

# Special Provision to Item 688

## Pedestrian Detectors and Vehicle Loop Detectors



Item 688, "Pedestrian Detectors and Vehicle Loop Detectors" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

**Section 688.3.2, "Vehicle Loop Detectors,"** is supplemented with the following:

When Vehicle Loop Detectors are used in Corridor Traffic Management (CTM) applications, do not saw-cut the loop into the final pavement layer of new asphaltic or concrete pavement, rather, incorporate the loop into the pavement placement operation. When incorporating the loop into concrete pavement placement, encase the loop wire, loop detector cable, and preformed loop detectors in tubing. When incorporating the loop in asphaltic pavement placement, use a high temperature resistant tubing. It is permissible to saw-cut the loop in sub-layers of the pavement structure or base layer as directed or shown on the plans.

Do not place loops across or in any expansion joint. Relocate loops as directed.

Label CTM loop wire and loop lead-in as shown on the plans. Print labels using a mechanical device specifically designed for this purpose. Provide labels and a printing device capable of recording and printing at least 15 characters. Print labels using black characters on a white, heat-shrinkable, polyolefin material. Provide a legend for labels.

**Section 688.3.2.2, "Conduit,"** is supplemented with the following:

Seal conduit connections. Seal conduits after installation of the loop wires. Use a sealing compound with a melting point not less than 200°F, and is not adversely affected by the surrounding environment or moisture.

**Section 688.3.2.4, "Loop Wire Installation,"** first paragraph, is supplemented with the following:

Separate each CTM loop wire and its lead-in pair from other loop pairs.

**Section 688.3.2.4, "Loop Wire Installation,"** second paragraph, is supplemented with the following:

Do not twist CTM loop wire installed within tubing. Stabilize CTM loop wires to prevent movement of the wires within tubing and conduit.

**Section 688.3.2, "Vehicle Loop Detectors,"** is supplemented with the following:

3.2.5. **CTM Loop Testing.** Test in accordance with Article 2, Special Specification, "Testing, Training, Documentation, Final Acceptance, and Warranty." Test each loop at the ground box to ensure circuit continuity. Test loops incorporated into pavement placement prior to placement of pavement. Test each loop in the final pavement structure. Connect a 500 ft. lead-in cable prior to testing. Test the loop at the termination of the lead-in cable. Submit the test data forms and test procedures 30 days prior to the day tests begin. Include the date of installation, date of test, location, manufacturer, number of turns, environmental conditions at installation, environmental conditions at time of test, inductance, resistance, leakage, frequency (20-50 kHz), sensitivity, phasing, and the Quality Factor in accordance with the FHWA "Traffic Detector Handbook," latest edition, for each test data form. Submit 1 copy of the signed and completed test data form after testing.

If any loop detector fails to meet the criteria in the "Traffic Detector Handbook," correct the loop detector or substitute another loop detector and retest at no additional cost to the Department or extension of the

contract. Provide a report describing the nature of the failure and the corrective action taken to modify the loop.

Allow no crosstalk between adjacent loops connected to separate channels or loop detector units with or without a vehicle on one of the loops after adjustment.

3.2.6. **CTM Loop Documentation and Warranty.** Provide documentation in accordance with Article 4, Special Specification, "Testing, Training, Documentation, Final Acceptance, and Warranty."

Provide warranties in accordance with Article 6, Special Specification, "Testing, Training, Documentation, Final Acceptance, and Warranty."

Provide Manufacturer data sheets for preformed loop detectors 30 days prior to installation.

**Article 688.4, "Measurement,"** is supplemented with the following:

CTM loops will be measured by each CTM loop installed and tested.