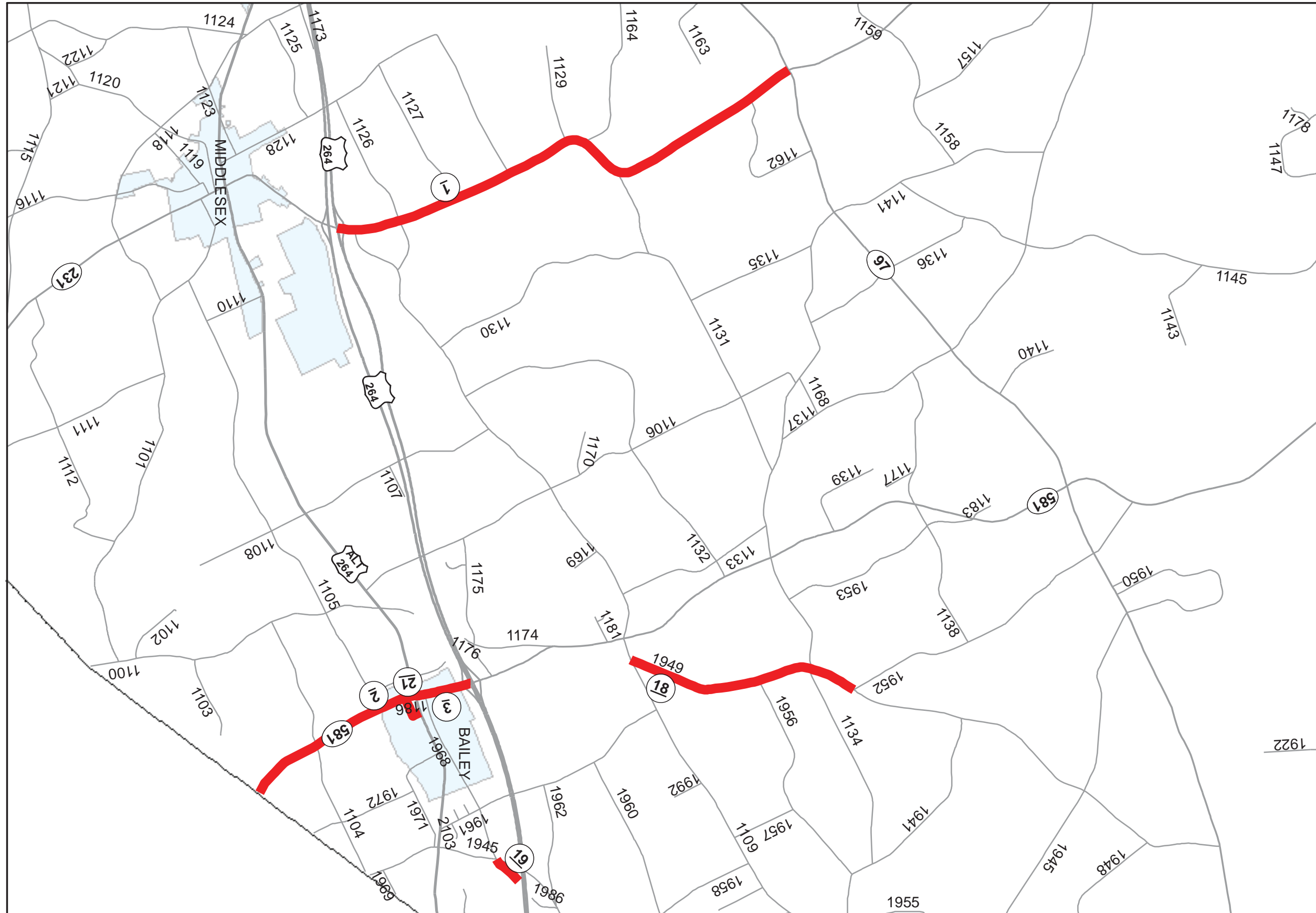


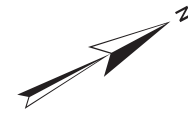
# Nash County



2019CPT.04.07.10641.2,  
2019CPT.04.07.20641  
etc Sheet No. 1

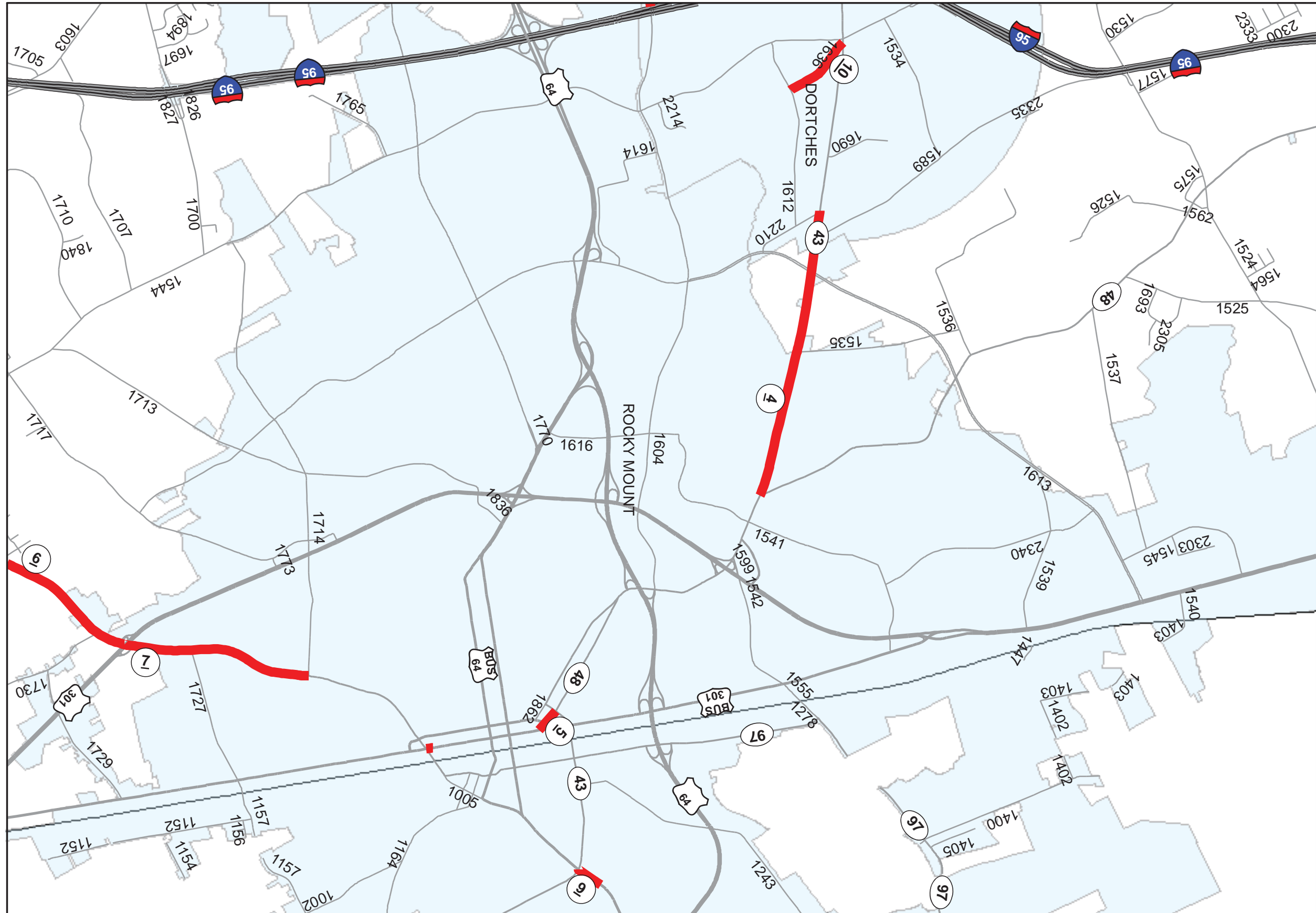


# Nash and Edgecombe County

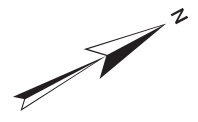


2019CPT.04.07.10641.2,  
2019CPT.04.07.20641  
etc

Sheet No. 2

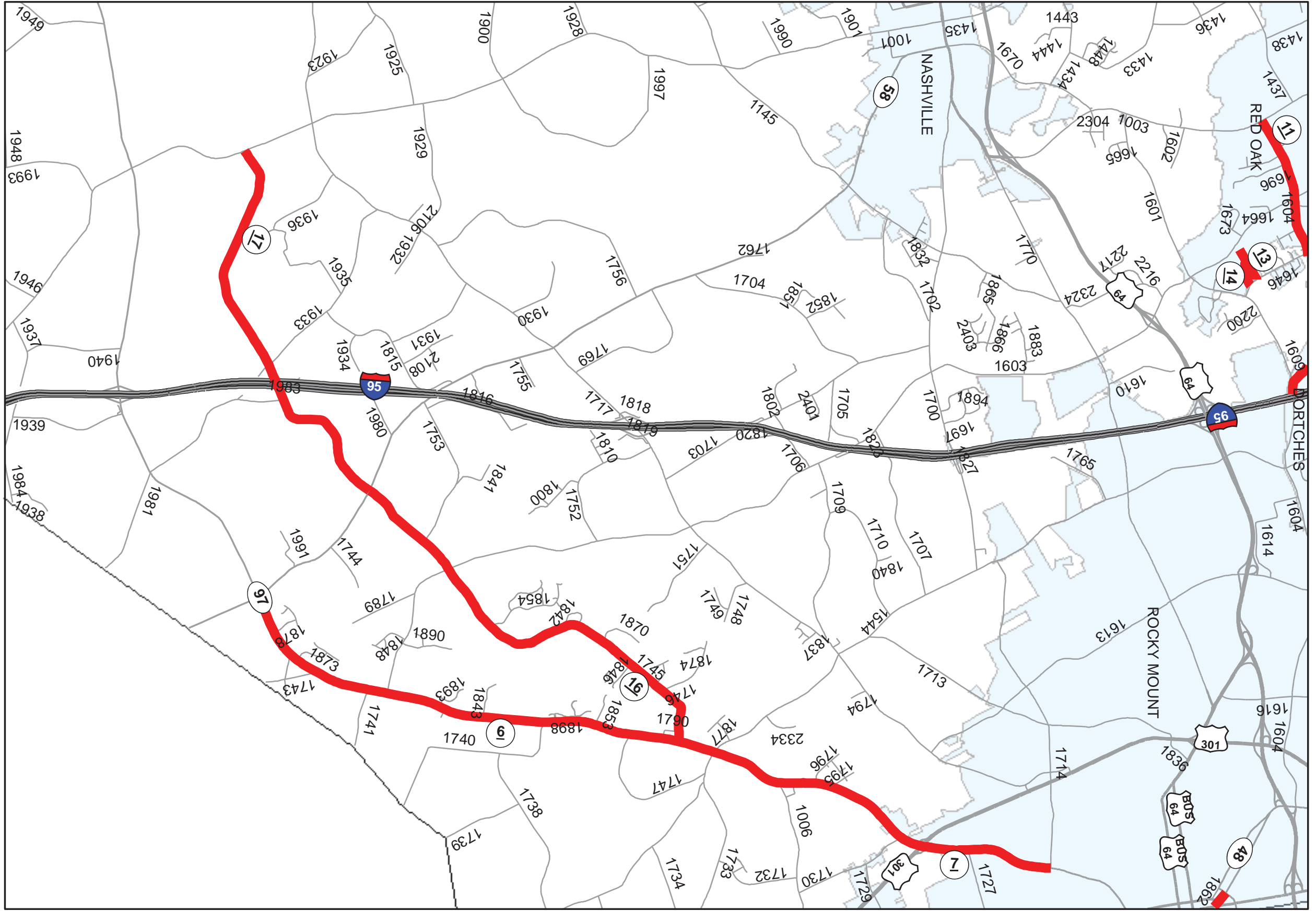


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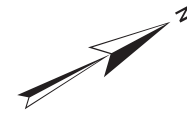


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etc

Sheet No. 3



# Nash and Edgecombe County

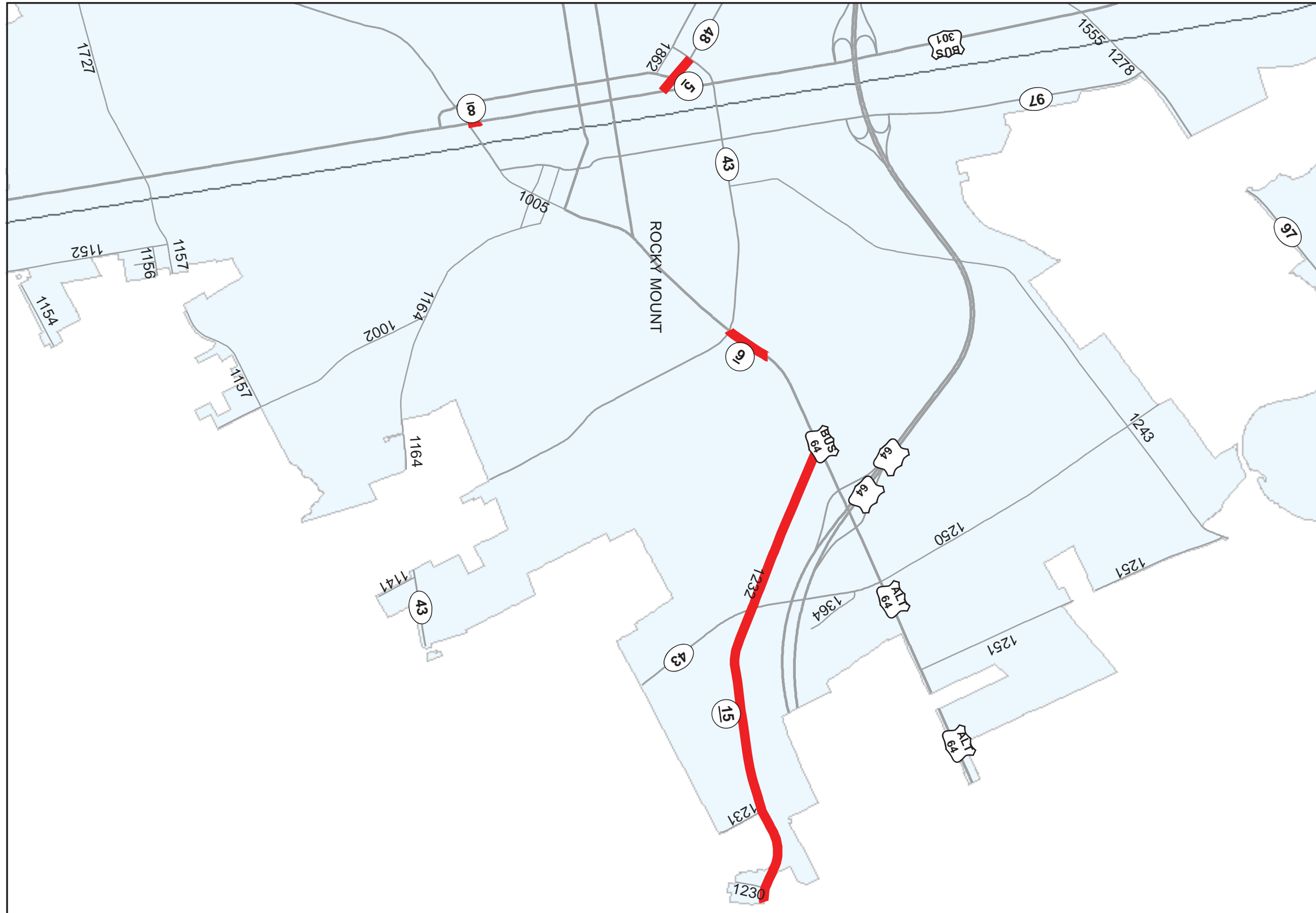


2019CPT.04.07.10641.2,

2019CPT.04.07.20641

Sheet No. 4

etc



# Nash County

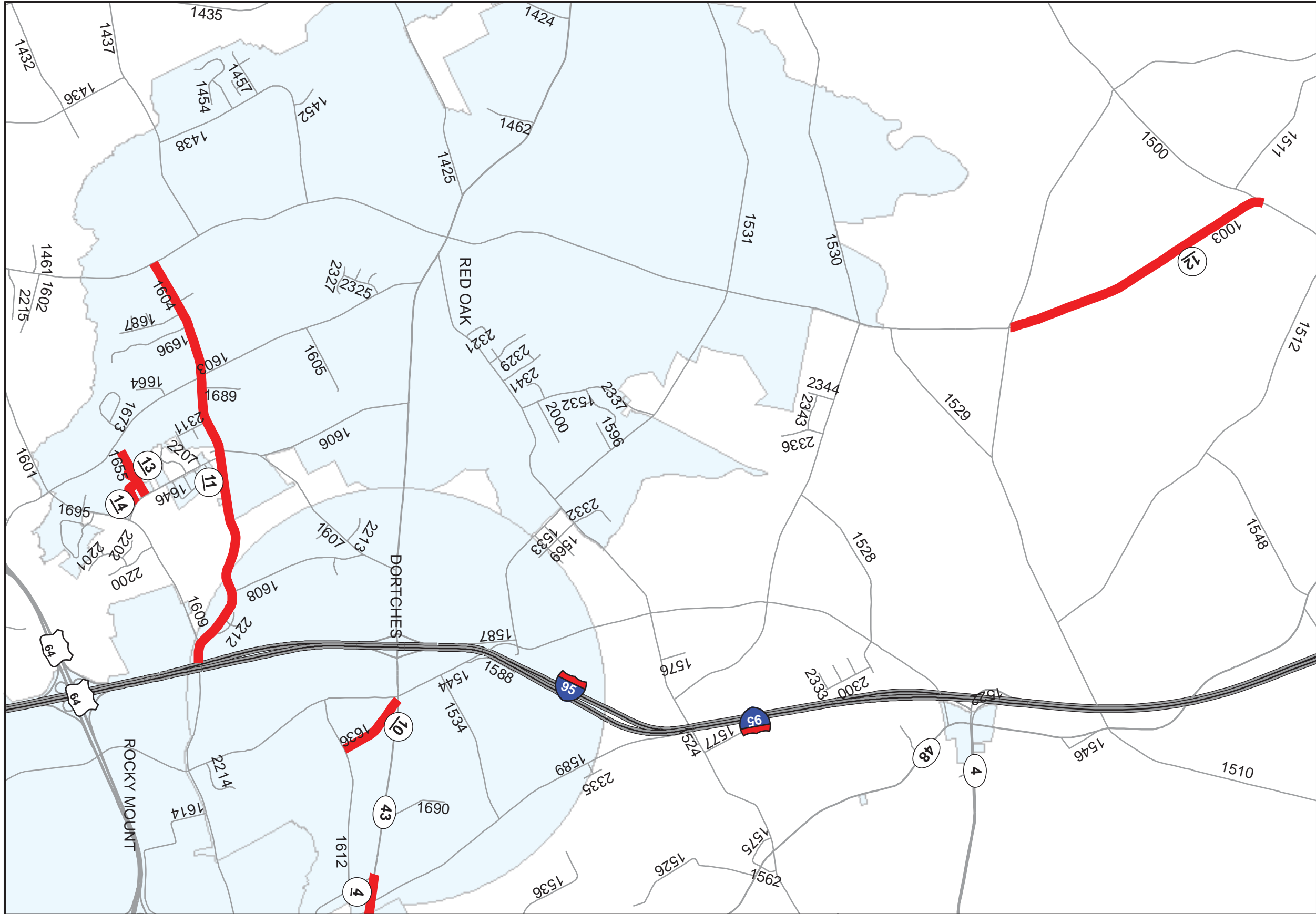


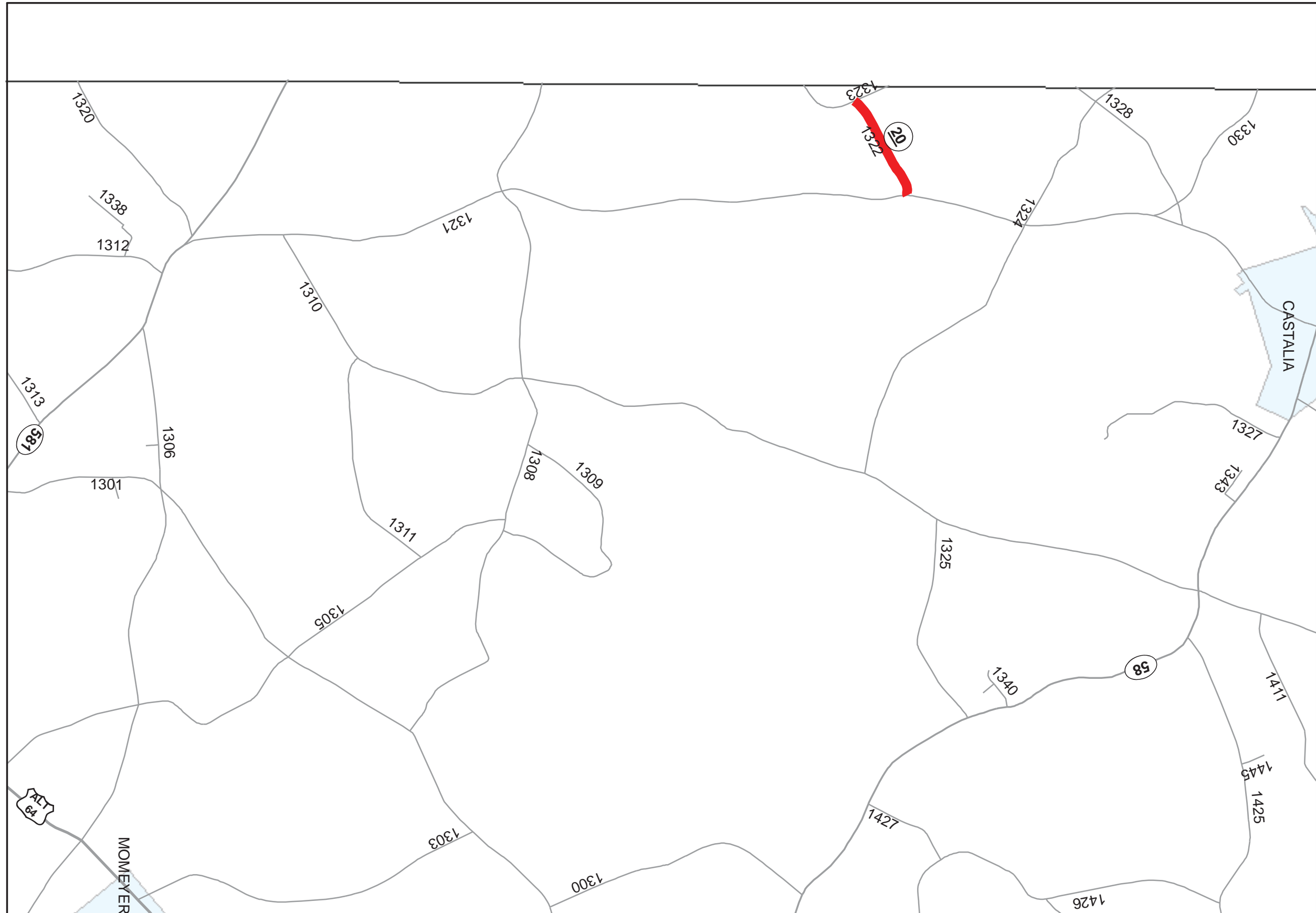
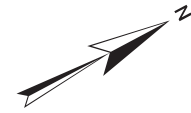
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2019CPT.04.07.20641

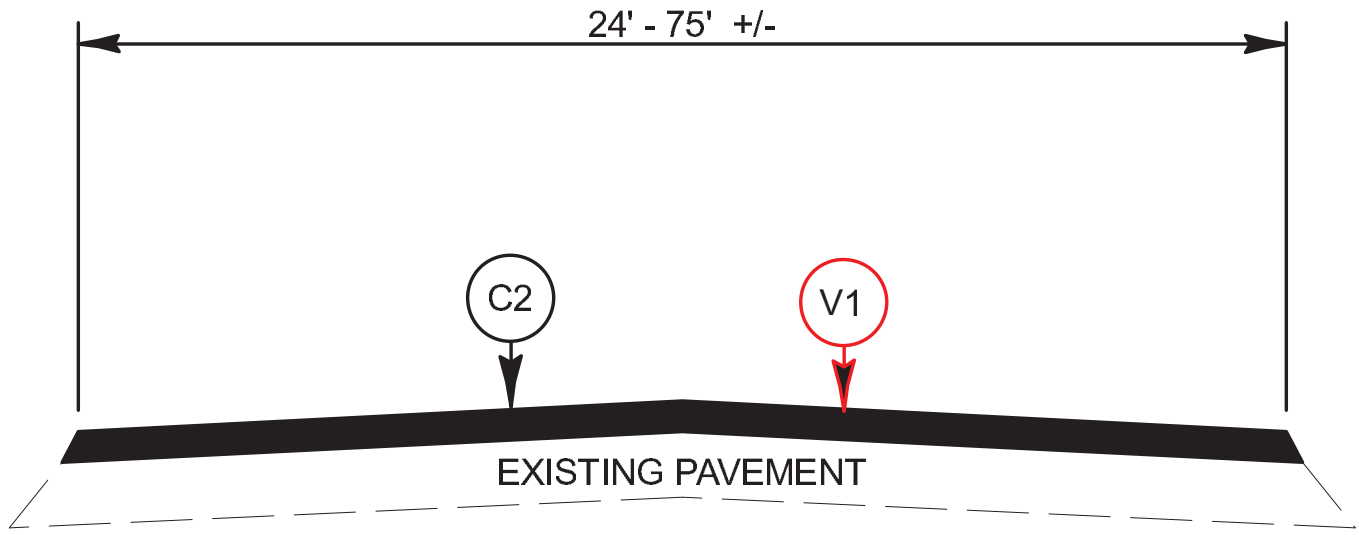
Sheet No. 5

etc



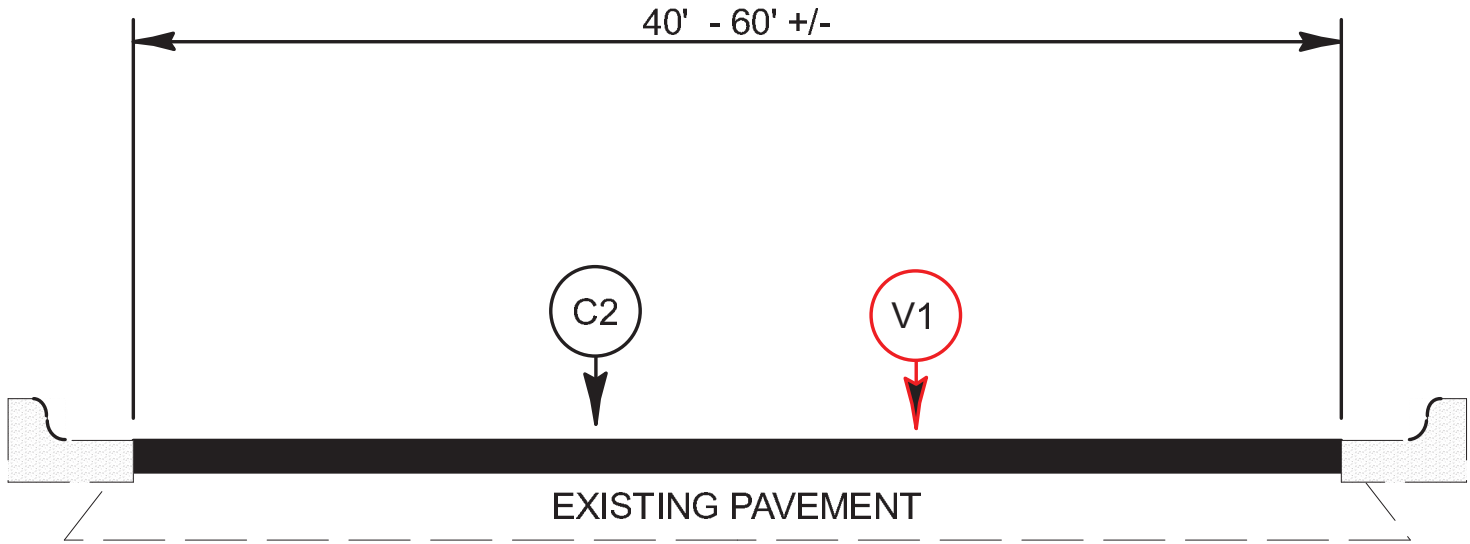


PROJECT NO.	SHEET NO.	TOTAL SHEETS
2019CPT.04.07.10641.2, ETC.	7	



TYPICAL SECTION NO. 1

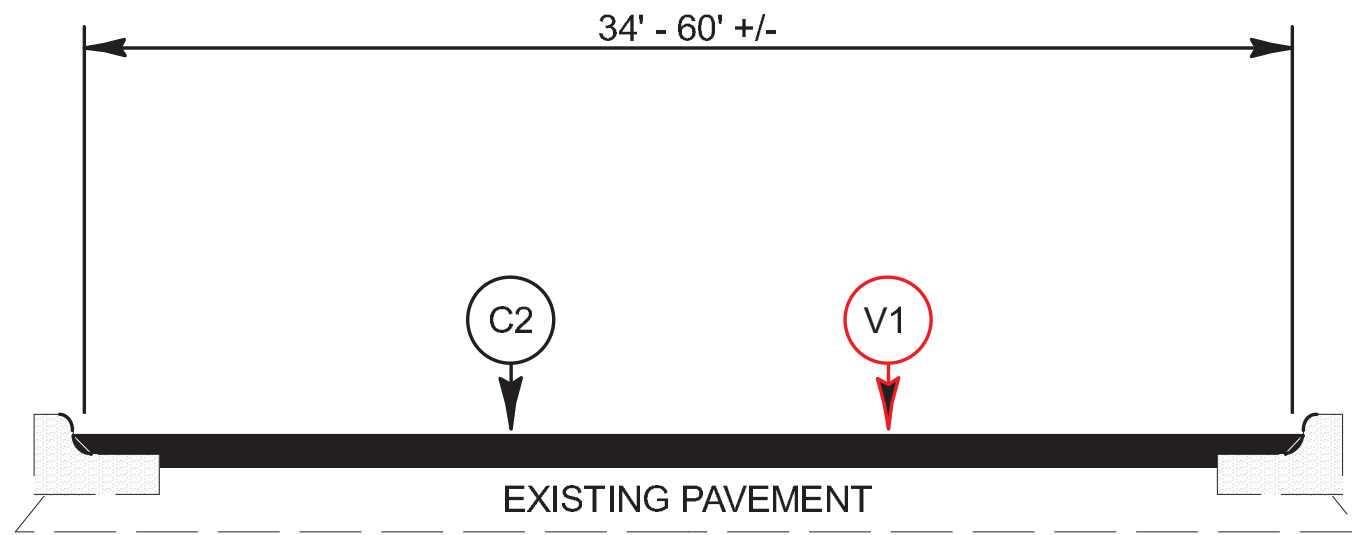
**NOTE:**  
 1. All widths are approximate. SR routes may be less than 20'. Contractor is responsible for appropriate size paving equipment.  
 2. Shoulder Reconstruction will be by NCDOT forces.



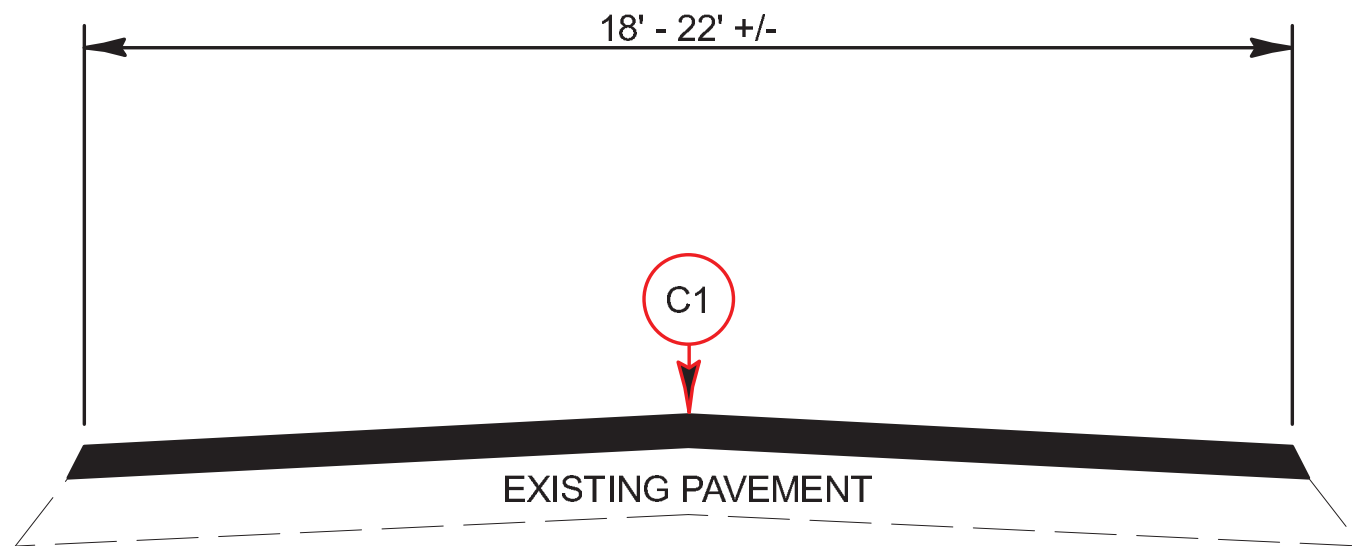
TYPICAL SECTION NO. 2

PAVEMENT SCHEDULE	
C1	APPROX 1.5" OF S9.5B AT AN AVERAGE RATE OF 165 LBS/SY
C2	APPROX 1.5" OF S9.5C AT AN AVERAGE RATE OF 168 LBS/SY
V1	1.5" FULL WITH MILLING

PROJECT NO.	SHEET NO.	TOTAL SHEETS
2019CPT.04.07.10641.2, ETC.	8	



TYPICAL SECTION NO. 3

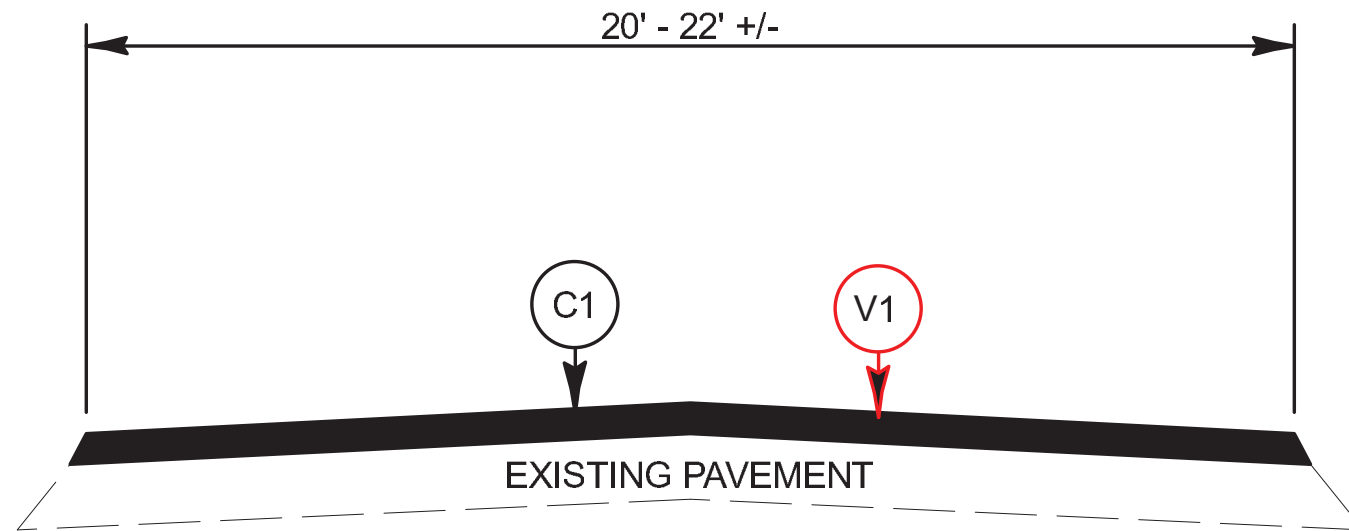


TYPICAL SECTION NO. 4

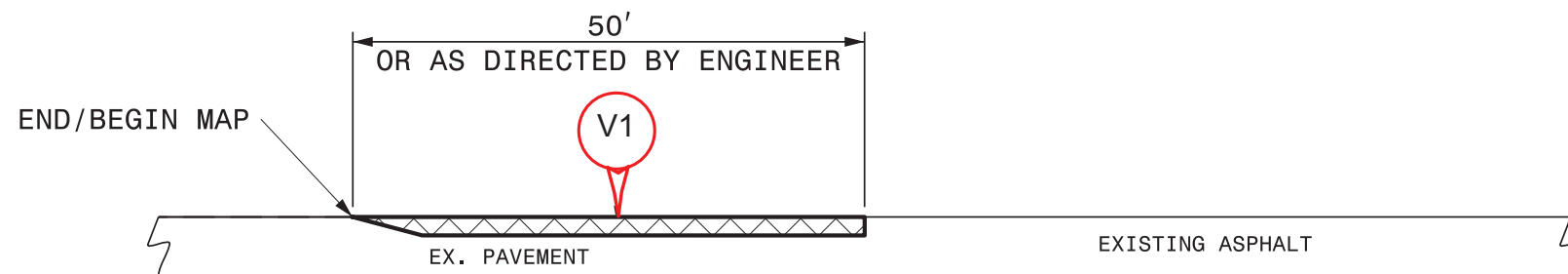
PAVEMENT SCHEDULE	
C1	APPROX 1.5" OF S9.5B AT AN AVERAGE RATE OF 165 LBS/SY
C2	APPROX 1.5" OF S9.5C AT AN AVERAGE RATE OF 168 LBS/SY
V1	1.5" FULL WITH MILLING



PROJECT NO.	SHEET NO.	TOTAL SHEETS
2019CPT.04.07.10641.2,ETC.	9	



TYPICAL SECTION NO. 5

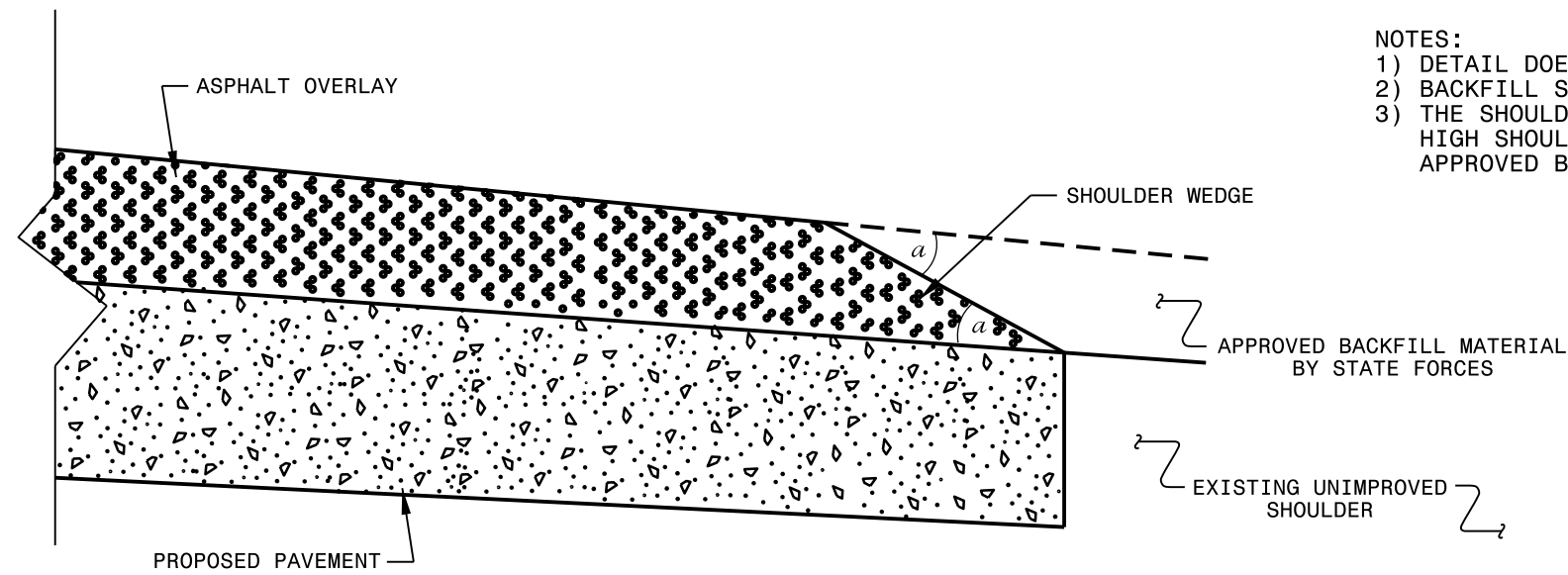


**DETAIL 1**  
**INCIDENTAL MILLING**

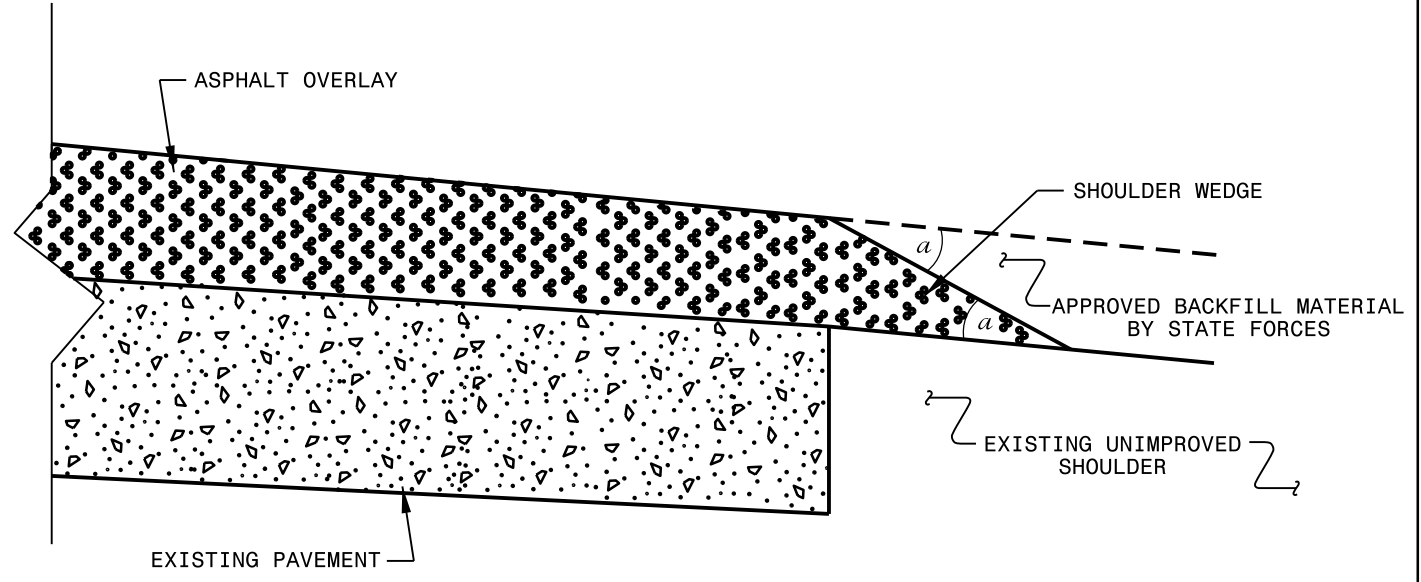
**NOTE:**  
1. PERFORM INCIDENTAL MILLING AT THE TIE INS, BRIDGE DECKS, RAILROADS AND APPROACHES AT THE DIRECTION OF THE ENGINEER

PAVEMENT SCHEDULE	
C1	APPROX 1.5" OF S9.5B AT AN AVERAGE RATE OF 165 LBS/SY
C2	APPROX 1.5" OF S9.5C AT AN AVERAGE RATE OF 168 LBS/SY
V1	1.5" FULL WITH MILLING

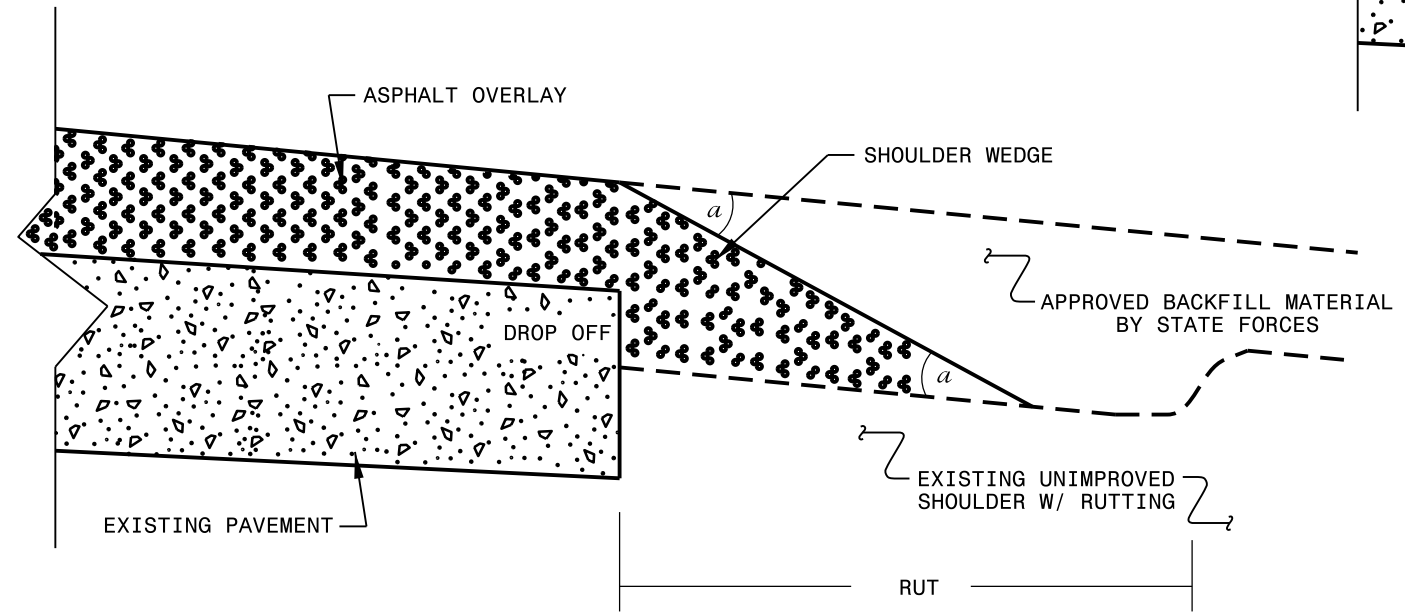
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ Widening or  
 with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ NO Widening)



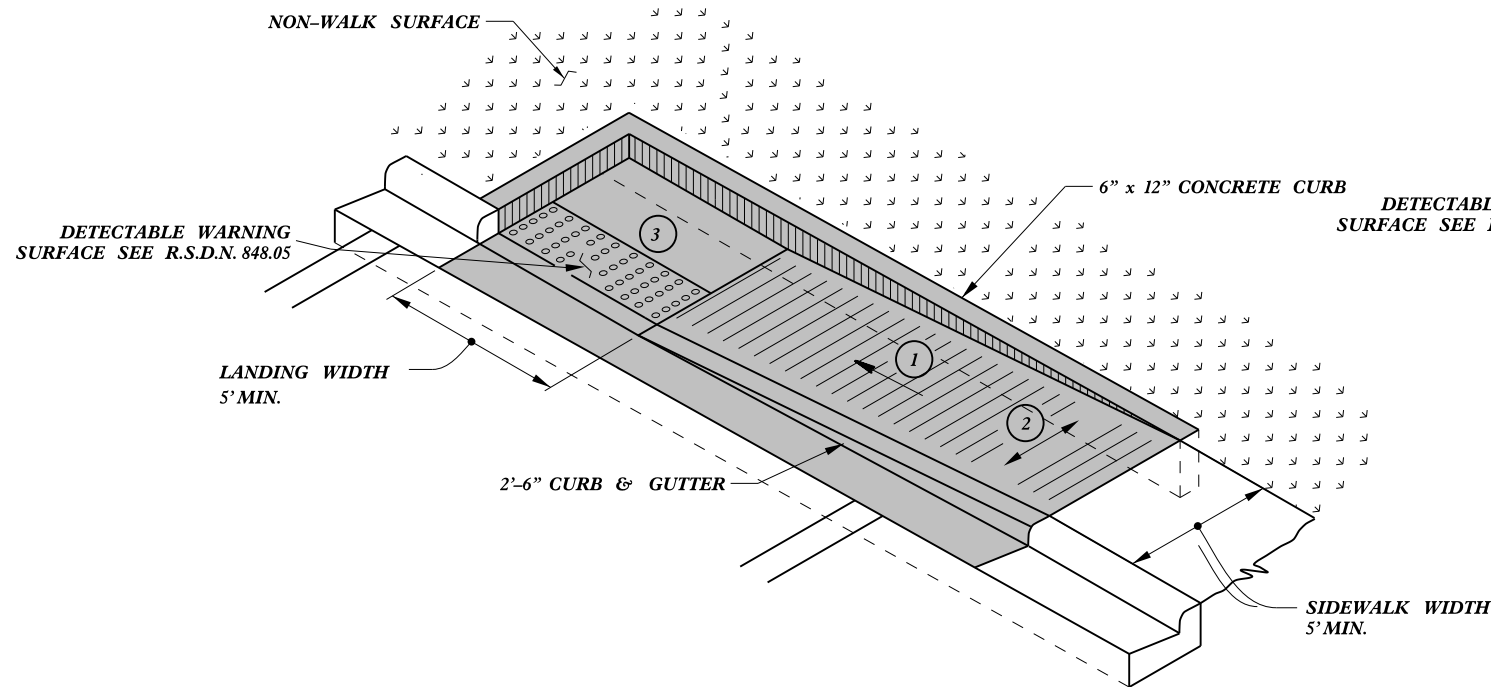
**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

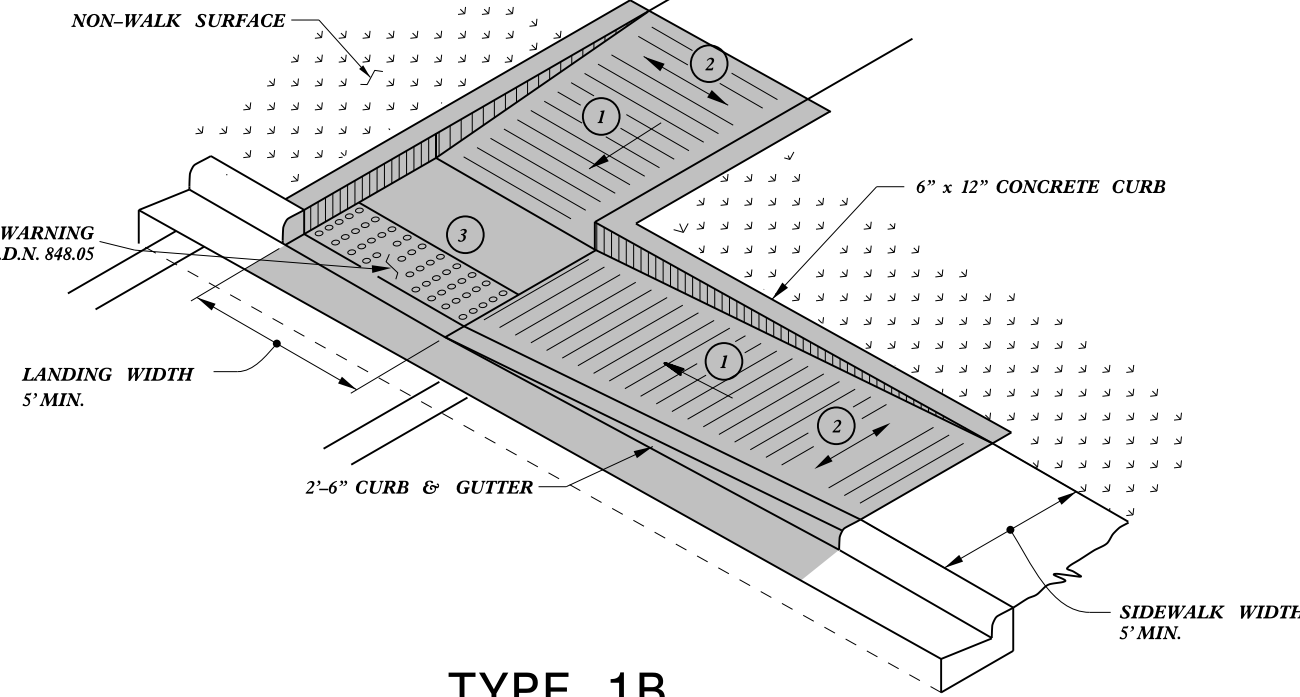
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>SHOULDER WEDGE DETAILS</b>	
ORIGINAL BY: T.SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 10/16/12
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn	

Q7-MAY-2018 11:39  
 S:\Contracts\2018\Resurfacing Projects\Division 4\Nesh County June 2018\Revised Shoulder Wedge Detail.dgn  
 P:\porter - AT OSD-202512

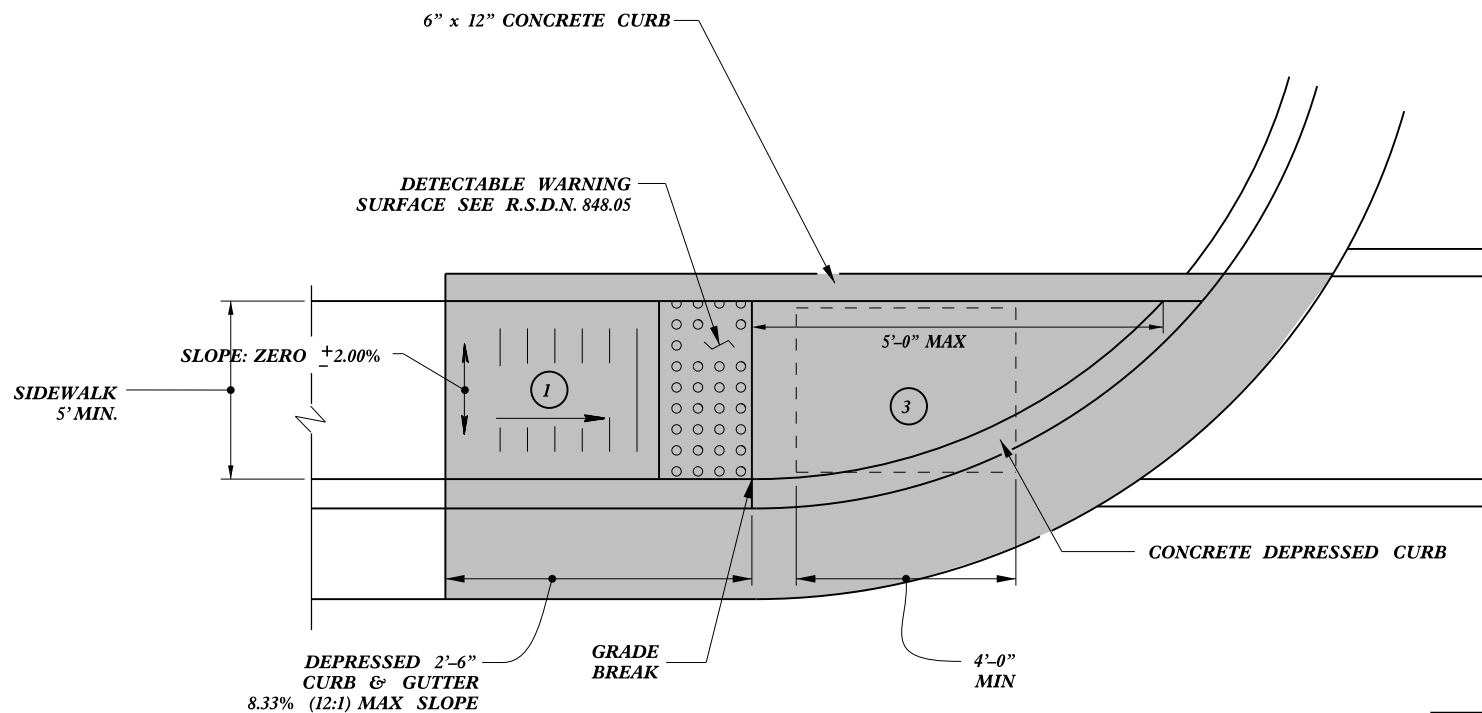
etc



TYPE 1A



TYPE 1B

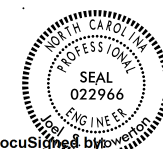


TYPE 1

PAY LIMITS FOR 1 CURB RAMP

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES



DocuSign by  
Joel S. Howerton

449E8E25522144F...

11/18/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950	FAX 919-250-4119
<b>CURB RAMPS</b>	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dwg	





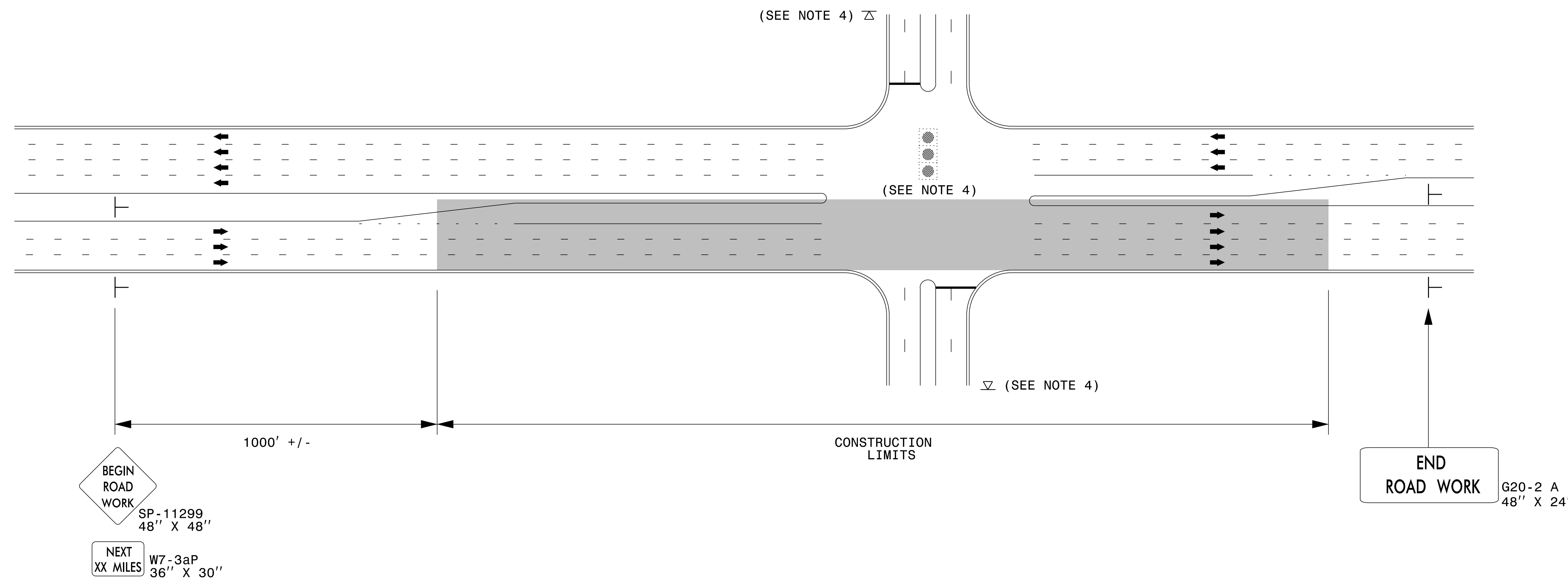
PROJECT NO.	SHEET NO.	TOTAL NO.
2019CPT.04.07.10641.2, etc	14	

## SUMMARY OF QUANTITIES

PROJECT COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGT		INCIDENTAL STONE BASE	1½" MILLING	INCIDENTAL MILLING	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	RETROFIT CURB RAMPS	ADJ. OF MAN-HOLES	ADJ. OF METER OR VALVE BOXES	INDUCTIVE LOOP										
									MI	FT											TONS	SY	SY	TONS	TONS	TONS	EA	EA	EA	LF
2019CPT.04.07.10641.2 Nash	1	NC 231	FROM US 264 BYPASS TO NC 97	1	2	2WU	NO	NO	4.5	24	200	69,678			5,970	358														
	2	NC 581	FROM WILSON CL TO BEGIN CURB & GUTTER	1	2	2WU	NO	NO	1.55	24		21,824			2,084	125														
	"	"	FROM BEGIN CURB & GUTTER TO US 264 ALT.	2	2	2WU	NO	NO	0.25	40		5,867			504	30		8	4											
	TOTAL FOR MAP NO. 2									1.8			27,691		2,588	155		8	4											
	3	NC 581	FROM US 264 ALT TO WILLIAMS ST.	3	2	2WU	NO	NO	0.17	36		3,590			309	19				1										
	"	"	FROM WILLIAMS ST TO END CURB & GUTTER	3	4	MU	NO	NO	0.23	48		6,477			556	33			1	1										
	"	"	FROM END CURB & GUTTER TO US 264 BYPASS BRIDGE	1	5	MU	NO	NO	0.06	75		2,640			227	14														
	TOTAL FOR MAP NO. 3									0.46			12,707		1,092	66		1	2											
	4	NC 43 - BENVENUE RD.	FROM NC 48 TO JOINT 500' NORTH OF SR 2210	2	5	MU	NO	NO	2.14	60		76,440			6,549	393				4										
	5	NC 48 - FALLS RD.	FROM US 301 BUS. (N. CHURCH ST.) TO NC 43 (GRACE ST.)	3	3	MU	NO	NO	0.18	34		3,590			309	19	7	8	8	600										
	6	NC 97	FROM NC 58 TO US 301	1	2	2WU	NO	NO	7.8	28		137,750			11,803	708														
	7	NC 97 - RALEIGH RD.	FROM US 301 TO SR 1714 (NASHVILLE RD.)	2	5	MU	NO	NO	1.3	60		45,760			3,929	236	4	6	2	1,600										
8	US 301(BUS) - S. FRANKLIN ST.	FROM RXR TRACKS TO NC 97 (RALEIGH RD.)	3	2	2WU	NO	NO	0.09	35		1,848			159	10		5	1	600											
<b>TOTAL FOR PROJ NO. 2019CPT.04.07.10641.2</b>									<b>18.27</b>		<b>200</b>	<b>375,464</b>		<b>32,399</b>	<b>1,945</b>	<b>11</b>	<b>28</b>	<b>21</b>	<b>2,800</b>											
2019CPT.04.07.20641 Nash	10	SR 1636 - TOWN HALL RD.	FROM NC 43 TO SR 1612	4	2	2WU	NO	NO	0.53	20			400	527		35														
	11	SR 1604 - HUNTER HILL RD.	FROM SR 1003 TO I-95 BRIDGE	4	2	2WU	NO	NO	3.08	21			400	3,255		218														
	12	SR 1003 - RED OAK RD.	FROM SR 1500 TO SR 1510	4	2	2WU	NO	NO	2.04	20			400	2,027		136														
	13	SR 1655 - WOODBROOK DR.	FROM SR 1646 TO DEAD END	4	2	2WU	NO	NO	0.38	18				340		23														
	14	SR 1671 - NORTHERN ESTATES CIR.	FROM SR 1646 TO SR 1655	4	2	2WU	NO	NO	0.2	18				179		12														
	16	SR 1745 - BEND OF THE RIVER RD.	FROM NC 97 TO NC 58	4	2	2WU	NO	NO	4.71	20			400	5,128		344														
	17	SR 1745 - BEND OF THE RIVER RD.	FROM NC 58 TO SR 1001	4	2	2WU	NO	NO	4.37	20			400	4,546		305														
	18	SR 1949 - LILES RD	FROM SR 1952 TO SR 1109	4	2	2WU	NO	NO	2.15	20			400	2,258		151														
	19	SR 1968 - PINE ST.	FROM SR 1945 TO DEAD END	4	2	2WU	NO	NO	0.26	20			200	258		17														
	20	SR 1322 - RICH RD.	FROM SR 1321 TO SR 1323	4	2	2WU	NO	NO	0.69	20			400	686		46														
	21	SR 1186 - SANFORD ST.	FROM NC 581 TO US 264 ALT.	5	2	2WU	NO	NO	0.1	20		1,173		99		7														
<b>TOTAL FOR PROJ NO. 2019CPT.04.07.20641</b>									<b>18.51</b>			<b>1,173</b>	<b>3,000</b>	<b>19,303</b>		<b>1,293</b>														
31	Ed	9	US 64 BUS - E. RALEIGH BLVD EDGEcombe	FROM E. GRAND AVE. TO PINEHURST ST.	3	4	MU	NO	NO	0.21	42		5,500		472	28	2		600											
<b>TOTAL FOR PROJ NO. 2019CPT.04.05.10331</b>																														
31	Ed	15	SR 1232 - MEADOWBROOK RD. EDGEcombe	FROM ROCKY MT. CL TO US 64 ALT. (E. RALEIGH BLVD.)	5	2	2WU	NO	NO	1.8	22		24,800	2,088	140	8	6													
<b>TOTAL FOR PROJ NO. 2019CPT.04.05.20331</b>																														
<b>GRAND TOTAL</b>									<b>38.79</b>		<b>200</b>	<b>406,937</b>	<b>3,000</b>	<b>21,391</b>	<b>32,871</b>	<b>3,406</b>	<b>13</b>	<b>36</b>	<b>27</b>	<b>3,400</b>										



## 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



**RESURFACING ADVANCE  
WARNING SIGNS FOR  
URBAN / SUBURBAN  
FACILITIES**

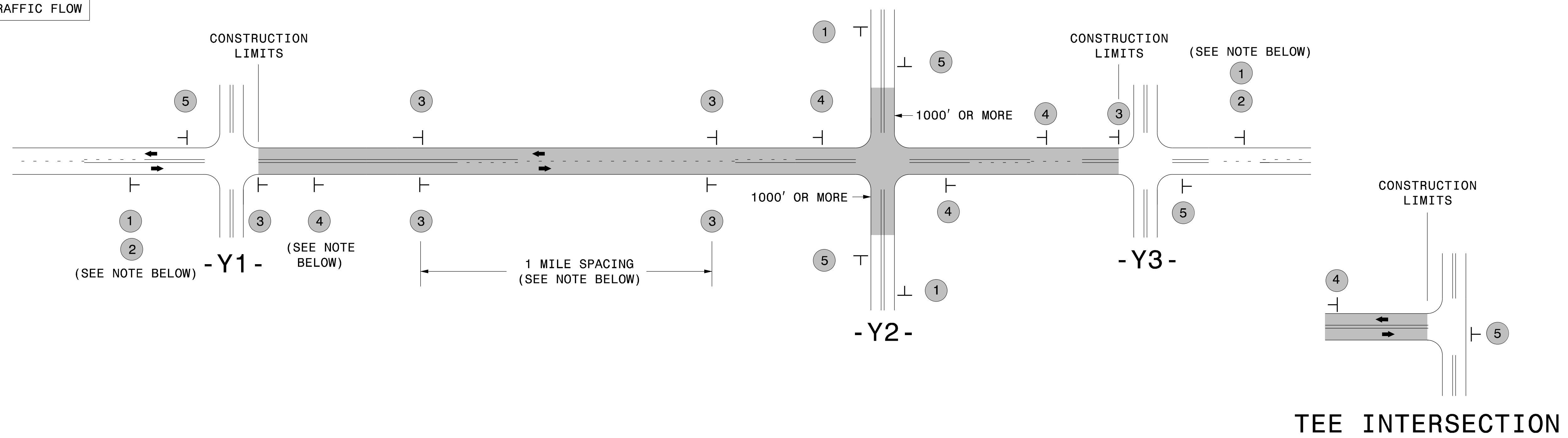


# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┆ STATIONARY SIGN

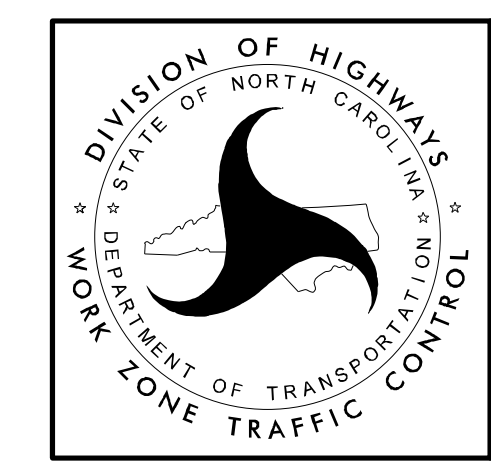
← DIRECTION OF TRAFFIC FLOW



SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#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)</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>SUBDIVISION ROADS</li> <li>DEAD END ROADS</li> </ol> <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>                   PLACED 500' IN ADVANCE OF FLAGGER.             </div> <div>                   PLACED 250' IN ADVANCE OF FLAGGER.             </div> </div>
		<p>- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.</p> <p>- AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.</p>	
		<p>- THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS.</p> <p>- DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS.</p> <p>- INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE.</p> <p>- 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.</p> <p>- A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.</p> <p>- FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.</p>	
	<p>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.</p>		

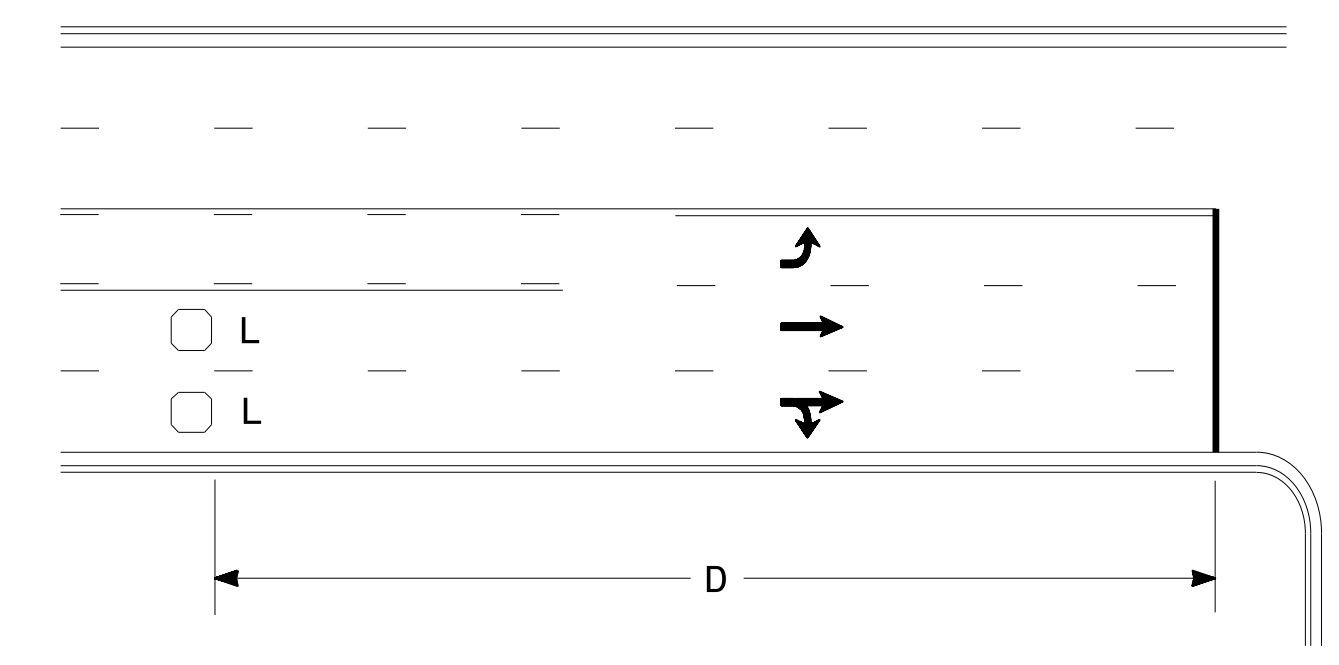
**MAPS LESS THAN 2 MILES**

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)

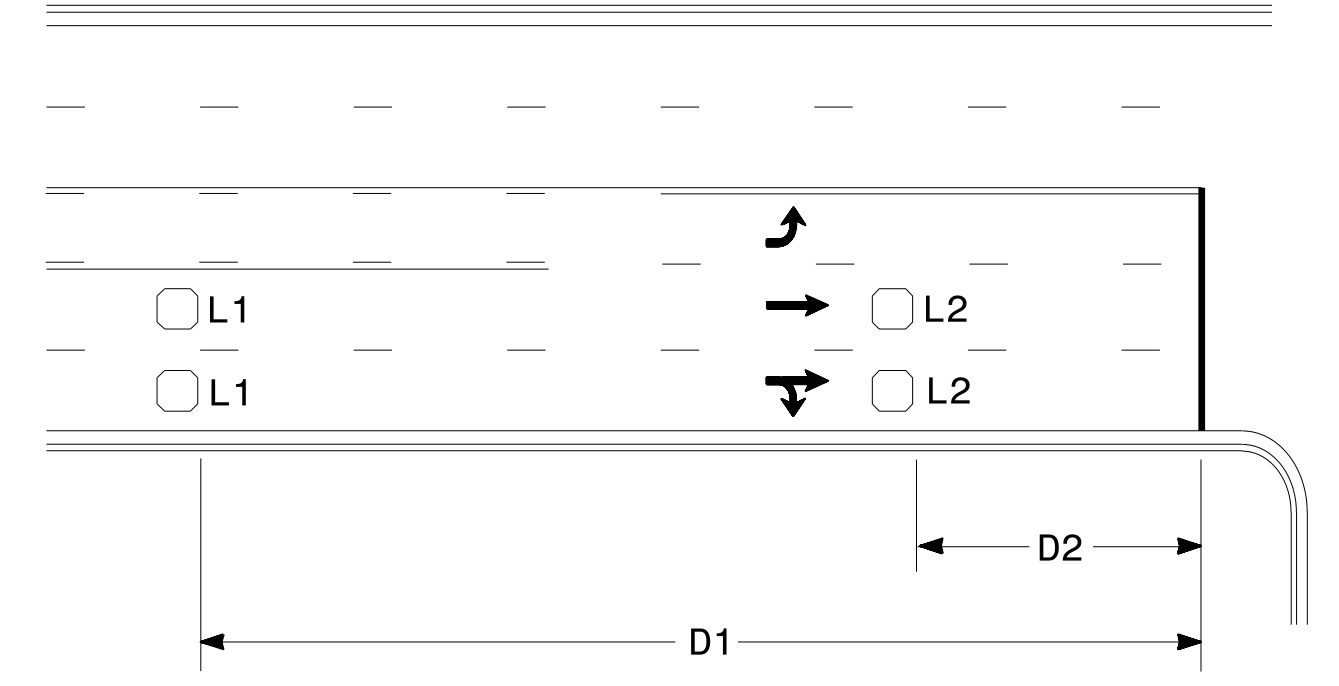


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

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

Volume Density Operation

OR

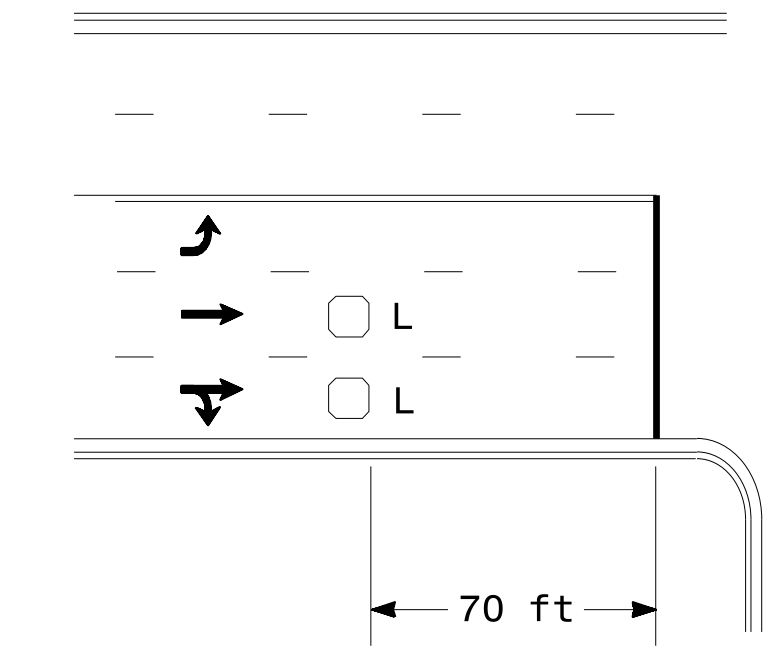


Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft  
Wired in series  
L2 = 6ft X 6ft  
Wired in series

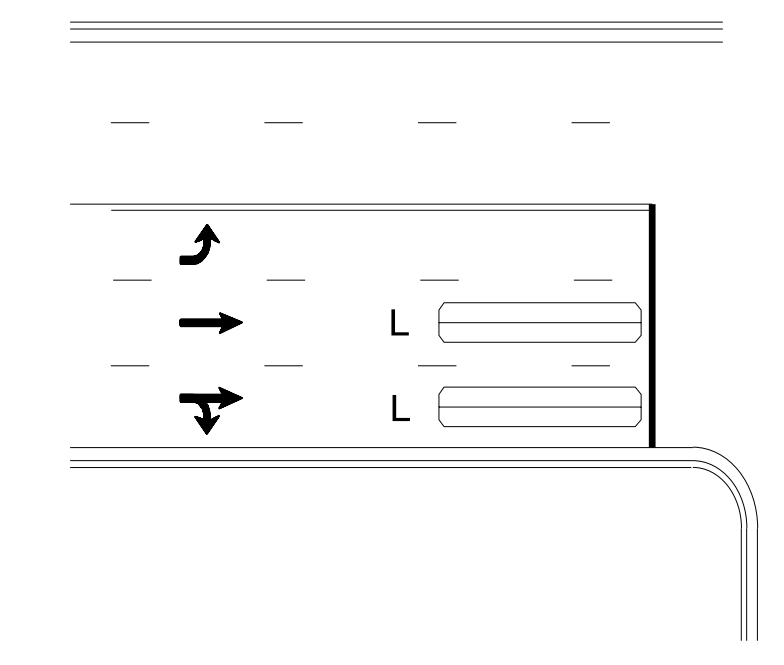
"Stretch" Operation

### Low Speed Detection (≤35 mph)



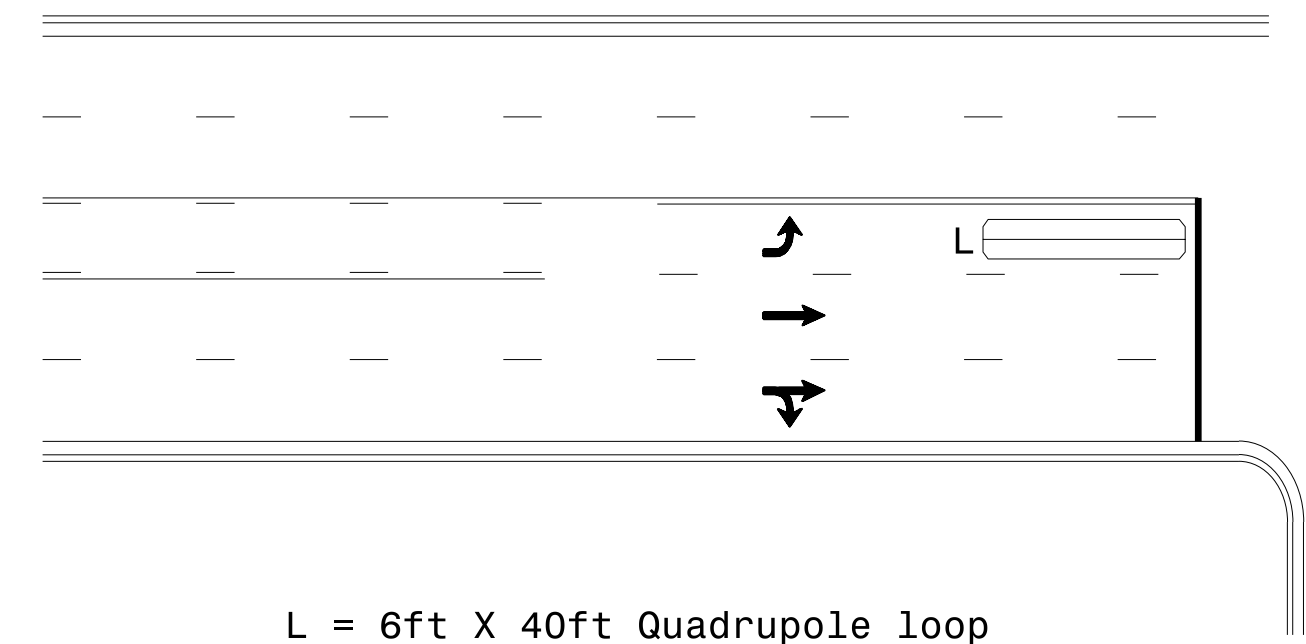
L = 6ft X 6ft  
Wired in series

OR



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

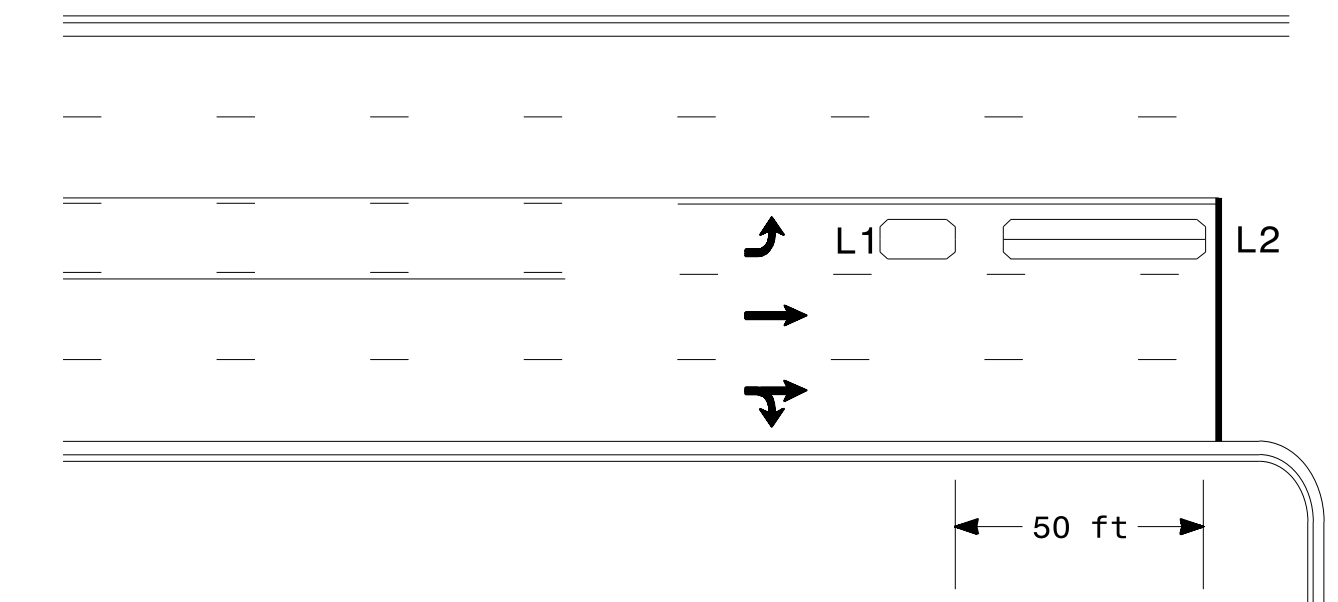
### Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

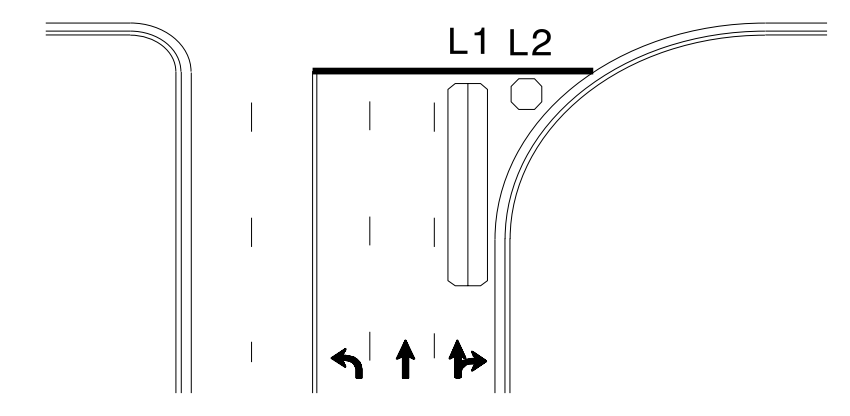
OR



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

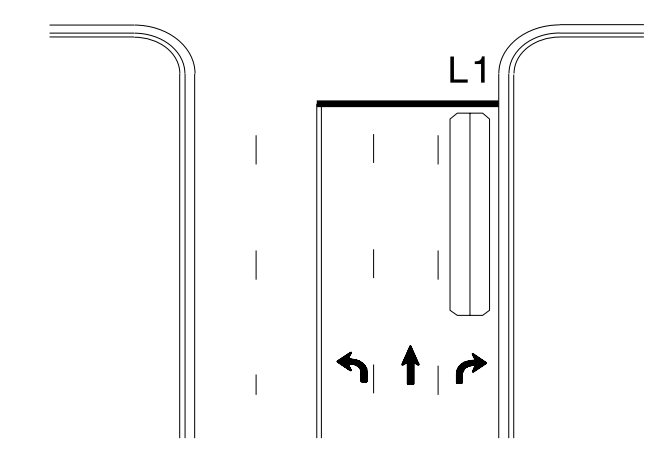
Queue Loop Detection

### Right Turn Lane Detection

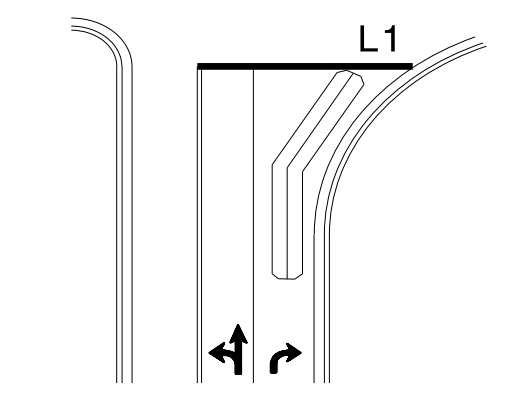


Shared Lane/  
Wide Radius Turn

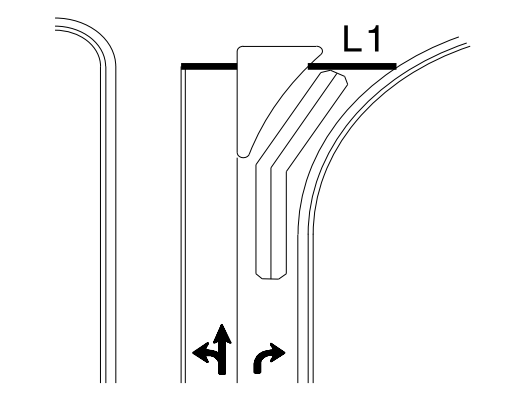
L1 = 6ft X 40ft Quadrupole loop  
L2 = 6ft X 6ft [Minimum] Presence loop  
Wired separately



Standard Turn

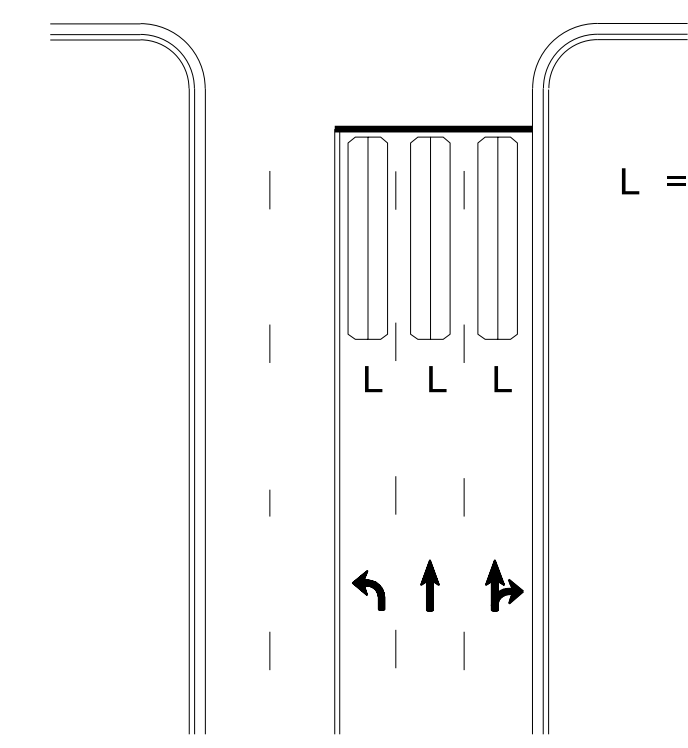


Wide Radius Turn



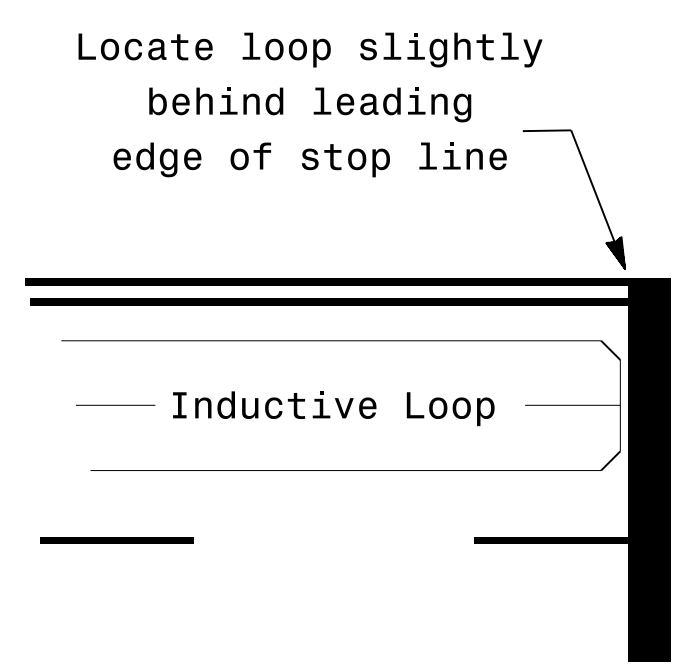
Channelized Turn

### 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

Prepared In the Offices of:  
TRANSPORTATION MOBILITY AND SAFETY DIVISION  
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:
REVISIONS	INIT. DATE

SCALE: N/A

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
PAMELA L. ALEXANDER  
23489

DocuSigned by:  
P. Alexander  
1/30/2015 10:44:44 AM  
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SIG. INVENTORY NO.

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 paalexander