

San Antonio Water System Standard Specifications for Construction

**ITEM 866
SEWER MAIN TELEVISION INSPECTION**

866.1 DESCRIPTION:

The Contractor shall furnish all labor, materials, equipment, and incidentals to provide the televising and a NASSCO-(PACP) standard video, recorded in MPEG-1 format and written to DVD video, of sewer lines and manholes utilizing a color, closed-circuit television inspection unit to determine their condition.

866.2 GENERAL:

After construction of the sanitary sewer main and prior to placement of the final course of asphalt, the newly constructed sanitary sewer shall be televised immediately upon cleaning. Televising shall be observed by the Inspector, Engineering personnel and contractor as the camera is run through the system. Any abnormalities such as, but not limited to, misaligned joints, cracked/defected pipe, rolled gaskets, shall be repaired by the contractor at his expense. Sections requiring repair shall be re-televised to verify condition of repair. No additional compensation shall be provided for repair or re-televising.

866.3 EXECUTION:

The Contractor shall provide a DVD and logs of the televised inspection for review. If the Contractor provides a DVD of such poor quality that it cannot be properly evaluated, the Contractor shall re-televising as necessary and provide a DVD of good quality at no additional cost to SAWS. If the Contractor cannot provide a DVD of such good quality that can be reviewed by SAWS, SAWS may elect to televise the line at the Contractor's expense.

The television unit shall also have the capability of displaying in color, on DVD, pipe inspection observations such as pipe defects, sags, points of root intrusion, offset joints, service connection locations, and any other relevant physical attributes. Each DVD shall be permanently labeled with the following:

Project name / SAWS Job #;
Date of television inspection;
Station to station location and size of sanitary sewer;
Street/easement location;
Name of Contractor;
Date DVD submitted; and DVD number.

San Antonio Water System Standard Specifications for Construction

The Contractor shall provide a line diagram area sketch and written log for each completed segment of DVD sewer main describing the section being televised, flow and camera direction, position of service connections, description and location of failures, pipe condition, weather conditions, and other significant observations.

The television inspection equipment shall have an accurate footage counter which displays on the monitor the exact distance of the camera from the center of the starting manhole. A camera with rotating and panning lens capabilities is required. The camera height shall be centered in the conduit being televised. The speed of the camera through the conduit shall not exceed 40 feet per minute.

The Contractor shall be required to have all materials, equipment, and labor force necessary to complete all videotaping on the job site prior to isolating the sewer manhole segment and beginning videotaping operations.

Television inspection shall be done one manhole section at a time. Also the flow in the section being televised shall be bypassed if the line is in service and the flow exceeds 25% of the internal pipe diameter. When the depth of flow at the upstream manhole of the manhole section being worked is above the maximum allowable for television inspection, the flow shall be reduced to allowable levels by temporarily plugging or blocking the flow or bypass pumping, as approved by SAWS.

The Contractor shall not be allowed to float the camera. There may be occasions during the televised inspection of a manhole section when the camera will be unable to pass an obstruction. At that time, and prior to proceeding, the Contractor shall contact the Inspector. If the length of sewer line cannot be televised because of obstructions, the Contractor shall clean the system as is necessary. If, in the opinion of the Inspector, the obstruction is attributed to a collapsed main or pipe deflection, televising shall be suspended, payment shall be made based on the actual televised length, and the remaining televising of the sewer line shall be continued upon successful correction of the blockage by the Contractor at his expense. No additional payment shall be made for additional setups required due to obstructions encountered during televising.

The Contractor is solely responsible for any damage of sewer mains as a direct result of televising operations. Any repair shall also be the responsibility of the Contractor. The method(s) used for securing passage of the camera are at the discretion of the Contractor, as approved by SAWS. No separate and/or additional payment will be made for any excavation, man entry, or any other method which may be required to retrieve video equipment that may have been hung up,

San Antonio Water System Standard Specifications for Construction

destroyed, and/or lost during the operation.

866.4 SEWER MAIN BYPASS PUMPING:

The Contractor shall perform bypass pumping operations in accordance with Item No. 864 and as outlined below.

The Contractor shall furnish all labor, supervision, tools, equipment, appliances, and materials to perform all operations in connection with bypass pumping of sewage flow for the purpose of preventing interference with the televising of the sanitary sewer manholes and mainlines as well as providing reliable sewer service to the occupants of the buildings being served.

The Contractor will be required to provide adequate pumping equipment and force mains in order to maintain reliable sanitary sewer service in all sanitary sewer lines involved in this project. The Contractor shall notify the Inspector should a surcharge occur during the televising process which results in overflows of sewage. In case of bypass equipment failure, the Contractor shall discontinue work and release sewer flows until such time as equipment failure is corrected. The location of the pump(s), force main(s), and discharge points shall be approved by SAWS. Under no circumstances shall the flow be interrupted or stopped, such that damage is done to either private or public property, or sewage flows or overflows into a storm sewer or natural waterway.

The Contractor shall provide bypass pumping of sewage around each segment(s) of pipe that is to be televised and shall be responsible for all required bulkheads, pumps, equipment, piping, and other related appurtenances to accomplish the sequence of pumping. A qualified person shall man the pumps, on-site, at all times during the bypassing procedure.

All piping, joints, and accessories shall be designed to withstand the maximum bypass system pressure, or a minimum of 50 psi, whichever is greater. During bypass pumping, no sewage shall be leaked, dumped, or spilled into or onto any area outside of the existing sanitary sewer system. When bypass pumping operations are complete, all piping shall be drained into the sanitary sewer prior to disassembly. The Contractor shall demonstrate that the pumping system is in good working order and can successfully handle flows during cleaning and televising operations, prior to commencing with the cleaning and televising of the system.

San Antonio Water System Standard Specifications for Construction

866.5 **MATERIALS REQUIRED FOR BYPASS OPERATION:**

The Contractor shall be required to have all materials, equipment, and labor necessary to complete the repair or replacement on the jobsite prior to isolating the sewer manhole or line segment and beginning bypass pumping operations.

866.6 **TRAFFIC CONSIDERATIONS:**

The Contractor shall locate bypass pumping suction and discharge lines so as to not cause undue interference with the use of streets, private driveways, and alleys to include the possible temporary trenching of force mains at critical intersections. Traffic management shall be done under the approval of respective City, County, or State Traffic, Barricade, and Signalization Departments. The Contractor shall not open cut existing streets to accommodate bypass pumping piping unless specific written approval is given.

866.7 **PUMP OPERATIONS:**

The Contractor shall plug off and pump down the sewer manhole and/or line segment in the immediate work area and shall maintain the sanitary sewer system so that surcharging does not occur. The Contractor shall coordinate with all property owners to ensure that no damage will be caused to their property during any and all sewer rehabilitation work. The Contractor shall complete the televising as quickly as possible and shall satisfactorily meet all requirements prior to discontinuing bypass pumping operations and returning flow to the sewer manhole or line segment. The Contractor shall ensure that no damage will be caused to private property as a result of bypass pumping operations. Ingress and egress to adjacent properties shall be maintained at all times. Ramps, steel plates, or other methods shall be employed by the Contractor to facilitate traffic over surface piping. There will be no separate pay item for this work.

In the event that sewage accidentally drains into the drainage system or is spilled within the project, the Contractor shall immediately stop the overflow, notify the Inspector, and take the necessary action to clean up and disinfect the spillage using an HTH, or equal, chemical, at no additional cost to SAWS.

866.8 **MEASUREMENT AND PAYMENT:**

Measurement and payment will be made for the work to be done on the basis of the unit bid price per linear foot of pipe diameters 8" through 15", 18" through 24", and 30" and larger and shall be considered full compensation for all labor,

San Antonio Water System Standard Specifications for Construction

materials, equipment, tools, logging, cleaning, bypass pumping and incidentals necessary to complete the work, as shown below.

866A: Sewer Main Television Inspection

Category: 8" through 15"
 18" through 24"
 30" and larger