

DIVISION 33 – UTILITIES
SECTION 33 01 30 – OPERATION AND MAINTENANCE OF SEWER UTILITIES

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. By-pass pumping of sanitary sewers.

1.02 SCOPE

- A. The work covered by this section consists of furnishing all labor, equipment, tools, appliances, and materials necessary to perform all operations to implement a temporary pumping system for the purpose of diverting existing sewage flow around various sections of sanitary sewer piping that are to be replaced for the duration of the replacement and at other periods as determined by the Contractor to prevent sewage overflows and provide reliable sewer service to the users of the sanitary sewer system at all times. The Contractor shall maintain sewage flow in the construction area in order to prevent backup and/or overflow into upstream pipe segments and laterals, adjacent ditches, storm sewers, and waterways.
- B. The design, installation and operation of the temporary pumping system shall be the Contractor's responsibility.

1.03 DESIGN REQUIREMENTS

- A. Bypass pumping system shall have sufficient capacity to pump the flow around the sanitary sewer section being replaced.
- B. The Contractor shall provide all pipeline plugs, pumps of adequate size to handle the flow, temporary discharge piping, and fittings to ensure that the total flow of the sewer can be safely diverted around the work. Pumps shall be selected per the results of the flow calculations and per site requirements.
- C. The Contractor shall have adequate standby equipment available and ready for immediate operation and use in the event of emergency or breakdown. One (1) standby pump for each size pump utilized shall be installed at the mainline flow bypassing location, ready for use in the event the primary pump fails.
- D. The bypass pumping systems shall be manned at all times, or provided with an alarm system with autodialer, while operating.
- E. The bypass pumping system shall be capable of bypassing the flow around the work area and of returning any amount of flow up to full available flow into the sanitary sewer system as necessary for satisfactory performance of the work.
- F. The bypass pumping system shall adhere to all local, state, and federal codes and regulations as required by the regulatory agencies having jurisdiction.

- G. The Contractor shall maintain wastewater flows around the work area in a manner that will protect and not cause surcharging of sewers, drains, damage or flooding to public and private property.
- H. The Contractor shall protect water resources, wetlands, and other natural resources during the work.
- I. The bypass pumping system shall provide provisions for avoiding damage to public and private property, preventing leakage from hoses and minimizing noise from pumps. The pumping equipment shall be sound attenuated (66 dba @ 20 feet) for overnight operations.
- J. It shall be the responsibility of the Contractor to provide protection for the entire bypass pumping system including but not limited to piping, piping connections, pumps and ancillary equipment. Materials utilized for bypass pumping shall be appropriate for the intended operation and service. The Contractor shall be responsible for any damage caused by the Contractor's failure to provide adequate protection to the bypass pumping system.

1.04 RESPONSIBILITY OF OVERFLOWS AND SPILLS

- A. It shall be the responsibility of the Contractor to schedule and perform the work in a manner that does not cause or contribute to incidence of overflows, releases or spills of sewage from the sanitary sewer system or the bypass operation.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. The Contractor shall provide and maintain adequate pumping equipment, force mains and other necessary appurtenances in order to maintain reliable sanitary sewer service in all sanitary sewer lines as required for construction. The Contractor shall have backup pump(s), force main(s) and appurtenances ready to deploy immediately. Appurtenances and discharge point shall be approved by the Authority. Backups and/or overflows and costs associated with such events, as the result of inadequate equipment are the responsibility of the Contractor.

PART 3 – EXECUTION

3.01 PREPARATION

- A. The Contractor shall provide bypass pumping of sewage and wet weather flows around each segment(s) of pipe that is affected by the Work. The Contractor shall be responsible for all required bulkheads, pumping equipment, piping, etc., to accomplish the sequence of pumping. The Contractor shall cease bypass pumping operations and return flows to the pump station and/or pipe segment when directed by the Authority. During bypass pumping, no sewage shall be leaked, dumped, or spilled in or onto, areas

outside of the existing sanitary sewer system. When bypass pumping operations are complete, pumps and piping shall be drained into the sanitary sewer prior to disassembly.

3.02 INSTALLATION

- A. The Contractor shall plug off and pump down the sewer manhole or pipe segment in the immediate work area and shall maintain the sanitary sewer system so that surcharging does not occur. Contractor shall man the bypass pumping system when in operation.
- B. The Contractor shall ensure that no damage will be caused to private property, municipal, or state right-of-way as a result of bypass pumping operations. Ingress and egress to adjacent properties shall be maintained. Ramps, steel plates or other methods shall be deployed by the Contractor to facilitate traffic over surface piping.
- C. The Contractor shall complete the work as quickly as possible and satisfactorily pass tests, inspections and repair deficiencies prior to discontinuing bypass pumping operations and returning flow to the siphon structures.
- D. The Contractor shall immediately notify the Authority should a surcharge occur that results in an overflow of sewage. If the Contractor is unable to remedy the situation, then he should suspend or terminate the work until such time as the overflows have been controlled. Should such surcharge damage the materials and/or equipment that is used on the job and/or adjacent property, it shall be corrected at no additional cost to the Authority. In the event that sewage accidentally drains into the drainage system or street, the Contractor shall immediately stop the overflow, notify the Authority and take the necessary action to clean up and disinfect the spillage to the satisfaction of the Engineer. If sewage is spilled onto public or private property, the Contractor shall wash down, clean up and disinfect the spillage to the satisfaction of the Engineer.
- E. The Contractor shall locate bypass pumping suction and discharge lines so as to not cause undue interference with the use of streets, private driveways and alleys. In cases where the suction and or discharge lines are required to be buried for vehicle / pedestrian traffic, cost for this work is incidental and includes complete restoration of any surface features disturbed.
- F. The Contractor shall not intentionally damage or remove portions of existing sanitary sewer structures for the purpose of installing bypass pumping system without specific approval from the Authority or Engineer. If a structure is damaged, it shall be reconstructed or replaced to the satisfaction of the Authority.
- G. The Authority shall not be responsible for damage to the bypass pumping system sustained by the Contractor directly or indirectly as a result of stormwater runoff within streets, ditches. The Contractor shall be responsible for damage that results directly or indirectly from the interference of stormwater runoff to bypass pumping equipment, piping and/or appurtenances. It is the intent of these specifications to require the Contractor to establish adequate bypass pumping as required regardless of the flow conditions.

3.03 CLEANUP AND REMOVAL

- A. The Contractor shall restore the bypass pump area and the bypass piping route to pre-bypass condition including any cleanup measures necessary due to fuel, coolant, oil, and sewage leaks. The Contractor shall document any cleanup measures that were necessary. The Contractor's bypass pumping plan shall ensure that all sewage in the bypass pumps, pipes, and fittings has been emptied into the sanitary sewer system.

END OF SECTION