

SECTION 820
PUMP STATION DEMOLITION AND SITE RESTORATION

820-1 SCOPE OF WORK:

- a. Furnish all labor, materials, equipment, and incidentals required for demolition and/or removal and disposal of existing pump stations and related facilities to be demolished and/or removed.
- b. This section also includes complete or partial removal and disposal of specified existing structures, foundations, slabs, piping, mechanical, electrical, existing (to be abandoned) buried piping, and miscellaneous appurtenances encountered during construction operation.
- c. These specifications call attention to certain activities necessary to maintain and facilitate operation during and immediately following construction and do not purport to cover all of the activities necessary. The Contractor shall exercise due concern for operation of existing sanitary sewer and shall diligently direct all his activities toward maintaining continuous operation of the existing sewer mains and minimizing operation inconvenience.
- d. Demolition includes:
 1. Demolition as necessary above and below finished grade of all specified pump stations, manholes and related facilities which are to be demolished and/or removed, including but not limited to miscellaneous metal, piping, concrete slabs on grade, concrete slabs below grade, and concrete walls and foundations, as shown on the Drawings.
 2. Temporary modification of structures, equipment, appurtenances, and utilities as necessary to allow for operation of the facilities during construction.
 3. Careful removal and handling of salvageable existing equipment as specified and delivery of this equipment to the Owner.
 4. Off-site disposal of excess and unacceptable materials.
- e. Site restoration includes:
 1. Backfill and compaction of excavations and other holes resulting from demolition operations or existing prior to any work, as indicated.
 2. Restoration of vegetative cover.
 3. Repairs to fencing, driveways, or other existing facilities removed or damaged during construction.

820-2 SUBMITTALS:

- a. Submit to the Engineer for approval, two (2) copies of proposed methods and operations of demolition and/or removal of the existing pump stations and related facilities prior to the start of work. Include in the schedule the coordination of shutoff, capping, and continuation of utility service as required.
- b. Provide a detailed sequence of demolition and removal work, flow bypass, and temporary pumping operations to ensure the uninterrupted progress of the Owner's

operations.

- c. Before commencing demolition work, all modifications necessary to protect facilities designated to remain will be completed. Actual work will not begin until the Engineer has inspected the modifications.
- d. The above procedure must be followed for each individual demolition operation.

820-3 CONDITION OF STRUCTURES:

- a. The Owner and the Engineer assume no responsibility for the actual condition of the structures to be demolished and/or removed.
- b. Conditions existing at the time of inspection for bidding purposes will be maintained by the Owner insofar as practicable. However, variations within the site may occur prior to the start of demolition work.
- c. Site plans showing demolition limits at each site are included in the Drawings.

820-4 EQUIPMENT TO BE SALVAGED: At the Owner's discretion certain items included in the existing pump station to be demolished shall be salvaged and delivered to Wastewater Collection Pump Maintenance Superintendent. Typical equipment to be salvaged is broken down into flooded suction pump stations and submersible pump stations as listed below:

- a. Flooded Suction:
 1. Motors with leads left as long as possible
 2. Pumps
 3. Valves and check valves
 4. VFD's if applicable
 5. Bubbler panel in the buildings
 6. Control panel
 7. Lighting panel
 8. Seal water control panel
 9. Ladders in the can stations
- b. Submersibles:
 1. Motors with power cords **not cut**
 2. Rails for pumps with brackets
 3. Control Panel
 4. Valves and check valves
 5. Hatch doors
 6. Air bells
- c. The Contractor shall tag all equipment and material salvaged with the following:
 1. Pump Station number
 2. Project number
 3. Contractor's name
 4. Date of demolition

820-5 DISPOSAL OF MATERIAL:

- a. All material designated for demolition and/or removal shall become the Contractor's property and must be removed from the site unless otherwise specified on the Drawings.
- b. Concrete, concrete block, and bricks shall be hauled to a waste disposal site, unless

otherwise indicated.

- c. All other unsuitable fill material shall be hauled to a waste disposal site by the Contractor.
- d. The storage or sale of removed items on the site will not be allowed.

820-6 TRAFFIC AND ACCESS:

- a. Conduct demolition and/or removal operations, and the removal of equipment and debris to ensure minimum interference with roads, streets, walks, both onsite and offsite, and to ensure minimum interference with occupied or used facilities.
- b. If work is to be performed in a roadway, the contractor shall perform necessary traffic control, conform to DPW rules and regulations, and the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). Lane closures will require a permit from the DPW Traffic Division.

820-7 PROTECTION:

- a. Conduct operations to minimize damage by falling debris or other causes to adjacent buildings, structures, roadways, and other facilities, including persons. Provide interior and exterior shoring, bracing, or support to prevent movement or settlement or collapse of structures to be demolished and adjacent facilities to remain.
- b. Existing hatches for pumping stations are not designed for traffic loads and shall therefore be protected from damage.

820-8 DAMAGE: Promptly repair damage caused to adjacent facilities by demolition operations as directed by the Engineer at no cost to the Owner.

820-9 UTILITIES:

- a. Maintain existing utilities to remain in service as directed by the Engineer and protect against damage during demolition operations.
- b. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the Engineer. Provide temporary services during interruptions to existing utilities as acceptable to the Engineer.
- c. The Contractor shall cooperate with the Owner to shut off utilities serving structures of the facilities to be demolished as required by demolition operations.
- d. The Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance, rerouting, and/or interruption of all public and private utilities or services under the jurisdiction of the utility companies.
- e. To the greatest extent possible, all utilities serving the abandoned facility which is to be demolished and/or removed have been disconnected and terminated at the service mains in conformance with the requirement of the utility companies or the municipality owning or controlling them.

820-10 EXTERMINATION: As required, before starting demolition, employ a certified rodent and vermin exterminator and treat the facilities in accordance with governing health laws and regulations.

820-11 POLLUTION CONTROL:

- a. For pollution control, use water sprinkling, temporary enclosures, and other suitable methods as necessary to limit the amount of dust and dirt rising and scattering in the air to the lowest level of air pollution practical for the condition of work. Comply with the governing regulations.
- b. Clean adjacent structures and improvements of all dust, dirt and debris caused by demolition operations as directed by the Engineer. Return areas to conditions existing prior to the start of work.

820-12 SEQUENCE OF WORK: The sequence of demolition and/or removal of existing facilities will be in accordance with an approved schedule as specified in Section 820-5 above.

820-13 DEMOLITION OF EXISTING PUMPING STATIONS:

- a. The sanitary sewer pump stations shall be demolished and/or removed as follows:
 1. Install sewer flow bypass operations as required to maintain uninterrupted operation of existing sewer system. This shall be done in accordance with Section 813.
 2. Pump out existing wet well to the nearest access point on the existing sanitary sewer system. Care shall be taken to ensure that no grit or gravel is pumped into the existing sanitary sewer system. No pumping shall occur during high sewage and/or infiltration/inflow flow periods. Any sludge remaining in the bottom of the pump station after completion of pumping shall remain on site, and shall be stabilized by mixing with river sand.
 3. Prior to demolishing and filling structures to be abandoned below grade, Contractor shall measure and record dimensions required to calculate the volume of the structure to be filled. This volume shall be used to compare to volume of backfill material used to check the structure has been completely filled.
 4. Demolish existing concrete structures and remove to a depth of three feet minimum below finished grade, unless otherwise indicated. For steel lift station structures, remove to three feet minimum below finished grade. Fill remaining structures with CLSM, using care to ensure that all voids are filled.
 5. Foundations and structures greater than three feet below grade may be left in place, at the Contractors option. Foundations between 2.5 and 3 feet below grade, where indicated or approved by the Engineer, may be left in place, at the Contractors option, provided that the completed backfill provides at least three feet of cover. For all foundations left in place, two-inch minimum diameter holes shall be punched in the remaining foundation at six-foot maximum centers to prevent hydrostatic uplift. (This requirement does not apply to walls.) The Contractor may at his option break up foundation slabs designated to be left in place to the satisfaction of the Engineer in lieu of punching holes. Care shall be taken to ensure that any voids existing under foundation slabs that have "floated", either prior to construction or during construction, are filled to the satisfaction of the Engineer.
- b. All suitable excavated materials, as specified in Section 801, may be used as fill material in the bottom of the hole resulting from demolition of the pump station, and if used, shall be compacted to match adjacent insitu materials. Remaining holes

(including all voids under existing pump station slabs adjacent to the demolition limits) resulting from demolition activities shall be filled completely with CLSM or river sand, and shall be compacted to 90 percent of laboratory maximum density, unless otherwise specified.

- c. Excavated material which is not suitable for backfill shall be removed from the site and shall be disposed of at no additional cost to the Owner.
- d. Restore finished grade to match adjacent surface, and slope to drain.
- e. Site restoration shall be as follows:
 - 1. Restore vegetative cover on unpaved areas in accordance with Section 903.
 - 2. Repair or reinstall any existing fences (that are not marked for demolition) that were removed or damaged during construction, to the satisfaction of the Engineer.
 - 3. Restore damaged or disturbed access driveways to their original condition to the satisfaction of the Engineer.

820-14 BURIED PIPING:

- a. Remove all buried piping encountered during excavation unless otherwise indicated or specified or directed by the Engineer. Pipes not removed shall have open ends plugged with concrete or flowable fill (one-foot minimum plug length). The Engineer will review the location of where pipes are to be plugged.
- b. Force mains to be abandoned shall be done so in accordance with Section 804 at no additional cost to the Owner.
- c. Any existing effluent piping left in place shall be removed to three feet below grade, plugged, and backfilled prior to restoration of vegetative cover, unless otherwise directed by the Engineer.

820-15 MEASUREMENT:

- a. **Pump Station Demolition:** Measurement for demolition shall be made on a lump sum basis for each sanitary sewer pump station designated in the Contract Documents.

820-16 PAYMENT:

- a. **Pump Station Demolition:** Payment of pump station demolition shall be full compensation for furnishing all labor, materials, equipment, purging and plugging of abandoned pipe, removal of pipe, and incidentals required to complete the demolition and site restoration of each sewer pump station as designated in the Contract Documents.

820-17 PAY ITEM:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
820000_	Demolition & Site Restoration of Pump Station (PS No.)	Lump Sum