

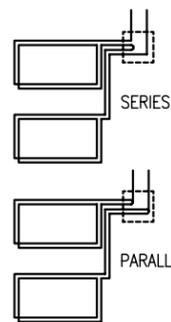
**STANDARD LOOP**

**WIRING AND CONNECTION TABLE**

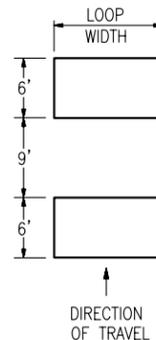
NO. OF LOOPS	WIDTH OF LOOP (FEET)										
	6	8	10	12	14	16	18	20	22	24-36	40+
1	4	3	3	3	3	3	3	3	2	2	2
2	3S	3S	3S	3P	2S	2S	2S	2S	2S	2S	2P
3	3S	3S	2S	2S	3SP	3SP	3SP	3SP	2SP	2SP	2P
4	3SP	3SP	3SP	3SP	3SP	3SP	3SP	2SP	2SP	2SP	2SP

URNS PER LOOP AND TYPE CONNECTION  
(S = SERIES, P = PARALLEL)

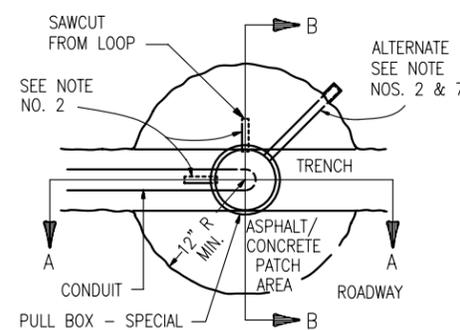
**WIRE CONFIGURATION**



**LAYOUT**



**TOP VIEW**



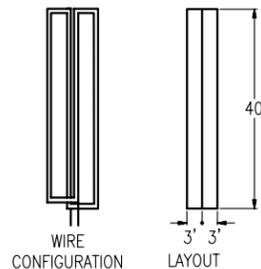
**PULL BOX - SPECIAL NOTES:**

- PULL BOX-SPECIAL SHALL BE A WATER VALVE STEM TYPE PULL BOX MADE OF CAST IRON OR STEEL. THE PULL BOX ITSELF SHALL HAVE CAPABILITY OF ACCEPTING RISER RINGS FOR FUTURE OVERLAYS. THE LID SHALL HAVE THE WORD "TRAFFIC" PRINTED ON IT.
- PULL BOXES SHALL HAVE 3/4 IN. TO 1 IN. DIAMETER HOLES DRILLED OR TORCHED 3 IN. FROM TOP TO ACCEPT A 4 IN. TO 6 IN. LONG RUBBER TUBE (3/4 IN. GARDEN HOSE). THE NUMBER OF HOLES SHALL BE AS PER PLANS OR AS DIRECTED BY THE ENGINEER.
- CARE SHALL BE TAKEN DURING BACKFILL COMPACTION TO PREVENT COLLAPSE OF THE TUBES.
- A MINIMUM 2 FEET OF SLACK IS TO BE PROVIDED ON BOTH FEED AND LOOP WIRES SO THAT ALL TESTING AND SPLICING CAN BE DONE OUTSIDE THE PULL BOX.
- PULL BOX LID IS TO BE SEALED WATER TIGHT BY CAULKING.
- PULL BOX IS TO BE LOCATED IN AN AREA OF THE STREET NOT HEAVILY TRAVELED, IF POSSIBLE, AND A MINIMUM OF 12 IN. FROM THE CONCRETE GUTTER PAN.
- IF HOT ASPHALT IS NOT AVAILABLE, A CONCRETE RING (12 IN. MINIMUM RADIUS AND 8 IN. MINIMUM DEPTH) MAY BE ALLOWED BY THE ENGINEER. IF CONCRETE IS ALLOWED, THE RUBBER TUBE MUST BE EXTENDED BEYOND THE CONCRETE TO THE ASPHALT JOINT.
- ALL WORK LISTED ABOVE FOR INSTALLATION OF PULL BOXES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PRICE OF CONDUIT.

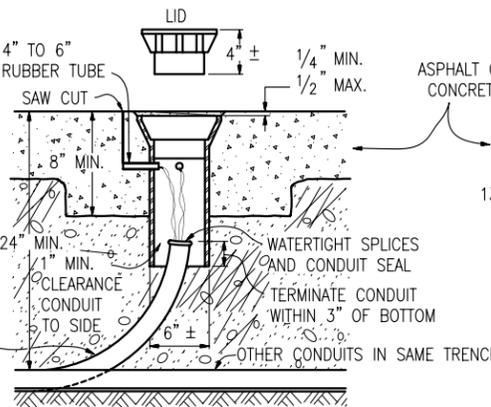
**LOOP INSTALLATION PROCEDURE**

- CUT SLOTS IN PAVEMENT TO 3 IN. MINIMUM DEPTH.
- CLEAN AND DRY SLOTS WITH OIL-FREE COMPRESSED AIR.
- ONE CONTINUOUS LENGTH OF 14/IC, RHW, USE, XLPE, RHWN OR THWN WIRE SHALL BE USED FOR EACH LOOP FROM SIGNAL BASE OR PULL BOX AROUND THE LOOP WITH THE NUMBER OF TURNS SPECIFIED AND BACK TO THE SIGNAL BASE OR PULL BOX. LOOP WIRE SHALL BE DUCT TYPE.
- USE A BLUNT, NON-METALLIC INSTRUMENT TO PUSH WIRE INTO SLOT. DO NOT COIL LEADS.
- CONNECT DETECTOR AND TEST LOOP.
- SEAL SLOTS AS SPECIFIED.

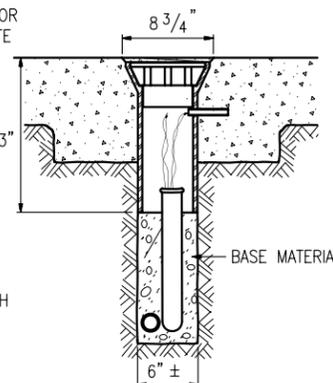
**STANDARD LOOP**



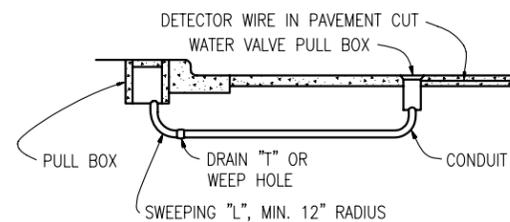
**SECTION A-A**



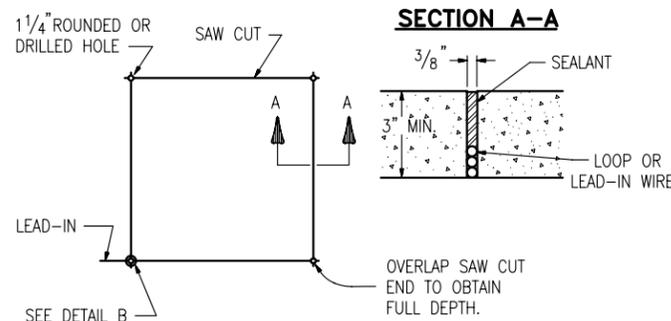
**SECTION B-B**



**DUAL LOOP**



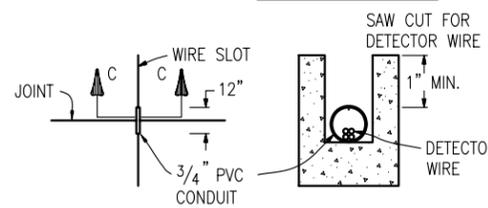
**LOOP DETECTOR LEAD-IN**



**VEHICLE DETECTOR LOOP SAW CUT DETAILS**

(FOR USE WITH VINYL TUBING ENCASED LOOP DETECTOR WIRE)

**SECTION C-C**

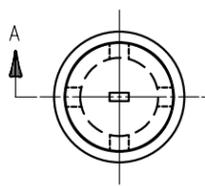


**DETECTOR WIRE ACROSS BRIDGE JOINTS**

DUAL LOOPS SHALL BE OF THE SIZE SHOWN UNLESS NOTED OTHERWISE ON THE PLANS.

**PULL BOX - SPECIAL FOR LOOP DETECTOR WIRE**

**SECTION A-A**

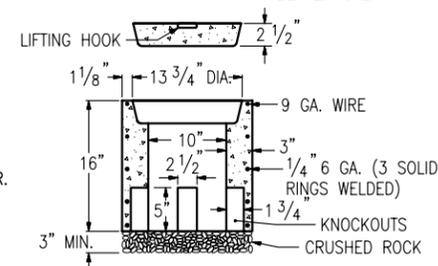


ACCEPTABLE ALTERNATES:

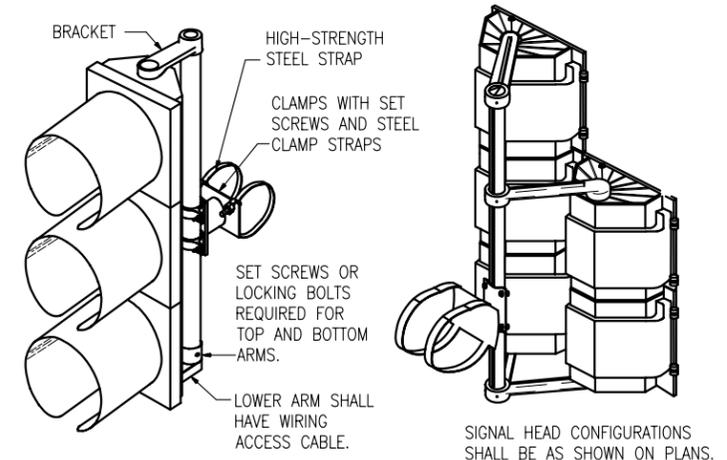
STANDARD 10 IN. I.D. REINFORCED CONCRETE PIPE SECTION.

PRECAST MOLDED FROM ACRYLONITRILE-BUTADINE STYRENE THERMOPLASTIC STRUCTURAL MATERIAL.

OTHER SIZES AND SHAPES MAY BE USED WHEN APPROVED BY THE ENGINEER.



**PULL BOX**



**ASTRO-TYPE MOUNTING BRACKET**

SIGNAL HEAD CONFIGURATIONS SHALL BE AS SHOWN ON PLANS.

<b>Computer File Information</b>		<b>Sheet Revisions</b>		Colorado Department of Transportation 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9543 Fax: (303) 757-9820	<b>TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS</b>	<b>STANDARD PLAN NO.</b> S-614-40
Creation Date: 07-04-06	Initials: JSV	Date:	Comments:			
Last Modification Date: 07-04-06	Initials: JSW			Safety & Traffic Engineering Branch	Issued By: Traffic Engineering Unit July 4, 2006	Sheet No. 7 of 7
Full Path: www.dot.state.co.us/DesignSupport/						
Drawing File Name: S614400707.dwg						
CAD Ver.: ACAD 2004	Scale: Not to Scale	Units: English				