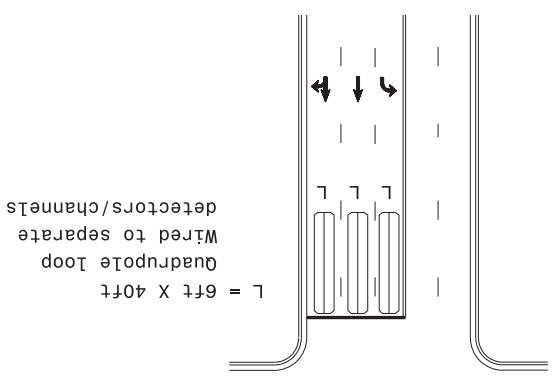
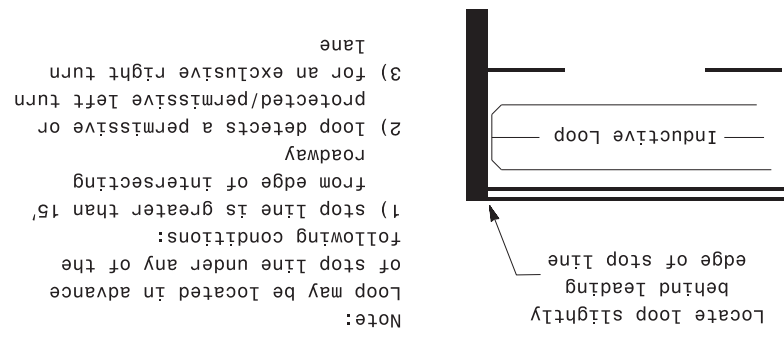


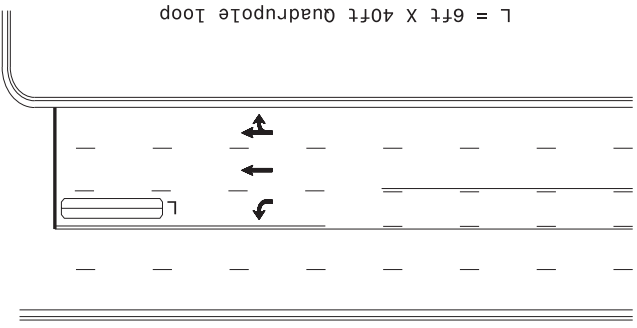
**Side Street Detection**



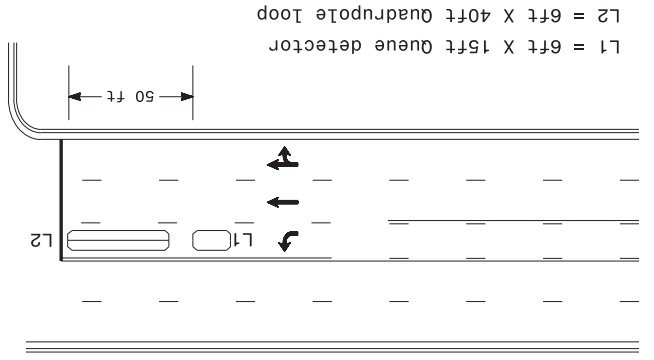
**Presence Loop Placement at Stop Lines**



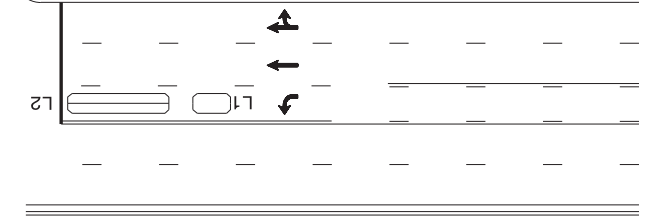
**Presence Loop Detection**



**Queue Loop Detection**



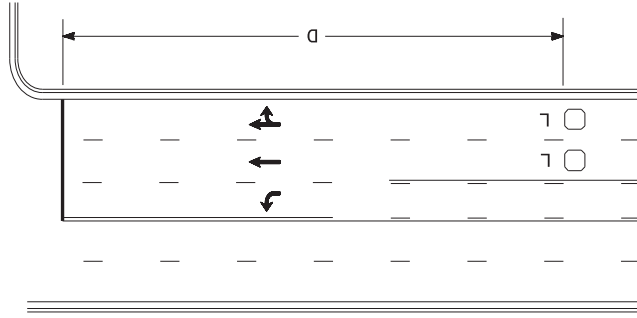
**Left Turn Lane Detection**



**Volume Density Operation**

Speed Limit	D	ft
mph	250	
	300	
	355	
	420	

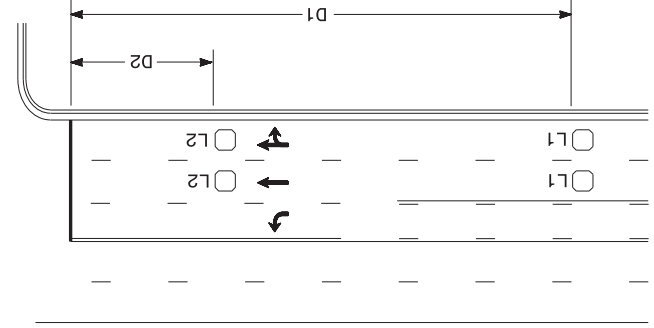
L = 6ft X 6ft  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers



**"Stretch" Operation**

Speed Limit	D1	ft	D2	ft
mph	250		80	
	300		90	
	355		100	
	420		110	

L1 = 6ft X 6ft  
Wired in series  
L2 = 6ft X 6ft  
Wired in series

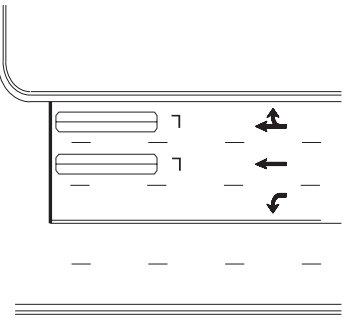
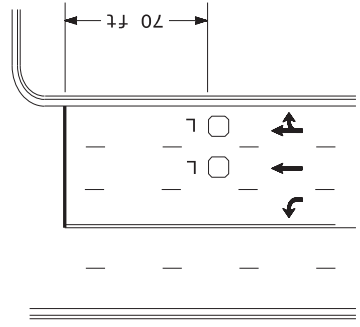


**High Speed Detection (>=40 mph)**

Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

**Low Speed Detection (<=35 mph)**

L = 6ft X 6ft  
Wired in series  
L = 6ft X 40ft  
Quadrupole loop, wired separately



**Recommended Number of Turns**

Single 6' X 6' Loop  
(when wired separately):  
 Length of  
ft  
Number  
of Turns

> 525	6
375-525	5
250-375	4
< 250	3

Lead-in < 150', use 2 turns  
Lead-in > 150', use 3 turns  
6' X 15' Loops:  
 Quadrupole loops: Use 2-4-2 turns  
 Single 6' X 6' Loops: Use 2-4-2 turns

Length of	ft	Number
> 525		6
375-525		5
250-375		4
< 250		3

**Typical Signal Loop Locations**

Prepared in the Office of:  
 NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAY DESIGN AND CONSTRUCTION  
 TRANSPORTATION ENGINEERING SECTION  
 750 N. GERRARD PHYSICIAN, NC 27529

SCALE: N/A

PLANNING: [Signature]  
 DESIGN: [Signature]  
 CHECKED: [Signature]  
 DATE: 1/30/2015

REVISIONS:  
 REVISIONS BY: [Signature]  
 DATE: [Signature]  
 REVISIONS BY: [Signature]  
 DATE: [Signature]  
 REVISIONS BY: [Signature]  
 DATE: [Signature]

PLAN DATE: January 2015  
 PROJECT NO.: [Signature]  
 SHEET NO.: [Signature]

SEAL: [Signature]  
 PROJECT NO.: [Signature]  
 SHEET NO.: [Signature]