





PROJECT NO.	SHEET NO.	TOTAL NO.
2CR.10741.4	3	

## SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	SHOULDER RECONSTRUCTION SMI	2.5" MILLING SY	INTERMEDIATE COURSE, 119.0C TONS	SURFACE COURSE, S9.5C TONS	PATCHING EXIST. PAVMENT (FULL DEPTH) TONS	PG 64-22 PLANT MIX TONS	PG 70-22 PLANT MIX TONS	MANHOLES EA	METER OR VALVE BOX EA	SEED & MULCHING AC	INDUCTIVE LOOP SAWCUT LF
2CR.10741.4	Pitt	1	NC 11	NC 11 FROM GREENVILLE BLVD TO OLD NC 11	1	2.1	70		95,000	15,000	9,633	300	705	578	1	1		5,500.00
		2	NC 11	NC 11 FROM OLD HWY 11 TO NC 903	2	1	60	4			7,309			439			2	1,100.00
<b>TOTAL FOR PROJ NO. 2CR.10741.4</b>						<b>3.1</b>		<b>4</b>	<b>95,000</b>	<b>15,000</b>	<b>16,942</b>	<b>300</b>	<b>705</b>	<b>1,017</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>6,600.00</b>
<b>GRAND TOTAL</b>						<b>3.1</b>		<b>4</b>	<b>95,000</b>	<b>15,000</b>	<b>16,942</b>	<b>300</b>	<b>705</b>	<b>1,017</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>6,600.00</b>

PROJECT NO.	SHEET NO.	TOTAL NO.
2CR.10741.4	4	

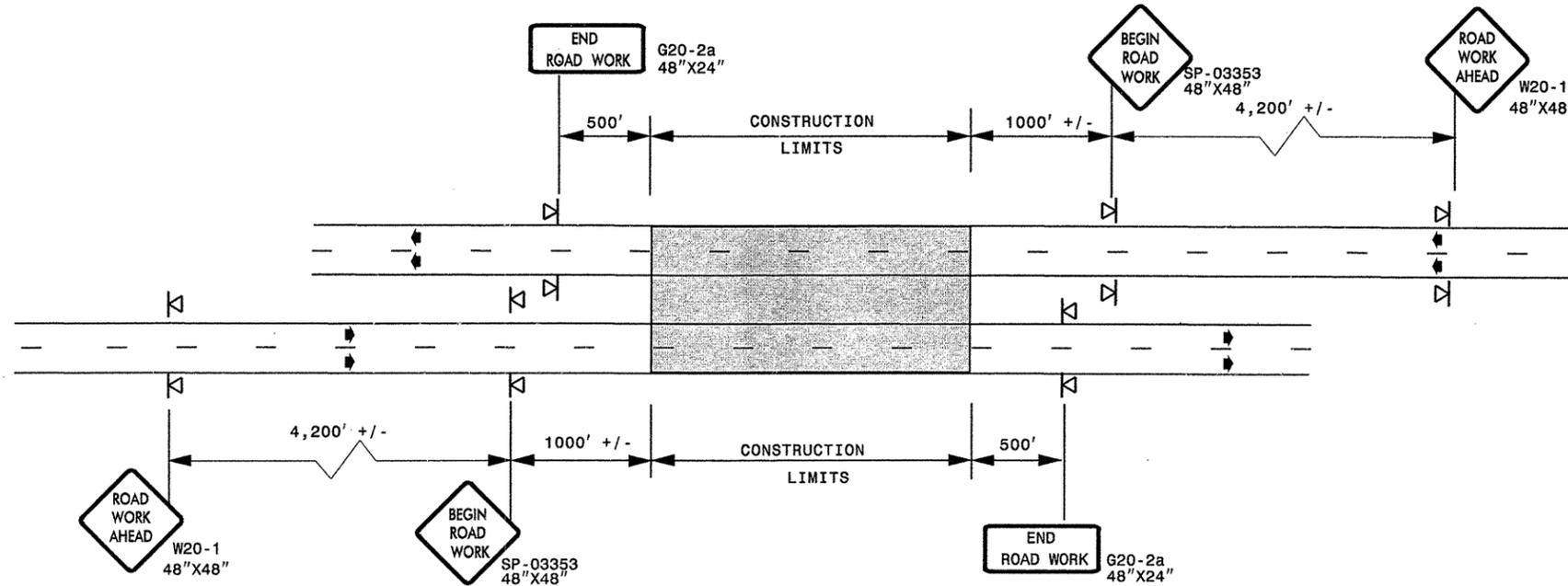
## THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4415000000-N	4420000000-N	4480000000-N	4685000000-E		4686000000-E	4697000000-E	4710000000-E	4721000000-E	4725000000-E			4810000000-E	4835000000-E				
					FAP	TMIA	CMS	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	8" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	THERMO MSG ONLY 120 M	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO STR & LT ARROW 90 M	4" WHITE PAINT	24" WHITE PAINT		
EA.	EA.	EA.	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA				
2CR.10741.4	Pitt	1	NC 11	NC 11 FROM GREENVILLE BLVD TO OLD NC 11	1	1	1	23,300		11,000	500	1,000	8	44	75	22	18	2	11,000	1,000		
		2	NC 11	NC 11 FROM OLD HWY 11 TO NC 903	*	*	*	11,100	11,100	3,000		300		14	20	12						
<b>TOTAL FOR PROJ NO. 2CR.10741.4</b>					1	1	1	34,400	11,100	14,000	500	1,300	8	58	95	34	18	2	11,000	1,000		
									45,500											207		
<b>GRAND TOTAL</b>									34,400	11,100	14,000	500	1,300	8	58	95	34	18	2	11,000	1,000	
									45,500											207		

\* NOTE: FAP, TMIA AND CMS MAY BE USED ON EITHER MAP 1 OR MAP 2.

**ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)**

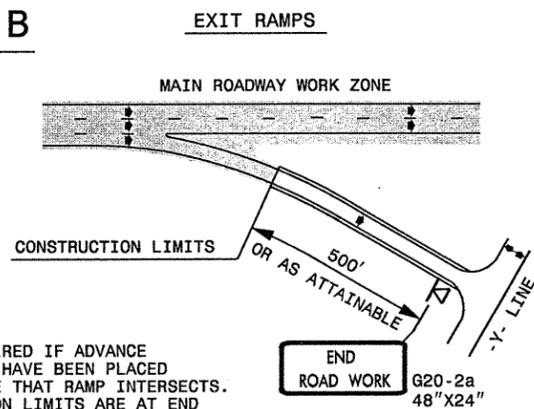
**DETAIL A**



STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

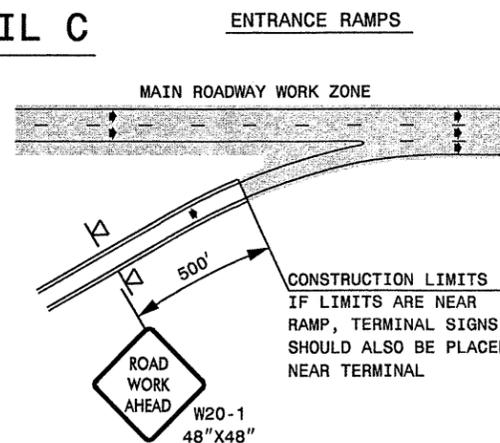
**ROADWAYS INTERSECTING ALONG FREEWAY WORK ZONE (Y-LINES)**

**DETAIL B**



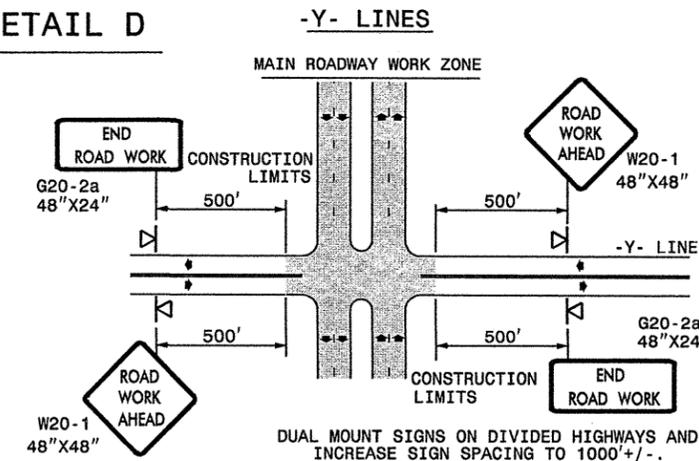
NOTE:  
SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

**DETAIL C**



CONSTRUCTION LIMITS IF LIMITS ARE NEAR RAMP, TERMINAL SIGNS SHOULD ALSO BE PLACED NEAR TERMINAL

**DETAIL D**



DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000' +/-.

**GENERAL NOTES**

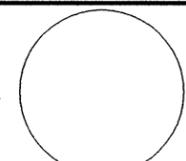
- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- \*\* TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

**LEGEND**

◀ PORTABLE SIGN

➡ DIRECTION OF TRAFFIC FLOW

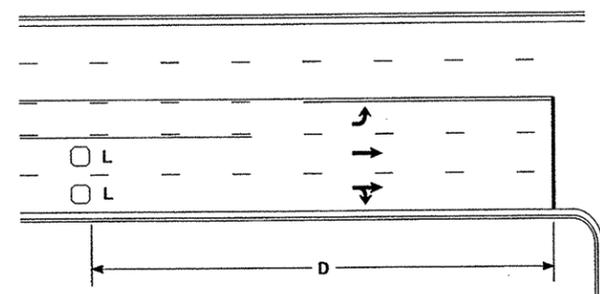
**DETAIL DRAWING  
FOR FREEWAYS  
WORK ZONE WARNING SIGNS  
(SHORT-DURATION LANE CLOSURES)**

APPROVED: _____ DATE: _____	<b>DETAIL DRAWING FOR FREEWAYS WORK ZONE WARNING SIGNS</b>	
SEAL 	SCALE: NONE	REVISIONS
	DATE: 7-98	10/01
	DWG. BY: _____	10-98 03/04
	DESIGN BY: _____	01/01 11/04
REVIEWED BY: _____		<small>CADD FILE</small>

23-AUG-2006 18:23 \\DOT\DF\SR00101\GRC\JPS-WZTCC\design\group4\common\special\projects\resurfacing2006\div02\2cr107414\freeway4lanesgreat\July2006.dgn pseymore AT WZTCC



### High Speed Detection [≥40 mph (64 km/hr)]

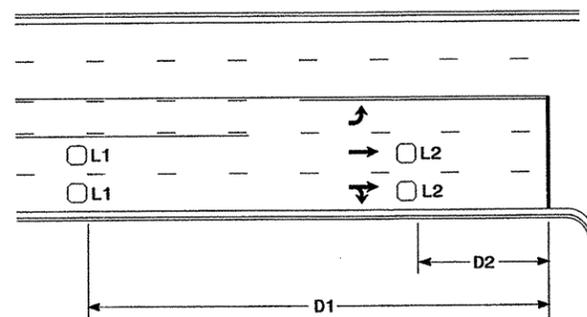


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series for TS1  
Controllers  
Wired separately for TS2,  
170, and 2070L Controllers

Volume Density Operation

OR

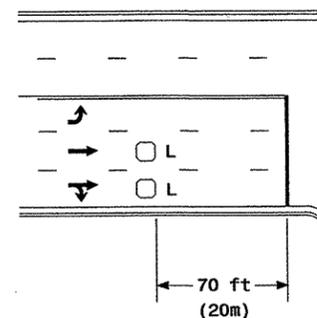


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series  
L2 = 6ft X 6ft  
(1.8m X 1.8m)  
Wired in series

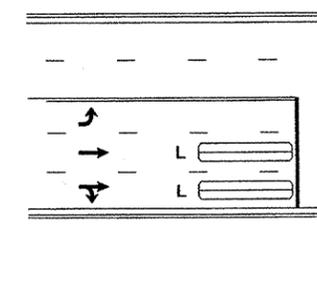
"Stretch" Operation

### Low Speed Detection [≤35 mph (56 km/hr)]



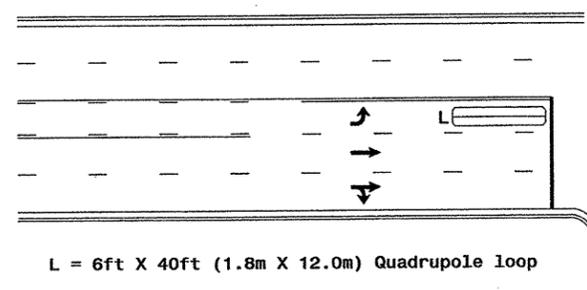
L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)  
Quadrupole loop, wired separately

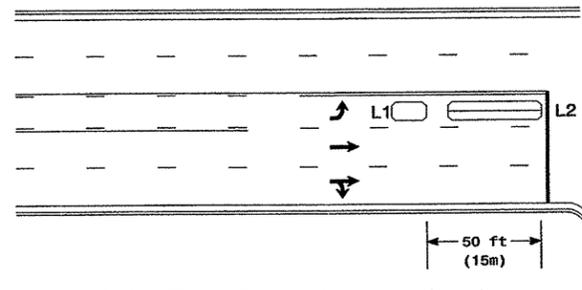
### Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole Loop

Presence Loop Detection

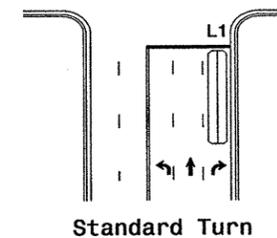
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector  
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole Loop

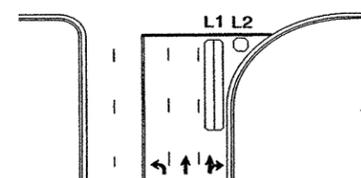
Queue Loop Detection

### Right Turn Lane Detection

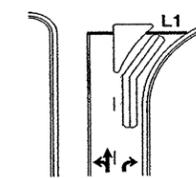


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop  
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop  
Wired separately  
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop  
Wired in series

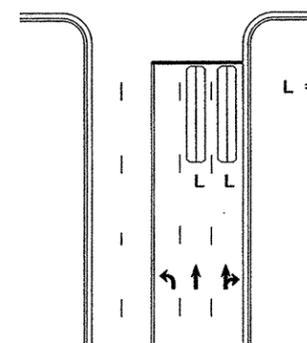


Wide Radius Turn



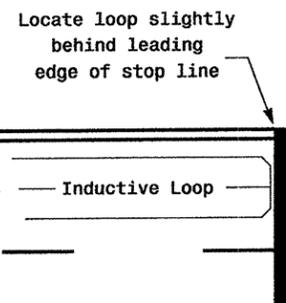
Channelized Turn

### Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)  
Quadrupole loop  
Wired to separate  
detectors/channels

### Presence Loop Placement at Stop Lines



Note:  
Loop may be located in advance  
of stop line when stop line is  
greater than 15' (4.5m) from edge  
of intersecting roadway; or, when  
loop detects a permissive or  
protected/permissive left turn.

### Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)  
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns  
6' X 15' (1.8m X 4.6m) Loops:  
Lead-in < 150' (45 m), use 2 turns  
Lead-in > 150' (45 m), use 3 turns

	<p>Typical Loop Locations</p>		
	<p>PLAN DATE: June 2006</p>	<p>REVIEWED BY:</p>	
<p>PREPARED BY: P. L. Alexander</p>	<p>REVIEWED BY:</p>	<p>REVISIONS</p>	<p>INIT. DATE</p>
<p>SIGNATURE</p>	<p>DATE</p>	<p>SIG. INVENTORY NO.</p>	<p>DATE</p>