

## SEWER SYSTEM IMPROVEMENTS

### Area 5A

#### Waltham, Massachusetts

Waltham is an MWRA community with more than 130 miles of sewer, 4,000 manholes and 6 sewage pumping stations. Wastewater from Waltham is collected and conveyed to the Deer Island Treatment Facility in Boston, Massachusetts. The City has a sewer area in the center of the city that has high infiltration/inflow (I/I) and has historically observed surcharging in the sewers.

Wright-Pierce evaluated and assessed the Area 5A sewer system that included CCTV and manhole inspections as well as other specific investigative techniques to isolate I/I sources and address maintenance needs. We inspected 10,000 linear feet of CCTV work, 63 manhole inspections, documenting structural and O&M defects in accordance with NASSCO's MACP. MACP-certified Wright-Pierce personnel performed the manhole inspections using *Pipelogix Manhole Module*, while CCTV work was performed by a PACP-certified contractor. All manhole inspections and CCTV data was reviewed in-house by a Wright-Pierce engineer certified in NASSCO's PACP and MACP programs. The project also included 10,000 linear feet of smoke testing and a short-term flow meter installation. Wright-Pierce also evaluated the need for a relief sewer to prevent future SSOs, surcharges, and backups in the 5A area. A 500-ft relief sewer was designed to redirect the flow from Beaver Street to a sewer on Lyman Street.

Wright-Pierce designed a rehabilitation plan for sewer pipes and manholes recommended for rehabilitation. The design included replacing over 2,300 linear feet of new sanitary sewers and replacing over twenty sewer manholes. The design also included rehabilitating an additional nine pipe segments and six manholes. One contract was developed for both projects and for bid in early 2017 and construction in Spring 2017. Wright-Pierce will install a flow meter within the project area after the completion of the sewer rehabilitation to confirm the reduction of I/I in the project area.

#### Client Contact

City of Waltham

#### Project Relevance

- Community population of 62,000
- Evaluated and assessed sewer system
  - Flow monitoring
  - Smoke testing
  - Manhole Inspections
  - Sewer video (CCTV) inspection
  - Identified structural defects
  - Identified I/I sources
- Provided summary report with recommendations for cost effective repair and rehabilitation
- Designed relief sewer to prevent future sewer backups in homes.

