Welcome!
We will begin shortly…

Virtual Meeting Schedule	
12:00 – 12:10	Welcome
12:10 – 12:40	Presentation
12:40 – 12:55	Presentation Q & A (General)
12:55 – 1:15	Focus Group Discussions/Zoom Breakout Rooms
1:15 – 1:30	Come Back Together/Wrap-Up

CITY OF **MADISON**

Dunns Marsh Watershed Study Public Information Meeting No. 3

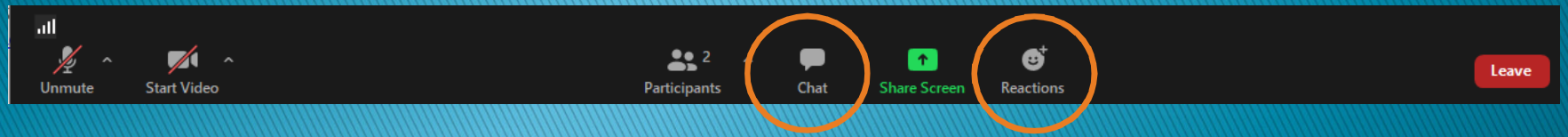
by City of Madison Engineering Division

January 26, 2022

Please Note: 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.

- ✓ This meeting will be **recorded** and posted to the City's project page.
- ✓ All attendees should stay **muted** to keep background noise to a minimum.
- ✓ You may use the **"raise hand"** option at the bottom, under "**reactions**" if you have something that requires immediate clarification.
- ✓ Use **"chat"** option to type your questions, or if you are having technical issues and a staff person can try to assist.
- ✓ Questions will be answered at the end of the presentation. Inappropriate questions may be dismissed.
- ✓ If you cannot ask your question via typing, please use the "raise hand" option and you will be unmuted when it is your turn.



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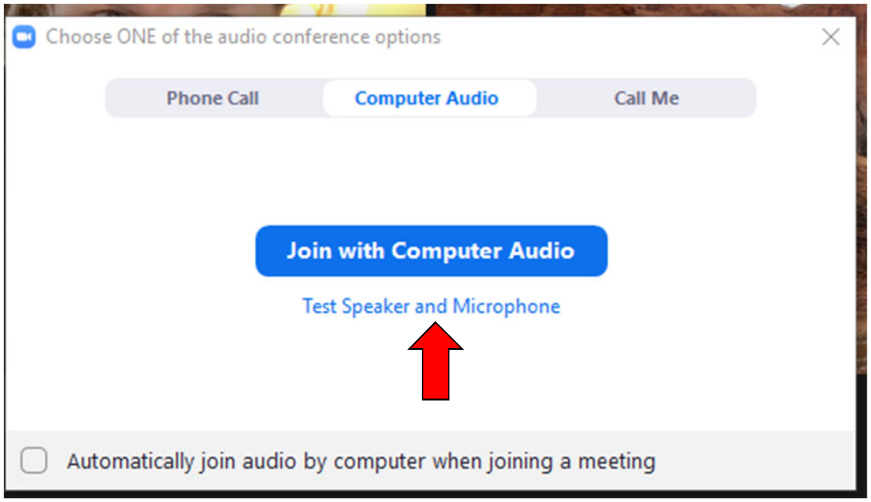
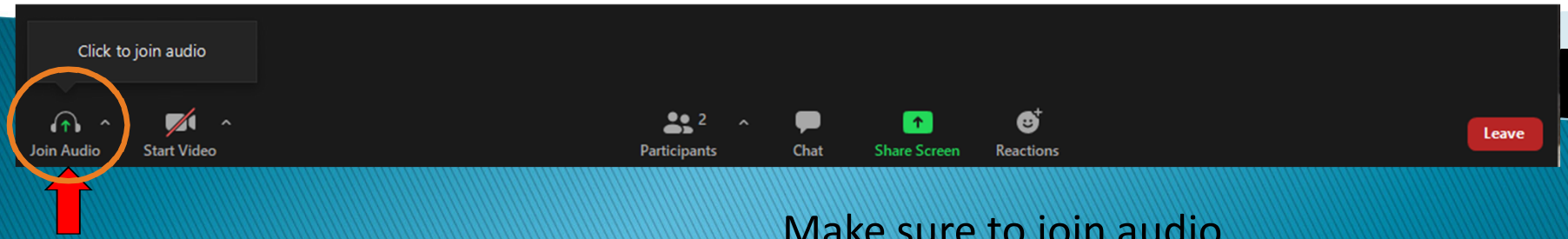
How to Participate





Make sure to join audio

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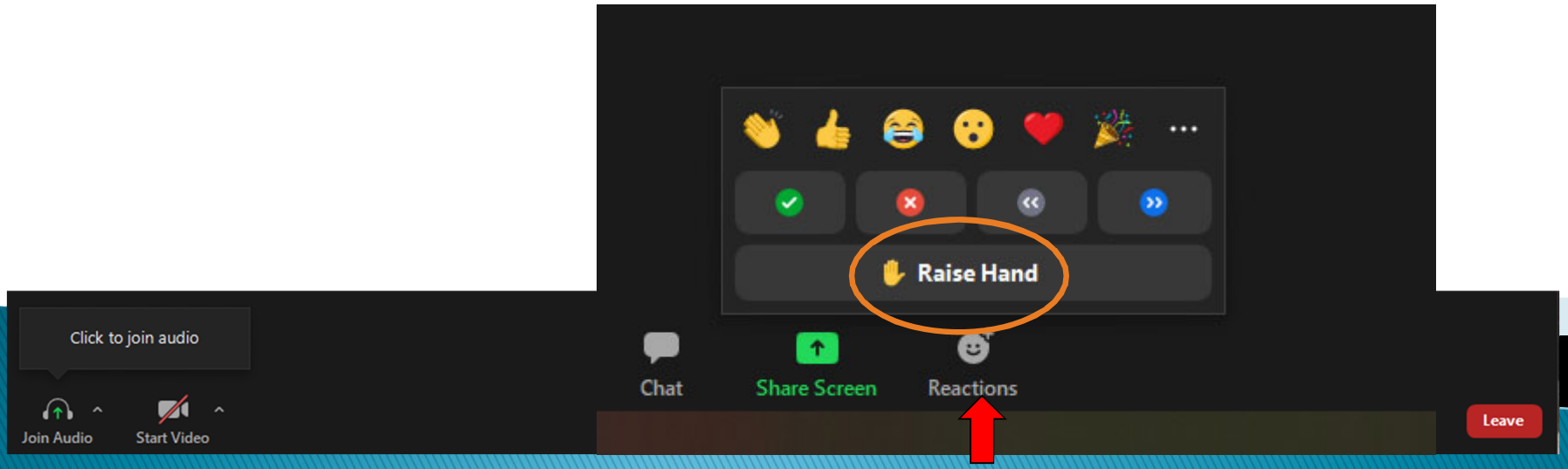

Raise your hand to be unmuted for comments or ask additional questions.

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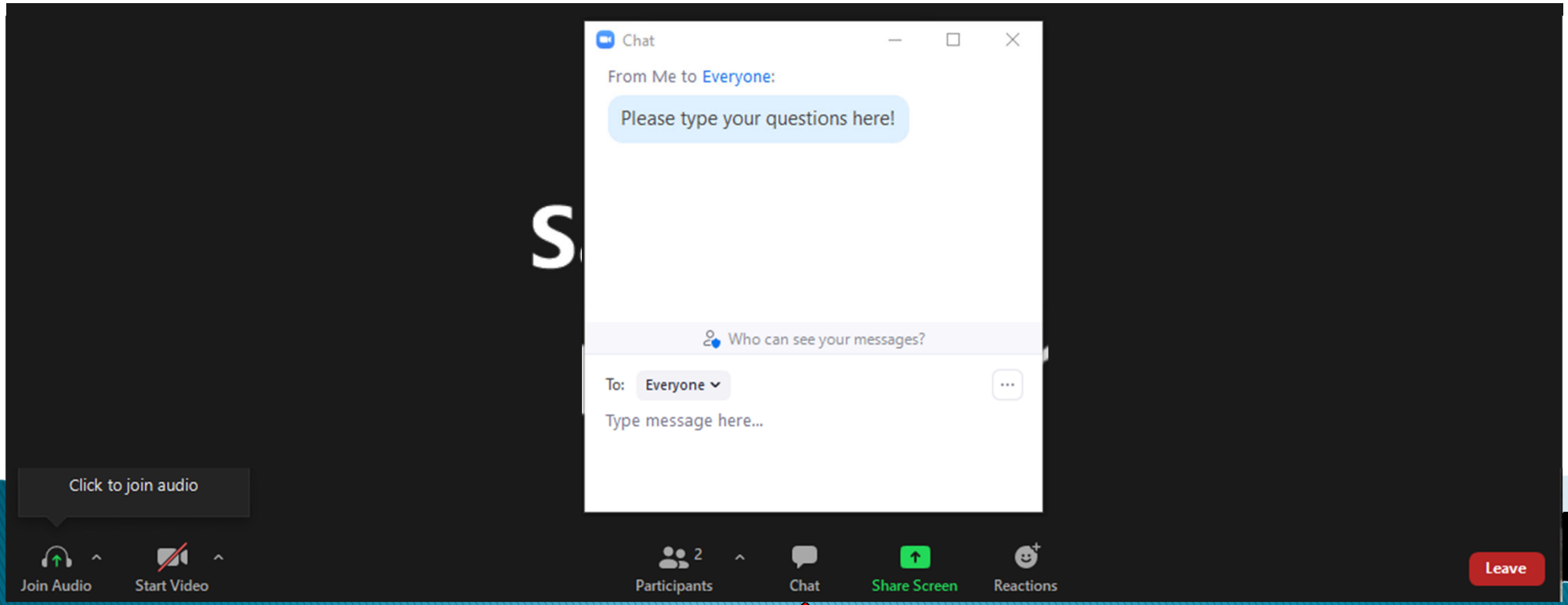
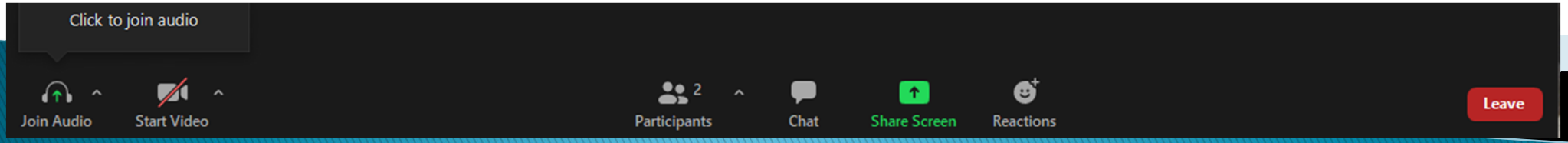


Use chat if you have technical issues or a question for the panelists

How to Participate

When you are ready to leave the meeting



To leave the meeting click here

Evening Overview

- Welcome (Hannah Mohelnitzky, City of Madison)
- Presentation (Stantec, City of Madison)
- Q&A (facilitated by Hannah Mohelnitzky, City of Madison)
  - Submit questions through Zoom “Chat”
    - *To find the Zoom Chat Box, hover over the edge of your screen. A toolbar will appear, and you can click on “Chat”*
  - Questions answered at the end of the Presentation
- Wrap Up (Hannah Mohelnitzky, City of Madison)
- Breakout to Focus Groups (City of Madison staff)
  - An option to join breakout groups will appear on your screen

Presentation Overview

- Definitions of commonly used terms
- Study location
- Watershed study schedule
- Flood mitigation goals
- Inundation mapping
- Proposed solutions development process
- Proposed solutions
  - Standalone projects
  - Local storm sewer
- Implementation and cost
- Why aren't all flood targets met?
- Next steps

Definitions of commonly used terms

- **Stormwater**: rainwater produced from a rain event

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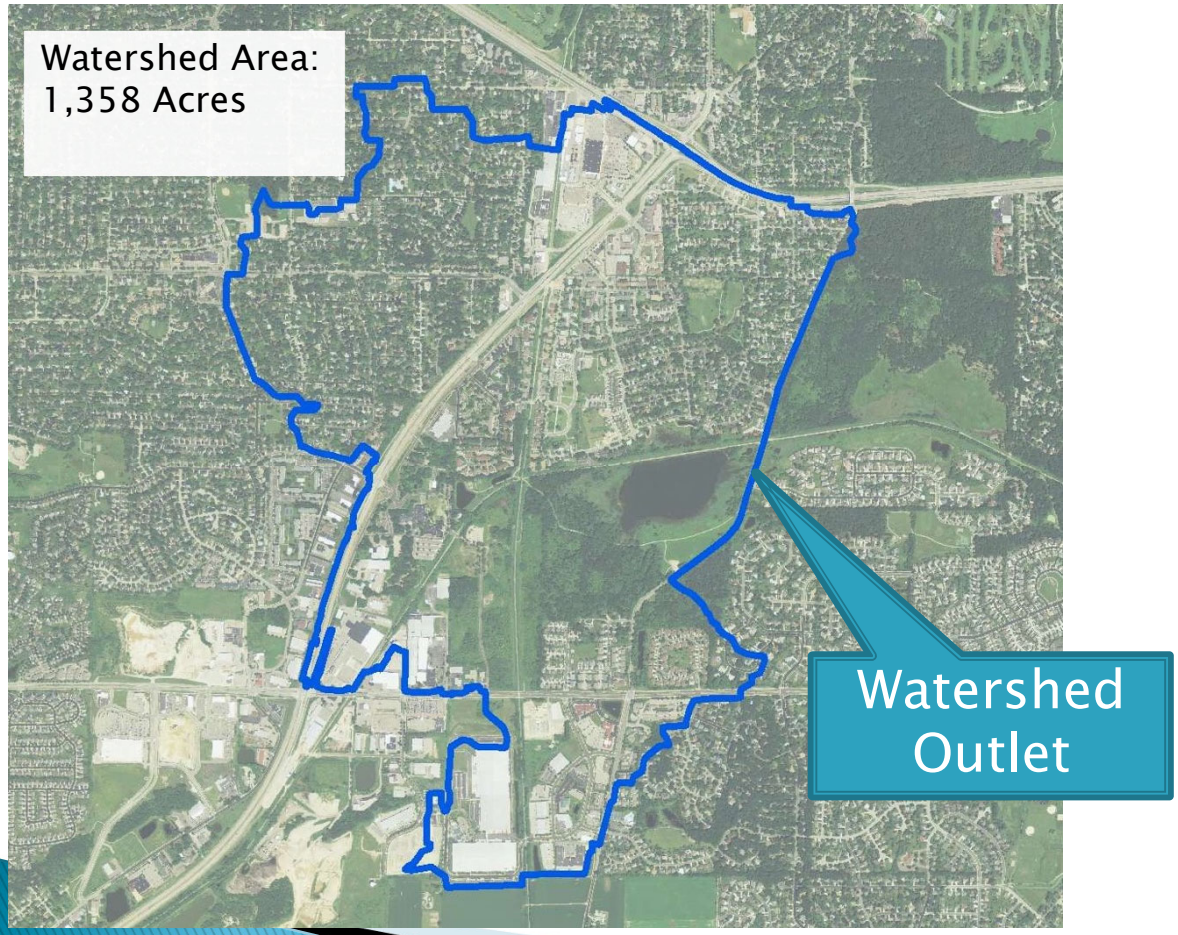
- **Model**: computer software that is used to evaluate the stormwater conveyance system
- **Local Sewer Projects**: storm sewer that is reconstructed with another already-scheduled project – typically street reconstruction
- **Stand-alone Projects**: Flood mitigation projects that will be constructed on their own – not tied to another already-scheduled project

Project Location



A watershed is an area of land that drains to a single location.

This is the Dunn's Marsh watershed. in the City of Madison. Dunn's Marsh is part of the larger Nine Springs Creek watershed

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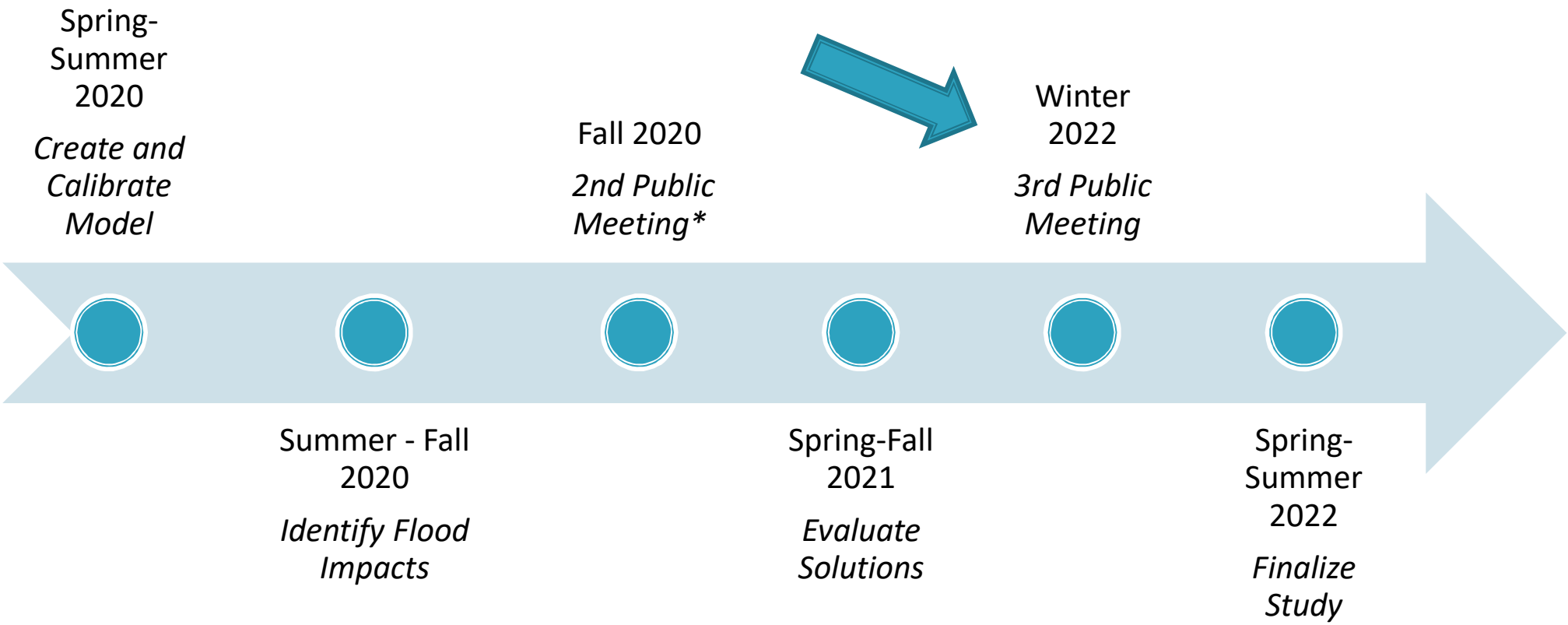
Schedule



*Presentations from PIM1 and PIM 2 can be found on the Watershed Study Website

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Flood Mitigation Goals for First Watershed Studies

- 10% Chance Event (4.09” rain/24 hours)
  - No surcharging of storm sewer onto roadway (storm sewer pipes are sized to carry storm)

Flood Mitigation Goals for First Watershed Studies

- 10% Chance Event (4.09” rain/24 hours)
- 4% Chance Event (5.01” rain/24 hours)
  - 0.2’ at Centerline of Road (roads passable for emergency vehicles)

Flood Mitigation Goals for First Watershed Studies

- 10% Chance Event (4.09” rain/24 hours)
- 4% Chance Event (5.01” rain/24 hours)
- 1% Chance Event (6.66” rain/24 hours)
  - No structure (home/building) flooding
  - No greenway crossing overflow (stormwater does not come out of greenway and flow over the road)

Flood Mitigation Goals for First Watershed Studies

- 10% Chance Event (4.09” rain/24 hours)
- 4% Chance Event (5.01” rain/24 hours)
- 1% Chance Event (6.66” rain/24 hours)
- 0.2% Chance Event (8.81” rain/24 hours)
  - Safe conveyance of overflow

Flood Mitigation Goals for First Watershed Studies

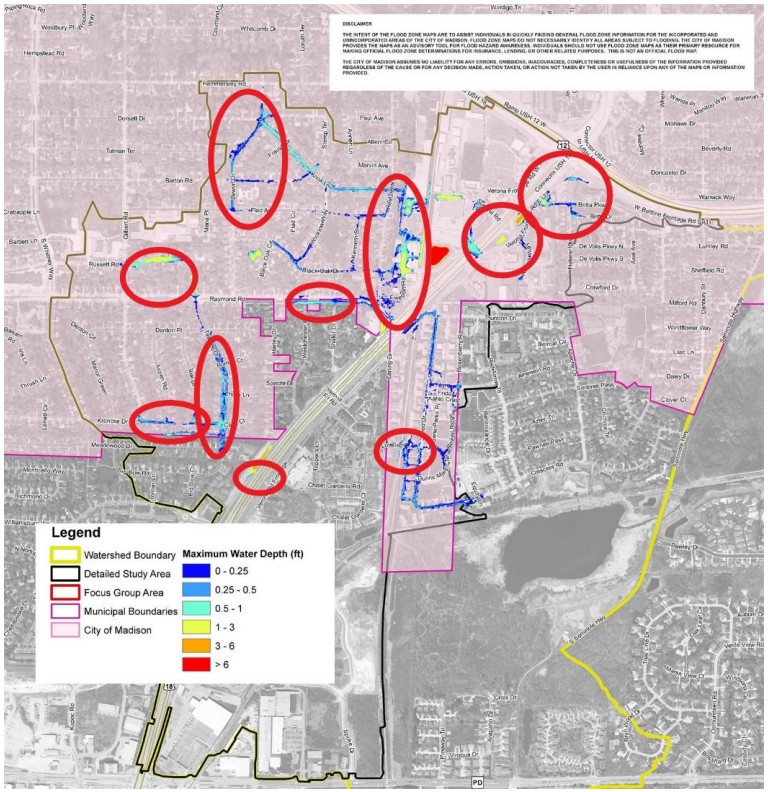
- Not all goals may be met for all areas of the watershed
  - Problems are complex – mitigating factors discussed later in the presentation
  - For the Dunn's Marsh watershed with the proposed solutions, goals were met in most of the watershed

INUNDATION MAPPING DISCLAIMER

THE INTENT OF THE INUNDATION MAPS ARE TO ASSIST INDIVIDUALS IN QUICKLY FINDING GENERAL FLOOD RISK INFORMATION FOR THE INCORPORATED AND UNINCORPORATED AREAS OF THE CITY OF MADISON. INUNDATION MAPS DO NOT NECESSARILY IDENTIFY ALL AREAS SUBJECT TO FLOODING. THE CITY OF MADISON PROVIDES THE MAPS AS AN ADVISORY TOOL FOR FLOOD HAZARD AWARENESS. INDIVIDUALS SHOULD NOT USE INUNDATION MAPS AS THEIR PRIMARY RESOURCE FOR MAKING OFFICIAL FLOOD RISK DETERMINATIONS FOR INSURANCE, LENDING, OR OTHER RELATED PURPOSES. THIS IS NOT AN OFFICIAL FLOOD MAP.

THE CITY OF MADISON ASSUMES NO LIABILITY FOR ANY ERRORS, OMISSIONS, INACCURACIES, COMPLETENESS OR USEFULNESS OF THE INFORMATION PROVIDED REGARDLESS OF THE CAUSE OR FOR ANY DECISION MADE, ACTION TAKEN, OR ACTION NOT TAKEN BY THE USER IN RELIANCE UPON ANY OF THE MAPS OR INFORMATION PROVIDED.

10% Chance Existing Inundation Mapping



- 4.9 miles of street do not meet 10% goal
- Locations where 10% chance goals are not met

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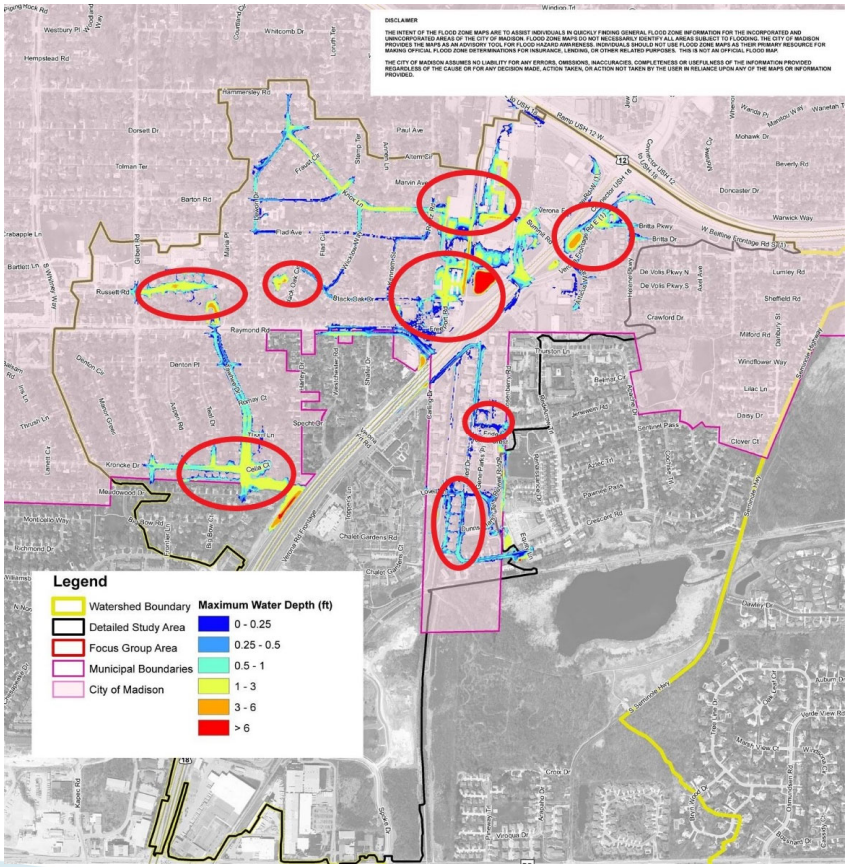
1% Chance Existing Inundation Mapping



- 60 structures flooded in existing conditions
- Locations where 1% chance goals are not met

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Proposed Solutions Process

- Iterative process
  - Brainstormed solutions
  - Consultant analyzed ideas and provided results
  - Some solutions not found to be viable for various reasons
  - Several meetings to develop the “suite of solutions”

Proposed Solutions Process

- Iterative process
- Met with City Agencies for feedback on
  - Impacts to Agency's infrastructure/property
  - Additional solutions
  - Places for cooperation/win-win solution

Proposed Solutions Process

- Iterative process
- Met with City Agencies for feedback
- Meeting with you tonight

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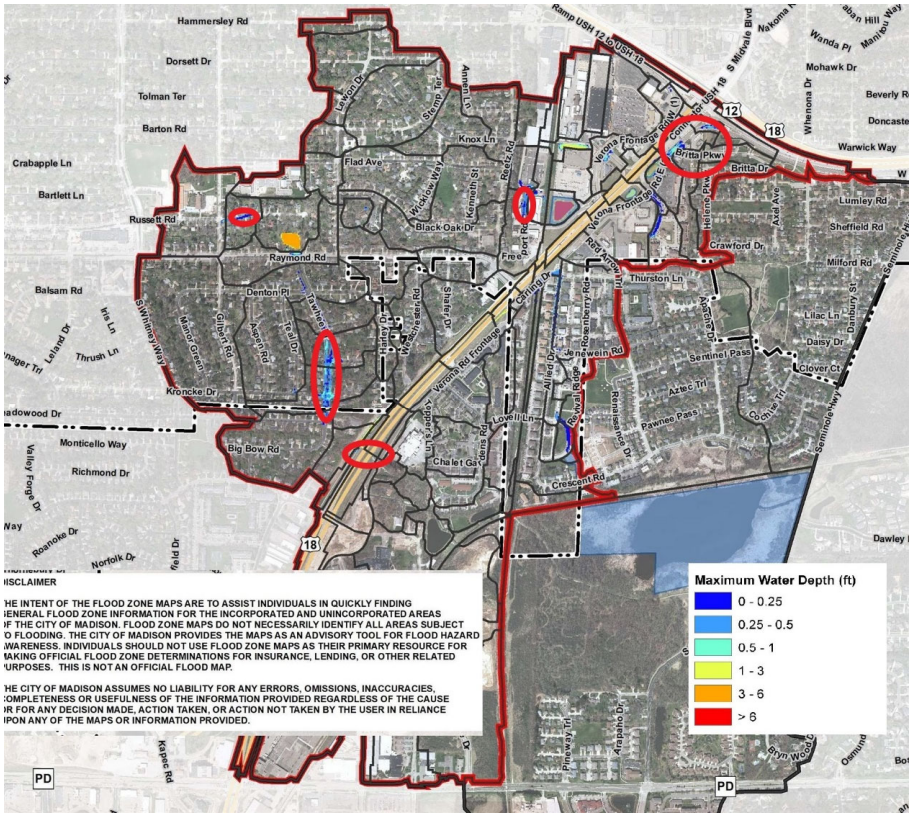
10% Chance Proposed Inundation Mapping



- 3.9 miles of additional streets now meet 10% goal
- Locations where 10% chance goals were not met in proposed conditions

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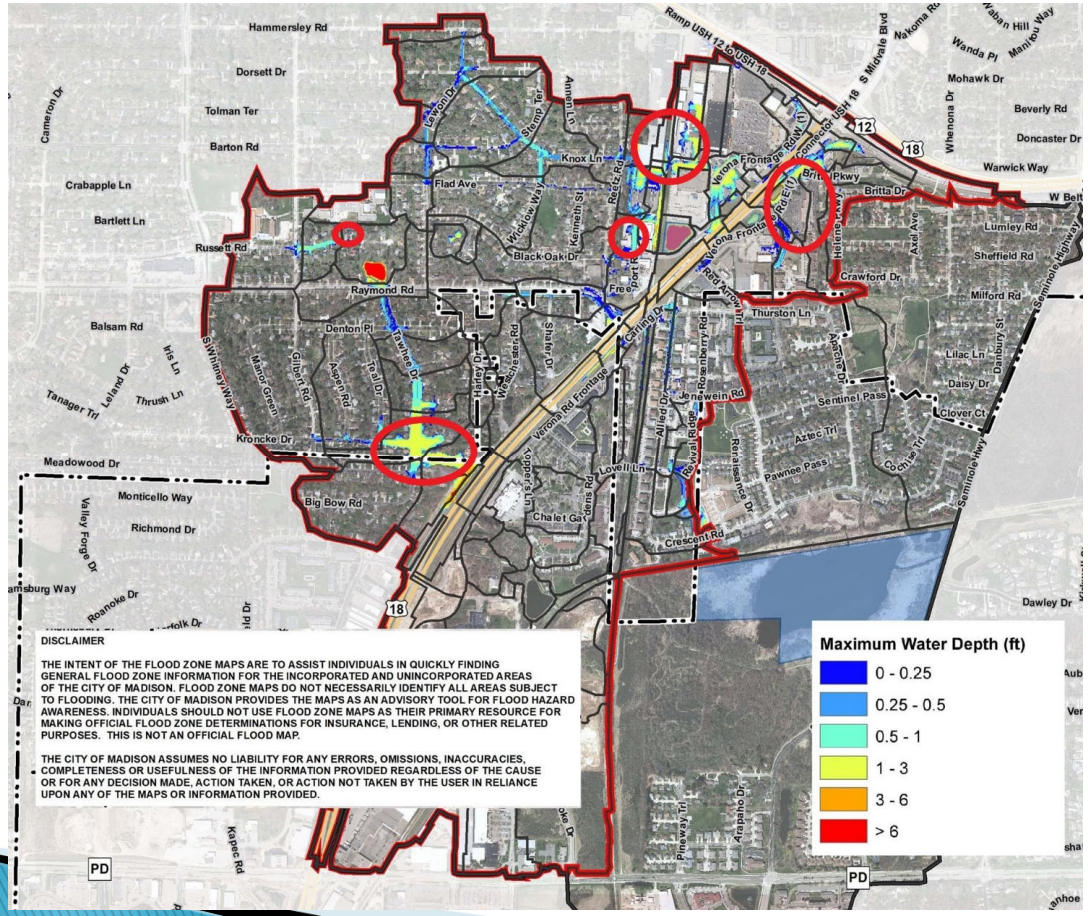
1% Chance Proposed Inundation Mapping



- Additional 25 structures now meet 1% chance storm goal
- Locations where 1% chance goals were not met in proposed conditions

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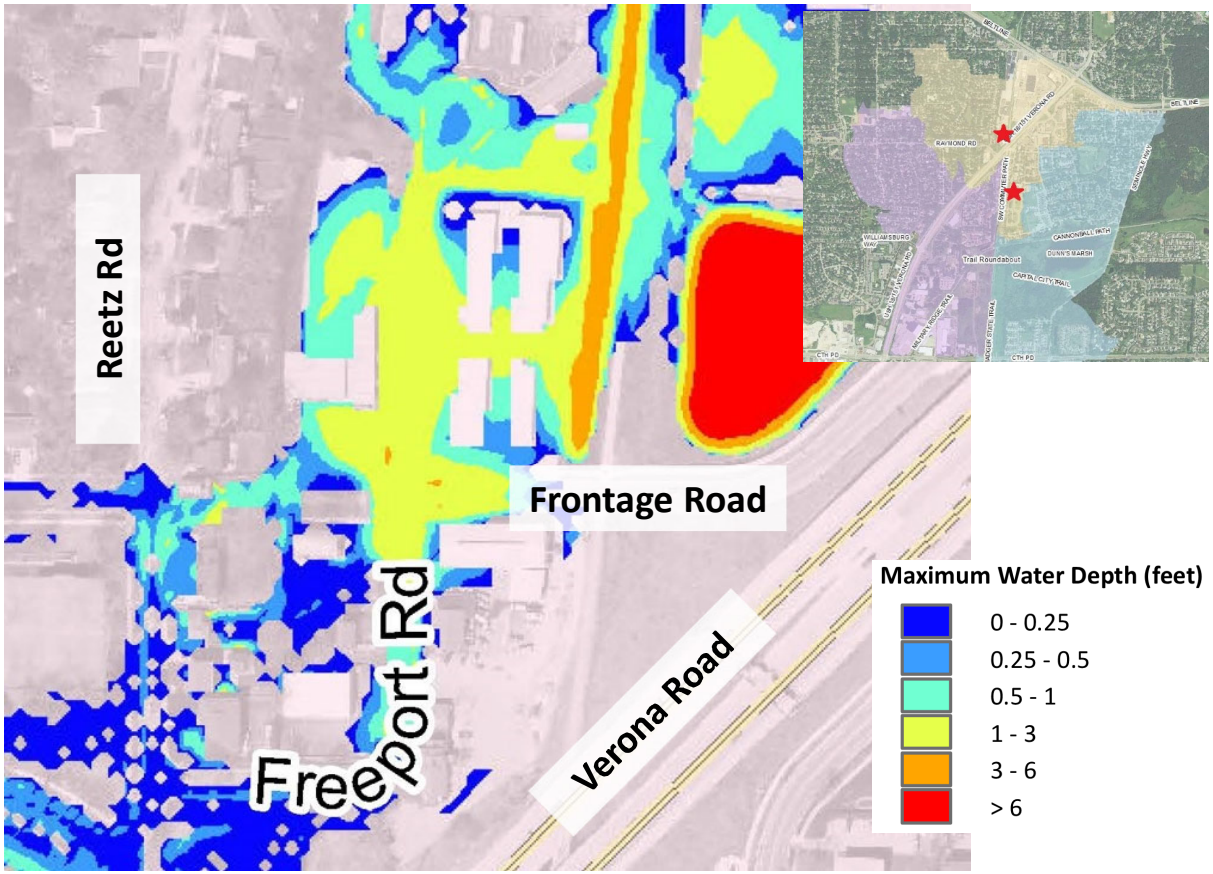
Proposed Solutions

1. Allied Drive / Frontage Road Relief Storm Sewer
2. Reetz / Freeport Storm Sewer Connection
3. Raymond Road Storm Sewer Upsizing
4. Black Oak Circle Storm Sewer Extension
5. Russett Road / Raymond Road Detention Basin
6. Local Storm Sewer Improvements

Allied Drive / Frontage Road Relief Storm Sewers

Flooding Issues

- 1% chance inundation of structures in area of Freeport Rd / Frontage Rd
- Street impassibility on Freeport Rd and Frontage Rd during 10% and 4% events



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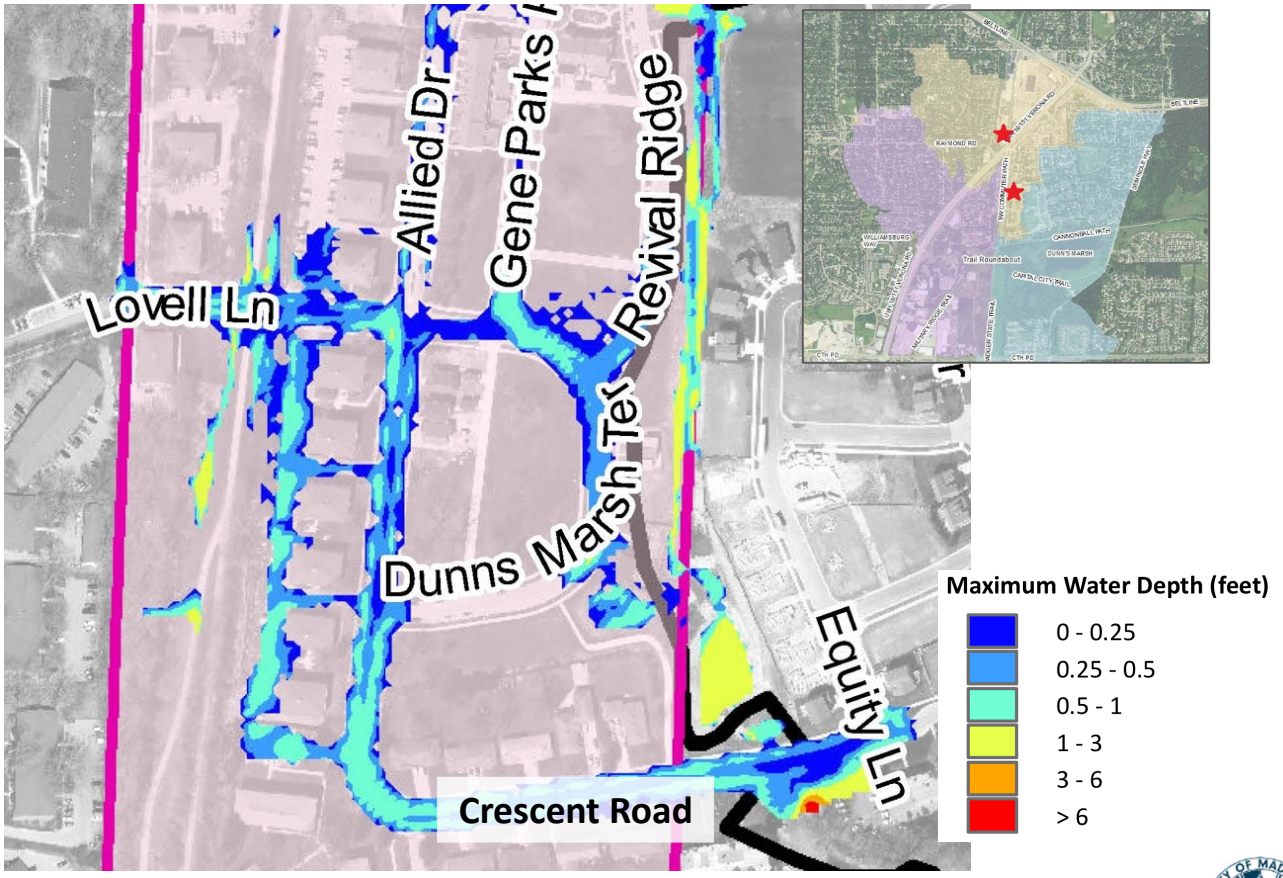
Allied Drive / Frontage Road Relief Storm Sewers

Flooding Issues

- 1% chance inundation of structures in area of Freeport Rd / Frontage Rd
- Street impassibility on Freeport Rd and Frontage Rd during 10% and 4% events
- High surface flows on Allied Drive and nearby private property



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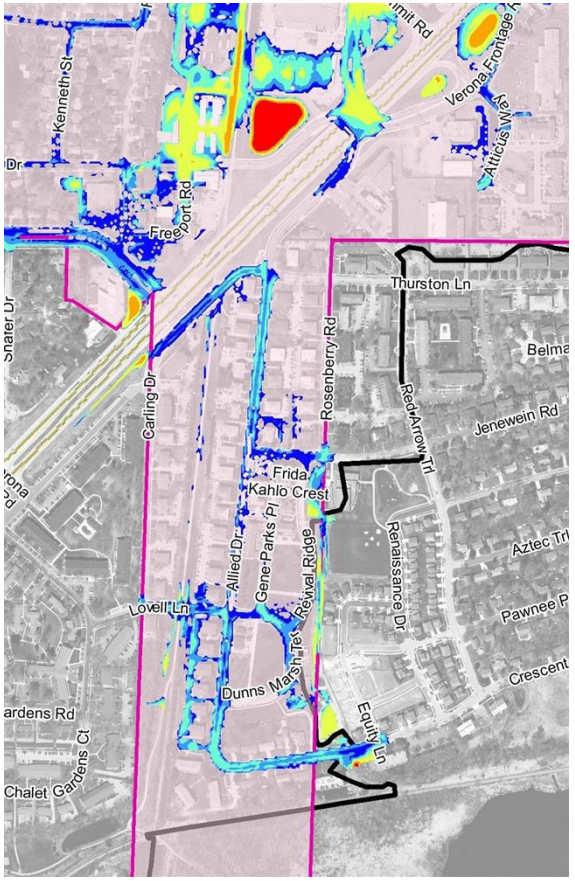
Allied Drive / Frontage Road Relief Storm Sewers

Targets

- Reduce structures impacted during 1% event
- Reduce street flooding during 10% and 4% events



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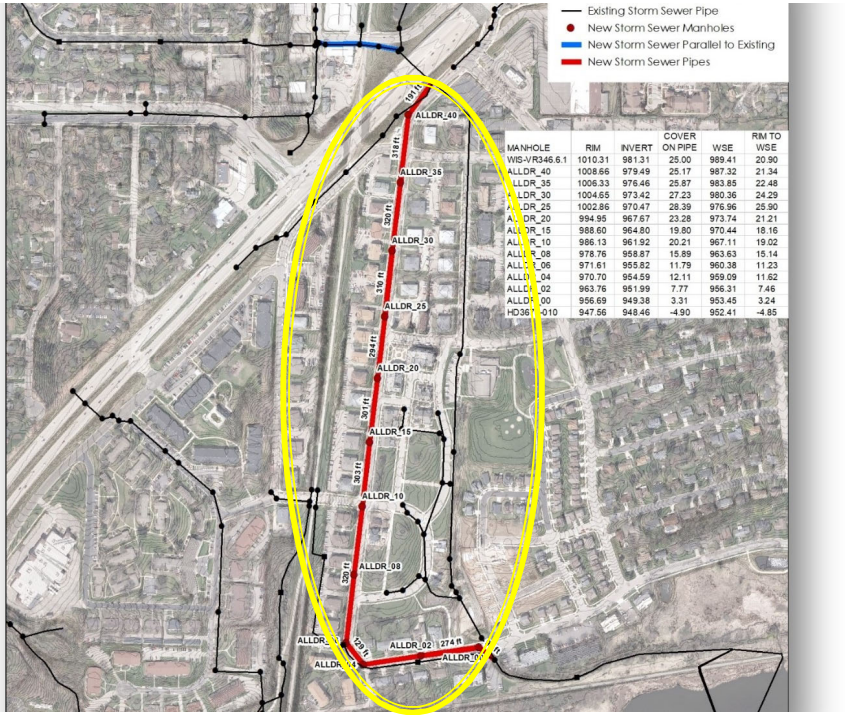
Allied Drive / Frontage Road Relief Storm Sewers

Proposed Improvements

- Install 48” storm sewer on Allied Drive

Benefits include:

- Provide additional trunk storm sewer capacity, paralleling existing storm sewer to Dunn’s Marsh outfall
- Reduces backwater effect on storm sewer crossing under Verona Road, lowering peak water elevations north of Verona Road
- Enhance local drainage / reduce ponding on Allied Drive and connecting streets



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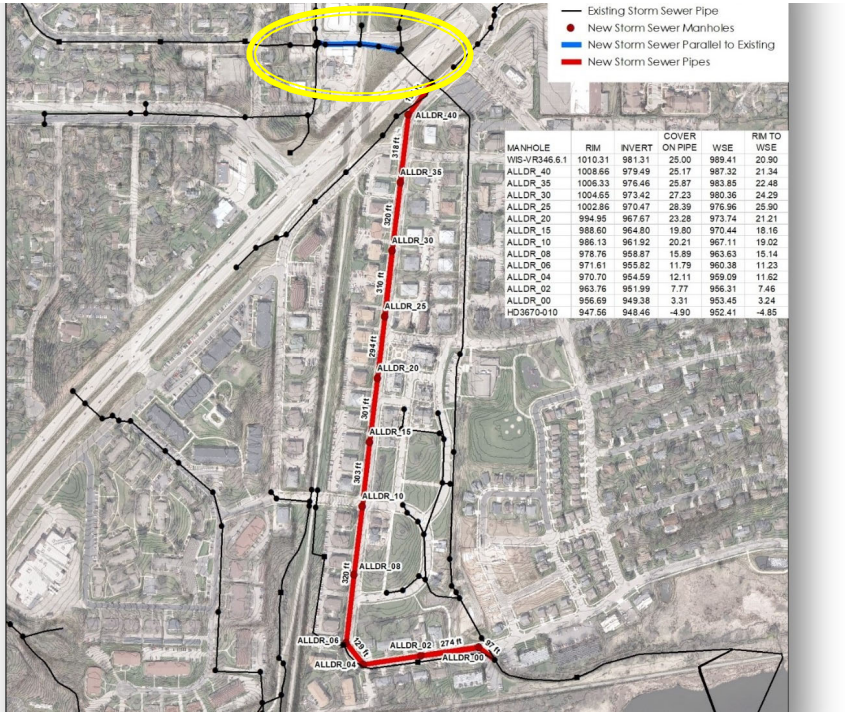
Allied Drive / Frontage Road Relief Storm Sewers

Proposed Improvements

- Install 48” parallel storm sewer on Frontage Road

Benefits include:

- Reduces structure flooding in vicinity of Freeport Road / Frontage Road
- Reduces street flooding / impassibility on Freeport Road
- Provides additional conveyance to Verona Road crossing



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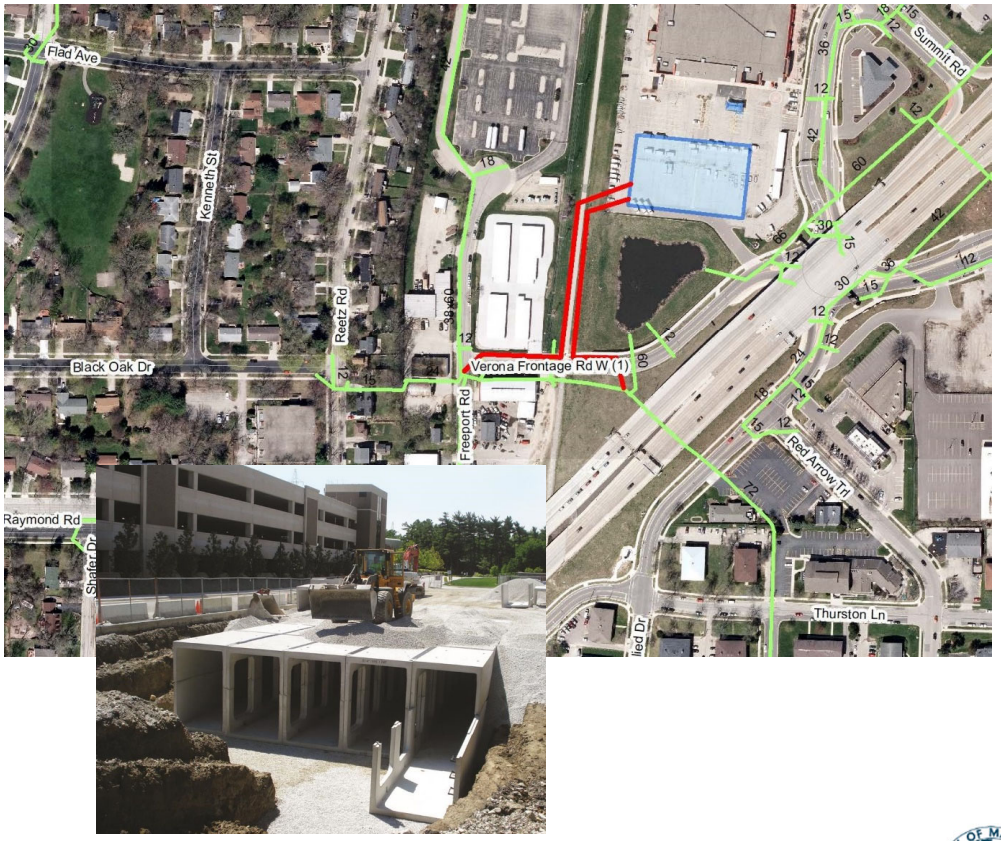
ALLDR_35	1006.33	976.46	25.87	983.85	22.48
ALLDR_30	1004.65	973.42	27.23	980.36	24.29
ALLDR_25	1002.86	970.47	28.39	976.96	25.90
ALLDR_20	994.95	967.67	23.28	973.74	21.21
ALLDR_15	988.60	964.80	19.80	970.44	18.16
ALLDR_10	986.13	961.92	20.21	967.11	19.02
ALLDR_08	978.76	958.87	15.89	963.63	15.14
ALLDR_06	971.61	955.82	11.79	960.38	11.23
ALLDR_04	970.70	954.59	12.11	959.09	11.62
ALLDR_02	963.76	951.99	7.77	956.31	7.46
ALLDR_00	956.69	949.38	3.31	953.45	3.24
HD3670-010	947.56	948.46	-4.90	952.41	-4.85

Allied Drive / Frontage Road Relief Storm Sewers

Challenges / Alternatives Considered but Eliminated

- Underground stormwater storage in parking lots north of Verona Road
  - Cost and land ownership



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Allied Drive / Frontage Road Relief Storm Sewers

Challenges / Alternatives Considered but Eliminated

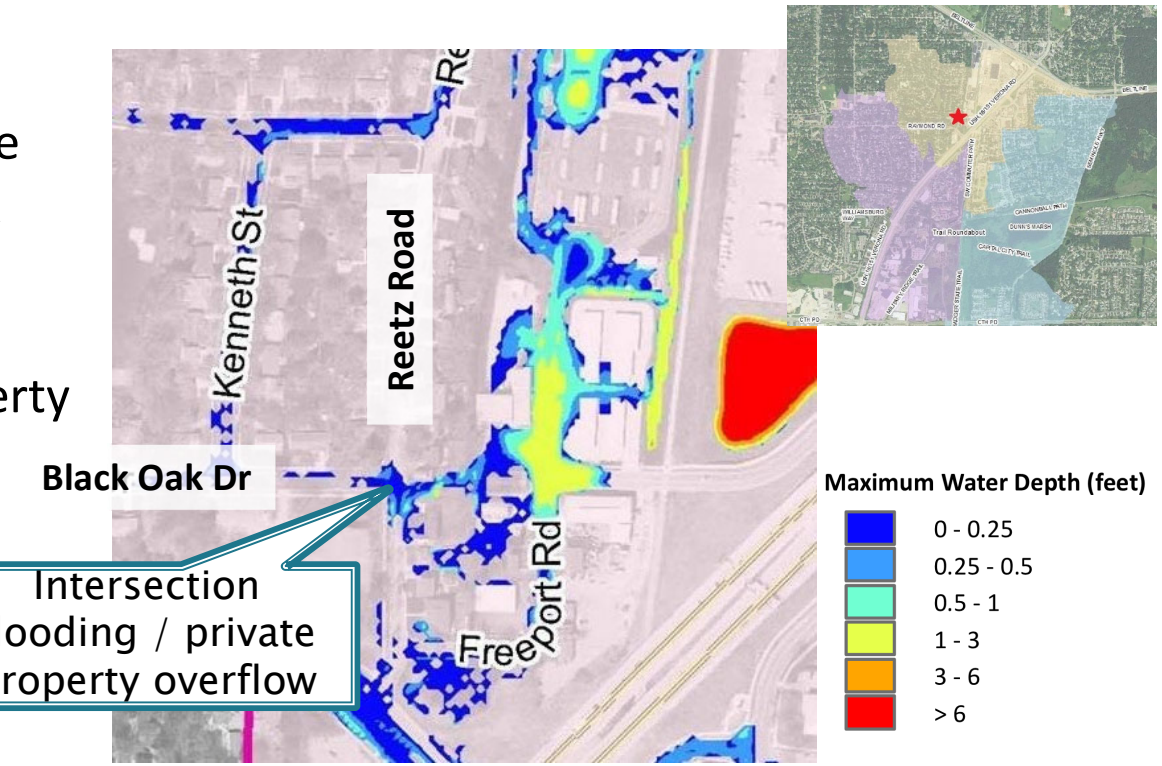
- Underground stormwater storage in parking lots north of Verona Road
  - Cost and land ownership
- Property acquisition and surface detention in vicinity of Freeport Road / Frontage Road
  - Need to acquire properties and relocate existing businesses

CITY OF MADISON

Reetz / Freeport Storm Sewer Connection

Flooding Issues

- Storm sewer surcharge / surface ponding on Reetz Road at Black Oak Drive during 10% and 4% event
- Overflow through private property / sideyards and backyards



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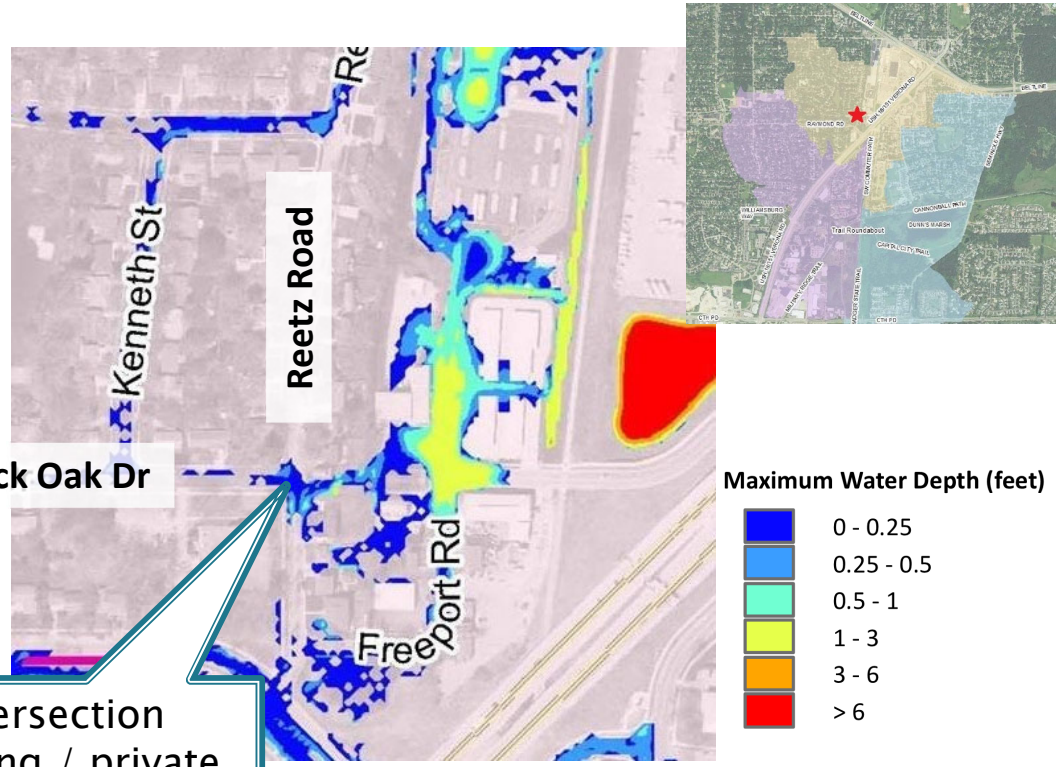
Objective:

- Eliminate intersection flooding and overflow during 10% event



Intersection flooding / private property overflow

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Reetz / Freeport Storm Sewer Connection

Proposed Improvements:

- Install 36” storm sewer on Freeport Road east from Reetz
- Connect to existing storm sewer stub on Reetz, that was previously planned and installed during Reetz street improvement project
- Install 48” storm sewer on north – south leg of Freeport

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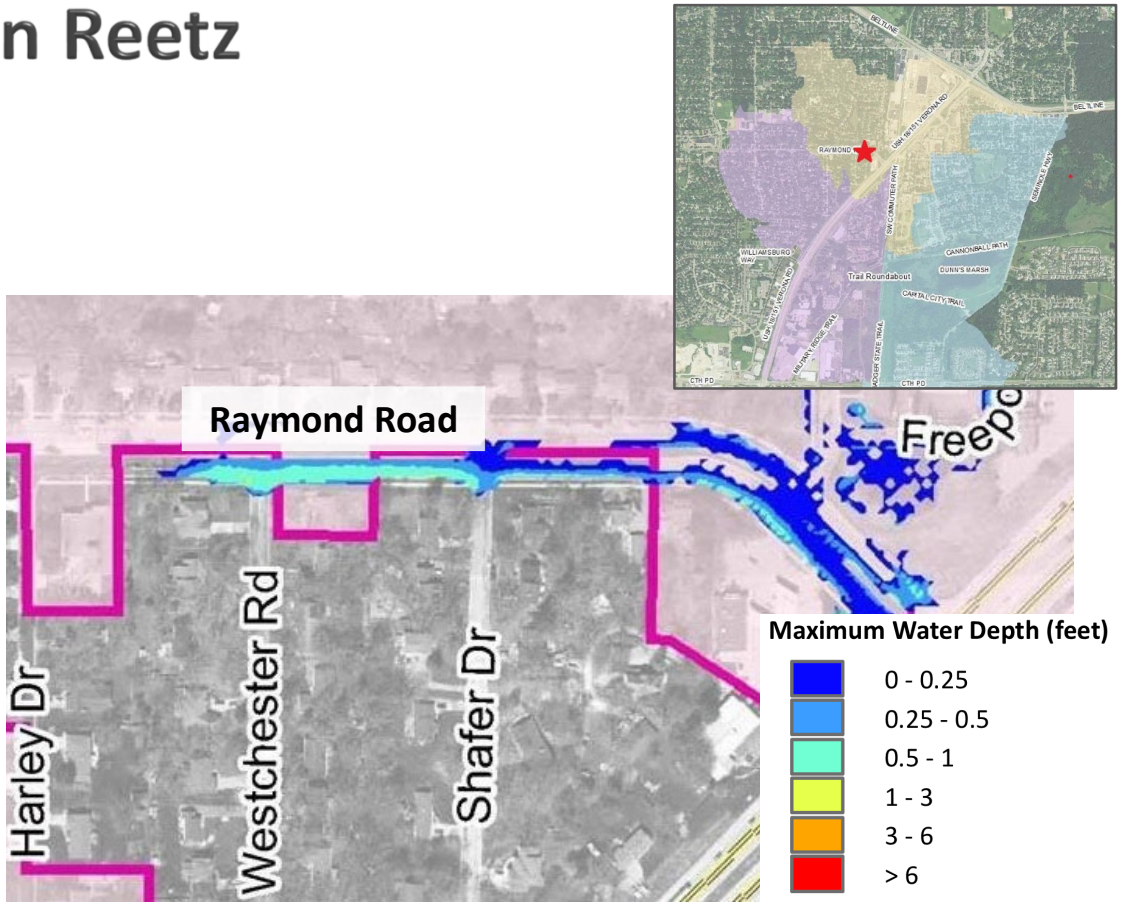
Raymond Road, between Reetz and Westchester

Flooding Issues

- Storm sewer surcharging and street flooding on Raymond Road during 10% and 4% events



CITY OF MADISON

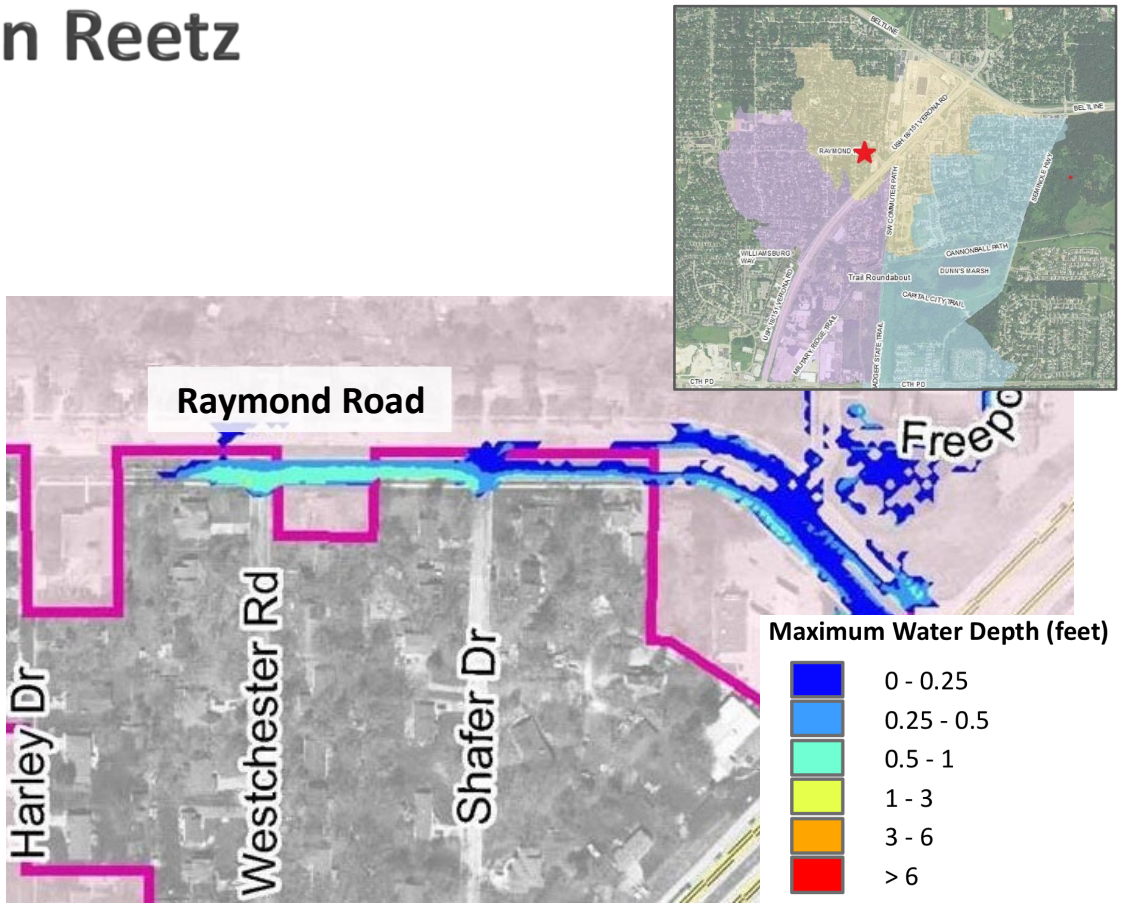
Raymond Road, between Reetz and Westchester

Flooding Issues

- Storm sewer surcharging and street flooding on Raymond Road during 10% and 4% events

Objectives

- Eliminate storm sewer surcharging and improve street drivability during 10% and 4% events



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Raymond Road, between Reetz and Westchester

Proposed Improvements

- upsize existing storm sewer to 30” on Raymond Road and Freeport Road
- Likely combine with Reetz/ Freeport connection

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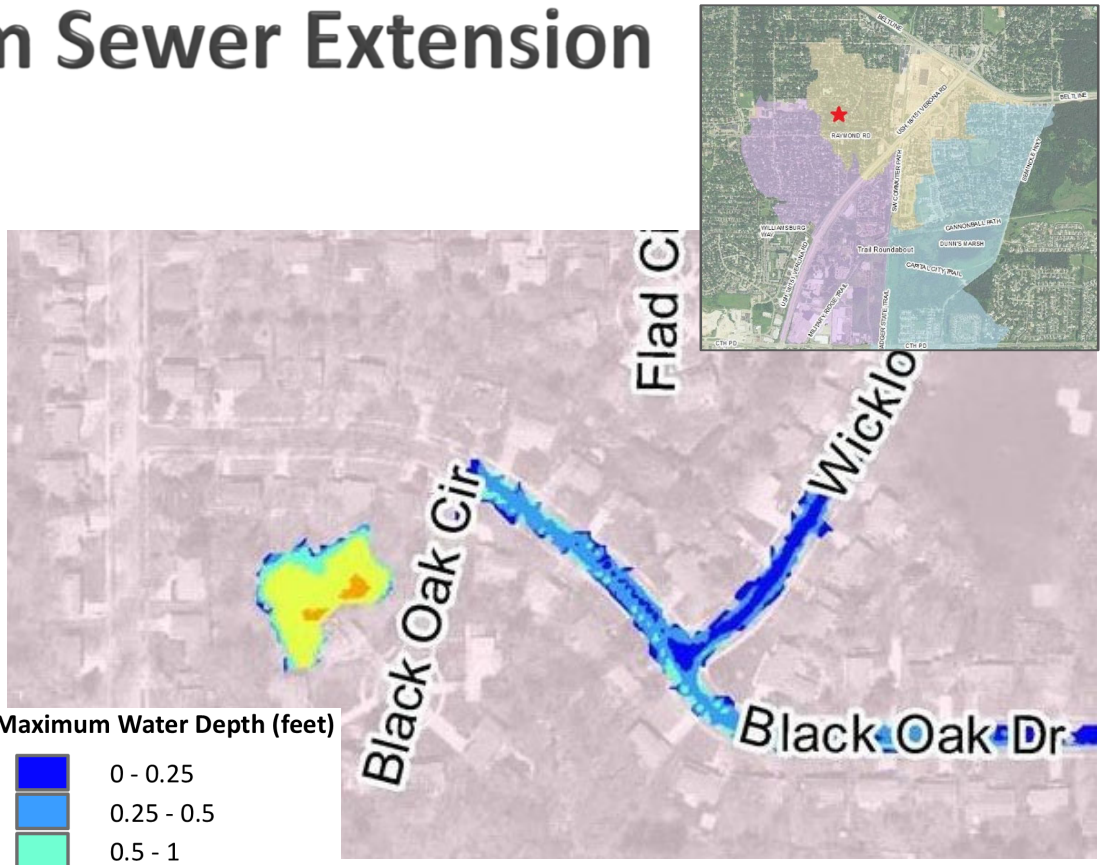
Black Oak Circle Storm Sewer Extension

Flooding Issues

- Enclosed depression with no suitable overflow route
- Private lot drainage to this depression
- Structure flooding and yard flooding



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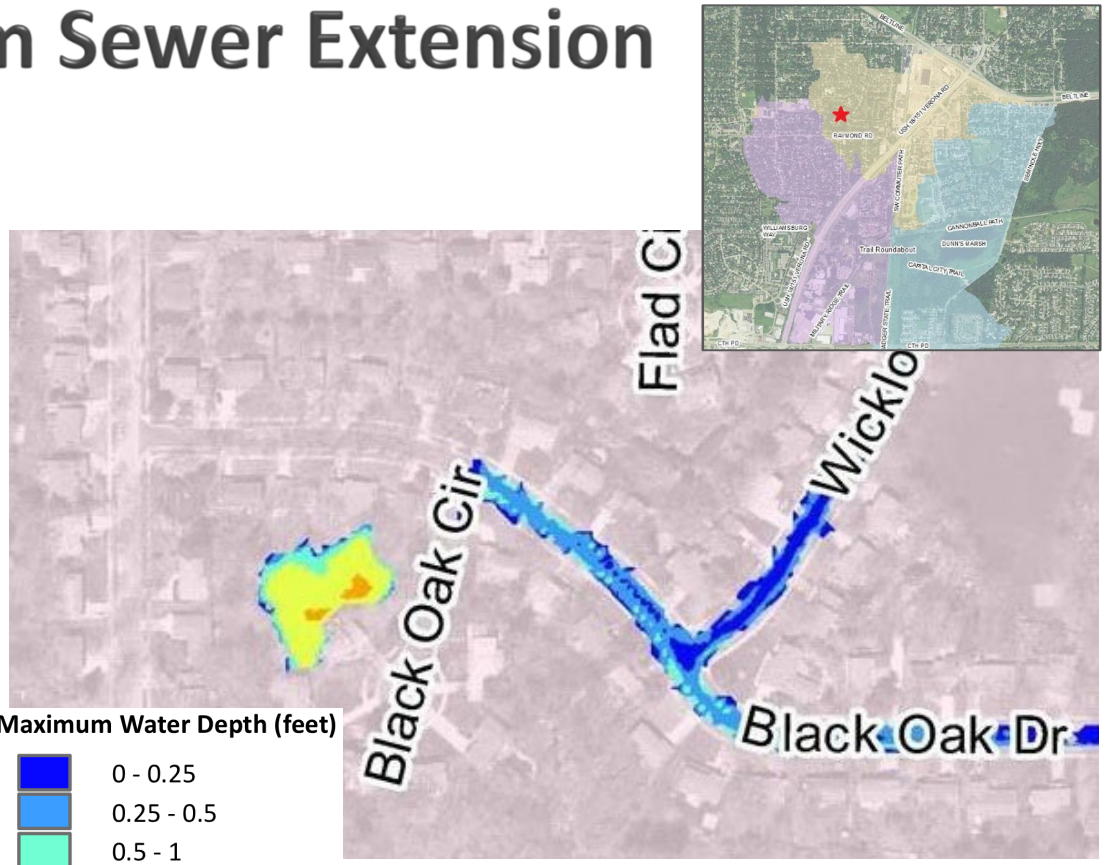
Black Oak Circle Storm Sewer Extension

Flooding Issues

- Enclosed depression with no suitable overflow route
- Private lot drainage to this depression
- Structure flooding and yard flooding

Objectives

- Eliminate structure flooding during 1% event, reduce yard flooding



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Black Oak Circle Storm Sewer Extension

Proposed Improvements

- Construct storm sewer on Black Oak Drive, from Black Oak Circle to Reetz Road
- Provide drainage outlet from enclosed depression to new storm sewer
- At downstream end, connect to Reetz Road storm sewer after Reetz/Freeport project completed

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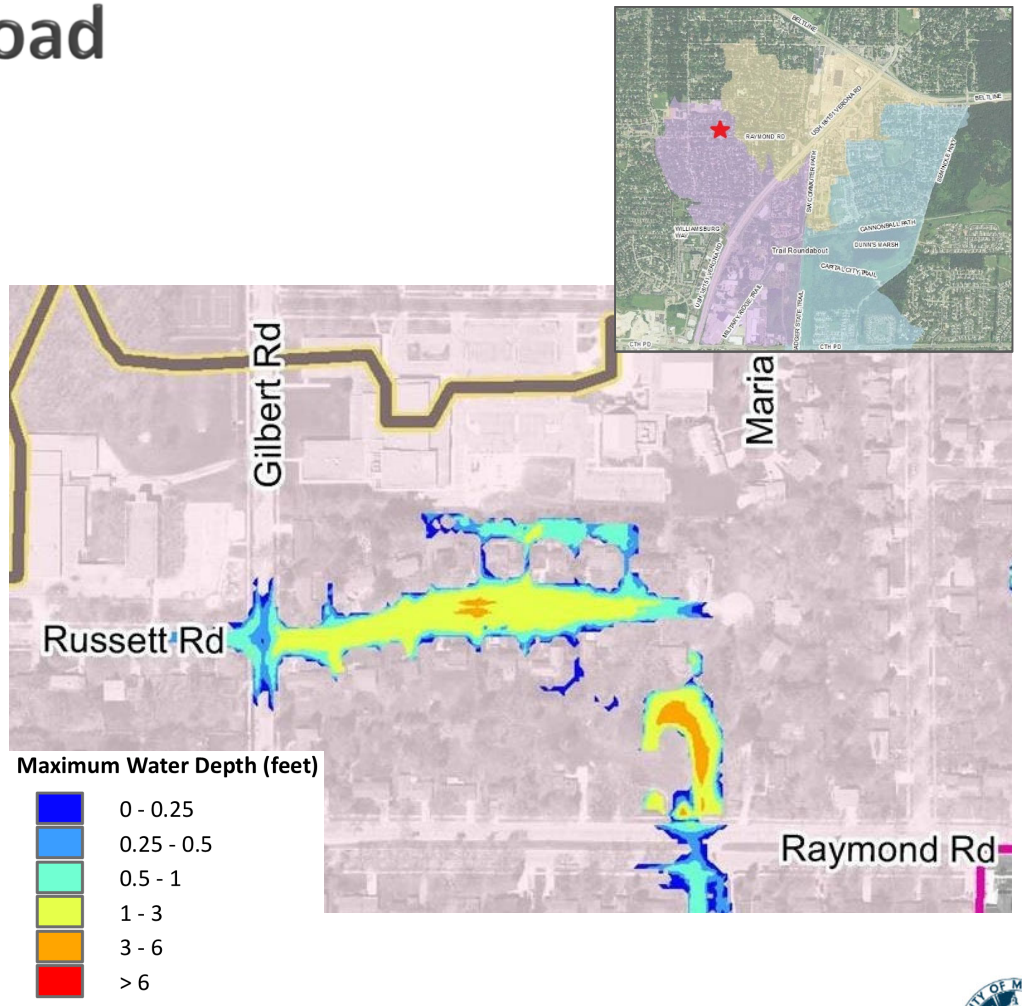
Russett Road / Raymond Road Detention Basin

Flooding Issues

- Low area on Russett Road with no suitable surface overflow and limited storm sewer capacity
- Up to 3 structures on Russett Road flooded during 1% event
- Russett Road impassable during 4% event



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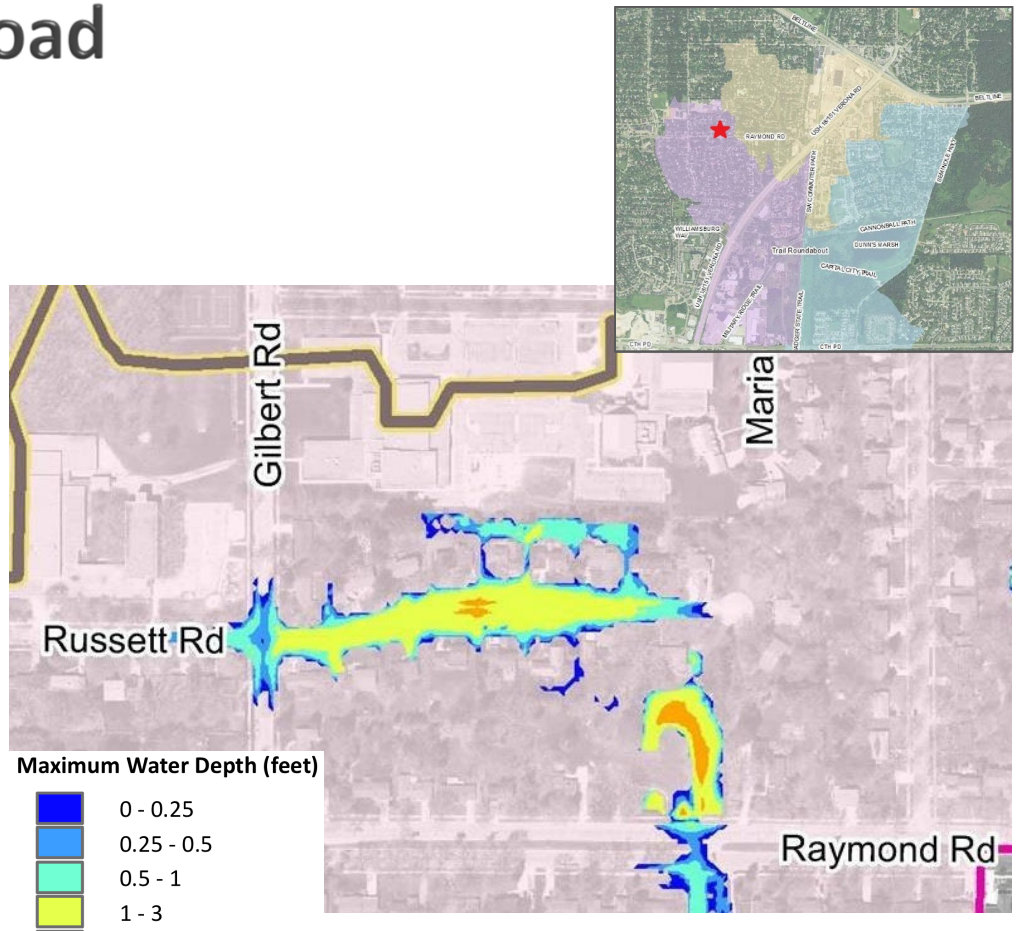
Objectives

- Eliminate structure flooding during 1% event, reduce street flooding



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Russett Road / Raymond Road Detention Basin

Proposed Improvements

- Acquisition of undeveloped lot on Raymond Road
- Construct detention basin
- Construct additional storm sewer to convey water from low area in Russett Road to new detention basin

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Additional Regional Projects Considered But Eliminated

Tawhee Drive / Kroncke Drive flooding

- Additional storm sewer / culvert under Verona Road
  - Cost of tunneling under freeway
  - Downstream flow increases
  - Challenge of approvals from other jurisdictions (Fitchburg, Dane County, Wisconsin DOT)

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Additional Regional Projects Considered But Eliminated

Tawhee Drive / Kroncke Drive flooding

- Acquiring private property and constructing detention basin
  - Requires property acquisition and relocation in another municipality
  - Cost

More cost-effective solution is coordination with homeowners on private property floodproofing

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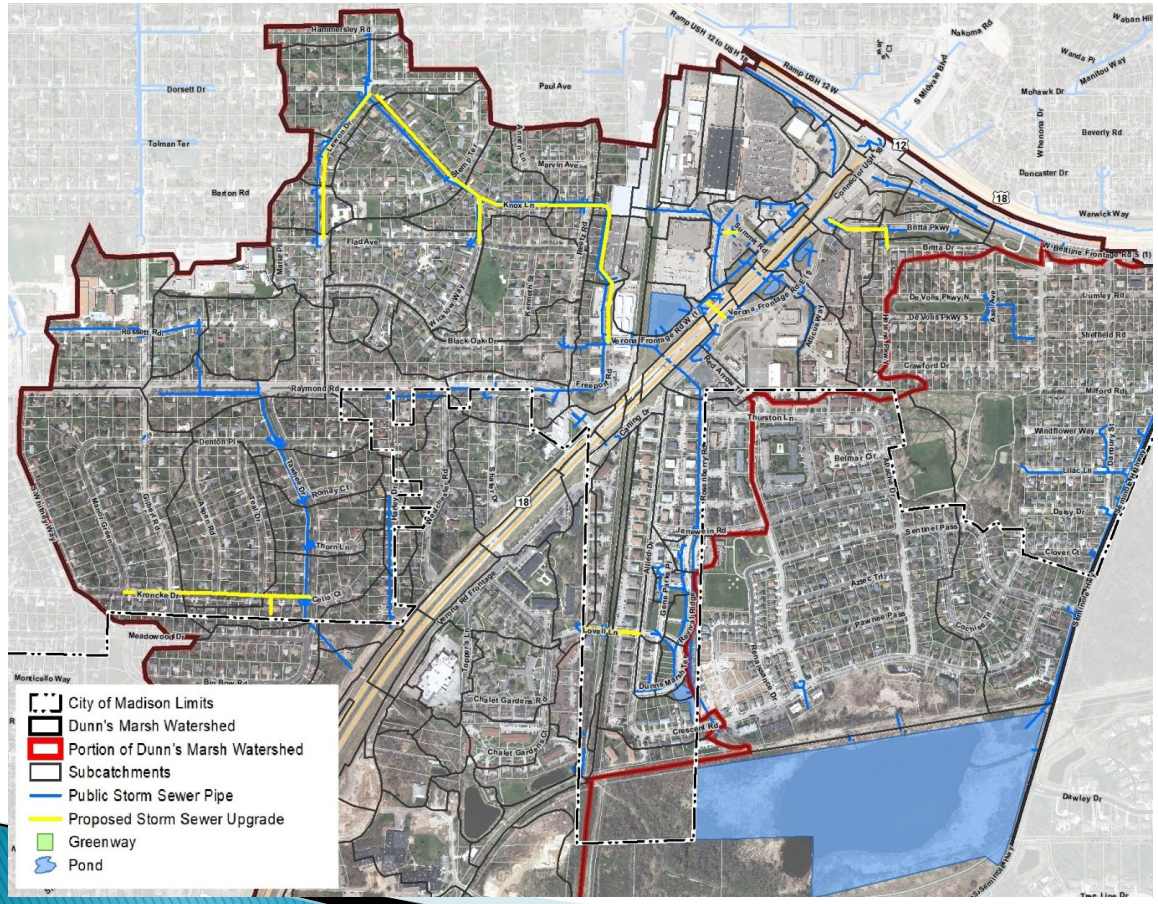
Local Storm Sewer Improvements



- Will be implemented in conjunction with street reconstruction projects

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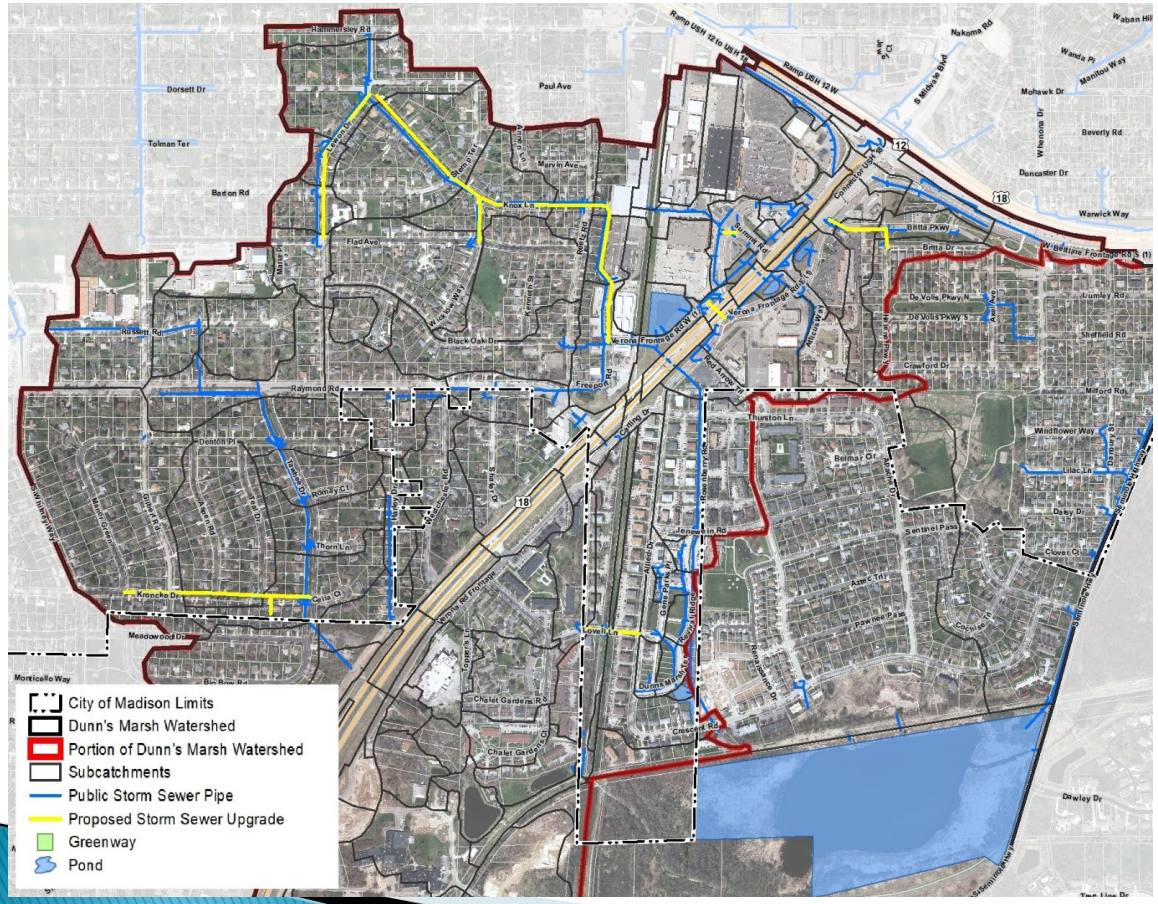
Local Storm Sewer Improvements



- Will be implemented in conjunction with street reconstruction projects
- Long-term process
  - Streets resurfaced about every 30 years
  - Reconstructed about every 75 years

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Estimated Costs for Proposed Improvements

Solution	Cost
Allied Drive / Frontage Road Relief Storm Sewers	$3.2 million
Reetz to Freeport Storm Sewer Connection	$0.3 million
Raymond Rd. Storm Sewer Upsizing	$0.6 million
Black Oak Circle Storm Sewer Extension	$0.5 million
Russett / Raymond Detention Basin	$0.8 million (not including land acquisition)
Local Storm Sewer Improvements	To be determined with street improvement projects

Citywide Prioritization Tool

- City creating prioritization tool to help guide scheduling and budgeting of proposed solutions
  - Will include all flood mitigation solutions in the City (23 watersheds)

Citywide Prioritization Tool

- City creating prioritization tool to help guide scheduling and budgeting of proposed solutions
- Solutions prioritized based on:
  - Flood reduction abilities
  - Racial Equity and Social Justice
  - Ability to improve emergency service access
  - Cost/available funding sources
  - Water quality benefits
  - Co-benefits to other City facilities (streets, etc.)

Citywide Prioritization Tool

- City creating prioritization tool to help guide scheduling and budgeting of proposed solutions
- Solutions prioritized
- See survey to provide input on how solutions are prioritized

Why Aren't All Targets Met for the Watershed?

- Space constraints
- Conflict with other major utilities
- Property ownership
- Cost impacts
- Adverse downstream impacts

Next Steps

- Finalize Report
- Finalize Prioritization Process
- Budget for Projects

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Budgeting Considerations

- Not all projects are yet identified throughout the City
  - Currently identified approximately 50 regional projects in 5 watersheds (23 watersheds will be studied citywide)
  - Must choose projects carefully

Budgeting Considerations

- Not all projects are yet identified throughout the City
- Stormwater Utility fees fund projects
  - Double digit rate increases – not sustainable
  - Without additional funding sources, only 1-2 medium to large projects can be completed in a year

Budgeting Considerations

- Not all projects are yet identified throughout the City
- Stormwater Utility fees fund projects
- Must identify additional funding mechanisms
  - Grants, appropriations, earmark funds

Budgeting Considerations

- Not all projects are yet identified throughout the City
- Stormwater Utility fees fund projects
- Must identify additional funding mechanisms
- Most projects take 1.5 – 2 years to design / permit before they can be constructed

Contact Information & Resources

- Project Manager: Caroline Burger, cburger@cityofmadison.com
- Public Information Officer: Hannah Mohelnitzky, hmohelnitzky@cityofmadison.com
- Project Webpage: www.cityofmadison.com/DunnsMarshWatershed
  - Sign-up for project email updates on the website
  - Report flooding, past or current on the Report Flooding form
  - Learn ways to protect your property from flooding with on-site fixes
- New Flooding Website: www.cityofmadison.com/flooding
- Everyday Engineering Podcast
- Facebook – City of Madison Engineering
- Twitter – @MadisonEngr
- Provide your feedback! https://www.cityofmadison.com/news/survey-open-city-engineering-works-to-prioritize-flood-projects

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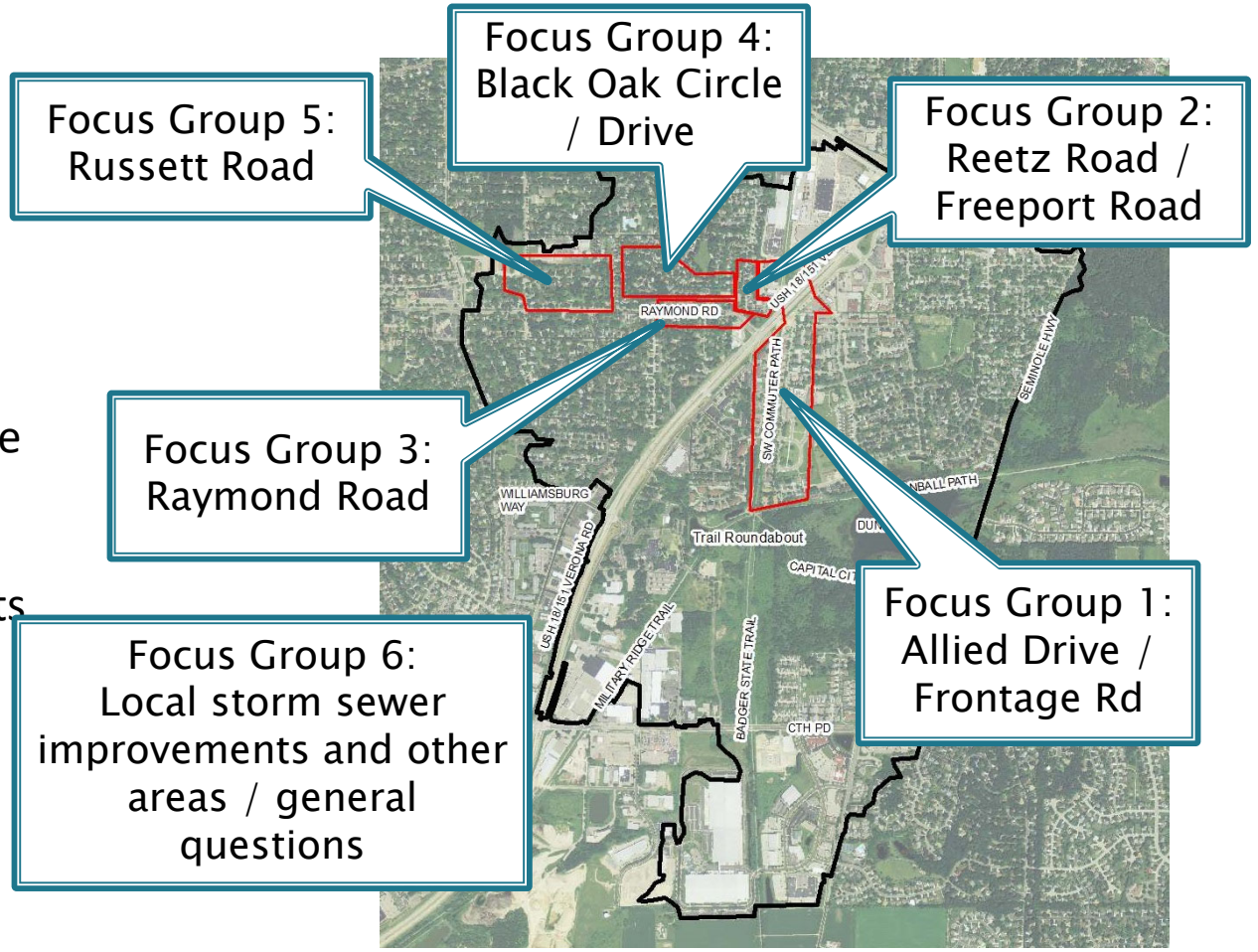
Focus Groups – Zoom Breakout Rooms

- Join the Zoom Breakout Room Session
  - Window will pop up where you can select which group you'd like to join
  - If a window doesn't pop up, look for a button on the bottom that says "Breakout Rooms." Click the button and room options will appear.

Focus Groups

1. Allied Drive / Frontage Road
2. Reetz Road / Freeport Road
3. Raymond Road
4. Black Oak Circle / Black Oak Drive
5. Russett Road
6. Local Storm Sewer Improvements and other areas / general questions



Breakout Rooms

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