630  CONDUIT.
(REV 6-10-20) (FA 6-24-20) (1-21)

SUBARTICLE 630-3.10 is deleted and the following substituted:

**630-3.10 Route Markers:** Install route markers for new fiber optic cable installations, replace route markers as shown in the Plans, and ensure the following:

1. Markers are plumb and level and the notification information is clearly visible when viewed from the side facing the roadway.
2. Markers are set within the right of way.
3. Markers are placed at a 1 foot offset from the conduit system.
4. The top of the marker post is a minimum of 5 feet and maximum of 6 feet above the finish grade.
5. Markers are spaced a maximum of 500 feet apart.
6. A clear line of sight is maintained from one marker to the next.
7. Markers are installed on both sides of the roadway at any crossing point where the conduit system changes to the opposite side of the roadway.
8. Markers are installed at the center point of any conduit run between two pull or splice boxes.
9. Markers are installed at gate locations when the conduit system is adjacent to a fence line.
10. Markers are installed on both sides of a stream, river, or other water crossing, and on both sides of aboveground attachments such as bridges and walls.

Remove and replace all marker posts damaged during installation at no additional cost. Ensure that route marker signs are labeled with a unique identification number, as detailed in the Plans or as approved by the Engineer. Provide as-built documentation at the completion of installation that includes identification number and location of all installed route markers and correlates the marker to the fiber optic infrastructure that it signifies.

Ensure that installation of ERMs includes connection of the route marker to the locate wire associated with the conduit run that the markers identify. Install locate wire through the base of the marker and terminate the locate wires to connectors mounted on the terminal board inside the marker. Install an underground magnesium anode a minimum of 10 feet away from the marker and perpendicular to the conduit system. Terminate the anode lead on the connector mounted on the terminal board inside the marker. Install the bond straps between the anode connector and all locate wire connectors to provide cathodic protection for the locate wire conductor.

SUBARTICLE 630-4.1 is deleted and the following substituted:

**630-4 Method of Measurement.**
The Contract unit price per foot of conduit, furnished and installed, will include furnishing all hardware and materials and all testing as specified in this Section and the Contract Documents, and all labor, casings, removal of excavated materials and spoils,
removal and disposal of drilling fluids, locate wire, trenching, boring, backfilling, flowable fill and restoration materials necessary for a complete and accepted installation. Payment for conduit placed underground will be based on the horizontal length of the trench or bore measured in a straight line between the centers of pull boxes, cabinets, poles, etc., in linear feet, regardless of the length or number of conduits installed. No allowance will be made for sweeps or vertical distances below the ground.

Payment for conduit placed aboveground or bridge mounted will be based on the actual length of conduit installed.

Payment for conduit embedded in concrete will be based on the length of each conduit run measured in a straight line between centers of junction boxes, regardless of the length of conduit installed, and will include all expansion and expansion/deflection fittings. Conduit that does not both begin and end at a junction box will be considered incidental to their related items of work.

Payment for replacement of route markers, per each, will be made only for those markers identified in the Plans.

ARTICLE 630-5 is deleted and the following substituted:

630-5 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section. Payment for conduit placed under existing turf will be made as open trench. Payment for conduit placed under existing pavement (roadway, driveways, or sidewalk) will be made as directional bore. If conduit is being placed under both existing turf and existing pavement between two pull boxes, payment for the total pull box-to-pull box length will be made as directional bore. Payment for conduit placed by jack & bore will be made as jack & bore, for the total pull box to pull box length.

Payment for conduit embedded in concrete structures or traffic railings will be made as embedded conduit.

No additional payment will be made for multiple conduits in the same trench.

No payment adjustment will be made if the Contractor chooses to use an alternative method approved by the Engineer.

No payment will be made for failed bore paths, injection of excavatable flowable fill, products taken out of service, or incomplete installations.

Payment for replacement of route markers will include all the work, labor, equipment, and materials specified in this Section. No separate payment for route markers will be made for new conduit installation.

Payment will be made under:

Item No. 630- 2- Conduit - per foot.
Item No. 630- 3- Replace Route Marker for Existing Conduit - per each.