SPECIAL SPECIFICATION

5192

SBC Telephone System

1. Description.

A. This Item will govern the installation of all facilities belonging to SBC, hereinafter referred to as SBC. The Contractor and approved Subcontractors construct all required utility adjustments within the limits of this project including any peripheral adjustments that may not have been discovered during the design process. Contracts with subcontractors for SBC’s installation shall require the subcontractor to comply with this special specification. These adjustments shall be paid for directly as detailed in Measurement and Payment of this Special Specification.

B. Definitions

a. Conduit. Piping material that will be used to house telephone cables. The words "conduit", "duct" and "piping" may be used interchangeably in this specification.

b. Conduit Structure (Duct Bank). Groups of conduits arranged in tiers and encased as specified in the plans.


A. SBC will furnish all materials required for complete telephone system in place, such as pipe, fittings, pre-cast manholes, etc.

a. Procurement of Materials

(1) All materials proposed for SBC within this project shall be provided by SBC. Contractor shall request materials through SBC Manager-Construction Contract Coordinator, William Macloon at office (214) 320-5001; cell (972) 743-8654; fax (214) 320-7901.

(2) Cables that are greater than 3000 pair shall be requested at least 40 days prior to required delivery date. Smaller cables shall be requested at least 30 days prior to required delivery date.

(3) Conduit, manholes and all other materials, other than cable, shall be requested at least 2 weeks prior to required delivery.

(4) Special order items have been identified in the plan set, these items shall be requested at least 30 days prior to required delivery.
B. All other non-telephone system materials, such as backfill, mortar, tools, supplies, equipment, etc. required to properly complete the work will be furnished by the Contractor, except as otherwise noted.

C. Backfill. All backfill will be in accordance with Item 400, "Excavation and Backfill for Structures"

a. Bedding. All bedding will be cement stabilized material beginning 2 in. below the bottom of the duct bank and extending to 12 in. above top of the duct bank, as shown on the construction plans.

b. Cement Stabilized Backfill. All cement-stabilized backfill will be in conformance with Item 400, “Excavation and Backfill for Structures.” Cement-stabilized backfill will be used to fill trench from top of bedding to bottom of subgrade whenever an excavation is under a roadway.

c. Original Material Backfill (Type A). Type A backfill will be used whenever an excavation is a distance of 10 ft. or greater from an existing edge of pavement. Material used for this backfill will be equivalent to original material or better, free of debris, compacted 90%-95% standard proctor density in 6 in. lifts.

D. Concrete Encasement. All concrete encasement material will conform to Item 421, “Hydraulic Cement Concrete.” Class A concrete will be utilized for encasement of conduits wherever plans indicate concrete encasement.

E. Manholes.

a. Pre-cast manholes. All pre-cast manholes will be provided by SBC.

b. Cast-in-place manholes. All materials used for cast-in-place manholes will conform to Bell System Practices Section 622-505-210. Hydraulic cement with a nominal compressive strength of 4000 psi in conformance with ASTM C150 will be used. Rebar will be deformed steel bars having a 60,000 psi yield strength conforming to ASTM A615.

3. Construction.

A. Contractor. The Contractor that installs the underground telephone system must be an approved SBC Contractor. See the special provision to the contract for SBC for a sample list of current approved contractors. Other qualified Contractors not included in the list are allowed, if approved by SBC.

a. Coordination with SBC

(1) Slotted Manholes. All manholes proposed as pre-cast slotted shall not be ordered until contractor has verified field conditions are adequate for placement. Otherwise, manhole shall be cast in place.
(2) Cable Splicing.

(a) All splicing involved in this project shall be performed by SBC.

(b) Contractor will coordinate splicing through SBC Manager-Construction Contract Coordinator, William Macloon at office (214) 320-5001; cell (972) 743-8654; fax (214) 320-7901. Requests for splicing shall be made at least 2 weeks prior to required splicing start date. Cables will be installed in stages to allow sufficient working room inside new manholes for splicing. Prior to installing any cables, Contractor shall discuss cable installation order and phases with SBC Manager-Construction Contract Coordinator William Macloon at office (214) 320-5001; cell (972) 743-8654; fax (214) 320-7901; 1811 Kelly St; Dallas, Tx 75215. SBC will identify maximum number of cables allowed to be installed at one time for each individual manhole.

B. Trench Excavation. Trench excavation and backfilling as required to complete the underground telephone system installation will be performed in accordance with Item 400, "Excavation and Backfill for Structures", as outlined herein, as shown on the plans and as directed. Blasting to perform the excavation will not be allowed unless authorized in the plans or in writing by the Engineer.

a. Trenches for Conduit and Conduit Structure

b. Width of Trenches will be in conformance with Bell System Practices Section 622-020-901 Paragraph 11.20

c. Depth of Trenches will be in conformance with Bell System Practices Section 622-020-901 Paragraph 11.21

d. Grade of Trenches will be in conformance with Bell System Practices Section 622-020-901 Paragraph 11.22

e. Manhole Excavations. The width and depth of excavation for manholes will be determined by the lines and grades as established on the plans, dimensions of the manholes and manhole orientation or as directed.

f. Classification of Excavations. No classification of excavated materials will be delineated. Excavation and trench work will include the removal and subsequent handling of all materials excavated in accordance with Item 400, "Excavation and Backfill for Structures."
g. Excavation Below Grade. Any part of the bottom of the trench excavated below the limits specified in Section II, paragraph A., 1., b., "Depth of Trenches," will be corrected with approved material and compacted in a manner as described in Article 400.5 of Item 400, "Excavation and Backfill for Structures" and as directed.

h. Protections and Restoration of Underground Structures and Facilities.

(1) Facilities other than SBC’s. Contractor will protect and restore underground structures in accordance with Bell System Practices Section SW622-020-901, Paragraphs 11.01-11.04.

(2) SBC Facilities. The Contractor will adjust and support existing telephone conduit wherever indicated on plans in accordance with Bell System Practices Section 622-300-300 “Main Conduit Restoration and Rearrangement.”

i. Trench Excavation Protection. All trench excavation protection will be accomplished in accordance with Bell System Practice Section 622-020-901.

C. Backfill. All backfill and backfill operations will be in accordance with Item 400, "Excavation and Backfill for Structures," as described herein and as directed. Where, in the opinion of the Engineer, it is necessary to maintain traffic across a trench, the Contractor will install temporary metal bridges as necessary to facilitate the movement of traffic.

D. Pavement. The Contractor will remove pavement and surfaces as part of the trench excavation in accordance with Item 400, "Excavation and Backfill for Structures." The removal and restoration of pavement and surfaces will be based upon the minimum trench width as described in Section II, paragraph A., 1., a., "Width of Trenches" plus 2-in. on each side of the trench.

a. Concrete Surfaces. All concrete surfaces (sidewalks, driveways, etc.) will be performed in accordance with Item 104, “Removing Concrete.”

E. Manholes. Manholes will be of the size and type as shown on the plans. All manholes will be set to the lines and grades as shown on the plans with a minimum 60-in. cover from finished grade to the top of the manhole box or as directed.

a. Pre-Cast Manholes. All pre-cast manholes and handholes will be installed according to Bell System Practices Section 622-506-200, “Precast Concrete Manholes, 38Y Types, Installation.”

b. Cast-In-Place Manholes. All cast in place manholes will be constructed in accordance with Bell System Practices Section 622-505-210, “Concrete Manholes, Cast in Place Construction”
F. Conduit and Conduit Structures

a. Duct Bank. Contractor will refer to Bell System Practices Section 622-340-201SW “C Plastic PVC & C Polypropylene Direct Buried in Soil Main Conduit” for placing the conduit, including construction of curves, sweeps, and grade changes. This Item will cover requirements for mandreling (testing) and plugging ducts.

b. Defective or Damaged Material. All materials will be inspected for defects prior to being lowered into the trench. Any defective, damaged, or unsound material will be repaired or replaced as directed. Should damaged materials be placed, the Contractor will furnish at the Contractor's expense all labor and materials required for removing and replacing the defective material. Should the Contractor damage the materials after installation, the Engineer may permit the damaged section to be cut from the length unless it is the opinion of the Engineer that the entire length was damaged. The cost and replacement of broken materials will be at the expense of the Contractor.

G. Cables

a. Installation. Contractor will install cables per Bell System Practices Section 628-200-208 “Placing Underground Cable.”

b. Cable Racking. Racking of cables will be in accordance with Bell System Practices Section 632-305-215, “Cable Racking, Cable Arrangements in Manholes” for up to 20 ducts.

H. Installing Manholes over Existing Conduit. Contractor will refer to Bell System Practices 622-300-205 “Special Construction” and 622-300-300 “Main Conduit Restoration and Rearrangement” when constructing manholes over existing conduit.

I. Adjusting Existing Manholes. All manhole frame and covers will be adjusted in accordance with Item 479, "Adjusting Manholes and Inlets.”

J. Removing Existing Facilities. All abandoned telephone facilities, including manholes and conduit, to be removed will be accomplished in accordance with Item 496, "Removing Structures.” An SBC approved contractor shall remove existing conduit as necessary for the installation of the new facility. An SBC approved contractor is not required to perform any other SBC removals once the existing facility is abandoned in place.

K. Protective Concrete Cap. Concrete caps will be constructed above conduit structures (duct banks) at locations specified and to the dimensions detailed on the plans in conformance with Item 421, "Hydraulic Cement Concrete.”

A. Trench Excavation and Backfill. This Item will not be measured for payment but will be considered subsidiary to the structure installed in the trench.

B. Trench Excavation Protection. Trench Excavation protection will be measured by the plan footage. This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2, “Plans Quantity Measurement.” Additional measurements or calculations will be made if adjustments of quantity are required.

C. Pavement. Cutting and Restoring pavement will not be measured for payment, but will be considered subsidiary to the structure installed in the trench.

D. Concrete Encasement. This Item will not be measured for payment, but will be considered subsidiary to the structure installed in the trench.

E. Manholes. Manholes will be measured by each size of manhole installed, complete in place. Neck, rings and covers will not be measured for payment, but will be considered subsidiary to the manhole.

F. Conduit & Conduit Structures. Conduit will be measured by the foot for the type and size shown on the plans. Piping, sweeps, bends and appurtenances for conduit will not be measured for payment but will be considered subsidiary to the duct bank measurement. Mandreling will not be paid for separately, but will be considered subsidiary to the conduit installation.
   a. The lengths of duct bank will be measured along the duct between the outside faces of manholes or other connected facility as shown on the plans.
   b. Where the installation involves connection to an existing conduit, the measurement will be made from the point of connection to the existing conduit.
   c. Inner duct will be considered as conduit for the purposes of this specification.

G. Cable. Cable will be measured by the plan foot for the type and size shown on the plans. This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2, “Plans Quantity Measurement.” Additional measurements or calculations will be made if adjustments of quantity are required.

H. Installing Manhole Over Existing Conduit. This Item will not be measured directly, but will be considered subsidiary to the manhole measurement.
I. Adjust Existing Manhole. This Item will be measured per each manhole adjusted. Trench excavation on the outside of the manhole will not be measured but will be considered subsidiary to this item.

J. Remove Existing Facilities. This Item will be a plan footage for conduit in conformance with Item 496, “Removing Structures.” Manholes removed will be paid by the each as shown on the plans. All other above ground appurtenances will be considered subsidiary to the conduit removal.

5. Payment.

A. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for the Items hereinafter described. The prices will be full compensation for furnishing and hauling all materials; for all excavation and backfill; for trench excavation protection; dewatering, shaping and fine grading of trench; for cutting and restoring pavements; for removing and replacing concrete surfaces; for placing, joining and racking of pipe and conduit structures; for manholes, risers, rings and covers and for all other items of material, labor, equipment, tools; for all testing and incidentals necessary to complete the work in accordance with the plans and specifications.

B. Trench Excavation and Backfill. Payment for excavation and backfill for the installation of telephone facilities will not be paid for directly but will be considered part of the price bid for the specific structure installed.

C. Trench Excavation Protection. Payment for excavation protection for the installation of telephone facilities will be paid in accordance with Item 402, “Trench Excavation Protection” for “Trench Prot (Tele).”

D. Pavement. Payment for cutting and restoring pavement will not be paid for directly but will be considered part of the price bid for the specific structure installed.

E. Concrete Encasement. Payment for concrete encasement will not be paid for directly but will be considered part of the price bid for the specific structure installed.

F. Manholes. Payment for manhole installations will be made by the each for "Manhole (Tele)" of the size specified complete in place with all racking, ladder, and bonding hardware, rings, frames, covers and joint sealing compound and will be as detailed on the plans.

G. Conduit and Conduit Structures. Payment for conduit installations will be made at the unit price bid for "Conduit (Tele)" of the size and type of conduit specified on the plans, complete-in-place. This price will be full compensation for installing conduit, and inner duct; excavating, furnishing and placing backfill, boring, steel casing, replacing pavement structure, sod, riprap, curbs or other surface; for furnishing and installing all fittings, sweeps, bends, repair couplings, adaptors, ground box/manhole
termination kits, pre-assembled split repair kits, lubrication access fittings, expansion joints, concrete and underground mylar conduit marking tape; and for all labor, tools, equipment and incidentals necessary to complete the work.

H. Cables. Payment for cable installations will be made per foot for “Cable (Tele)”, “Fiber (Tele)” and “Air Pipe (Tele)” of the size and type specified on the plans, complete in place.

I. Installation over Existing Facilities. Payment for this Item will not be made directly, but will be considered incidental to the manhole installation.

J. Adjust Existing Manhole. Payment for this Item will be made by the each for “Adjust Manhole (Tele).”

K. Remove Existing Facilities. Payment for this Item will be made by the plan quantities for “Removal (Tele)” for the type and size of structure removed.