

City of Northfield, Minnesota	Policy Number: 10.02
PUBLIC WORKS (UTILITIES DIVISION)	Adopted: 9/18/2018 – Motion 2018-098
SANITARY SEWER SYSTEM INSPECTION AND MAINTENANCE POLICY	Revised:

2.02 SANITARY SEWER INSPECTION AND MAINTENANCE POLICY

A. PURPOSE

This policy is intended to guide effective and efficient maintenance of the City’s public sanitary sewer system. Procedures identified in this policy are intended to maintain the sanitary sewer system to prevent sewer backups and to extend the life of the system. This policy takes into consideration public safety, the City’s budget and personnel, environmental factors, and the cost of implementation. The Public Works Department is responsible for managing the construction, operation and maintenance of the public sanitary sewer system.

B. SYSTEMS MAPPING AND INVENTORY DATA

The City operates approximately 81 miles of public sanitary sewer mains, 1821 manhole structures and 1 sanitary sewer lift station within its public sanitary sewer system. The City maintains an official sanitary sewer system map within the City’s geographic information system. The GIS Technician is responsible for annual updates to the system map based on sanitary sewer construction and replacement work that occurs during the preceding year.

C. SYSTEM INSPECTION AND MAINTENANCE

Components of the sanitary sewer system are inspected and maintained on a routine basis to provide proper operation and conveyance capacity. The Utilities Division Manager is responsible for supervising inspection and maintenance activities for the sanitary sewer system.

1. SEWER MAIN PIPES

The City inspects the sanitary sewer mains by television camera. Television inspection is done to determine the condition of the sanitary sewer mains and identify defects including cracks, fractures, separation, or broken segments. Sanitary sewer mains located on a street where a street maintenance project is planned will be inspected before and after such a project. Television inspection may also be used to inspect the system where there are possible problems, including areas containing VCP sewer pipes. Approximately 1/6 of the sanitary sewer system mains are televised each year. Sanitary sewer sections identified with significant structural defects or inflow/infiltration are scheduled for rehabilitation. The City uses Cured-in-Place Pipe (CIPP) rehabilitation and excavation/replacement methods for repairing sanitary sewers based on specific site conditions. Sanitary sewer mains in a new development must be televised before said mains are turned over to the City.

The City performs routine maintenance on approximately 1/3 of sanitary sewer mains each year. Routine maintenance includes sewer cleaning and root cutting. Sewer cleaning is performed to remove debris, sediment, and roots that can accumulate within the sanitary sewer system. When roots are identified in the sanitary sewer mains, they are cut. Routine sewer cleaning is scheduled on a rotational cycle, with special emphasis on identified

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fat/oil/grease (FOG) areas and areas with a history of partial blockage as determined by the Utilities Division Manager. Work is typically completed using City-owned sewer jetting and vacuum equipment.

2. MANHOLES

The City inspects manhole structures during television inspections and sewer cleaning operations. Maintenance personnel check the following items during maintenance operations: casting condition, adjustment rings for condition and infiltration, structure walls for cracks and infiltration, debris on benches, and debris or blockage of inverts. Manhole structures identified with defects are cleaned or repaired as necessary to prevent inflow, infiltration, or corrosion.

3. LIFT STATIONS

The City performs regular inspections of its lift station, alarm system, and electrical components. Weekly lift station inspections include manual operation of each pump, monitoring of noise and vibration, review of pump run times, general check of programmable logic controller, and security/lockup of station control panel. Monthly inspections include weekly check items plus visual inspection of wet wells, cleaning and testing of transducers/float balls, review of set points, and testing of alarm systems. Annual inspections include maintenance on the check valves and inspection of pumps by outside vendor. The interior of wet wells are cleaned on a routine cycle based on the land use within the service area.

Lift station operations are continuously monitored through the City’s SCADA system. The SCADA system includes alarm protocols that notify Utility Division personnel by automated telephone contact. Repairs and maintenance of the SCADA system is provided by the City’s system integration consultant. The system integration company is available on-call to respond to controller and data communication problems 24 hours per day.

D. RECORDS AND DOCUMENTATION

Sanitary sewer television inspections, sewer cleaning maintenance activities, and manhole structure repairs are recorded and documented on the City’s electronic sanitary sewer record keeping system using geographic information system software. This program allows for efficient electronic retrieval of maintenance records by Utilities Division personnel. Lift station inspections and maintenance records are stored within the Utilities Supervisor’s office and Laser fiche. The Utilities Division Manager oversees the records and documentation for the sanitary sewer system.

E. LIMITATIONS

While the City fully intends to meet the guidelines established in this policy, there may be times when this is not feasible. Issues including, but not limited to, budget constraints, critical equipment failure, or weather and other emergencies may prevent the City from meeting the

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guidelines established herein. The Public Works Director or Utilities Division Manager may override provisions established within this policy.

F. EFFECTIVE DATE OF POLICY

This Policy will be effective as of September 18, 2018. Modifications of the Policy will be effective on the date said modifications are approved by the City Council.