

UTILITIES COMMISSION
CITY OF NEW SMYRNA BEACH, FLORIDA

ITB #02-21
MISCELLANEOUS SEWER IMPROVEMENTS

SECTION 02730 – BY-PASS PUMPING SPECIFICATION

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PART 1 – GENERAL

A. DESCRIPTION OF WORK

- 1) This specification covers all work necessary to furnish and install a sewage by-pass pumping system. The Contractor shall provide all labor, materials and equipment necessary to install a by-pass pumping system to divert sewage flow around manhole and pipe sections in which work is to be performed, including applicable permits, Maintenance of Traffic and restoration to better or equal conditions as related to by-pass pumping.
- 2) The **COMMISSION** will pay for actual days of which bypass pumping is performed per the Contract Bid Tabulation Bid Item - Bypass Pumping Allowance. The Unit “Per Day” for by-pass pumping shall be continuous running of pumps for no less than 12 hours. The Contractor shall submit to the **COMMISSION** weekly by-pass logs with dates, times and locations.
- 3) All work shall adhere to Occupational Health and Safety Administration (OSHA) standards, current edition.
- 4) Maintenance of Traffic shall adhere to FDOT Design Standards, Index 600, current edition.

B. SUBMITTALS

- 1) The Contractor shall submit a by-pass pumping plan and design describing means and methods to divert sewage flows to the **COMMISSION** for review and approval prior to proceeding with any type of manhole or pipe liner installation.
- 2) The by-pass plan and design shall be adequately sized to handle peak flow conditions.
- 3) The by-pass plan and design shall include redundant pumps.

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- 4) The **COMMISSION** requires all Customers to be notified a minimum of 5 calendar days of any anticipated flow interruptions. It is the Contractor’s responsibility to make said Customer notifications.

PART 2 – CONSTRUCTION

A. BY-PASS PUMPING

- 1) Installation of the manhole and/or pipe liner shall not begin until the Contractor has installed a fully operating by-pass pumping system, with redundant pumps.
- 2) A sewer plug shall be inserted upstream of the manhole or pipe section to be lined. The plug shall be designed such that all or any portion of the upstream flow can be released once the lining operation is completed.
- 3) The sewer flow through the pipe begin by-passed shall be reduced to maximum limits stated below. After the work has been completed, the flow shall be restored to normal.

Pipe Size	Maximum Depth of Flow of Pipe Diameter
6” - 10”	20%
12” - 24”	25%
> 24”	30%

- 4) Once the lining process has begun, the plugs and by-pass pumping shall be maintained until the resin/felt tube composite is fully cured, cooled down, laterals are reinstated and the pipe is videoed.
- 5) When the depth of flow in the manhole or pipe being lined is above the maximum allowable for the proposed work, then the Contractor shall reduce the flow to the level shown below by manual operation of pump stations, plugging or blocking of the flow or by pumping and bypassing of the flow as acceptable to the **COMMISSION**.
- 6) For manual operation of pump stations, the Contractor shall coordinate such operations with **COMMISSION**.
- 7) Plugging or blocking of the flow shall only be allowed when the Contractor can demonstrate that the upstream gravity collection system can accommodate the surcharging without any adverse impact.
- 8) The depth of flow in manhole or pipe shall not exceed that shown for the respective pipe sizes and for the operations indicated.

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B. FLOW CONTROL PRECAUTIONS

- 1) When a sanitary sewer manhole and/or pipe is plugged, blocked or bypassed, the Contractor shall take sufficient precautions to protect the public health, Customer flooding or damage and damage to the existing gravity sanitary sewer system.
- 2) Should flooding or damage occur due to the Contractor's by-pass pumping system, it will be the Contractor's responsibility to resolve at no cost to the **COMMISSION**.
- 3) The Contractor will be responsible for supplying vac trucks for additional by-pass pumping support to control sewer flow in the manhole and pipe. The vac truck will be considered a "redundant" pump.
- 4) When a sanitary sewer manhole and/or pipe is plugged, blocked or bypassed, the Contractor shall monitor the conditions upstream of the plug and shall be prepared to immediately start bypass pumping, if needed. Any liquid or solid matter which is bypass pumped from the gravity sanitary sewer system shall be discharged to another sewer manhole or appropriate vehicle or container only. No such liquid or solid matter shall be allowed to be discharged, stored, or deposited on the ground, swale, road, stormwater drainage system or open environment.
- 5) The Contractor shall protect all pumps, conduit and other equipment used for bypass pumping from traffic.
- 6) The Contractor will be responsible for clean-up, disinfection, agency notifications and remediation of any liquid or solid matter spilled, discharged, leaked or otherwise deposited to the open environment from the gravity sanitary sewer system as a result of the Contractor's by-pass pumping system at no cost to the **COMMISSION**.

END OF SECTION