

GENERAL NOTES

QUANTITY CALCULATIONS BY <u>PCS</u> DATE <u>3/73</u> CHKD <u>BFL</u> DATE <u>3/73</u>	FHWA REGION <u>5</u>	STATE <u>OHIO</u>	PROJECT
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LAK-040-098
LAK-203-303
LAK-91-549

625 LOOP DETECTOR WIRE AND LEAD-IN CABLE

Loop detector wire shall consist of single conductor, insulated, No. 14 AWG RHW/600 V. stranded copper wire, and be installed in accordance with the typical loop detector detail. Each wire loop shall consist of the number of turns as required by the manufacturer of the loop detector. The loop wire shall run continuously to the adjacent pull box where it shall be spliced to the loop detector lead-in cable.

Payment for Item 625 "Loop Detector Wire" will be made at the contract unit price per lineal foot in place for #14 Detector Wire and shall include detector wire, installation, jacket, conduit from roadway edge to pullbox splice and all incidentals necessary to complete the installation. The estimated quantities of loop detector wire shown on the plans is based on an anticipated required number of turns. Payment will be based on the actual lineal feet installed as this is controlled by the detector manufacturer's requirements for loops.

Payment for Item 625 "Loop Detector Lead-in Cable" will be made at the contract unit price per lineal foot in place for #14 AWG 2 cond. polyethylene insulated, twisted pair, shielded and jacketed cable, including soldered waterproof poured splice.

625 LOOP DETECTOR PAVEMENT CUTTING

Loop detector pavement cutting shall consist of a 1-1/4 inch or 2 inch x 1/4 inch wide saw cut in accordance with typical loop detector installation detail. The saw cut shall be filled with a joint sealer after the wire has been installed. The joint sealer shall be as specified on sheet 22.

Payment for Item 625 "Loop Detector Pavement Cutting" will be made at the contract unit price per lineal foot for saw cutting and treatment including joint sealer.

625 SERVICE CABLE WITH ACCESSORIES, BY GAUGE, TRIPLEX

The Contractor shall furnish and install service cable between any poles called for on the plans. The Contractor shall contact the previously specified electric company and arrange for them to attach the service cable to the power source with pressure connectors covered with mastic insulation. Service cable shall be attached one (1) foot below the top of a pole unless otherwise noted.

Service cable shall be composed of two conductors of #6 AWG, stranded Neoprene or Cross-linked Polyethylene Insulated Wire cabled around a bare, 7-strand, #6 AWG, ACSR neutral messenger wire. The messenger wire shall also function as the electrical neutral for the power system.

Payment for Item 625 "Service Cable with Accessories, by Gauge, Triplex" shall be made at the price bid per foot, including furnishing and installation of cable, supports, clamps, hanger, connections and any additional items required to complete the installation as shown in Detail Sheet 21.

625 CABLE SUPPORT ASSEMBLY

A cable support assembly shall be installed for each group of cables passing through the wire outlet near the top of pole, it shall be attached to the "j" hook as shown in the plans and shall consist of the following major items:

1. One piece of three-strand copper-clad messenger, length as required.
2. Two hot-dipped galvanized thimbles.
3. Two #6 split bolt connectors.
4. One bronze or stainless steel cable grip with single "U" eye bale.
5. All other miscellaneous items that may be necessary to make the assembly complete.

The messenger shall be 0.164 inches in diameter consisting of three strands of 0.075 inch copper covered steel wires twisted in the form of a cable. Guy thimbles shall be grooved to fit the guy strand and bent to the proper radius to prevent the strand from being sharply bent. The cable grip shall have a single "U" eye bale. The grips shall be of the proper size to fit the cable and shall have a minimum rated breaking strength of 250 lbs.

The grip shall be either the "closed", or "split with rod" type.

Payment for Item 625 "Cable Support Assembly" will be made at the contract unit price each, completely assembled in place and accepted.

625 WEATHERHEAD AND CONDUIT RISER, BY SIZE

The weatherhead and conduit riser shall provide a wiring raceway for lead-in cable from the ground to the overhead span wire or for power cable from overhead service cable to the controller.

The weatherhead and conduit riser shall consist of a weatherhead, conduit, conduit fittings and ells, and stainless steel straps as shown in the details on the Sheet 21.

The weatherhead shall be cast aluminum or galvanized cast ferrous metal and shall prevent entry of water into the conduit.

Conduit shall be Type III as specified in 713.04. Stainless steel straps shall be 3/4 of an inch wide by .020 inch thick and shall be spaced at maximum intervals of five (5) feet.

Payment for Item 625, "Weatherhead and Conduit Riser, by Size" will be made at the Contract unit price for each weatherhead and conduit riser installation completely installed and accepted including all labor, material, equipment and incidentals necessary to perform the required item of work.

625 MESSENGER WIRE 7-STRAND BY SIZE WITH ACCESSORIES

Messenger wire shall be utility grade galvanized steel, meeting ASTM designation A122 and 218 Class B. It shall consist of seven strands of wire capable of carrying the following loads according to the size specified:

Nominal Size	Breaking Load
5/16" diameter	6,000 pounds
3/8" diameter	11,500 pounds
7/16" diameter	18,000 pounds
1/2" diameter	25,000 pounds

Galvanized steel lashing rods shall be used to suspend the signal cable from the messenger wire, tightly secured. Wet-Poreclain strain insulators (600 volt), guy clamps, and galvanized performed guy grip dead ends, thimbles, and bull rings (when required) with a rated loading strength equal to or greater than the breaking load of the messenger wire shall be installed as shown on the plans and/or specified by the Engineer. The messenger wire shall be installed so that the entire load of the signal equipment will not cause sag to exceed a maximum of 5% or a minimum of 3% of the span.

Payment for Item 625 "Messenger Wire 7 Strand by Size, with Accessories" will be made at the contract unit price per lineal foot (measured to center of pole or aerial corners) completely assembled in accordance with the typical signal installation details and shall include messenger wire, lashing rods, strain insulators, preformed guy grips, thimbles, guy clamps, and aerialcorner bull rings, as described above and shown on the details on Sheet 21.

625 COVERING OF TRAFFIC SIGNAL HEADS

All traffic signal heads, both vehicular and pedestrian, erected at locations where traffic will be maintained prior to energizing of the signal, shall be covered.

The covering shall be plastic coated burlap blankets as per Item 705.06. They shall be firmly attached and completely cover the signal head without damage to the head. The covering shall be maintained in place at all times while traffic is using the area and the signal is not in operation.

Payment shall be at the unit price bid per each for Item 625 "Covering of Traffic Signal Heads" which shall be full compensation for all labor, materials and equipment required to erect, maintain and remove the covering.

625 GROUND RODS

This item of work shall consist of furnishing and installing ground rod and cable as detailed and specified on sheet 21.

The cable shall be exothermically welded to the top of the ground rod.

Basis of payment for this item shall be at contract unit price per each, which shall include all labor, materials and equipment required to complete this item of work.

816 SIGNAL STRAIN POLE, BY SIZE

This item of work shall consist of furnishing and erecting poles as shown and specified in the plans.

Each pole shall be made of a galvanized tapered steel shaft and include the furnishing of anchor bolts, Type III rigid ferrous metal 3" conduit ell and a 3/4" electrical metallic tubing ell for grounding lead for installation in foundations plus handhole with cover, "J" hook, pole clamp, and cable service entrance with blind half-coupling for each pole in accordance with details on sheet 23.

The poles shall be installed and adjusted to the proper rake so that the weight of the signal installation will not cause the poles to be off vertical alignment by more than 1%.

Basis of payment shall be at the contract bid price per each Item 816 "Signal Strain Pole, by Size," including all labor, material, equipment and incidentals related to this item of work.

816 CONCRETE FOR SIGNAL SUPPORT FOUNDATIONS

Traffic signal pole foundations shall be constructed as shown in the plans. The Contractor shall stake the longitudinal and lateral location and the elevation of the top of each foundation subject to the approval of the Engineer. The Contractor shall be responsible for the proper elevation, offset and level of each foundation. Excavations shall be made to the dimensions shown on the plans and shall be performed by means of an earth auger of the specified diameter unless otherwise directed by the Engineer. Where sub-surface obstructions are encountered, the Engineer may require the Contractor to remove the obstruction or to replace the excavated material and relocate the foundation. If caving of the foundation occurs, the Contractor shall excavate to the specified depth, maintaining the sidewalls as nearly vertical as possible.

No payment shall be made for any excavation, concrete or reinforcing steel used in excess of the planned quantities.

Portland cement concrete shall be used and shall conform with class "C" of the current Construction and Material Specifications prepared by the Department of Transportation of the State of Ohio. The concrete shall be placed against undisturbed soil or compacted embankment. The foundation shall have anchor bolts and conduit accurately held in position with a templet when concrete is poured. Forms shall be used for the upper portion of all foundations and no backfilling shall be permitted from the bottom to within 6 inches below ground level. No grouting of concrete shall be permitted between the foundation and the steel pole.

Payment for Item 816 "Concrete for Signal Support Foundations" shall be made per cubic yard for each foundation constructed in accordance with the typical foundation details and shall include concrete, reinforcing steel, excavation and backfill.