

ITEM 52

SEWER CLEANING

1.0 DESCRIPTION. The Contractor shall provide all labor, material, and equipment necessary to clean the sanitary sewer and manholes by the removal of all debris or enough debris to restore a minimum of 95% internal pipe height throughout the pipe segment or to a level as specified within the Contract, this Specification or as designated by the *Engineer*.

2.0 SUBMITTALS. The Contractor shall provide the following information.

A. Reference Standards.

1. All work shall be performed in accordance with the most recent federal, state, and local codes.
2. All work shall meet or exceed the requirements of the National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (latest edition), except as otherwise specified herein.

B. Shop Drawings. This section is not applicable.

C. Calculations. This section is not applicable.

D. Certifications.

1. Weigh tickets and disposal manifests from licensed disposal facility are required.
2. If the disposal facility requires any additional TCLP and/or sample analysis, the Contractor shall be responsible for all additional sampling and costs necessary to meet the approved disposal facilities requirements.

E. Video Recordings & Reports. All video recording and reporting requirements pertaining to the sewer/MH cleanings shall be in accordance with SCMSD Specification Item 40.

3.0 MATERIALS. The Contractor shall provide the necessary equipment (hydraulic, high velocity hydraulic, mechanical, etc.) to properly clean the sewer line in preparation for video recording and/or lining of the sewer.

A. Cleaning Equipment.

1. Hydraulically propelled equipment. Hydraulically propelled equipment shall have provisions to ensure the removal of grease from around the inner periphery of the pipe. All precautions must be in place to prevent the flooding of any sewer and to protect public and private property from surcharging.

2. The Contractor shall have in his possession at least two high velocity jetting nozzles. The nozzles shall be capable of producing a scouring spray zone from 15 to 45 degrees in any size main. Equipment shall have the ability to scour and wash manhole walls and benches. The equipment shall be capable of producing flows from a fine spray to a solid stream. All equipment water tanks, auxiliary engines, pumps, and hydraulically driven hose reel shall be self-contained.
3. Mechanically-powered equipment shall be in pairs and be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe shall not be used. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 750-feet of rod. The rod shall be comprised of heat-treated steel. To ensure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.

B. Cleaning Obstructed Section Requirements.

1. If cleaning of an entire section (manhole to manhole) cannot be successfully performed from one manhole, the equipment shall be set up on the opposite manhole and cleaning attempted again.
2. If the *Engineer* determines that a particular section of the pipeline cannot be adequately cleaned due to broken, collapsed, or void areas, then cleaning will be attempted up to the obstruction from both the upstream and downstream manholes.

4.0 EXECUTION.

A. Qualifications. The sewer cleaning Contractor shall be a firm having a minimum of five years continuous successful experience in sewer cleaning the pipe sizes and conditions similar to the work required for this project.

B. Maintaining Flows.

1. A bypass pumping system per SCMSD Item 51 shall be in place and functional prior to any cleaning operation. All sewers are to be cleaned while the flow is bypassed.
2. All materials collected from the cleaning process shall be removed and disposed of at an OEPA-approved site in accordance with all applicable federal, state and local regulations. The Contractor shall provide manifest copies of all disposed material to the Engineer.
3. The manifest shall include disposal site (and their acceptance of the material), date, amount, and a brief description of the material removed. Disposing of collected material into another sewer is prohibited.
4. The Contractor shall be responsible for procurement, use, and proper disposal of all water utilized in the cleaning process.

C. Sewer Cleaning.

1. All sewers to be televised and/or rehabilitated shall first be cleaned by the Contractor. All work shall be in accordance with SCMSD Specification Item 40.
2. The sewer shall be cleaned of bricks, concrete, sand, dirt, roots, grease, and all other solid or semisolid material using hydraulic, high velocity hydraulic, mechanical sewer cleaning equipment, or physical means without damage to the existing sewer. Selection of the equipment used shall be based on the condition of the sewer at the time the work commences.
3. During sewer cleaning operations, all precautions shall be taken to protect the sewer and manholes from damage during cleaning and preparation operations that might be inflicted by the improper use of cleaning equipment.
4. No damage shall be caused to public or private property adjacent to or served by the sewer or its branches. The Contractor shall pay for and restore, at no additional cost to the County any damage caused to public or private property because of such preparation and cleaning operations.
5. Whenever hydraulically propelled cleaning tools or any tools which retard the flow of water in the sewer are used, precautions shall be taken to ensure that the water pressure created does not cause damage or flooding to property.
6. A daily log shall be maintained to record the location of the manholes and sewer lines cleaned, lengths of the lines cleaned, method of cleaning, line sizes and volume and type of debris moved. Observations are to be recorded on a cleaning report form.

D. Root Removal.

1. All roots shall be removed from the interior of the sewer by one of the following processes or other process proposed by the Contractor and approved by the *Engineer*.
2. Mechanical root removal may include the use of mechanical devices, such as rodding machines, expanding root cutters, porcupines, and hydraulic cleaning equipment.
3. Chemical treatment to remove roots is not acceptable unless pre-approved by the *Engineer*.

E. Material Removal and Disposal. The Contractor shall meet the following operations requirements.

1. The Contractor shall use a basket or screening device in the downstream manhole to capture all debris during the cleaning process. Passing debris or materials from sewer section to sewer section during the cleaning process will not be permitted.
2. The basket or screening equipment shall not impede or have a minimally impedance on sewage flow during the cleaning process. If the flow is impeded such that it causes a sewage back up the Contractor shall be responsible of all costs required to clean up the backup.
3. All material resulting from the cleaning operation shall be removed at the downstream manhole of the sewer section being cleaned.

4. If material is passing from sewer sections and is observed or detected by the *Engineer*, the Contractor shall be responsible for cleaning the affected downstream sewers in their entirety, at no additional cost to the Owner.
5. All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of in a manner as described below.
6. All materials shall become the property of the Contractor and removed from the site and be properly disposed of at the end of each workday.
7. The Contractor shall not accumulate material on the site of work and shall provide manifest copies of all disposed material to the Engineer. The manifest shall include disposal site (and their acceptance of the material), date, amount, and a brief description of the material removed.

F. Acceptance of Cleaning Operation. In accordance with SCMSD Specification Item 40.

1. Acceptance of sanitary sewer cleaning shall be made upon the successful completion of the television inspection and to the satisfaction of the *Engineer*. If television inspection shows the cleaning to be unsatisfactory, the Contractor shall re-clean and re-inspect the sewer line at no additional cost to the County until the work is shown to be satisfactory.
2. All sanitary sewers which have sags or dips, to the extent that the television camera lens becomes submerged during the television inspection, the Contractor shall use a high-pressure cleaner to draw the water out of the pipe, or other means, to allow the full circumferential view of the pipe and identification of pipe defects, cracks, holes and location of service connections.

5.0 ELECTRICAL. This section is not applicable.

6.0 QUALITY ASSURANCE.

A. Testing. This section is not applicable.

B. Observation. SCMSD designated representative will visually observe the work performed. The representative will notify the Engineer of any discrepancies with the contract documents in the course of the Contractor performing the work. The progress observations by the SCMSD do not waive any rights or remedies, nor divest the Contractor of any responsibility for contract compliance or liability for damage.

C. Warranty. This section is not applicable.

7.0 MEASUREMENT. This section is not applicable.

8.0 PAYMENT. The price for this item shall be included in the unit price of other items that require sewer cleaning. No separate payment shall be made for sewer cleaning, as specified in this item.

END OF SECTION