

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 6

# PLANS

**Letting Date: March 7, 2018**

**CONTRACT ID: DF00201**

**TIP NO.: -----**

**FEDERAL AID NO.: STATE FUNDED**

**WBS ELEMENT NO.: 2019CPT.06.02.10091.1, 2019CPT.06.02.20091.1 & 2019CPT.06.02.20241.1**

**ROUTE NO.: NC 11, SR 1550, SR 1730 & SR 1843**

**LOCATION: VARIOUS**

**COUNTY: BLADEN & COLUMBUS**

**LENGTH OF PROJECT: 16.44 MILES**

**TYPE OF WORK: RESURFACING, WIDENING & PVT. MKGS.**

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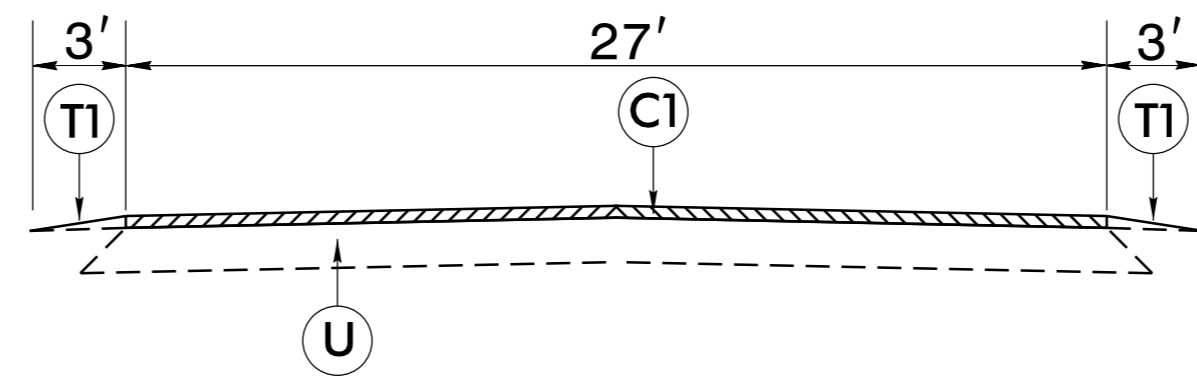
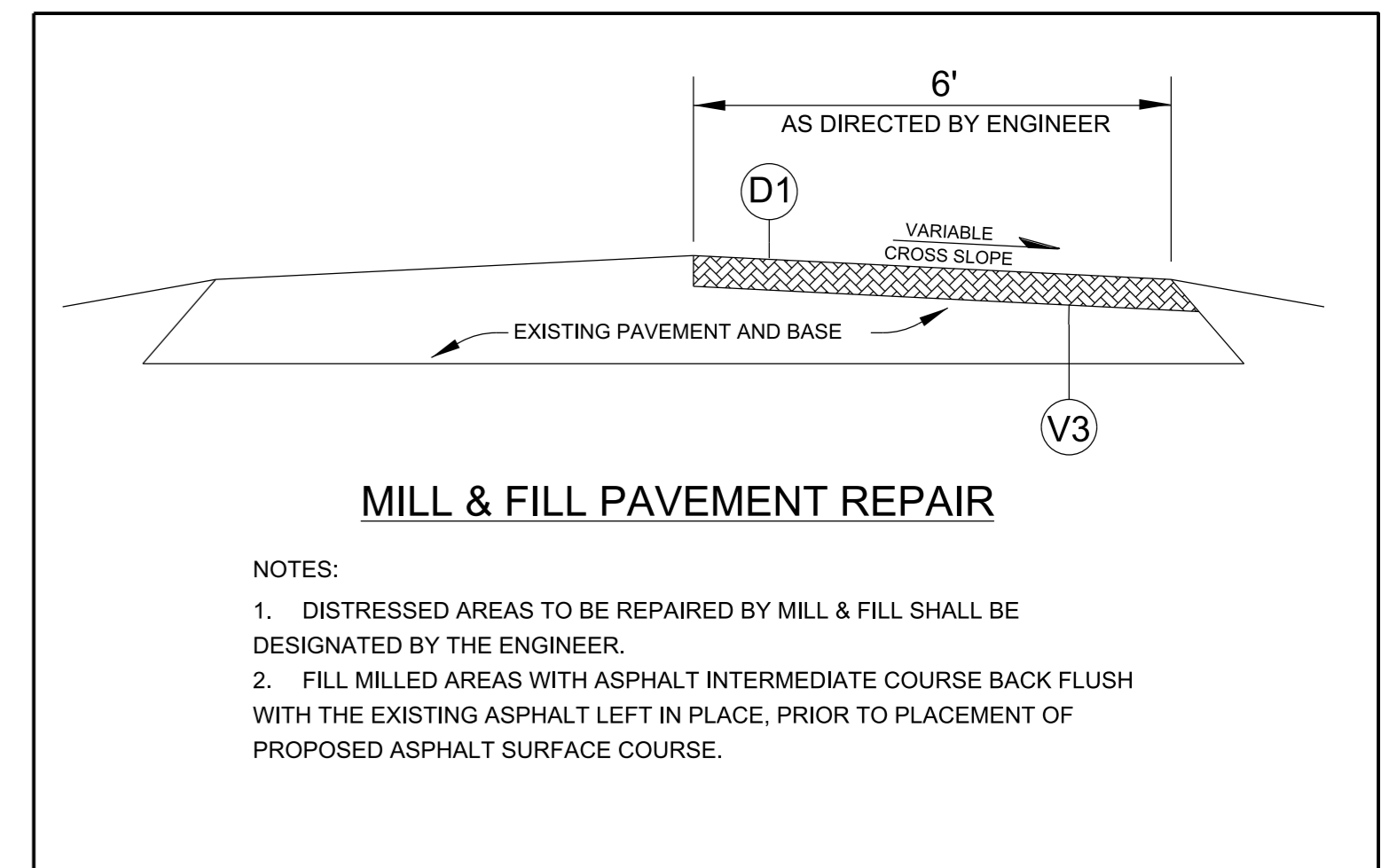






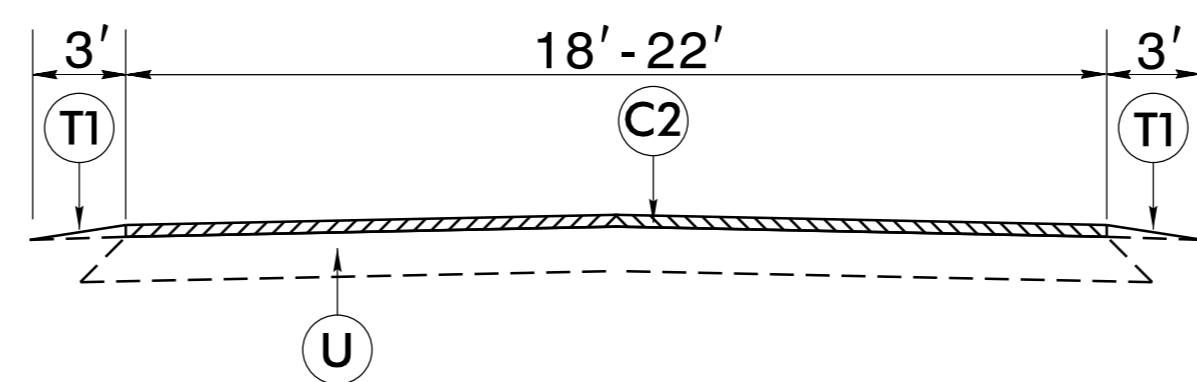
# PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T1	SHOULDER RECONSTRUCTION WITH AGGREGATE SHOULDER BORROW
U	EXISTING PAVEMENT
V1	0" - 1½" MILLING
V2	1½" MILLING
V3	2½" MILLING

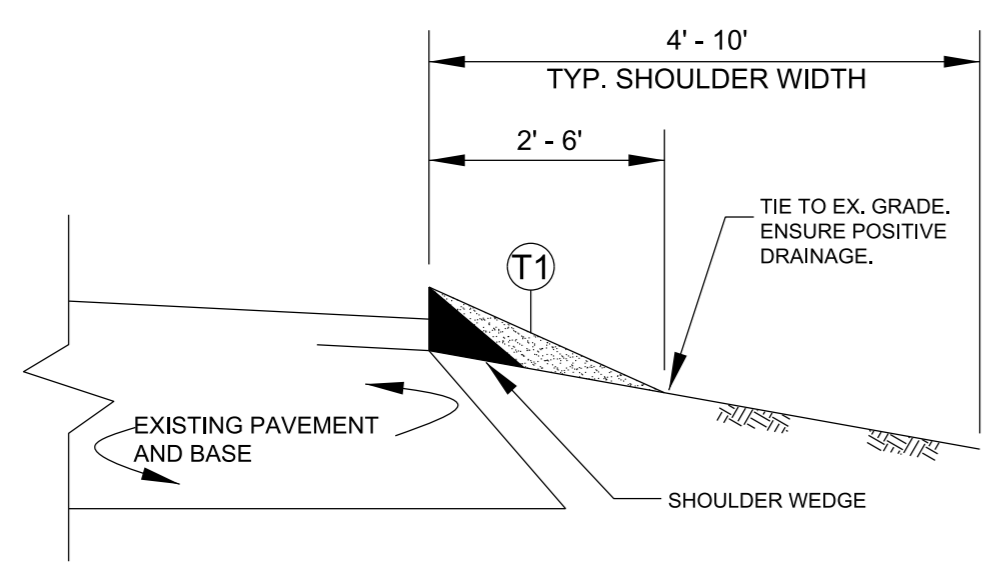


\*PLUS MILL AND FILL REPAIR  
(SEE DETAIL)

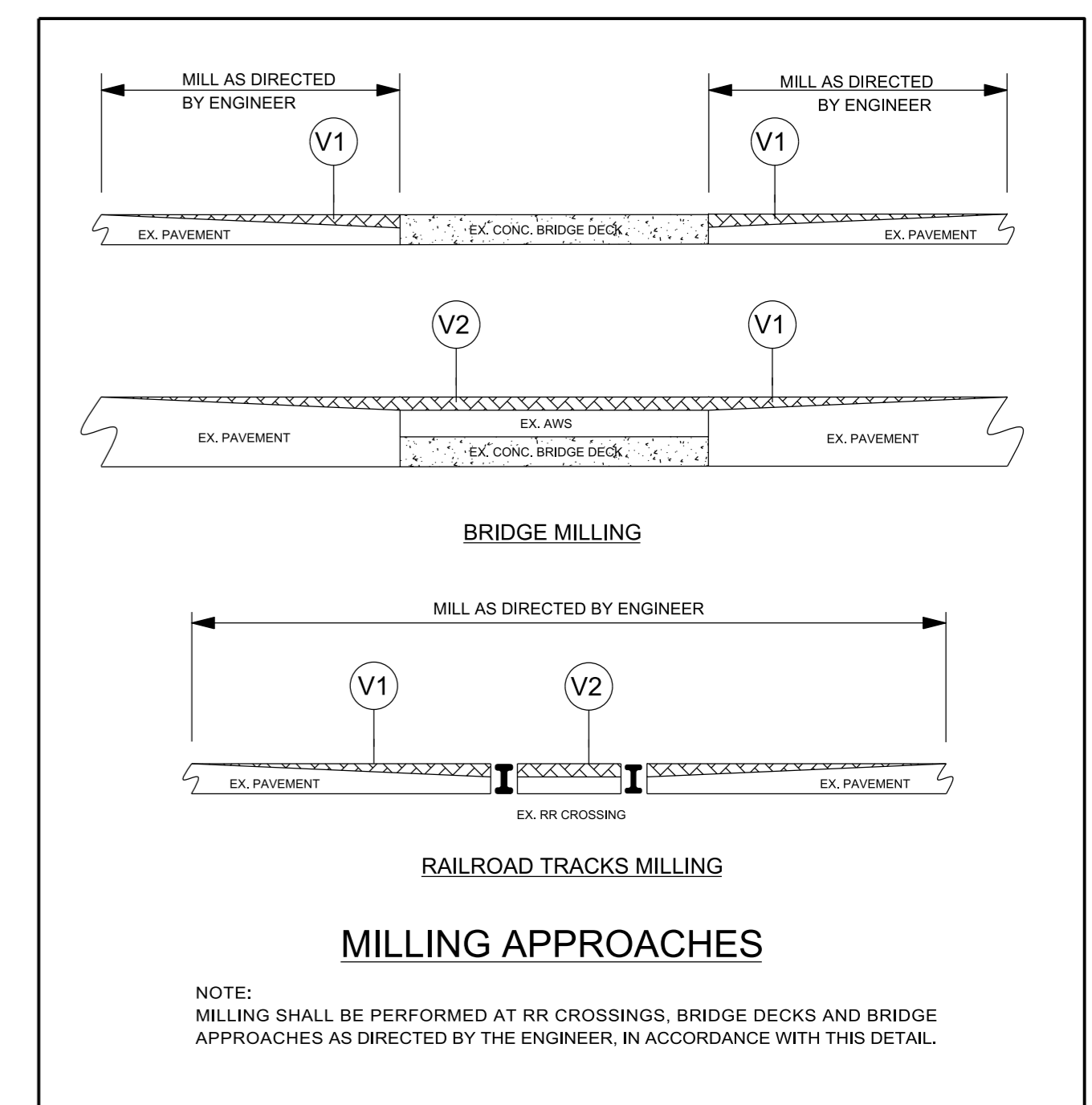
\*PLUS ADDITIONAL 2'  
INSIDE CURVE WIDENING  
(SEE DETAIL)



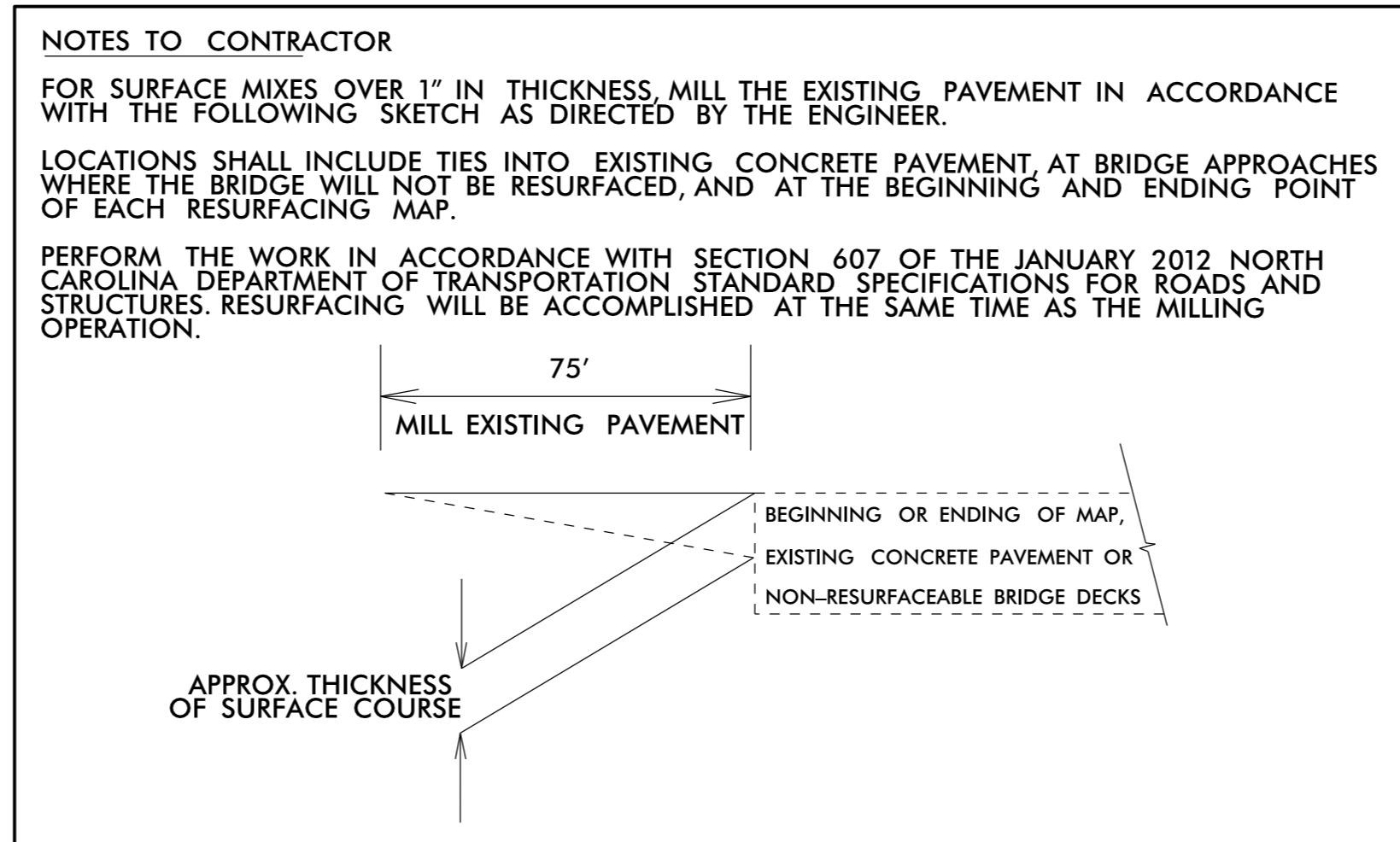
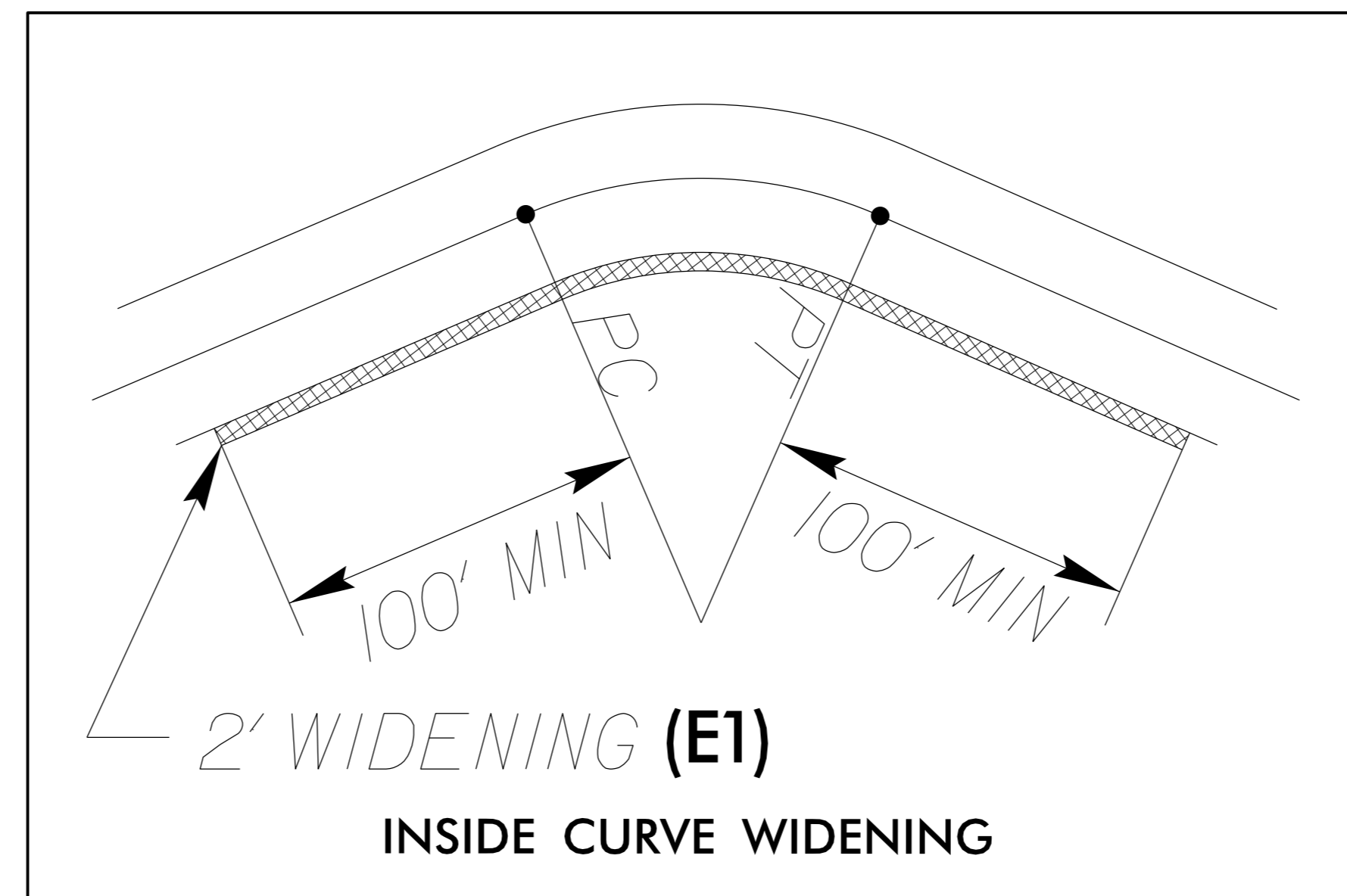
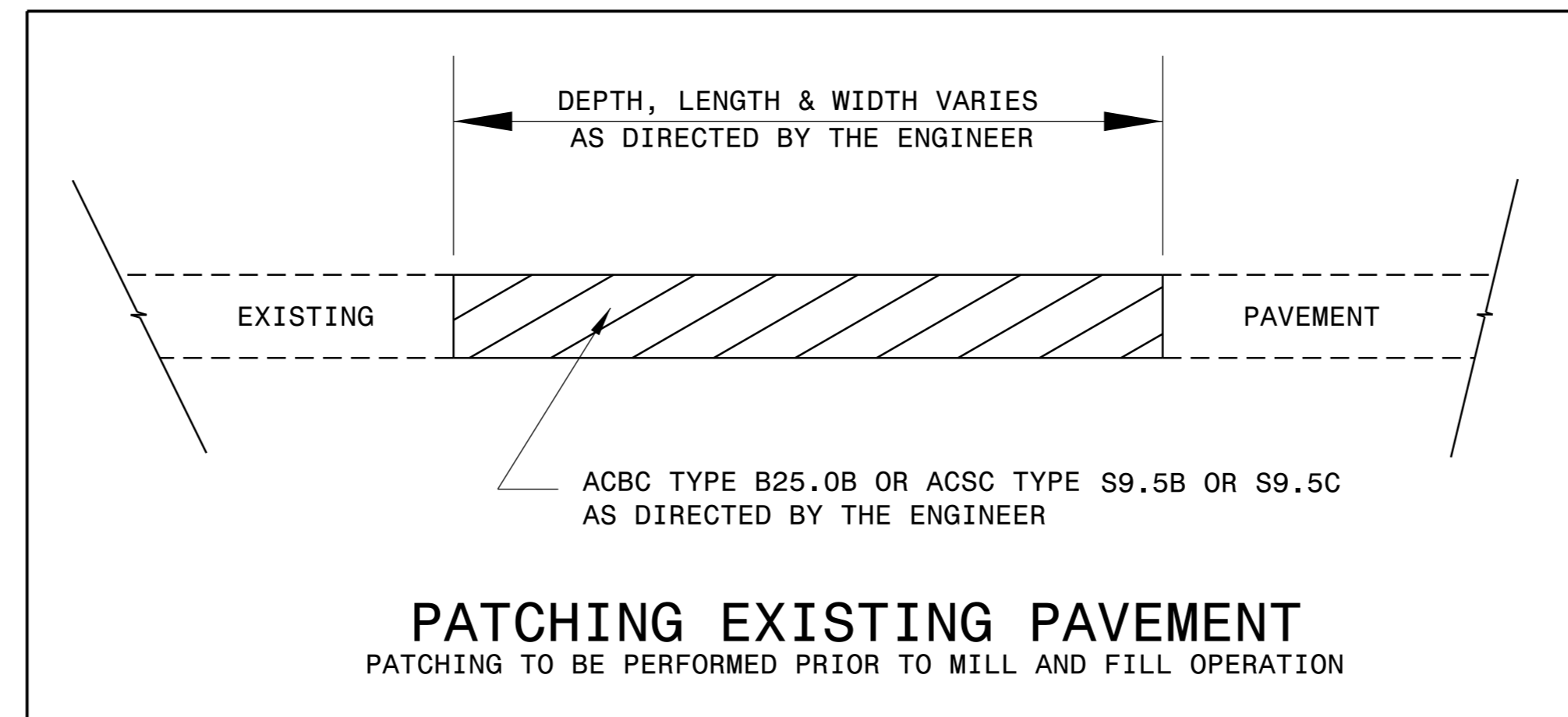
\*PLUS ADDITIONAL 2'  
INSIDE CURVE WIDENING  
(SEE DETAIL)



- NOTES:
- SHOULDER SHALL BE RECONSTRUCTED AS SHOWN IN STD. DWG. NO. 560.01 & 560.02, WITH A MINIMUM SLOPE OF 1" PER FOOT TO ENSURE POSITIVE DRAINAGE AWAY FROM ROADWAY.
  - AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE. (WHERE APPLICABLE)
  - A VEGETATIVE BUFFER SHALL BE MAINTAINED BETWEEN THE DISTURBED AREA ALONG THE EDGE OF PAVEMENT AND THE DITCH SHOULDER POINT TO MINIMIZE EROSION. PULLING DITCHES OR CUTTING SHOULDERS TO GENERATE BORROW MATERIAL WILL NOT BE ALLOWED.
  - REQUIRED BORROW MATERIAL MAY BE OBTAINED BY THE CONTRACTOR FROM WIDENING OPERATIONS WITHIN THE PROJECT LIMITS, FROM NCDOT APPROVED BORROW PITS OR FROM NCDOT STOCKPILES. ANY EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN APPROVED DISPOSAL SITE.



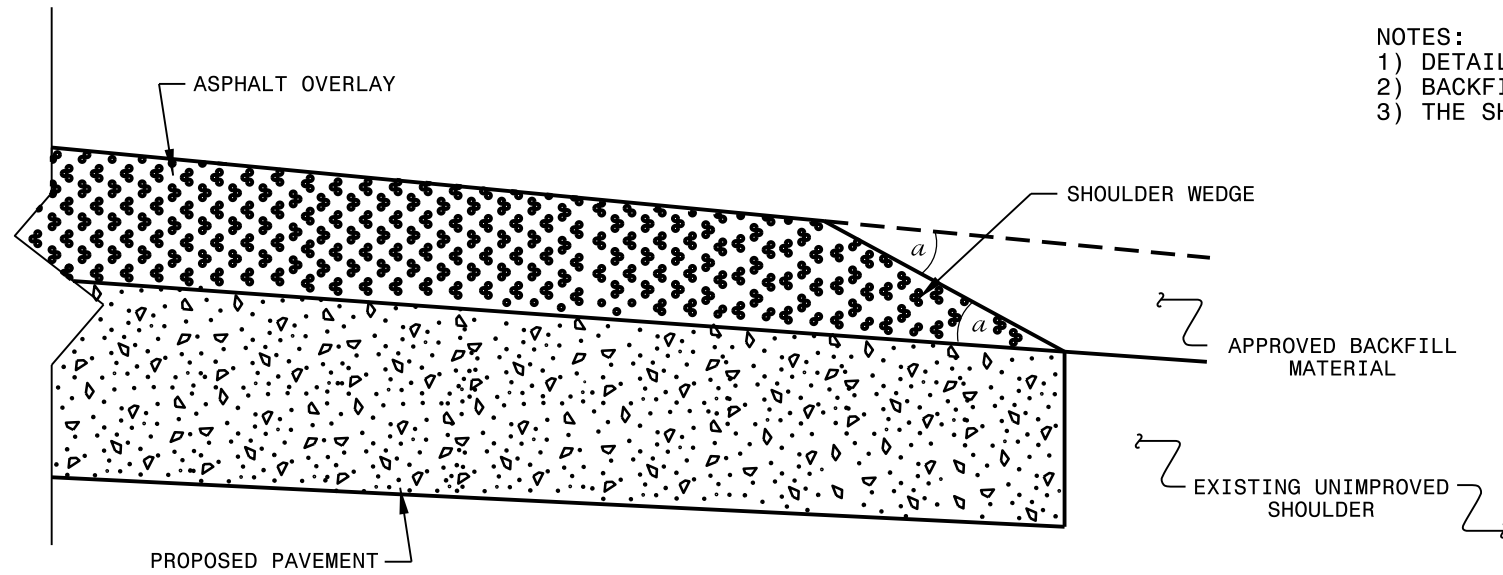
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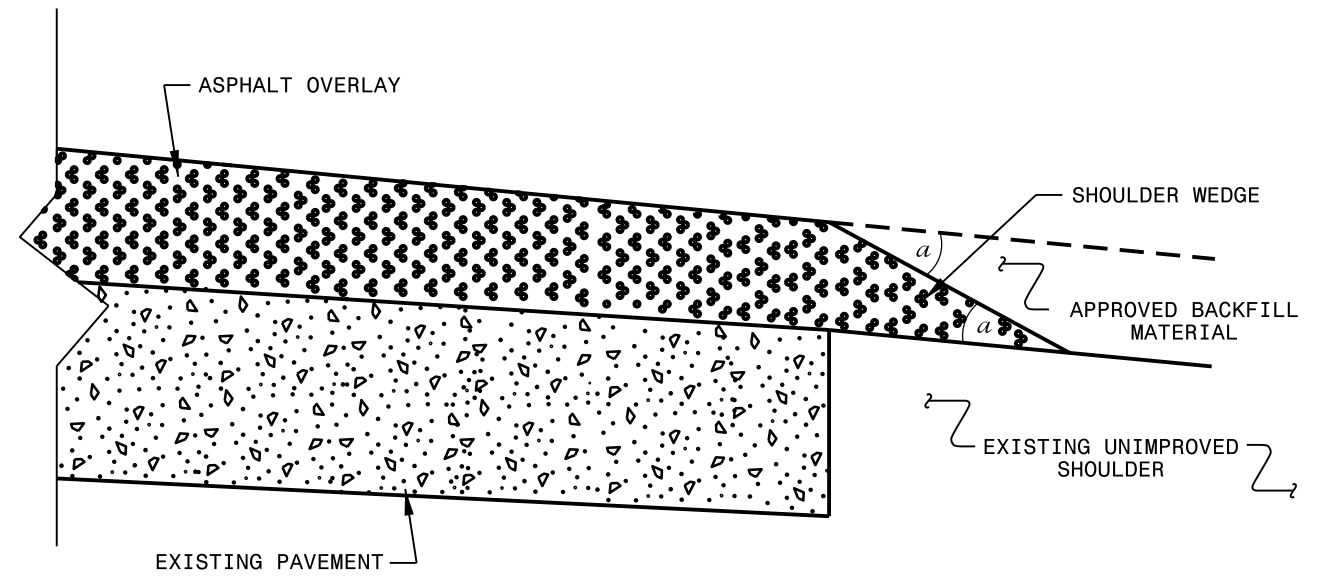
**MILLING AT PAVEMENT TIE-INS DETAIL**



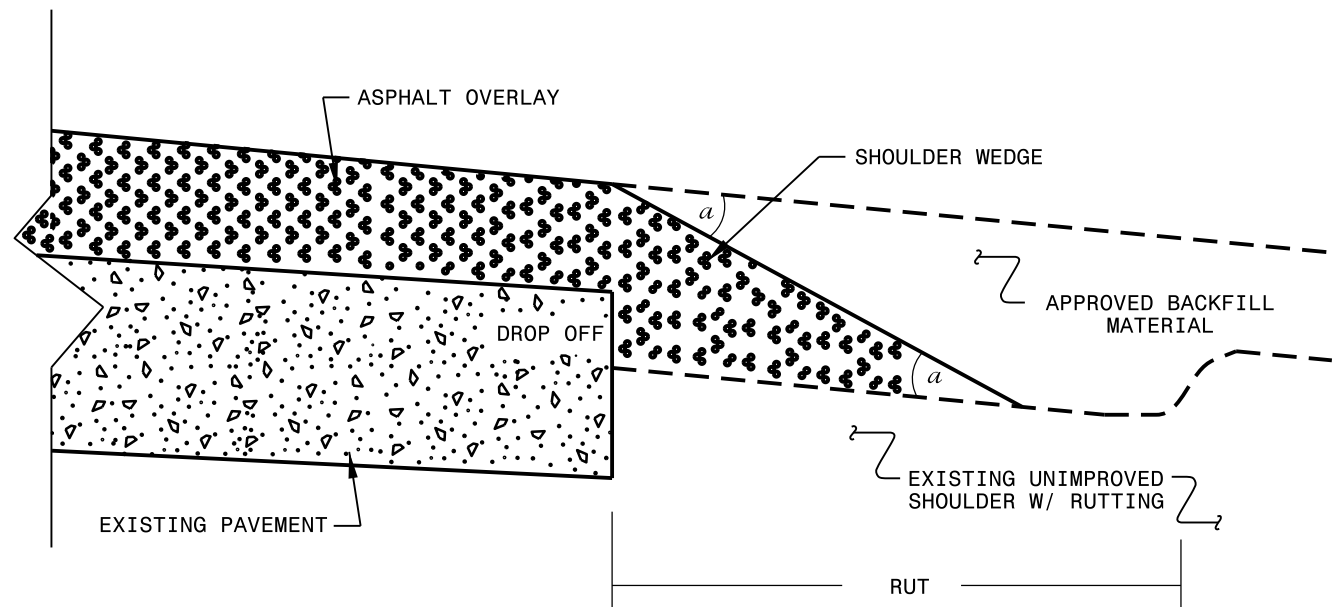
- NOTES:  
 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.  
 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



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



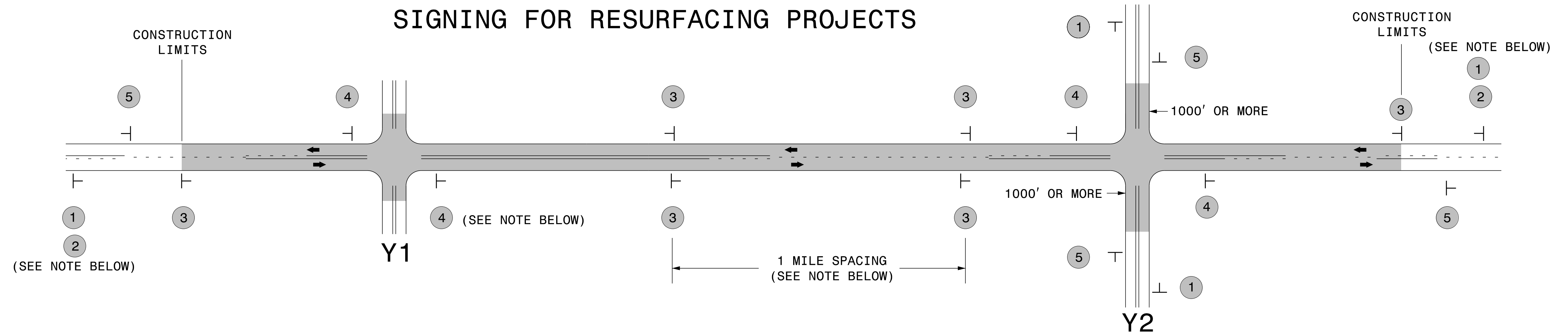
**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

<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.: susr/details/stand/shoulderwedgedetail.dgn			

SYSTEMS DESIGN  
 USER NAME

# SIGNING FOR RESURFACING PROJECTS

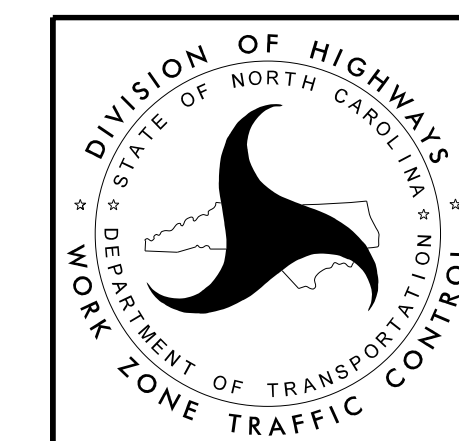


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	MAINLINE (-L-) SIGNING		-Y- LINE SIGNING	
	1	 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.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>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.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">             W20-1            48" X 48"         </div> <div style="text-align: center;">             W20-7 A            48" X 48"         </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	2	 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	 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 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.	
	4	 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	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.		



RESURFACING  
ADVANCE WARNING SIGNS  
FOR  
RURAL AND SUBURBAN  
2 LANE ROADWAYS

### GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS

Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

<b>TWO LANE - TWO WAY ROADWAY - 55 MPH</b>		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	12'	2'
32'	12'	4'

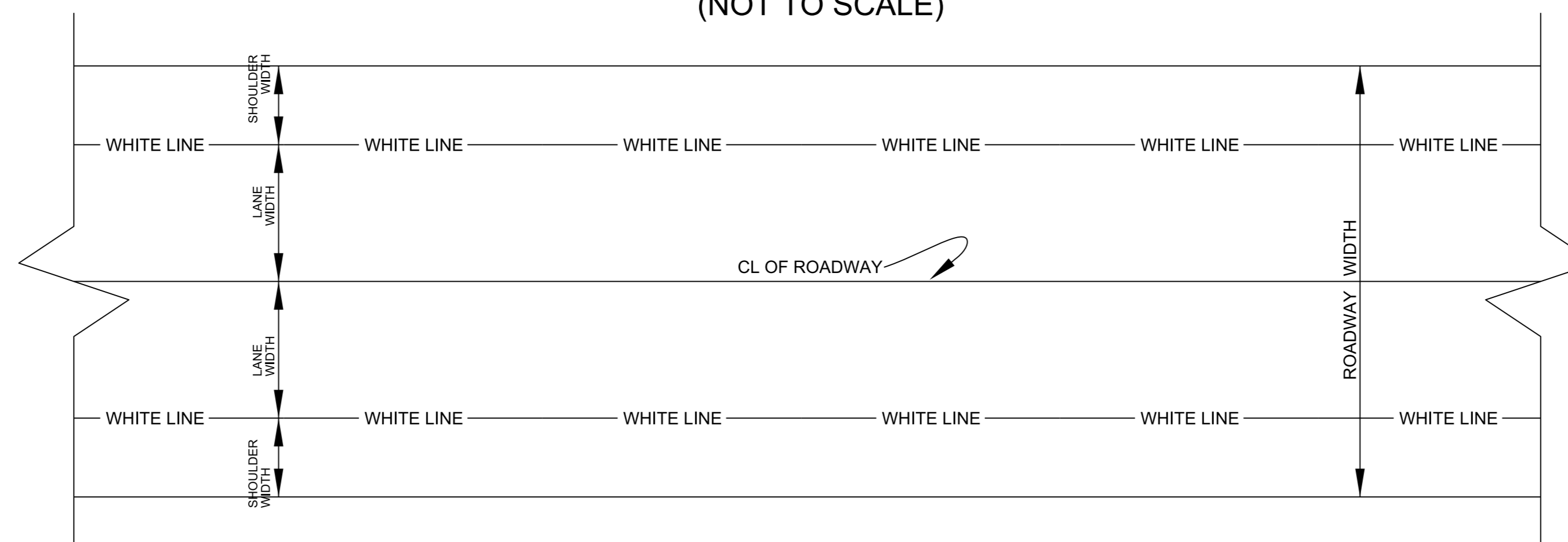
\* May vary due to pavement width

<b>TWO LANE - TWO WAY ROADWAY</b>		<b>50</b>
<b>MPH OR LESS</b>		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	11'	3'
32'	11'	5'

\* May vary due to pavement width

### SCHEMATIC OF ROADWAY

(NOT TO SCALE)



# SUMMARY OF QUANTITIES

												PROJECT NO.		SHEET NO.	TOTAL NO.			
												2019CPT.06.02.10091.1, 2019CPT.06.02.20091.1 & 2019CPT.06.02.20241.1						
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	1245000000-E	1260000000-E	1297000000-E		1330000000-E	1489000000-E	1503000000-E
												SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	2.5" MILLING	1½" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	INTERMEDIATE COURSE, I19.0C
												MI	FT	SMI	TON	SY	SY	SY
2019CPT.06.02.10091.1	Bladen	1	NC 11	FROM 0.9 MI. S. OF SR 1539 TO NC 53	1	2	2WU	NO	NO	5.74	27	11.50	1,856	3,000		2,098	211	428
<b>TOTAL FOR MAP NO. 1</b>										5.74		11.50	1,856	3,000		2,098	211	428
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.10091.1</b>										5.74		11.50	1,856	3,000		2,098	211	428
														<b>3,000</b>				
2019CPT.06.02.20091.1	Bladen	2	SR 1550	FROM PENDER CL TO NC 210	2	2	2WU	NO	NO	0.56	22	1.10	181		444	1,077	21	
<b>TOTAL FOR MAP NO. 2</b>										0.56		1.10	181		444	1,077	21	
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20091.1</b>										0.56		1.10	181		444	1,077	21	
														<b>444</b>				
2019CPT.06.02.20241.1	Columbus	3	SR 1843	FROM PVT. CHANGE TO US 74	2	2	2WU	NO	NO	3.56	20	7.10	1,151			825	131	
<b>TOTAL FOR MAP NO. 3</b>										3.56		7.10	1,151			825	131	
2019CPT.06.02.20241.1	Columbus	4	SR 1730	FROM SR 1001 TO BLADEN CL	2	2	2WU	NO	NO	6.58	18	10.50	1,691			222	242	
<b>TOTAL FOR MAP NO. 4</b>										6.58		10.50	1,691			222	242	
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20241.1</b>										10.14		17.60	2,842			1,047	373	
<b>GRAND TOTAL</b>										16.44		30.20	4,879	3,000	444	4,222	605	428
														<b>3,444</b>				

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	1519000000-E	1520000000-E	1523000000-E	1524000000-E	1575000000-E	1704000000-E
												SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B	SURFACE COURSE, S9.5C	LEVELING COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT
												MI	FT	TONS	TONS	TONS	TONS
2019CPT.06.02.10091.1	Bladen	1	NC 11	FROM 0.9 MI. S. OF SR 1539 TO NC 53	1	2	2WU	NO	NO	5.74	27			7,795	115	505	172
<b>TOTAL FOR MAP NO. 1</b>										5.74				7,795	115	505	172
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.10091.1</b>										5.74				7,795	115	505	172
2019CPT.06.02.20091.1	Bladen	2	SR 1550	FROM PENDER CL TO NC 210	2	2	2WU	NO	NO	0.56	22	614	9			43	17
<b>TOTAL FOR MAP NO. 2</b>										0.56		614	9			43	17
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20091.1</b>										0.56		614	9			43	17
2019CPT.06.02.20241.1	Columbus	3	SR 1843	FROM PVT. CHANGE TO US 74	2	2	2WU	NO	NO	3.56	20	3,580	52			249	107
<b>TOTAL FOR MAP NO. 3</b>										3.56		3,580	52			249	107
2019CPT.06.02.20241.1	Columbus	4	SR 1730	FROM SR 1001 TO BLADEN CL	2	2	2WU	NO	NO	6.58	18	6,053	86			423	157
<b>TOTAL FOR MAP NO. 4</b>										6.58		6,053	86			423	157
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20241.1</b>										10.14		9,633	138			672	264
<b>GRAND TOTAL</b>										16.44		10,247	147	7,795	115	1,220	453

# THERMOPLASTIC AND PAINT QUANTITIES

											PROJECT NO.		SHEET NO.	TOTAL NO.	
											2019CPT.06.02.10091.1, 2019CPT.06.02.20091.1 & 2019CPT.06.02.20241.1				
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4685000000-E	4686000000-E	4695000000-E	
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 120 M WHITE THERMO	4" X 120 M YELLOW THERMO	8" X 90 M WHITE THERMO
								MI	FT	SF	LS	LF	LF	LF	LF
2019CPT.06.02.10091.1	Bladen	1	NC 11	FROM 0.9 MI. S. OF SR 1539 TO NC 53	1	2	2WU	5.74	27	643	1	60,614	260	51,522	80
<b>TOTAL FOR MAP NO. 1</b>								<b>5.74</b>		<b>643</b>	<b>1</b>	<b>60,614</b>	<b>260</b>	<b>51,522</b>	<b>80</b>
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.10091.1</b>								<b>5.74</b>		<b>643</b>	<b>1</b>	<b>60,614</b>	<b>260</b>	<b>51,522</b>	<b>80</b>
<b>51,782</b>															
2019CPT.06.02.20091.1	Bladen	2	SR 1550	FROM PENDER CL TO NC 210	2	2	2WU	0.56	22	63					
<b>TOTAL FOR MAP NO. 2</b>								<b>0.56</b>		<b>63</b>					
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20091.1</b>								<b>0.56</b>		<b>63</b>					
2019CPT.06.02.20241.1	Columbus	3	SR 1843	FROM PVT. CHANGE TO US 74	2	2	2WU	3.56	20	399					
<b>TOTAL FOR MAP NO. 3</b>								<b>3.56</b>		<b>399</b>					
2019CPT.06.02.20241.1	Columbus	4	SR 1730	FROM SR 1001 TO BLADEN CL	2	2	2WU	6.58	18	888					
<b>TOTAL FOR MAP NO. 4</b>								<b>6.58</b>		<b>888</b>					
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20241.1</b>								<b>10.14</b>		<b>1,287</b>					
<b>GRAND TOTAL</b>								<b>16.44</b>		<b>1,993</b>	<b>1</b>	<b>60,614</b>	<b>260</b>	<b>51,522</b>	<b>80</b>
<b>51,782</b>															

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	4725000000-E		4810000000-E		4900000000-N	
										THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT	CRYSTAL & RED MARKERS	YELLOW & YELLOW MARKERS
								MI	FT	EA	EA	LF	LF	EA	EA
2019CPT.06.02.10091.1	Bladen	1	NC 11	FROM 0.9 MI. S. OF SR 1539 TO NC 53	1	2	2WU	5.74	27	3	1			23	378
<b>TOTAL FOR MAP NO. 1</b>								<b>5.74</b>		<b>3</b>	<b>1</b>			<b>23</b>	<b>378</b>
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.10091.1</b>								<b>5.74</b>		<b>3</b>	<b>1</b>			<b>23</b>	<b>378</b>
										<b>4</b>				<b>401</b>	
2019CPT.06.02.20091.1	Bladen	2	SR 1550	FROM PENDER CL TO NC 210	2	2	2WU	0.56	22			11,829	10,054		
<b>TOTAL FOR MAP NO. 2</b>								<b>0.56</b>				<b>11,829</b>	<b>10,054</b>		
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20091.1</b>								<b>0.56</b>				<b>11,829</b>	<b>10,054</b>		
												<b>21,883</b>			
2019CPT.06.02.20241.1	Columbus	3	SR 1843	FROM PVT. CHANGE TO US 74	2	2	2WU	3.56	20			75,184	63,906		
<b>TOTAL FOR MAP NO. 3</b>								<b>3.56</b>				<b>75,184</b>	<b>63,906</b>		
2019CPT.06.02.20241.1	Columbus	4	SR 1730	FROM SR 1001 TO BLADEN CL	2	2	2WU	6.58	18			138,969	118,123		
<b>TOTAL FOR MAP NO. 4</b>								<b>6.58</b>				<b>138,969</b>	<b>118,123</b>		
<b>TOTAL FOR PROJ NO. 2019CPT.06.02.20241.1</b>								<b>10.14</b>				<b>214,153</b>	<b>182,029</b>		
												<b>396,182</b>			
<b>GRAND TOTAL</b>								<b>16.44</b>		<b>3</b>	<b>1</b>	<b>225,982</b>	<b>192,083</b>	<b>23</b>	<b>378</b>
										<b>4</b>		<b>418,065</b>		<b>401</b>	