

Loss Control “Best Practices”

Sanitary Sewer Maintenance Policy

The goal of an effective inspection and maintenance program is to reduce the potential for inconvenience to customers, help ensure uninterrupted operation of the system, and ultimately work to reduce overall cost.

The objectives of the inspection and maintenance program are to:

- locate all manholes and cleanouts on and off roads and easements
- inspect all manholes and pipelines
- identify immediate maintenance and structural needs
- clean and obtain information on structural defects requiring short term attention
- establish and document maintenance and structural condition of assets, to allow for proper planning and budgeting for future maintenance, repair or replacement.

Systems that can be implemented range from basic inspection schedules to more advanced technical studies of systems and development of risk analyses based on likelihood of failure and consequences of failure, and coding of risk.

The key component of developing a program is the inventory of assets – manholes, cleanouts and pipeline, identification of resources, and evaluating risk potential, typically evaluated based on age of system and prior notice of problem areas.

The next step is to set a schedule for routine inspection and maintenance of the system. Based on research for members of the National Association of Clean Water Agencies, most respondents (27%) survey 10 to 20% of sewer pipelines annually. Based on this schedule, all pipelines within a municipality would be inspected within a 5 to 10 year cycle. The importance of identifying more critical areas and conducting inspections more frequently for these locations is also noted. The inspection frequency would be based on known sewer conditions. Ranges noted for inspection frequency are:

- 4 years if in poor condition/high risk areas
- 4 to 6 years if in average condition/average risk areas
- 8 years if in good condition/low risk areas.

Some of the model inspection programs noted indicate that problem areas should be addressed more frequently, such as annually or every 18 to 36 months.

Another concern identified is control of infiltration/inflow to the system. This typically occurs when excessive water enters the sewer system, exceeding capacity. Research indicates that factors which contribute to this are residential connections to the sewer system from roof drains, driveway or yard drains, sump pump systems, etc.

Another concern is clogs due to grease/oil in the lines – typically from restaurant operations.

There are various inspection methods municipalities can use to test for these issues, as well as illegal hookups or blockages and problems with laterals – connections to individual homes and businesses, which are typically the responsibility of the homeowner/business – property owner. These methods include smoke and dye testing.

Municipalities may have ordinances requiring homeowners and business – property owners to conduct lateral inspections whenever there are additions to a building, the addition of plumbing fixtures, upon purchase/sale of a property, and in the event of prior problems. This should be in place. Some municipalities will even provide the property owner with a monetary incentive to conduct their own inspection by a qualified contractor and provide video results to the municipality. Municipalities can also recommend the purchase of supplemental sewer backup insurance, and the use of back flow preventers for problem areas.

A model policy is attached for sanitary sewer maintenance. The most useful links documenting the issues, recommended maintenance and inspection practices, and model programs that can be adopted by a municipality to address this issue also include:

<http://www.epa.gov/region1/sso/toolbox.html>

http://www.acwajpia.com/filecabinet/rmnopw/Wastewater_Ops_and_Spill_Control/Sewer_Backup_Reduction/SEWER_BACKUP_REDUCTION_PROG_GUIDE.pdf

<http://www.bcu.org/Sections-read-20.html>

http://www.amherst.ny.us/govt/govt_dept.asp?dept_id=dept_10&div_id=div_14&menu_id=menu_68

<http://cms.cityoftacoma.org/wastewater/sewerinspection/101.pdf>

http://www.santabarbaraca.gov/Resident/Licenses_Permits/SLIP/

http://www.neiwpc.org/neiwpc_docs/WEBOM&R.CH4.pdf

<http://www.oracwa.org/Pages/Chap3.pdf>

By adopting and adhering to a formal inspection and maintenance policy, the municipality would be in a position to better defend its actions, and any claims which arise as a result of subsequent backup issues.

Any maintenance and inspection program, municipal ordinance, etc. should be approved by the municipal engineer and attorney and be forwarded to your risk manager's and the Fund's office for review as well.

If you have any questions regarding the above, contact your risk manager or I-Core Systems, Inc.