

SECTION 02763

POINT REPAIRS TO SANITARY SEWERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Repairs to existing sewer lines by replacing short lengths of failed pipe.

1.02 UNIT PRICES

- A. Measurement for point repairs is on a unit price basis for each repair performed on each material type and diameter within depth ranges listed in the following table. Depth shall be measured from natural ground level to flow line of sanitary sewer main at point of repair. All excavation, diversion pumping, material, surface restoration and televising is incidental.
- B. Measurement for extra length repair is on a linear foot basis for each material type and diameter in excess of replacement lengths given in Paragraph 1.05.
- C. Measurement for hand excavation is on a cubic yard basis when authorized by the Owner's Representative in locations where excavation by machine is not suitable.
- D. If point repair is abandoned, payment will be made on a cubic yard basis for excavation required to expose existing pipe. Separate measurement will be made for machine excavation and hand excavation.
- E. Diversion pumping, if required, is incidental to the cost of the point repair.

1.03 PERFORMANCE REQUIREMENTS

- A. Locate and replace small lengths of one or more pipe sections where isolated line failure has occurred due to settlement, corrosion, crushing or separation of joints.
- B. Owner's Representative may identify potential locations for point repair, but Contractor is responsible for verifying locations.
- C. Owner's Representative will authorize each point repair after failed points are located. Do not make point repairs without prior approval of Owner Representative.
- D. Replace carrier pipe for all point repairs unless otherwise directed by Owner Representative.

- E. Minimum length of pipe to be replaced shall be determined by the Owner's Representative.

1.04 SUBMITTALS

- A. Submittals shall conform to requirements of all sections and provisions of these specifications.
- B. Submit product data for each pipe product, fittings, and jointing material.
- C. Submit certified test results prepared by manufacturer for jointing material integrity.
- D. Submit alternative lining systems for ductile iron pipe for approval.

1.05 SEQUENCING

- A. Complete point repairs before rehabilitating sewer between adjacent manholes.
- B. Clean line and make closed-circuit television inspection for each point repair.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Materials for point repairs, other than those specified, may be considered for use in rehabilitation of existing sewers.
- B. For consideration of other materials, submit complete manufacturer's data including material, sizes, flow carrying capacity, installation procedures and history of similar installations to Owner Representative for evaluation

2.02 PVC PIPE

- A. PVC sewer pipe and joints: 6 inch through 18-inch pipe conforming requirements of Section 02620.

2.03 DUCTILE IRON PIPE

- A. Ductile iron pipe: 4 inch thorough 48 inch, conforming to requirements of Section 02610.
- B. Fittings: Push-on end joint fittings with bell-and-spigot ends, with bell modified for push-on joint, conforming to requirements of Section 02610.
- C. Interior Coating: Conform to requirements of Section 02610 for sanitary sewers.

- D. Exterior coating: 8-mil polyethylene tubular material conforming to requirements of Section 02630.

2.04 REINFORCED CONCRETE PIPE

- A. Reinforced concrete pipe and joints: Conform to requirements of Section 02615. Reinforced concrete pipe may be used for sewers 24-inches in diameter and larger.

2.05 JOINTING MATERIALS

- A. Use Fernco adapters secured with 1/2-inch stainless steel bands, or approved equal.

PART 3 EXECUTION

3.01 PROTECTION

- A. Provide barricades and warning lights and signs, for excavations created by point repairs.
- B. Do not allow sand, debris or runoff to enter sewer system.

3.02 EXCAVATION

- A. Excavate trenches in accordance with Section 02227.
- B. Perform work in accordance with OSHA standards. Employ a Trench Safety System as specified in Section 01526 for excavations over 5 feet deep.
- C. Install and operate necessary dewatering and surface water control measures in accordance with requirements of Section 01563.

3.03 DIVERSION PUMPING

- A. Install and operate diversion pumping equipment to maintain sewage flow and to prevent backup or overflow. Obtain approval for diversion pumping equipment and procedures from Owner Representative.
- B. Design all piping, joints and accessories to withstand twice the maximum system pressure or 50 psi, whichever is greater.
- C. In the event of accidental spill or overflow, immediately stop the overflow and take action to clean up and disinfect spillage. Promptly notify Owner Representative so that required reporting can be made to the TCEQ and the Environmental Protection Agency.

3.04 TYPICAL SEQUENCE OF POINT REPAIR

- A. Survey, clean and televise to verify the location of point repair.
- B. Excavate to the minimum length of existing pipe to be replaced.
- C. Prior to replacing pipe, determine condition of the existing line on both sides of point repair by lamping the line a minimum of 10 feet in each direction. Determine whether additional lengths of line beyond "minimum length" criteria, need replacement. Report need for additional replacement to Owner Representative and obtain approval before proceeding.
- D. Remove and replace failed pipe and connect to existing pipe using Fernco couplings. If joints cannot be made watertight using Fernco adapters, place waterstop gaskets on each joint and encase in a reinforced concrete collar as indicated on the Drawings. Place concrete as specified in Section 03305. Reconnect affected service connections or stacks.
- E. Establish proper grade for the pipe being replaced using methods acceptable to Owner Representative.
- F. After completion of point repair, but prior to backfill, perform a smoke test in the presence of Owner Representative. Testing as specified in Section 02732. Repair and retest sections that fail.
- G. Encase exposed pipe in cement stabilized sand conforming to Section 02252 as indicated on Drawings.
- H. Backfill the excavation as specified in Section 02227.
- I. Replace pavement or sidewalks removed or damaged by excavation in accordance with Section 02571. In unpaved areas, bring surface to grade and slope surrounding the excavation. Replace a minimum of 4 inches of topsoil and seed area in accordance with Section 02932.
- J. Perform a post-completion TV inspection as specified in Section 02732. Point repairs that have offset joints, non-uniform grade or alignment, or other unsatisfactory conditions, shall be rejected. Replace pipe and bedding as required when work is rejected.

3.05 ABANDONMENT OF POINT REPAIR

- A. If a pipe is exposed and found in good condition, not requiring a point repair, notify Owner Representative who will record abandonment of point repair.
- B. Backfill the excavation, replace pavement or sidewalk and repair and seed or sod unpaved areas, as specified in paragraph 3.04.

END OF SECTION