**ITEM 632 MESSENGER WIRE, 7-STRAND, 0.25-IN. DIAMETER WITH ACCESSORIES, AS PER PLAN**

In addition to the requirements of 632.22, THE CONTRACTOR SHALL FURNISH AND INSTALL MESSENGER WIRE AS SHOWN IN THE PLANS TO SUPPORT THE FIBER OPTIC CABLE SYSTEM. MESSENGER WIRE SHALL BE RATED AS EXTRA-HIGH STRENGTH AND MEET THE REQUIREMENTS OF 732.18. ACCESSORIES USED WITH MESSENGER WIRE SHALL INCLUDE THRU BOLTS, EYE BOLTS, SUSPENSION HANGERS, THIMBLES, PRE­FORMED GUY GRIPS, POLE CLAMPS, DEAD-ENDS, AND THREE BOLT CLAMPS AS SHOWN ON THE PLANS. THE MESSENGER WIRE SHALL BE DEAD-ENDED ON BOTH SIDES OF A STREET CROSSING. MESSENGER WIRE SHALL BE ATTACHED USING THIMBLES TO THE CLEVISES OF STRAIN POLE SPAN WIRE CLAMPS AND TO EYE BOLTS. ALL ACCESSORIES SHALL HAVE A RATED LOADING STRENGTH EQUAL TO OR GREATER THAN THE MESSENGER WIRE MINIMUM BREAKING STRENGTH AND SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

FOR THE AERIAL INSTALLATION OF FIBER OPTIC CABLE, THE CABLE SHALL BE ATTACHED TO THE MESSENGER WIRE BY DOUBLE 0.045-INCH TYPE 316 STAINLESS STEEL LASHING WIRES, HAVING AN AVERAGE OF ONE WRAP PER LINEAR FOOT OF MESSENGER WIRE. LASHING WIRE SHALL MAINTAIN A CONSISTENT SPIRAL THROUGHOUT THE ENTIRE SPAN, WITHOUT EXCEPTION, AND MUST MAINTAIN A MINIMUM OF 40 LB. OF PULL DURING AND AFTER INSTALLATION. THERE SHALL BE NO VISIBLE SEPARATION OF MESSENGER WIRE AND CABLE IN MID‑SPAN LASHING. THE LASHED CABLE REQUIRES SUPPORT WHEN IT EXTENDS BEYOND THE POINTS OF TER­MINATION OF THE LASHING WIRE. THIS SUPPORT IS NECESSARY TO KEEP THE CABLE IN PLACE AND TO MAINTAIN CLEARANCES BETWEEN THE CABLE SHEATH AND VARIOUS ITEMS OF HARDWARE. A POLYPROPYLENE AERIAL SUPPORT TIE WITH AN INTEGRAL 0.50-IN. SPACER SHALL BE USED TO FASTEN THE CABLE TO THE SUPPORTING MESSENGER WIRE AND MAIN­TAIN SEPARATION BETWEEN THE CABLE AND MESSENGER WIRE.

When attaching cable to the messenger wire for distances of 100 feet or less, the method of attachment shall be galvanized steel helical lashing rods of 5 or 6 foot lengths of a proper internal diameter to tightly secure the cable to the messenger wire. This method may also be used at locations as requested by the Contractor and approved by the Engineer.

The work as described will be measured as the number of linear feet installed of messenger wire double lashed together with cables installed complete.

Messenger wire will be paid for per linear foot, and will include furnishing all materials, equipment, labor and incidentals necessary to complete the work specified. *8/26/15*