
**SECTION 02560
SANITARY SEWER OBSTRUCTION REMOVAL**

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. The purpose of an obstruction removal is to clear a sanitary sewer line of obstructions so as to allow for rehabilitation by any method.

1.2 MEASUREMENT AND PAYMENT

A. Unit Prices:

1. Payment for an obstruction removal shall be paid on a per each basis, for all necessary material, equipment and labor to accomplish the removal of obstructions in sanitary sewer lines by excavation or remote cleaning.
2. Refer to Section 01270 – Measurement and Payment for unit price procedures.

B. Stipulated Price (Lump Sum):

1. If Contract is Stipulated Price Contract, payment for Work in this Section is included in Total Stipulated Price.

1.3 REFERENCES

- A. CFTS – City of Friendswood Technical Specifications.

1.4 SUBMITTALS

- A. Conform to requirements of Section 01330 – Submittal Procedures.
B. Submit product data for each pipe product, fitting, coupling and adapter.

1.5 QUALITY ASSURANCE

- A. Provide manufacturer's affidavits that pipes, fittings, couplings and adapters were manufactured in compliance with standards and Technical Specifications referenced in this Section.

PART II: PRODUCTS

2.1 MATERIALS

- A. Use only soils that are in compliance with the Specifications in Section 02140 – Utility Backfill materials.
B. Use cement-stabilized backfill for bedding and backfill that shall conform to Section 02145 – Cement-Stabilized Sand.
 1. Cement shall consist of Type I Portland cement conforming to ASTM C150.
 2. Sand and cement shall be mixed in a pug mill or obtained from

an approved supplier using not less than one and one-half (1-1/2) sacks of cement per one ton (1 Tn) of mixture and sufficient water to hydrate the cement.

- C. All pipe and materials for repair shall conform to the appropriate section, Sections 02200 through 02280, for the type of pipe being repaired.

PART III: EXECUTION

3.1 PREPERATION

- A. All line replacement materials (pipe and fittings) shall be on-site prior to any excavation.
- B. Bedding material shall be on-site or prior delivery arrangements made with a reliable source.
- C. Trench Safety Systems shall be on-site and shall comply with all rules, regulations and laws as specified in Section 02280 – Trench Safety Systems.
- D. Provide bypass pumping as required. Bypass pumping shall be incidental to the work in this Section. All bypass pumping shall conform to Section 02555 – Sanitary Sewer Bypass Pumping.
- E. Remote obstruction removal device, if used, shall be on-site prior to the start of work.

3.2 OBSTRUCTION REMOVAL

- A. **Obstruction Removal by Remote Device:** This method of obstruction removal shall be performed prior to rehabilitation. During television inspection, or if video media is available from a previous televising of the sanitary sewer line and identifies heavy roots, protruding taps and hard material deposits, which could cause a non-uniform liner pipe or obstruction during installation of the liner, the Contractor shall ask the Project Manager for approval for obstruction removal by remote device. The obstruction removal by remote device shall consist of solid steel mandrel, or porcupines winched from one manhole to another manhole. They shall be sized to remove the obstructions to the satisfaction of the Project Manager. The Contractor may use bucket machine to break obstruction by this method without damaging sanitary sewer pipe.
- B. **Obstruction Removal by Excavation:** This method of obstruction removal shall be performed while installing a liner in the sanitary sewer, or the repair or removal of obstructions to the flow within a sanitary sewer. If during the liner insertion operation, a collapsed sewer, off-set joint, or other obstruction is encountered which prevents or blocks the passage or insertion of the liner involved in the rehabilitation process, or an obstruction is known or found in any sanitary sewer line, the Contractor shall notify the Project Manager for approval to make an excavation to uncover and remove the obstruction in the following manner:

1. Excavate at the point where there is an obstruction. A trench safety system shall be required for all excavations over five feet (5 Ft) deep.
2. Break out the existing sanitary sewer pipe, carrier pipe, etc., as directed by the Project Manager. Remove only that amount of material which is causing the obstruction. The amount of carrier pipe, if any to be removed shall be minimized.
3. When the liner is completely in place, it shall be encased with Cement Stabilized sand bedding. Under such conditions, replacement of the carrier pipe is not required. The existing sanitary sewer bedding should not be disturbed by the excavation work. However, if said bedding is disturbed during the obstruction removal procedure, the Contractor shall place cement-stabilized sand beneath the liner to a minimum compacted thickness of twelve inches (12 In) and to above the pipe as required. Repairs under paving shall have cement-stabilized backfill to the top of the subgrade of the paving.

END OF SECTION