

**TRAFFIC MONITORING SITE INDUCTIVE LOOP ASSEMBLY.
(REV 10-25-01) (FA 12-21-01) (7-02)**

PAGE 797. The following new Section is added after Section 715:

**SECTION 745
TRAFFIC MONITORING SITE
INDUCTIVE LOOP ASSEMBLY**

745-1 Description.

Install Traffic Monitoring Site (TMS) Inductive Loop Assembly at the location(s) shown in the plans.

745-2 Materials.

Use Inductive Loop Assembly components listed on the Department's Approved Products List (APL) as compatible with the other components installed at the location meeting the following requirements:

Loop Wire	Section 660*
Lead-In Cable.....	Section 660**
Splicing Material.....	Section 660
Loop Sealant	Section 660
Pull and Junction Boxes.....	Section 635***
Conduit.....	Section 630

*Use only #12 AWG wire.

**Use #14 AWG wire.

***Ensure that the body is constructed of concrete and the lid is cast iron or steel, unless otherwise specified in the plans.

745-3 Installation Requirements.

745-3.1 General: Install Inductive Loop Assembly components and materials in accordance with the plans and the Design Standards.

745-3.2 Saw Cuts: Use a chalk line or equivalent method to outline the perimeter of the loop on the pavement and routes for lead-in cables. Do not allow the saw cut in the pavement to deviate by more than 1 inch [25 mm] from the chalked line. Ensure that all saw cuts are free of any dust, dirt or other debris and completely dry prior to the installation of the loop wire, loop wire twisted pair lead or lead-in cable.

Make saw cuts sufficient in depth to ensure that the top conductor of the loop wire or lead-in cable is a minimum of 1 inch [25 mm] below the final surface of the roadway.

745-3.3 Loop Wire: Ensure that all loops are three complete turns of wire, wound in a clockwise manner. Do not damage the insulation.

Tag and identify the clockwise "lead" of each loop.

Use alternate polarity on adjacent loops.

Ensure that the hold down material is not longer than 1 inch [25 mm] and that the distance from the top of the hold down material to the final surface of the roadway is not less than 1 inch [25 mm].

745-3.4 Loop Wire Twisted Pair Lead: Create a loop wire twisted pair lead by twisting the loop wire pair a minimum of 10 to 12 twist per foot [35 to 40 twist per meter] from the edge of the loop to the pull box located adjacent to the roadway. Place only one loop

wire twisted pair lead in a saw cut. Ensure that the distance between a twisted loop wire pair lead within the roadway is a minimum of 6 inches [150 mm] from any other twisted loop wire pair lead or loop, until they are within 12 inches [300 mm] of the edge of pavement or curb, at which point they may be placed closer together.

Provide a minimum of 3 feet [1 m] of twisted loop wire pair lead in the pull box located adjacent to the roadway. Do not route twisted loop wire pair lead directly through conduits to the cabinet, unless specified in the plans.

745-3.5 Loop Sealant: Prepare and apply the loop sealant in accordance with the manufacturer's instructions. Remove excess sealant from the surface of the roadway. Ensure that the loop sealant has cured completely before allowing vehicular traffic to travel over the sealant.

745-3.6 Shielded Lead-In Cable: Splice loop wire twisted pair lead to the International Municipal Signal Association, Inc. (IMSA) Specification 50-2 shielded lead-in cable in the pull box located adjacent to the roadway. Splice cables in pull boxes only. Perform all splices in accordance with the Design Standards, Index No. 17781.

Ensure that the shielded lead-in cable is of sufficient length to extend through the conduits to the cabinet without further splicing. Do not pull more than 250 feet [75 m] of loop lead-in cable between pull boxes or a pull box and the cabinet.

745-4 Guaranty Provisions.

745-4.1 Contractor's Responsibility: Secure all guaranties that are customarily issued by the equipment manufacturers for the specific equipment included in the Contract. Ensure that the form in which such guaranties are delivered includes the provision that they are subject to transfer to the Department, and is accompanied by proper validation of such fact. Transfer guaranties at final acceptance of the work (or equipment) by the Department.

745-4.2 Terms: Ensure that the manufacturers of the equipment stipulate the terms of guaranties when submitting a request to the Department for certification and for equipment submittal for construction projects. Include terms for a specified service performance with provisions for repair parts and labor, or for replacement. Provisions shall define the equipment "installation date" as the date for such guaranty to be in effect. For construction projects, the "installation date" is the first day of equipment "burn-in". For warehouse purchases, the "installation date" is the date of visual inspection approval, not to exceed ten days after delivery date.

745-4.3 Conditions: When guaranty is available, ensure that a written and signed guaranty accompanies the manufacturer's billing invoice. The Engineer will sign and retain the original and provide a copy to the manufacturer. If the Contractor does not comply with the terms of the guaranty, the Department may suspend the certification. Comply with additional terms and conditions as stated in purchasing agreements.

745-5 Method of Measurement.

745-5.1 General: Measurement for payment will be in accordance with the following tasks.

745-5.2 Furnish and Install: The Contract unit price per assembly for Inductive Loop Assembly furnished and installed, includes loop wire, loop sealant and shielded lead-in cable, all equipment, materials, and labor necessary for a complete and accepted installation.

745-5.3 Furnish: The Contract unit price per assembly for Inductive Loop Assembly, furnished, includes all components and materials as specified in the Contract Documents, plus all shipping, and handling costs involved in the delivery as specified in the Contract Documents.

745-5.4 Install: The Contract unit price per assembly for Inductive Loop Assembly, installed, will include all materials and labor necessary for a complete and accepted installation.

The Engineer will supply the Inductive Loop Assembly components as specified in the Contract Documents.

745-6 Basis of Payment.

Prices and payments will be full compensation for all work specified in this Section, except Conduit and Pull and Junction Boxes.

Conduit will be paid for as specified in Section 630 and Pull and Junction Boxes will be paid for as specified in Section 635.

Payment will be made under:

Item No. 745- 70-	TMS Inductive Loop Assembly - per assembly.
Item No. 2745- 70-	TMS Inductive Loop Assembly - per assembly.