

SECTION 819

INSITU STRUCTURAL POINT REPAIR

I. GENERAL

1.1 DESCRIPTION OF WORK

- A. The Work of this Section includes, but is not limited to, all Type 316 stainless steel grouting sleeves, segmented for sliplining of the sizes and sections shown and all appurtenances which are required for the proper completion of the Work included under this Contract.
- B. In general, the Work of this Section shall include furnishing the pipe and fittings; laying, jointing and sliplining the host pipe; furnishing and placing of all accessories, appurtenant materials, stoppers, and markers; and the furnishing of all drawings, testing, samples and all labor, materials, and equipment necessary to complete a watertight structural point repair.
- C. This Section covers the methods of application for the rehabilitation of existing pipelines through the use of the grouting sleeve technology.
- D. All point repairs shall be approved by the Owner. If the Owner determines that a conventional excavation and replacement point repair is required, the Contractor shall coordinate with the Owner.
- E. The Contractor shall perform all required permanent landscape restoration of disturbed areas on private property and within the locality or VDOT right-of-way upon completion of pipe rehabilitation, to the satisfaction of the Owner.
- F. Products shall conform to Section 200.

1.2 SUBMITTALS

Submittals shall be made by the Contractor in accordance with the procedures set for the in Section 105 - Control of Work, and as described below.

The product proposed for the rehabilitation of the sewers must have been in use for at least three years for pipeline diameters 24-inches and smaller.

After notification of a specific project, the Contractor shall provide the following information for review and approval.

- A. Shop drawings and product data for the rehabilitation method, including a report outlining the process to be used in the rehabilitation of the sewer line. The report shall also include information specific to the job, such as coordination issues, notification of existing property owners, access, timing, manufacturer's installation instructions and bypass pumping.
- B. All measurements shall be made by the Contractor to verify length and diameter of repair prior to ordering of material.

- C. One complete set of video CDs, or DVDs from each of the television inspections performed (Pre- and Post-Installation TV Inspection), as specified in Section 811 - Television Inspection. The Owner shall specify the storage media.
- D. The Contractor shall provide written warranties for all materials.

1.3 WARRANTIES

- A. The Contractor shall issue a 10-year Installer Warranty Certificate covering all materials used, installation and structural strength, smooth hydraulic transition, and assurance against any visible deformation during the warranty period. The Warranty Certificate is to state that the Contractor shall repair all above listed defects at the Contractor's expense within 30 days of notification of the defect.
- B. The manufacturer of the grouting sleeve system shall issue a 10-year Material Warranty Certificate for supply of replacement sleeve materials of the latest design for any defective sleeve identified during the warranty period. The Warranty Certificate is to state that the manufacturer shall supply replacement parts at the manufacturer's expense within 60 days of notification of the defect.

II. EXECUTION

2.1 GENERAL

- A. Packaging, handling and shipping shall be performed in accordance with the manufacturer's instructions.
- B. Care shall be used to assure that the grouting sleeves will be truly round and of proper shape and dimensions to produce a tight fit against the host pipe.
- C. Tests: Tests for compliance with this specification shall be made according to the applicable ASTM Specifications at the time of manufacturing. Upon request, the Contractor, at no additional cost to the Owner shall provide to the Owner a certificate of compliance with these requirements.

2.2 PREPARATORY PROCEDURES

- A. Unloading, Handling and Installation: Unloading, handling and installation of pipe and fittings shall be in accordance with the Contract Documents and the manufacturer's requirements.
- B. Cleaning: Cleaning of sewer lines shall be performed per the manufacturer's recommendation and as specified in Section 810 - Sewer Line Cleaning.
- C. TV Inspection: Inspection of sewer lines shall be performed as specified in Section 811 - Television Inspection.
- D. Notification of Residents: Prior to starting Work, it is the responsibility of the Contractor to notify all residents that could be affected by the process. This notification shall consist of written information and verbal communication that outlines the sliplining process and timing

of the project. The written information shall be delivered to each home or business at least 48 hours (if it is not an emergency repair) prior to the initiation of the repair, and at minimum shall describe the work, schedule, how it affects the home/business, and a local telephone number of the Contractor. If possible, the Contractor shall communicate verbally with the homeowners/business owners the day prior to the beginning of work being conducted on the section relative to the homeowners/business owners. The Contractor shall maintain access (pedestrian and vehicular) to all affected properties at all times.

- E. The Contractor shall provide water and sewer to affected property owners in the event of service interruption, at no additional cost to the Owner.
- F. Bypass Pumping: When required for acceptable completion of an insertion process, the Contractor shall provide for adequate flow control including but not limited to required pumping and bypassing as specified in Section 812 - Bypass Pumping.
- G. Obstruction Removal: It shall be the responsibility of the Contractor to clear the line of obstructions, and solids that will prevent the insertion of the grouting sleeve.

2.3 INSTALLATION PROCEDURES

- A. Install grouting sleeves in accordance with manufacturer's requirements.
- B. Acceptance of the installed grouting sleeve liner shall be based on a video inspection performed by the Contractor after installation to assure that all sleeves are properly assembled, no damage exists, and that no infiltration is occurring.

III. MEASUREMENT FOR PAYMENT

Measurement for payment for point repairs will be based upon the actual quantity of repairs completed, in accordance with the Contract Documents.

- A. Payment for rehabilitating sanitary sewer pipelines is made at the contract unit prices per linear foot rehabilitated, using the insitu structural point repair method.
- B. The price per linear foot shall include all:
 - 1. By-pass pumping (up to 2 mgd),
 - 2. Clearing and grubbing,
 - 3. Cost of potable water from the Owner,
 - 4. Debris collection and disposal,
 - 5. Dewatering,
 - 6. Erosion and sediment control,
 - 7. Excavation pits,
 - 8. Ingress and egress procedures,
 - 9. Labor,
 - 10. Materials,
 - 11. Permits,
 - 12. Pipeline cleaning,
 - 13. Pre- and post-television inspection,
 - 14. Re-instatement of service connections,
 - 15. Removal and replacement of manhole frames and covers as necessary,
 - 16. Removal of protruding service connections,

17. Resident notification,
18. Root removal,
19. Sediment and root removal,
20. Testing,
21. Traffic control,
22. Required compliance tests,
23. Site restoration,
24. Site cleanup, and
25. Other Work, not included under other items, necessary to complete the rehabilitation per the Contract Documents.

End of Section