Lynn Township & Heidelberg Heights Sanitary Sewer Systems

Inflow/Infiltration Mitigation Action Plan

Preliminary Plan – Board Presentation – January 28, 2019
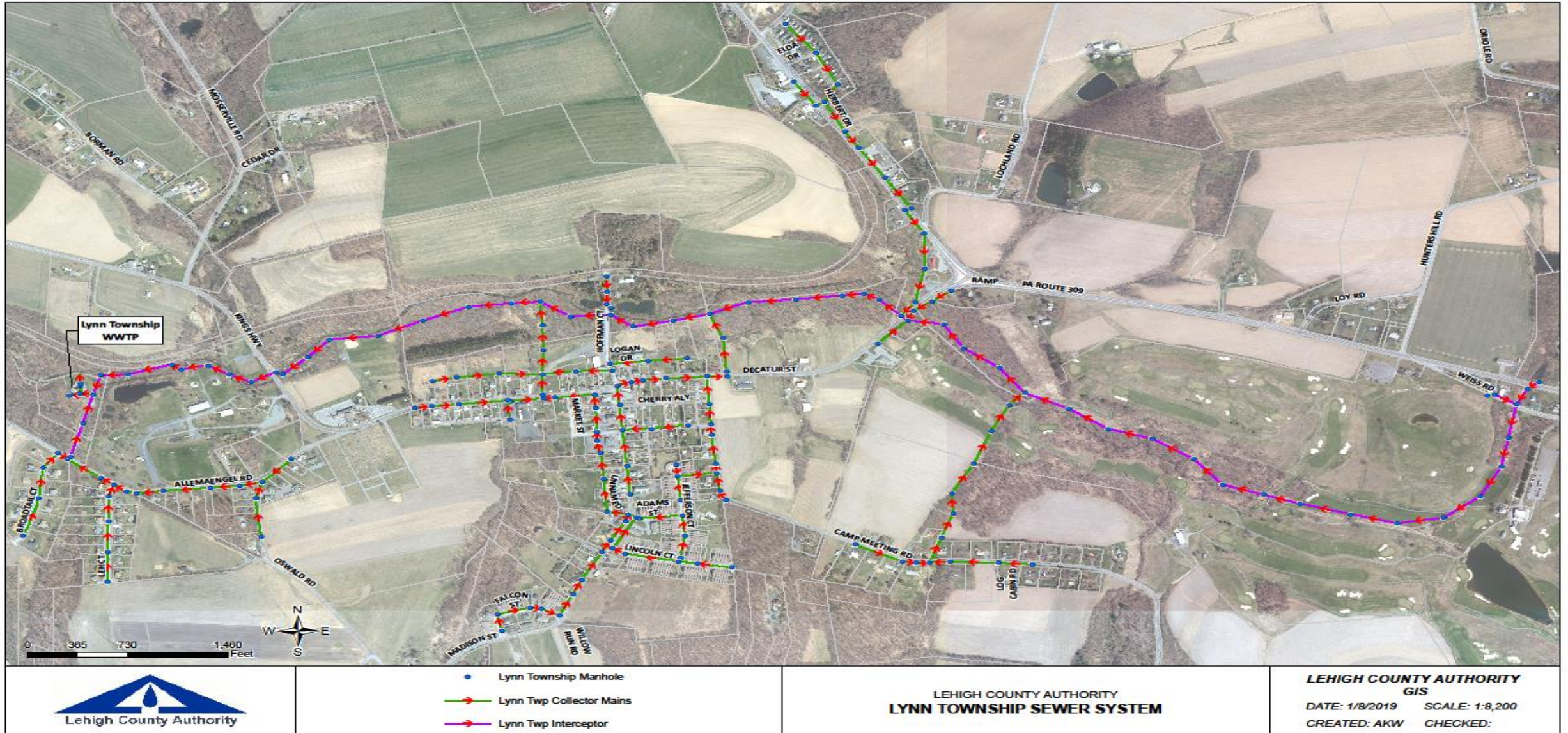
Program Objectives:

- Reduce Wet Weather hydraulic overloads and plant bypasses
- Avoid DEP NOVs
- Eliminate plant bypasses
- Reduce public health risks/concerns
- Repair/Replace damaged and leaking sewer main and manholes
- Incur long range reduction in treatment plant operating expenses
- Improve communication with host municipality and customers on importance of I/I mitigation program
- Allow for growth within sewer service area (Lynn Twp)

Lynn Township Sanitary Sewer System:

- System installed in 1978
- Corrective Action Plan submitted to DEP by Lynn Township Sewer Authority in 2007; objective to reduce hydraulic overload condition
- Sewer System acquired by LCA in 2012
- 40,890 linear feet of sewer main pipe
- 185 manholes
- 80,000 gpd permitted capacity WWTP (2018 ave flow = 89,000 gpd)
- 386 customer accounts (largest is Northwestern Lehigh school campus)

Lynn Township Sanitary Sewer System

Lynn Township Manhole
Lynn Twp Collector Mains
Lynn Twp Interceptor

LEHIGH COUNTY AUTHORITY
LYNN TOWNSHIP SEWER SYSTEM

LEHIGH COUNTY AUTHORITY
GIS
DATE: 1/8/2019   SCALE: 1:8,200
CREATED: AKW   CHECKED:

Lehigh County Authority

Northwestern Lehigh On-Site Sewer System

■ Inlet Culvert	● Sanitary Manhole	— Sanitary Lateral	
■ Outlet Culvert	● Storm Manhole	— Sanitary Main	
		— Storm Main	

LEHIGH COUNTY AUTHORITY
NORTHWESTERN HIGH SCHOOL
SANITARY AND STORM SYSTEM
HEIDEILBERG AND LYNN TOWNSHIPS

LEHIGH COUNTY AUTHORITY
GIS

SCALE: 1:875 *DATE: 8/9/2018*
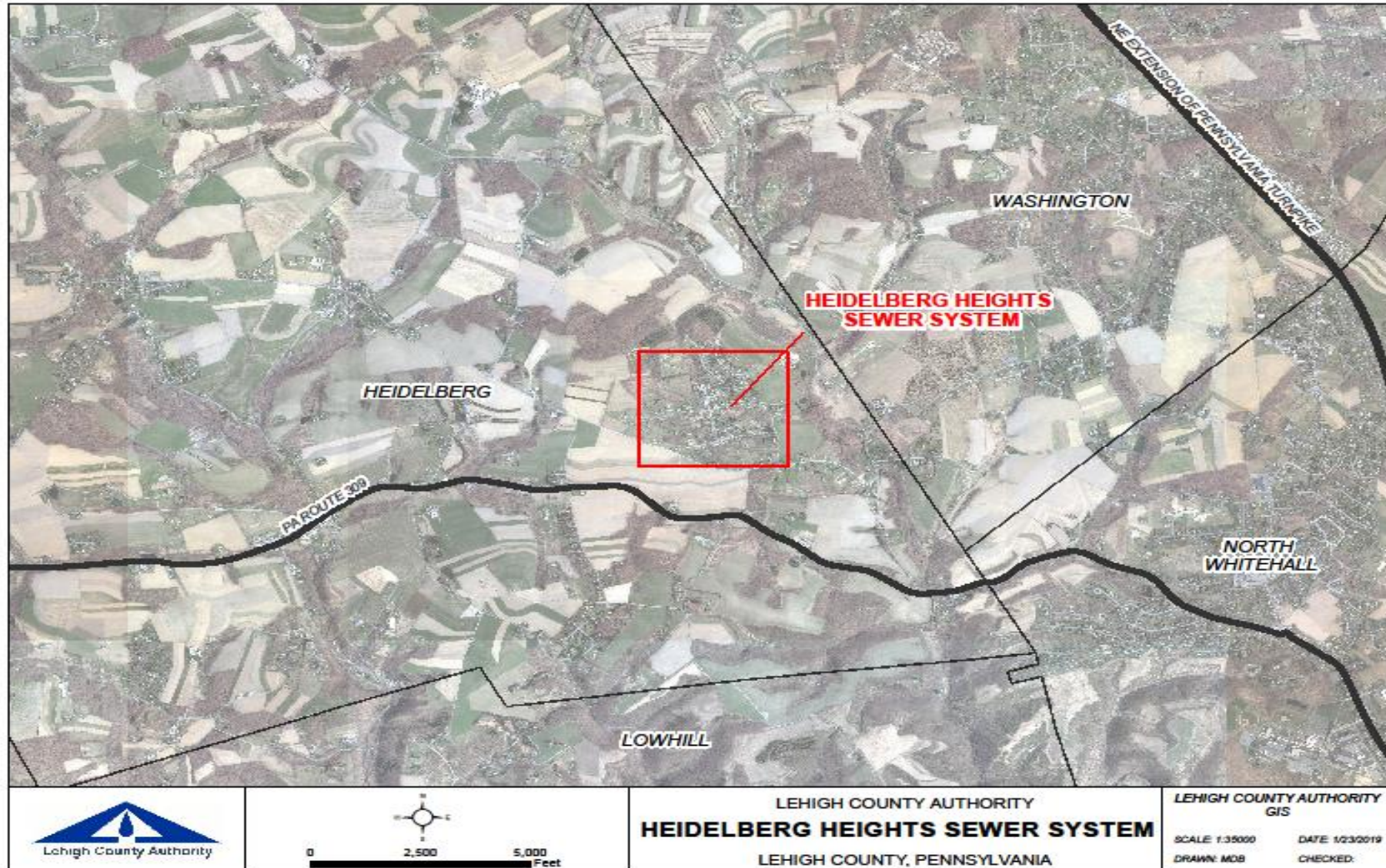*DRAWN: AKW* *CHECKED:*

Lehigh County Authority

Heidelberg Heights Sanitary Sewer System:

- System installed in late 1970s; WWTP upgraded to SBR process in 2000
- Sewer System acquired by LCA in 1998
- 6,455 linear feet of sewer main pipe
- 28 manholes
- 60,000 gpd WWTP (2018 ave flow xxxx)
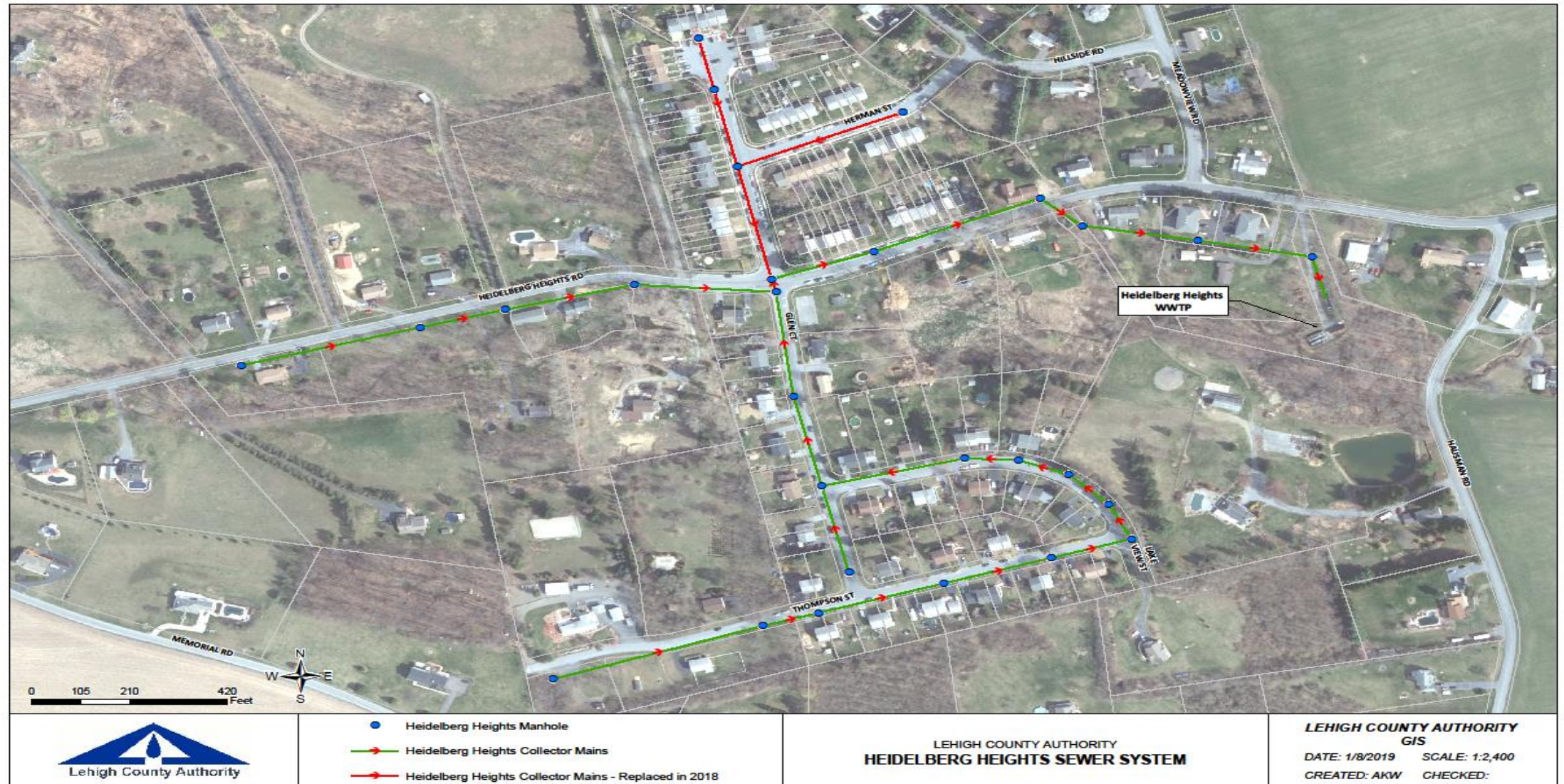- 138 customer accounts (residential)

Heidelberg Heights Sanitary Sewer System – General Location

Heidelberg Heights Sanitary Sewer System

Heidelberg Heights WWTP

- Heidelberg Heights Manhole
- Heidelberg Heights Collector Mains
- Heidelberg Heights Collector Mains - Replaced in 2018

Lehigh County Authority

LEHIGH COUNTY AUTHORITY
HEIDELBERG HEIGHTS SEWER SYSTEM

LEHIGH COUNTY AUTHORITY GIS
DATE: 1/8/2019   SCALE: 1:2,400
CREATED: AKW   CHECKED:

Program Deficiencies Both Systems:

- Historical system repairs and rehab did not keep up with aging infrastructure
- No current condition information on private sewer system components
- No current data on number/location of sump pumps and roof drains connected
- No township ordinance giving LCA authority to inspect residential plumbing and enforce sump pump and roof drain disconnects
- No municipal public outreach on sewer system rules and regulations and I/I flow reduction program
- Minimal historical investigation work on private side system

2018 DEP Notifications Summary:

- Lynn Township: 5 plant bypass events; 0 SSO; 0 NOVs

- Heidelberg Heights: 19 plant bypass events; 2 SSOs; 0 NOVs

Action Plan Items Common to Both Systems

- Sewer system rules and regulations ordinance development and Township outreach (Legal): February – March 2019

- Updated CCTV work, including suspected problem areas (Operations): February 2019

- Scope system repair needs; assemble bid documents and bid sewer repair project (Capital Works): March – April 2019

- Township adoption sewer rules and regs ordinance (Legal): April 2019

- Public outreach I/I mitigation program (Customer Service): May 2019

- Perform residential plumbing inspection and smoke testing (Operations & Capital Works): June – September 2019

- Construct sewer repair project (Capital Works): June – October 2019

- Assess/quantify I/I reduction program success (all): end of 2019

Lynn Township Additional Action Items

- Repair "gusher" found on Oswald Rd (Operations): January 2019 (done!)
- Install flow meter for Northwestern Lehigh campus sewer line, as recommended by DEP (Compliance & Capital Works): February 2019
- Obtain DEP determination of scope for revised Corrective Action Plan (Compliance): March 2019
- Northwestern Lehigh construction of on-site sewer main replacement and storm drain repairs; condition was documented by LCA via CCTV & smoke testing (Capital Works & Operations): April 2019
- Draft and submit to DEP revised Corrective Action Plan (contingent upon receiving DEP direction/criteria; Compliance): Summer 2019
- Demonstrate/quantify reduction in wet weather peak flows (Compliance): September 2019
- Township provide updated growth projections for future plant expansion planning: 2019
- Secure additional sewer allocations from DEP: 2020?

Heidelberg Township Additional Action Items

- Replacement of approximately 1,100 feet of sanitary sewer main line and 25 laterals; in-house design & bid (Capital Works): Spring 2019

Discussion

Questions?