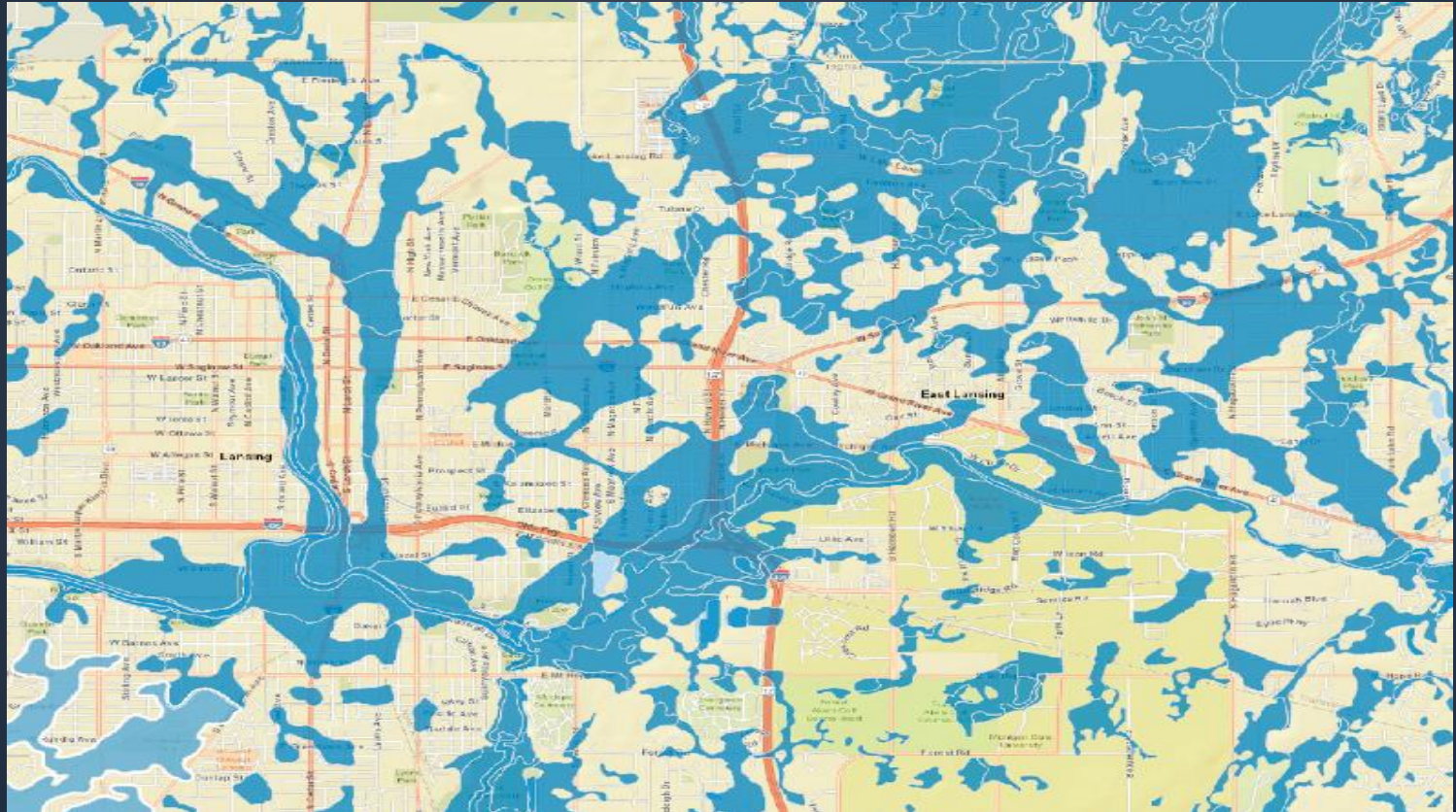


# Stormwater Challenges Facing Michigan

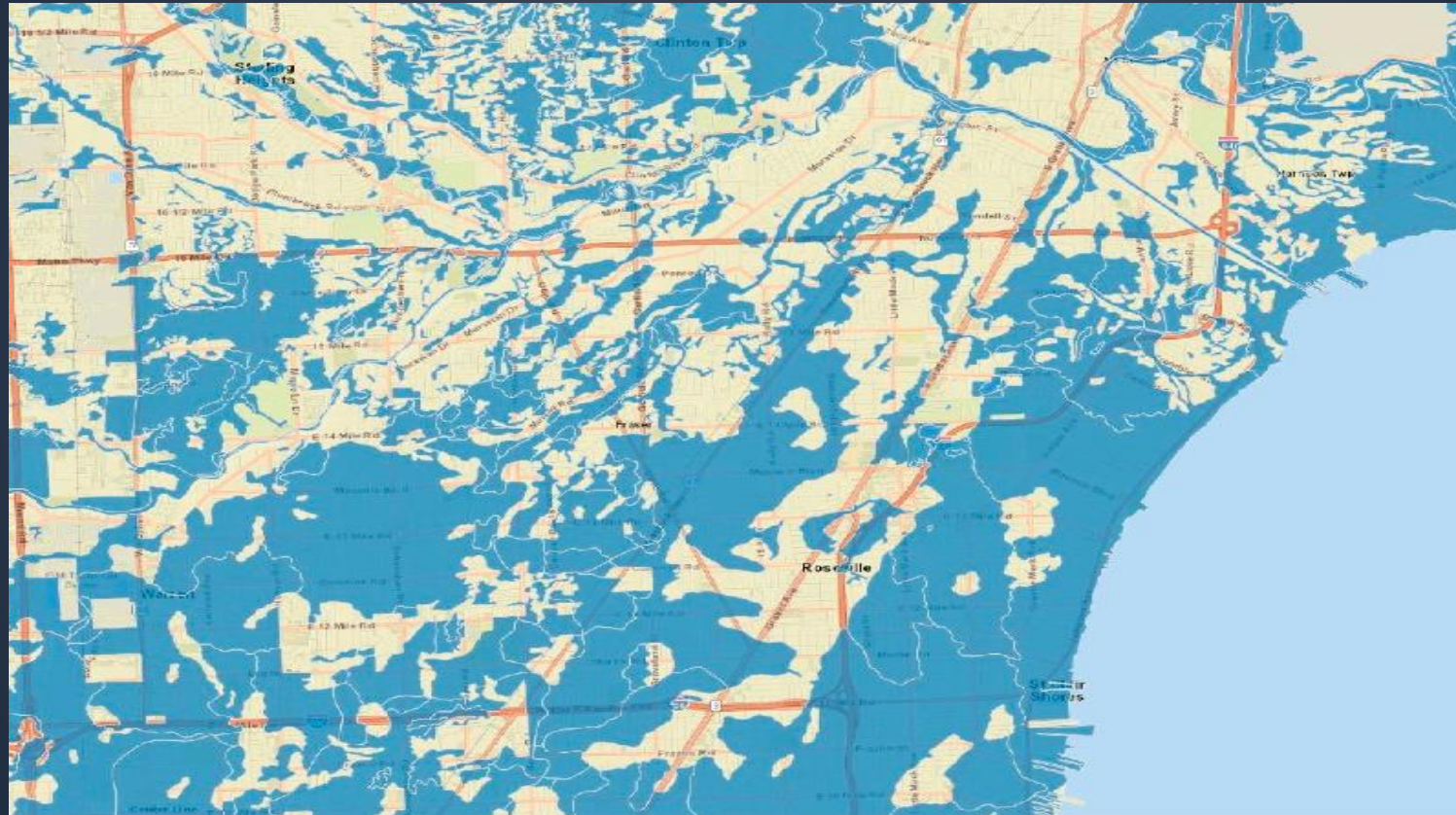


# Hydric Soils-Lansing/East Lansing





# Hydric Soils-Macomb County



# Compounding Effect

- Aging infrastructure
- Record rain events
- Rising Great Lakes and groundwater levels
- Continuing development
- Loss of wetlands























*Courtesy The Daily Mining Gazette, Houghton MI*









*Photo by Olivia Fellows, courtesy Pioneer Newspaper Big Rapids*









*Courtesy WWMT-TV*







# Water Management Districts

## House Bills 4382 & 4383

- Bill sponsors: Rep. Morse (HB 4382) & Rep. VanderWall (HB 4383)
- Allows creation of “water management districts”
- Intended to take “pressure” off drains by storing/managing water in the entire watershed



# Water Management Districts

## House Bills 4382 & 4383

- Drafted to complement (not replace) other chapters of Drain Code
- More involvement from local units in decision-making process, especially in intra-county watersheds
- Increased planning by local units with ordinances/reviews



# Culvert Replacement

## Issues with undersized culverts:

- Causes flooding behind culvert, which can result in overtopping driveway/road
- High water velocity causes scour and erosion downstream
- High water velocity causes issues with fish passage



# Culvert Replacement







**Flooding due to  
undersized culvert**





**Scour and erosion due to  
undersized culvert**



# Culvert Replacement Examples

## Schooley Drain (Kent County)

- Diameter: 16x7 foot box culvert
- Length: 60 feet
- Replacement cost: \$240,496



# Culvert Replacement Examples

## Gage Drain (Saginaw County)

- Diameter: 10x5 foot box culvert
- Length: 48 feet
- Replacement cost: \$208,700



# MDNR Payment of Drain Assessments

- MDNR lands are currently exempt from drain assessments
- Problematic because many drainage districts include significant amounts of State-owned land
  - High assessment burden on remaining property owners



# MDNR Payment of Drain Assessments

## House Bill 5335

- Bill sponsor: Rep. Andrews
- Allows assessment of MDNR lands based on benefits received from a drain/drain project



# QUESTIONS?

