



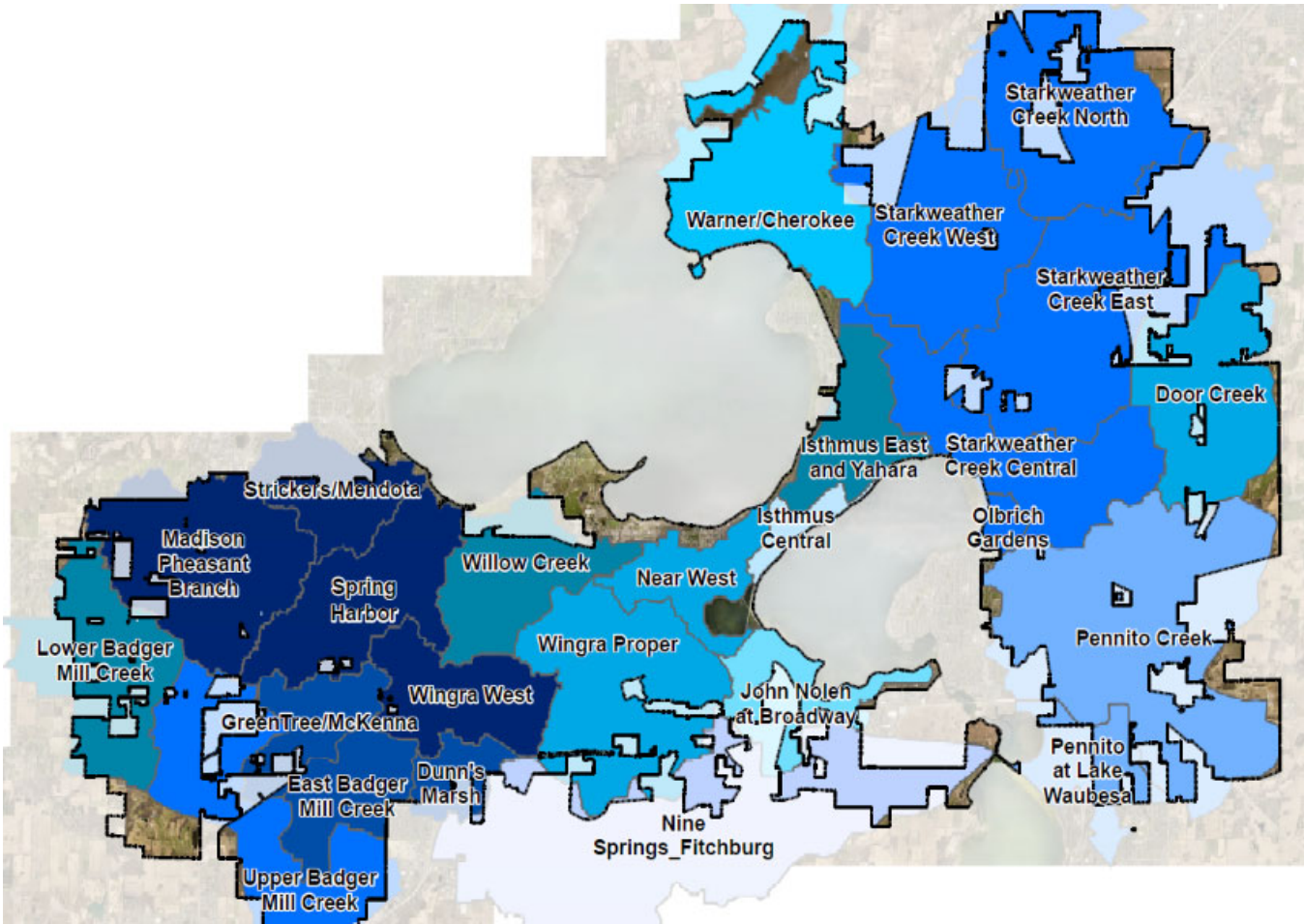
Greentree/McKenna Watershed Study Solutions

City of Madison Engineering Division
Board of Park Commissioners Meeting
April 19, 2023

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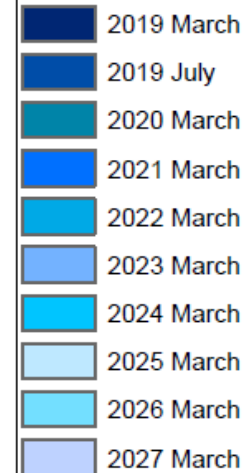
Watershed Study Phasing



Legend

— Municipal Boundary

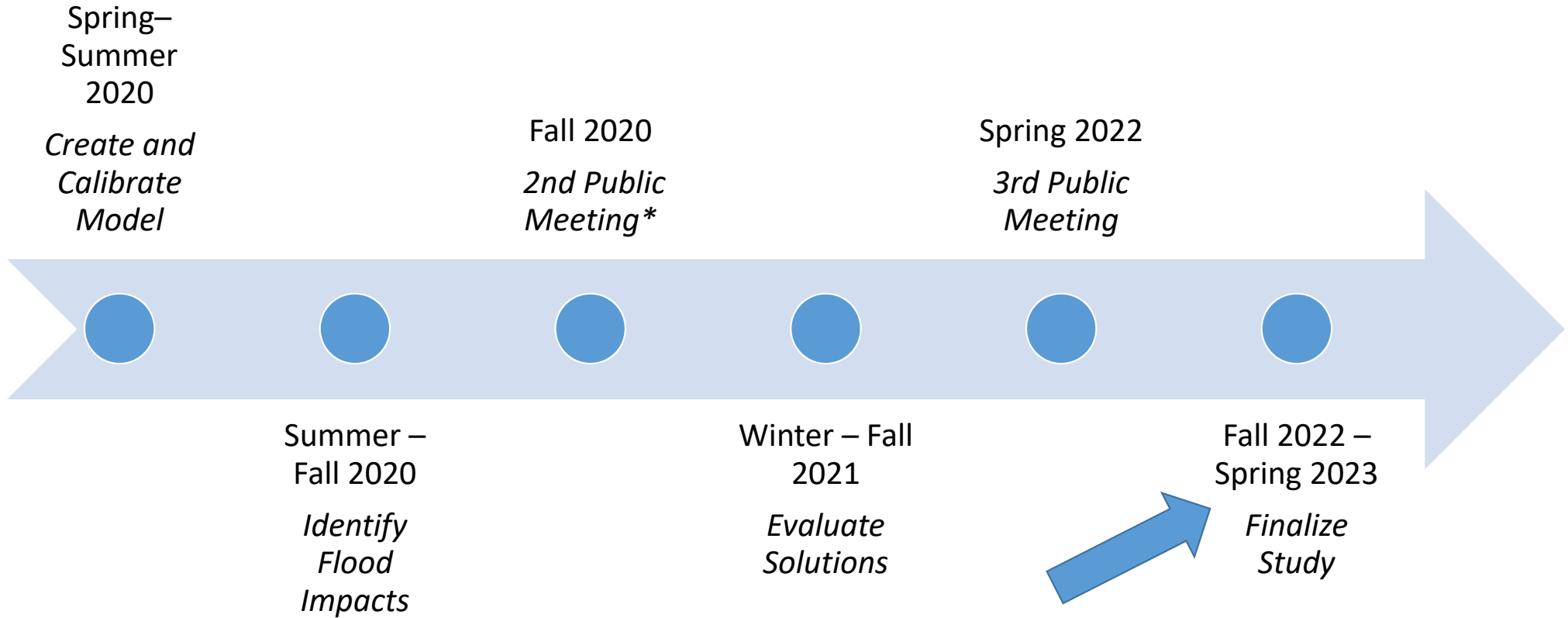
Watershed Study Areas Start Year and Month



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Schedule



*Presentations from PIM1 (Fall 2019) and PIM 2 can be found on the Watershed Study Website

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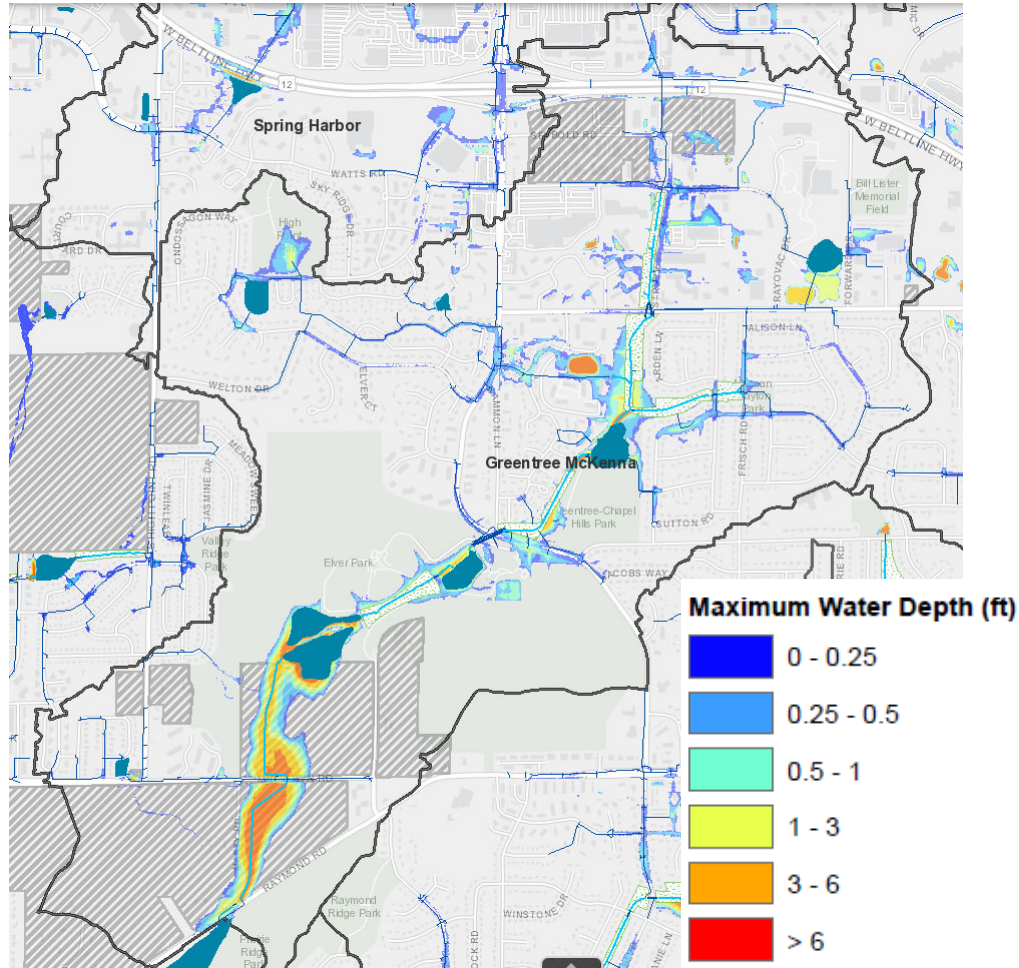
Watershed Study Milestones

- PIM 1: 10/23/19
- PIM 2: 10/1/20
- Mayor's Planning Team: 3/10/22
- PIM 3: 5/12/22
- Report Final Draft Finished: 11/2/22
- Report Public Comment Period: 1/5/23 – 2/6/23
- BPC: 4/19/23
- BPW: 5/3/23
- FINAL REPORT:
- <https://www.cityofmadison.com/engineering/documents/projects/Greentree-McKenna-Watershed-Study-DRAFT-Final-Report.pdf>

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Existing Conditions 1% Chance Event Inundation Mapping



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Proposed Solutions

1. Struck Street, Seybold Road, and Watts Road Reconstruction
2. Forward Drive Reconstruction
3. Schroeder Road Reconstruction*
4. New Washburn Way and S Gammon Road Reconstruction
5. Valhalla Way and N Holt Circle Reconstruction
6. High Point Estates Pond Reconstruction
7. Chapel Hill Road and Greenway Reconstruction*
8. Piping Rock Road and Laurie Drive Reconstruction*
9. McKenna Boulevard Storm Sewer Improvements*
10. Elver Park Greenway Reconstruction*
11. Marty Road/Mid Town Road Regional Pond*

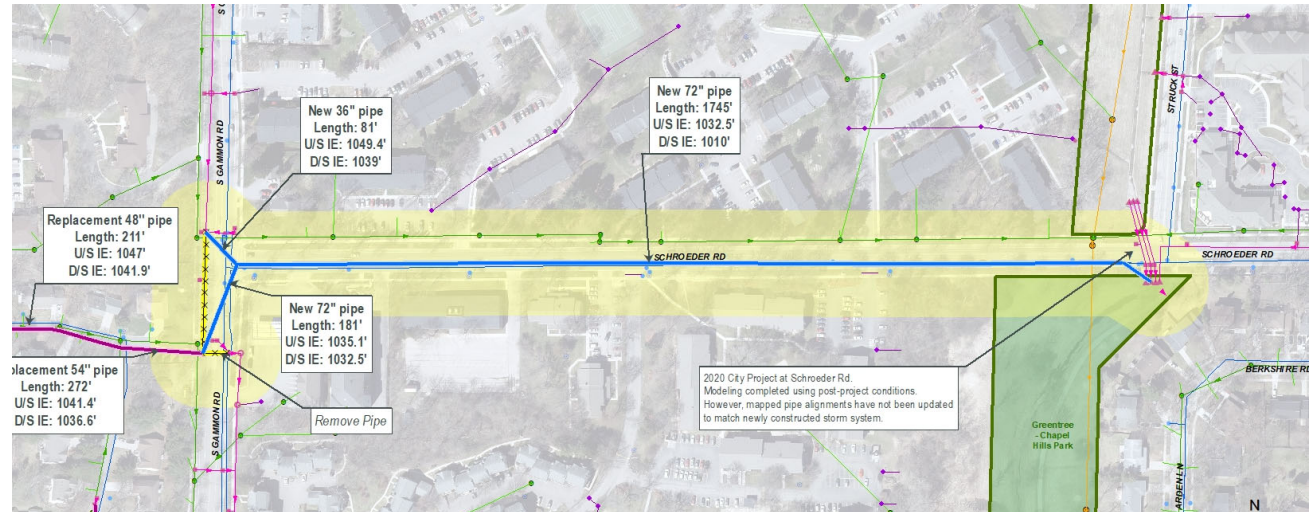
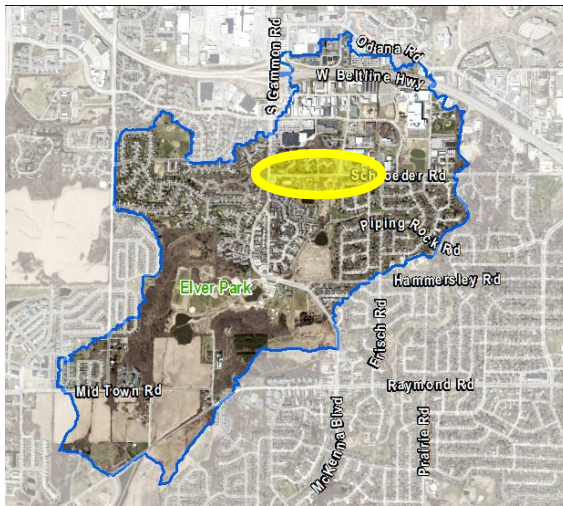


Results

- **10% Chance Storm Event – Target: Eliminate storm sewer surcharge**
 - Existing: 189 out of 264 storm structures do not meet the target
 - Proposed: 98 out of 264 storm structures do not meet the target
- **4% Chance Storm Event – Target: Maintain drivability of city streets**
 - Existing: 2.7 out of 20.8 street miles do not meet the target
 - Proposed: 0.5 out of 20.8 street miles do not meet the target
- **1% Chance Storm Event – Target: No structure flooding**
 - Existing: 48 out of 1,325 buildings do not meet the target
 - Proposed: 20 out of 1,325 buildings do not meet the target
- **1% Chance Storm Event – Target: Pass flow through greenway crossings**
 - Existing: 4 out of 7 greenway crossings do not meet the target
 - Proposed: all 7 greenway crossings DO meet the target



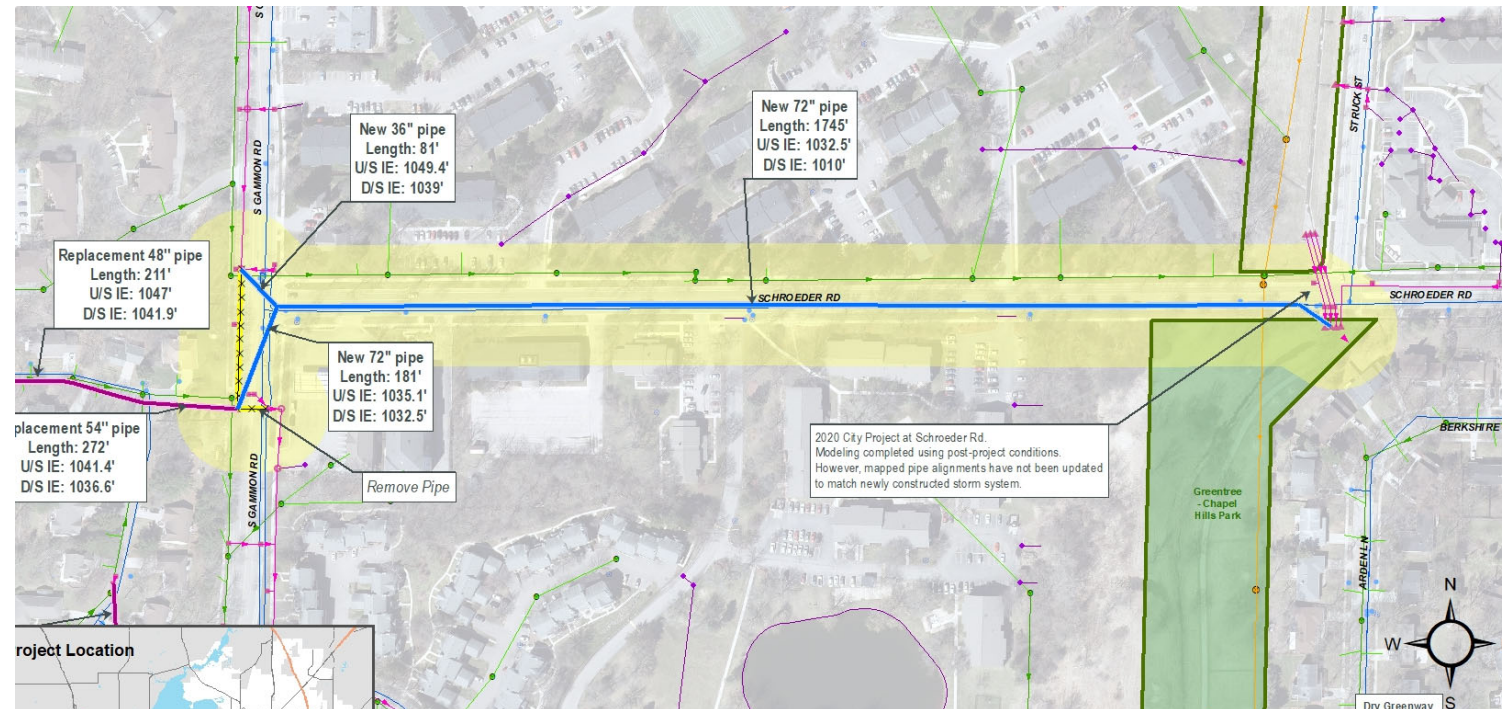
3. Schroeder Road Reconstruction



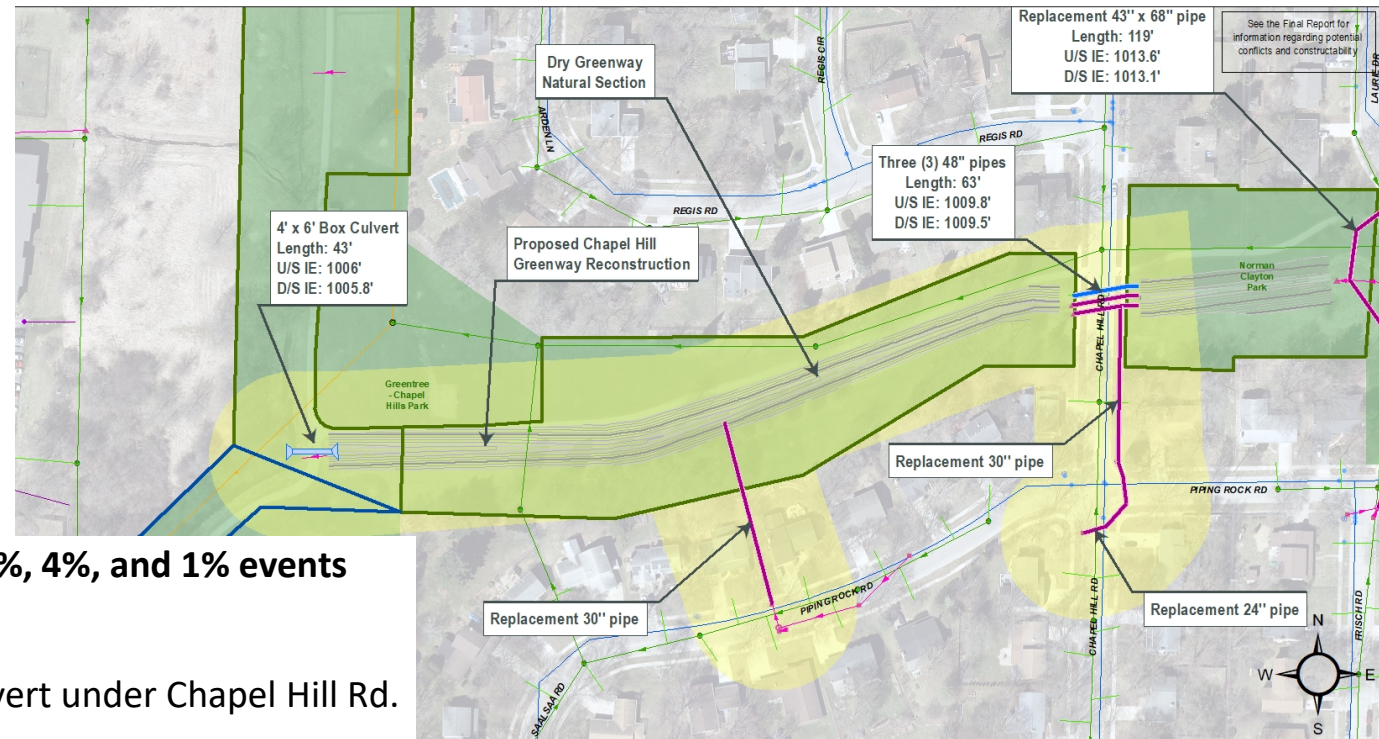
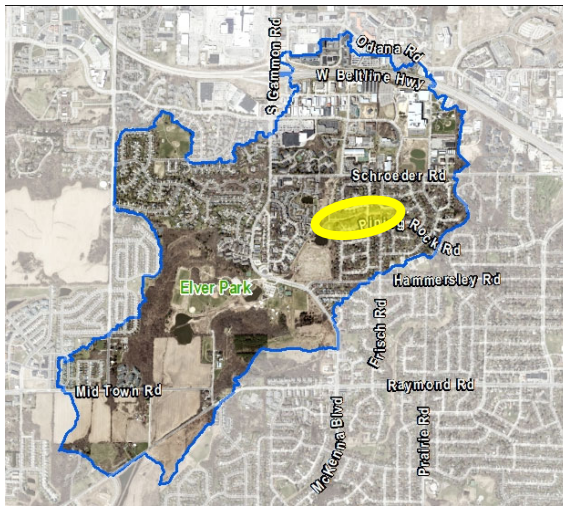
- **Goal: Reduce flooding during 10%, 4%, and 1% events**
- New storm sewer on Schroeder Rd.
- Relieves undersized storm sewer to the south
- Removes 15 structures from flooding
- Greatly reduces street ponding
- Est. cost - \$2.10 million

3. Schroeder Road Reconstruction

- Install new pipe outfall at north end of Greentree-Chapel Hills Park/greenway
- Flow bypass – still goes to greenway/Greentree Pond
- Minimal tree impacts



7. Chapel Hill Road and Greenway Improvements

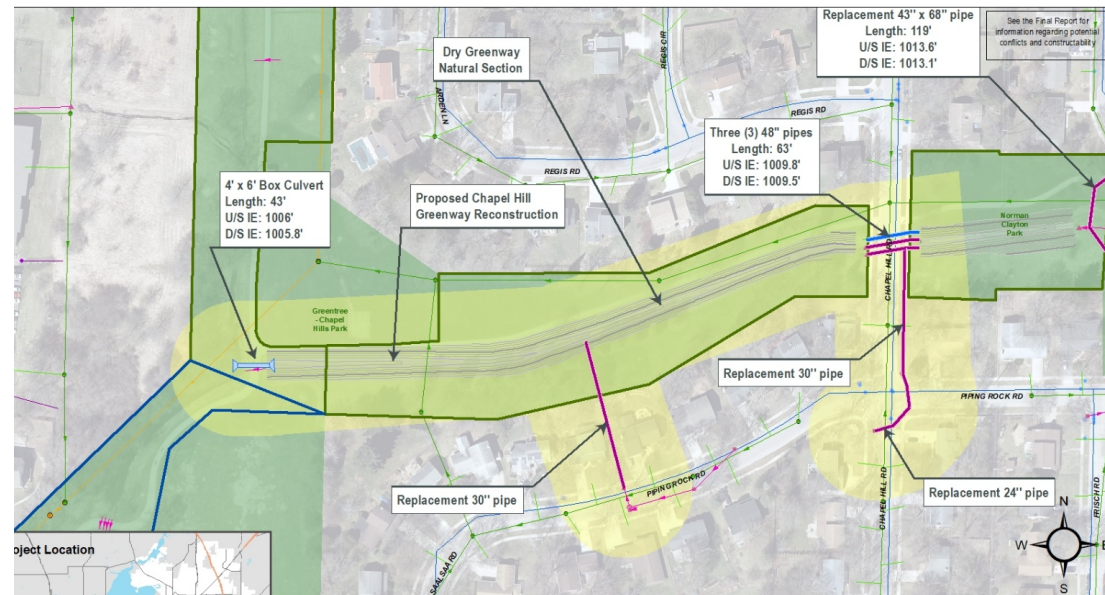


- **Goal: Reduce flooding during 10%, 4%, and 1% events**
- Increase storm sewer size
- Increase culvert size and add culvert under Chapel Hill Rd.
- Excavate greenway channel
- Removes 6 structures from flooding
- Eliminates road overtopping and greatly reduces ponding
- Est. cost - \$780,000

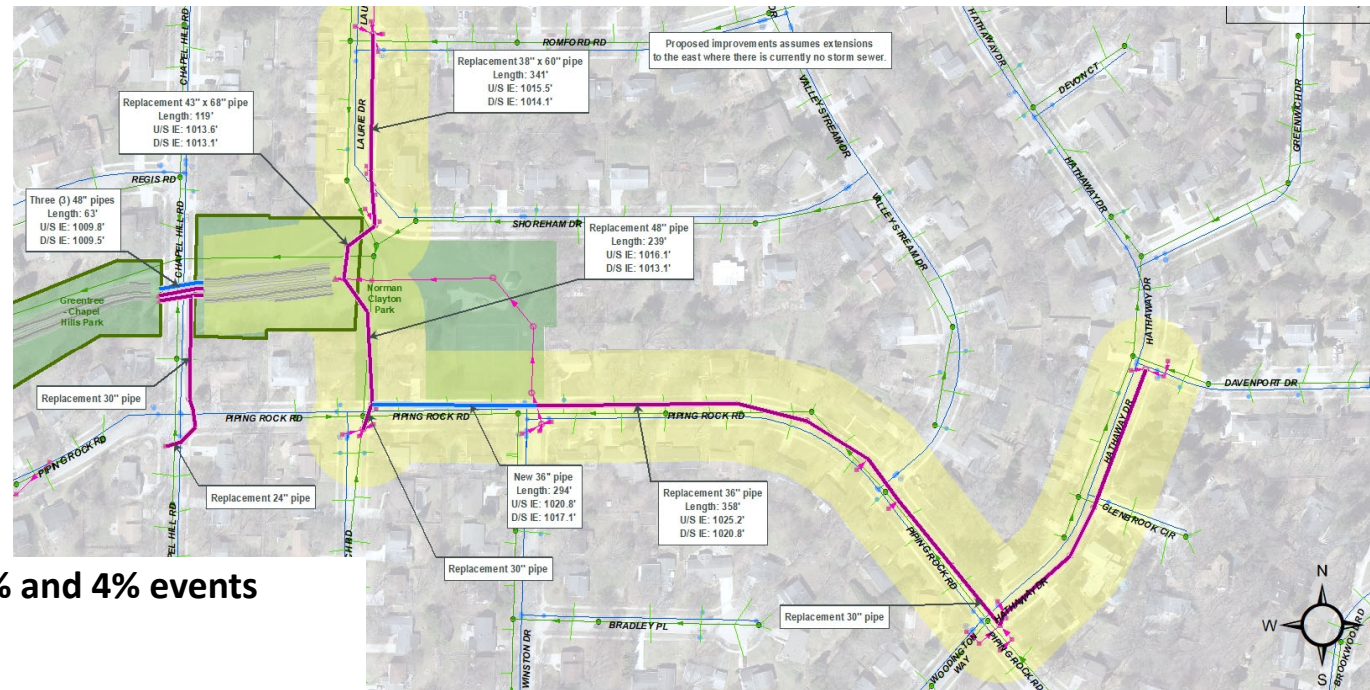
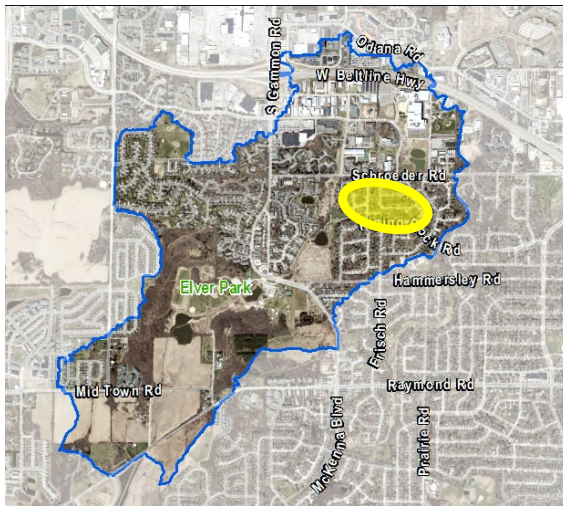


7. Chapel Hill Road and Greenway Reconstruction

- Re-grade greenway channel to improve channel capacity (depth and width)
- Grass lined channel
- Any impacts to paths or other paved surfaces would be replaced
- Some tree impacts; can be mitigated



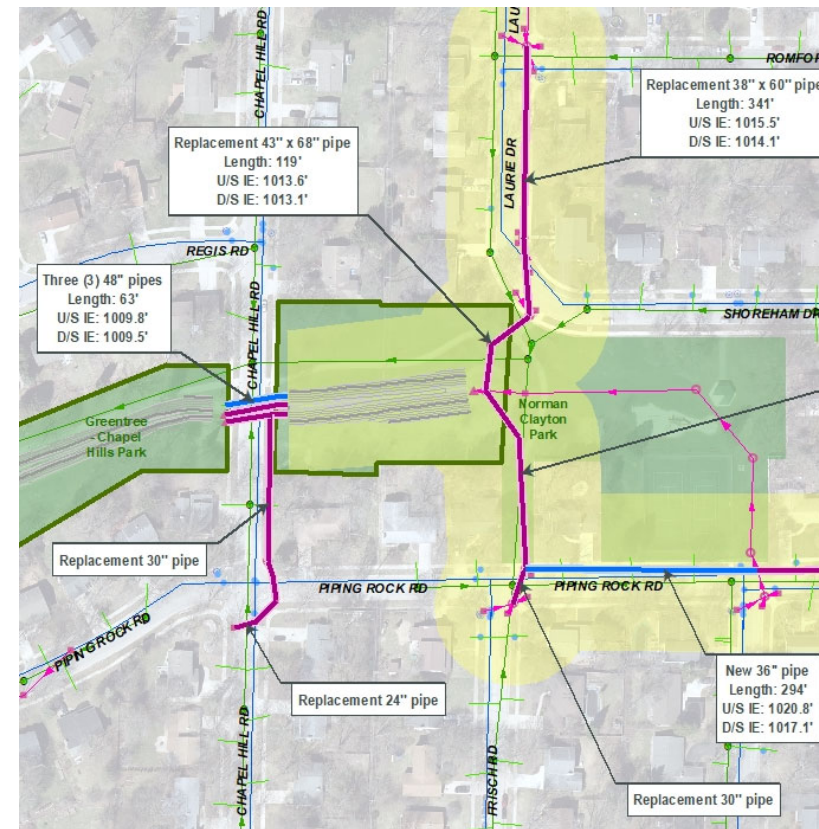
8. Norman Clayton Park and Piping Rock Road Improvements



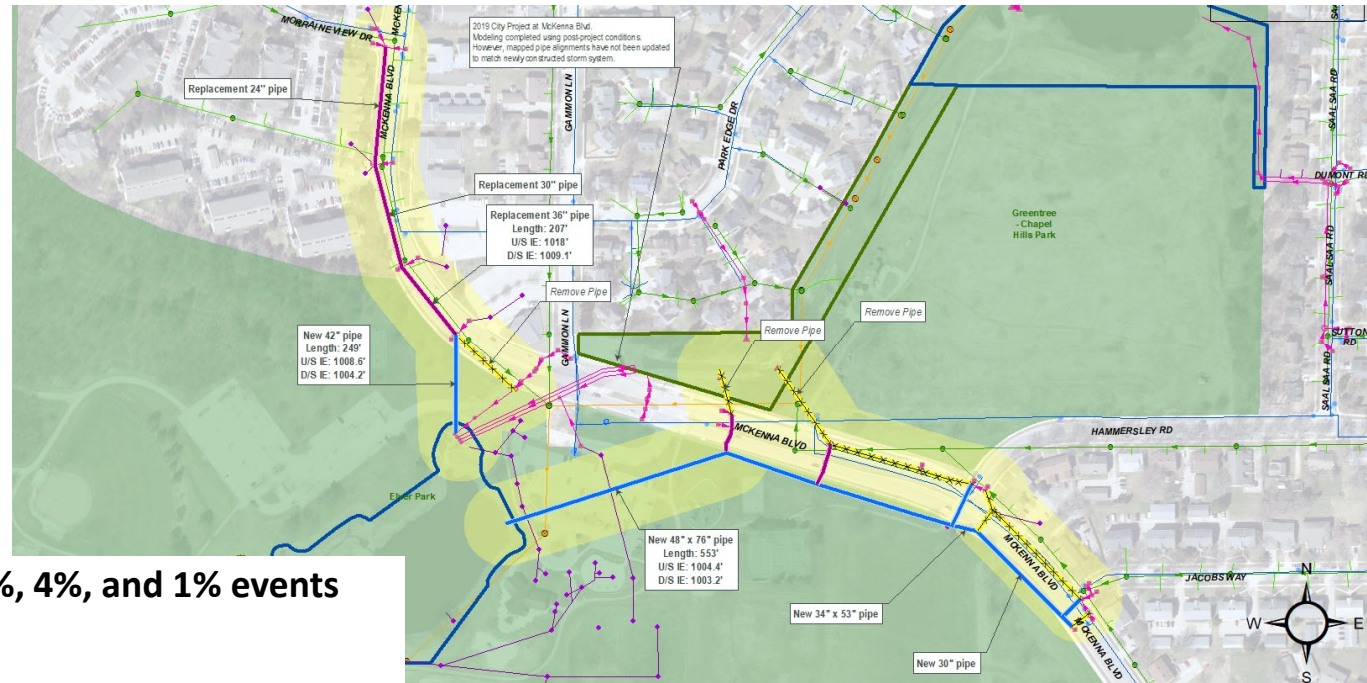
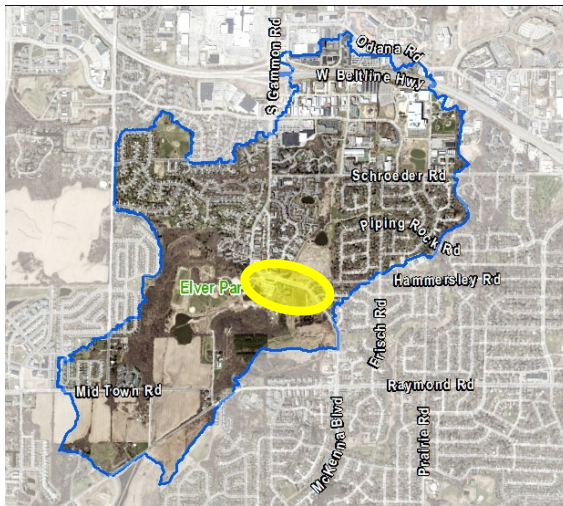
- **Goal: Reduce flooding during 10% and 4% events**
- Increase storm sewer size
- Add new pipe on Piping Rock Rd.
- Eliminates street ponding for more frequent events
- Est. cost - \$1.99 million

8. Piping Rock Road and Laurie Drive Reconstruction

- Re-grade greenway channel to improve channel capacity (depth and width)
- Grass line channel
- Install larger underground pipes
- Temporary impacts to Norman Clayton Park path during construction
- Minimal tree impacts



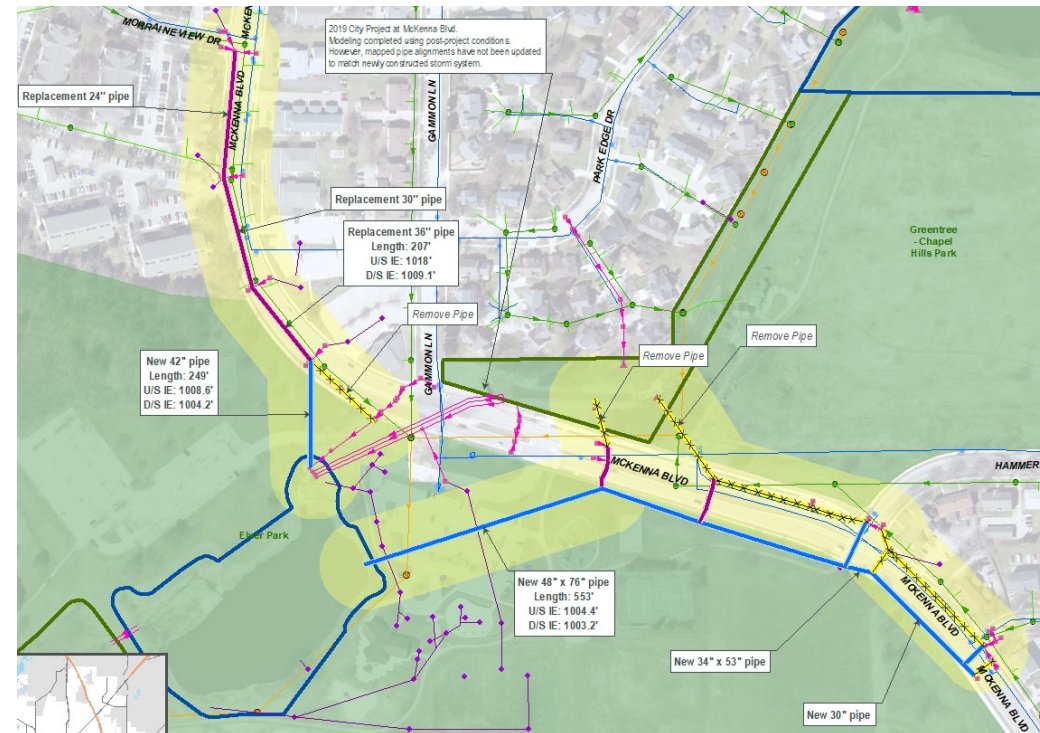
9. McKenna Boulevard Storm Sewer Improvements



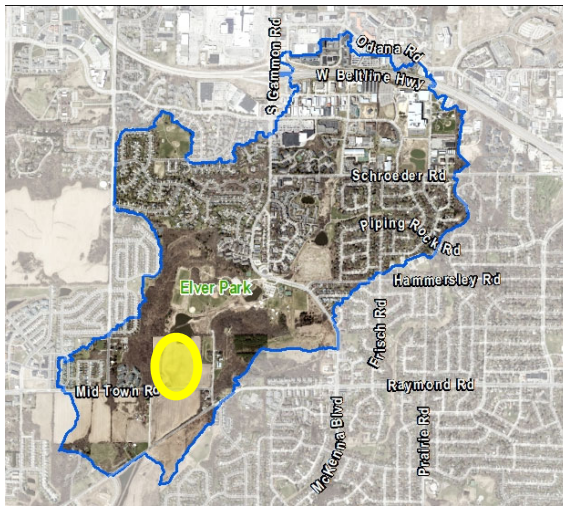
- **Goal: Reduce flooding during 10%, 4%, and 1% events**
- Increase storm sewer size
- Add new pipes
- Removes 1 structures from flooding
- Greatly reduces street ponding for more frequent events
- Est. cost (N) - \$630,000
- Est. cost (S) - \$1.38 million

9. McKenna Boulevard Storm Sewer Improvements

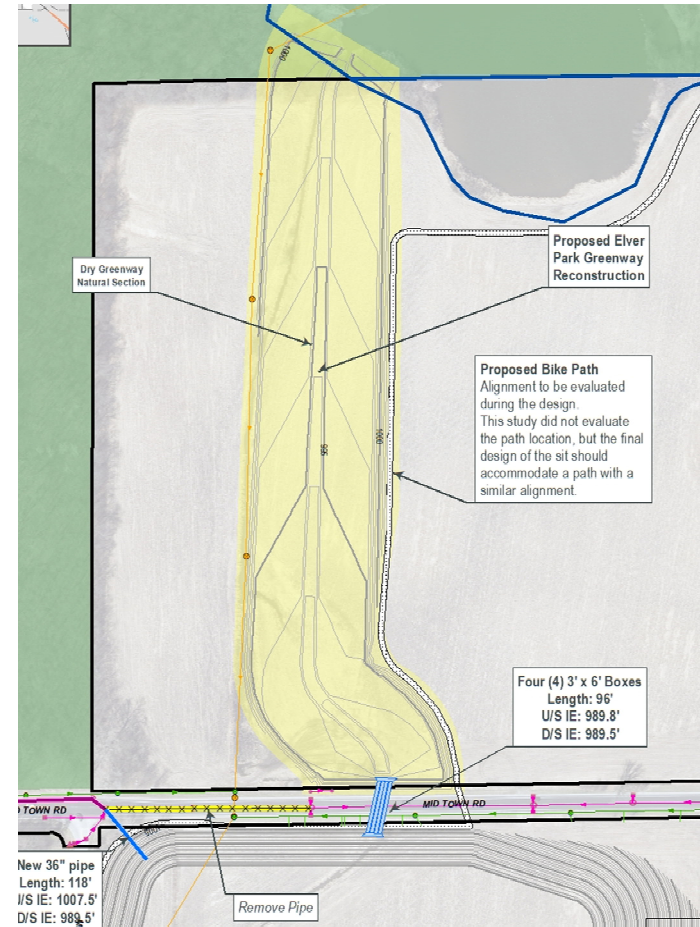
- Install larger pipes to Elver Park pond
- Direct drainage to south rather than north side of the road
- Any impacts to parking lot or other amenities would be replaced
- Minimal tree impacts
- Coordinate timing and location to reduce impacts to park users



10. Elver Park Greenway Reconstruction



- **Goal: Provide Conveyance for 1% event**
- Excavate new greenway channel
- Increase culvert size under Mid Town Rd.
- Eliminates overtopping of Mid Town Rd.
- MMSD sanitary sewer interceptor to avoid
- Est. cost - \$2.08 million
- Land acquisition needed

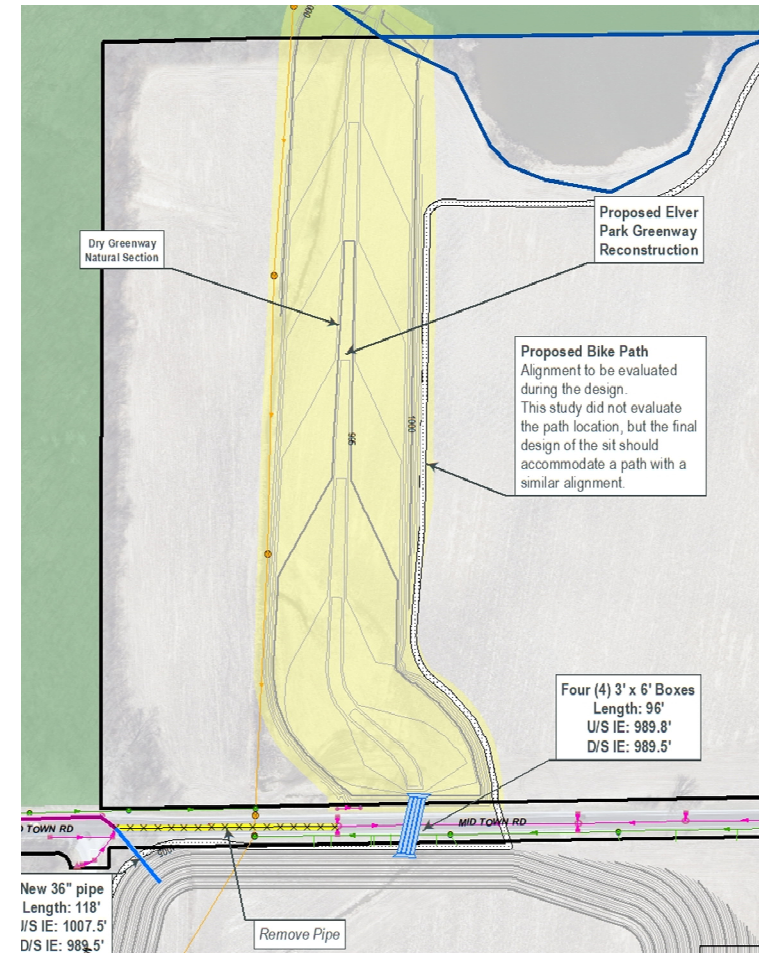


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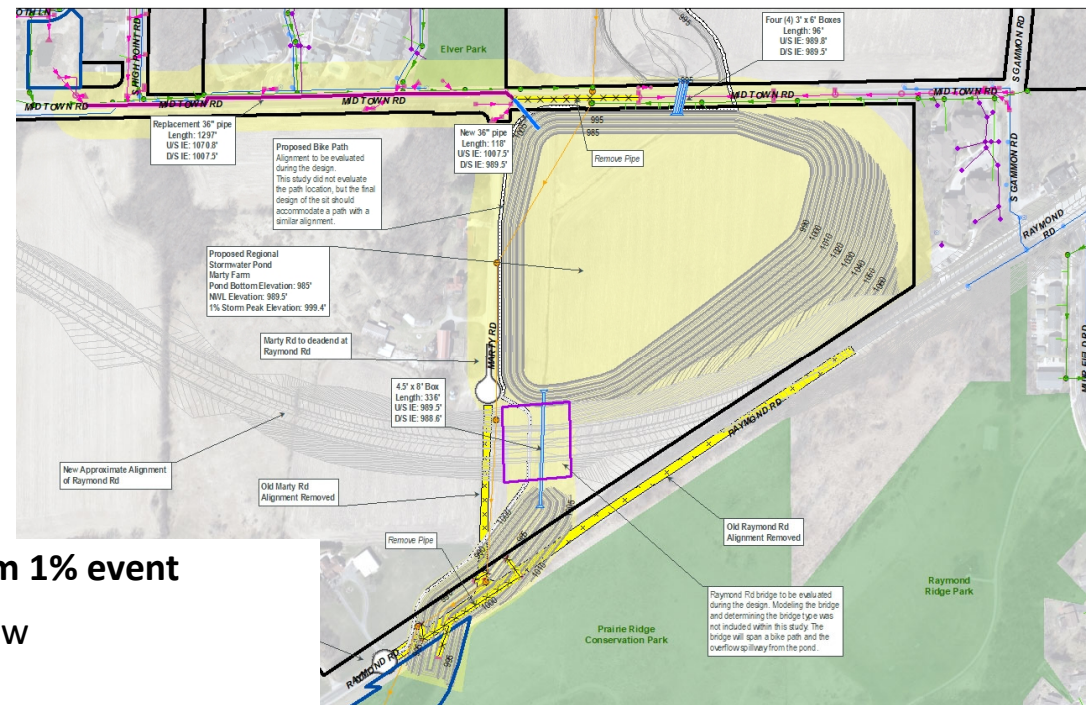
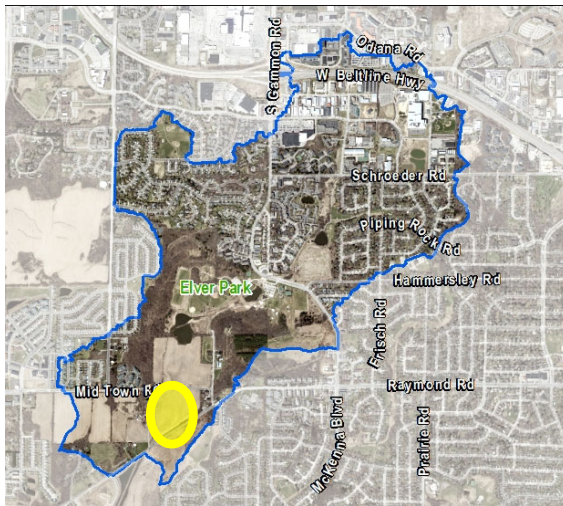


10. Elver Park Greenway Reconstruction

- Grade new greenway channel to improve channel capacity (depth and width):
 - Grass lined channel
 - Located to avoid impact to sewer interceptor main
 - Sized to convey 25-year storm flows and reduce inundation footprint during higher flow times
 - Size could be refined during design, but smaller channel results in more frequent inundation of usable property
 - Crossing could be incorporated during design



11. Marty Road/Mid Town Road Regional Pond



- **Goal: Provide Storage and Control of Runoff from 1% event**
- Add regional stormwater storage to attenuate flow
- Reflects assumed realignment of Raymond Road
- Bike path under new Raymond Rd.
- Substantial reduction in 100-yr peak watershed outflow
- Est. cost - \$11.26 million
- Land acquisition needed

11. Marty Road/Mid Town Road Regional Pond

- New pond takes incoming flow and reduces peak flow leaving watershed
- Channel grading south of pond avoids any impact to Prairie Ridge Conservation Park
- Bike path connection concept

