

Water & Sewer Utility Maintenance Pollution Prevention Procedure

Targeted Constituents

Sediment	<input checked="" type="checkbox"/>
Nutrients	<input checked="" type="checkbox"/>
Trash	
Metals	
Bacteria	<input checked="" type="checkbox"/>
Oil and Grease	<input checked="" type="checkbox"/>
Organics	<input checked="" type="checkbox"/>
Oxygen Demanding	<input checked="" type="checkbox"/>



Description

Although the operation and maintenance of public utilities are not considered chronic sources of storm water pollution, some activities and accidents can result in the discharge of pollutants that can pose a threat to both human health and the quality of receiving waters if they enter the storm drain system. Sewage incident response and investigation may involve a coordinated effort between staff from a number of different departments in the Town of Burlington.

Suggested Protocols

Water Line Maintenance and Cleaning

Procedures can be employed to reduce pollutants from discharges associated with water utility operation and maintenance activities. Planned discharges may include fire hydrant testing, flushing water supply mains after new construction, flushing lines due to complaints of taste and odor, dewatering mains for maintenance work. Unplanned discharges from treated, recycled water, raw water, and groundwater systems operation and maintenance activities can occur from water main breaks, sheared fire hydrants, equipment malfunction, and operator error.

Planned discharges

- Identify a suitable discharge option in the following order of preference:
 - Apply to the land, where possible, but not onto private property
 - Discharge to a sanitary sewer system with approval.
 - Discharge to the storm drain system using applicable pollution control measures. (Only available to clean water discharges such as water main/ water storage tank/water hydrant flushing).
- Prior to discharge, inspect discharge flow path and clear/cleanup any debris or pollutants found (i.e. remove trash, leaves, sediment, and wipe up liquids, including oil spills).
- General design considerations for inlet protection devices include the following:
 - The device should be constructed such that cleaning and disposal of trapped sediment is made easy, while minimizing interference with discharge activities.
 - Devices should be constructed so that any standing water resulting from the discharge will not cause excessive inconvenience or flooding/damage to adjacent land or structures.
- The effectiveness of control devices must be monitored during the discharge period and any necessary repairs or modifications made.

Unplanned Discharges

- Stop the discharge as quickly as possible.
- Inspect flow path of the discharged water:
 - Identify erodible areas which may need to be repaired or protected during subsequent repairs or corrective actions
 - Identify the potential for pollutants to be washed into the waterway

- If repairs or corrective action will cause additional discharges of water, select the appropriate procedures for erosion control, chlorine residual, turbidity, and chemical additives. Prevent potential pollutants from entering the flow path.

Sanitary Sewer Maintenance

Facilities that are covered under this program include sanitary sewer pipes and pump stations owned and operated by the Town of Burlington.

- Clean sewer lines on a regular basis to remove grease, grit, and other debris that may lead to sewer backups.
- Establish routine maintenance program. Cleaning should be conducted at an established minimum frequency and more frequently for problem areas such as restaurants that are identified
- Cleaning activities may require removal of tree roots and other identified obstructions.
- During routine maintenance and inspection note the condition of sanitary sewer structures and identify areas that need repair or maintenance. Items to note may include the following:
 - Cracked/deteriorating pipes
 - Leaking joints/seals at manhole
 - Frequent line plugs
 - Line generally flows at or near capacity
 - Suspected infiltration or exfiltration.
- Prioritize repairs based on the nature and severity of the problem. Immediate clearing of blockage or repair is required where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g. pump station failures, sewer line ruptures, sewer line blockages). These repairs may be temporary until scheduled or capital improvements can be completed.

- Review previous sewer maintenance records to help identify “hot spots” or areas with frequent maintenance problems and locations of potential system failure.

Spills and Overflows

- Identify and track sanitary sewer discharges. Identify dry weather infiltration and inflow first. Wet weather overflow connections are very difficult to locate.
- Locate wet weather overflows and leaking sanitary sewers using conventional source identification techniques such as monitoring and field screening. Techniques used to identify other illicit connection sources can also be used for sewer system evaluation surveys
- Encourage the community to monitor and report sanitary sewer wet weather overflows.
- Establish lead department/agency responsible for spill response and containment. Provide coordination within departments.
- When a spill, leak, and/or overflow occurs, take every effort to ensure that the sewage is not discharged to the storm drain system. Methods may include:
 - Blocking storm drain inlets and catch basins
 - Do not create a biohazard by discharging to standing water.
 - Containing and diverting sewage and disinfectant away from open channels and other storm drain fixtures (using sandbags, inflatable dams, etc.). Latest guidance suggests that discharge to moving water is preferred.
 - Removing the material with vacuum equipment
 - Notify DEP within 12 hours
- Record required information at the spill site.
- Perform field tests as necessary to determine the source of the spill.

- Develop notification procedures to the Water and Sewer Department, DEP, Board of Health and Conservation Commission (in this order) regarding spill reporting.

Training

- Conduct annual training of water utility personnel
- OSHA-required Health and Safety Training 29 CFR 1910.120 plus annual Refresher Training (as needed).
- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and federal OSHA 29 CFR 1910.146).

Spill Response and Prevention

- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Maintenance

- Minimum 2-person teams to perform field screening and associated sampling.
- Larger teams required for implementing other techniques (i.e. zinc chloride smoke testing, fluorometric dye testing, television camera inspection and physical inspection with confined space entry) to identify sewer system leaks.
- Program coordination required for handling emergencies, record keeping, etc.