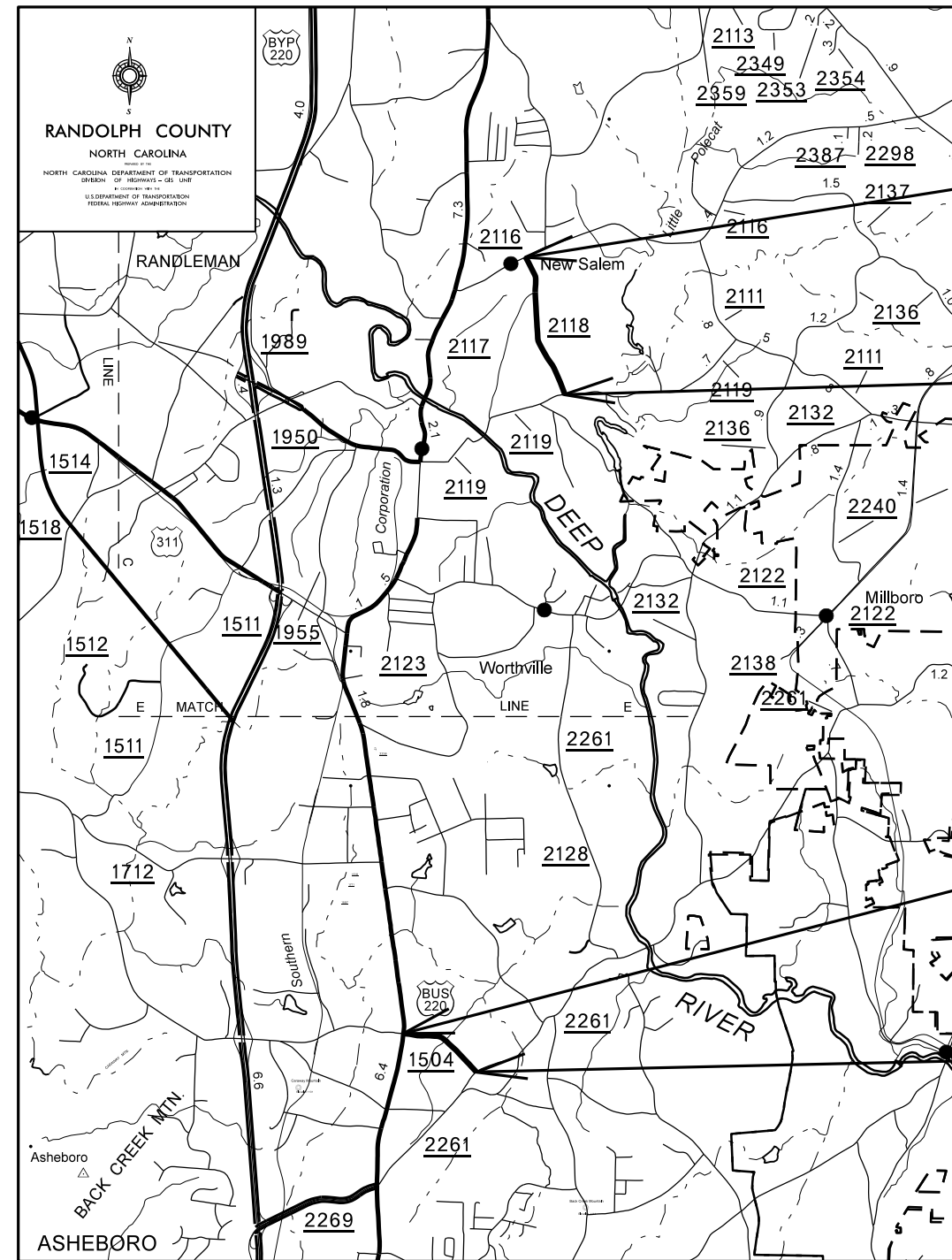
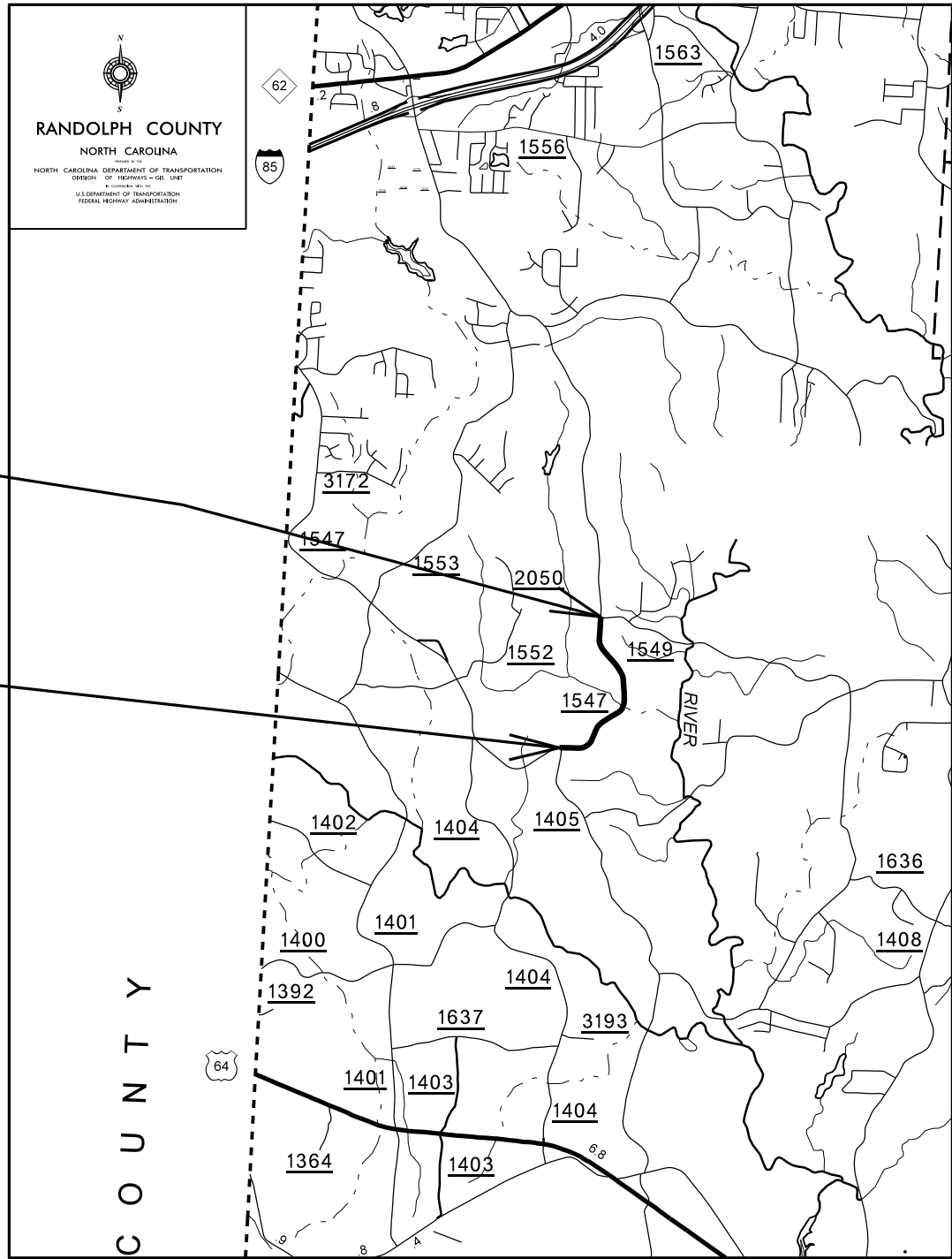


RANDOLPH COUNTY

SECONDARY RESURFACING MAP

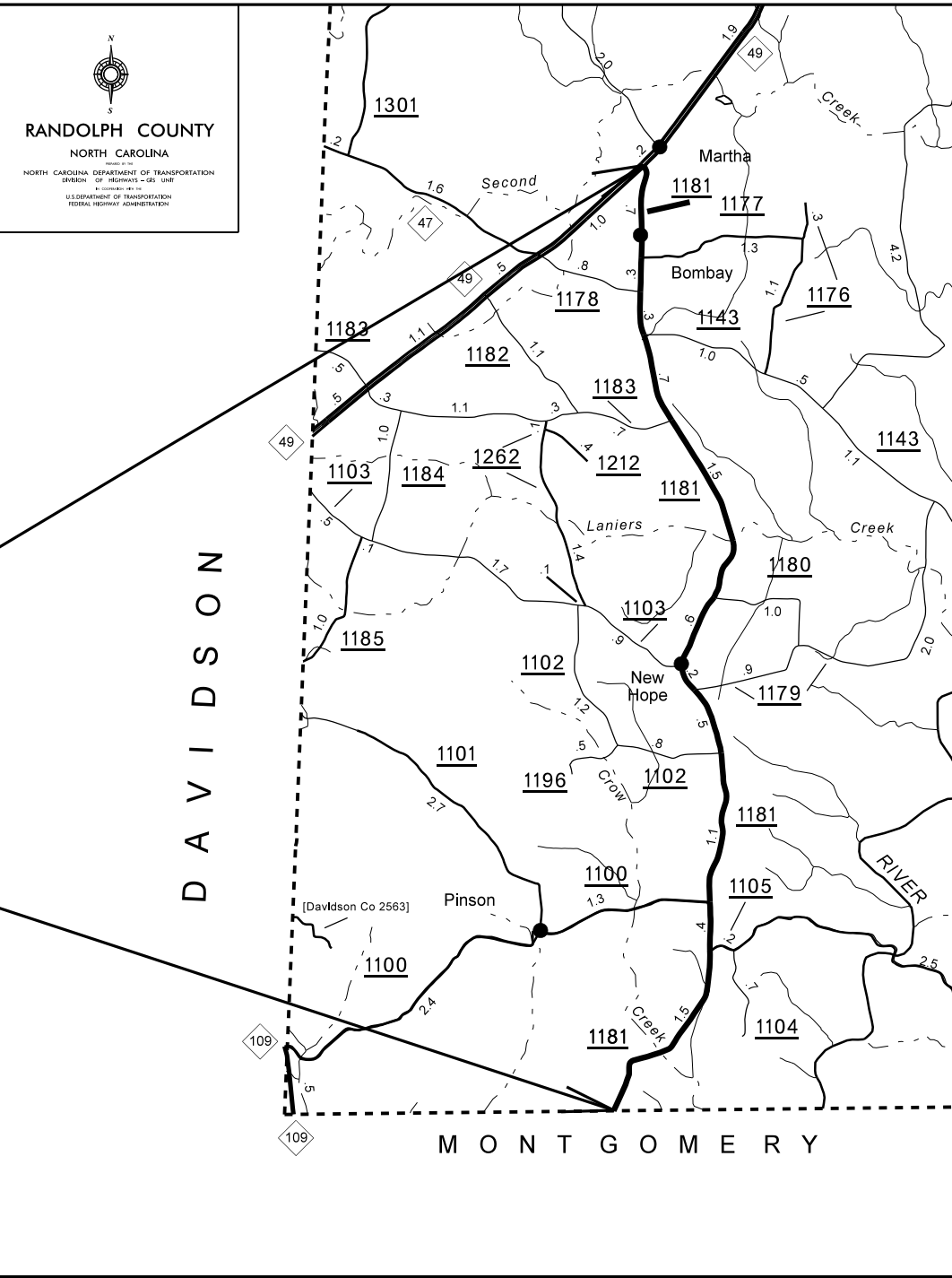


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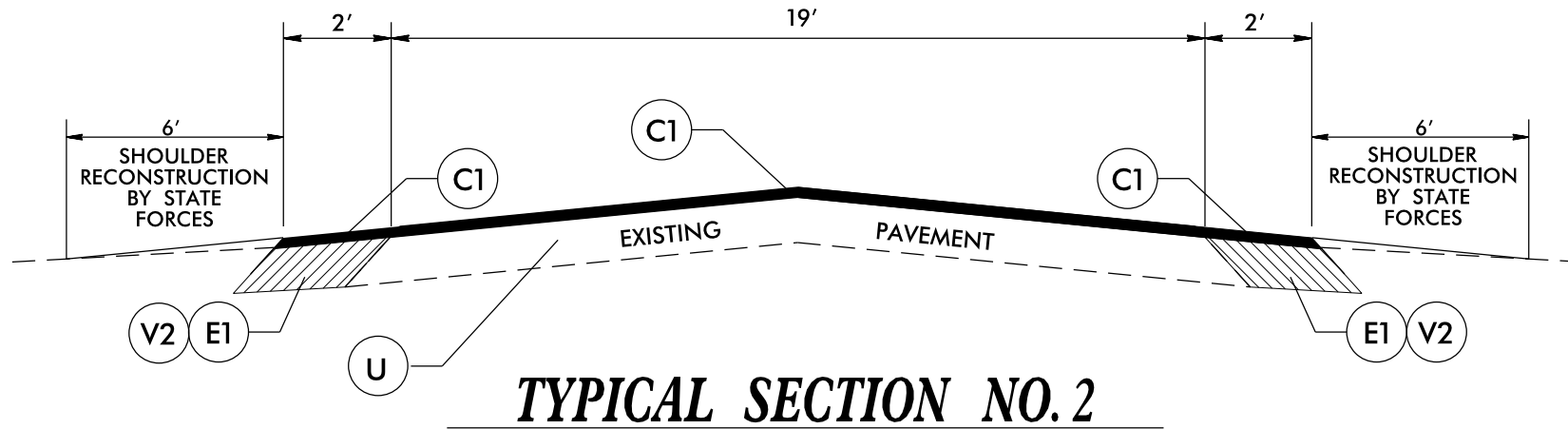
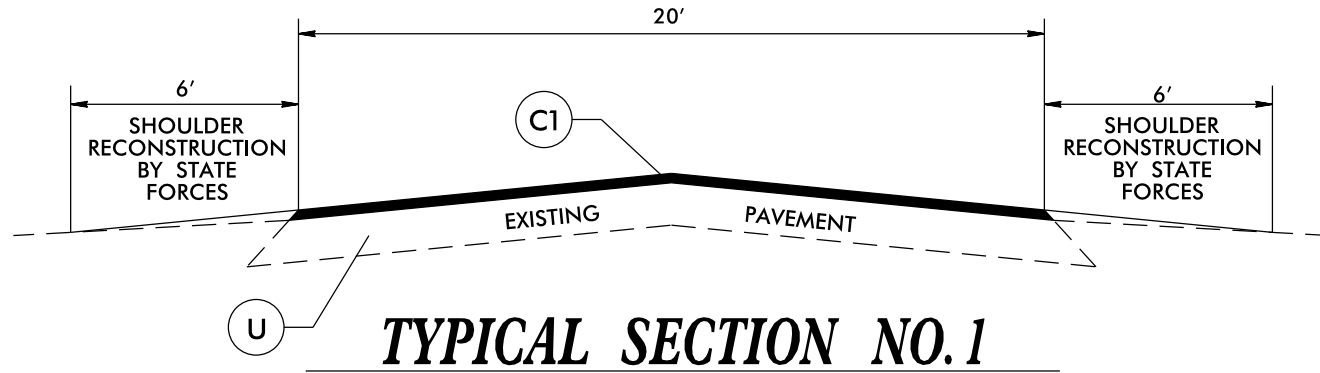
2

1

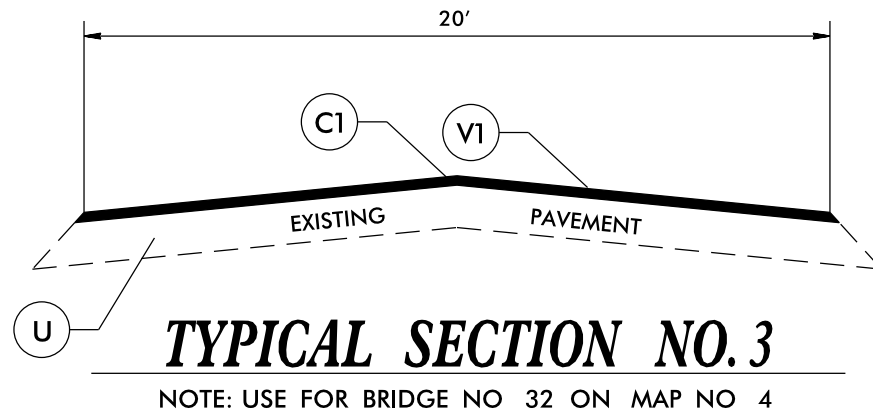
C:\Users\jg2021\OneDrive\Documents\Randolph\June2021\Map_Typ.dgn



4



NOTE: 2' WIDENING RIGHT SHOULDER ONLY FROM SR 1102 CHARLES MOUNTAIN RD. TO NC 49
 2' WIDENING LEFT & RIGHT SHOULDERS FROM SR 1102 CHARLES MOUNTAIN RD. TO MONTGOMERY COUNTY LINE.

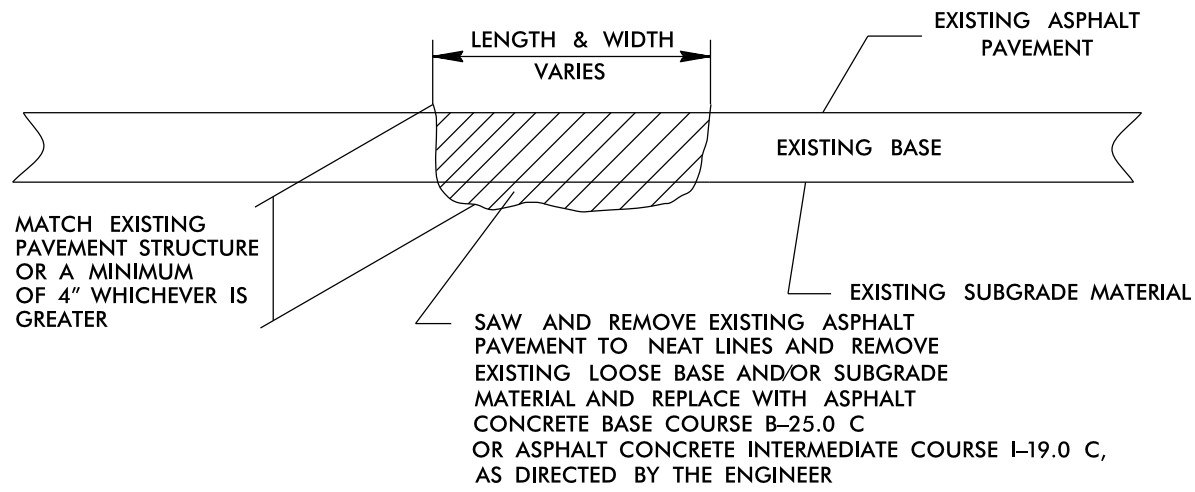


C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V1	1.5" MILLING
V2	TRENCHING FOR BASE COURSE (SEE S.P.)

NOTE: STATE FORCES WILL BE HANDLING ALL SHOULDER WORK.

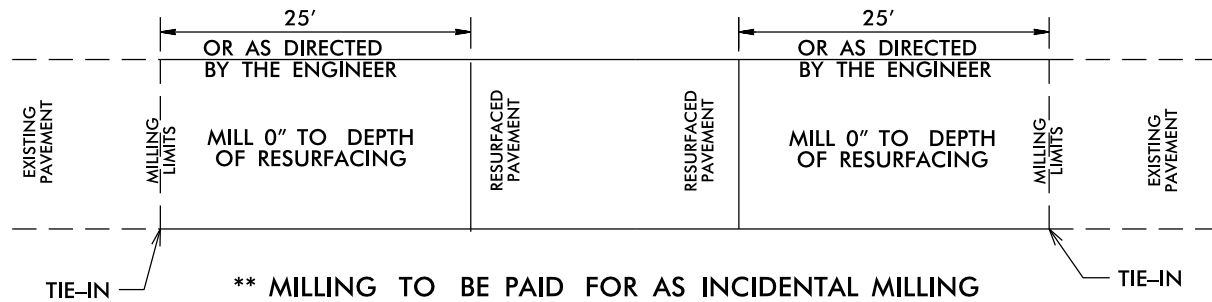
DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING

DETAIL

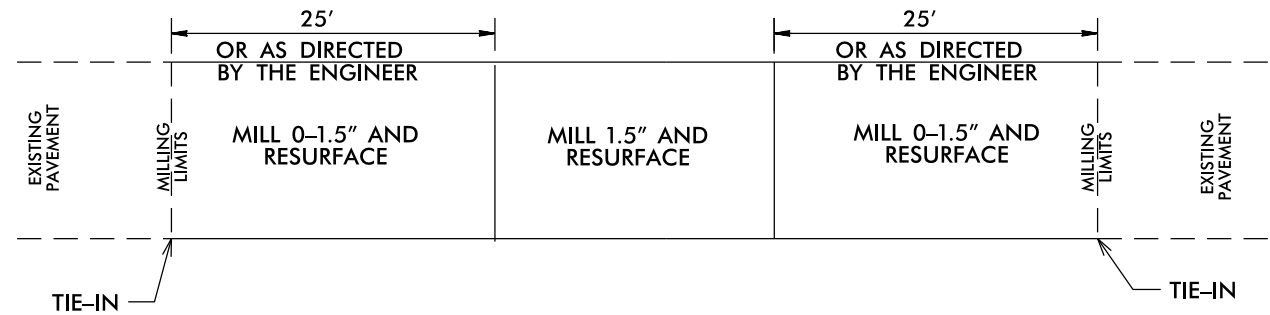


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.
V1	1.5" MILLING
V2	TRENCHING FOR BASE COURSE (SEE S.P.)

NOTE: STATE FORCES WILL BE HANDLING ALL SHOULDER WORK.



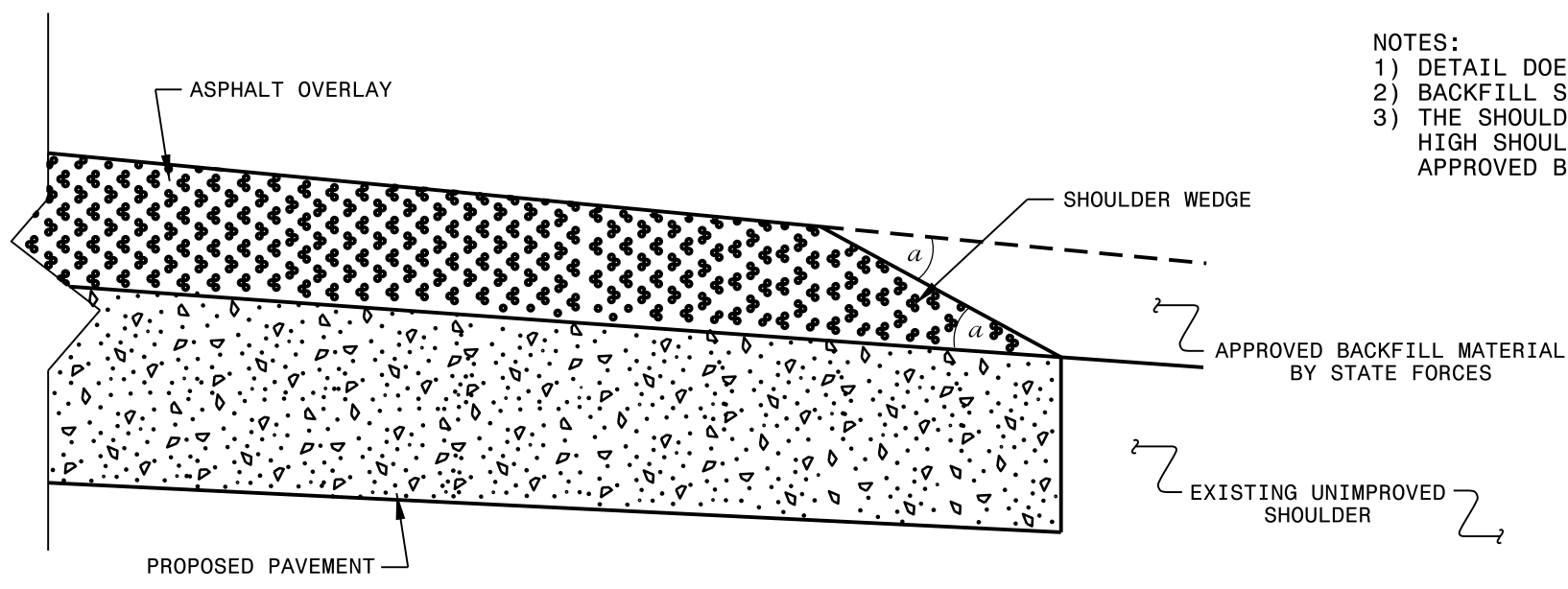
PAVEMENT TIE-IN DETAIL



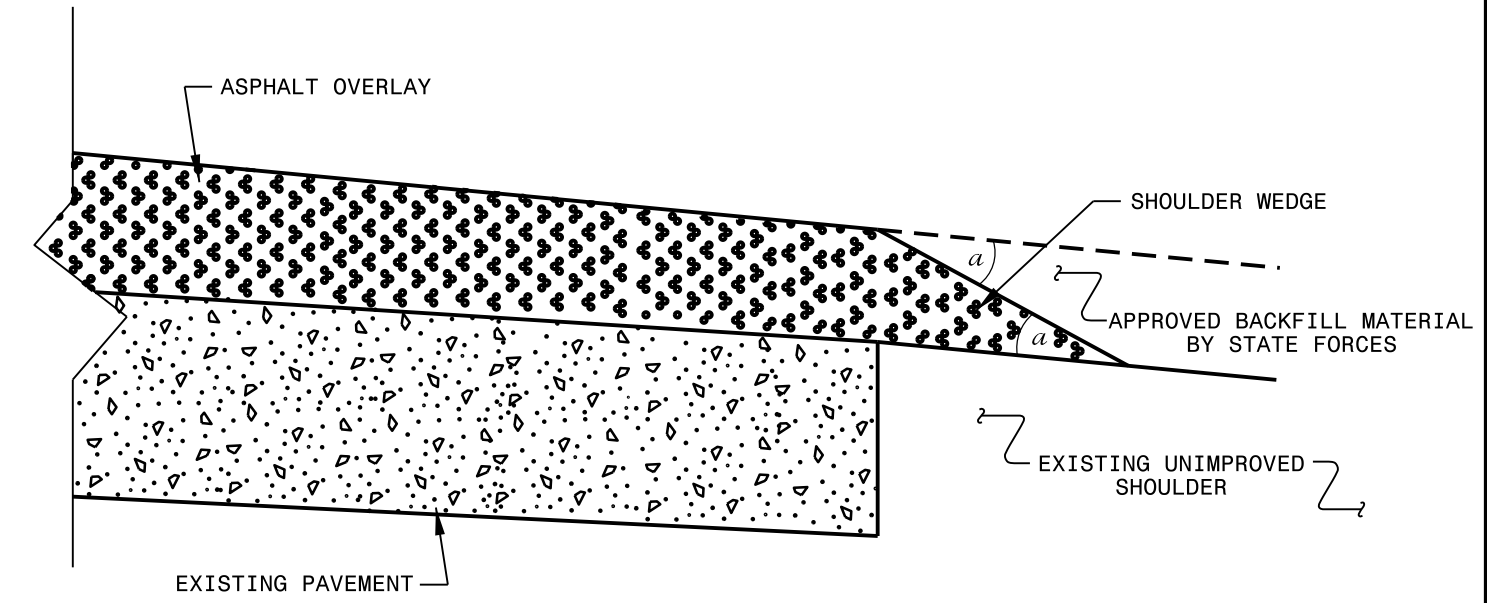
** MILLING FOR APPROACHES TO BE PAID FOR AS INCIDENTAL MILLING

**BRIDGE DRAWING FOR
MAP NO 4 SR 1181 NEW HOPE ROAD
(BRIDGE NO 32)**

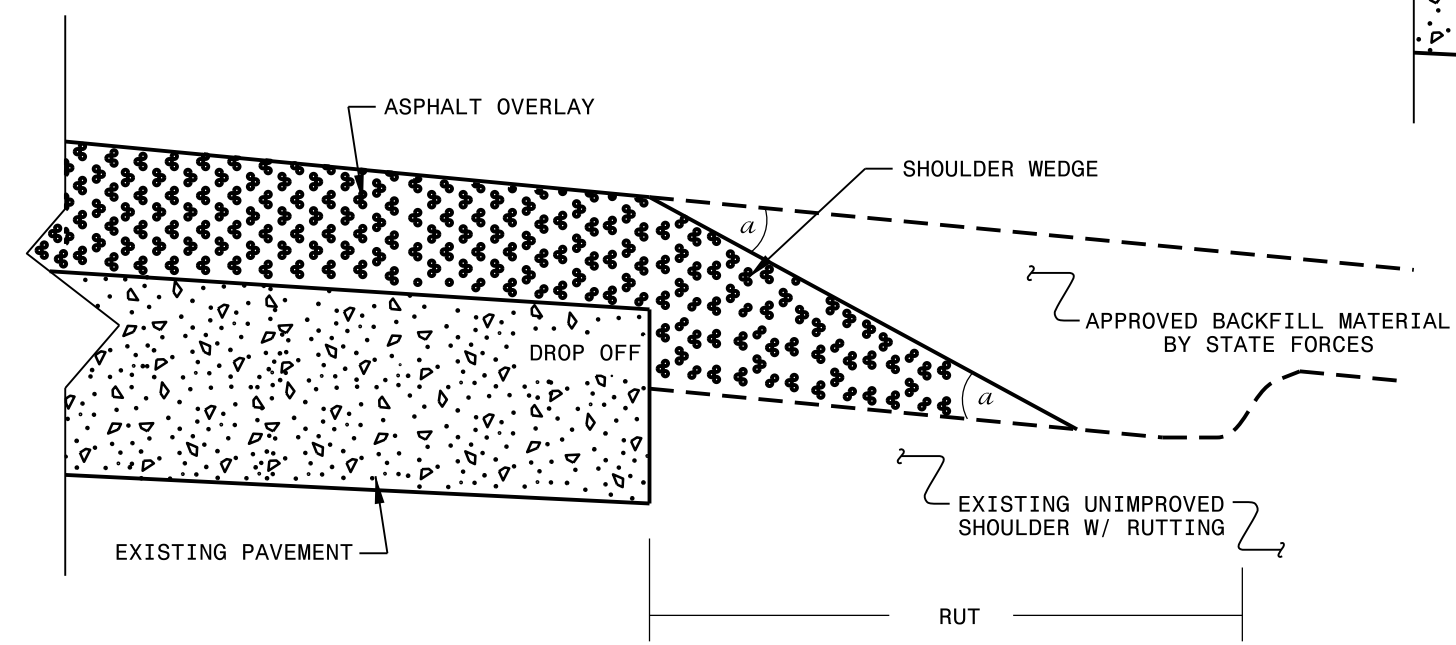
- NOTES:
 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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\shoulderwedge\detail.dgn

\$\$\$\$\$SYTIME\$\$\$\$\$
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PROJECT NO.	SHEET NO.	TOTAL NO.
2021CPT.08.14.20761	7	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	1297000000-E	1330000000-E	1491000000-E	1519000000-E	1575000000-E	1704000000-E	2830000000-N	2845000000-N	7444000000-E	7456000000-E	
												1.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	SURFACE COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJUST MANHOLES	ADJUST METER OR VALVE BOX	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2 PAIR)	
												MI	FT	SY	SY	TONS	TONS	TONS	TONS	EA	EA	LF
2021CPT.08.14.20761	Randolph	1	SR 1504 E. CENTRAL AVE.	(FROM: US 220 BUS TO: SR 2163 OLD LIBERTY RD.)	1	2	2WU	NO	NO	0.66	20		1,560		891	60	40	2	1	300	300	
TOTAL FOR MAP NO. 1											0.66		1,560		891	60	40	2	1	300	300	
2021CPT.08.14.20761	Randolph	2	SR 2118 BROWN OAKS RD.	(FROM: SR 2119 NAOMI RD. TO: SR 2116 NEW SALEM RD.)	1	2	2WU	NO	NO	1.11	20		520		1,203	81	200					
TOTAL FOR MAP NO. 2											1.11		520		1,203	81	200					
2021CPT.08.14.20761	Randolph	3	SR 1547 FINCH FARM RD.	(FROM: PAVEMENT JOINT PAST SR-1405 TABERNACLE CHURCH RD. TO: PAVEMENT JOINT PAST SR 1549 THAYER RD.)	1	2	2WU	NO	NO	1.37	20		390		1,350	90	100					
TOTAL FOR MAP NO. 3											1.37		390		1,350	90	100					
2021CPT.08.14.20761	Randolph	4	SR 1181 NEW HOPE RD.	(FROM: NC-49 S TO: MONTGOMERY COUNTY LINE)	2,3	2	2WU	NO	NO	7.7	19	120	1,643	4,767	8,846	807	250					
TOTAL FOR MAP NO. 4											7.7		120	1,643	4,767	8,846	807	250				
TOTAL FOR PROJ NO. 2021CPT.08.14.20761											10.84		120	4,113	4,767	12,290	1,038	590	2	1	300	300
GRAND TOTAL											10.84		120	4,113	4,767	12,290	1,038	590	2	1	300	300

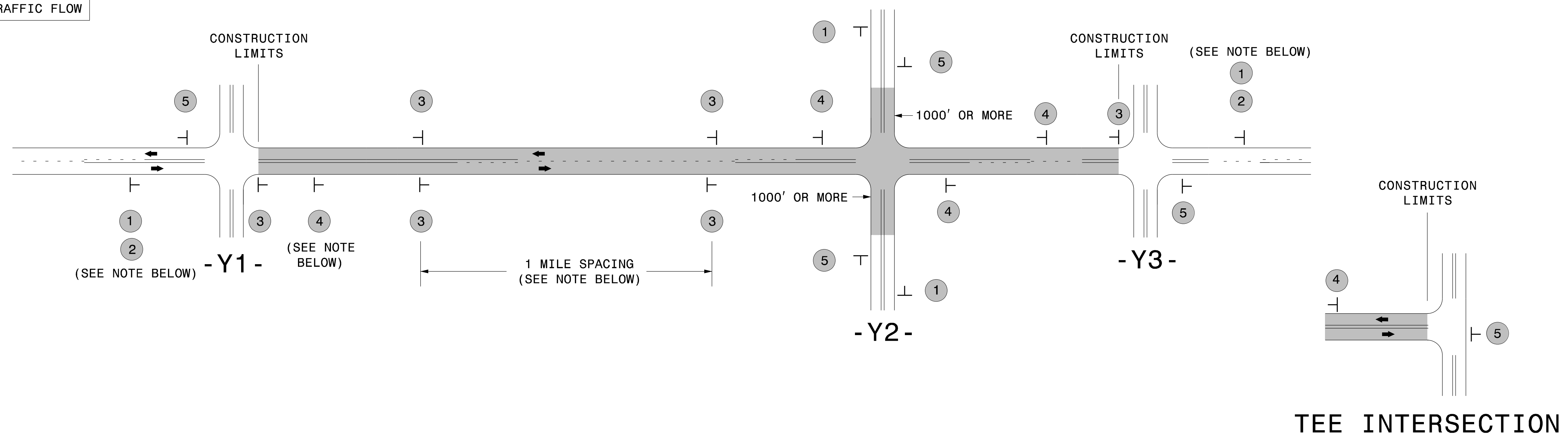
PROJECT NO.	SHEET NO.	TOTAL NO.
2021CPT.08.14.20761	8	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E WORK ZONE ADVANCE/GENERAL WARNING SIGNING	4457000000-N TEMPORARY TRAFFIC CONTROL	
								MI	FT	SF	LS	
2021CPT.08.14.20761	Randolph	1	SR 1504 E. CENTRAL AVE.	(FROM: US 220 BUS TO: SR 2163 OLD LIBERTY RD.)	1	2	2WU	0.66	20	74	*	
TOTAL FOR MAP NO. 1								0.66		74		
2021CPT.08.14.20761	Randolph	2	SR 2118 BROWN OAKS RD.	(FROM: SR 2119 NAOMI RD. TO: SR 2116 NEW SALEM RD.)	1	2	2WU	1.11	20	125		
TOTAL FOR MAP NO. 2								1.11		125		
2021CPT.08.14.20761	Randolph	3	SR 1547 FINCH FARM RD.	(FROM: PAVEMENT JOINT PAST SR-1405 TABERNACLE CHURCH RD. TO: PAVEMENT JOINT PAST SR 1549 THAYER RD.)	1	2	2WU	1.37	20	125		
TOTAL FOR MAP NO. 3								1.37		125		
2021CPT.08.14.20761	Randolph	4	SR 1181 NEW HOPE RD.	(FROM: NC-49 S TO: MONTGOMERY COUNTY LINE)	2,3	2	2WU	7.7	19	863		
TOTAL FOR MAP NO. 4								7.7		863		
TOTAL FOR PROJ NO. 2021CPT.08.14.20761								10.84		1,187		1
GRAND TOTAL								10.84		1,187		1

SIGNING FOR RESURFACING PROJECTS

LEGEND
 ┆ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

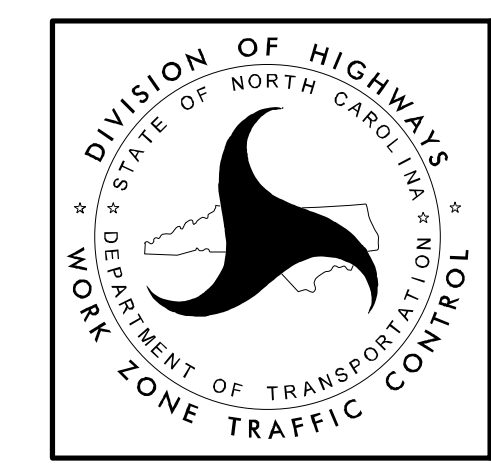
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	2		#2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	3		- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	4		- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. - DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. - INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. - FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. - A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.	

THE ABOVE SIGNS ARE ALL THAT ARE REQUIRED FOR A CONTRACTOR TO BEGIN A RESURFACING CONTRACT. ANY ADDITIONAL SIGNS REQUESTED BY NCDOT DIVISIONS SHALL BE INSTALLED WITHIN 7 BUSINESS DAYS OF THE START OF CONTRACT WORK.

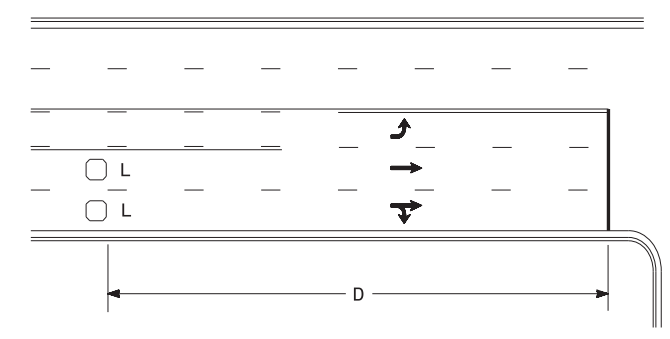
MAPS LESS THAN 2 MILES

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

High Speed Detection (≥40 mph)

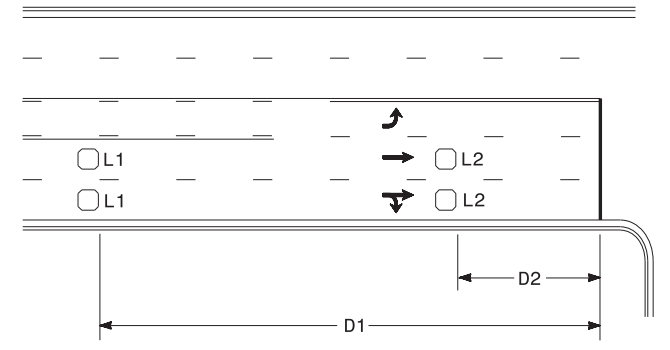


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



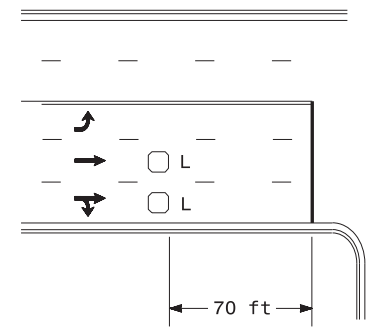
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

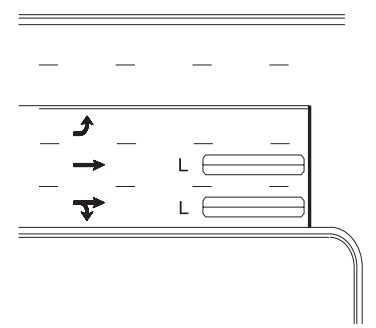
"Stretch" Operation

Low Speed Detection (≤35 mph)



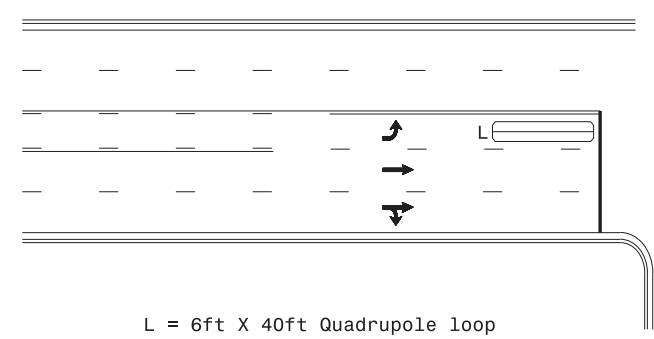
L = 6ft X 6ft
Wired in series

OR



L = 6ft X 40ft
Quadrupole loop, wired separately

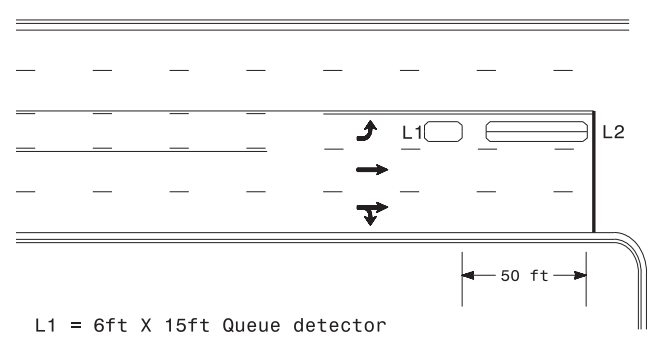
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

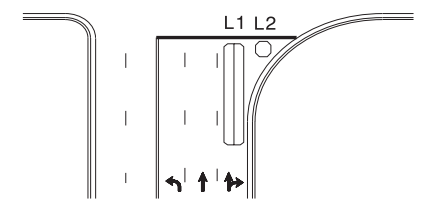
OR



L1 = 6ft X 15ft Queue detector
L2 = 6ft X 40ft Quadrupole loop

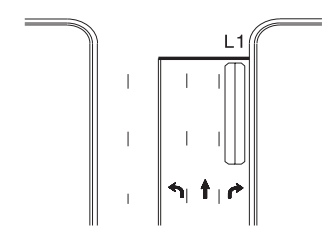
Queue Loop Detection

Right Turn Lane Detection

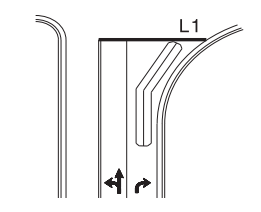


Shared Lane/
Wide Radius Turn

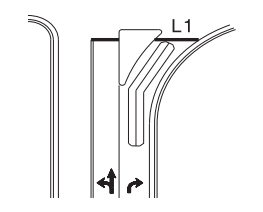
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

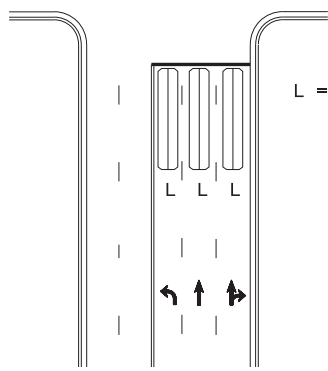


Wide Radius Turn



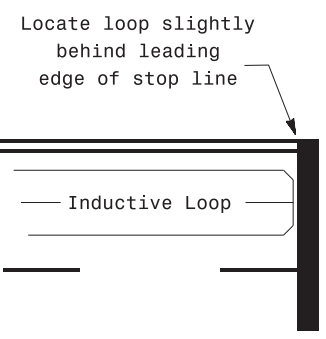
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines



Locate loop slightly
behind leading
edge of stop line

Note:
Loop may be located in advance
of stop line under any of the
following conditions:
1) stop line is greater than 15'
from edge of intersecting
roadway
2) loop detects a permissive or
protected/permissive left turn
3) for an exclusive right turn
lane

Recommended Number of Turns

Single 6' X 6' loop
(when wired separately):

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

Quadrupole loops: Use 2-4-2 turns

6' X 15' Loops:
Lead-in < 150', use 2 turns
Lead-in > 150', use 3 turns

Typical Signal Loop Locations

	PLAN DATE: September 2020	REVIEWED BY: JPG
	PREPARED BY: PLA	REVIEWED BY:
SCALE: N/A	REVISIONS:	INIT. DATE
		DATE: 9/8/2020

09-SEP-2020 11:54 S:\17545\17545\SIGNAL\Design\Section\Eastern_Regional\Loop_Type\cal\loop\typical\cal\2015.dgn JGallaway