Clear Water Alabama – 2024

Stormwater Program

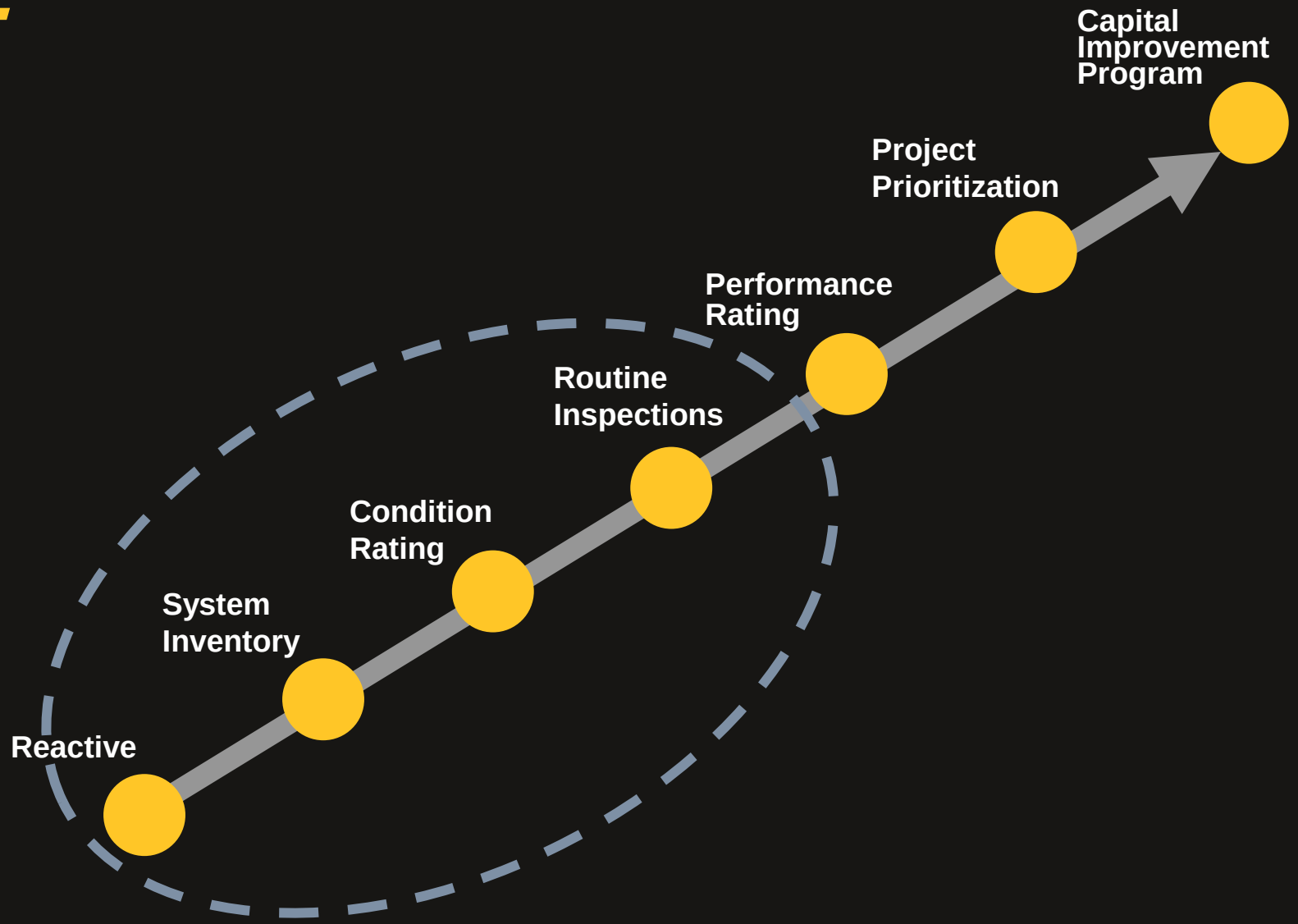
City of Dothan - Public Works

September 25, 2024

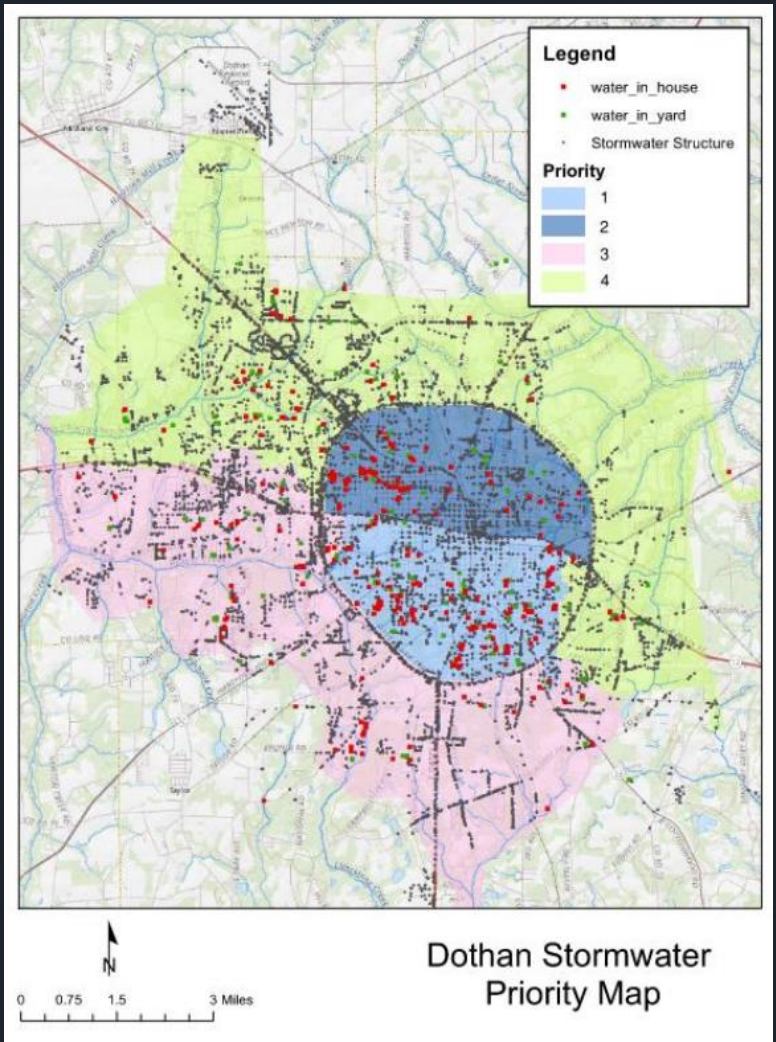
Overview

- Introduction
- What do we have?
- How much more will we get?
- How is it doing?
- How do we want it to do?
- How are we going to get there?
- How will we be winning?

Stages of Capital Improvement Planning



Inventory and Condition Assessment



Year 3 of Inventory and Condition Assessment Complete

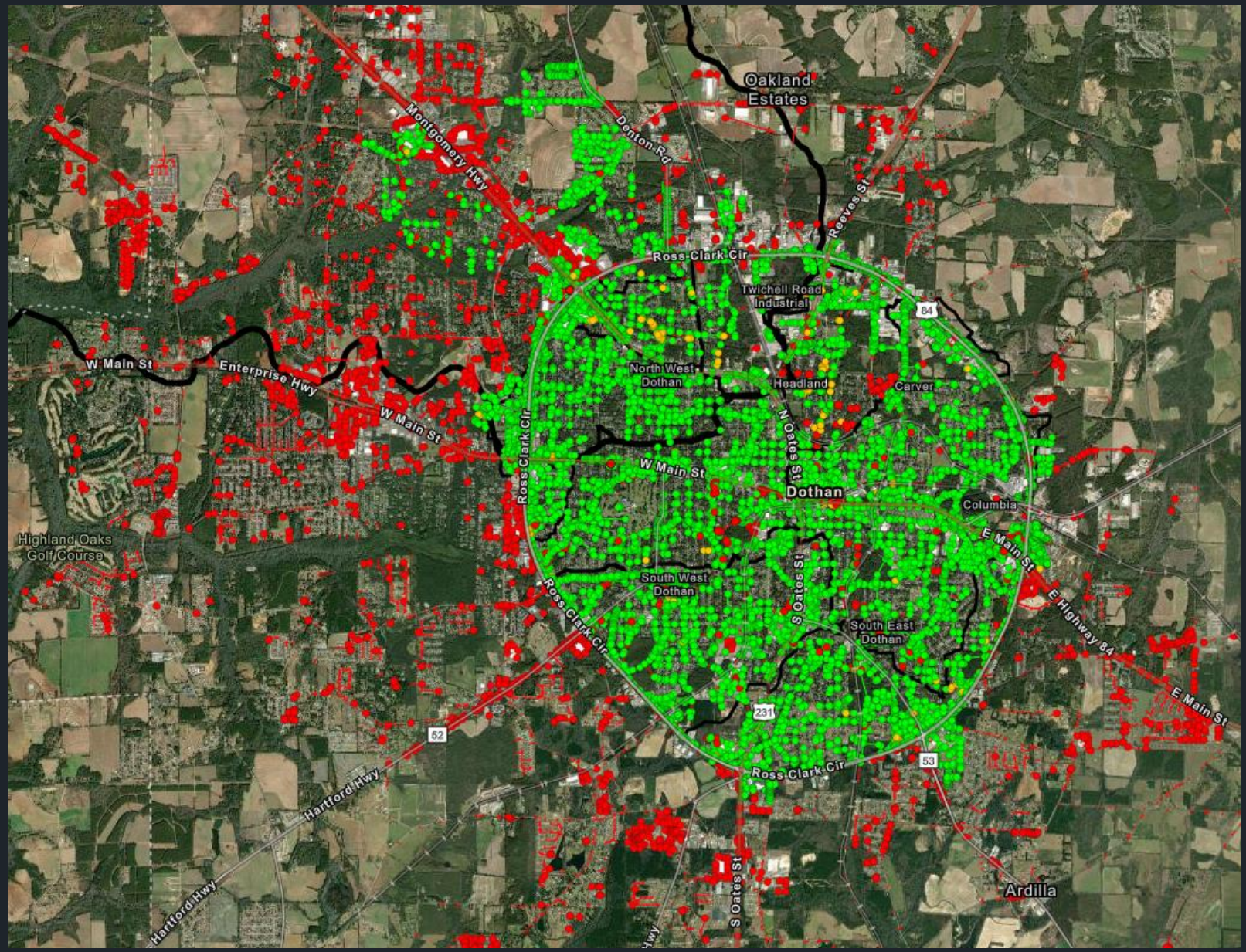
Year 1 – Priority Area 1

Year 2 – Priority Area 2

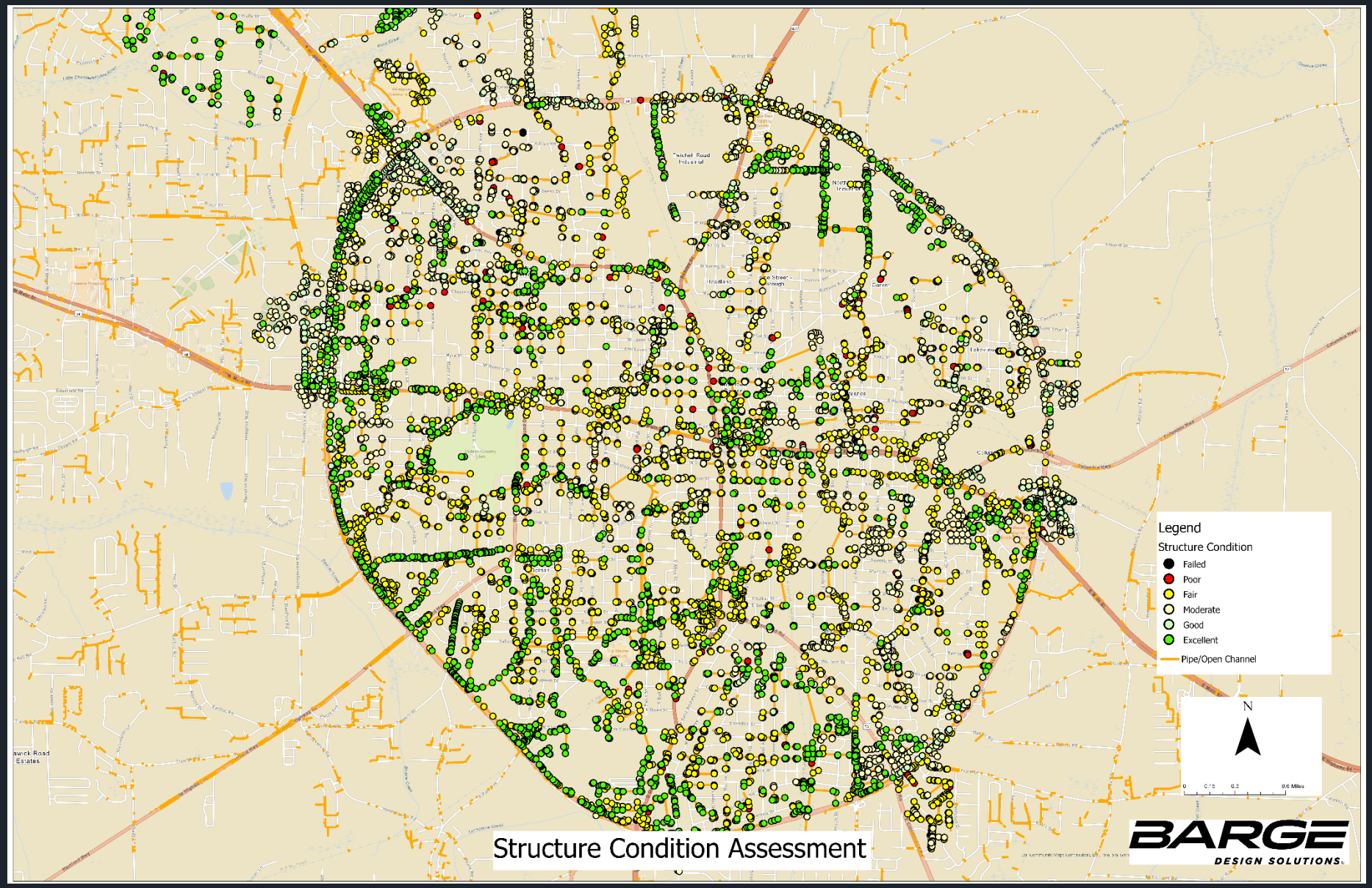
Year 3 – Priority Area 4

Year 4 – Priority Area 3

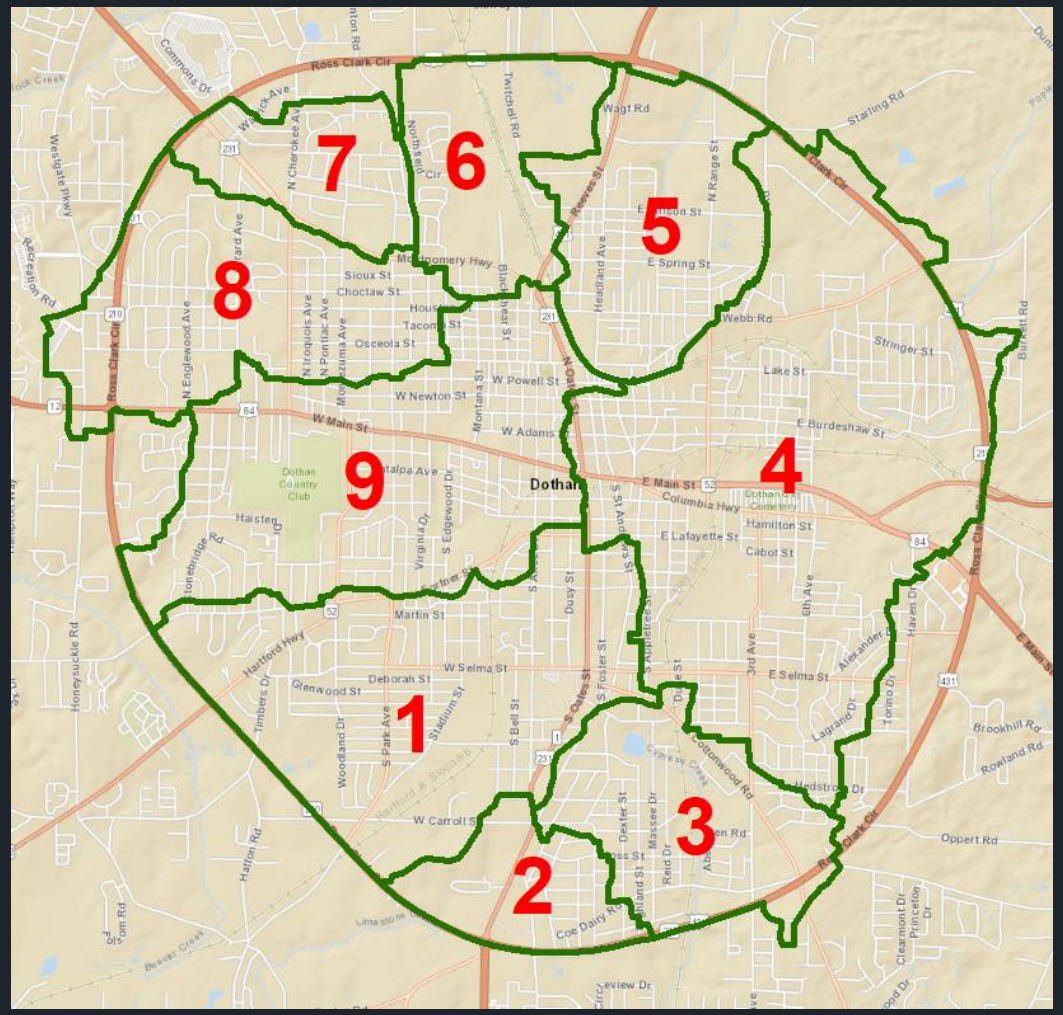
Inventory Progress



Condition Assessment



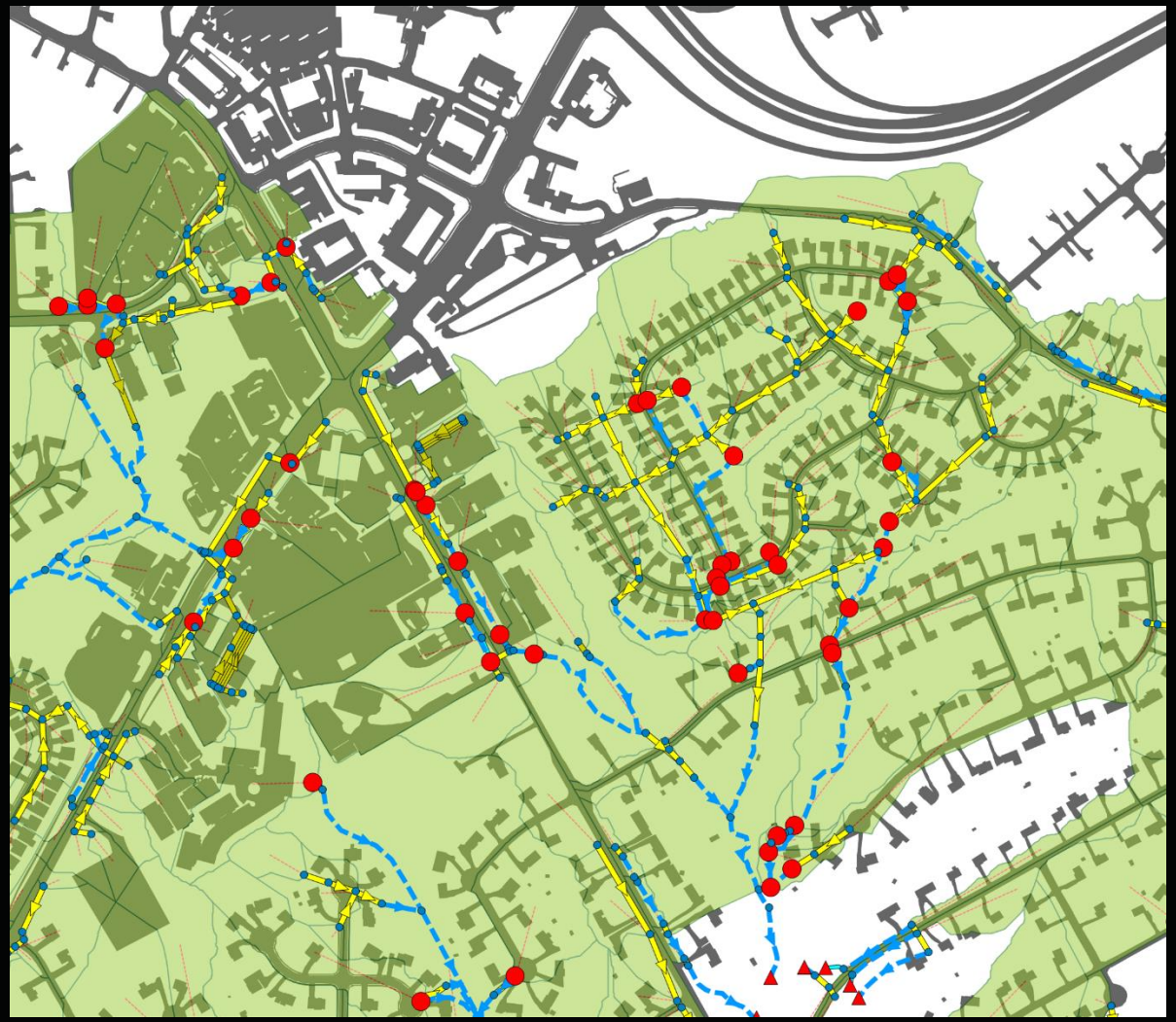
Hydrologic and Hydraulic Analysis



Year 2 of Hydrologic and Hydraulic Analysis On-Going

Year 1 – Basin 1 & 2, 3
Year 2 – Basin 8, 9, 4
Year 3 – Basin 5, 6, 7, Outside Areas 1*
Year 4 – Outside Areas 2

* Delineation will occur after Inventory is complete



Hydraulic Modeling

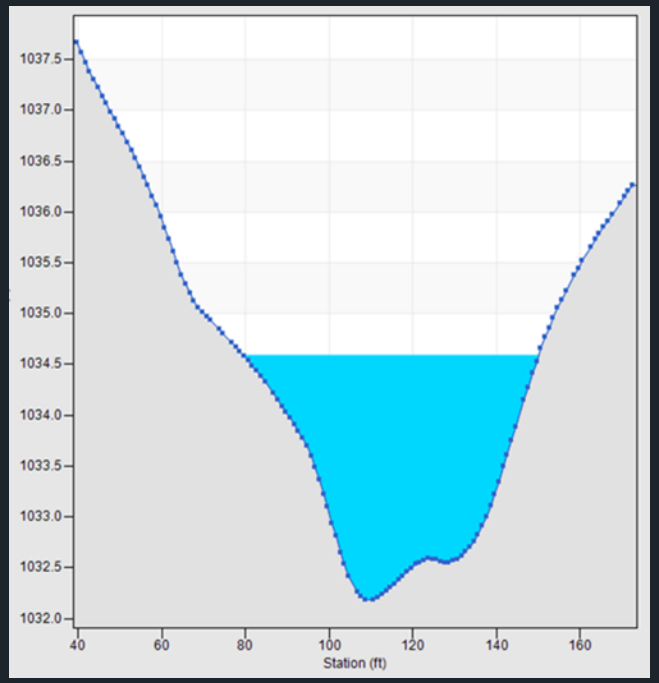
PCSWMM MODEL

Overland Flow Paths

Conduit: 805921

Attributes	
Name	805921
Inlet Node	805771
Outlet Node	805834
Description	
Tag	
Length (ft)	114.157
Roughness	0.013
Inlet Elev. (ft)	1072.086
Outlet Elev. (ft)	1071.255
Initial Flow (cfs)	0
Flow Limit (cfs)	0
Entry Loss Coeff.	0.35
Exit Loss Coeff.	0.5
Avg. Loss Coeff.	0
Seepage Rate (in/	0
Flap Gate	NO
Cross-Section	CIRCULAR
Geom1 (ft)	2
Geom2 (ft)	0
Geom3	0
Geom4	0
Barrels	1

Roughness and Losses

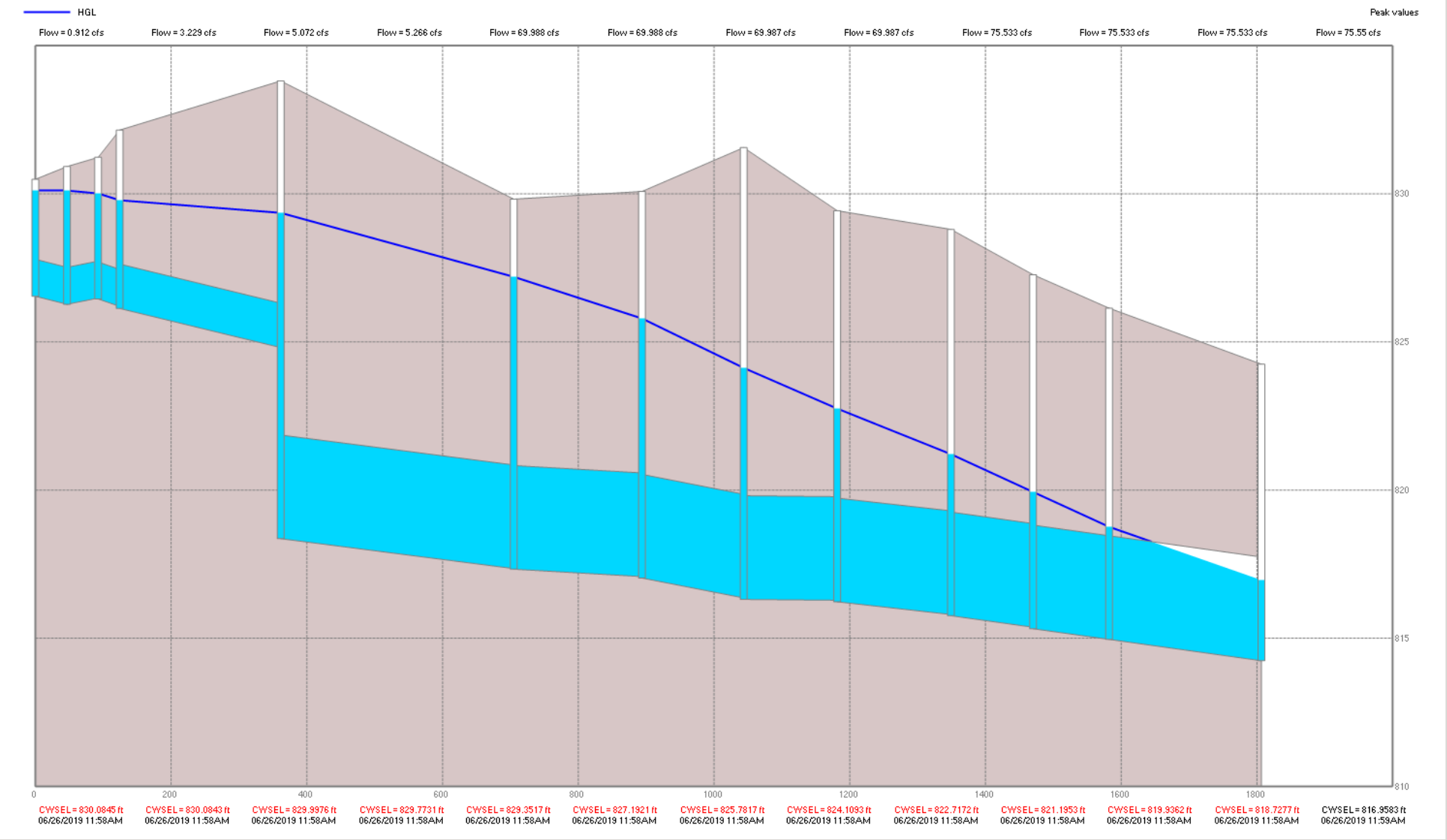


Non-Conduit Transects

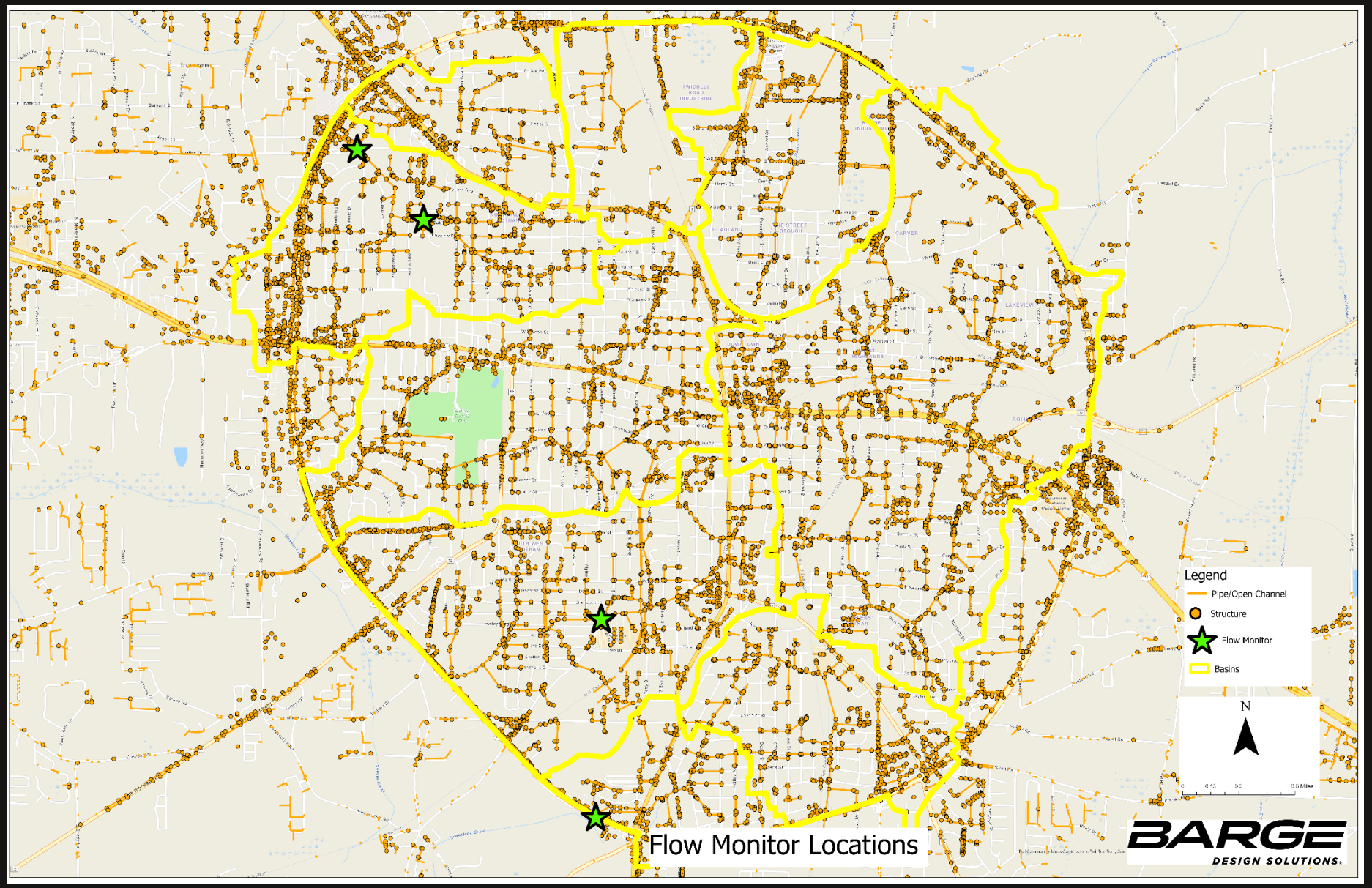
HYDROLOGIC MODEL

- Pour points
- Subcatchment delineation
  - Inlet level
- Longest flow path

Hydraulic Modeling

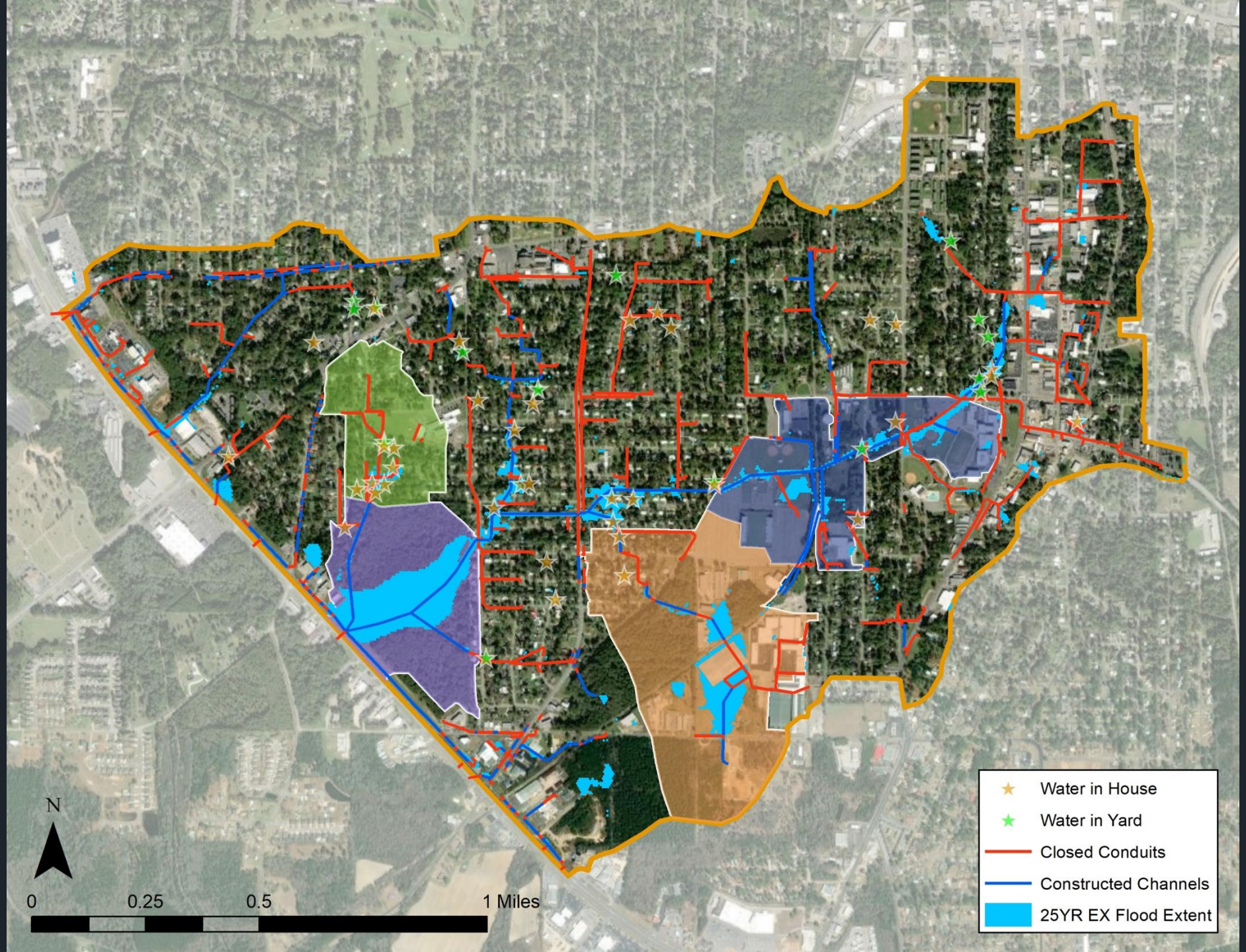


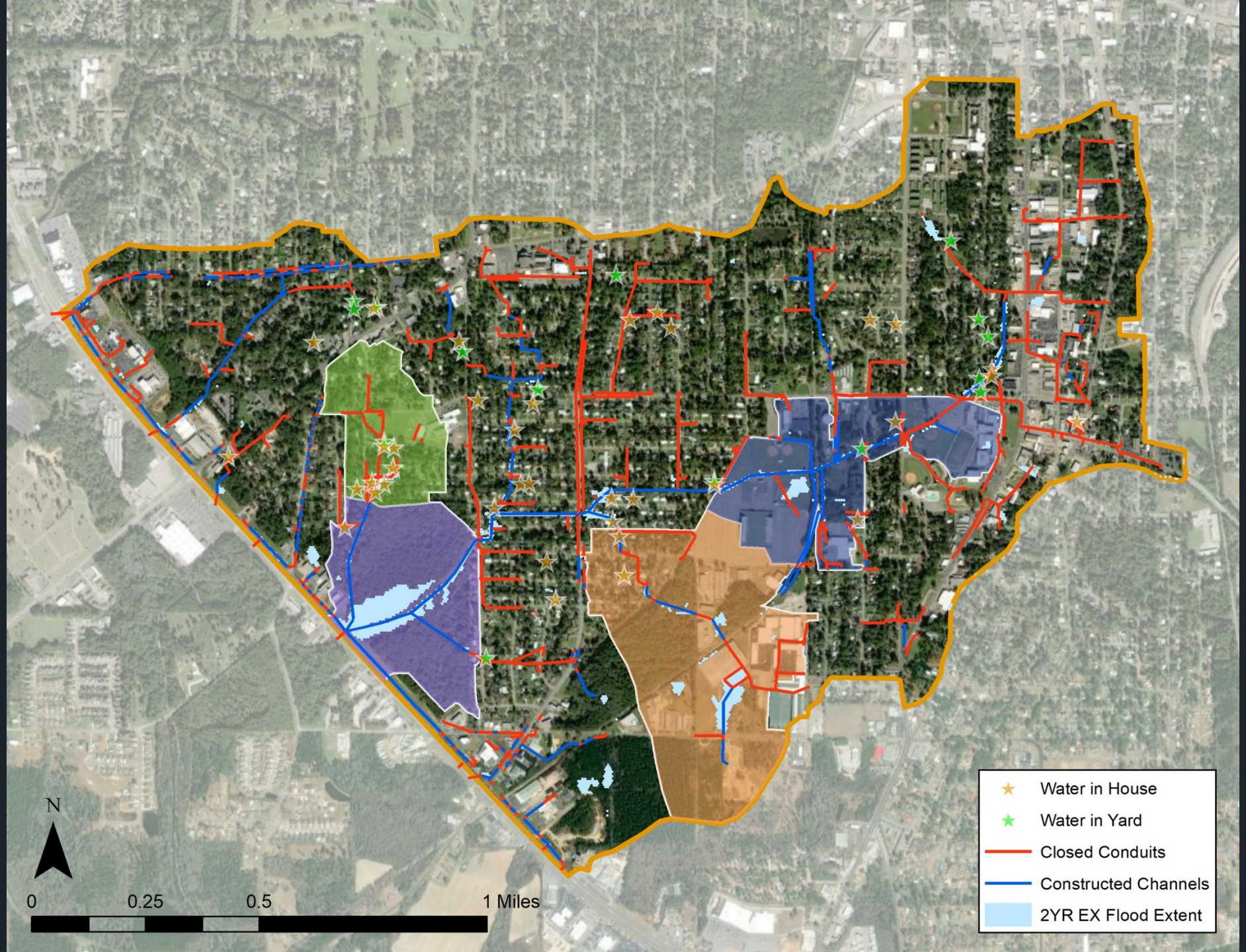
Validating & Calibrating



DATABASE ENHANCEMENT

- Infrastructure connectivity (pipes and junctions)
  - Multiple data sources
- Spatially moved infrastructure to match aerials/contours
- Invert gap analysis
  - Interpolation, reasonable assumptions
- Additional Fieldwork required?


N
0
0.25
0.5
1 Miles
Water in House
Water in Yard
Closed Conduits
Constructed Channels
25YR EX Flood Extent


N
0
0.25
0.5
1 Miles
Water in House
Water in Yard
Closed Conduits
Constructed Channels
2YR EX Flood Extent

LIMITED DETAIL STUDY

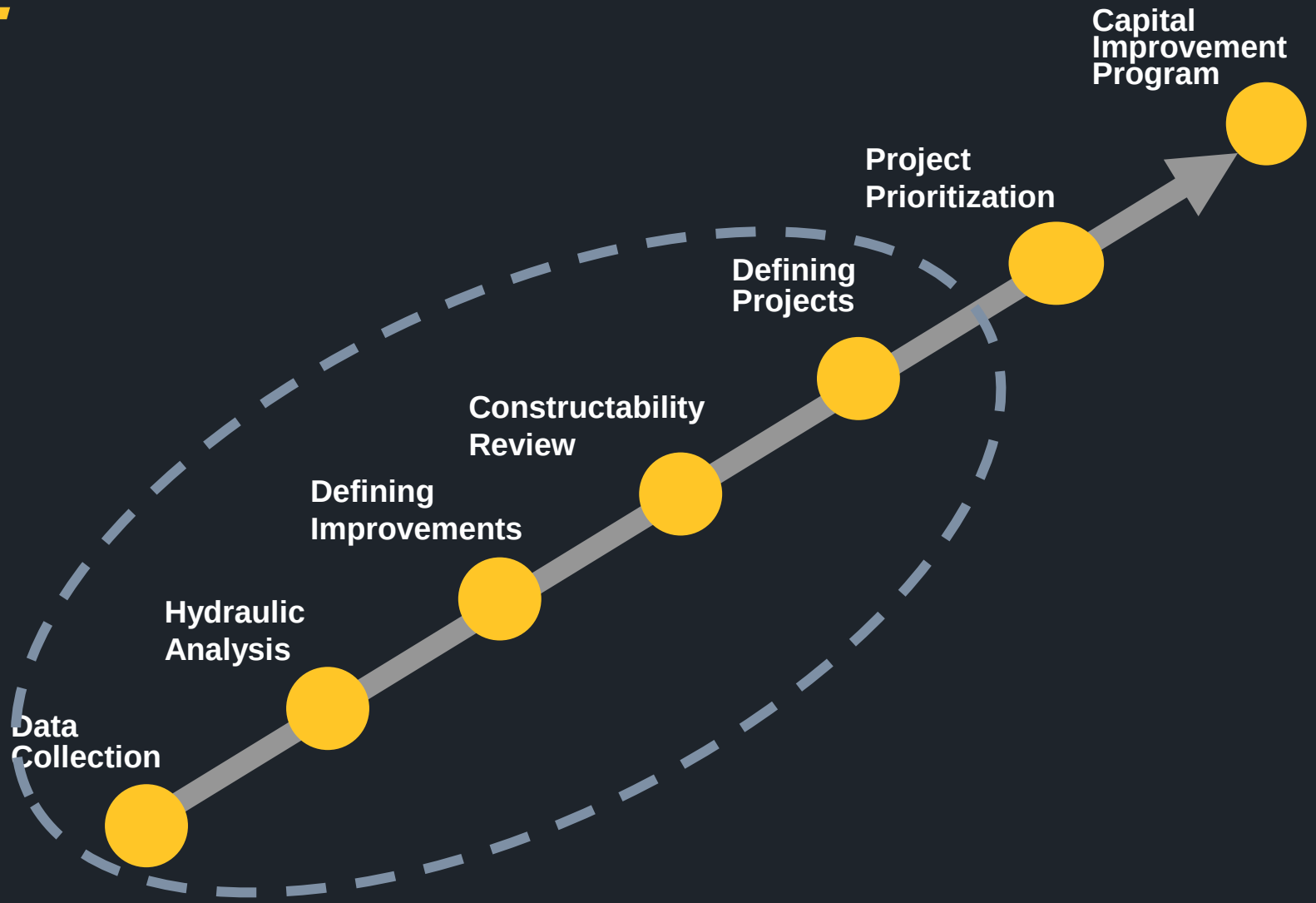
- Update FEMA floodplain models for limited detail streams
  - Update HEC-RAS cross-sections using new terrain data
  - Use PCSWMM model peak flows in the existing HEC-RAS model to update LDS flood extent shapefile

Defining Projects that stand a chance of coming to fruition

Evaluation Matrix:

- Project Envelop
- Stakeholder Importance
- Funding Constraints
- Environmental Constraints/Requirements
- Constructability (Coordination with Other Area Projects)
- Weighted Evaluation Factors (Importance)

Where does this lead us?



Questions?

Thank You!

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