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## 02770 - SEWER FLOW CONTROL

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(Revised 4/04/17)

### SELECTED LINKS TO SECTIONS WITHIN THIS SPECIFICATION

**PART 1 – GENERAL**

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION**

**DEPTH OF FLOW**

**PLUGGING OR BLOCKING**

**PUMPING AND BYPASSING**

**PLUGGED OR BY-PASSED SEWER LINES**

## PART 1 – GENERAL

### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General Requirements and Supplementary Conditions applicable to this specification.
- B. Section 01000 – GENERAL REQUIREMENTS.
- C. Section 02750 – SEWER LINE CLEANING.
- D. Section 02760 – TELEVISION INSPECTION OF SEWER LINES.
- E. Section 02780 – LINER FOR SEWER REHABILITATION.
- F. Section 02740 – LOW PRESSURE FORCE MAIN.

### 1.2 SUMMARY

This section includes all the equipment, labor, and materials necessary to perform all work for sewer flow control for lining, televising, or replacing existing sewers.

### 1.3 SUBMITTALS

Submit the following:

- A. Written description of flow control;
- B. Capacities of all equipment to be used, including standby equipment;
- C. Design calculations of peak flows in bypassed pipes; and
- D. Locations of temporary sewer plugs and bypass discharge lines.

### 1.4 QUALITY ASSURANCE

- A. Comply with all codes, laws, ordinances, and regulations of governmental authorities having jurisdiction over this part of the work.

- B. The Contractor shall comply with the latest revision of the Virginia Occupational Safety and Health Standards for the Construction Industry as adopted by the Safety and Health Codes Commission of Virginia.
- C. The Contractor shall comply with Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation, "Virginia Erosion and Sedimentation Control Handbook," latest revision.

**D. DEPTH OF FLOW**

Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole when performing television inspection.

- 1) 6-INCH - 10-INCH PIPE.....20% OF PIPE DIAMETER
- 2) 12-INCH and LARGER PIPE..... 25% OF PIPE DIAMETER

**E. FLOW CONTROL PRECAUTIONS**

When flow in a sewer line is plugged, blocked, or bypassed, sufficient precautions shall be taken to protect the sewer lines from damage that might result from sewer surcharging. Overflows or discharges onto the ground or into streams shall not be allowed.

**1.5 COORDINATION**

- A. The contractor shall completely remove and dispose of all dirt, debris, rubbish and surplus, and unsuitable materials at the end of each work day at no additional cost to the owner. Spoils shall not be stored or drained onto the ground or into local streams of waterbodies.
- B. Whenever the contractor desires to use a hydrant for water supply, the contractor shall obtain the permission of the owner. All costs associated with the use of water supplied from hydrants shall not be paid for separately but shall be deemed to be included in the bid. Operation of hydrant shall be in accordance with the City Of Lynchburg Backflow Prevention Program. Use of an RPZ device or air gap is required.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION**

**3.1 PLUGGING OR BLOCKING**

A sewer line plug shall be inserted into the line upstream of the section being worked. The plug shall be so designed that all or any portion of the sewage can be released. During TV inspection, flow shall be reduced to within the limits specified herein. After the work has been completed, flow shall be restored to normal.

### **3.2 PUMPING AND BYPASSING**

Provide the pumps, conduits, and other equipment to divert the flow of sewage around the section in which work is to be performed. The bypass system shall be of sufficient capacity to handle 1.25 times the maximum gravity flow of the pipeline section being bypassed. The contractor shall provide all necessary labor and equipment to setup and operate the equipment in a manner to prevent all spills, overflows, and releases. This shall include manning the equipment continuously or providing auto-dialer equipped machinery for fail safe operation.

All pumps shall be equipped with sound attenuation measures which reduce noise levels to maximum of 75 decibels at a distance of 30 feet from the equipment during all periods of operation. If equipment is operated between the hours of 8:00 PM and 6:00 AM, this equipment shall also be provided with sound attenuation enclosure consisting of a three-sided enclosure with roof constructed of 2 x 4 lumber frame with ½-inch plywood sheathing and 2-inch Styrofoam panels attached to the inside of the entire enclosure. The enclosure shall be portable to allow the enclosure to be moved when bypass pumping equipment is moved.

Bypass pumping equipment shall include pumps, conduits, engines, and related equipment necessary to divert the flow of sewage around the section in which work is to be performed. In addition, the contractor shall maintain at the same location and in operable condition, spare equipment to be used in case there is equipment failure or extreme flows. The Contractor shall have necessary spare pumps available and connected such that it can operate immediately when levels rise due to extreme flows or duty pump failure.

### **3.3 PLUGGED OR BYPASSED SEWER LINES**

Plugged or bypassed sewer lines shall not be allowed to overflow or discharge onto the ground or into streams. The maximum allowable level of surcharge in any sewer line during bypass pumping or plugging shall be 1 foot above the crown of the pipe, as measured in the first adjacent manhole upstream of the bypass pumping operation. Once flow levels exceed this depth, flow control measures shall be immediately removed by the Contractor from the sewer line until flows decrease or larger pumps are obtained by the Contractor.

The Contractor will be solely responsible for any legal actions taken by the state regulatory agencies if such overflows occur during construction.

The new sewer line may be used by the Contractor to carry the sanitary flows only after the new pipe has passed inspection and testing. Any “temporary” connections to the new sewer line shall be approved by the City Engineer.

**END OF SECTION                      02770**

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