**SECTION 5.1**

**TECHNICAL SPECIFICATION FOR**

**WASTEWATER FLOW CONTROL AND BYPASS PUMPING**

**PART 1: GENERAL**

**1.1 Scope of Work**

Furnish all the necessary materials, equipment, tools, labor, and associated appurtenances to control the wastewater flow in conjunction with cleaning, television inspection, point repairs, obstruction removal and other related works. Wastewater flow diversion must not cause flooding or damage to public or private property. The wastewater flow shall be bypassed while plugging the upstream manhole for the section of main being worked in areas to receive cured-in place, pipe bursting and other trenchless or open cut applications as necessary.

**1.2 Related Works**

* Technical Specification for Wastewater Main and Manhole Cleaning
* Technical Specification for Television Inspection of Wastewater Mains
* Technical Specification for Rehabilitation of Existing Wastewater Main by Pipe Bursting (PB)
* Technical Specifications for Rehabilitation of Existing Wastewater Main by Cured-in-Place Pipe (CIPP)

**PART 2: METHODS OF WASTEWATER FLOW CONTROL**

 The Contractor shall coordinate with the Owner regarding the method of wastewater flow control to be used. All methods to be utilized must be pre-approved prior to any construction.

* 1. **Plugging or Blocking**

Plugging or blocking typically includes insertion of a plug into the upstream manhole of the line section being worked. A plug in the downstream manhole also may be required to prevent any backflow.

**2.2 Bypassing Pumping**

Bypass pumping typically includes flow diversion from the upstream manhole to the downstream manhole of the line section being worked.

**PART 3: PRODUCTS**

**3.1 Plugs**

The plugs must be so designed that all or any portion of the wastewater can be released.

**3.2 Bypass Pumps**

When total bypassing and pumping are required, the pumps, conduits, and other equipment shall be supplied to divert the flow of wastewater around the line section where construction or rehabilitation work is to be performed. The total bypass system must have sufficient capacity to handle peak flow during a rainstorm. The Contractor is responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing. If pumping is required on a 24 hour basis, engines with hospital rated noise suppression equipment shall be used.

**PART 4: EXECUTION**

**4.1 Flow Control Precautions**

When flow in a wastewater main is plugged, blocked, or bypassed; sufficient precautions shall be taken to protect the wastewater main from damage that might result from wastewater surcharging. Further, precautions shall be taken to insure that wastewater flow control operations do not cause flooding or damage to public or private property being served by the wastewater mains involved. The Contractor is advised to schedule his work in section lengths such that in the event of a rainstorm that might cause an increase in the wastewater flow, the work can be adequately secured, flow diversion stopped and flow resumed back in the existing main, without any damage to the new work.

**4.2 Limitations and Constraints**

* The flow diversion equipment and facilities must be located such that local traffic, private property access, or any public activities are not interrupted.
* Where diversion piping crosses side streets, alleys, and driveways, provide asphalt ramps and covers over the piping to facilitate any traffic. Provide pedestrian cross-over ramps and walkways where needed or requested by the Owner. Do not open cut streets, alleys, or driveways to bury piping.
* It is the Contractor's responsibility to divert incoming flow from all service connections and laterals. Provide all the necessary materials and equipment to tie this flow into the main diversion system.
* Flow diversion materials and equipment must be in place and successfully operating for a period of four hours prior to starting any rehabilitation work requiring flow diversion.
* Reduce flow to within the limits required for TV inspection. After the work has been completed, restore flow to normal.
* The Contractor is responsible for keeping pumping engine noise complaints from the citizens to a minimum. The Owner will terminate all pumping activities if noise control is not adequately addressed.

**PART 5: METHOD OF MEASUREMENT AND PAYMENT**

Method of Measurement and Payment for providing the Wastewater Flow Control and Bypass Pumping as specified in this section shall be incidental and inclusive in the applicable unit price bid item.

**\*\*END OF SECTION\*\***