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Lincoln County
2022CPT.12.04.2051

Map # 1
SR 1176
Launders Ch Rd

Map # 2
SR 1222
S Grove St Ext

Map # 3
SR 1222
Confederate Rd

Map # 4
SR 1252
Laboratory Rd

Map # 5
SR 1248
South Fork Rd

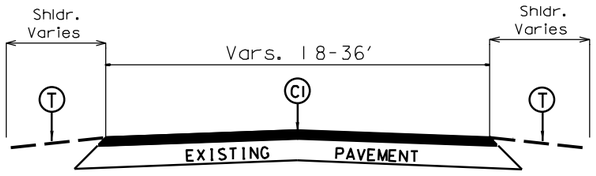
N

Lincoln County
2022CPT.12.04.2051

SR-1005
SR-1266
RMP-6366
SR-1522
SR-1824
SR-1748
SR-1267
SR-1333
SR-1265
SR-1405
US-321-BUS
Map # 6
SR 1287
Roper Dr
SR-1288
SR-1761
SR-1287
US-321
RMP-5207
RMP-5205
RMP-5204
SR-1286
NC-27
Map # 7
SR 1405
N Aspen St
SR-1008
SR-1419
SR-1959
LOC-900
SR-1262
SR-1406
SR-1294

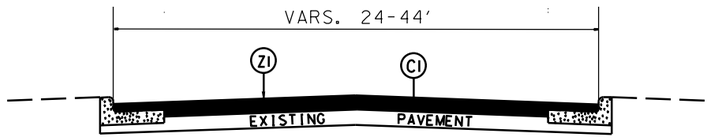
N

STATE	PROJECT WBS	SHEET NUMBER
NC	2022CPT.12.04.20551	4



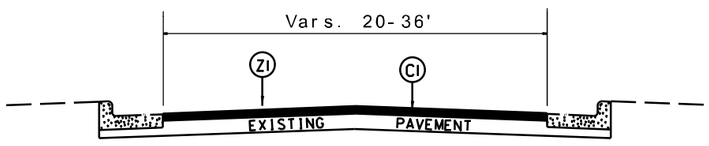
TYPICAL SECTION NO. 1

MAP # 1- Entire Map
MAP # 2 - Entire Map
MAP # 3 - Entire Map
MAP # 4 - Entire Map
MAP # 5 - Entire Map
MAP # 6 - 5+54 to 26+93



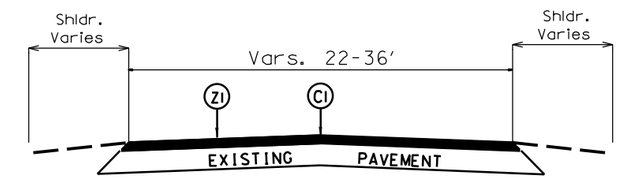
TYPICAL SECTION NO. 2

MAP # 7 - 0+00 to 25+45



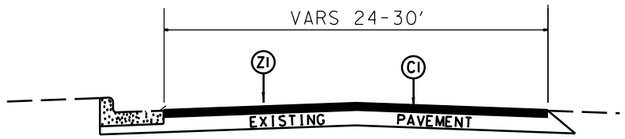
TYPICAL SECTION NO. 3

MAP # 6 - 0+00 to 5+54
Map # 7 - 24+45 to 37+52
Map # 7 - 70+67 to 75+97



TYPICAL SECTION NO. 4

MAP # 7 - 37+52 to 48+45
Map # 7 - 81+25 to 86+08



TYPICAL SECTION NO. 5

MAP # 7 - 48+45 to 70+67
MAP # 7 - 75+97 to 81+25
MAP # 7 - 86+08 to 93+98

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	AGGREGATE SHOULDER BORROW (SHOULDER RECONSTRUCTION)
Y	INCIDENTAL MILLING
Z1	MILL EXST. ASPHALT PAVEMENT APPROX. 1½" IN DEPTH

General Notes:

* Pavement edge slopes are 1:1 unless specified otherwise.

2021 - 2022
Resurfacing Program
Typical Sections
Lincoln County NC

Checked by:
Drawn by: GHB

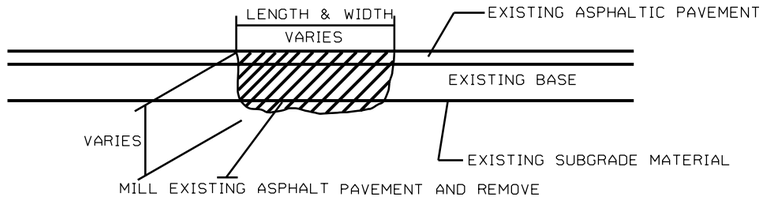
STATE	PROJECT WBS	SHEET NUMBER
NC	2022CPT.12.04.20551	5

Checked by:

Drawn by: GHB

DETAIL A

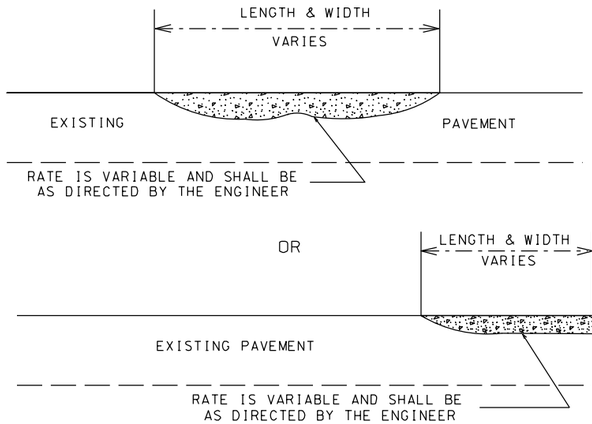
PATCHING EXISTING PAVEMENT



MILL EXISTING ASPHALT PAVEMENT AND REMOVE EXISTING LOOSE BASE AND/OR SUBGRADE MATERIAL AND REPLACE WITH ACIC TYPE, I19.0X AND ACSC TYPE, S9.5X AS DIRECTED BY THE ENGINEER.

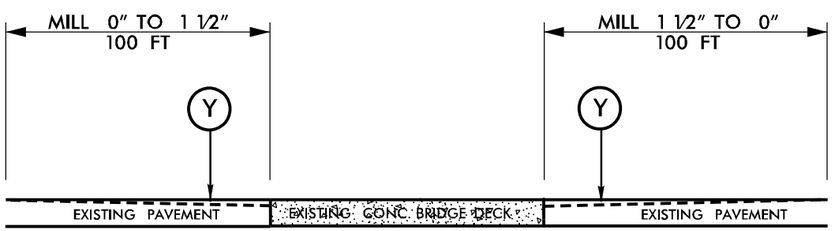
DETAIL B

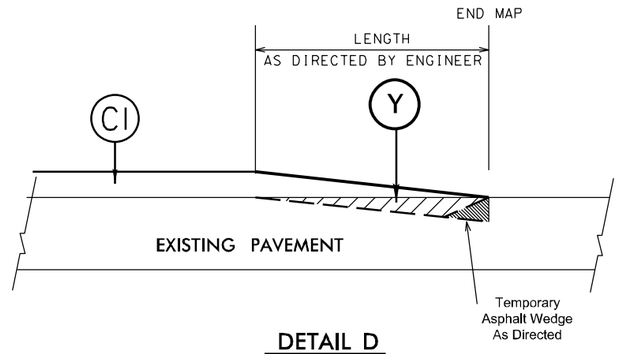
ASPHALT CONCRETE SURFACE COURSE
TYPE S9.5B (LEVELING COURSE)



DETAIL C

MILLING BRIDGE APPROACHES





DETAIL D

TIE-IN (INCIDENTAL) MILLING DETAIL

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
T	AGGREGATE SHOULDER BORROW (SHOULDER RECONSTRUCTION)
Y	INCIDENTAL MILLING
Z1	MILL EXST. ASPHALT PAVEMENT APPROX. 1½" IN DEPTH

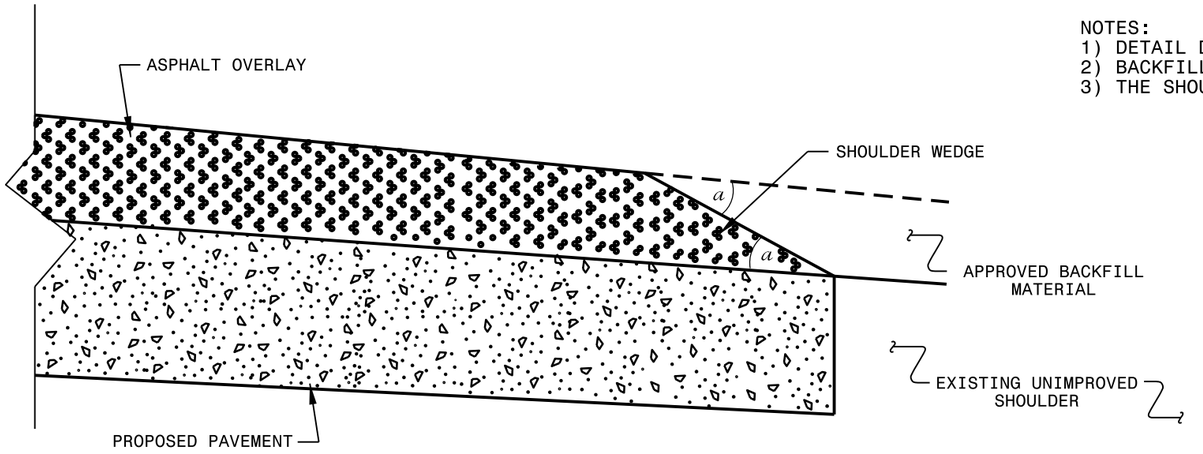
General Notes:

* Pavement edge slopes are 1:1 unless specified otherwise.

2021 - 2022
Resurfacing Program
Typical Sections
Lincoln County NC

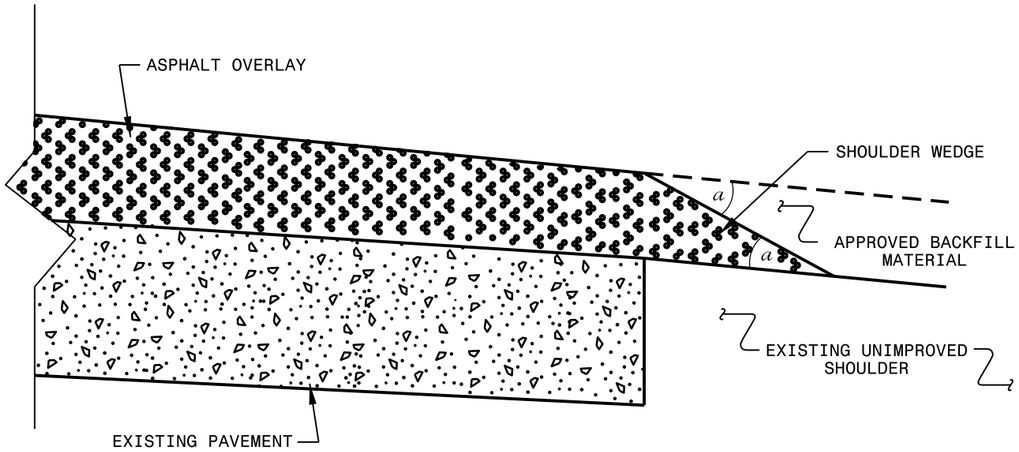
PROJECT REFERENCE NO.	SHEET NO.
2022CPT.12.04.20551	6

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.



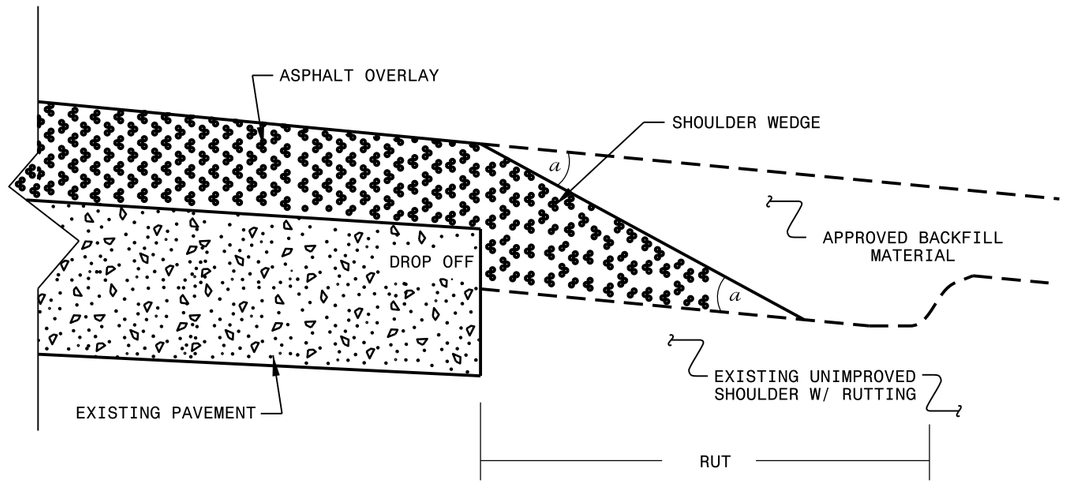
SHOULDER WEDGE DETAIL

(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

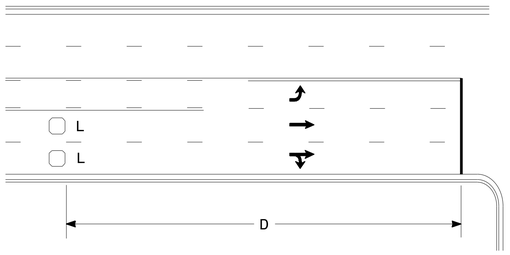
SHOULDER WEDGE DETAILS

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

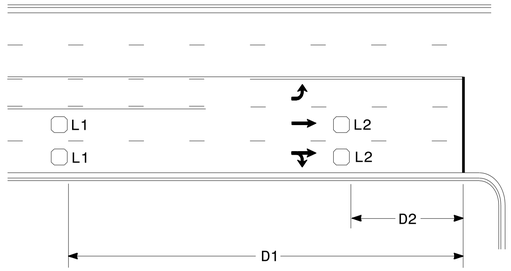
$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
2022CPT.12.04.20551	7

High Speed Detection
(≥40 mph)



OR



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

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

Volume Density Operation

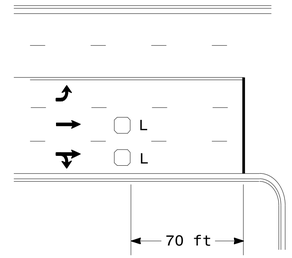
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

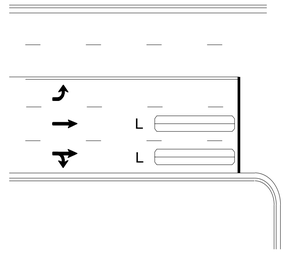
L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

Low Speed Detection
(≤35 mph)



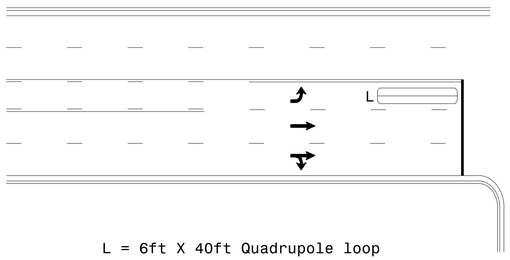
OR



L = 6ft X 6ft
Wired in series

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

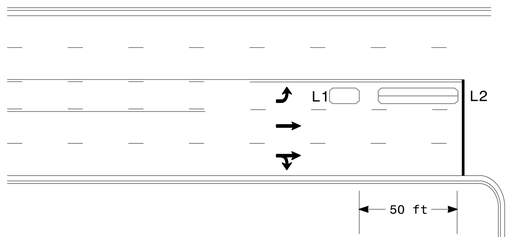
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

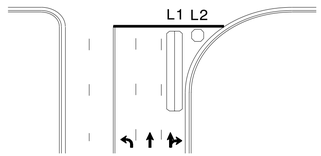
OR



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

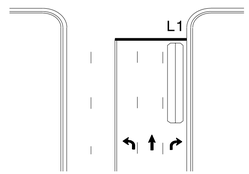
Queue Loop Detection

Right Turn Lane Detection

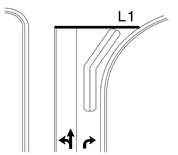


Shared Lane/
Wide Radius Turn

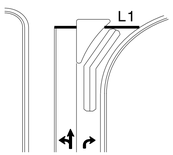
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

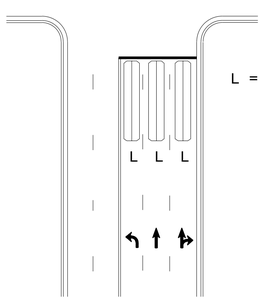


Wide Radius Turn



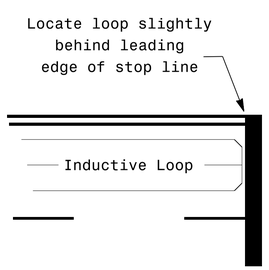
Channelized Turn

Side Street Detection



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

Presence Loop Placement at Stop Lines



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

Prepared in the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: January 2015	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

SCALE
N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 23489 ENGINEER PAMELA L. ALEXANDER

DocuSigned by: P L Alexander
B4756E00CE4E46D...
1/30/2015
DATE

SIG. INVENTORY NO.

30-JAN-2015 12:39
S:\Traffic\Signal\Signal Design Section\Eastern Region\loop typical 2015.dgn
palexander

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.12.04.20551	8	

SUMMARY OF QUANTITIES

												1220000000-E	1245000000-E	1260000000-E	1297000000-E	1330000000-E	1519000000-E	1520000000-E	1575000000-E	1704000000-E	2800000000-N	2830000000-N	2845000000-N	7300000000-E	7324000000-N	7444000000-E	7456000000-E
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1½" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5C	LEVELING COURSE, TYPE S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	CATCH BASIN	MANHOLES	METER OR VALVE BOX	UNPAVED TRENCHING (2, 2")	JUNCTION BOX (STD.)	INDUCTIVE LOOP	LEAD-IN CABLE (14-2)
										MI	FT	TONS	SMI	TON	SY	SY	TONS	TON	TONS	TONS	EA	EA	EA	LF	EA	LF	LF
2022CPT.12.04.20551	Lincoln	1	SR 1176 (LAUNDERS CH RD)	FROM SR 1175 (BOY SCOUT RD) TO GASTON CO	1	2	2WU	NO	NO	1.50	18	40	3.00	150		336	1,418	706	142	40							
2022CPT.12.04.20551	Lincoln	2	SR 1222 (S GROVE ST EXT)	FROM BRIDGE 61 TO NC 150	1	2	2WU	NO	NO	1.27	22	25	2.54	127		480	1,418	704	142	50			2				
2022CPT.12.04.20551	Lincoln	3	SR 1222 (CONFEDERATE RD)	FROM NC 150 TO SR (1252 (LABORATORY RD)	1	2	2WU	NO	NO	0.64	20	26	1.28	64		166	664	336	67	80							
2022CPT.12.04.20551	Lincoln	4	SR 1252 (LABORATORY RD)	FROM SR 1253 (SOUTHSIDE RD) TO SR 1252 (GASTON WEBBS RD)	1	2	2WU	NO	NO	2.90	20	90	5.80	300		935	3,003	1,502	302	400							
2022CPT.12.04.20551	Lincoln	5	SR 1248 (SOUTH FORK RD)	FROM SR 1252 (LABORATORY RD) TO US 321 BUS	1	2	2WU	NO	NO	1.50	22	10	3.00	150		500	1,680	840	169	250							
2022CPT.12.04.20551	Lincoln	6	SR 1287 (ROPER DR)	FROM NC 27 TO DEAD END	1, 3	2	2WU	NO	NO	0.51	20	5	0.80	50	2,376	300	403		27	80		1		50		250	150
2022CPT.12.04.20551	Lincoln	7	SR 1405 (N. ASPEN ST)	FROM NC 27 TO US 321 BUS	2, 3, 4,5	2	2WU	NO	NO	1.78	24-44				37,150		3,129		210	400	2	18	13	300	1	2,000	100
TOTAL FOR PROJ NO. 2022CPT.12.04.20551										**10.10**		**196**	**16.42**	**841**	**39,526**	**2,717**	**11,715**	**4,088**	**1,059**	**1,300**	**2**	**19**	**15**	**350**	**1**	**2,250**	**250**
GRAND TOTAL										**10.10**		**196**	**16.42**	**841**	**39,526**	**2,717**	**11,715**	**4,088**	**1,059**	**1,300**	**2**	**19**	**15**	**350**	**1**	**2,250**	**250**

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.12.04.20551	9	

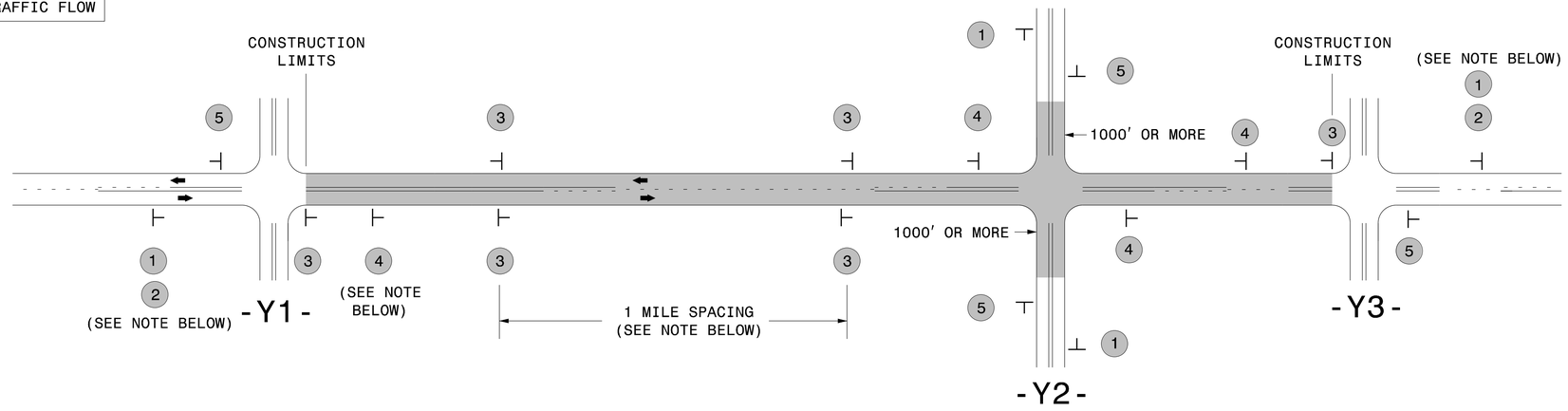
THERMOPLASTIC AND PAINT QUANTITIES

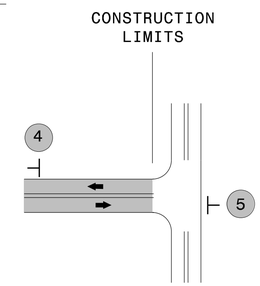
											4413000000-E	4457000000-N	4510000000-N	4705000000-E	4710000000-E	4721000000-E	4725000000-E			4810000000-E		4835000000-E	4845000000-N			4905000000-N
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	WORK ZONE ADVANCE GENERAL WARNING	TEMP TRAFFIC CONTROL	LAW ENFORCEMENT	16" X 90 M WHITE THERMO	24" X 90 M WHITE THERMO	THERMO MSG SCHOOL 90 M	THERMO STR & RT ARROW 90 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	24" WHITE PAINT	PAINT STR & RT ARROW	PAINT LT ARROW	PAINT RT ARROW	SNOW PLOWABLE MARKERS
								MI	FT	SF	LS	HR	LF	LF	EA	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA
2022CPT.12.04.20551	Lincoln	1	SR 1176 (LAUNDERS CH RD)	FROM SR 1175 (BOY SCOUT RD) TO GASTON CO	1	2	2WU	1.50	18	112	*								32,000	32,000					
2022CPT.12.04.20551	Lincoln	2	SR 1222 (S GROVE ST EXT)	FROM BRIDGE 61 TO NC 150	1	2	2WU	1.27	22	155	*								26,030	26,030					
2022CPT.12.04.20551	Lincoln	3	SR 1222 (CONFEDERATE RD)	FROM NC 150 TO SR (1252 (LABORATORY RD)	1	2	2WU	0.64	20	48	*								13,550	13,550					
2022CPT.12.04.20551	Lincoln	4	SR 1252 (LABORATORY RD)	FROM SR 1253 (SOUTHSIDE RD) TO SR 1252 (GASTON WEBBS RD)	1	2	2WU	2.90	20	160	*								61,250	61,250					
2022CPT.12.04.20551	Lincoln	5	SR 1248 (SOUTH FORK RD)	FROM SR 1252 (LABORATORY RD) TO US 321 BUS	1	2	2WU	1.50	22	128	*								30,700	30,700					
2022CPT.12.04.20551	Lincoln	6	SR 1287 (ROPER DR)	FROM NC 27 TO DEAD END	1, 3	2	2WU	0.51	20	48	*	24		35		2	2	2	10,520	10,520	35	2	2	2	
2022CPT.12.04.20551	Lincoln	7	SR 1405 (N. ASPEN ST)	FROM NC 27 TO US 321 BUS	2, 3, 4,5	2	2WU	1.78	24-44	304	*	40	32	380	6		12	7	17,100	44,900	220		12	7	175
TOTAL FOR PROJ NO. 2022CPT.12.04.20551								**10.10**		**955**	**1**	**64**	**32**	**415**	**6**	**2**	**14**	**9**	**191,150**	**218,950**	**255**	**2**	**14**	**9**	**175**
																	25		**410,100**			**25**			

PROJ. REFERENCE NO.	SHEET NO.
2022CPT.12.04.20551	10

SIGNING FOR RESURFACING PROJECTS

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW





TEE INTERSECTION

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 & 2 — ROAD WORK AHEAD W20-1 48″ X 48″ / NEXT XX MILES W7-3aP 24″ X 18″

PLACE 1000′ PRIOR TO BEGINNING OF CONSTRUCTION LIMITS.
ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000′ ALONG -Y- LINE.

#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 — LOW/SOFT SHOULDER SP 13107 48″ X 48″

- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.
- AT TEE INTERSECTIONS INSTALL INITIALLY ½ MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.

4 — ROAD UNDER CONST SP 13106 48″ X 48″

- 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 — END ROAD WORK G20-2 A 48″ X 24″

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.

-Y- LINE SIGNING

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

1) LESS THAN 1000′ OF RESURFACING ALONG -Y- LINE
2) SUBDIVISION ROADS
3) DEAD END ROADS

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.

ROAD WORK AHEAD W20-1 48″ X 48″
PLACED 500′ IN ADVANCE OF FLAGGER.

W20-7 A 48″ X 48″
PLACED 250′ IN ADVANCE OF FLAGGER.

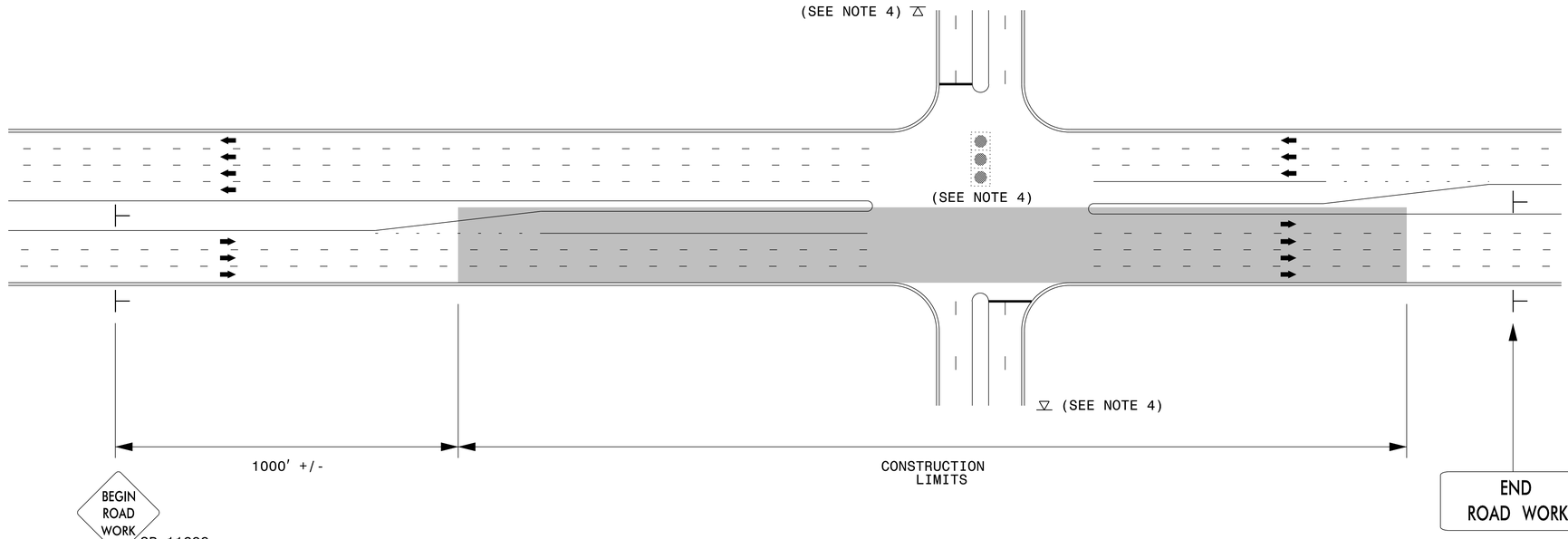
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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

5/15/2017
SATMU\WZTC\Resurfacing\2L2W & AST Resurfacing Details\Resurfacing_AdvWarn_2Ln.dgn
User:kedavis

PROJ. REFERENCE NO.	SHEET NO.
2022CPT.12.04.20551	11

URBAN / SUBURBAN WORKZONES



NOTES:

1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
4) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS.THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

- ⊢ STATIONARY SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

4/8/2015
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User:rmgarrett