

City of Oak Ridge, Tennessee
Wastewater Collection System Remediation Plan Report
Addendum 1
Description of Projects

The rehabilitation program will consist of 17 sewer and manhole projects, plus a flow equalization basins project. These 18 projects will be designed and constructed in phases in accordance with set prioritization.

The overall sewer and manhole rehabilitation program will consist of increasing the sizes of approximately 6,286 feet of pipe in the East Plant and Turtle Park sewersheds, and the addition of approximately 1,946 feet of pipe in the East Plant sewershed. In addition, selected pipes and manholes throughout the system will be rehabilitated in-situ or replaced. During the design phase for each sewer and manhole rehabilitation project, the prioritized mini-system will be evaluated systematically to determine the most suitable rehabilitation methods to be used for that specific project. The alternative methods will consist of pipe bursting, slip-lining, cured-in-place, dig-and-lay replacement, and manhole rehabilitation or replacement. The methods chosen for each project will address repairing the defects to reduce the volumes and rates of rainfall-induced inflow and infiltration, and increasing the sizes of selected pipes to provide adequate hydraulic capacity. The general requirements for the system for the overall program were determined in previous studies as summarized in the "Remediation Plan Report" dated August 2012. Specific requirements for each project will be developed in the design phase.

The program will also include the design and construction of three flow equalization basins at strategic locations in the system. One basin of approximately 2 million gallons (MG) will be constructed on the influent line to the East Plant pump station. The basin will decrease cycling of the East Plant pump station discharge during storm events, and therefore result in a net increase in the joint capacity of the East Plant and Emory Valley pump stations which pump to a common force main. The equalization basin project will also include the construction of a basin of approximately 2 MG where the East Plant and Emory Valley force main discharges to the gravity system, and modifications to the existing force main to accommodate the new basin. In addition, the project will include the design and construction of a basin approximately 1 MG in size downstream of where the U.S. Department of Energy's Y-12 facility sewer discharges to the City's system. The system of flow equalization basins will reduce the peak flows within the system, thereby recovering system hydraulic capacity. In addition, the basins will regulate the timing of discharges in the system, thereby mitigating the adverse effects of simultaneous or near-simultaneous peaking.