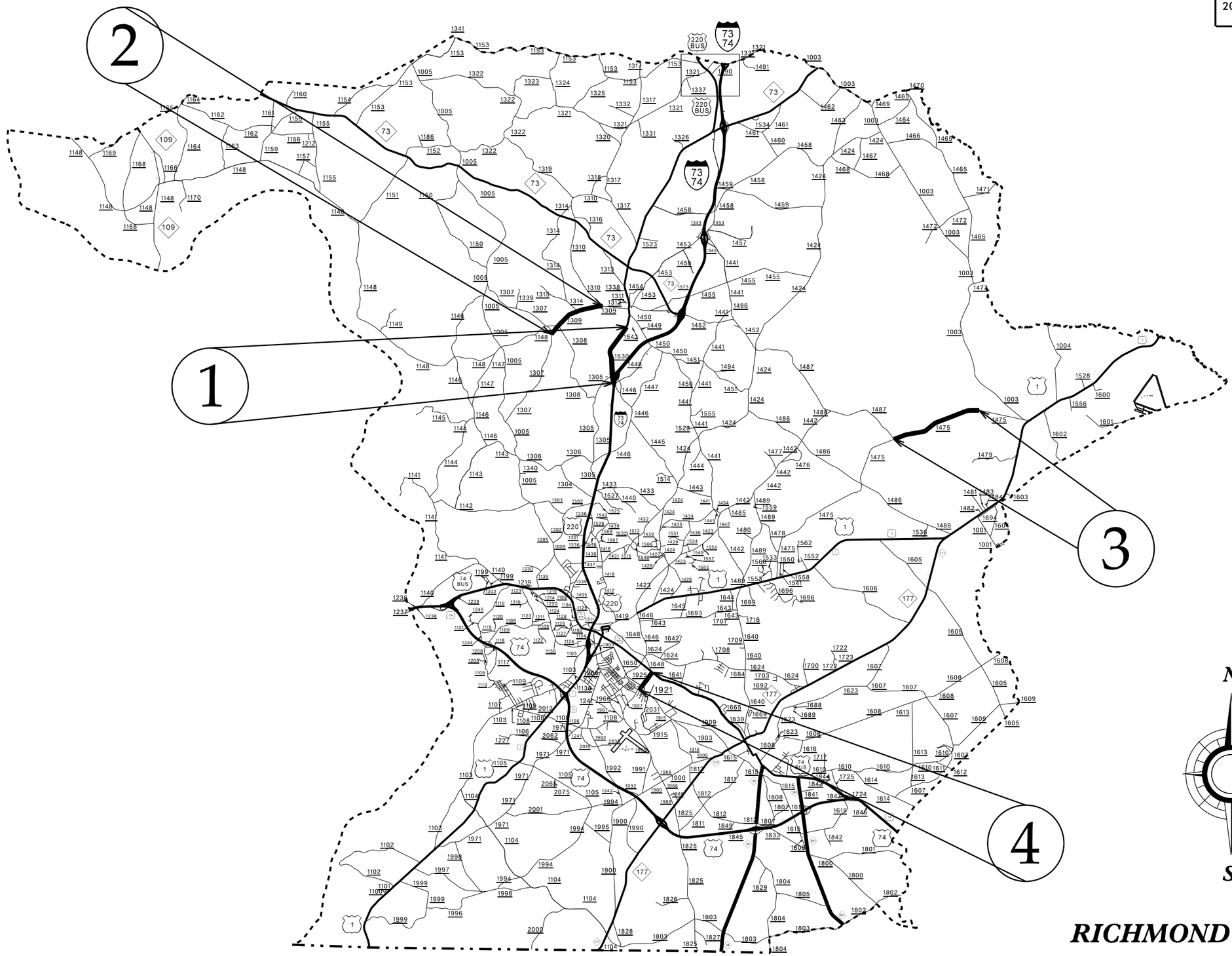
Ø40397

WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	1

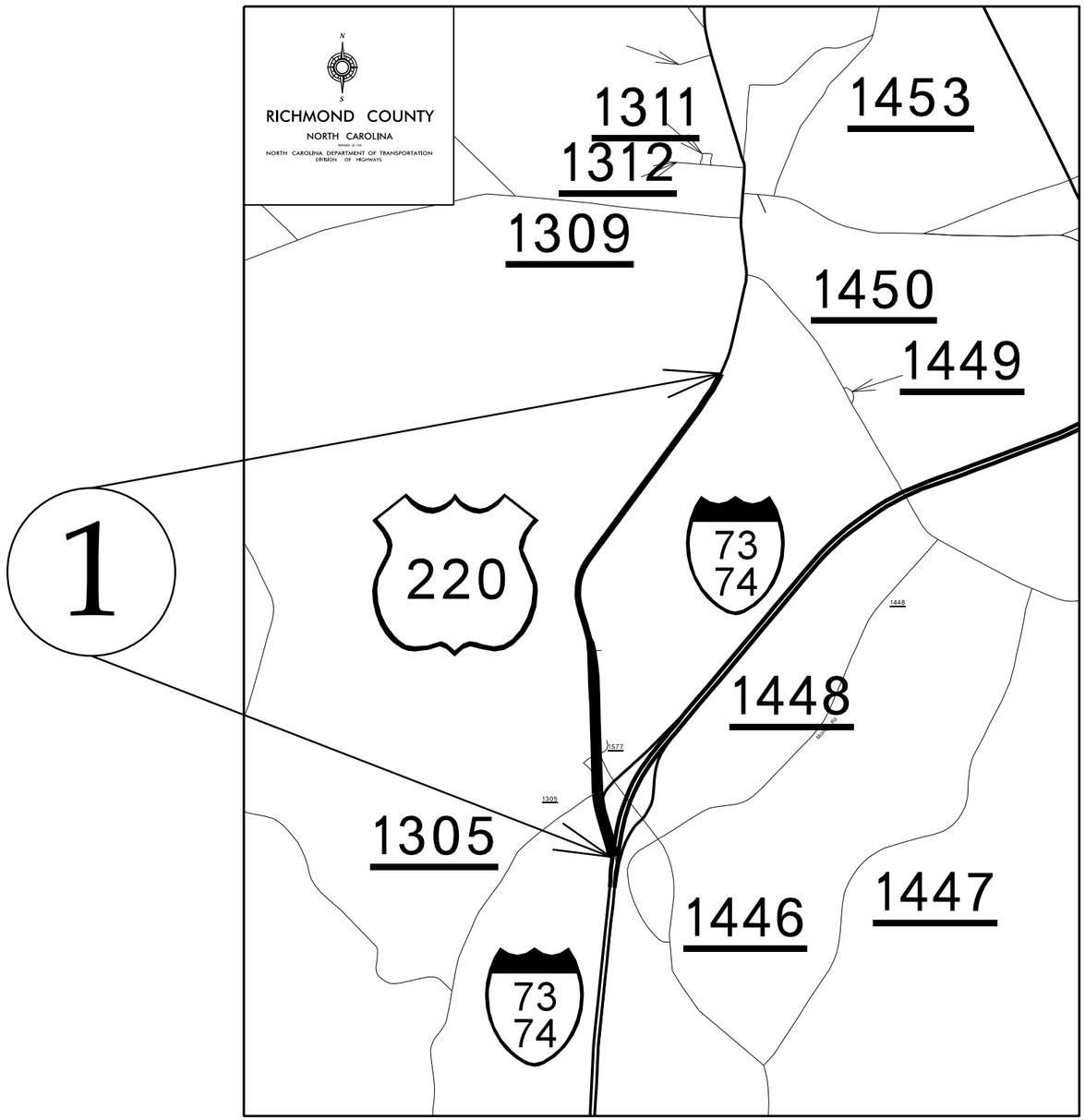


RICHMOND COUNTY

Ø40397

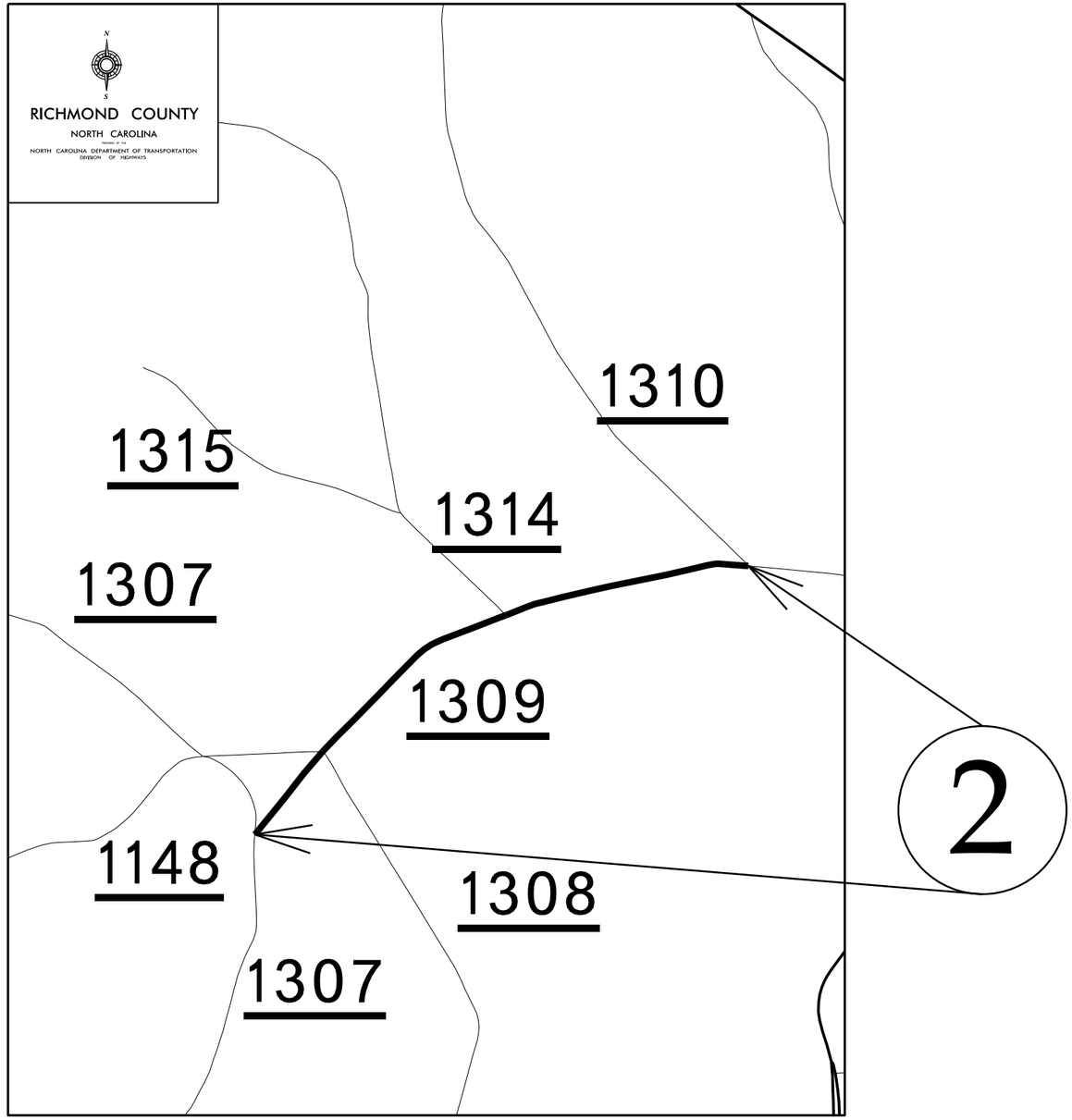
WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	2

Map 1



WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	3

Map 2



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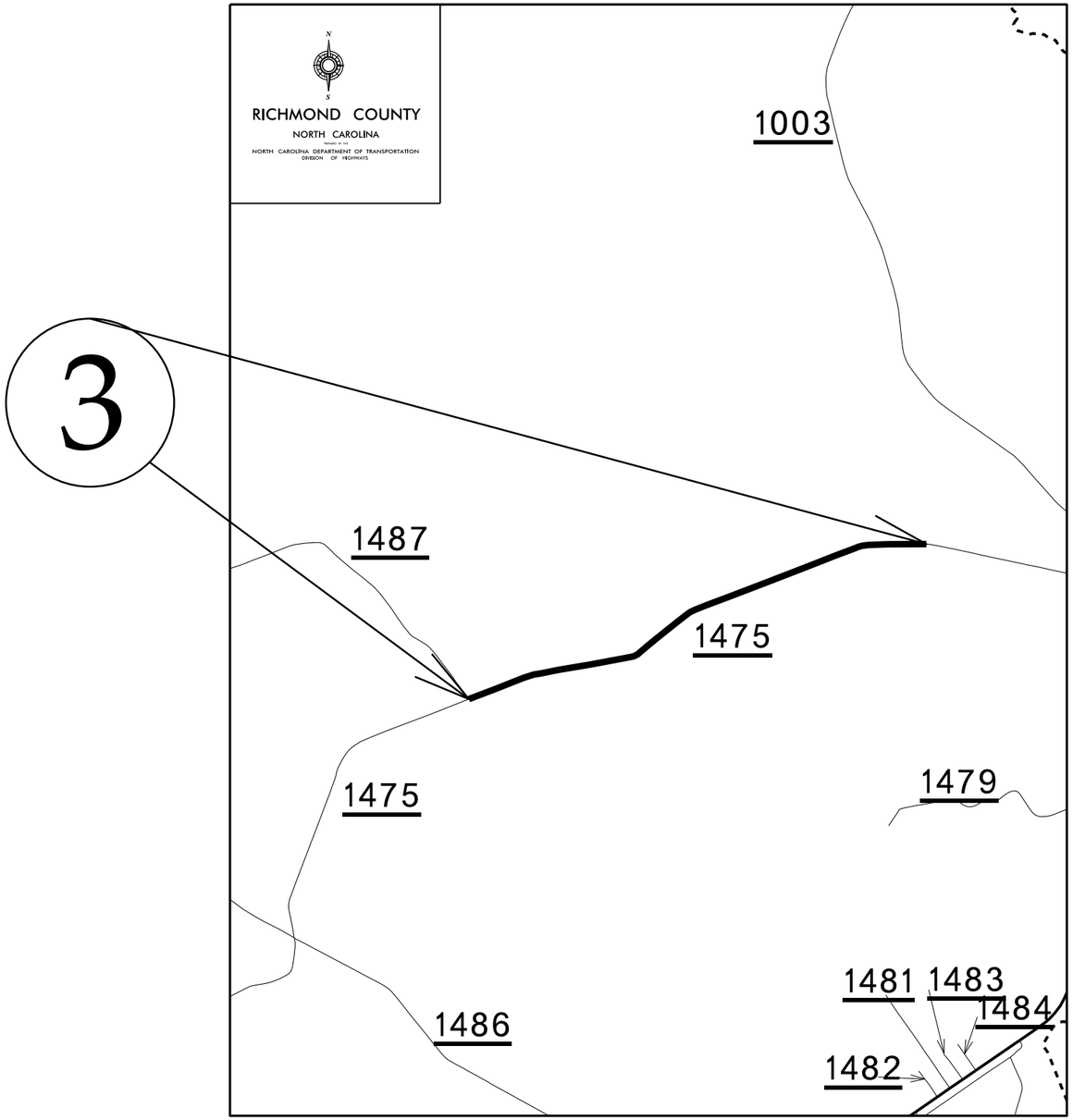
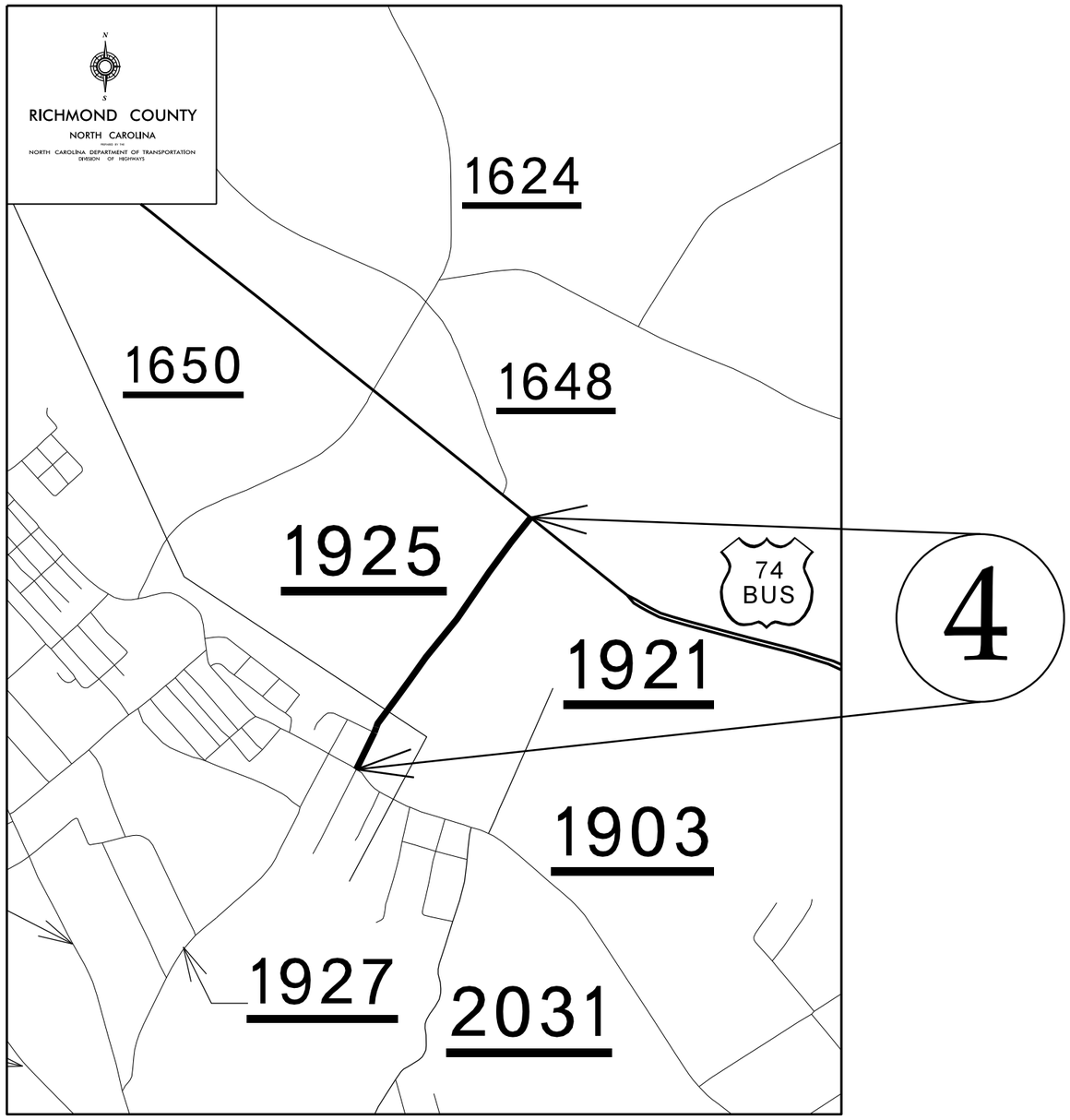
WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	4

Map 3

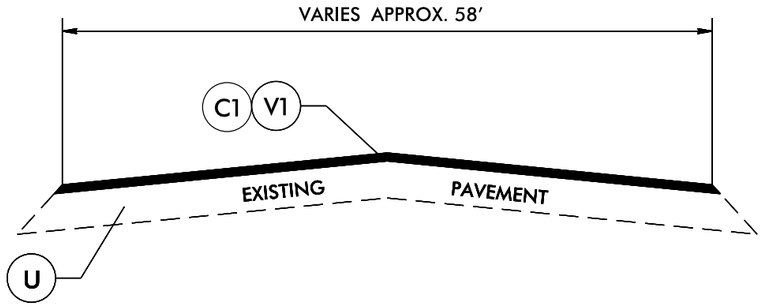


WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	5

Map 4

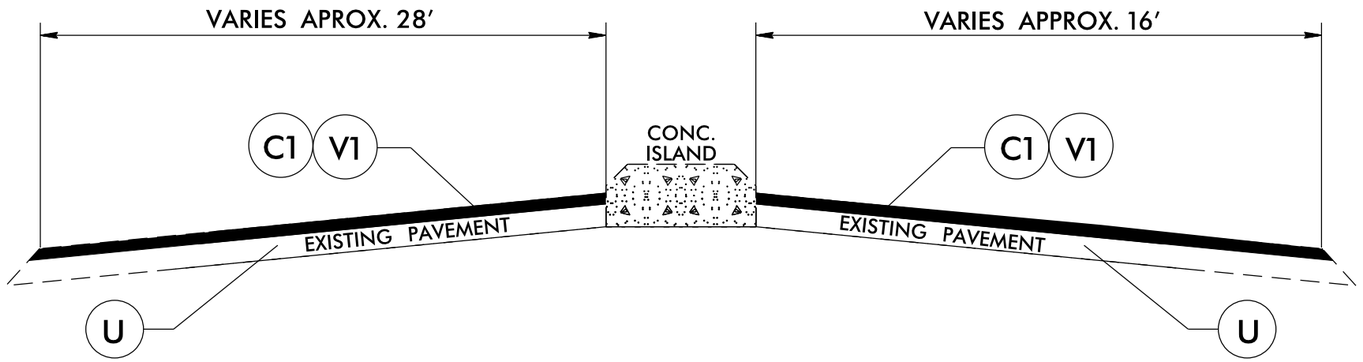


WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	6



TYPICAL SECTION NO. 1

USE FOR SECTION OF
MAP #1 WITH SHOULDERS

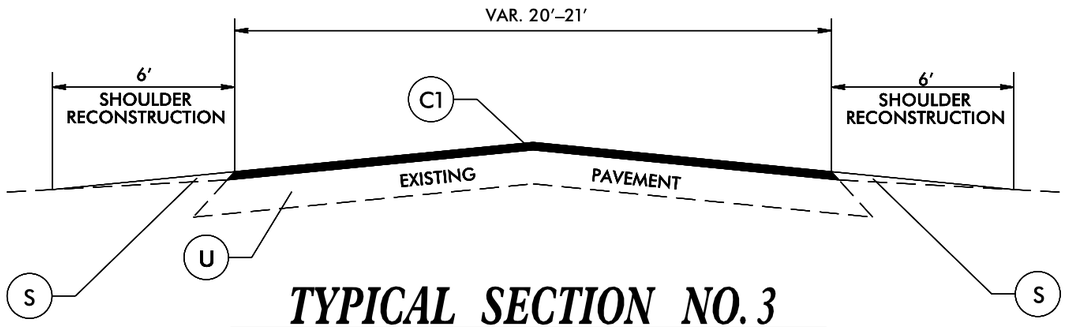


TYPICAL SECTION NO. 2

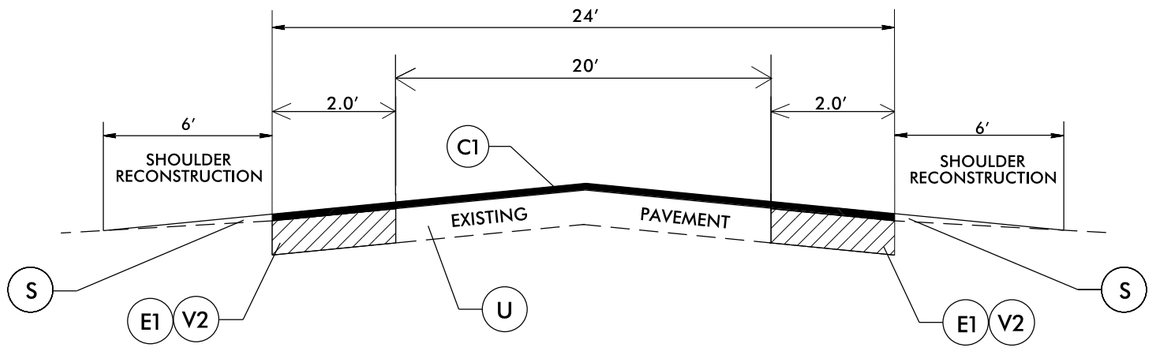
USE FOR SECTION OF
MAP #1 WITH CONCRETE ISLAND

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW
V1	MILLING 1.5" IN DEPTH
V2	TRENCHING FOR BASE COURSE (SEE S.P.)
U	EXISTING PAVEMENT



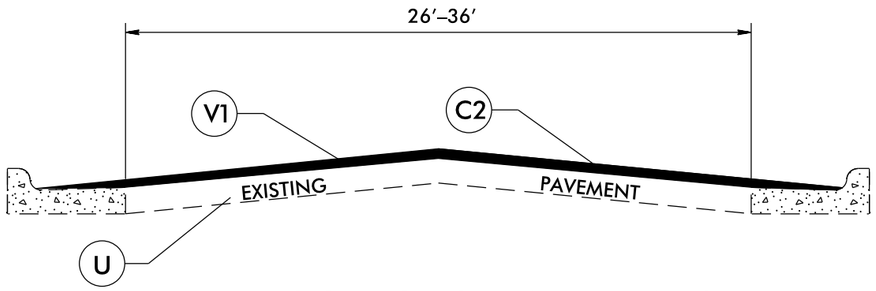
TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 4

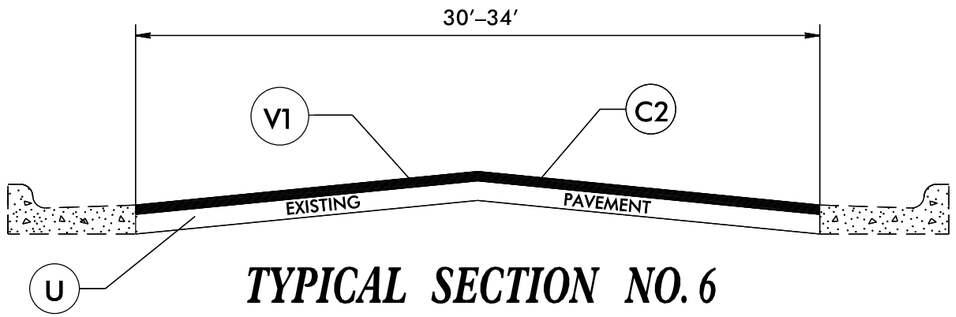
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW
V1	MILLING 1.5" IN DEPTH
V2	TRENCHING FOR BASE COURSE (SEE S.P.)
U	EXISTING PAVEMENT



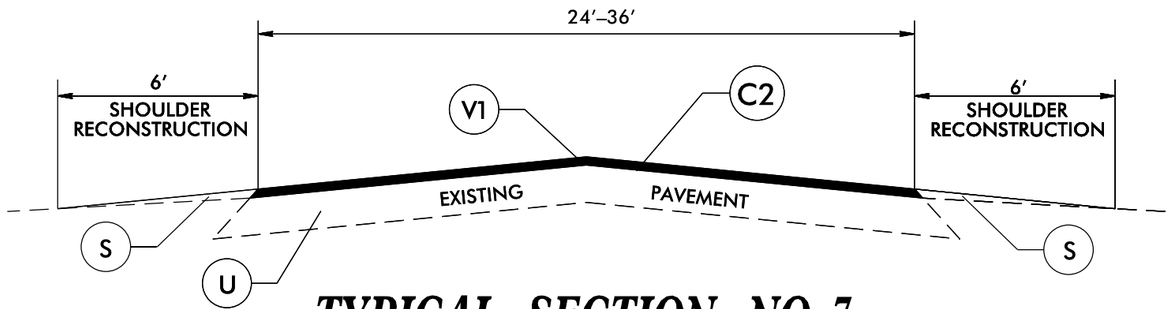
TYPICAL SECTION NO. 5

USE FOR SECTIONS OF MAP 4 WHERE
EXISTING GUTTER HAS BEEN PAVED



TYPICAL SECTION NO. 6

USE FOR SECTIONS OF MAP 4 WITH
CURB AND GUTTER



TYPICAL SECTION NO. 7

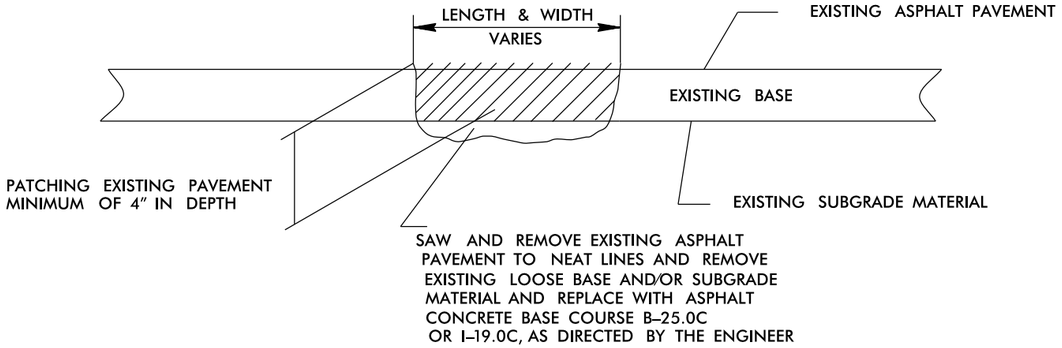
USE FOR SECTIONS OF MAP 4
WITH SHOULDERS

PAVEMENT SCHEDULE

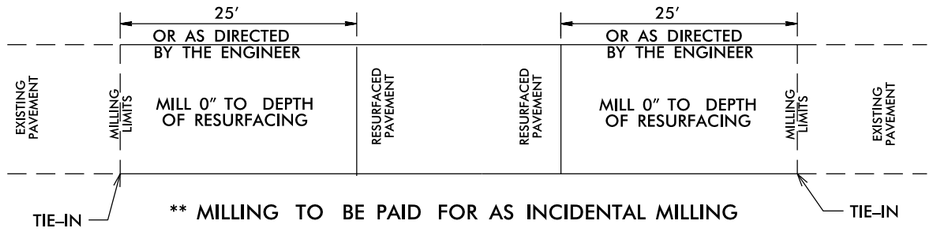
C1	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5 " ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
S	AGGREGATE SHOULDER BORROW
V1	MILLING 1.5" IN DEPTH
V2	TRENCHING FOR BASE COURSE (SEE S.P.)
U	EXISTING PAVEMENT

WBS ELEMENT	SHEET NO.
2023CPT.08.06.10771 2023CPT.08.06.20771 50526	9

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING



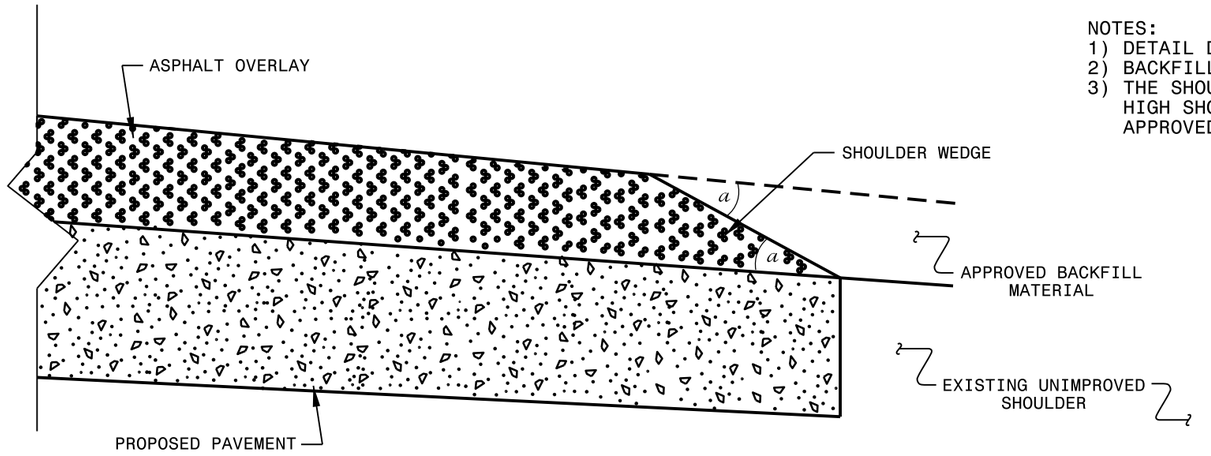
PAVEMENT TIE–IN DETAIL



PROJECT NOTES

- PAINT MARKINGS INCLUDED FOR MILLING ON MAPS 1 AND 4.
- ONE COAT OF PAINT MARKINGS TO BE APPLIED ON MAPS 2 AND 3. PERMANENT MARKINGS TO BE HANDLED ON A LATER PROJECT.

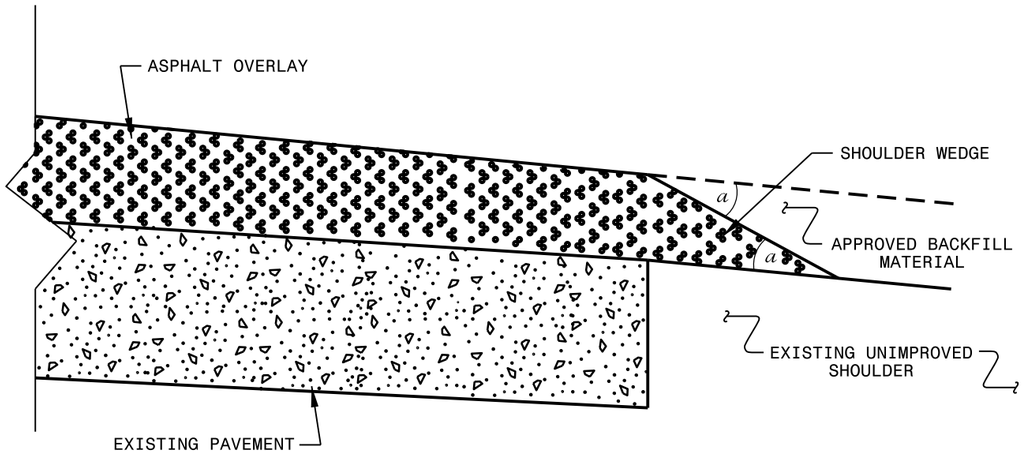
PROJECT REFERENCE NO.	SHEET NO.
2023CPT.08.06.10771,etc.	10



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, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.

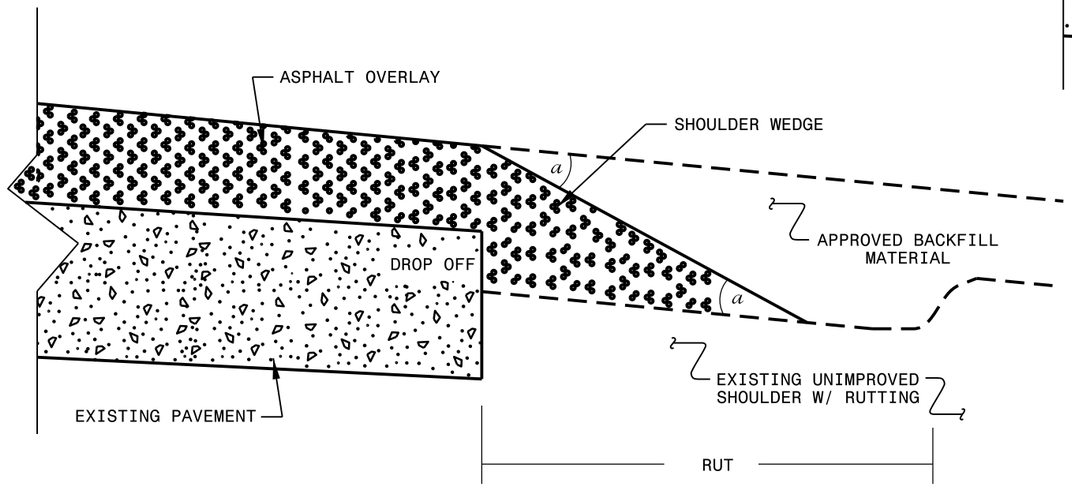
SHOULDER WEDGE DETAIL

(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: 2/2/16
CHECKED BY: DATE:
FILE SPEC.: s:usr/details/stand/shoulderwedgedetail.dgn

22-JAN-2018 09:41
S:\Contracts\Contracts\Resurfacing Projects\Division 4\I-5937 Wilson March 2018\Revised Shoulder Wedge Detail.dgn
pporter AI CSD-2925/2

PROJECT NO.	SHEET NO.	TOTAL NO.
2023CPT.08.06.10771, 2023CPT.08.06.20771, 50526	11	

SUMMARY OF QUANTITIES

												1245000000-E	1260000000-E	1297000000-E	1330000000-E	1491000000-E	1519000000-E	1523000000-E	1575000000-E	1704000000-E	2830000000-N	2845000000-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**	**SHOULDER RECONSTRUCTION**	**AGGREGATE SHOULDER BORROW**	**1.5" MILLING**	**INCIDENTAL MILLING**	**BASE COURSE, B25.0C**	**SURFACE COURSE, S9.5B**	**SURFACE COURSE, S9.5C**	**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**	**SMI**	**TON**	**SY**	**SY**	**TONS**	**TONS**	**TONS**	**TONS**	**TONS**	**EA**	**EA**	**LF**	**LF**
2023CPT.08.06.10771	Richmond	1	US 220	FROM BRIDGE OVER INTERSTATE 73/74 TO C.J. SOUTH OF ELLERBE CITY LIMITS	1,2	2	MU	NO	NO	1.57	58			42,168			3,520		229					
TOTAL FOR MAP NO. 1										**1.57**				**42,168**			**3,520**		**229**					
TOTAL FOR PROJ NO. 2023CPT.08.06.10771										**1.57**				**42,168**			**3,520**		**229**					
2023CPT.08.06.20771	Richmond	2	SR 1309 (PAGE ST. EXT.)	FROM SR 1310 (BENNETT RD) TO SR 1307 (PLEASANT HILL CHURCH RD)	3	2	2WU	NO	NO	1.74	20	3.49	488.00		410		2,041		136	67				
TOTAL FOR MAP NO. 2										**1.74**		**3.49**	**488.00**		**410**		**2,041**		**136**	**67**				
2023CPT.08.06.20771	Richmond	3	SR 1475 (CADDELL RD.)	FROM C.J. TO SR 1487(MILLSTONE RD)	4	2	2WU	NO	NO	3.09	24	6.20	869.00		533		3,951		261	95				
TOTAL FOR MAP NO. 3										**3.09**		**6.20**	**869.00**		**533**		**3,951**		**261**	**95**				
2023CPT.08.06.20771	Richmond	4	SR 1925 (BILTMORE DR.)	FROM US HWY 74 BUS.(E. BROAD AVE) TO SR 1903(MILL RD)	5,6,7	2	2WU	NO	NO	0.59	24	0.05	10.00	12,151				1,103	65	6	8	1	1,440	36
TOTAL FOR MAP NO. 4										**0.59**		**0.05**	**10.00**	**12,151**				**1,103**	**65**	**6**	**8**	**1**	**1,440**	**36**
TOTAL FOR PROJ NO. 2023CPT.08.06.20771										**5.42**		**9.74**	**1,367.00**	**12,151**	**943**		**5,992**	**1,103**	**462**	**168**	**8**	**1**	**1,440**	**36**
50526	Richmond	3	SR 1475 (CADDELL RD)	FROM C.J. TO SR 1487(MILLSTONE RD)	4	2	2WU	NO	NO	3.09	24					2,275			102					
TOTAL FOR MAP NO. 3										**3.09**						**2,275**			**102**					
TOTAL FOR PROJ NO. 50526										**3.09**						**2,275**			**102**					
GRAND TOTAL										**10.08**		**9.74**	**1,367.00**	**54,319**	**943**	**2,275**	**9,512**	**1,103**	**793**	**168**	**8**	**1**	**1,440**	**36**

PROJECT NO.	SHEET NO.	TOTAL NO.
2023CPT.08.06.10771, 2023CPT.08.06.20771, 50526	12	

THERMOPLASTIC AND PAINT QUANTITIES

										4413000000-E	4457000000-N	4685000000-E		4695000000-E		4700000000-E		4704000000-E	4709000000-E	4720000000-E		4725000000-E					
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M YELLOW THERMO	4" X 90 M WHITE THERMO	8" X 90 M WHITE THERMO	8" X 90 M YELLOW THERMO	12" X 90 M YELLOW THERMO	12" X 90 M WHITE THERMO	16" X 90 M WHITE THERMO	24" X 90 M WHITE THERMO	THERMO MSG ONLY 90 M	THERMO RXR 90 M	THERMO LT ARROW 90 M	THERMO STR ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO RT ARROW 90 M	THERMO MERGE ARROW 90M	THERMO STR & LT ARROW 90 M
								MI	FT	SF	LS	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA
2023CPT.08.06.10771	Richmond	1	US 220	FROM BRIDGE OVER INTERSTATE 73/74 TO C.J. SOUTH OF ELLERBE CITY LIMITS	1,2	2	MU	1.57	58	126	*	15,848	18,332	108		252	31		43	8		29	6	6	3	3	
TOTAL FOR MAP NO. 1								**1.57**		**126**	*	**15,848**	**18,332**	**108**		**252**	**31**		**43**	**8**		**29**	**6**	**6**	**3**	**3**	
TOTAL FOR PROJ NO. 2023CPT.08.06.10771								**1.57**		**126**		**15,848**	**18,332**	**108**		**252**	**31**		**43**	**8**		**29**	**6**	**6**	**3**	**3**	
												34,180		**108**		**283**				**8**		**47**					
2023CPT.08.06.20771	Richmond	2	SR 1309 (PAGE ST. EXT.)	FROM SR 1310 (BENNETT RD) TO SR 1307 (PLEASANT HILL CHURCH RD)	3	2	2WU	1.74	20	195																	
TOTAL FOR MAP NO. 2								**1.74**		**195**																	
2023CPT.08.06.20771	Richmond	3	SR 1475 (CADDELL RD.)	FROM C.J. TO SR 1487(MILLSTONE RD)	4	2	2WU	3.09	24	346	*																
TOTAL FOR MAP NO. 3								**3.09**		**346**																	
2023CPT.08.06.20771	Richmond	4	SR 1925 (BILTMORE DR.)	FROM US HWY 74 BUS.(E. BROAD AVE) TO SR 1903(MILL RD)	5,6,7	2	2WU	0.59	24	66		7,360	875		40			86	71		4	14			1		2
TOTAL FOR MAP NO. 4								**0.59**		**66**		**7,360**	**875**		**40**			**86**	**71**		**4**	**14**			**1**		**2**
TOTAL FOR PROJ NO. 2023CPT.08.06.20771								**5.42**		**607**	*	**7,360**	**875**		**40**			**86**	**71**		**4**	**14**			**1**		**2**
												8,235		**40**						**4**		**17**					
50526	Richmond	3	SR 1475 (CADDELL RD)	FROM C.J. TO SR 1487(MILLSTONE RD)	4	2	2WU	3.09	24																		
TOTAL FOR MAP NO. 3								**3.09**																			
TOTAL FOR PROJ NO. 50526								**3.09**																			
GRAND TOTAL								**10.08**		**733**	**1**	**23,208**	**19,207**	**108**	**40**	**252**	**31**	**86**	**114**	**8**	**4**	**43**	**6**	**6**	**4**	**3**	**2**
												42,415		**148**		**283**				**12**		**64**					

PROJECT NO.	SHEET NO.	TOTAL NO.
2023CPT.08.06.10771, 2023CPT.08.06.20771, 50526	13	

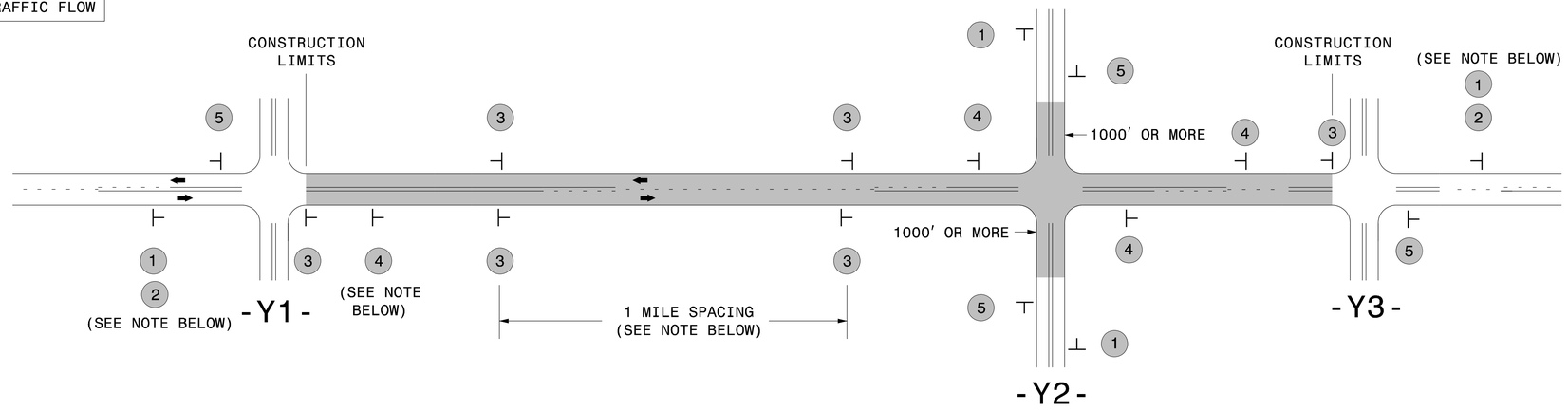
THERMOPLASTIC AND PAINT QUANTITIES

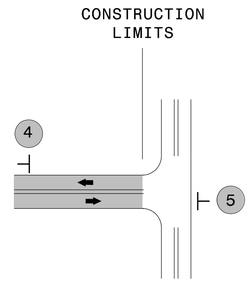
									4810000000-E		4820000000-E		4825000000-E		4830000000-E	4835000000-E	4840000000-N		4845000000-N						4900000000-N	4905100000-N	
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4" YELLOW PAINT	4" WHITE PAINT	8" WHITE PAINT	8" YELLOW PAINT	12" YELLOW PAINT	12" WHITE PAINT	16" WHITE PAINT	24" WHITE PAINT	PAINT MSG ONLY	PAINT MSG RXR	PAINT LT ARROW	PAINT STR ARROW	PAINT STR & RT ARROW	PAINT RT ARROW	PAINT MERGE ARROW	PAINT STR & LT ARROW	YELLOW & YELLOW MARKERS	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER (C&R)	NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER (Y&Y)
								MI	FT	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
2023CPT.08.06.10771	Richmond	1	US 220	FROM BRIDGE OVER INTERSTATE 73/74 TO C.J. SOUTH OF ELLERBE CITY LIMITS	1,2	2	MU	1.57	58	15,848	18,332	108		252	31		143	8		29	6	6	3	3			66	161
TOTAL FOR MAP NO. 1								**1.57**		**15,848**	**18,332**	**108**		**252**	**31**		**143**	**8**		**29**	**6**	**6**	**3**	**3**			**66**	**161**
TOTAL FOR PROJ NO. 2023CPT.08.06.10771								**1.57**		**15,848**	**18,332**	**108**		**252**	**31**		**143**	**8**		**29**	**6**	**6**	**3**	**3**			**66**	**161**
										34,180		**108**		**283**				**8**		**47**							**227**	
2023CPT.08.06.20771	Richmond	2	SR 1309 (PAGE ST. EXT.)	FROM SR 1310 (BENNETT RD) TO SR 1307 (PLEASANT HILL CHURCH RD)	3	2	2WU	1.74	20	13,818	18,457															125		
TOTAL FOR MAP NO. 2								**1.74**		**13,818**	**18,457**															**125**		
2023CPT.08.06.20771	Richmond	3	SR 1475 (CADDELL RD.)	FROM C.J. TO SR 1487(MILLSTONE RD)	4	2	2WU	3.09	24	27,875	32,779															205		
TOTAL FOR MAP NO. 3								**3.09**		**27,875**	**32,779**															**205**		
2023CPT.08.06.20771	Richmond	4	SR 1925 (BILTMORE DR.)	FROM US HWY 74 BUS.(E. BROAD AVE) TO SR 1903(MILL RD)	5,6,7	2	2WU	0.59	24	7,360	875		40			86	71		4	14			1		2		10	73
TOTAL FOR MAP NO. 4								**0.59**		**7,360**	**875**		**40**			**86**	**71**		**4**	**14**			**1**		**2**		**10**	**73**
TOTAL FOR PROJ NO. 2023CPT.08.06.20771								**5.42**		**49,053**	**52,111**		**40**			**86**	**71**		**4**	**14**			**1**		**2**	**330**	**10**	**73**
										101,164		**40**						**4**		**17**							**83**	
50526	Richmond	3	SR 1475 (CADDELL RD)	FROM C.J. TO SR 1487(MILLSTONE RD)	4	2	2WU	3.09	24																			
TOTAL FOR MAP NO. 3								**3.09**																				
TOTAL FOR PROJ NO. 50526								**3.09**																				
GRAND TOTAL								**10.08**		**64,901**	**70,443**	**108**	**40**	**252**	**31**	**86**	**214**	**8**	**4**	**43**	**6**	**6**	**4**	**3**	**2**	**330**	**76**	**234**
										135,344		**148**		**283**				**12**		**64**							**310**	

PROJ. REFERENCE NO.	SHEET NO.
2023CPT.08.06.10771,etc.	TMP-1

SIGNING FOR RESURFACING PROJECTS

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW





TEE INTERSECTION

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 — ROAD WORK AHEAD — W20-1, 48″ X 48″

2 — 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.

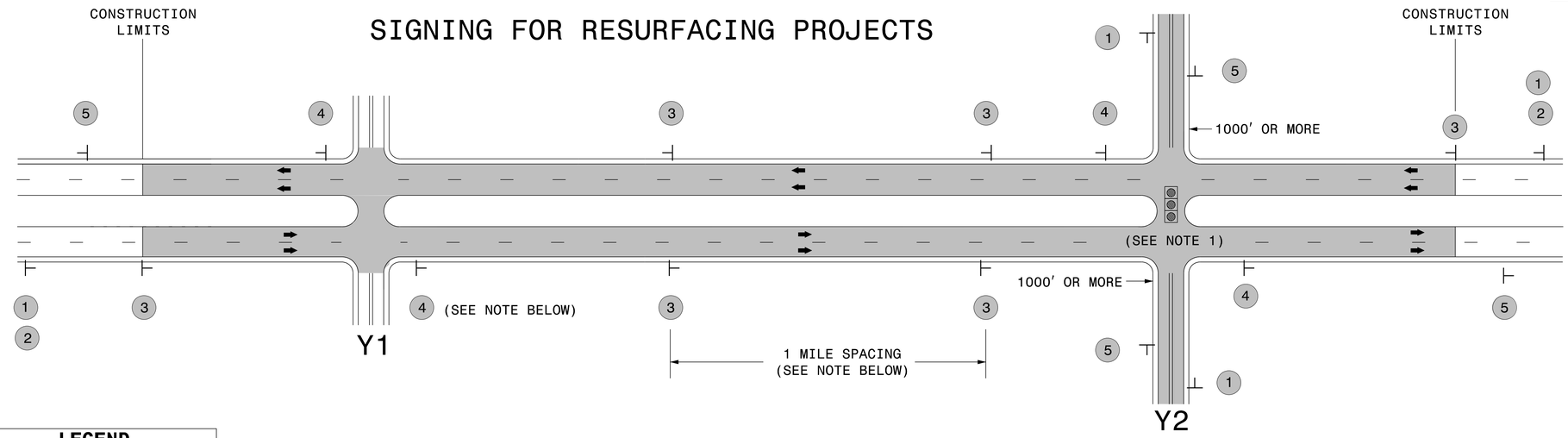
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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:kedols

PROJ. REFERENCE NO.	SHEET NO.
2023CPT.08.06.10771,etc.	TMP-2

SIGNING FOR RESURFACING PROJECTS



LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 — ROAD WORK AHEAD (W20-1, 48″ X 48″)

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

2 — NEXT XX MILES (W7-3aP, 24″ X 18″)

#2 SIGN ONLY USED WHEN RESURFACING 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 SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET ½ MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE 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.

5 — END ROAD WORK (G20-2 A, 48″ X 24″)

PLACE 500′ FOLLOWING THE END OF CONSTRUCTION LIMITS.

-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, ADVANCE WARNING PORTABLE 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.

NOTES:

1) 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.

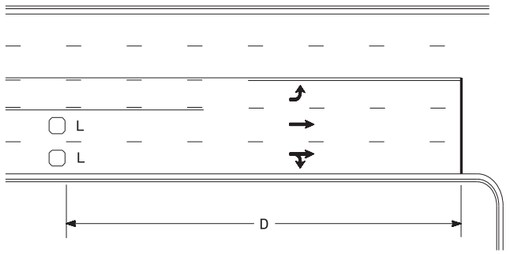
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS

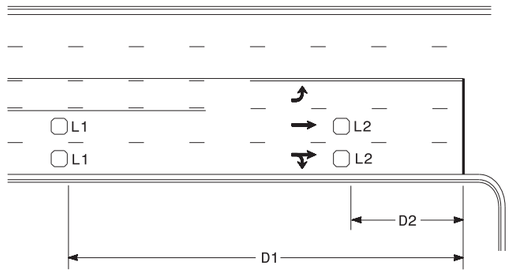
3/23/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_UrSu_Shldr.dgn
User:rmgarrett

PROJECT REFERENCE NO.	SHEET NO.
2023CPT.08.06.10771,etc.	SIG-1

High Speed Detection
(≥40 mph)



OR



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

L = 6ft X 6ft
Wired separately

Volume Density Operation

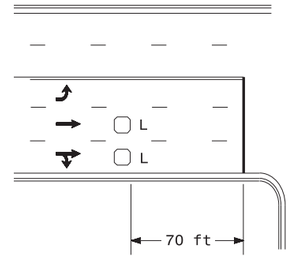
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

"Stretch" Operation

Low Speed Detection
(≤35 mph)



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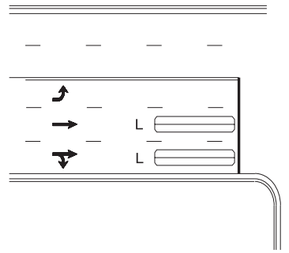
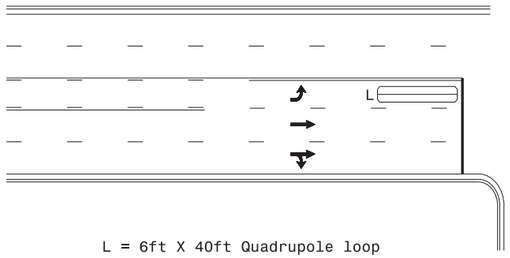


L = 6ft X 6ft
Wired in series

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

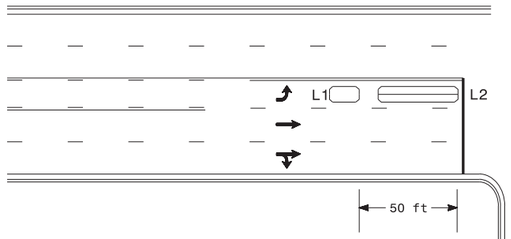
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

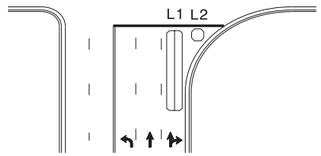
OR



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

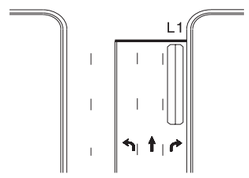
Queue Loop Detection

Right Turn Lane Detection

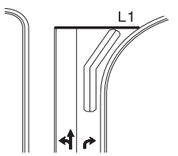


Shared Lane/
Wide Radius Turn

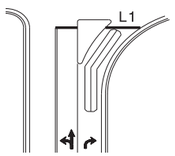
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

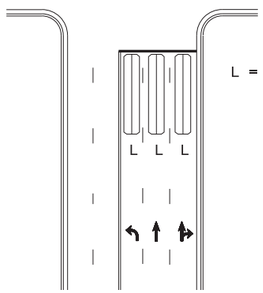


Wide Radius Turn



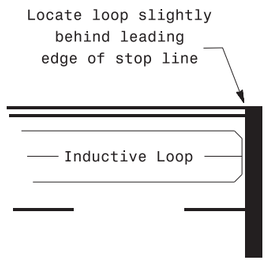
Channelized Turn

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: September 2020	REVIEWED BY: JPG
PREPARED BY: PLA	REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE
N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

9/8/2020
DATE

SIG. INVENTORY NO.

08-SEP-2020 11:54
S:\#TISIGS\Traffic Signals\Signal Design Section\Eastern Region\Loop Typicals\loop typical2015.dgn
jgalloway