

SECTION UC-320**SEWERAGE BYPASS PUMPING AND FLOW CONTROL****PART 1 - GENERAL**

1.01 SCOPE

The Contractor shall furnish and install all labor, material and equipment necessary to control the flow of sewage in accordance with this Section. This Section also contains provisions regarding surcharging sewers and sewage spills.

1.02 SUBMITTAL

The Contractor shall submit complete, detailed plans for this aspect of the work to the MD-WASD for approval.

1.03 SPECIAL PROVISIONS

- A. All applicable requirements in the following specification sections shall apply during execution of the work:

Section 01100 - Special Project Procedures

Section 01750 - Maintenance of Traffic and Public Streets

- B. For projects where twenty-four (24) hour by-pass pumping of sewage is required, the Contractor shall provide personnel for manning and maintenance.

- C. The Contractor shall be completely responsible for conditions at the job site, until acceptance of the project; he shall provide for traffic safety, traffic control and protection of property; and he shall be directly responsible to property owner(s) for any damage, injury, expense, loss, suits, or claims in accordance with Section 01016, "Safety Requirements and Protection of Property".

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.01 BYPASS PUMPING/FLOW CONTROL, GENERAL

- A. The Contractor shall be prepared to bypass pump the sewage effluent as a part of his operations, if necessary. The Contractor shall provide all necessary pumps, piping, and other equipment to accomplish this task with each mobilized crew and shall be prepared to perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition and to the satisfaction of the MD-WASD. Bypass

pumping will occur where high flow rates and insufficient upstream storage capacity make this necessary. All costs of accomplishing the bypass pumping tasks, at whatever volume, and all associated work, such as, for example, construction of intake and discharge points, and restoration, shall be considered as incidental to the work.

- B. When sewer line flows at the upstream manhole of the gravity main being replaced or the pump station wet well are above the maximum allowable requirements for the replacement, the flows shall be reduced to the levels indicated by one of the following methods: manual operation of pumping stations by MD-WASD forces, by the Contractor plugging/blocking of the flows, or by the Contractor pumping/bypassing of the flows all as acceptable to the MD-WASD.
- C. In some applications, the sewer may be plugged and wastewater contained within the capacity of the collection system. This shall only be done when it has been determined that the system can accommodate the surcharging without any adverse impact.
- D. When sewer line flows at the upstream manhole of the line being removed and replaced, in the opinion of the Engineer of Record, are too excessive to plug while the work is being performed; the Contractor shall submit for approval by the MD-WASD, a written plan and pump/bypass the flow.
- E. For all service lateral reestablishment, testing and sealing, the depth of flow within the sewer shall not exceed that shown below for the respective pipe sizes as measured in the manhole.

Maximum Depth of Flow

4-inch - 12-inch Pipe	25 percent of pipe diameter
15-inch - 18-inch Pipe	30 percent of pipe diameter

3.02 PLUGGING AND BLOCKING

A sewer line plug shall be inserted into the line at a manhole upstream from the section being removed and replaced or pump station wet well being re-worked. The plug shall be so designed that all or any portion of the operation flows can be released. During removals and replacement, the flows shall be shut off and monitored or pumped / bypassed, as acceptable to the MD-WASD. After the work tasks have been completed, flows shall be restored to normal.

3.03 PUMPING AND BYPASSING

- A. When pumping / bypassing is required, as approved by the MD-WASD, the Contractor shall supply the necessary pumps, conduits and other equipment to divert the flow of sewage around the sewer section or pump station in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of rain storms. The Contractor shall be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. A "setup" consists of the necessary pumps (including backup pumps if required), conduits and other equipment to divert the flow of sewage around the pump station or sewer section, from the start to finish of work performed in the pump station or sewer section.
- B. Pumps and equipment shall be continuously monitored by a maintenance person capable of starting, stopping, refueling and maintaining these pumps during the construction. If pumping

is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum. In the instance of work on a pump station, the Contractor may be required to provide, at his sole expense, a temporary electric service, electrically driven pump(s) and engine driven backup pump(s).

3.04 SURCHARGING SEWERS

- A. Where the raw sewage flow is blocked or plugged, sufficient precautions must be taken to protect the public health. Upstream flow shall be monitored. The sewer lines shall also be protected from damage. The following occurrences will not be allowed:
 - 1. No sewage shall be allowed to back up into any homes or buildings.
 - 2. No sewage shall overflow any manholes, cleanouts or any other access to the sewers.
 - 3. Users upstream of the repair area shall be able to use all their water and sewer utilities without interruption.
- B. If any of the above occur or are expected to occur, the Contractor shall bypass pump to alleviate one or all of the conditions. Additionally, the Contractor is required to observe the conditions upstream of the plug and be prepared to immediately start bypass pumping, if needed.

3.05 PUMP DISCHARGE

Any sump pumps, bypass pumps, trash pumps or any other type pump which pulls sewage/water or any type of material out of the manhole or sewer shall discharge this material into another manhole, or appropriate vehicle or container acceptable to the Engineer of Record. Under no circumstances shall this material be discharged, stored or deposited on the ground, swale, road or open environment.

3.06 MAINTENANCE OF TRAFFIC FOR BYPASS PUMPING

The Contractor shall take appropriate steps to ensure that all pumps, piping and hoses that carry raw sewage are protected from vehicular traffic and pedestrian traffic. Maintenance of traffic shall be performed in accordance with Section 01750, "Maintenance of Traffic and Public Streets"

3.07 SEWAGE SPILLS

- A. In the event, during any form of "Sewage Flow Control," that raw sewage is spilled, discharged, leaked or otherwise deposited in the open environment, due to the Contractor's work, the Contractor is responsible for any cleanup of solids and disinfection of the area affected and liability for any claims. This work shall be performed at the Contractor's expense with no cost to the MD-WASD.
- B. The Contractor is also responsible for notifying the sewer system maintenance personnel and complying with any and all regulatory requirements in regard to the size of spill with no cost to the MD-WASD.

- C. The Contractor shall be backcharged for any fines, penalties or other costs or damages imposed upon the MD-WASD by any agency or private party as a result of a spill or improper discharge by the Contractor.

END OF SECTION