type (wet vs. dry)
 - Less common – owner, engineering info, inspection history
- Conclusions:
 - Creating a unified regional dataset would be cumbersome.
 - Inclusion or Exclusion of private ponds was a key difference between communities. Not clear that a “best practice” has emerged.
 - Map and summary report available upon request



Stormwater Data Management at City of Centerville

David Swanson, P.E.
September 18, 2024



*City of
Centerville*

Goals of Detention/Retention Mapping

- Pond information management
- Pond locating
- Inspection tracking
- Follow-up action tracking
- Satisfy NPDES Requirement

Inspections

- OHQ000004 Permit requires inspection of detention/retention ponds
- Maintenance Issues lead to:
 - Diminished capacity
 - Water quality issues
 - Eyesore
- 191 Detention/Retention Ponds
- Inspection form from OEPA

Dry Pond or Dry Extended Detention Basin Inspection and Maintenance Checklist

Facility: 78		
Location/Address: Water site South Metro Park #1		
Date: 7/12/24	Time: 10:45	Weather Conditions: Sunny
Inspector: B.M.		Title: Eng. Intern
Rain in Last 48 Hours: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, list amount and timing:		
Pretreatment: <input checked="" type="checkbox"/> vegetated filter strip <input type="checkbox"/> swale <input type="checkbox"/> forebay <input type="checkbox"/> other, specify:		
Site Plan or As-Built Plan Available: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Inspection Item	Comment	Action Needed
1. PRETREATMENT		
Sediment has accumulated.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	woody veg. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Trash and debris have accumulated.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. DEWATERING		
The water quality orifice is visible.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. INLETS		
Inlets are in poor structural condition.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sediment has accumulated and/or is blocking the inlets.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	bits of woody veg. blocking <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Erosion is occurring around the inlets.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. EMBANKMENT		
Sinkholes or cracks are visible in the embankment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Trees or woody vegetation present on the dam or embankment.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. BASIN OR BOWL AREA		
Trash and debris have accumulated.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Invasive plants are present.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Erosion is evident on the basin floor or low flow channel.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
The micro-pool has sediment accumulation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sinkholes or animal borrows are present.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. SIDE SLOPES AND EMBANKMENT		
Erosion is evident.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sinkholes, animal borrows or instability are present.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
6. OUTLETS AND OVERFLOW STRUCTURE		
Outlets or overflow structures in poor structural condition.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sediment, trash or debris is blocking the outlets or overflow structure.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Erosion is occurring around the outlets or overflow structure.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No
Joints are not water tight and/or leaks are visible.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No

Additional Notes

Number of Inlets and Their Size:
2 - ?

Size of Outlet:
?

Wet weather inspection needed Yes No

Outlet Sketch:

Initial Steps

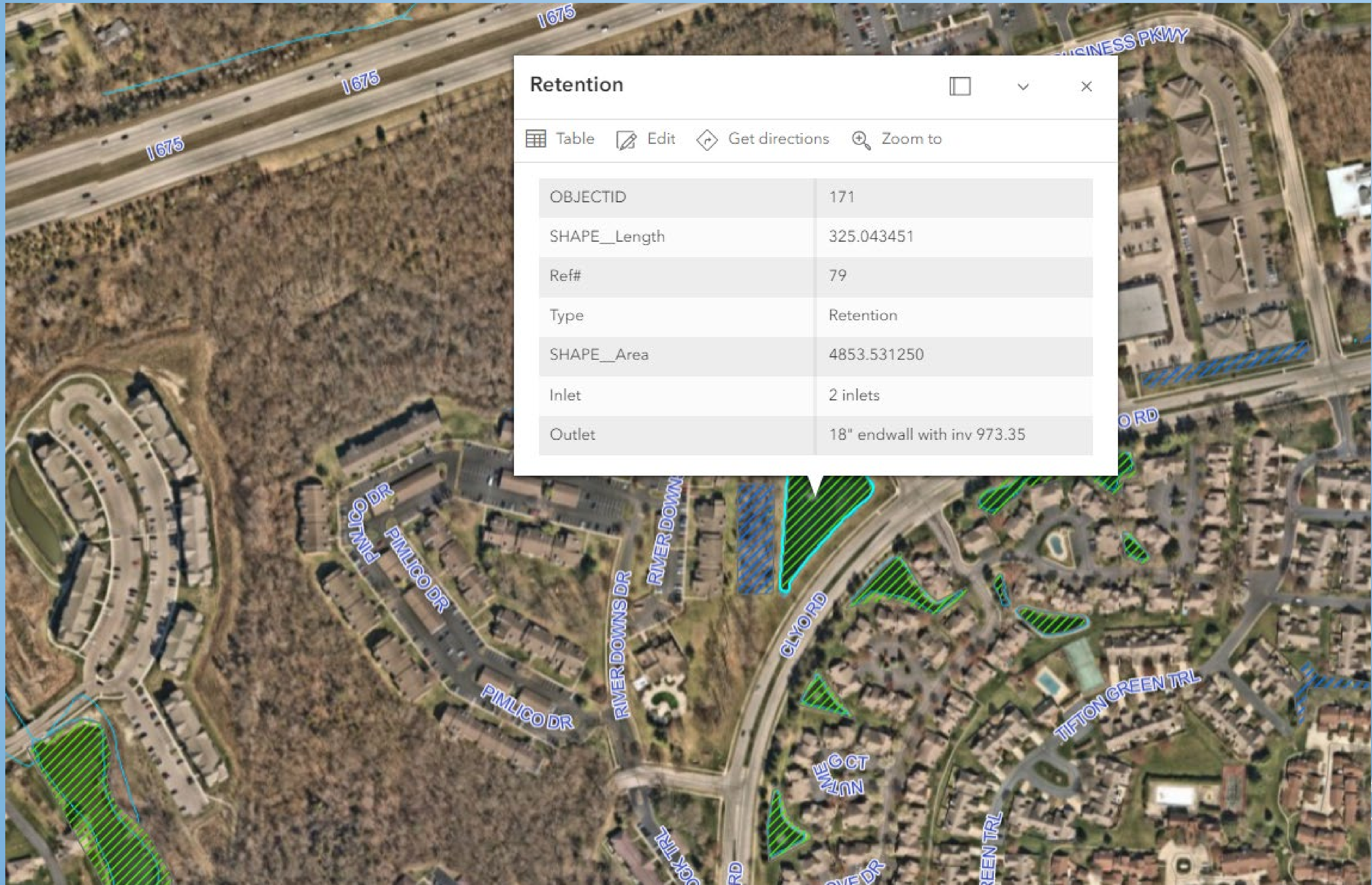
- Updated database
 - Added inspection fields
 - Added new developments
- Discussed goals and needs with GIS team

	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Detention & Retention Ponds within Centerville City Limits																
2	Ref. #	Name	Address/Location	Type	Year built	Storage Provided (ft ³)	Critical Year	Inlet	Outlet	Current Condition	Construction Drawing	X Coordinate	Y Coordinate	100 Yr Floodplain?	Inspection Date	Action Needed	Follow Up Completed
46	44	Stone Lake #1	In Stone Lake Dr circle. East pond	Retention				15" STM to endwall			http://maps.centervilleohio.gov/eSCANS/StoneLake/StoneLake%20Lake.pdf	39.66260	84.14440	no	6/24/2024	no	
47	45	Stone Lake #2	In Stone Lake Dr circle. West pond	Retention				12" STM to endwall	12" STM, 2.2B CB		http://maps.centervilleohio.gov/eSCANS/StoneLake/StoneLake%20Lake.pdf	39.66240	84.14500	no	6/24/2024	no	
48	46	Stone Lake #3	NW of Fairhaven Church	Retention				18" endwall and 48" endwall	4'x6' headwall, 4'x6' box culvert		http://maps.centervilleohio.gov/eSCANS/StoneLake/StoneLake%20Lake.pdf	39.66060	84.14610	no	3/13/2024	no	
49	47	Iron Horse Park	NW of baseball fields	Detention	1992	12919	10		96" manhole @ inv 968.2		See file M.1.106	39.65600	84.14000	no	2002		
50	48	Infiniti of Dayton	299 Loop Rd	Detention	1990	32700	100	15" STM and 18" STM	CB @ 952.8 to concrete chute to 12" STM		See file #693	39.64981	84.14989	no	2002		
51	49	Voss - 99 Loop Rd	Between 99 & 299 Loop. In parking lot	Detention	1990	6214	100		three 215' - 42" CMP @ 0.20% slope; overflow weir			39.64953	84.15070	no			
52	50	Voss Inventory Lot	290 Loop Rd. Behind Lot	Detention	2002, 2016			18" STM, 15" STM, 12" STM			N:\Drainage\Detention Ponds\Detention Pond Info\E3 Voss Inventory Lot	39.65070	84.15000	no			
53	51	Chardonnay Valley	off Loop Rd & 725	Retention	1988	125540	25	30" STM	Weir @ 897'; 12" STM w rock protection channel		http://maps.centervilleohio.gov/eSCANS/ChardonnayValley/Chardonnay%20Valley%20Section%201.pdf	39.64600	84.14300	yes	2002		
54	52	Deer Run #1	Behind Buck Spring Ct	Retention				3 inlets: 15" STM with riprap,	Cb to 18" STM, flow restrictive grate		http://maps.centervilleohio.gov/eSCANS/Deer%20Run/Deer%20Run%20Phase%201.pdf	39.63900	84.14000	no	6/24/2024	no	
55	53	Deer Run #2	Between Deer Run Rd & Cades Cove	Detention?		.44 acre-ft		15" STM, headwall	12" STM, headwall, CB		file:///N:/SCANS/Deer%20Run/Deer%20Run%20Phase%202&3%20G.P.pdf	39.63700	84.14100	yes			
56	54	Deer Run #3	At the end of Hartcrest Ln	Retention				concrete headwall, riprap, 15" STM	2'-2' CB 12" STM		http://maps.centervilleohio.gov/eSCANS/Deer%20Run/Deer%20Run%20Phase%204.pdf	39.64100	84.14000	no	6/25/2024	no	
57	55	Hillside Apartments #1	off Clys Rd, in Great View Circle	Retention	1987	56574	10	12" STM	10.5" orifice plate in 18" STM pipe, CB		file:///N:/SCANS/HillsideCourt/Hillside%20Court%20B.pdf	39.64432	84.13932	yes	2002		

Map Development

- ArcGIS Pro
- Drew shapes on map
 - Challenges with locating detention ponds
- Applied Attributes
- Simple
- Moved to AGOL, can be edited by users
 - Updates made after inspections





Retention	
OBJECTID	171
SHAPE_Length	325.043451
Ref#	79
Type	Retention
SHAPE_Area	4853.531250
Inlet	2 inlets
Outlet	18" endwall with inv 973.35



< Edit feature

Settings

Ref#

79

Type

Retention

Inlet

2 inlets

Outlet

18" endwall with inv 973.35

CreationDate

MM/DD/YYYY

Creator

EditDate

MM/DD/YYYY

Editor

Update Delete