

Introduction & Overview

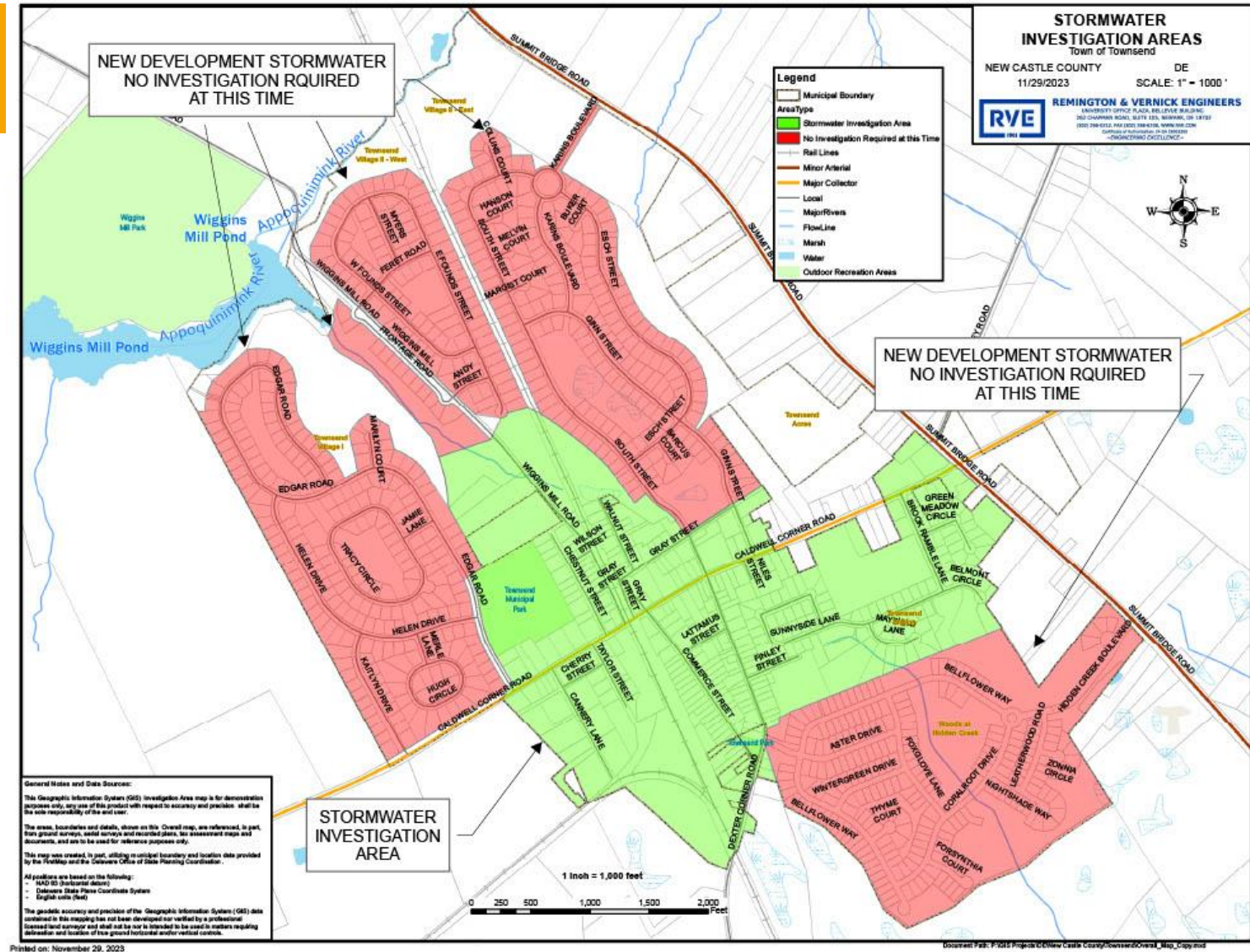
- Project Goals & Priorities
 - Provide a master stormwater and drainage plan for Townsend.
- History
 - Previous areas of concern
 - Cannery Lane
 - Rear yards of Commerce Street, east of railroad tracks
 - Wiggins Mill Road Bridge culvert
- MS4 Permit Waiver
 - EPA regulations allowed NPDES permitting authorities to waive permit coverage
 - if the MS4 serves a population of less than 1,000 within the urbanized area and does not contribute to stormwater impairments.
 - DNREC excluded Townsend from New Castle County MS4 permit
- Funding Sources (\$148,252)
 - Surface Water Matching Planning Grant
 - DNREC | \$50,000₍₂₀₂₂₎ + \$24,126₍₂₀₂₃₎ = \$74,126
 - Town of Townsend Match | \$74,126

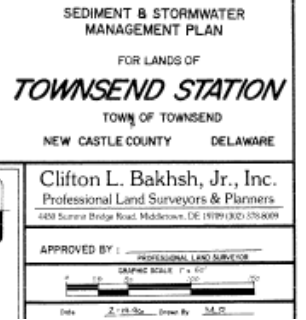
Scope of Work

- 1) Televisive inspection of 6,100 LF of existing stormwater pipe in Townsend Station.
- 2) Hydraulic study and analysis of existing stormwater infrastructure.
- 3) Development of Geographic Information System (GIS) Stormwater Infrastructure Management & Mapping Database for the Town of Townsend.

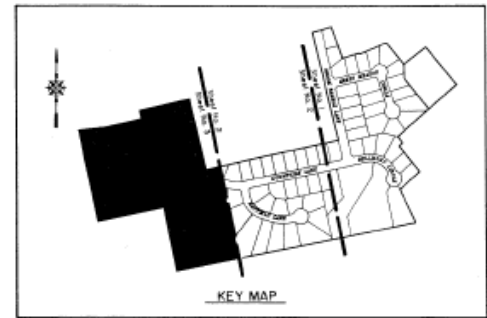
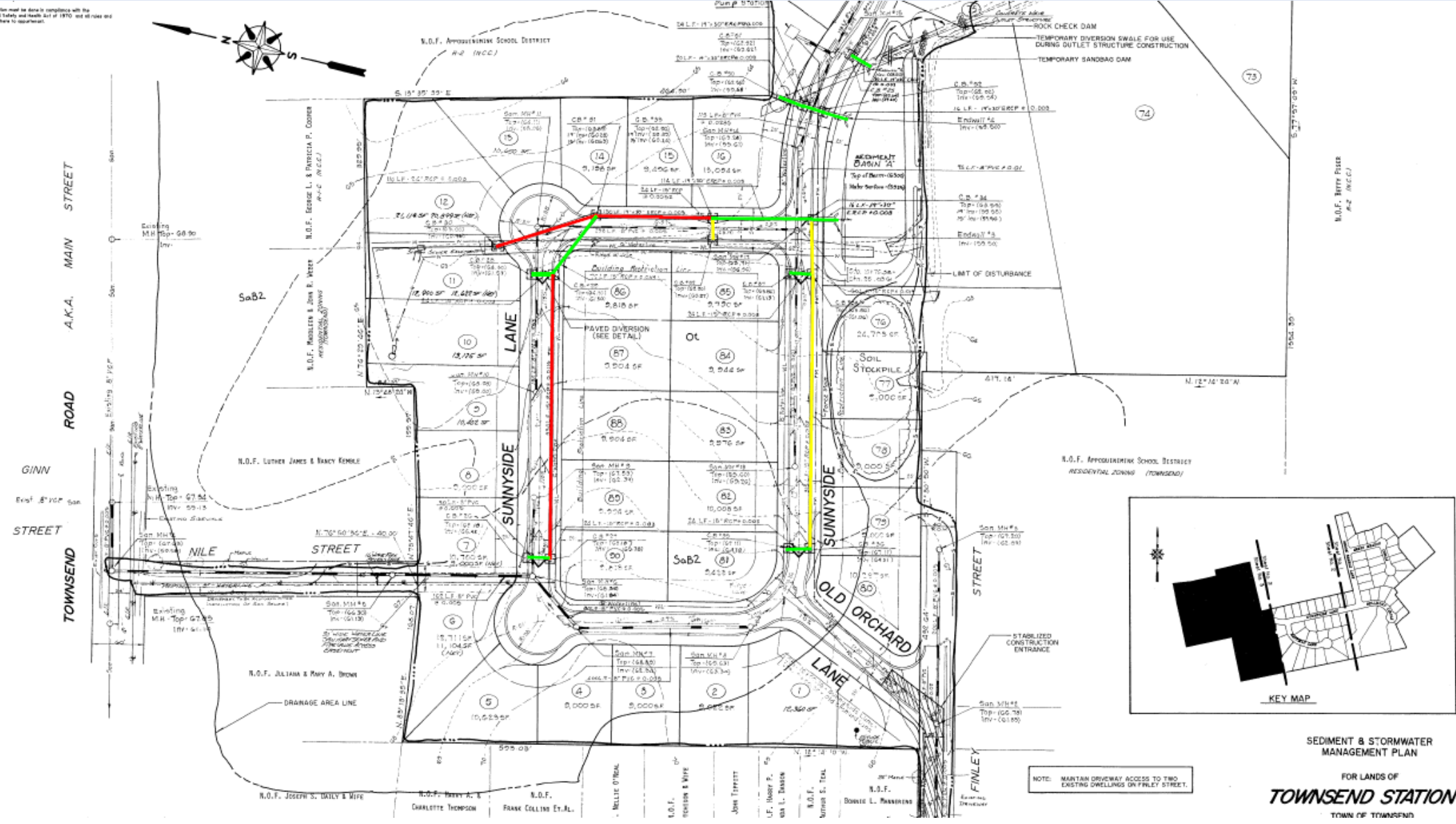
Televised Inspection of Existing Stormwater Pipe

- Stormwater
 - Investigation Area
- Sinkholes
 - Brook Ramble Lane
- Townsend Station
 - Televised





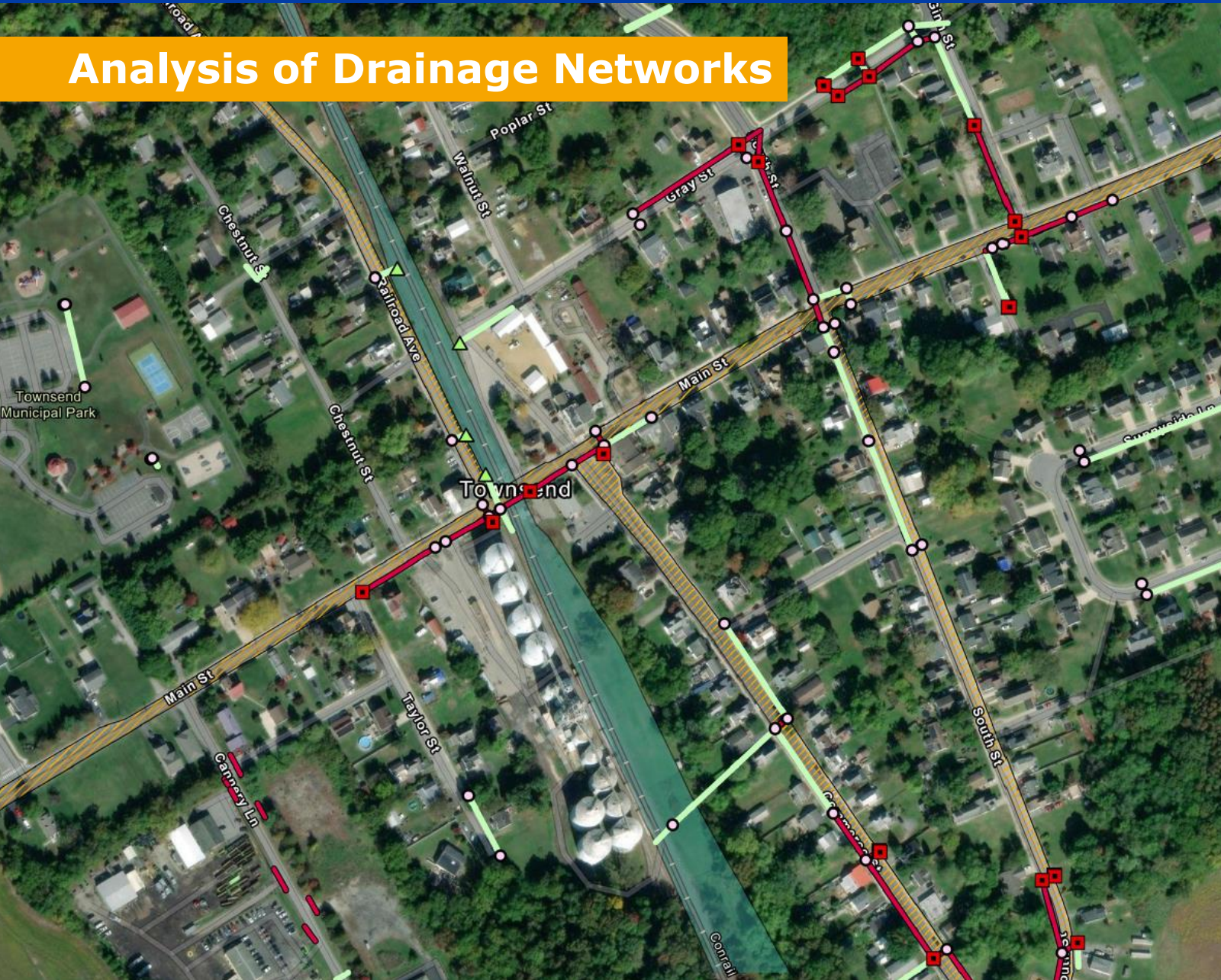
all construction must be done in compliance with the Department Safety and Health Act of 1970 and all rules and regulations there to supplement.



SEDIMENT & STORMWATER
MANAGEMENT PLAN
FOR LANDS OF
TOWNSEND STATION
TOWN OF TOWNSEND

NOTE: MAINTAIN DRIVEWAY ACCESS TO TWO EXISTING DWELLINGS ON FINLEY STREET.

Analysis of Drainage Networks



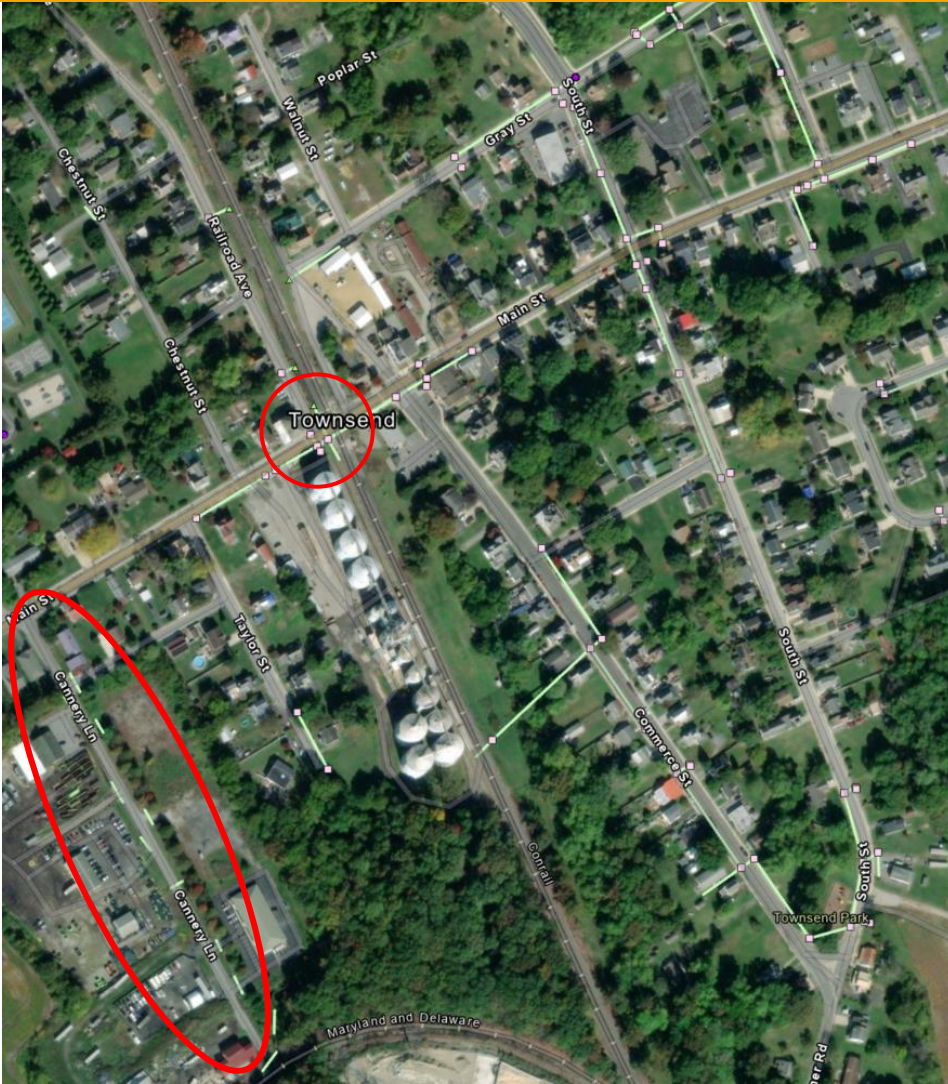
- RVE analyzed four networks in the Heart of Townsend.
- Networks are along Cannery Lane, Gray Street, Commerce Street, and Main Street
- All four networks were flooded for the 10-year Storm event

Hydraulic Study & Analysis of Existing Storm Infrastructure



- RVE developed Stormwater Master Plan for Heart of Town, excluding Townsend Station.
- All four networks have undersized pipes.
- Cannery Lane Swale Network.
- DelDOT Involvement on Main Street.

Heart of Townsend Drainage Networks

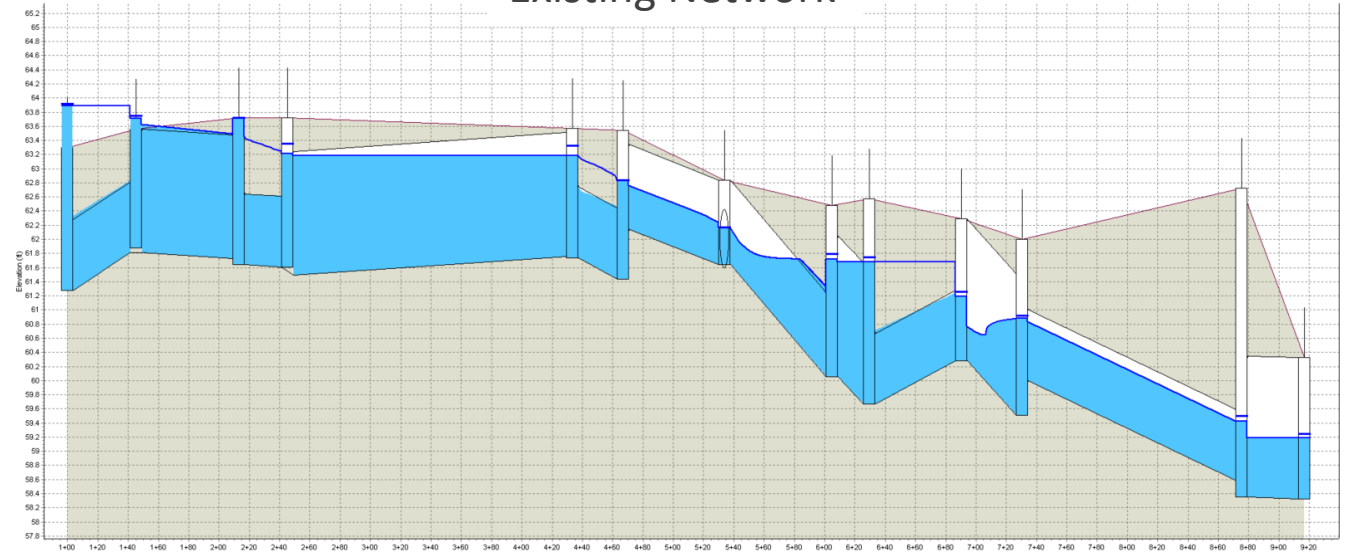


- Cannery Lane Network
 - Series of storm pipes and ditches convey water under the road and driveways.
 - Townsend has received complaints about flooding issues along Cannery Lane and the intersection of Main St. and Railroad Ave.
- Gray Street Network
 - Undersized pipes.
- Main Street Network
 - Undersized pipes and outlet with a negative slope.
- Commerce Street Network
 - Undersized pipes with low slope.

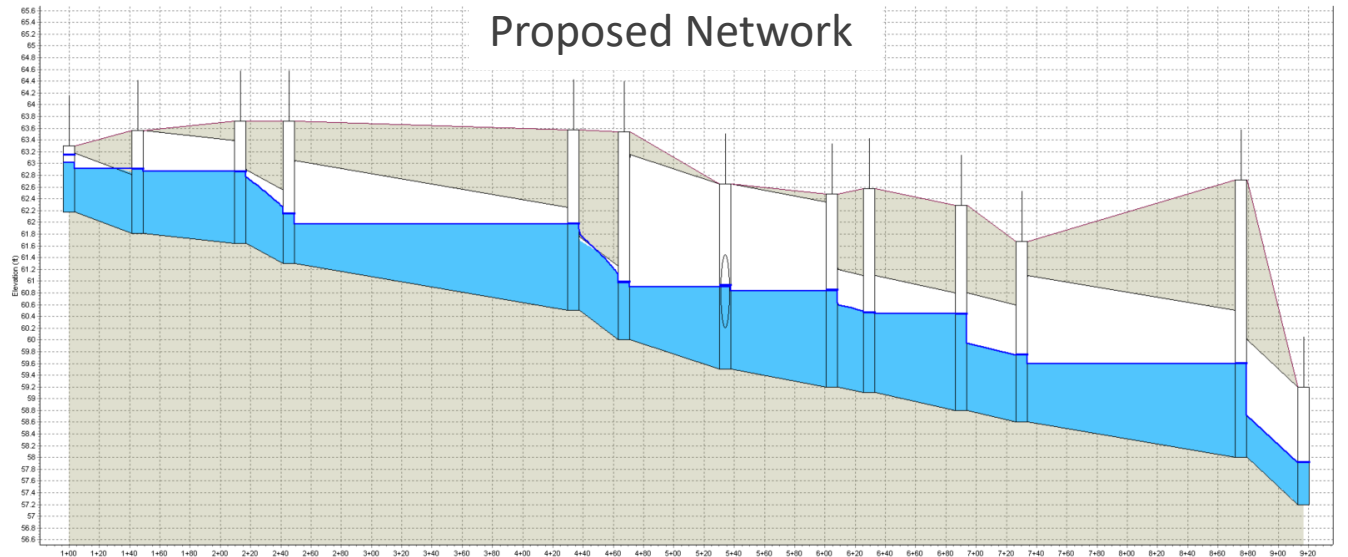
Cannery Lane Drainage Network Changes



Existing Network



Proposed Network

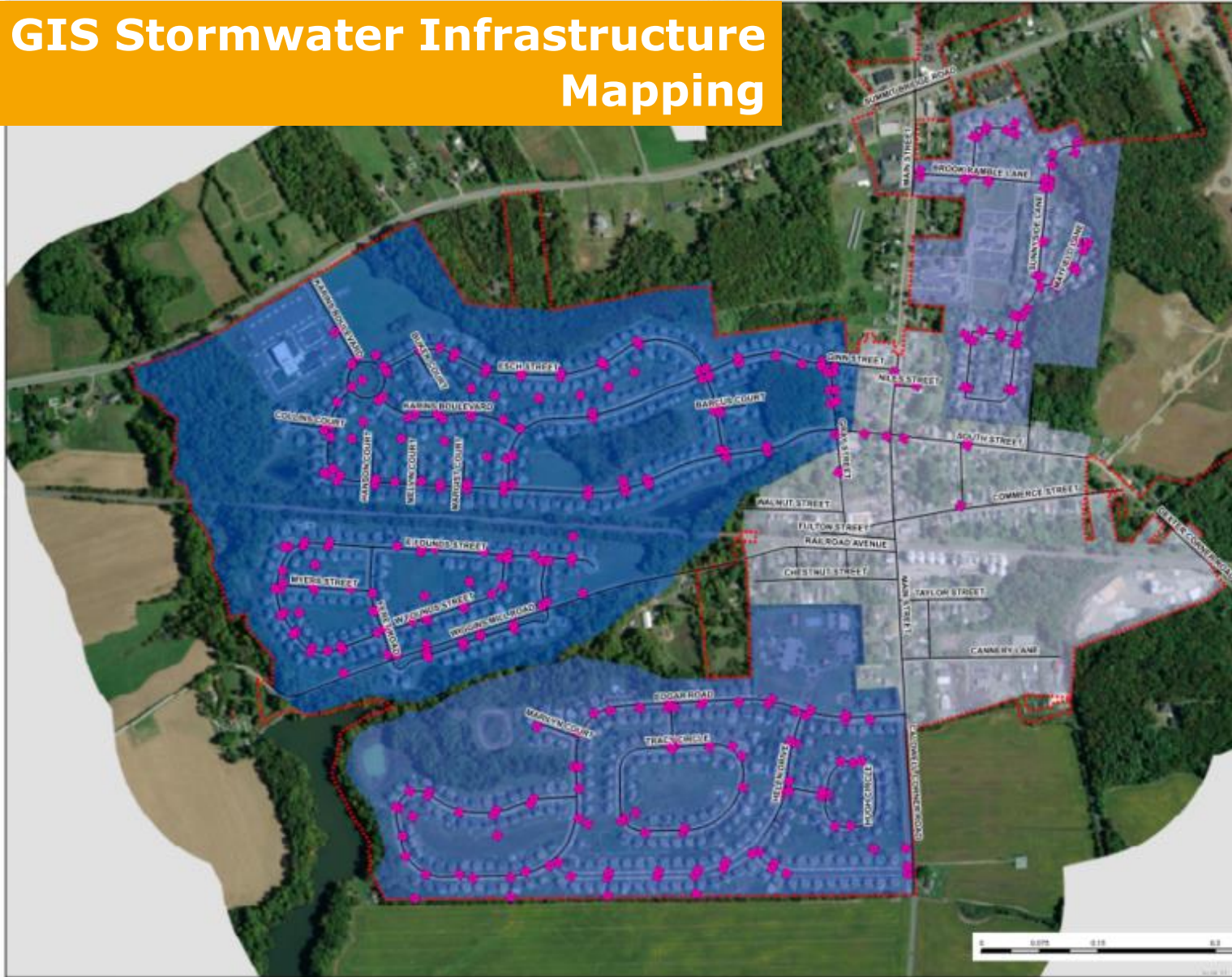


Town of Townsend

Proposed Changes & Recommendations

- ☐ RVE has made personalized recommendations and changes for each network.
 1. Cannery Lane Network
 2. Gray Street Network
 3. Commerce Street Network
 4. Main Street Network
- ☐ Recommendations are broken up by network for Townsend to address one at a time.
- ☐ RVE recommends to start with Cannery Lane Drainage Network.

GIS Stormwater Infrastructure Mapping



- Development of stormwater inventory.
- Maps of all existing stormwater infrastructure.
- GIS Stormwater Infrastructure Management Database.
- Latest Esri ArcGIS software applications.
- Townsend looking at annexing areas in the vicinity.
- Considering options to accommodate growth.

Conclusion

- Remaining Project Budget
 - Design & Prepare Construction Plans for Cannery Lane.
 - Provide Additional GIS Services.

- Proactive MS4 Permit Preparation

- Obtain Funding for Construction & Repair of Stormwater Infrastructure

Questions & Answers

Thank you