SECTION 02762

SANITARY SEWER SERVICE STUBS OR RECONNECTIONS

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Installation of service stubs on new sanitary sewers serving areas where sanitary sewer service did not previously exist.

B. Reconnection of existing service connections along parallel, replacement, or rehabilitated sanitary sewers.

1.02 UNIT PRICES

A. Measurement for sanitary sewer service stubs or service reconnections with stacks located within 5 feet of the sanitary sewer main centerline is on a unit price basis for each stub or reconnection, complete in place. Service stubs and reconnections include service connections, couplings, clean-outs, adapters disconnecting existing services, reconnecting new service, fittings, excavation, backfill, and testing.

B. Measurement for sanitary sewer service stubs or service reconnections without stacks located within 5 feet of the sanitary sewer main is on a unit price basis for each stub or reconnection, complete in place. Service stubs and reconnections include service connections, couplings, clean-outs, adapters, disconnecting existing services, reconnecting new service, fittings, excavation, backfill, and testing.

C. Measurement for sanitary sewer service lines more than 5 feet laterally from the sewer main is on a unit price basis for each stub.

D. Pay estimates for progress payments will be made as measured above according to the following schedule:

1. An estimate for 95 percent payment will be authorized when the reconnection is completely installed and backfilled.

2. An estimate for 100 percent payment will be authorized when the reconnection has been tested as specified in Section 02732 - Acceptance Testing for Sanitary Sewers.

E. One or more connections discharging into a common point are considered one service connection. The Contractor shall not add service reconnections without approval of the Owner Representative. The Owner Representative may require reconnections to be moved or relocated to avoid having more than two houses per reconnection.

F. Measurement for abandonment of service connection is on a unit price basis for each abandoned connection. No separate payment will be made for abandonment of service connection unless excavation is required. No separate payment will be made for excavation of sanitary sewer services within the new or replacement sewer trench.

G. No separate payment will be made for an abandoned service connection if the service to be abandoned is within 4 feet of an active connection. Payment for only one abandoned service connection will be allowed when a second abandoned connection is within 4 feet of the first.

1.03 PERFORMANCE REQUIREMENTS

A. Accurately locate in the field all proposed service stubs along the new sanitary sewer main.

B. Properly disconnect all existing connections from the existing sewer and reconnect to the rehabilitated liner, as described in this Section.

C. Accurately locate in the field existing service connections and proposed service stubs along the alignment of the new parallel or replacement sewer main.

D. Reconnect all service connections, including those that go to unoccupied or abandoned buildings or to vacant lots, unless directed otherwise by the Owner Representative.

E. Begin reconnection of service lines immediately after cured-in-place liner has cured.

F. Reconnection by the excavation method shall include the stack and 4-feet of service line, as necessary to the property line for which the connection is intended. The service lines shall be replaced to the right-of-way or easement line (short side and long side) and a cleanout installed at that location.

G. When establishing service to a previously un-served property, contractor is responsible to determine proper placement of service to maximize efficiency of system and minimize insurance of existing system.

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, fitting, coupling and adapter.

C. Show reconnected services on record drawings. Give the exact distance from each service connection to the nearest downstream manhole.

PART 2 P R O D U C T S

2.01 PVC SERVICE CONNECTION

A. As stubouts, use PVC sewer pipe, 4-inch through 10-inch, conforming to ASTM D 1784 or D1785 Schedule 40, with a cell classification of 12454-B.

B. PVC pipe shall be gasket jointed with gasket conforming to ASTM D3319.

C. Provide service connection pipe in sizes shown on the Drawings. For reconnection of existing services, select service connection pipe diameter to match existing service diameter.

D. Provide a 6-inch service connection when more than one service discharges into a single pipe.

E. Connect service pipes to new parallel or replacement sewer mains with prefabricated, full-bodied tee or wye fittings conforming to specifications for the sewer main pipe material as specified in other Sections for all sewers up to 18 inches in diameter.

F. Where new sewers are installed using pipe augering or tunneling, or where the new sewer is greater than 18 inches in diameter, use Fowler "Inserta-Tee" to connect the service to the new sewer main.

2.02 PIPE SADDLES

A. Use pipe saddles only on rehabilitated sanitary sewer mains. Comply with Paragraph 2.01E for new parallel and replacement sanitary sewer mains.

B. Supply one-piece prefabricated saddle, either polyethylene or PVC, with neoprene gasket to accomplish a complete seal. Use a saddle fabricated to fit the outside diameter of the pipe to which it will be attached. The protruding lip of the saddle must be at least 5/8-inch long with grooves or ridges to retain the stainless steel band clamps.

C. Use 1/2-inch stainless steel band clamps for securing saddles to liner pipe. The screws, bolts, and associated appurtenances shall be stainless steel.

D. Inserta Tee fittings (includes PVC Hub, Rubber Sleeve, and Stainless Steel Band) as manufactured by Inserta Tee Fittings, Co. shall be used for stacks, service reconnections (by excavation) and for drop connections.

2.03 COUPLINGS AND ADAPTERS

A. For connection between new PVC pipe stubout and existing service; 4-, 6-, or 8-inch diameter, use flexible adapter coupling consisting of a neoprene gasket and stainless steel shear ring, with 1/2-inch stainless steel band clamps:

1. Fernco Pipe Connectors, Inc., Series 1055 with shear ring SR-8;

2. Band Seal by Mission Rubber Co., Inc.;

3. Approved equal.

B. For connection between new PVC pipe stub out and new service, use rubber-gasketed adapter coupling:

1. GPK Products, Inc., IPS & Sewer Adapter.

2. Approved Equal.

2.04 STACKS

A. Provide stacks for service connections wherever the crown of the sewer is 8 feet or more below finished grade.

B. Construct stacks of the same material as the sanitary sewer and as shown on the Drawings.

C. Provide stacks of the same nominal diameter at the sanitary service line.

2.05 CLEAN-OUTS

A. Install clean-outs at property line on each service connection as shown in detail on the Drawings.

2.06 PLUGS AND CAPS

A. Seal the upstream end of unconnected sewer service stubs with rubber gasketed plugs or caps of the same pipe type and size. Provide plugs or caps by GPK Products, Inc., or equal.

PART 3 E X E C U T I O N

3.01 PERFORMANCE REQUIREMENTS

A. Provide a minimum of 72 hours notice to customers whose sanitary sewer service will potentially be interrupted.

B. Accurately field locate service connections, whether in service or not, as pipe laying progresses from downstream to upstream.

C. Properly disconnect existing connections from the sewer and reconnect to the new sewer, as described in this Section.

D. Reconnect service connections, including those that go to unoccupied or abandoned buildings, unless directed otherwise by the Owner Representative. Plug the service connection at the R.O.W. for vacant lots.

E. Complete reconnection of service lines within 24 hours after disconnection.

F. Reconnection shall include the stack and fittings and required pipe length to reconnect service line.

G. Connect services 8 inches in diameter and larger to the sewer by construction of a manhole. Payment for the manhole will be made at the contract unit price for the appropriate manhole diameter and depth.

3.02 PROTECTION

A. Provide barricades and warning lights and signs for excavations created for service connections. Conform to requirements of Section 01570 - Traffic Control and Regulation.

B. Do not allow sand, debris or runoff to enter sewer system.

3.03 PREPARATION

A. Where sewers are existing, field locate existing service connections, whether in service or not. Use existing service locations to reconnect service lines to new liner or new sanitary sewer main.

B. For new parallel and replacement sanitary sewer mains, complete testing and acceptance of downstream sewers as applicable. Provide for compliance with requirements of Paragraph 3.01E.

3.04 EXCAVATION AND BACKFILL

A. Excavate in accordance with Section 02227 - Excavation and Backfill for Utilities.

B. Provide barricades and warning lights and signs, for excavations created for service connections. Conform to requirements of the Texas Manual on Uniform Traffic Control Devices.

C. Perform work in accordance with OSHA standards. Employ a Trench Safety System as specified in Section 01526 - Trench Safety System for excavations requiring trench safety.

D. Install and operate necessary ground water and surface water control measures in accordance with requirements of Section 01563 - Control of Ground Water and Surface Water.

E. Do not allow sand, debris or runoff to enter sewer system.

3.05 SERVICE RECONNECTION BY EXCAVATION METHOD TO SANITARY SEWER PIPE REHABILITATED BY PIPE BURSTING, CURED IN PLACE LINER, AND SLIPLINING

A. Remove a portion of existing sanitary sewer main to expose the liner pipe. Provide sufficient working space for installing a prefabricated pipe saddle.

B. Carefully cut the liner pipe making a hole to accept the stubout protruding from the underside of the saddle. In the event the Contractor chooses to cut the liner pipe using a remote device prior to excavation, no additional payment shall be made for such efforts.

C. Strap on the saddle using a stainless steel band on each side of the saddle. Tighten the bands to produce a watertight seal of the saddle gasket to the liner pipe. Stainless steel bands shall be strapped 360° around line and pipe with the existing pipe removed.

D. Use a saddle with a stubout that protrudes into the liner a depth equal to the liner pipe wall thickness.

E. Remove and replace service line to the street right of way line.

F. Make up the connection between liner and existing service line using PVC sewer pipe and approved couplings and stainless steel bands to construct new stub outs and/or stacks.

G. Encase the entire service connection in cement stabilized sand. Place a minimum of 6-inches below and 12-inches above and on the sides of the pipe connections.

H. Test the service connections before backfilling.

3.06 SERVICE RECONNECTION ON POINT REPAIR, REMOVE AND REPLACE PIPE OR NEW PIPE

A. Install the new service connection on the new sanitary sewer main for each service connection.

B. Remove and replace cracked, offset or leaking service line for up to 5 feet, measured horizontally, from the centerline of the new sanitary sewer main.

C. Make up the connection between the new main and the existing service line using PVC sewer pipe and approved couplings, as shown on the Drawings.

D. Test service connections before backfilling.

E. Embed the service connection and service line as specified for the new sanitary sewer main at this location, and as shown on the Drawings. Place and compact trench zone backfill in compliance with Section 02227 - Excavation and Backfill for Utilities.

3.07 RECONNECTION ON CURED-IN-PLACE SEGMENTS (REMOTE METHOD) PRIOR TO RECONNECTION BY EXCAVATION

A. Service reconnections shall be made using remote operated cutting tools prior to reconnection by excavation on cured-in-place liners.

B. The method and equipment used shall restore the service connection capacity to not less than 90 percent of original capacity.

C. The Contractor shall immediately open any missed connections and repair any holes drilled in error, by a method approved by the Owner Representative.

D. Complete reconnection by excavation as per Item 3.05.

3.08 PROTRUDING TAPS

A. Pipebursting and Sliplining

1. Protruding taps or service connections which obstruct the passage of the television inspection camera during cleaning and during television inspection operations or the insertion of the liner while pulling or pushing shall be removed to allow the liner to pass through. Reconnection of this service to new carrier pipe shall be paid for as a service reconnection.

2. No payment shall be made at this location for any obstruction removal.

3. Abandoned taps/ services which are protruding and which must be removed to allow the liner to be inserted into the sewer and the service abandoned, shall not be paid for as an obstruction removal. Payment shall be made for abandonment of service connection.

B. Cured-in-Place Method of Rehabilitation

1. See Obstruction Removal (by Remote) Section 02769 and Point Repairs to Sanitary Sewers - Section 02763.

3.09 INSTALLATION OF NEW SERVICE STUBS

A. Install the new service connections on the new sanitary sewer main for each service connection. Provide the length of stub indicated on the Drawings. Install plug or cap on the upstream end of the service stub as needed.

B. Test service connections before backfilling.

C. Embed the service connection and service line as specified for the new sanitary sewer main at this location, and as shown on the Drawings. Place and compact trench zone backfill in compliance with Section 02227 - Excavation and Backfill for Utilities.

3.10 TESTING

A. Test service reconnections and service stubs. Follow applicable procedures given in Section 02732 - Acceptance Testing for Sanitary Sewers.

3.11 CLEANUP

A. Backfill the excavation as specified in Section 02227 - Excavation and Backfill for Utilities.

B. Replace pavement or sidewalks removed or damaged by excavation in accordance with Section 02571 - Pavement Repair and Resurfacing. In unpaved areas, bring surface to grade and slope surrounding the excavation. Replace a minimum of 4 inches of topsoil and seed according to requirements of Section 02932 - Hydromulch Seeding.

C. Conform to Section 01564 - Waste Material Disposal.

END OF SECTION