

# MS4 AND MUNICIPAL DRAINAGE

Today we will discuss common municipal drainage challenges and practical stormwater management strategies that apply to every highway department. While MS4 requirements will be discussed, the concepts, maintenance practices and problem-solving techniques will be relevant to all municipalities regardless of MS4 designation. My goal is that participants will gain practical tools for managing drainage systems and protecting infrastructure.



Whether you're an MS4 community or a rural town with one stoplight, every one of us fights the same enemy. Water doesn't care about municipal boundaries, budgets, or whose ditch it's in. It always finds the weakest spot in our infrastructure.



# How Water Thinks

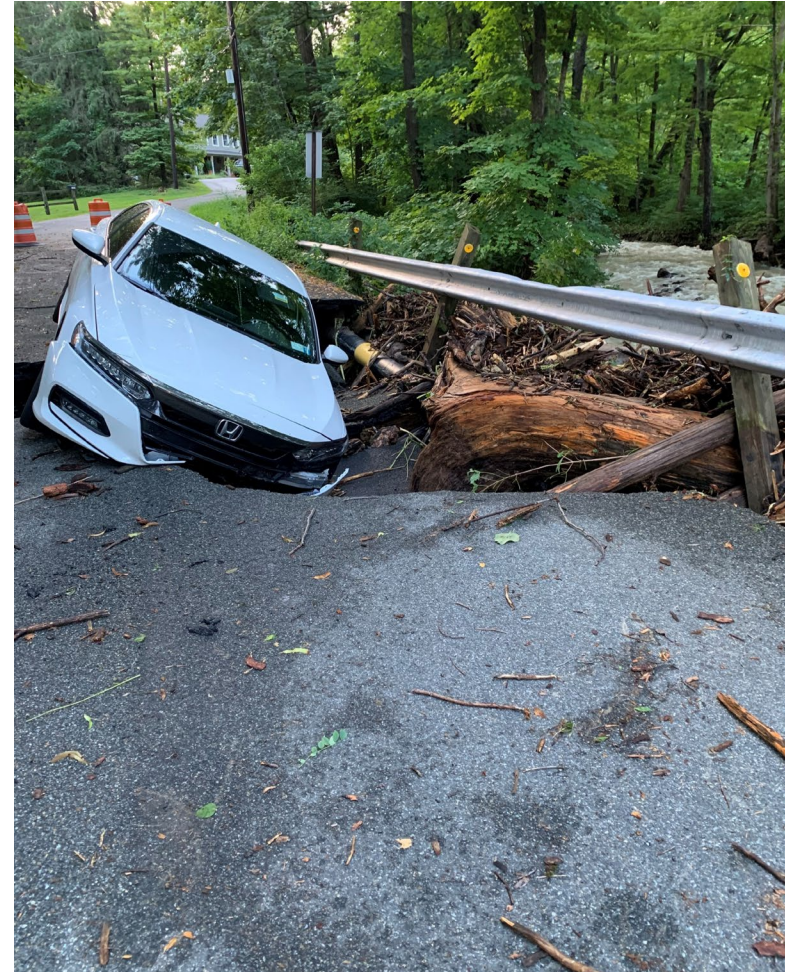
- Water follows gravity—not road ownership
- Water simply follows the easiest path
- **Water also remembers**
- If a stream existed 100 years ago...
- If a wetland was filled...
- If a swale was paved...
- Water is trying to return there



# Drainage Maintenance & Inspection

Keeping drainage systems clear, functional, and ready for heavy rainfall

- **Bridge & Culvert Obstructions**  
Inspect and remove debris, sediment, vegetation, and other obstructions that restrict water flow.
- **Ditch Cleaning**  
Clean and maintain roadside ditches to restore proper drainage and prevent water from backing up onto roads.
- **Catch Basin Checking**  
Inspect catch basins for debris, sediment, and blockages; clean as needed to maintain proper inlet and outlet flow.
- **Routine Drainage Inspections**  
Identify problem areas early and address drainage issues before they lead to flooding, erosion, or roadway damage.
- **Maintain clear waterways and drainage structures to improve roadway safety, reduce flooding, and protect infrastructure.**



# FEMA – DISASTER'S



# FEMA – MITIGATION

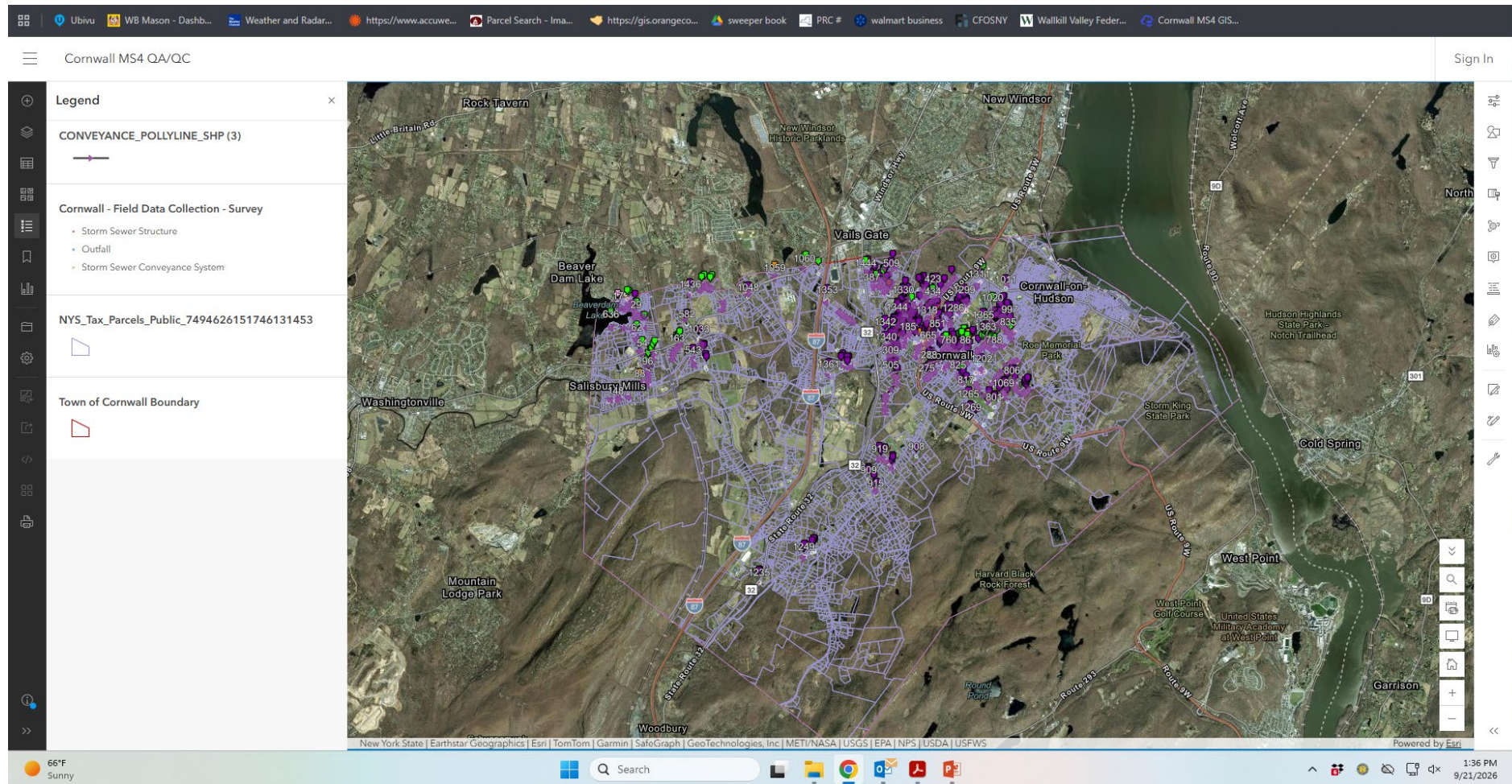


# GRANTS



# GIS MAPPING

- <https://www.arcgis.com/apps/mapviewer/index.html?webmap=98deafaf78704edd956a516a6120fcd8&center=-74.027593%2C41.427615&level=15>



# HAVE A PLAN, BE PREPARED!

