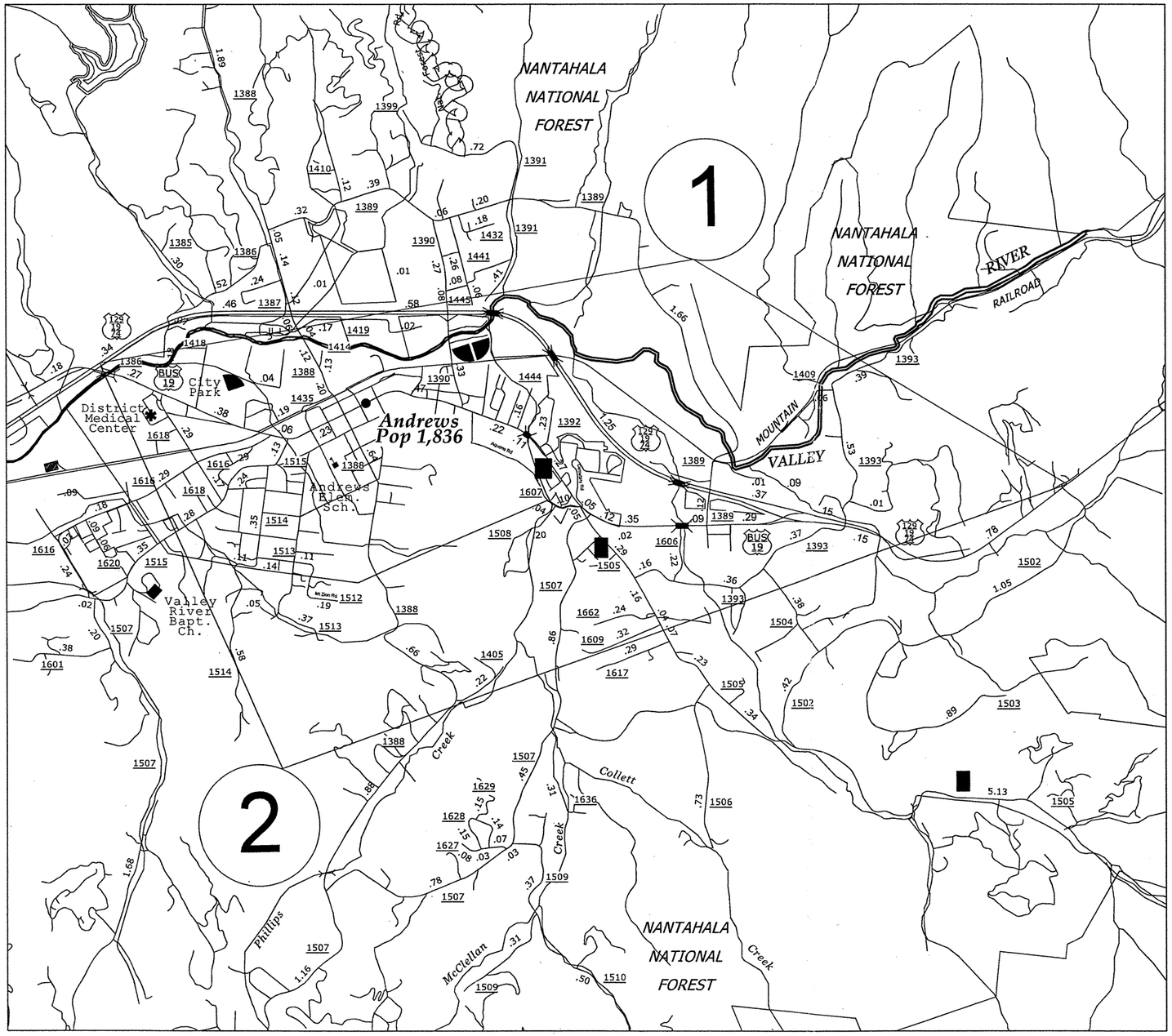
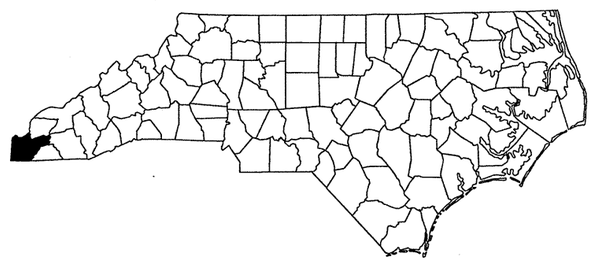
0501197

CONTRACT RESURFACING
CHEROKEE COUNTY

PROJECT REFERENCE NO.		SHEET NO.
14CR.10201.5		1
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.5		



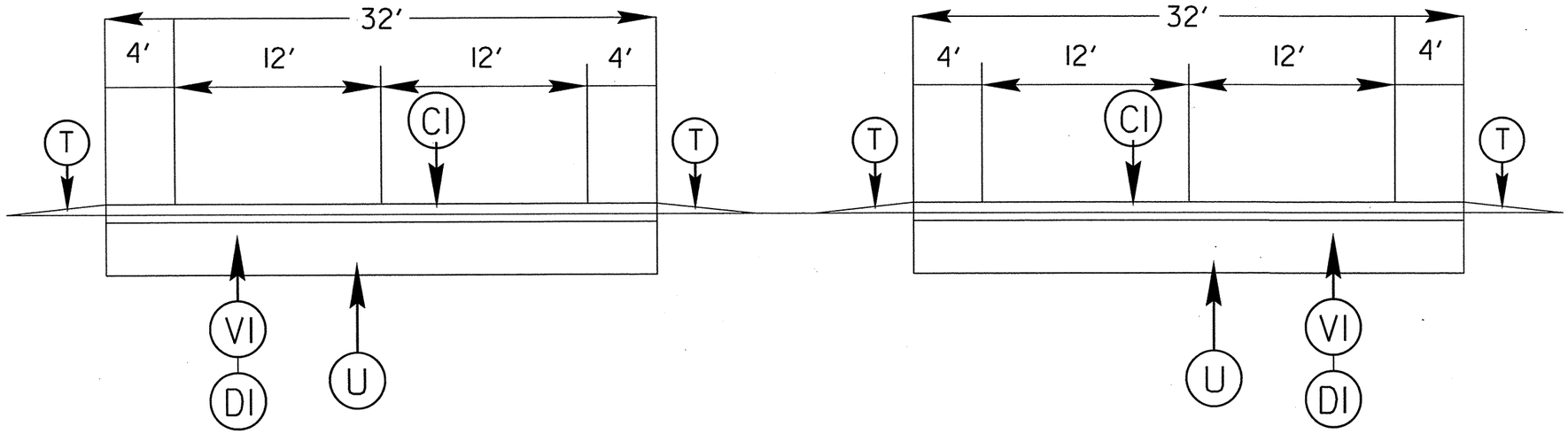


$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

050197

PROJECT REFERENCE NO.		SHEET NO.
14CR.10201.5		2
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.5		

TYPICAL 1
US 19 /74 /129



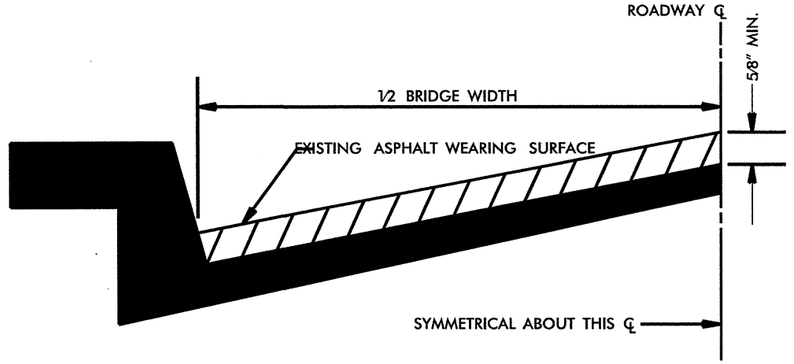
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

050197

PROJECT REFERENCE NO.		SHEET NO.
14CR.10201.5		3
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.5		

SURFACING SCHEDULE

ITEM NO	DESCRIPTION
C1	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. (1 1/2")
D1	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. (2 1/2")
V1	MILLING ASPHALT PAVEMENT 2 1/2" IN DEPTH.
T	SHOULDER RECONSTRUCTION SEE PROJECT SPECIAL PROVISIONS
U	EXISTING PAVEMENT



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXCERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SOAS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

ALL PAVED S.R. ROADS TO BE RESURFACED TO THE ENDS OF THE RADII, OR AS DIRECTED BY THE ENGINEER.
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.
BRIDGES TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT NO.	SHEET NO.	TOTAL NO.
14CR.10201.5	4	

SUMMARY OF QUANTITIES

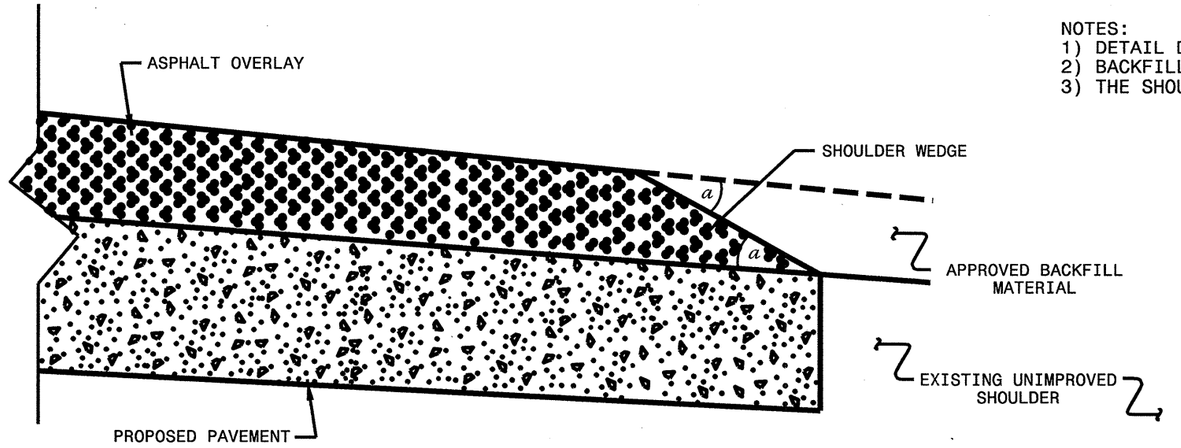
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	SHOULDER RECONSTRUCTION SMI	2 1/2" MILLING SY	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	ASPHALT BINDER FOR PLANT MIX TONS	INDUCTIVE LOOP LF
14CR.10201.5	Cherokee	1	US 19,129.74 WEST	FROM PAVEMENT CHANGE AT SR-1393 TO US 19 BUS	1	YES	NO	3.3	32	6.80	61,952	9,508	5,642	795	250
		2	US 19,129,74 EAST	FROM PAVEMENT CHANGE AT SR-1393 TO US 19 BUS	1	YES	NO	3.3	32	6.80	61,952	9,508	5,642	795	250
		"	CROSSOVER	CROSSOVER	"	NO	NO	0.2	32		2,500	395	543	52	
TOTAL FOR PROJ NO. 14CR.10201.5								**6.8**		**13.60**	**126,404**	**19,411**	**11,827**	**1,642**	**500**
GRAND TOTAL								**6.8**		**13.60**	**126,404**	**19,411**	**11,827**	**1,642**	**500**

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4399000000-N	4685000000-E		4686000000-E	4695000000-E		4710000000-E	4725000000-E				4810000000-E		4835000000-E	4845000000-N		4905000000-N
							TEMPORARY TRAFFIC CONTROL LS	4" X 90 M WHITE THERMO LF	4" X 90 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	8" X 90 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	MERGE ARROW EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	24" WHITE PAINT LF	PAINT LT ARROW EA	PAINT RT ARROW EA	SNOW PLOWABLE MARKERS EA
14CR.10201.5	Cherokee	1	US 19,129.74 WEST	FROM PAVEMENT CHANGE AT SR-1393 TO US 19 BUS	3.3	32	1	18,084	17,424	4,688	300	300	225	12	13	4		23,120	17,952	225	12	13	250
		2	US 19,129,74 EAST	FROM PAVEMENT CHANGE AT SR-1393 TO US 19 BUS	3.3	32		18,632	17,952	4,688		600	305	13	12	4	5	23,120	17,952	225	13	12	250
		3	CROSSOVER	CROSSOVER	0.2	50								25	25	8	5	46,240	35,904	450	25	25	500
TOTAL FOR PROJ NO. 14CR.10201.5					**6.8**		**1**	**36,716**	**35,376**	**9,376**	**300**	**900**	**530**	**63**				**82,144**			**50**		
								72,092			**1,200**												
					6.8		**1**	**36,716**	**35,376**	**9,376**	**300**	**900**	**530**	**25**	**25**	**8**	**5**	**46,240**	**35,904**	**450**	**25**	**25**	**500**
GRAND TOTAL								**72,092**			**1,200**			**63**				**82,144**			**50**		

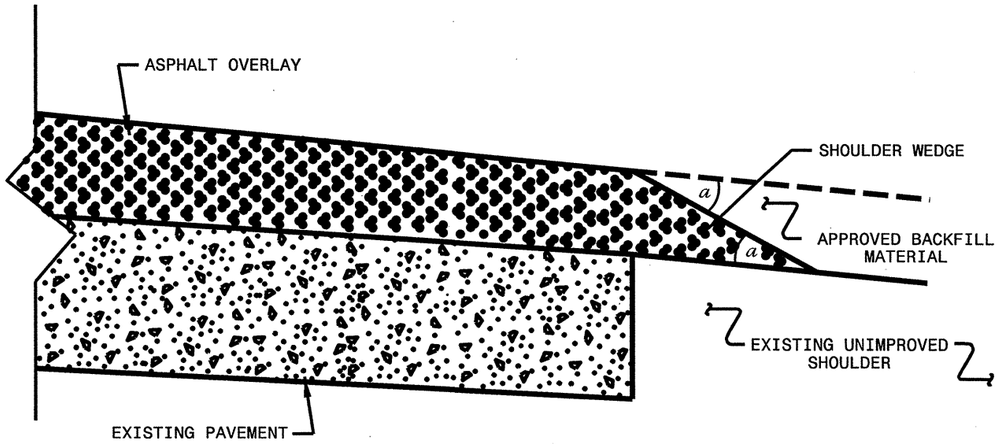
PROJECT REFERENCE NO.	SHEET NO.
14CR.10201.5	5

NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



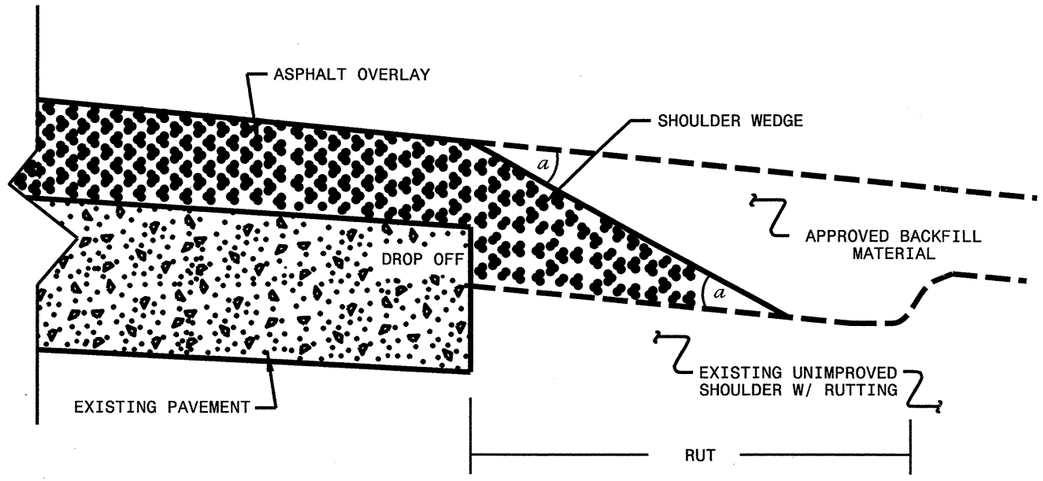
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

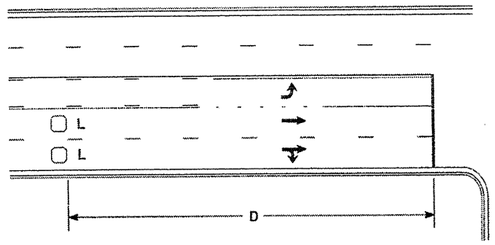
SHOULDER WEDGE DETAILS

ORIGINAL BY:	T.SPELL	DATE:	7-19-11
MODIFIED BY:		DATE:	10/16/12
CHECKED BY:		DATE:	
FILE SPEC. :	s:\usr\details\stand\shoulderwedgedetail.dgn		

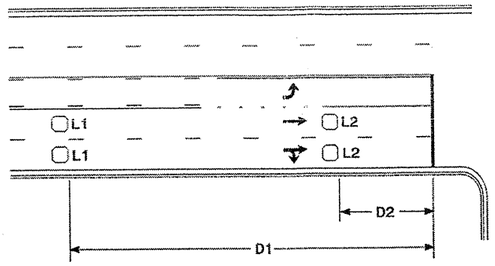
$$$$SYSTIME$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
14CR.10201.5	SIG 1

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



OR



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

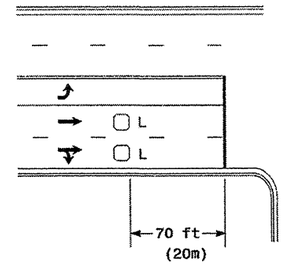
Speed Limit mph (km/hr)		D1 ft	(m)	D2 ft	(m)
40	(64)	250	(75)	80	(25)
45	(72)	300	(90)	90	(27)
50	(80)	355	(110)	100	(30)
55	(88)	420	(130)	110	(35)

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

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

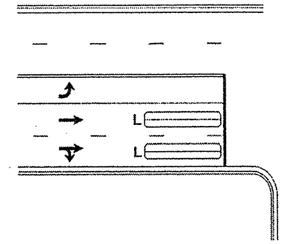
"Stretch" Operation

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



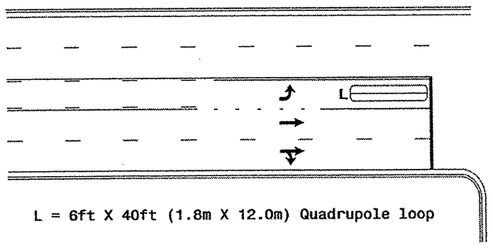
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

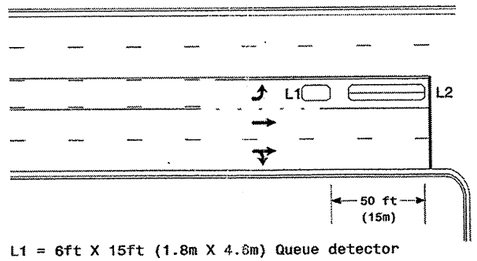
Left Turn Lane Detection



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

Presence Loop Detection

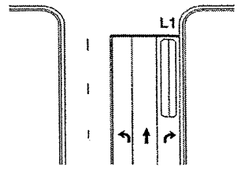
OR



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

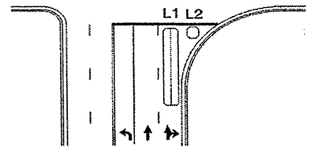
Queue Loop Detection

Right Turn Lane Detection

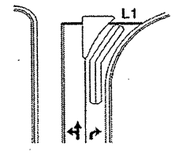


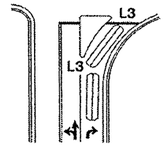
Standard Turn

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



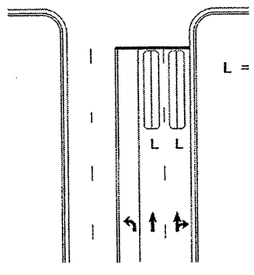
Wide Radius Turn





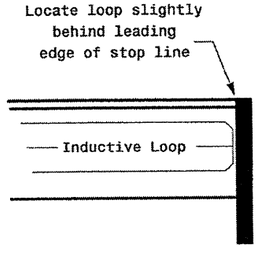
Channelized Turn

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

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
Division of Highways
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering and Safety Systems Branch
1723 N. McDonald St., Raleigh, NC 27603

Typical Loop Locations

PLAN DATE:	June 2006	REVIEWED BY:	
PREPARED BY:	P L Alexander	REVIEWED BY:	

REVISIONS	INIT.	DATE
Revise pavement markings	JD	12/19/06

SCALE: N/A

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33488 PAMELA LYNN ALEXANDER

SIGNATURE DATE: 06/06

SIG. INVENTORY NO.

19-DEC-2006 14:29
G:\Traffic\Projects\Signals\14cr10201\left turn inmaster\ncdot\typical\2006.dgn
palexander