

SECTION 02769

OBSTRUCTION REMOVAL

PART 1 GENERAL

1.01 SECTION INCLUDES

This section includes clearing the sewer main from obstructions by one for the following methods:

- A. Obstruction removal by remote device
 - 1. To remove protruding taps (service lines that protrude greater than 1-inch into the sewer)
 - 2. To remove other obstructions
- B. Obstruction removal by excavation

1.02 UNIT PRICES

- A. Obstruction removal by excavation will be paid per bid item. Depth is measured from the ground level to the flow line of the sanitary sewer main at the point of the obstruction removal. The payment for an obstruction removal shall be made when the Contractor has cleared the obstruction from the sewer main to be lined as directed by the Owner's Representative. The unit price for obstruction removal by excavation shall include a minimum length twelve (12) feet for all pipe sizes and depths. The depth ranges indicated in the bid proposal for the minimum length of pipe removed by obstruction removal by excavation is 0 to 5-feet deep, 6-feet to 10-feet deep, 11-feet to 15-feet deep and over 15-feet deep. In the event the section of pipe removed is greater than the minimum length (12-feet), payment for additional footage of pipe shall be paid for as per the bid item "Extra Length Obstruction Removal" per linear foot for all pipe sizes, and depths.
- B. Obstruction removal by remote device shall be paid per bid item. Obstruction removal by remote device for protruding taps shall be paid per bid item for each protruding tap removed. Obstruction removal by remote for other obstructions shall be paid per bid item for each setup. A setup consists of one or more manhole section up to a continuous length of 800-feet provided that one or more removals are accomplished in each setup.
- C. Any cleaning of sanitary sewer due to broken pipe, roots, dirt, and loose deposits, etc. will be incidental to obstruction removal by both methods. If any TV inspection is involved, it will be incidental.
- D. Removal and legal disposal of hard deposits, concrete, debris, pipes or any other material in the manhole or that is within outside wall of the manhole wall will be incidental to the rehabilitation of sanitary sewer pipes and manholes.

- E. Any bypass pumping associated with obstruction removal shall be considered incidental to the cost of the liner.
- F. When extra length for obstruction removal by excavation occurs under pavement, the pavement removal and replacement and cement stabilized sand backfill shall be incidental.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 OBSTRUCTION REMOVAL BY REMOTE DEVICE

- A. This method of obstruction removal shall be performed prior to rehabilitation. When a T.V. tape of televised sanitary line identifies an obstruction which could cause a non-uniform liner pipe or obstruction during installation of the liner, it shall be removed. The Contractor shall ask the Owner's Representative for approval of obstruction removal with a remote device using one of the following:
 - B. To remove protruding taps prior to the rehabilitating with a liner, a power driven cutting device shall be utilized. The protruding tap shall be cut so that the protrusion is no greater than 1/4 inch. In the event damage to the existing sewer line or service line occurs, a repair shall be done at the Contractor's expense and only a payment for the remote obstruction removal will be made. If the Contractor is unable to remove the protruding tap by this means, then a point repair may be performed at the Owner's Representative's direction.
 - C. To remove other obstructions, such as hanging gaskets, fixed debris, stabilized sand, hardened mineral deposits (includes tuberculation in cast or ductile iron pipes), heavy roots, etc., a remote device shall be utilized. The device(s) shall be pulled or driven from manhole to manhole up to a continuous length of 800-feet using a solid steel mandrel, porcupine, root saw, bucket, etc. to remove the obstruction. The device shall be adequately sized to remove the obstruction to the satisfaction of the Owner's Representative. Damage to the existing sewer line, service line or tap must be repaired by the Contractor and only a payment for remote obstruction removal will be made. The mechanical cleaning method, as described in Section 02733, may be used to remove the obstruction when approved by the Owner's Representative. No separate payment shall be made for utilizing mechanical cleaning method to remove the obstructions. The Contractor shall be paid at the bid unit price for performing obstruction removal (other) irrespective of the method utilized to remove obstruction. Damage to the existing sewer line, service line or tap must be repaired by the Contractor at his expense. The cleaning of the pipe in preparation for rehabilitation is not considered obstruction removal.

3.02 OBSTRUCTION REMOVAL BY EXCAVATION

- A. This method of obstruction removal shall be performed while installing the liner in 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 any

liner involved in the rehabilitation process, the Contractor shall notify the Owner's Representative 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 5-feet deep.
 2. Break out the existing sanitary sewer pipe (carrier pipe), etc., as directed by the Owner's Representative. Remove only that amount of material which is causing the obstruction. The amount of "carrier pipe" to be removed shall be minimized. The minimum length of pipe to be removed shall be six (6) feet for all depths.
 3. When the liner is completely in place, it shall be encased with cement stabilized sand as per Class "AA" modified bedding.
 4. When obstruction removal by excavation occurs under a paved area, then backfill shall be cement stabilized sand.
- B. Under such conditions, replacement of the carrier pipe is not required. The existing 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; the minimum compacted thickness shall be 12-inches.

END OF SECTION