

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS – REV. – 10-3-18

Letting Date: October 17, 2018

CONTRACT ID: DF00232

TIP NO.: -----

FEDERAL AID NO.: STATE FUNDED

WBS ELEMENT NO.: 2020CPT.06.05.10091.1 & 2020CPT.06.05.20091.1

ROUTE NO.: NC 87 BYP., NC 210 & SR 1704

LOCATION: VARIOUS

COUNTY: BLADEN

LENGTH OF PROJECT: 12.31 MILES

TYPE OF WORK: RESURFACING, MILLING, CURVE WIDENING & PVT. MKGS.

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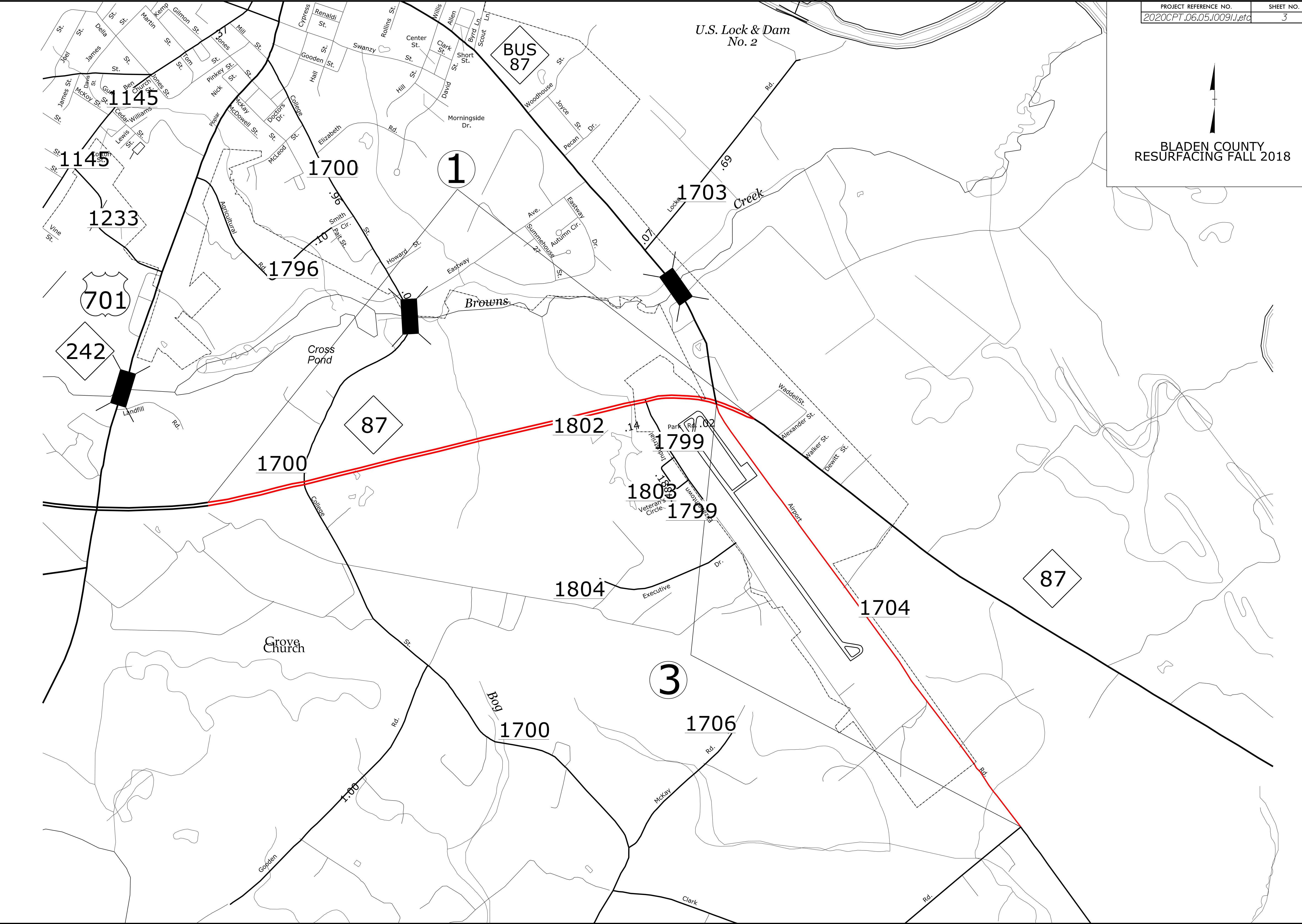
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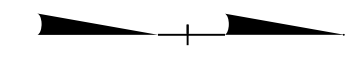
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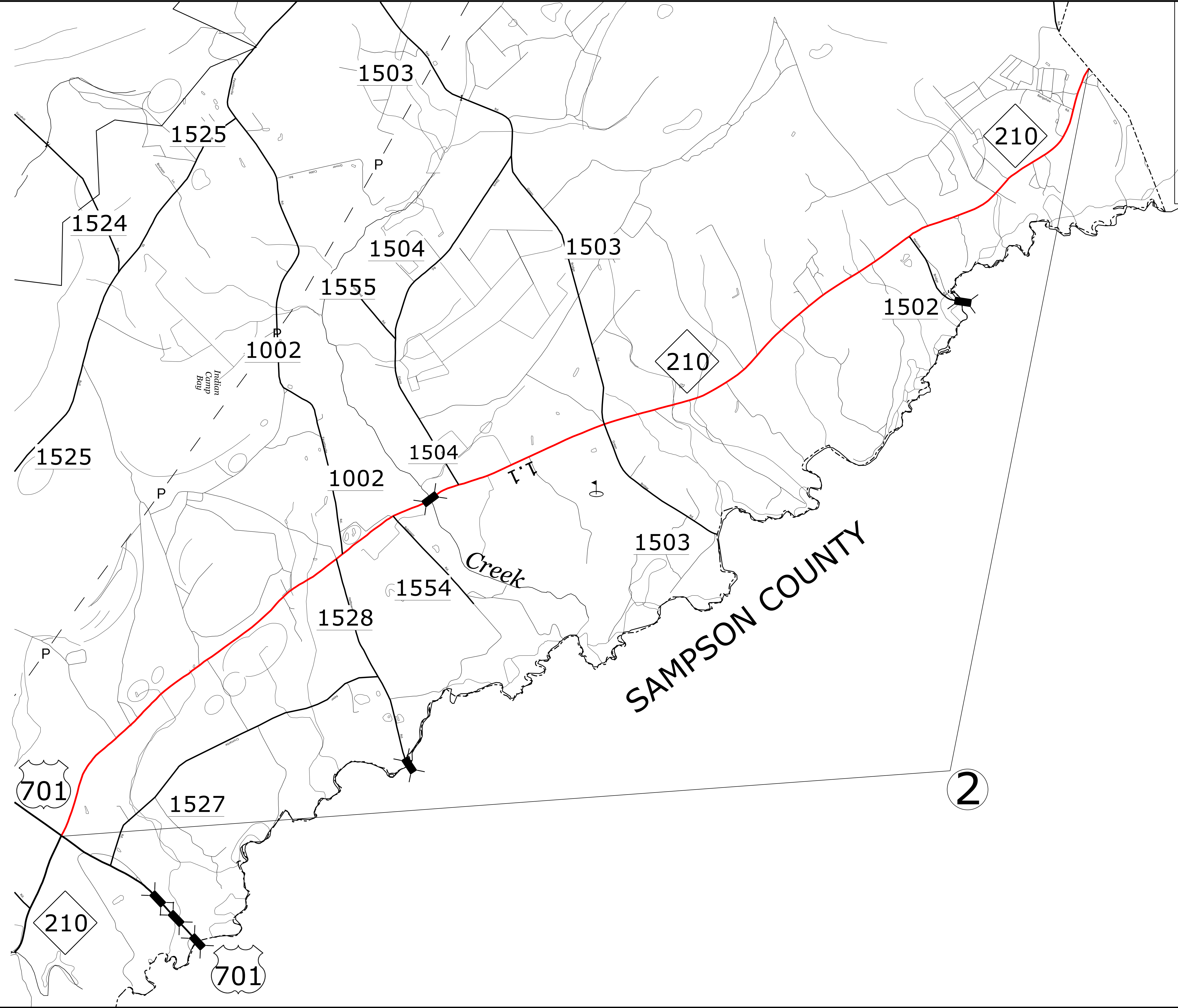
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Author: ALC/16/11/2018

REVISIONS





BLADEN COUNTY
RESURFACING FALL 2018

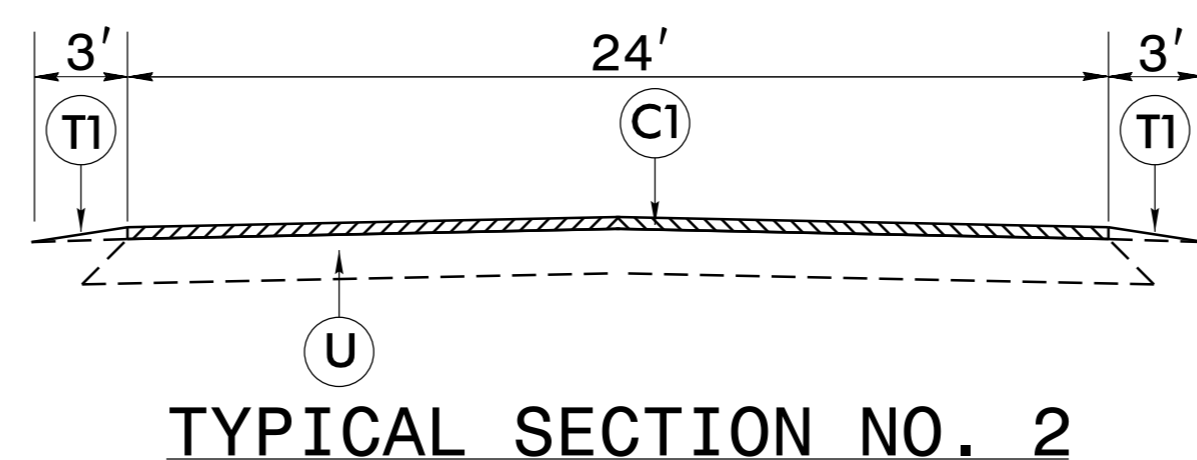
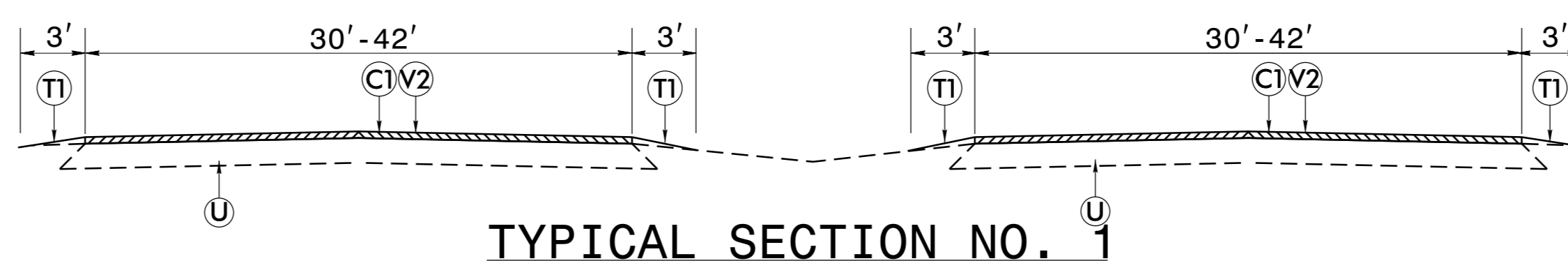


REVISIONS

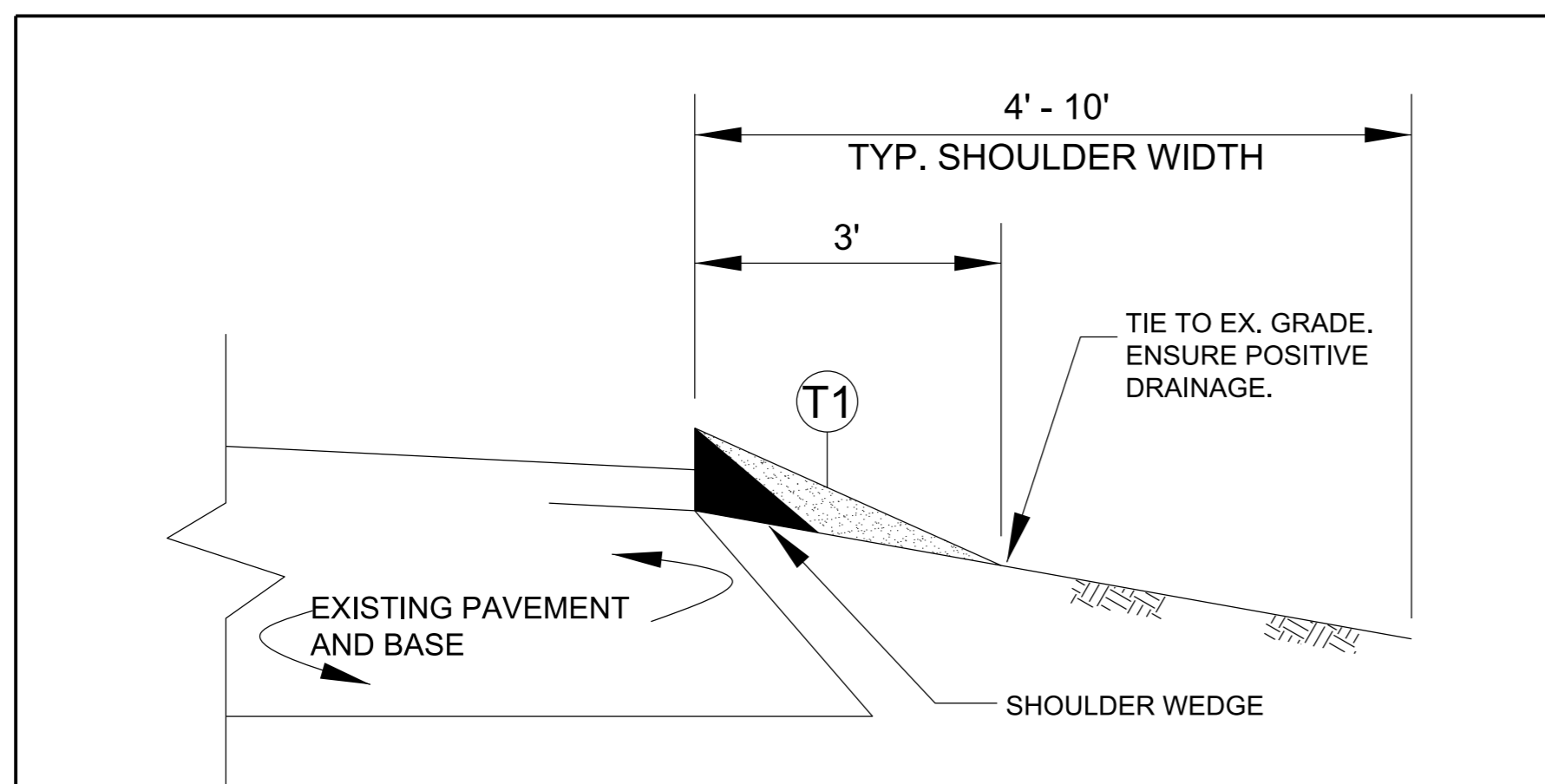
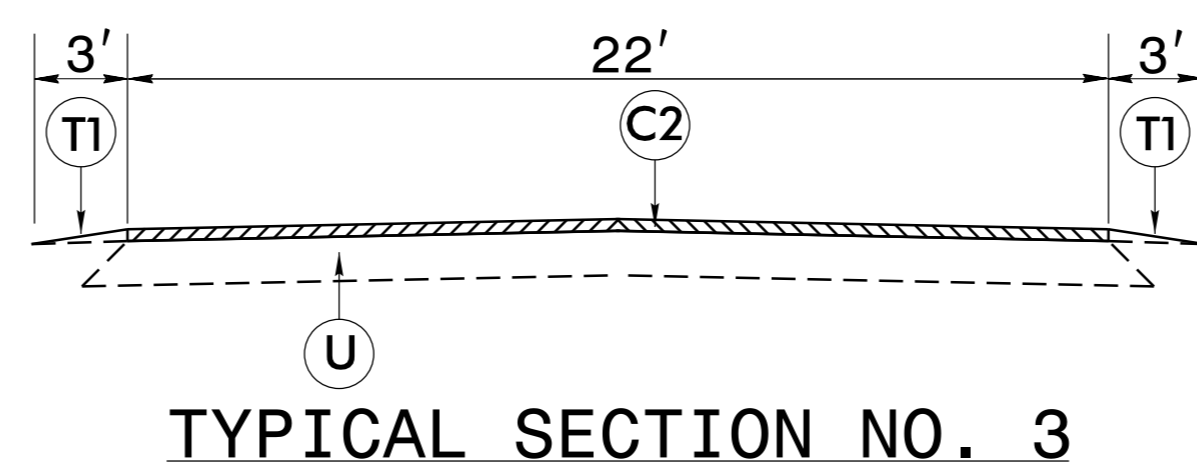
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Author: A:\661133562

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.
E1	5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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

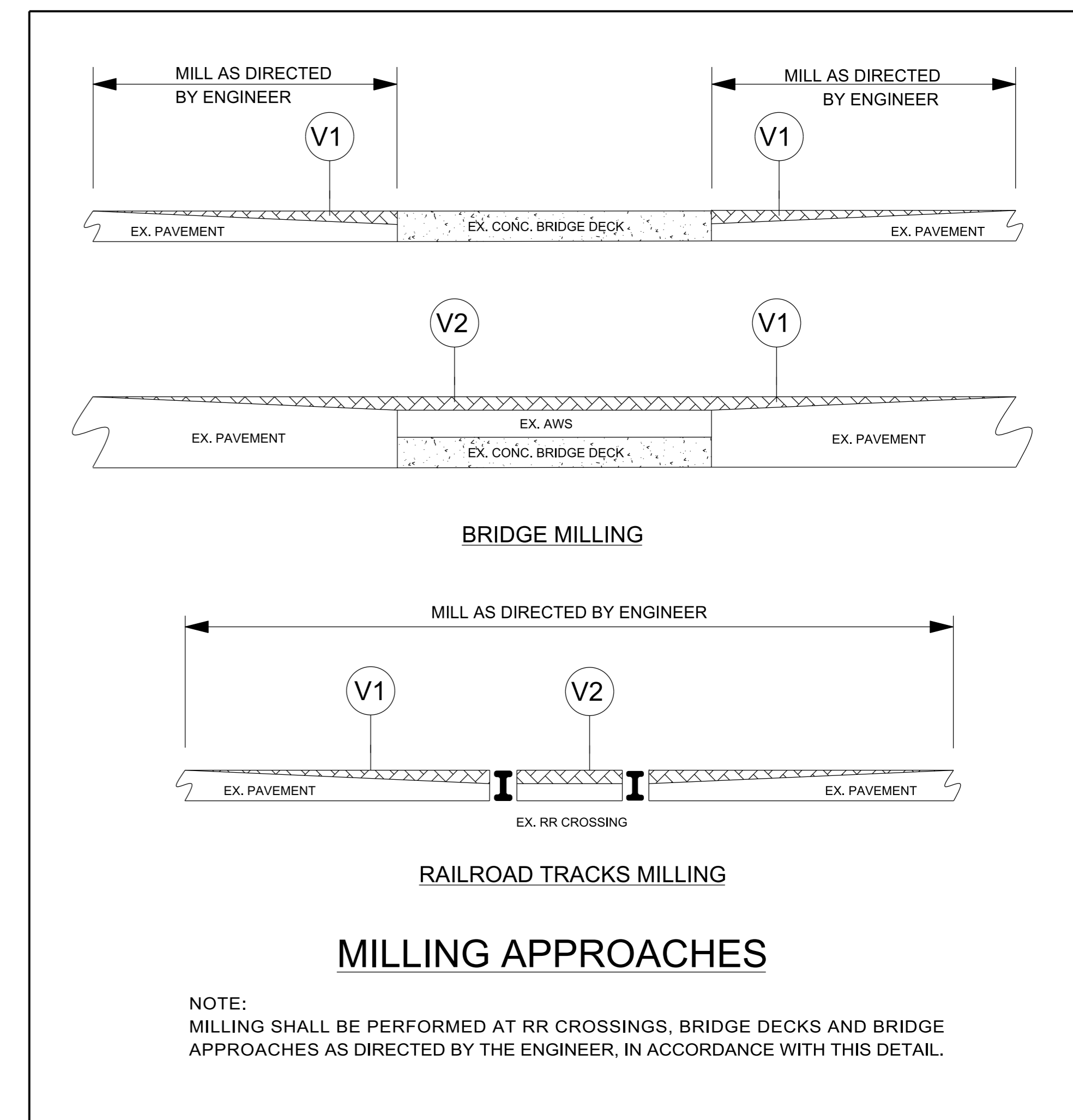


*PLUS ADDITIONAL 2' INSIDE CURVE WIDENING (SEE DETAIL)

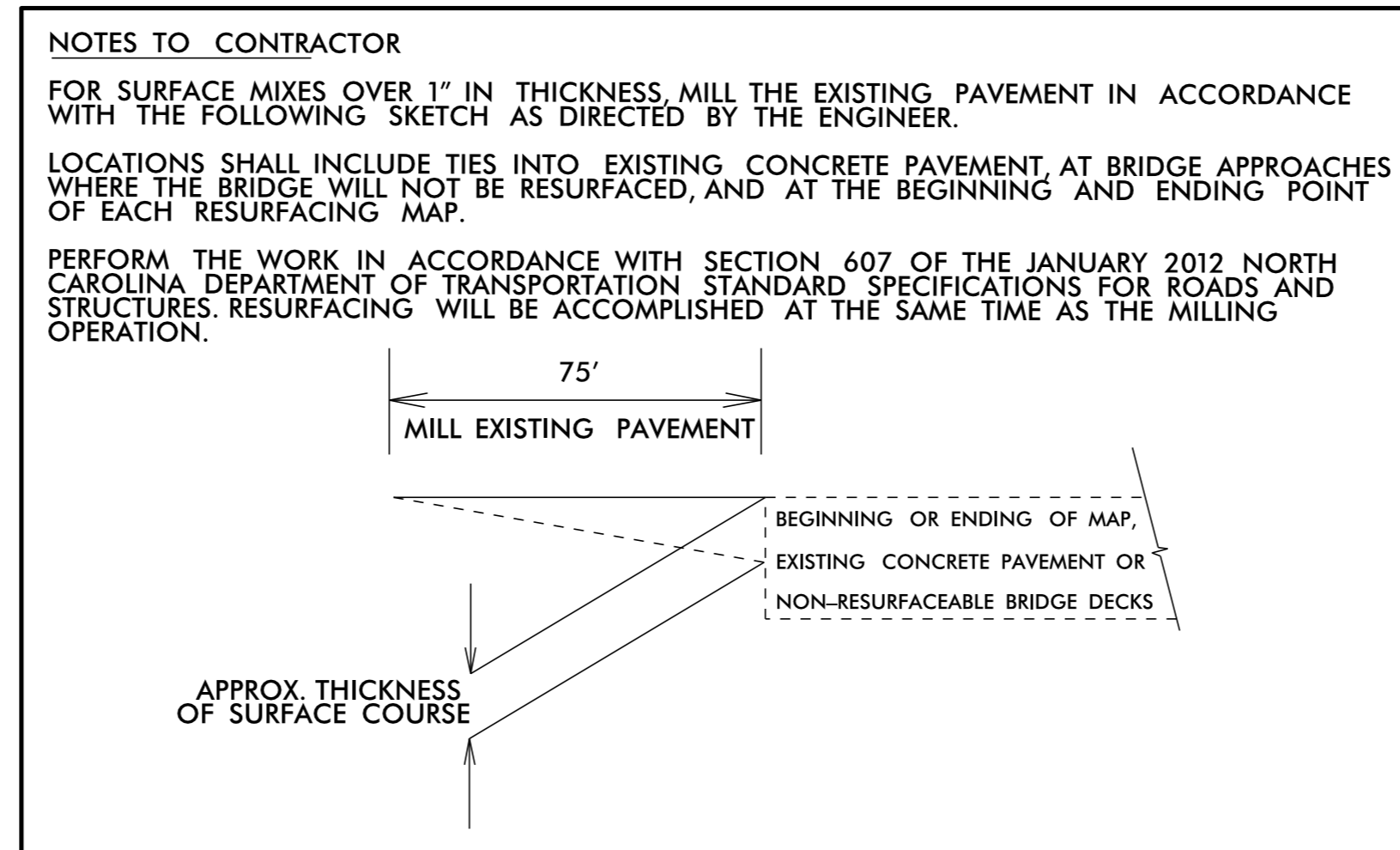
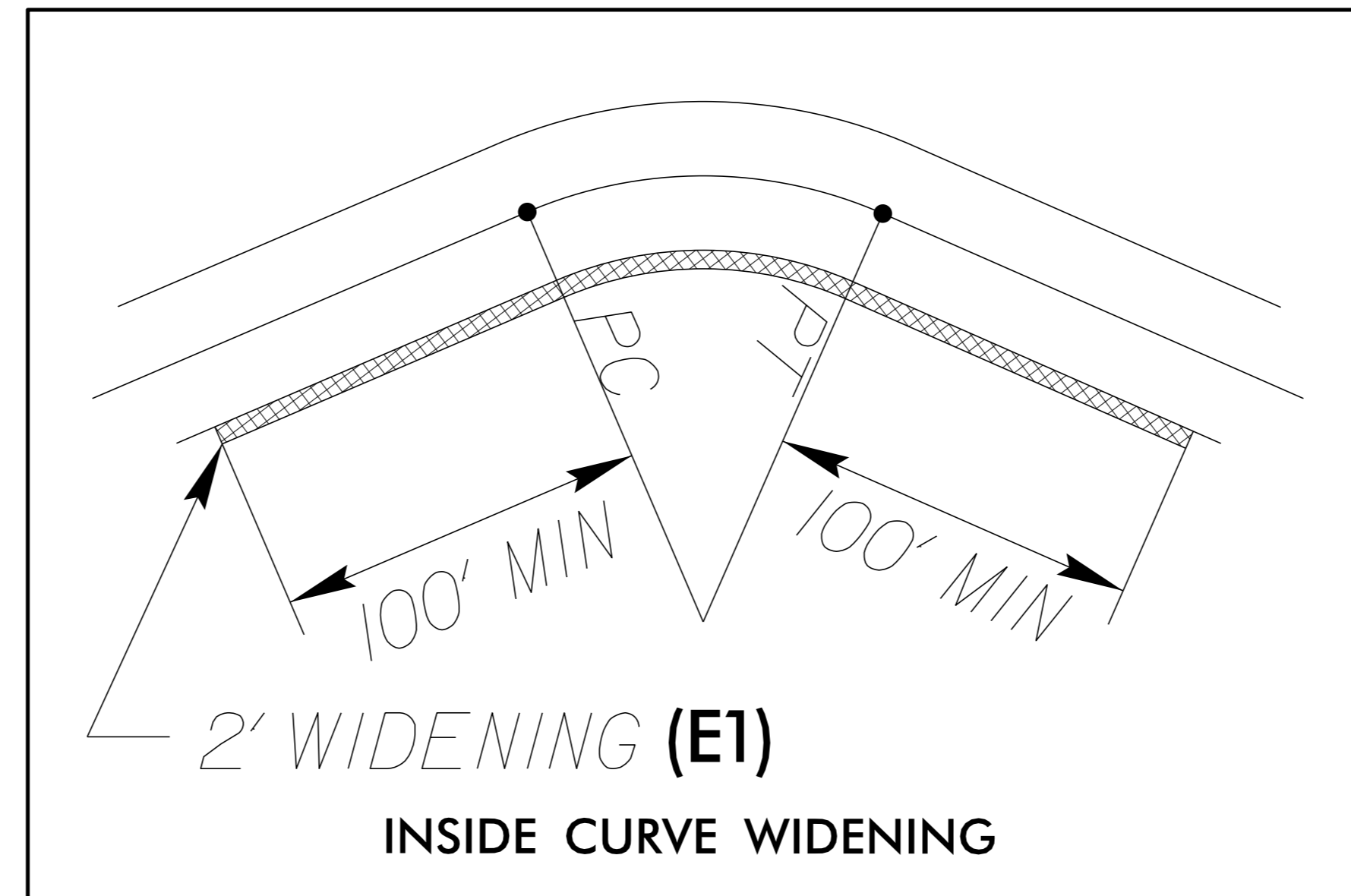
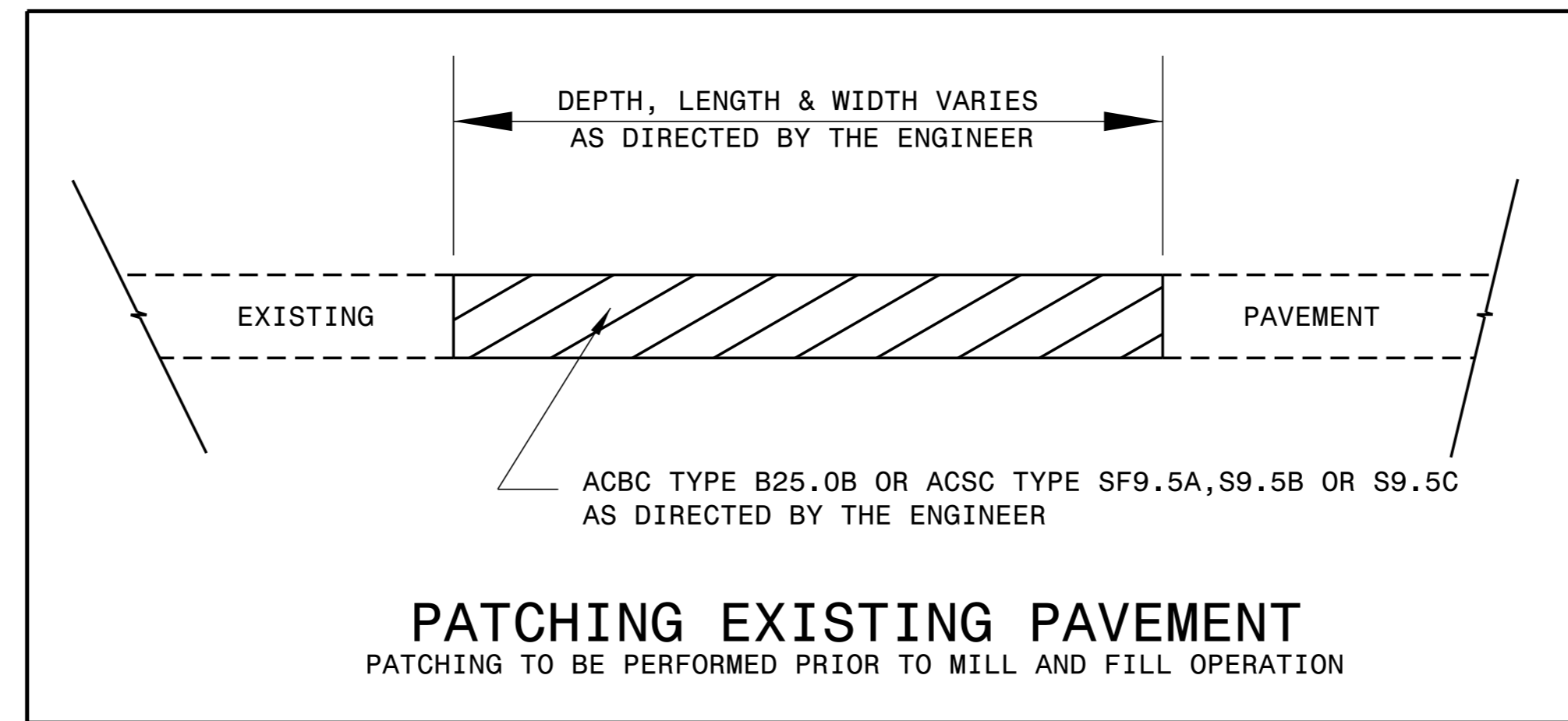


NOTES:

1. 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.
2. AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE. (WHERE APPLICABLE)
3. 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.
4. 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.

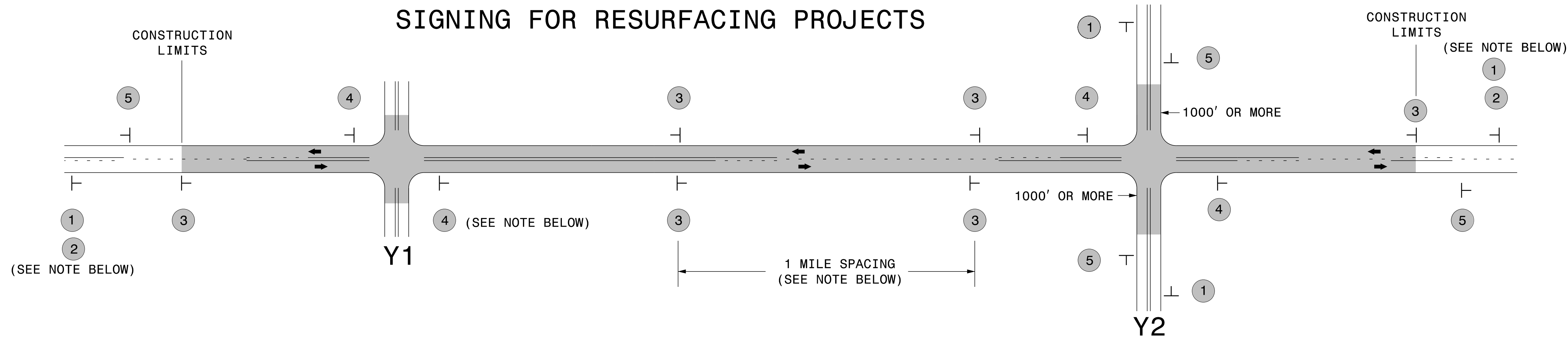


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MILLING AT PAVEMENT TIE-INS DETAIL

SIGNING FOR RESURFACING PROJECTS



LEGEND

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW

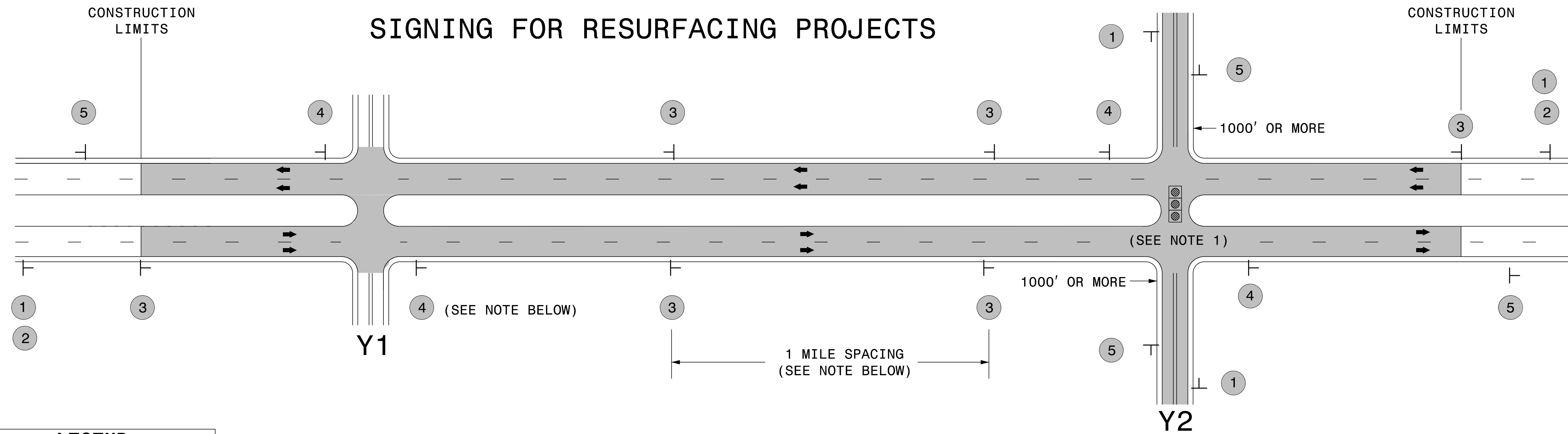
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1	<p>W20-1 48" X 48"</p>	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, 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;"> <p>W20-1 48" X 48"</p> </div> <div style="text-align: center;"> <p>W20-7 A 48" X 48"</p> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	2	<p>W7-3aP 24" X 18"</p>	#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	<p>SP 13107 48" X 48"</p>	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	<p>SP 13106 48" X 48"</p>	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	<p>G20-2 A 48" X 24"</p>	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

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**RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS**

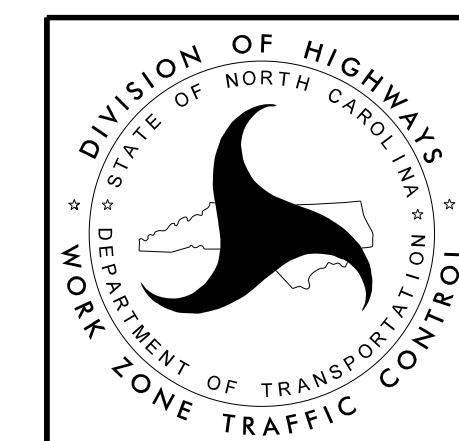


LEGEND	
┆	STATIONARY SIGN
←	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

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 RESURFACING 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"> 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, 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;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p>NOTES:</p> <ol style="list-style-type: none"> 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.
		<p>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.</p>	
		<p>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.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	



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

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.

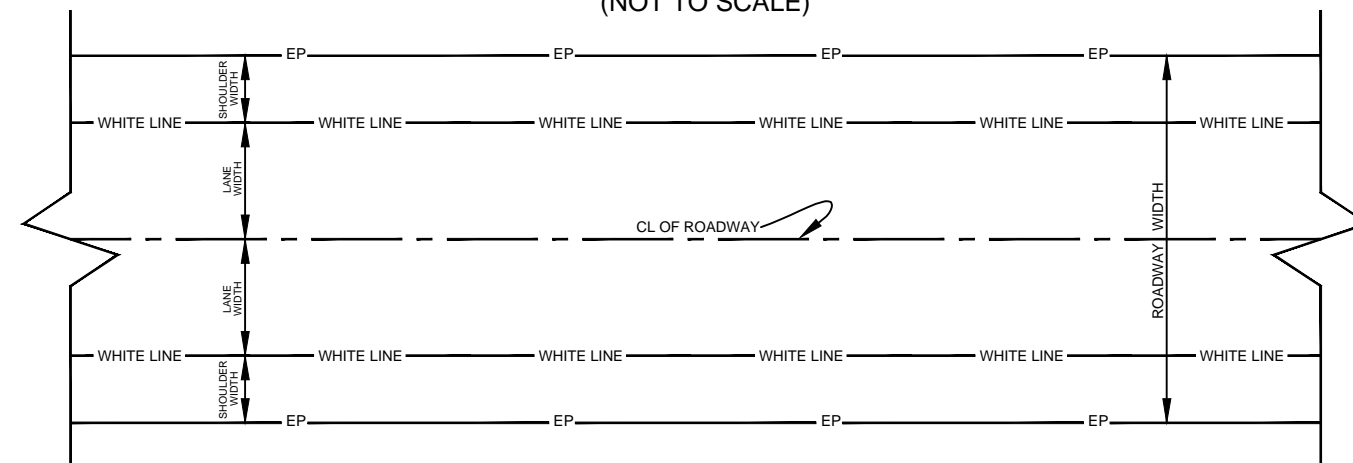
TWO LANE - TWO WAY ROADWAY - 55 MPH		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	12'	2'
32'	12'	4'

* May vary due to pavement width

TWO LANE - TWO WAY ROADWAY 50 MPH OR LESS		
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.	
												2020CPT.06.05.10091.1, 2020CPT.06.05.20091.1			10		
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	1491000000-E	1519000000-E
												SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	1½" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	SURFACE COURSE, S9.5B
												MI	FT	SMI	TON	SY	SY
2020CPT.06.05.10091.1	Bladen	1	NC 87 BYP.	FROM ALEXANDER ST. (BEGIN 4 LANE) TO CJ W. OF SR 1700	1	4	MD	NO	NO	1.7	60	6.80	1,100	64,367	133		
TOTAL FOR MAP NO. 1										1.7		6.80	1,100	64,367	133		
2020CPT.06.05.10091.1	Bladen	2	NC 210	FROM US 701 TO CUMBERLAND CL	2	2	2WU	NO	NO	8.92	24	17.80	2,885	267	874	656	
TOTAL FOR MAP NO. 2										8.92		17.80	2,885	267	874	656	
TOTAL FOR PROJ NO. 2020CPT.06.05.10091.1										10.62		24.60	3,985	64,634	1,007	656	
2020CPT.06.05.20091.1	Bladen	3	SR 1704	FROM SR 1707 TO NC 87	4	2	2WU	NO	NO	1.69	22	3.40	547		44		1,812
TOTAL FOR MAP NO. 3										1.69		3.40	547		44		1,812
TOTAL FOR PROJ NO. 2020CPT.06.05.20091.1										1.69		3.40	547		44		1,812
GRAND TOTAL										12.31		28.00	4,532	64,634	1,051	656	1,812

												1520000000-E	1523000000-E	1524000000-E	1575000000-E	1704000000-E		
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	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	TONS
												MI	FT	TONS	TONS	TONS	TONS	TONS
2020CPT.06.05.10091.1	Bladen	1	NC 87 BYP.	FROM ALEXANDER ST. (BEGIN 4 LANE) TO CJ W. OF SR 1700	1	4	MD	NO	NO	1.7	60		5,514	75	336	102		
TOTAL FOR MAP NO. 1										1.7			5,514	75	336	102		
2020CPT.06.05.10091.1	Bladen	2	NC 210	FROM US 701 TO CUMBERLAND CL	2	2	2WU	NO	NO	8.92	24		10,814	158	689	268		
TOTAL FOR MAP NO. 2										8.92			10,814	158	689	268		
TOTAL FOR PROJ NO. 2020CPT.06.05.10091.1										10.62			16,328	233	1,025	370		
2020CPT.06.05.20091.1	Bladen	3	SR 1704	FROM SR 1707 TO NC 87	4	2	2WU	NO	NO	1.69	22	27			123	51		
TOTAL FOR MAP NO. 3										1.69			27		123	51		
TOTAL FOR PROJ NO. 2020CPT.06.05.20091.1										1.69			27		123	51		
GRAND TOTAL										12.31		27	16,328	233	1,148	421		

