



WASTEWATER DEPARTMENT STANDARD SPECIFICATIONS

SECTION 406 BYPASS PUMPING

JANUARY 1, 2018

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406.01 GENERAL

No sewage or solids shall be dumped, by-passed or allowed to overflow into streets, streams, ditches, catch basins or storm drains nor shall it be allowed to "back-up" upstream to such an extent that homes, businesses, etc., along the sewer are flooded.

When pumping/by-passing is required, the Contractor shall supply the necessary pumps, pipe plugs, conduits and other equipment to divert the flow of sewage from a pumping station, manhole(s) and /or pipe segment(s) where work is to be performed. The by-pass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of heavy rainfall. It is the Contractor's responsibility to design and provide an adequate size pump(s) as required to pump the existing sewer flow including low and high flow periods and peak Inflow/Infiltration flows.

406.02 SETUP AND REMOVAL

The Contractor shall be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and by-passing system. The Contractor is responsible for all maintenance of the bypass pumping system to ensure no disruption in the system. The Contractor shall provide any means necessary to provide uninterrupted service on main-line service. The Contractor shall assure that an overnight bypass will not result in an overflow event.

Where pump discharge lines cross streets or alleys, they shall be covered with ramps to allow vehicular traffic to continue to utilize the street or alley. Adequate signage and safety precautions shall be provided in accordance with local or state regulations.

The removal and replacement of frame, cover, and cone to accommodate by-pass pipe shall be a subsidiary requirement per the installation or the by-pass pumping. All inflatable plugs and other such devices placed in the sewer for flow restriction shall contain the Contractor's name in permanent markings.

The Contractor shall provide all labor, materials, equipment, and incidentals necessary to remove the bypass pumping system. Prior to removal of the bypass piping, the Contractor shall empty all sewage into the sanitary sewer system. The Contractor shall not allow sanitary sewer to discharge onto the ground.

The Contractor shall note that the Owner utilizes Bauer fittings for the bypass connections at sanitary sewer lift stations.

406.03 BYPASS PUMPS

All bypass pumps shall be fully automatic self-priming units. The pumps may be electric or engine driven. All pumps used shall be constructed to allow dry running for long periods of time to accommodate the cyclical nature of effluent flows.

406.04 REDUNDANCY

Unless directed otherwise by the Owner, the Contractor shall provide a spare bypass pump equal in size for each pump required for all bypassing operations. The spare pump shall be on-site and piped for immediate service during all bypass pumping operations. The spare pump shall be configured to start automatically if initial pump fails or cannot maintain flow level in manhole or wet well.

406.05 SOUND ATTENUATION

All bypass pumping units used within, or within 1,000 feet, of areas zoned residential shall be enclosed in critical level sound enclosures. Sound operating units shall not exceed 70 dBA measured at 25 feet from the unit.

406.06 BYPASS HOSE OR PIPING

All bypass pumping hose or pipe shall be provided in good condition. Damaged or leaking pipe or joints shall not be accepted. The Contractor is responsible for any sanitary sewer discharge to the surface due to hose or pipe failure.

406.07 BYPASS PUMPING PLAN

The Contractor shall submit a Bypass Pumping Plan to the Owner for review prior to proceeding with bypassing operations. Bypassing operations shall not commence until a Bypass Pumping Plan has been reviewed and approved by the Owner. As a minimum, the Bypass Pumping Plan shall contain the following items:

- A. Pump manufacturer's name, model number(s), rated capacity, performance curves, and motor horsepower.
- B. Diameter and material of the bypass piping (suction and discharge).
- C. Hydraulic calculations including flow and head conditions.

- D. Schematic showing the arrangement and layout of the bypass pumping system.
- E. Emergency 24-hour telephone numbers for the Contractor's key personnel.

406.08 CONTRACTOR'S RESPONSIBILITIES REGARDING SANITARY SEWER OVERFLOWS

The Contractor shall be responsible for and shall indemnify and hold the Owner harmless for any sanitary sewer overflow occurring as the result of the work performed. The Contractor is responsible for any sewer discharge to the surface due to failure in bypass hose, piping or other equipment. Any discharge from air release valves shall be contained. The Contractor shall ensure that raw sewage will not spill on the ground or into any bodies of water, channels, or conduits of conveyance of storm water during the performance of this work. Prior to removal of the bypass pumping pipe, the Contractor shall empty all sewage into the sewer system. The Contractor is responsible for and shall indemnify and hold the Owner harmless for any sanitary sewer discharge to the environment due to a failure in the equipment and/or bypassing operation.

In the event of a sanitary sewer overflow, the Contractor shall contact the Owner's representative immediately. If there is a sanitary sewer discharge to the environment due to a failure in the equipment and/or bypassing operation, the Contractor shall reimburse the Owner all costs related in any way to compliance with laws, regulatory requirements, and/or court orders and decrees associated with the overflow or discharge event. The costs include but not limited to water quality monitoring, signage, cleanup, fines, legal fees, claims and reporting. In the event that the peak flows during the bypass pumping operation exceed the projected peak flow figures previously provided by the Owner and a sanitary sewer overflow event occurs when the Contractor's equipment is operating correctly, the Contractor will not be held liable for the sanitary sewer overflow or discharge.