

City of Hudson
Brandywine Creek Watershed Study

August 11th, 2026





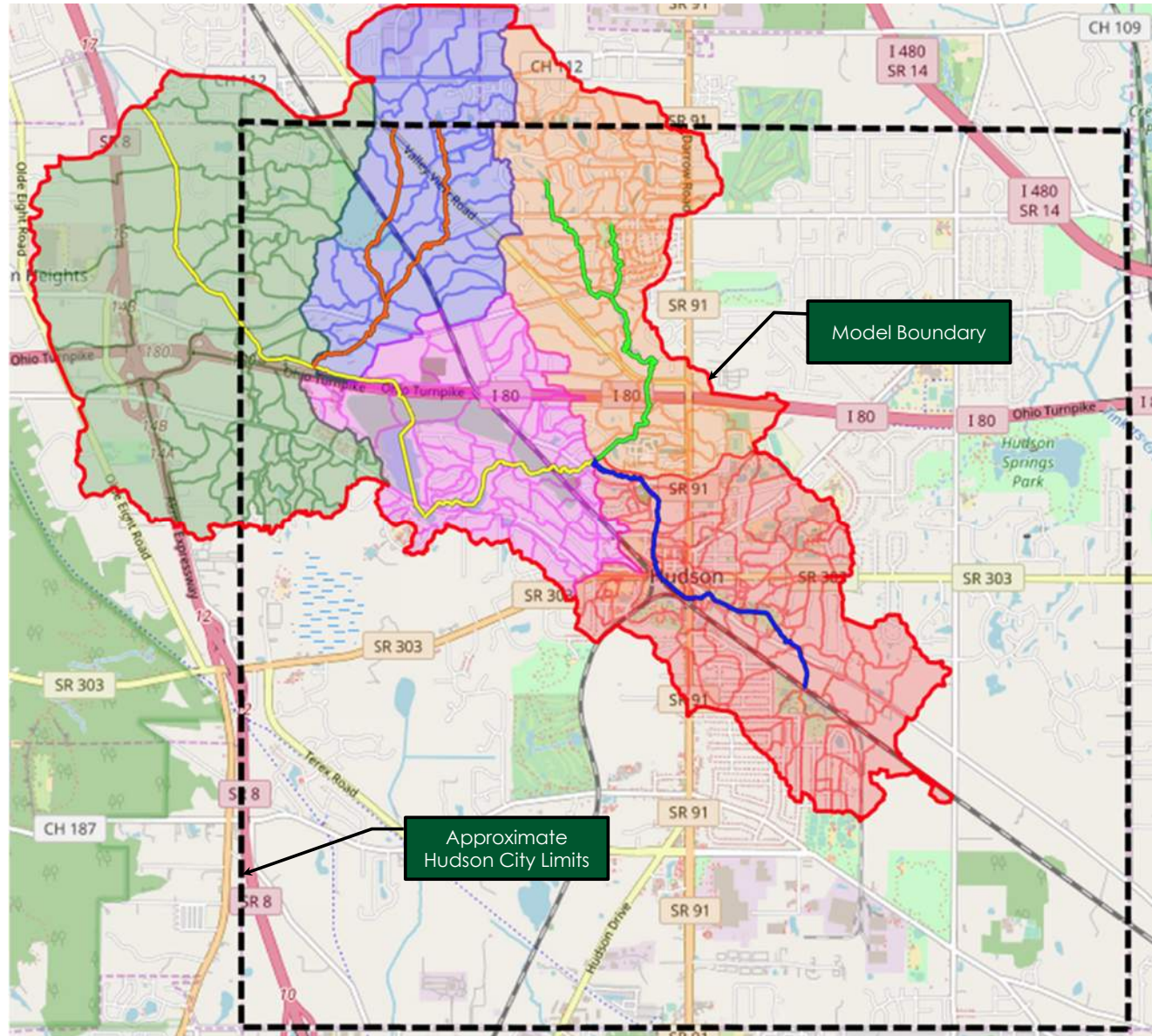
Agenda

1. Overview of Study Area and Background
 2. Past/Current Projects in Watershed
 3. Study Progress to Date
 4. Analysis of Existing Results
 5. Conceptual Alternatives
 6. Questions and Comments
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Overview of Study Area

Study Area Location and Watershed Extent

- Brandywine Creek Watershed
 - East of SR-8
 - West of Stow Rd
 - North of Barlow Rd
 - Includes Downtown Hudson



Study Background

Why the Study is Needed and How it Began

- August 8th, 2024, Rainfall event falls between a 500-year to 2,000-year recurrence interval
- Recommended updated watershed study and reassessment of NEORSD proposed alternatives along with incorporating new alternatives



Recurrence by Number of Years	Probability of Occurrence within a Given Year	Percent Chance of Occurrence within a Given Year	24-Hour Precipitation Depth (inch)	20% Hudson Design Factor
10*	1 in 10	10%	3.53	4.24
25**	1 in 25	4%	4.24	5.09
50	1 in 50	2%	4.84	5.81
100	1 in 100	1%	5.49	6.59
500	1 in 500	0.2%	7.22	8.66

*Sewers are designed to carry a 10-year storm

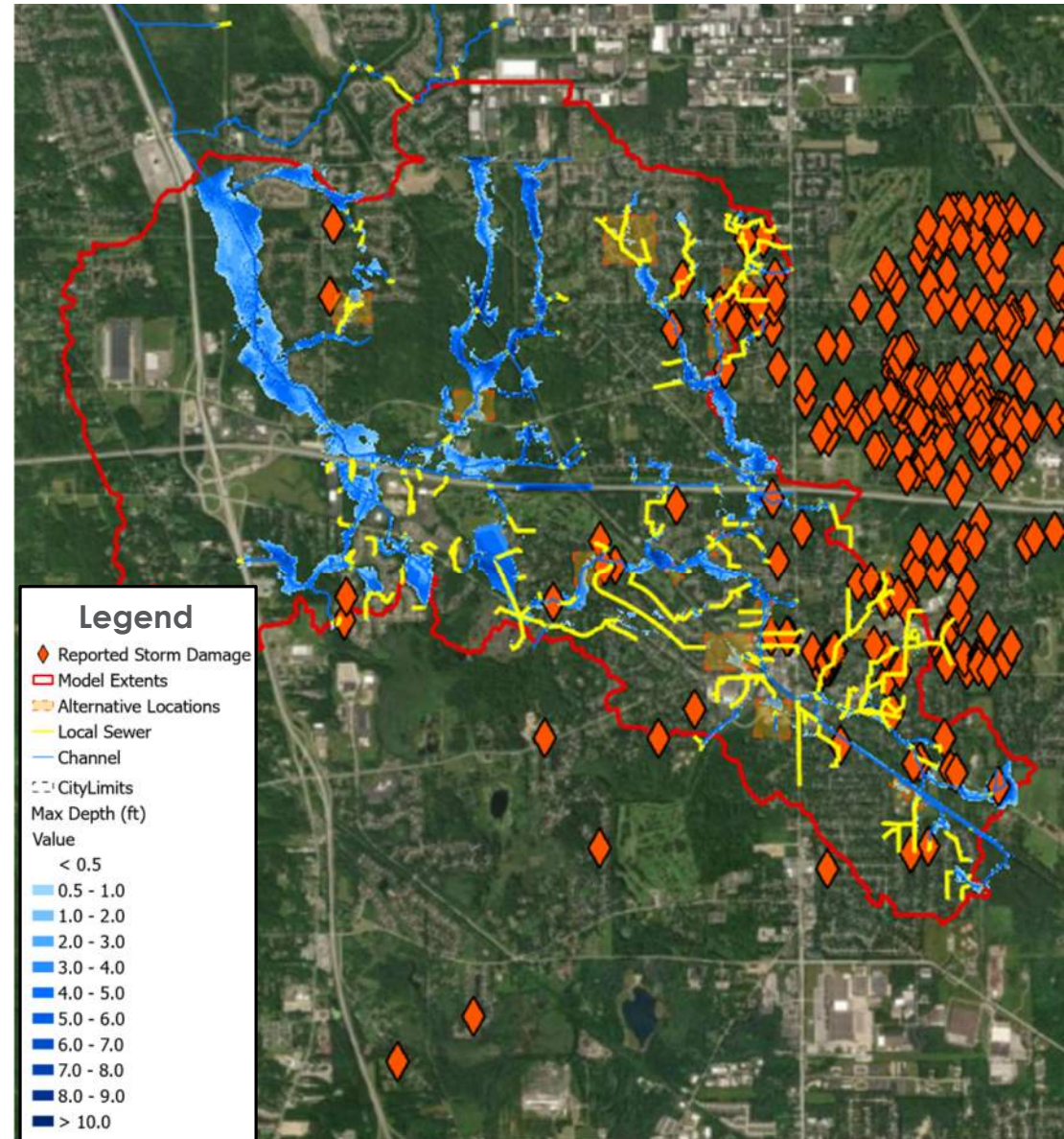
**Culverts/bridges are designed for the 25-year storm at a minimum

City of Hudson

Brandywine Creek Watershed Study

Existing Conditions Analysis

- Evaluate model results versus reported flooding from August 8th event
- Evaluate locations where flooding is the most severe
- Look at locations with the greatest number of properties impacted
- Areas with the worst flooding tend to be the older areas of the City. Some areas have none/limited stormwater management



Past Projects in the Watershed

The City has been actively attempting to provide flood reduction

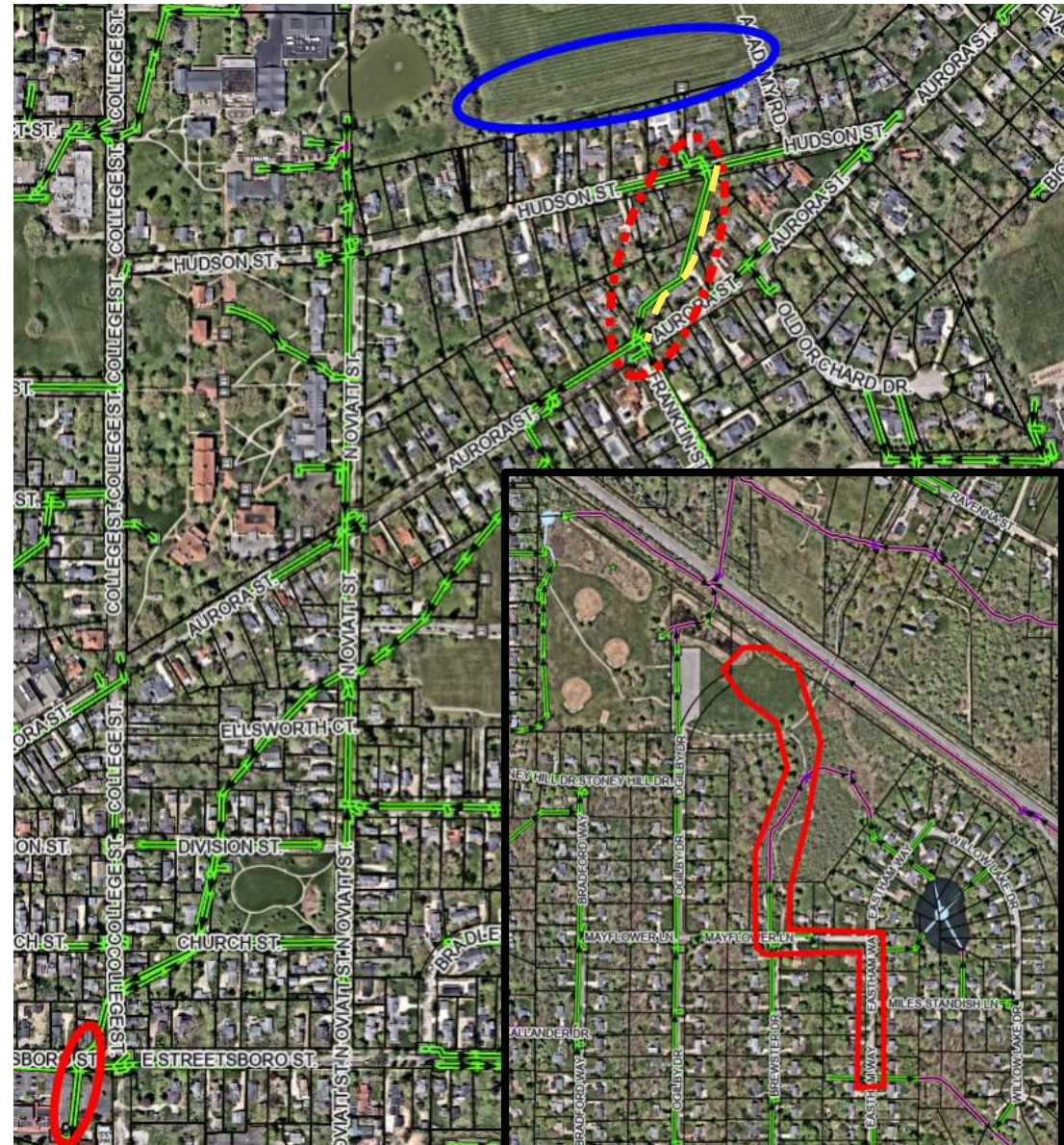
- 1979 – Barlow Ponds were constructed following flooding in 1976 that was the equivalent of 5% annual-chance flood (20-year). Ponds were designed to retain the 2% annual-chance flood (50-year). (Source FEMA FIS)
- 1996 – First Brandywine Creek Watershed Study. Recommendations were based on the 4% annual-chance flood (25-year). (Source Brandywine Creek Stormwater Master Plan CDM)
 - Recommended the basins at Colony Park which were constructed ~2009
- 2003-2006 – Downtown redevelopment which included underground detention
- 2010's – Multiple culvert replacements
- 2019 – NEORSD Stormwater Master Plan
 - 2022 – Barlow Pond - Storage & ODNR Dam Safety Improvements. Storage increased ~8 acre-ft
- 2025 – Ravenna St. Basin



Current Projects in the Watershed under Consideration

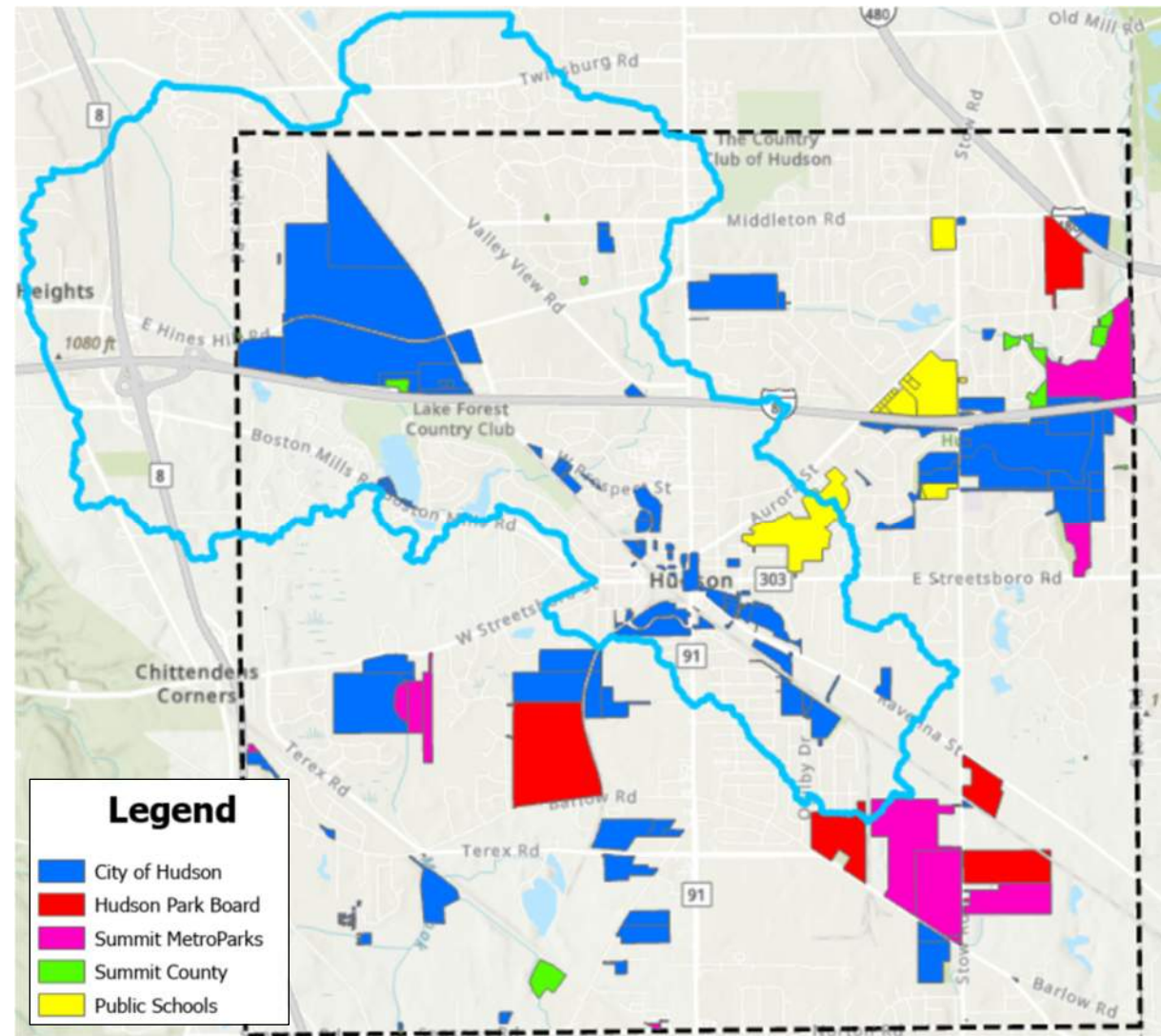
The City has been actively attempting to provide flood reduction

- Storm Sewer upgrades in vicinity of Colony Park
- Storm Sewer upgrades near Rosewood Grill
- Western Reserve Academy Basin upgrades
- Storm Sewer upgrades near Hudson Street and Aurora Street

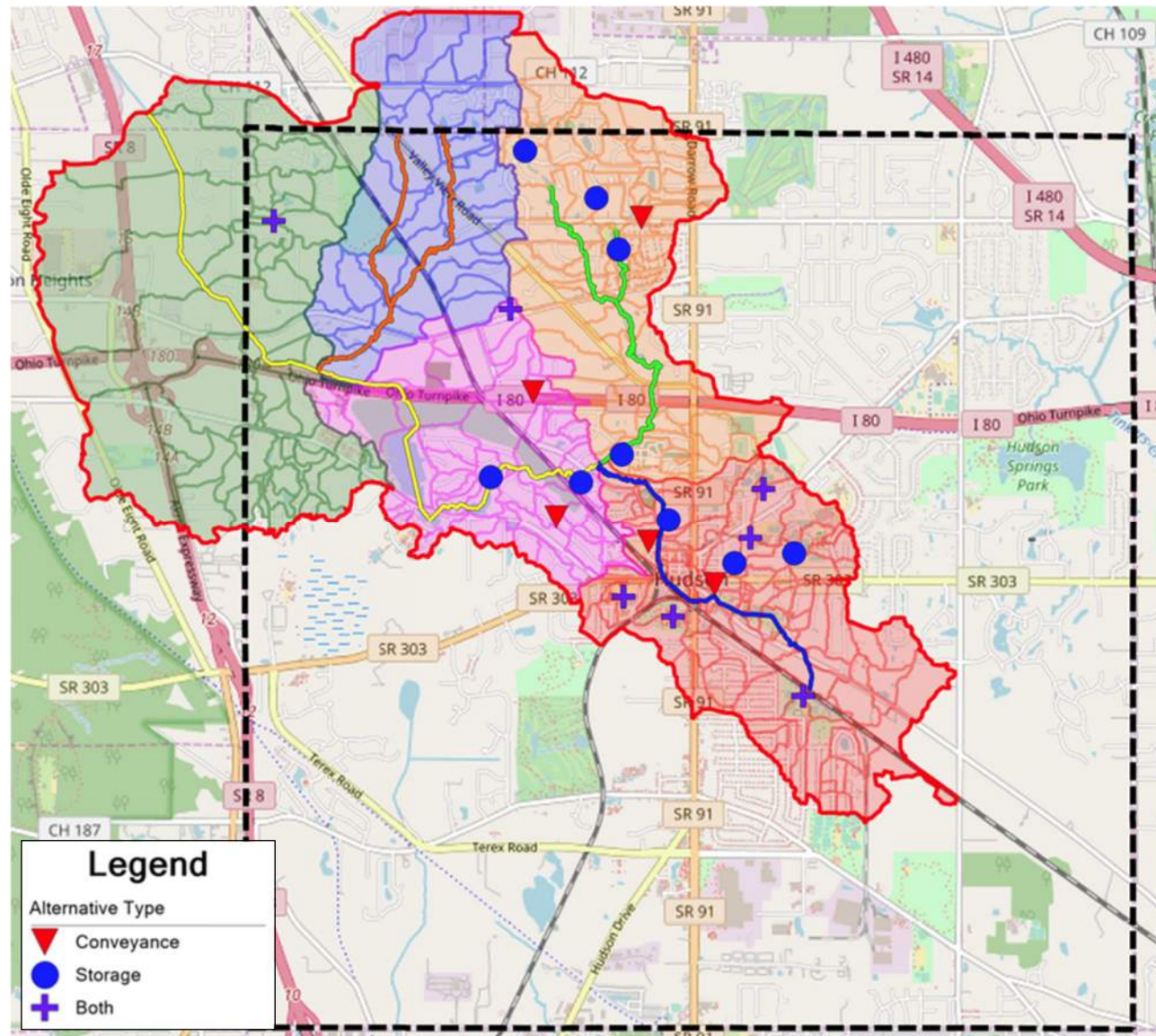


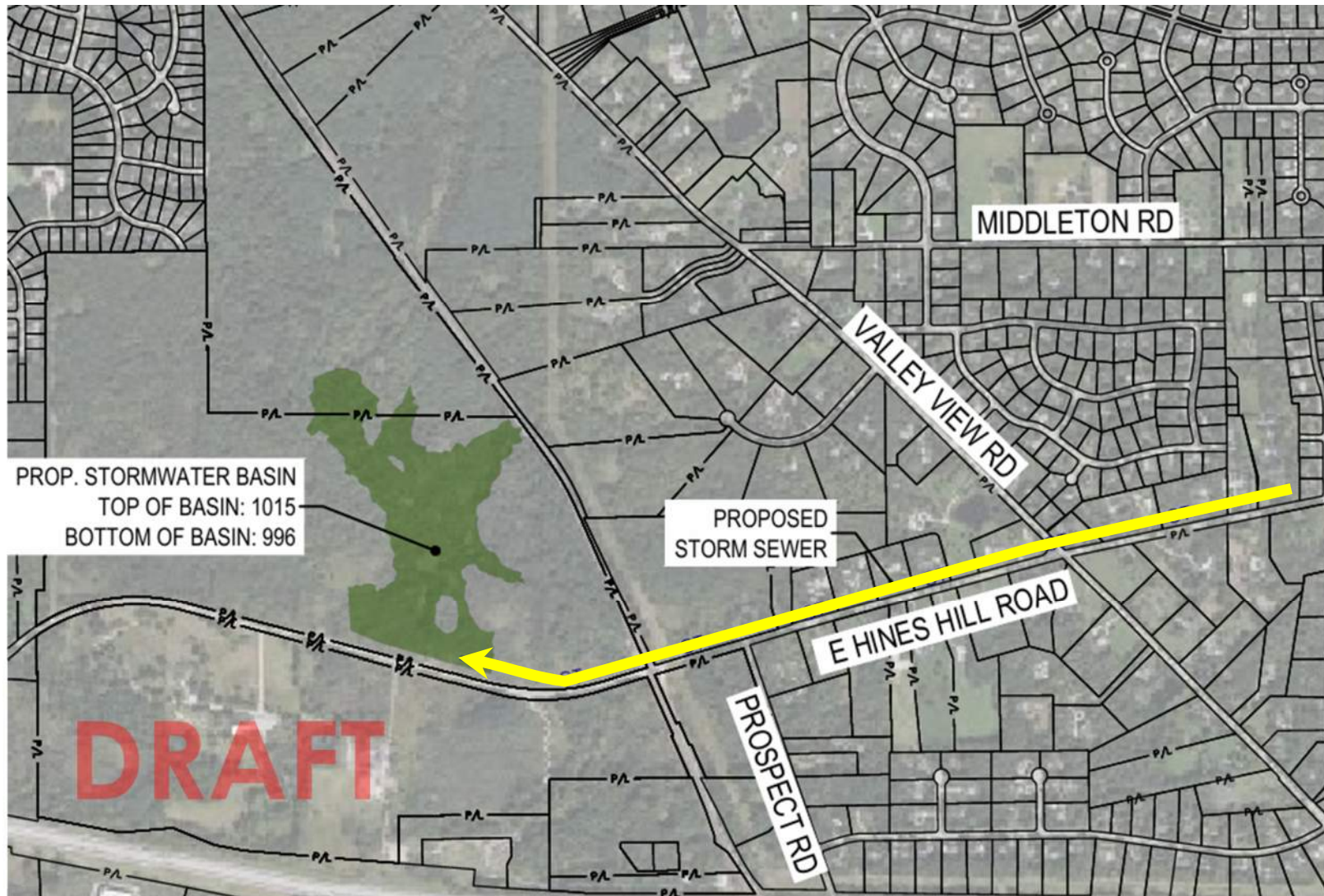
Alternatives Development

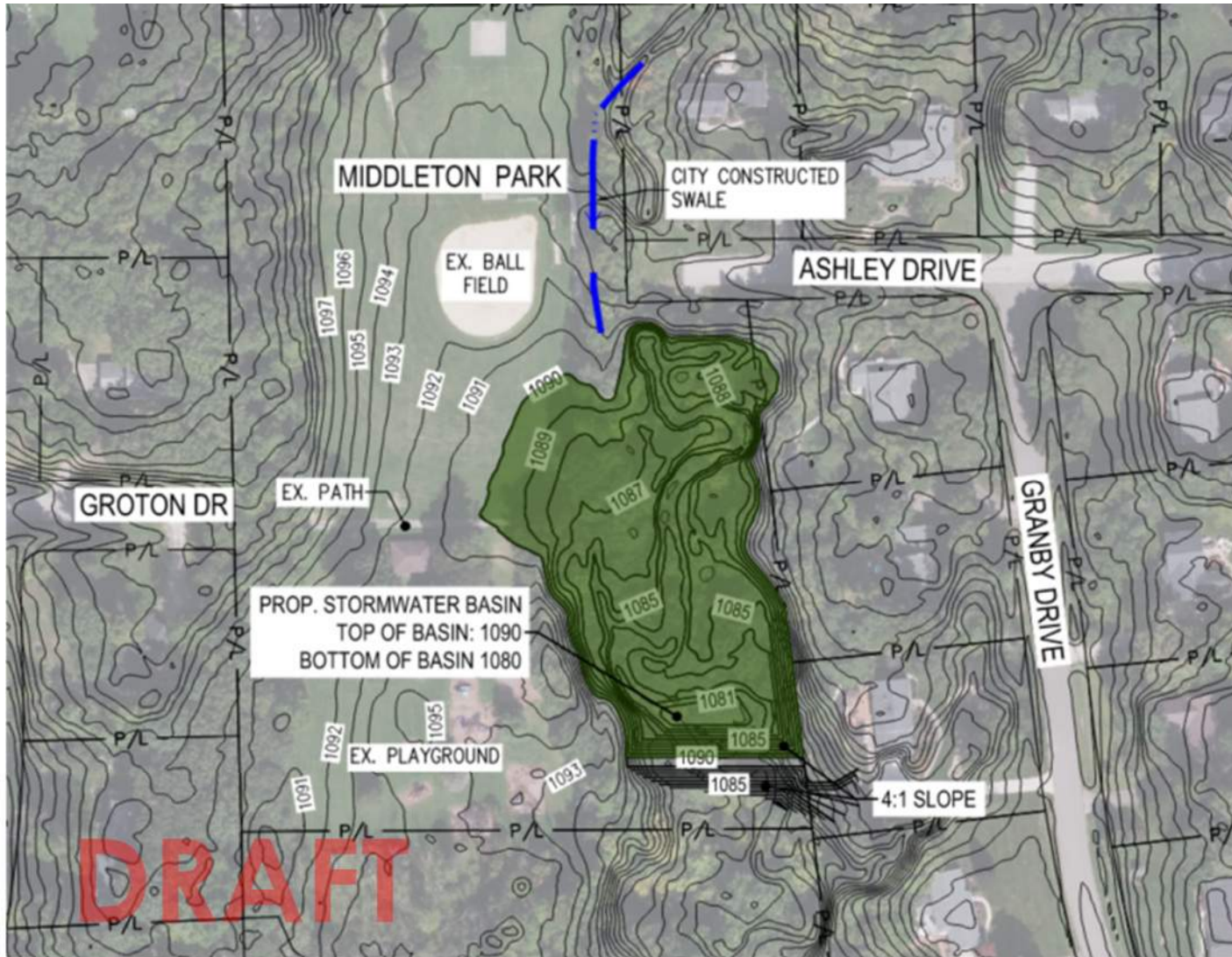
- Prioritize City or Publicly owned properties
- Evaluate Retrofits to Existing Detention Basins
 - Detention Basin Expansion
 - Use Smart Controls to lower water in wet basins before storm event begins
- Storm Sewer Redirection
- Floodplain Expansion/ Stream Restoration
- Smaller projects:
 - Tree planting, rain gardens, rain barrels, downspout disconnection



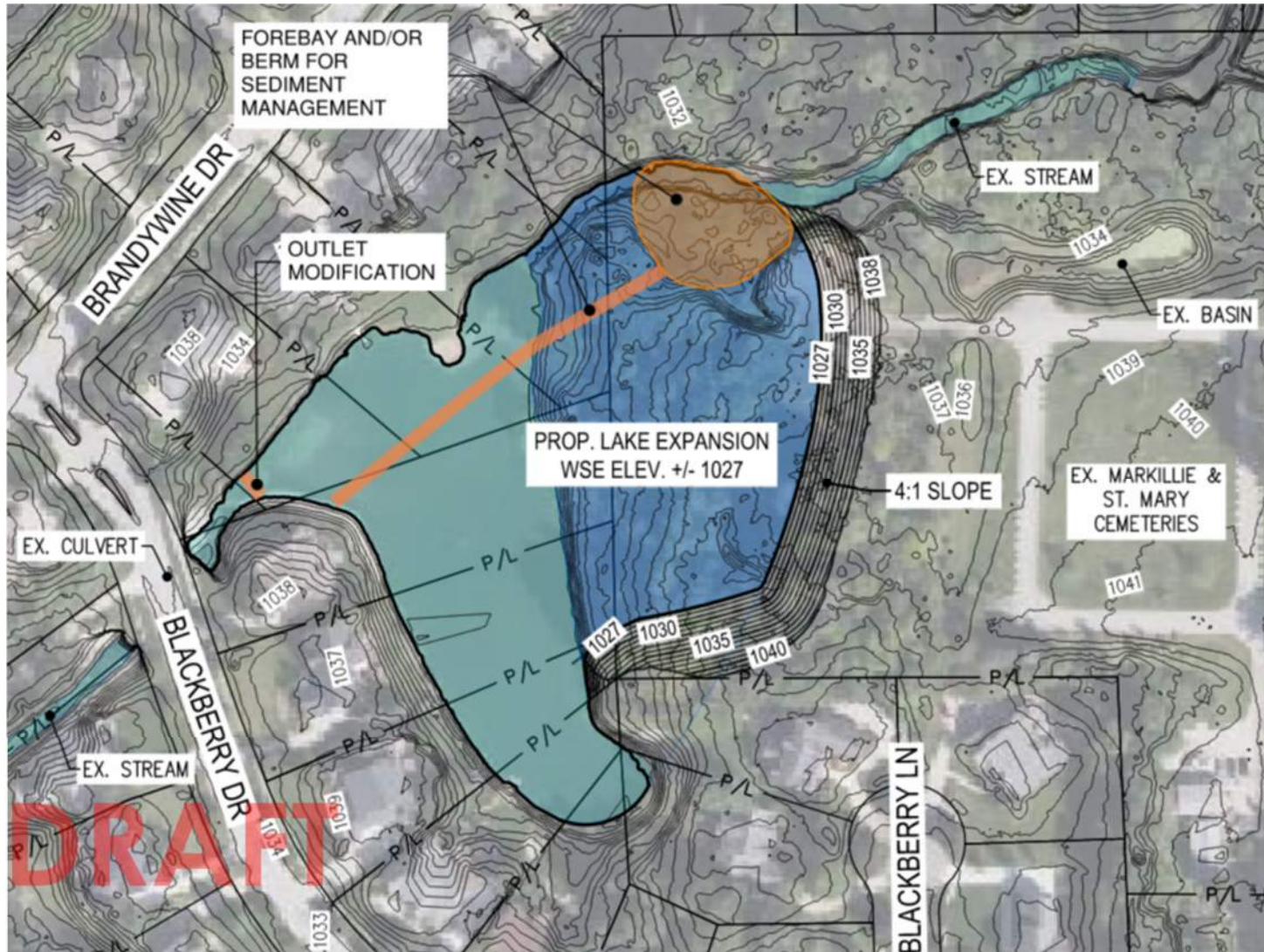
Alternatives Location Map

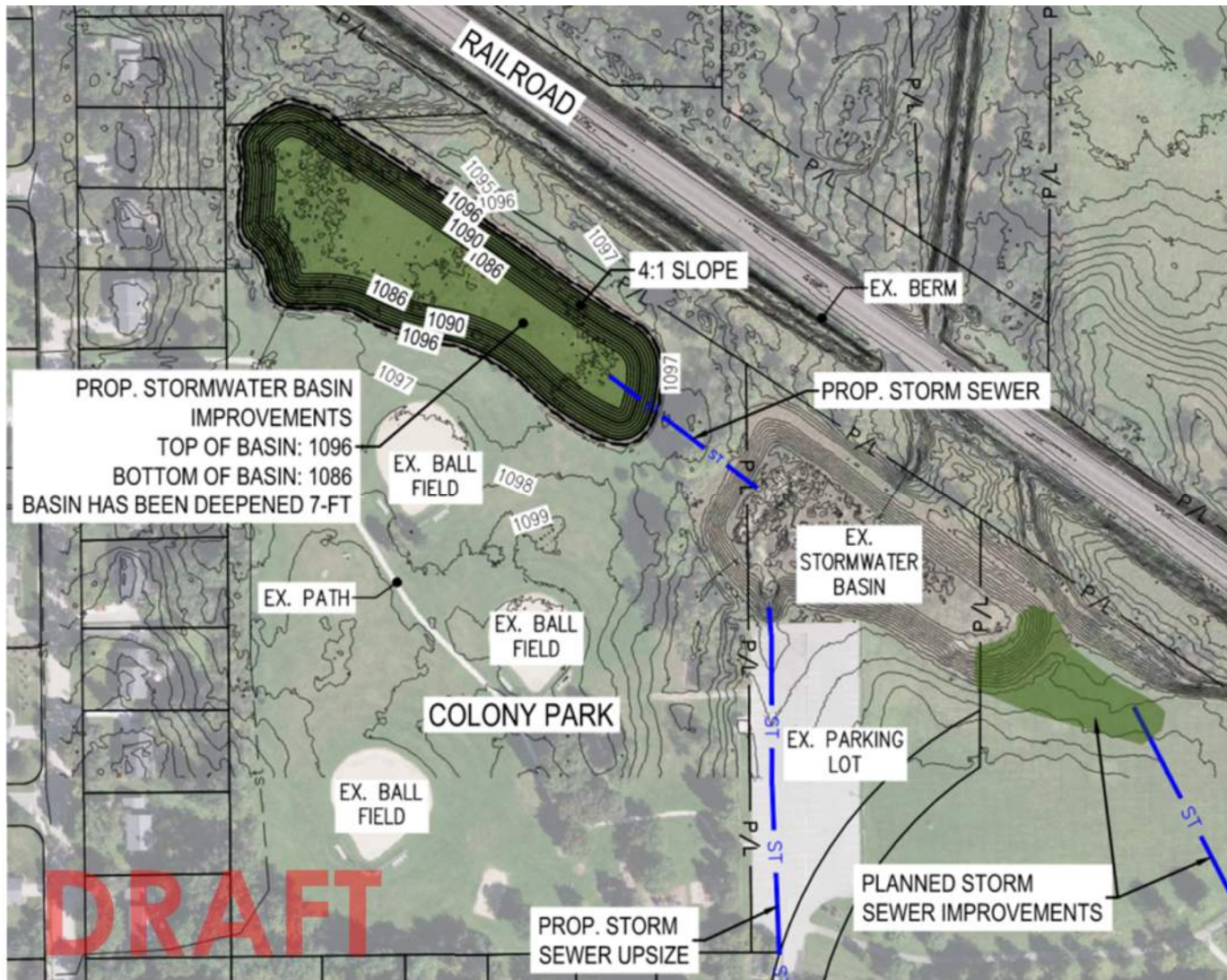


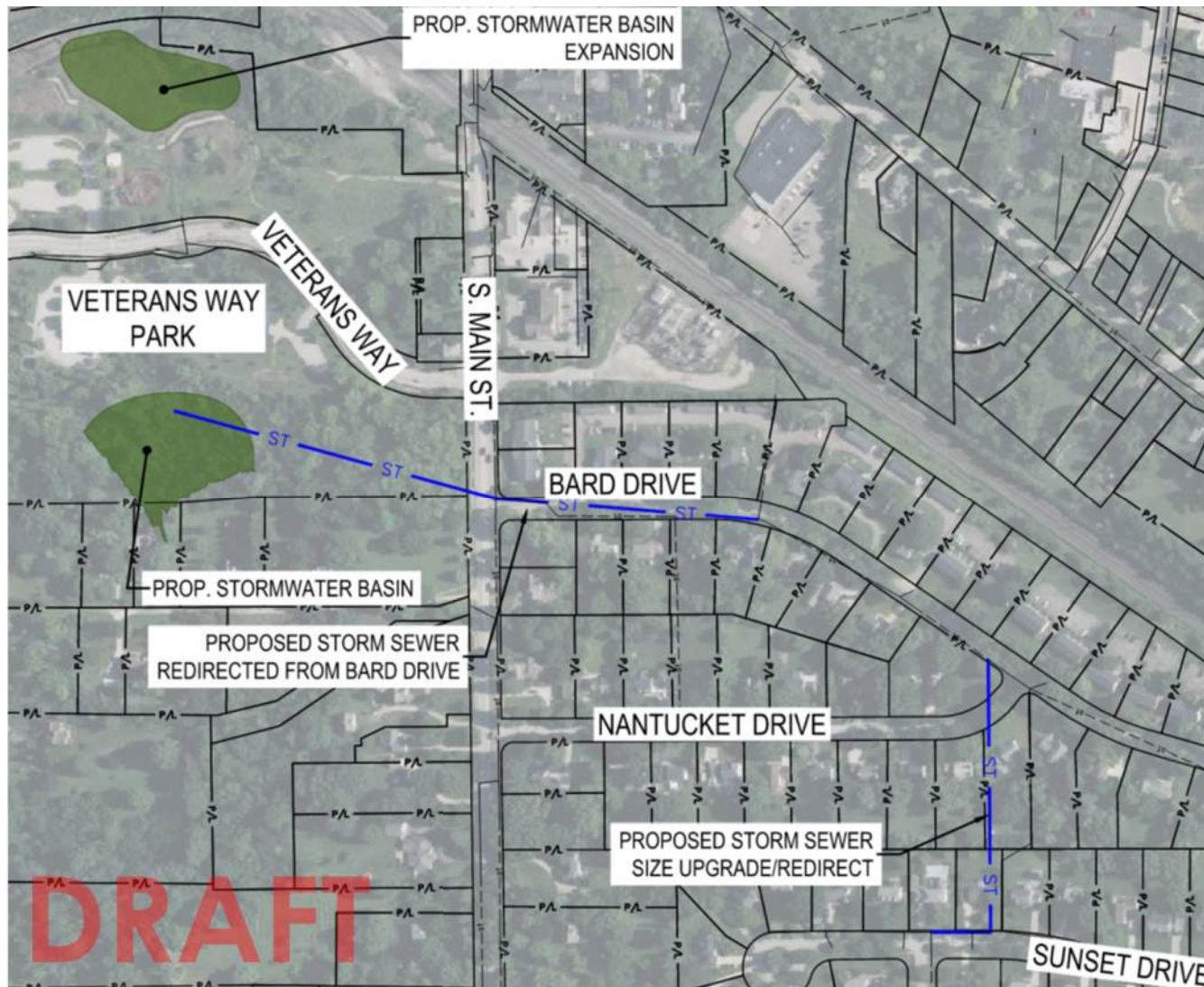


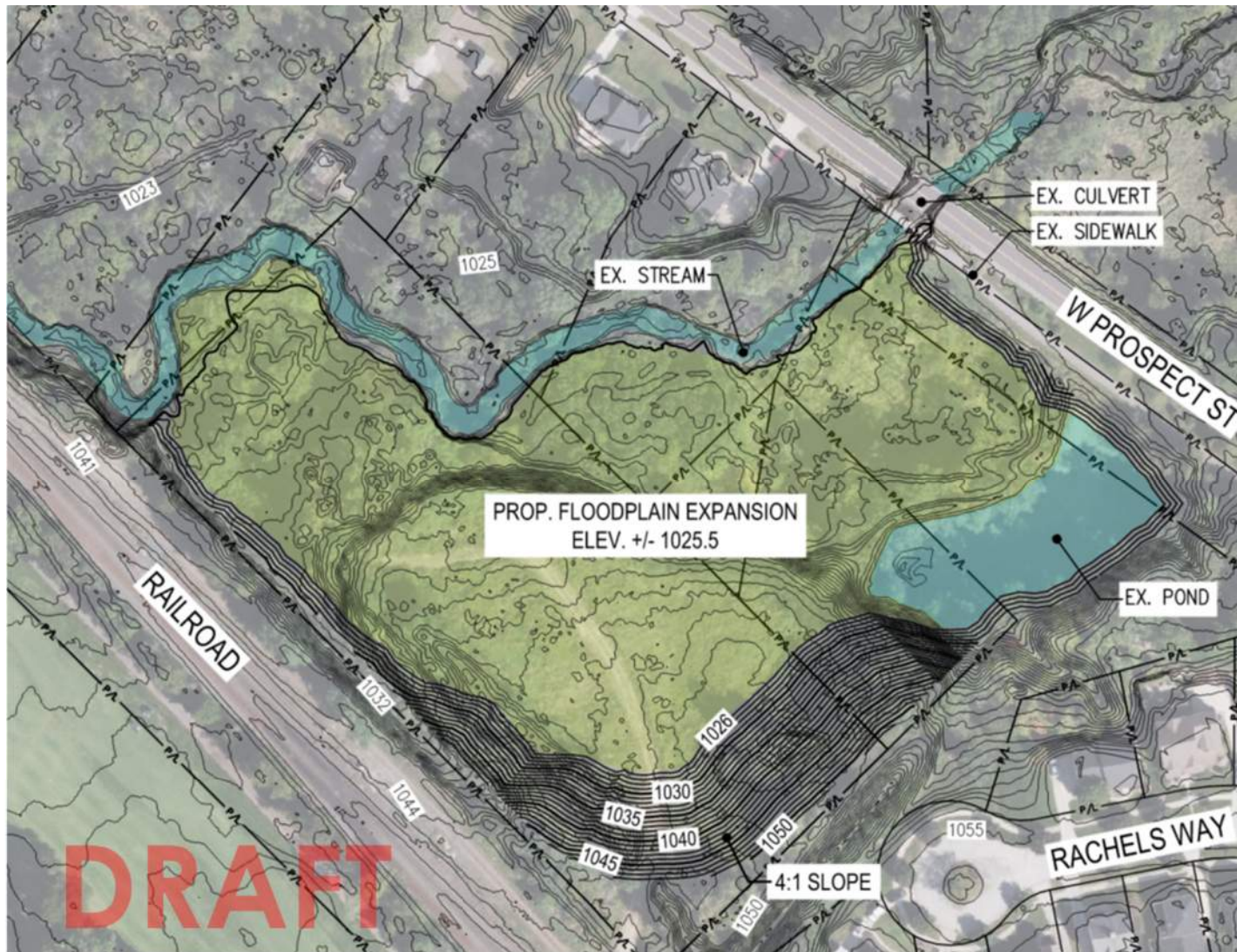












Capital Planning

Draft Project Rankings

1. **Rosewood Grill Storm Sewer**
2. **Norbury Basin and Storm Sewer**
3. **Oviatt St. Park Underground Storage**
4. **Middle School Underground Storage**
5. **Western Reserve Academy Basin and Storm Sewer**
6. Middleton Storm Sewer
7. **Football Field Underground Storage**
8. **Veterans Basins and Storm Sewer**
9. Andover Way Basin Expansion
10. **Colony Park Basin Expansion and Storm Sewer**
11. Atterbury and Brentwood Storm Sewer
12. **Middleton Park Basin**
13. **Morse Road Storm Sewer**
14. **Hudson Plaza Improvements**
15. Haymarket Basin Expansion
16. Winston Manor Basin
17. Pine Lake Expansion

Notes

-The projects that are bold are the recommended projects.

-The total cost of the recommended projects is ~\$24 Million.

-The 17 listed projects were considered feasible from both a cost and constructability standpoint. There were other projects considered that were not feasible due to either cost, constructability, or both.

-These are the initial rankings and may be adjusted after further review by GPD Group and city staff.

-The total cost of the listed projects is ~\$40 Million.

Q&A

