SECTION 33 31 50

BYPASS PUMPING

PART 1 - GENERAL

1.01 SUMMARY

Contractor shall determine where bypass pumping is required. The Contractor shall maintain sewer flows through the existing system at all times during construction. Sewage shall not be allowed to back up and surcharge within the system. To accomplish this, bypass pumping of sewage may be required by the Contractor. The requirements of this action shall apply if bypass pumping is required.

1.02 SUBMITTALS

Submit the following:
1. List of equipment for bypass pumping and bypass plans. Separate bypass plans will be required for each bypass setup.
2. List of equipment for spill containment and cleanup.

PART 2 - PRODUCTS

2.01 BYPASS PUMP ASSEMBLY

Contractor shall maintain a minimum of two bypass pump assemblies for each pump location at the site in sound operating condition to ensure uninterrupted performance of the bypassing operation. Bypass pumps and equipment shall be mobilized to each work site as required for the sewer construction or reconstruction.

Contractor shall provide a minimum of two trailer-mounted bypass pump assemblies for use during the Project. The assembly shall include the pump, engine drive, starters, battery starter, valving, suction hose and appurtenances, such that the equipment is fully functional and equipped for use as a bypass pump station. Muffler shall be hospital grade with regard to noise suppression. Equipment shall meet air quality exhaust criteria of San Francisco Bay Air Pollution Control District as applicable.

Contractor shall submit a bypass pumping/piping plan and an emergency plan. The bypass pumping/piping plans are required for mainline bypass and shall include:
1. A site plan showing dimensions and layout of equipment on each site and how the facilities will be protected from public access during use.
2. Calculations showing the performance of pumps (where used) against friction and minor losses in each bypass system.
3. Detailed description of each bypass system including connection, testing, operation, alarm and control functions, and disconnection. Contingency plans for power or equipment failure shall also be included where pumps are used.

4. Schematic Map showing route of discharge, discharge locations, areas to be fenced, and where and how discharge piping will be hardened to allow traffic access.

PART 3 - EXECUTION

3.01 BYPASS PUMPING/PIPING

A. Bypass pumping/piping may be required. Submittals under this section shall address all bypass pumping/piping.

B. All sewer bypass operations shall take place between April 1 and October 31unless prior written authorization is obtained from the City. All sewer bypass operations must be preceded by a minimum of 21 calendar days with no rainfall.

C. Anticipated flow in the existing sewers varies depending on upstream pump station discharge, the time of day, the day of the week, and whether or not there has been recent rainfall. Flow rates in the sewers are dramatically affected by rainfall, and sewer bypass operations should be avoided whenever possible during and immediately following rainfall events. Connections that can be made in less than 8 hours can be coordinated with the City to coincide with the lowest flows over a 24-hour period. Bypass sewer facilities that will remain in service over periods longer than 8 hours must be sized to handle the peak flow rate. The City will determine the anticipated peak flows once the Contractor advises the City where bypass is required. The anticipated dry weather peak flow is approximately 3000 gpm.

D. The Contractor is responsible for the operation and maintenance of the bypass systems. These systems will operate 24-hours a day for 7 days a week for as long as bypassing is necessary.

E. Bypass Pumping
   1. Two pumps are required, each of which will handle the entire anticipated flow. Pumps will operate in lead-lag mode with both operating if flow greater than anticipated is encountered.
   2. The Contractor shall construct and maintain all temporary piping and electrical connections. All temporary piping and electrical must be placed below ground.

F. The Contractor shall perform all work associated with bypass pumping without causing damage to existing improvements to remain, and without causing a spill of sewage outside the sewer system. Any damage resulting from the Contractor's work shall be repaired or replaced to the satisfaction of the property owner at the Contractor's expense, and at no cost to the City. All fines, and cost associated with the cleanup of spills, shall be the responsibility of the Contractor.

- END OF SECTION -