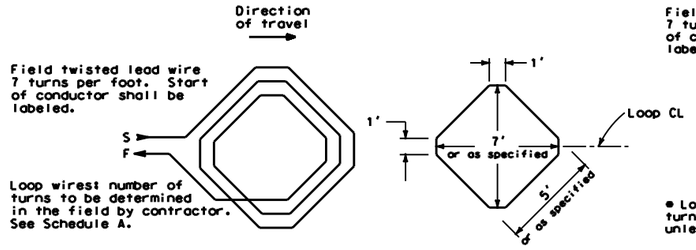
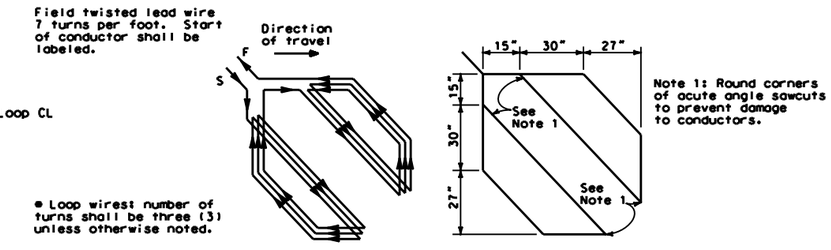


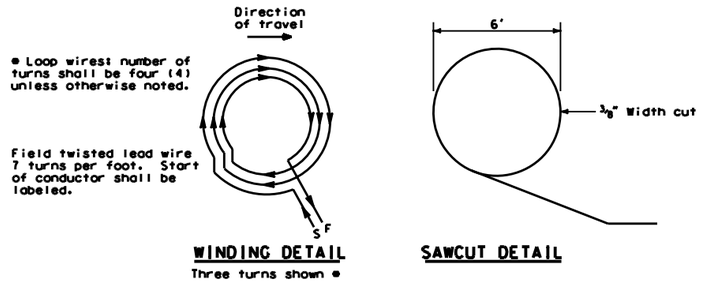
WINDING DETAIL SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL

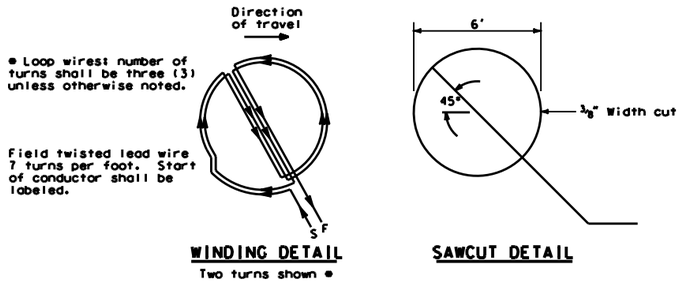
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL

Three turns shown ●

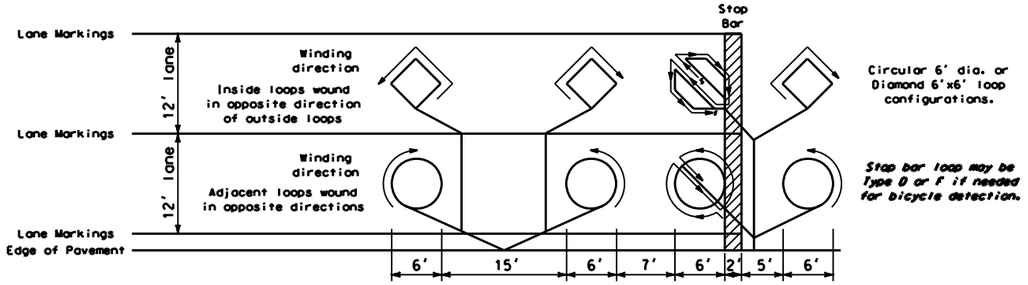
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL

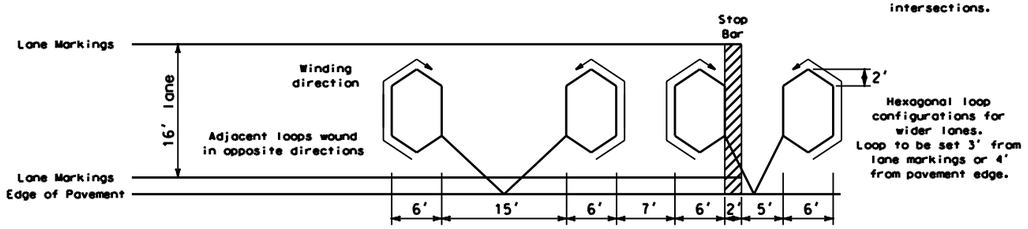
Two turns shown ●

TYPE F LOOP DETECTOR CONFIGURATION



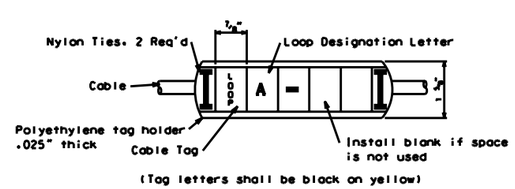
TYPICAL LOOP INSTALLATION

For Single or Multiple Lanes



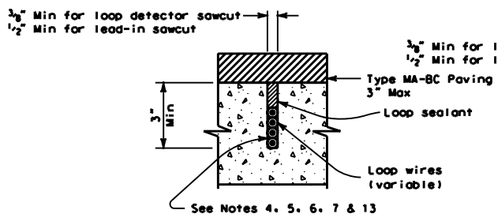
TYPICAL LOOP INSTALLATION

For Wide Lanes



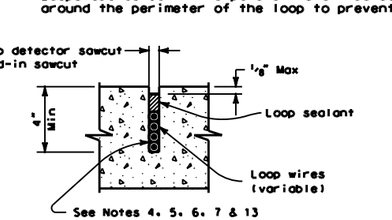
(Tag letters shall be black on yellow)

Loop Detector Cable Identification Tag



DETAIL A

Section showing installation in new roadways or existing road with new overlay



DETAIL B

Section showing installation in existing roadways

General Notes:

1. Loops shall be centered in lanes.

2. Saw slots in pavement for loop conductors as shown in details. Dimensions and configurations for loop detectors and trenches shall be as shown on the plan sheets for each location. "Diamond" loop detectors are based on the rectangular measurements of the loop.

3. Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 24 inches minimum. Distance between lead-in saw cuts shall be 6 inches minimum.

4. Bottom of saw slot shall be smooth with no sharp edges. All corners are to be cut smooth with a chisel to assure a clean smooth radius.

5. Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.

6. No more than 2 twisted pairs shall be installed in one sawed slot. Length of slot with 2 twisted pairs shall be paid by linear foot of each twisted pair in the slot.

7. All loop detector wire shall be IMSA Type 51-5-1984, #14 gauge 'Loop-in-a-Tube' wire.

8. All loop detector lead wire shall be IMSA Type 50-2-1984, #14 gauge shielded wire. All drain shielding wires shall be taped back to end of cable.

9. Adjacent loops shall be wound in opposite directions. Inside lane loops shall be wound in the opposite direction of outside lane loops.

10. Identify and tag loop circuit pairs in the pull box with loop number and start (S) of conductor. Start of conductor (S) to be connected to BLACK wire of loop lead. Finish of conductor (F) to be connected to WHITE wire of loop lead. Identify and tag lead-in-cable with loop number.

11. The entire length of each loop lead-in shall be twisted together into a pair seven (7) turns per foot minimum before being placed in the slot and conduit leading to the pull box. Loop pipe shall be sealed with duct seal to prevent loop sealant from entering pipe.

12. Allow additional 5 feet of slack length of conductor for the lead-in run to pull box.

13. Test each loop circuit for continuity and inductance at the pull box before filling slots. A sufficient number of turns of wire shall be installed so that the inductance for each loop shall measure no less than as stated in Schedule A. Inductance readings for each loop shall be recorded and submitted to the Engineer.

14. Fill slots as shown in details. Sealant for loop detectors shall be Bondo Traffic Control Products Flexible Sealer P-606, Tri-American TA-500 Loop Detector Sealant, or equivalent. Excess loop sealant shall be squeegeed clean from pavement surface.

15. Ends of loop lead and loop wire shall be waterproofed to prevent moisture from entering the cable by using 3M DBR Direct Bury Splice Kit connectors, part no. 054007-09964, or 3M ScotchCast 3570G, or equivalent.

16. Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.

17. All loops wired to a single channel or pair of loop detector lead shall be wired in series and not exceed a reading of 1000 microhenries at the traffic signal cabinet. Inductance less than 1000 microhenries shall be verified at the cabinet for all loop detector leads. Loops shall not be wired in parallel under any circumstances.

18. Loop detector to be installed after the milling process and prior to the installation of new surface course pavement. Detail "A" applies when contract provides for milling and paving of roadway. Detail "B" applies when contract provides for loop detector only.

19. Loops abandoned in the pavement shall be sawcut in no less than two locations around the perimeter of the loop to prevent interference with operation of new loops.

Schedule A:
Approximate number of turns for loops:

6' X 6'	4 turns - 100 min microhenries
6' X 7'	4 turns - 100 min microhenries
6' X 8'	4 turns - 100 min microhenries
6' X 9'	4 turns - 100 min microhenries
6' X 10'	4 turns - 100 min microhenries
6' X 11'	3 turns - 100 min microhenries
6' X 12'	3 turns - 100 min microhenries
6' X 13'	3 turns - 100 min microhenries
6' X 14'	3 turns - 100 min microhenries
6' X 15'	3 turns - 100 min microhenries
6' X 16'	3 turns - 100 min microhenries
6' X 17'	3 turns - 100 min microhenries
6' X 18'	3 turns - 100 min microhenries
6' X 19'	3 turns - 100 min microhenries
6' X 20'	3 turns - 100 min microhenries

No.	Revision	Date	By	Ok'd
3.	Added Type B and D loops, revised details & notes	4/23/07	BAD	MCL
2.	Revised notes.	8/3/06	BAD	MCL
1.	Reduced to 100 microhenries and revised notes.	5/9/06	BAD	BAD

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JOSEPH G. CARUSO
COUNTY ENGINEER
PROFESSIONAL ENGINEER
N.J. LIC. No. 23819
DATE

ELECTRICAL DETAILS

LOOP DETECTOR INSTALLATION

DATA COLLECTION FILES		FIELD BOOK	PAGE
DRAWN BY:	B.A.B.	DATE	05/05/07
DESIGNED BY:	B.A.B.	SCALES	N.T.S.
CHECKED BY:	M.C.L.	SHEET No.	
PROJECT No.		FILE NO.	loop_detail.dgn