

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS

REV. – 2-2-2021

Letting Date: February 17, 2021

CONTRACT ID: DF00274

TIP NO.: -----

FEDERAL AID NO.: STATE FUNDED

WBS ELEMENT NO.: 2021CPT.06.07.10091.1

ROUTE NO.: NC 20 & NC 53

LOCATION: VARIOUS

COUNTY: BLADEN

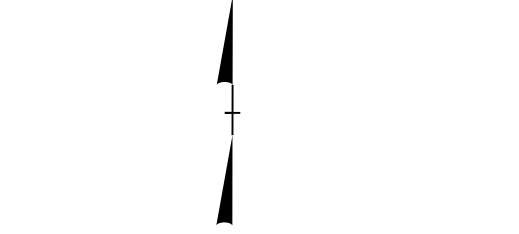
LENGTH OF PROJECT: 14.22 MILES

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

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BLADEN COUNTY
RESURFACING
SPRING 2021

CUMBERLAND COUNTY

RAILROAD

ROBESON COUNTY

CAPE FEAR RIVER

Duart

1

CSX

CSX

1303

1302

87

1346

1319

1300

1302

1364

1305

1355

1306

1302

1306

1308

20

20

1300

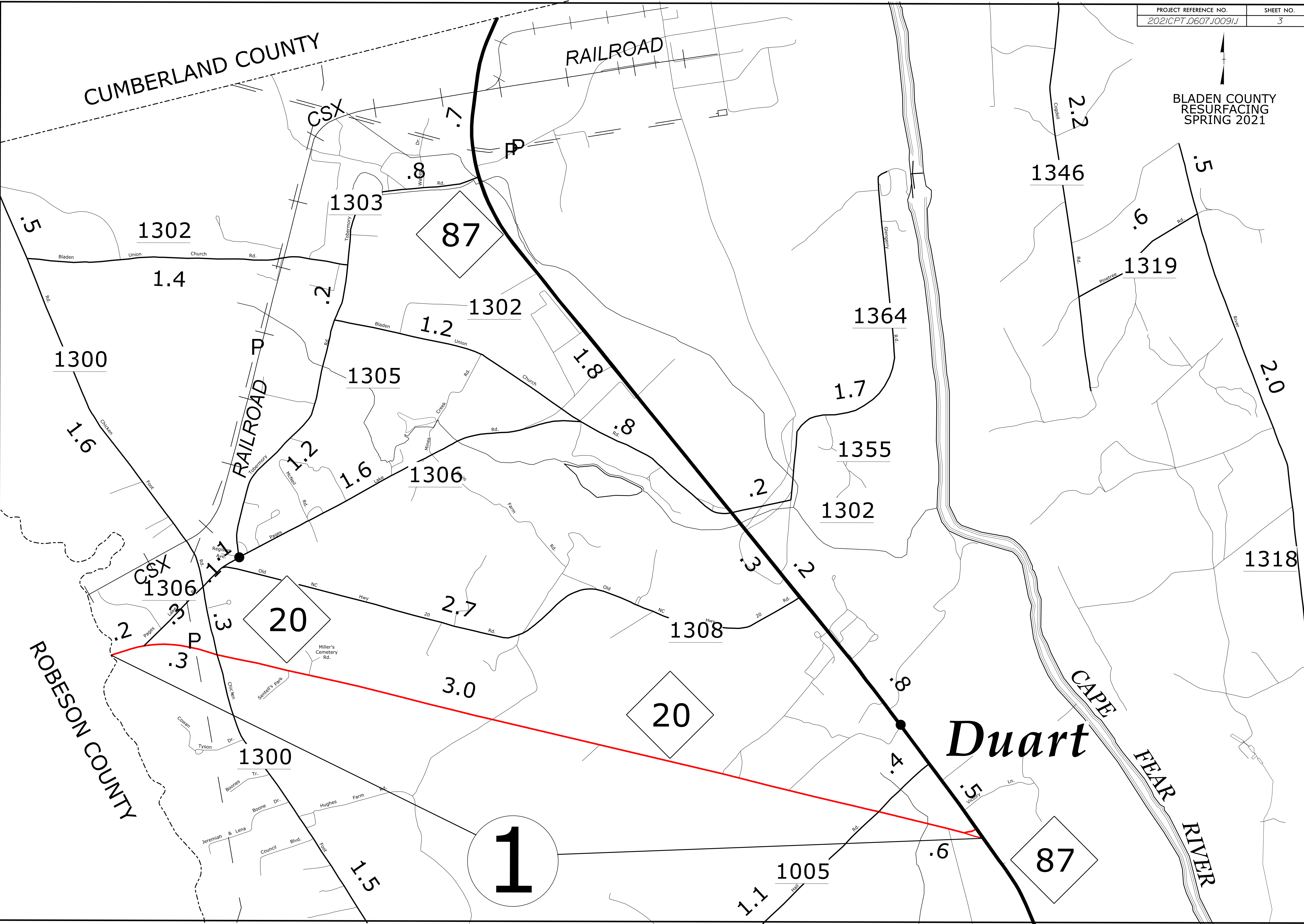
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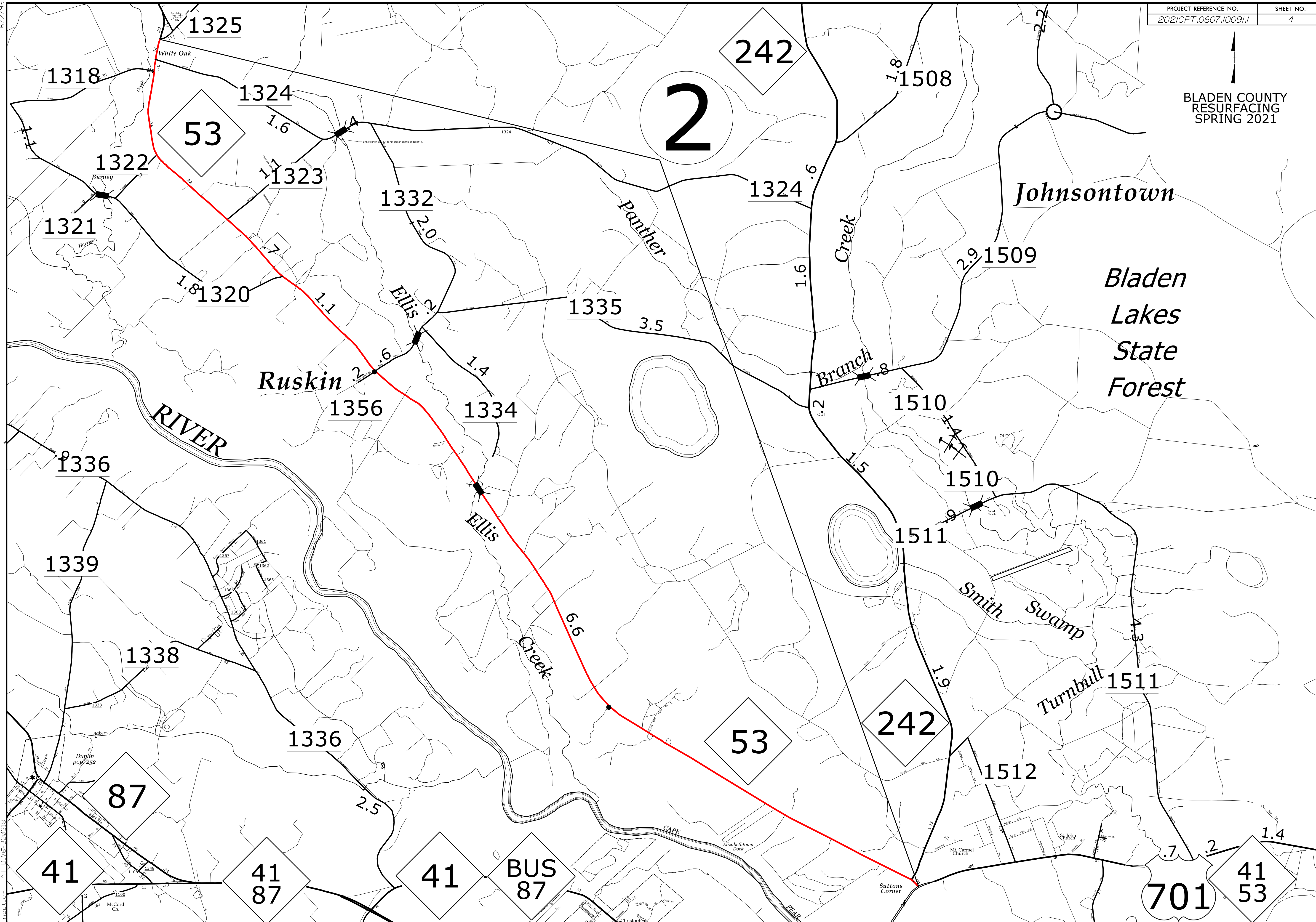
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6/2/99

07/20/2021 12:36 PM
BLADEN COUNTY
LABORER

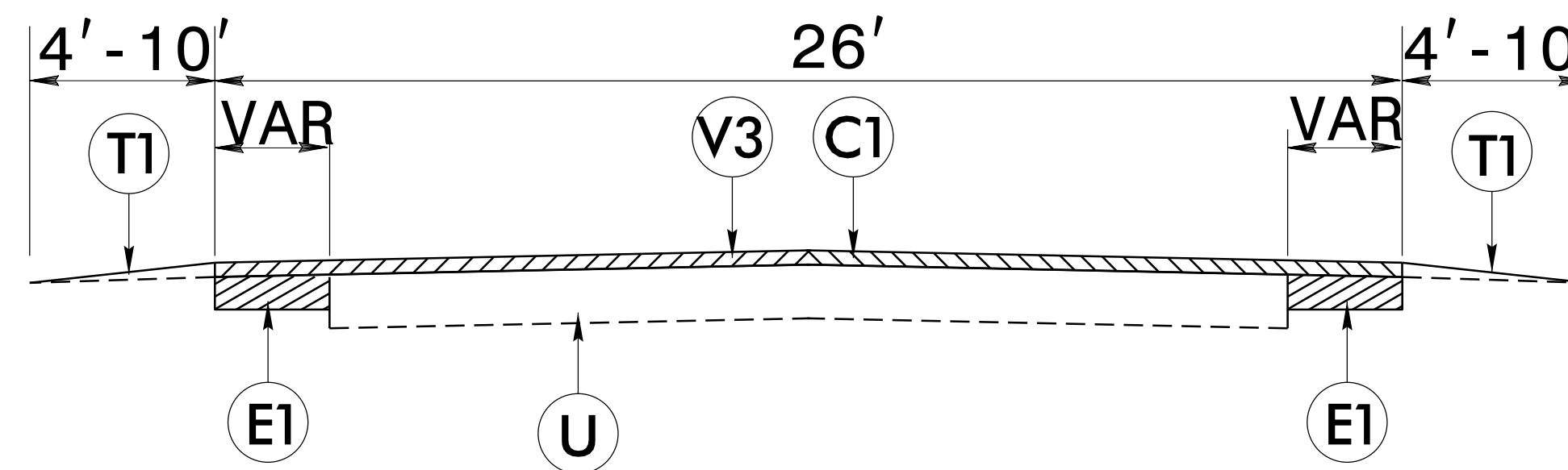




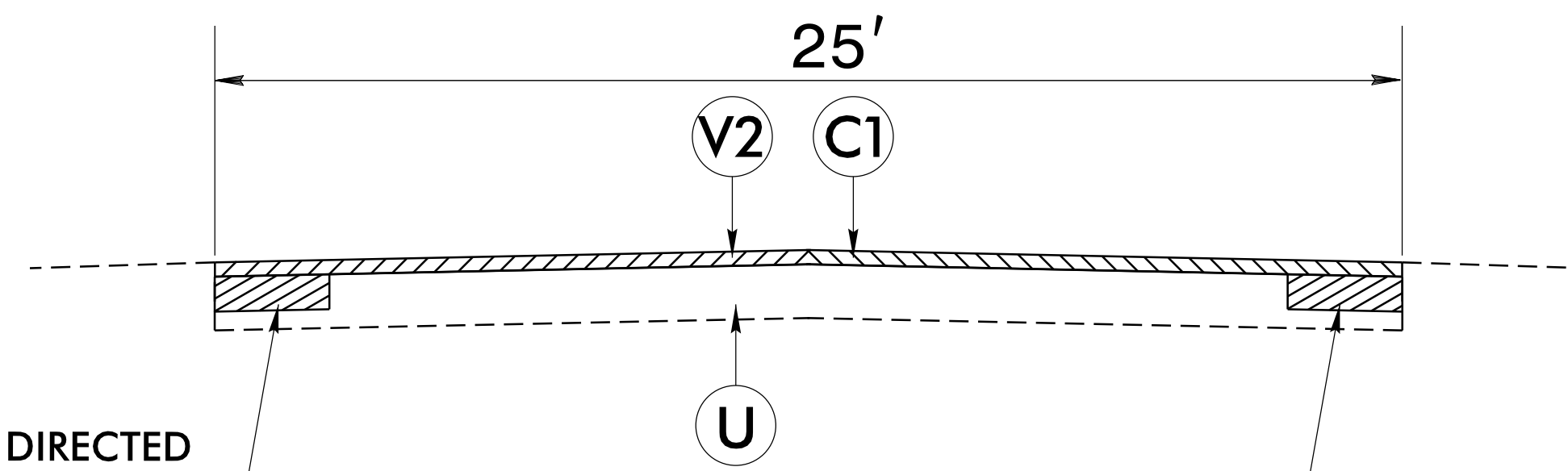
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BLADEN, MS, L10091, 2021018

PAVEMENT SCHEDULE

C1	1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 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 ASPHALT PAVEMENT
V1	0"-1½" MILLING
V2	1½" MILLING
V3	¾" MILLING (PROFILE MILLING)
V4	4" MILLING



TYPICAL SECTION NO. 1

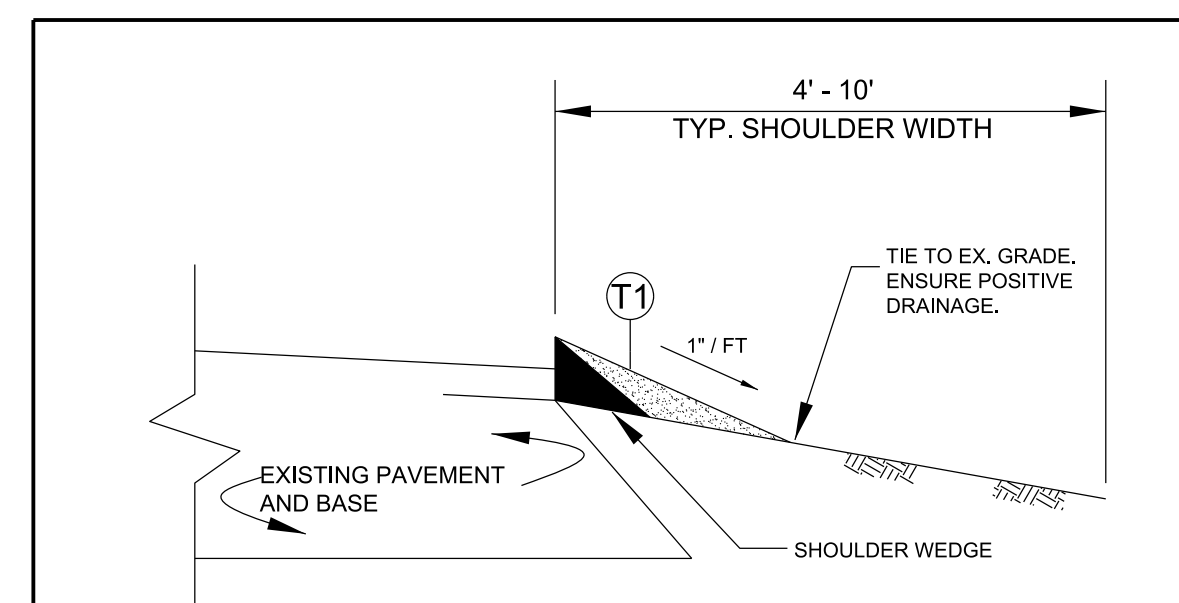
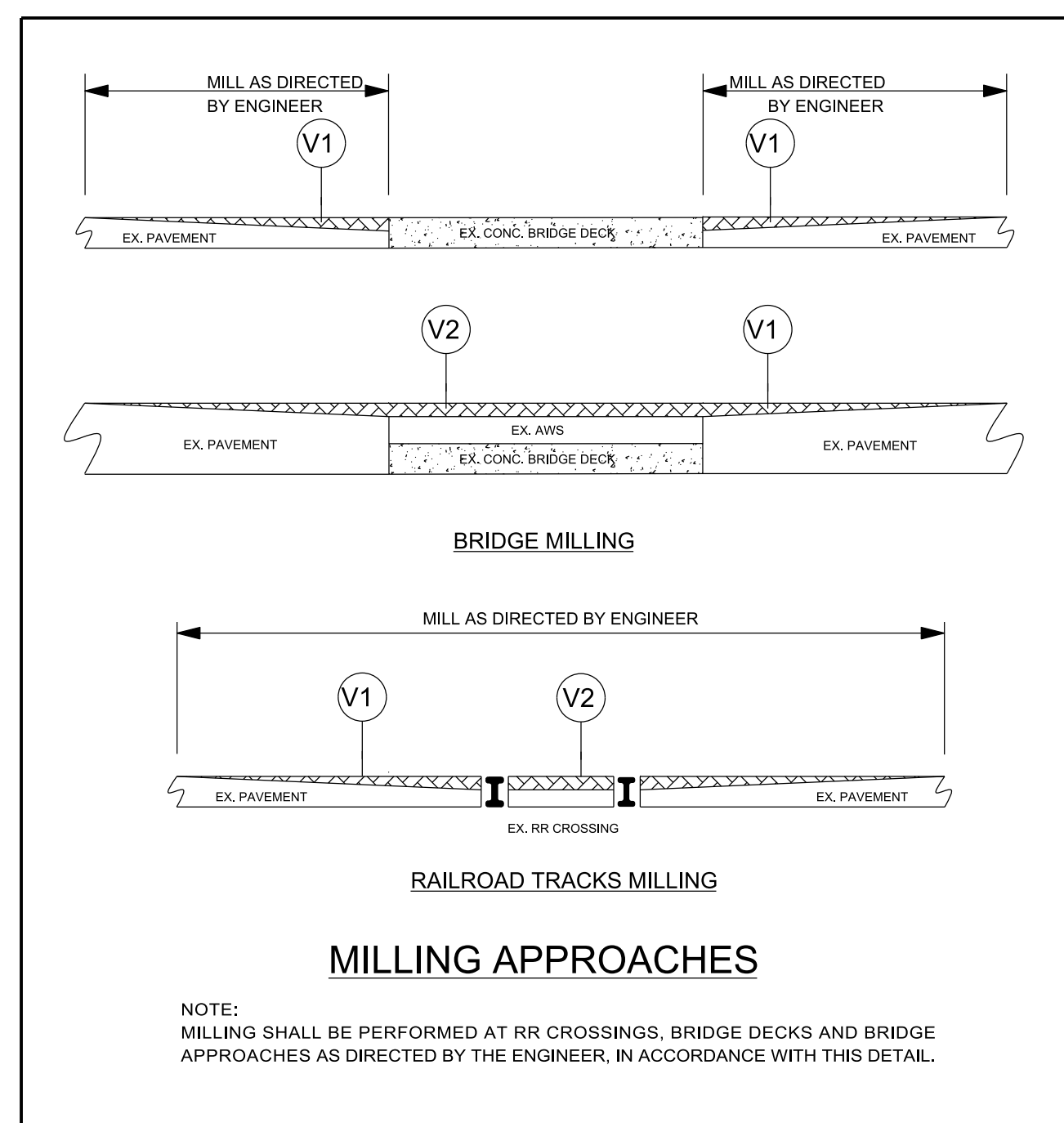
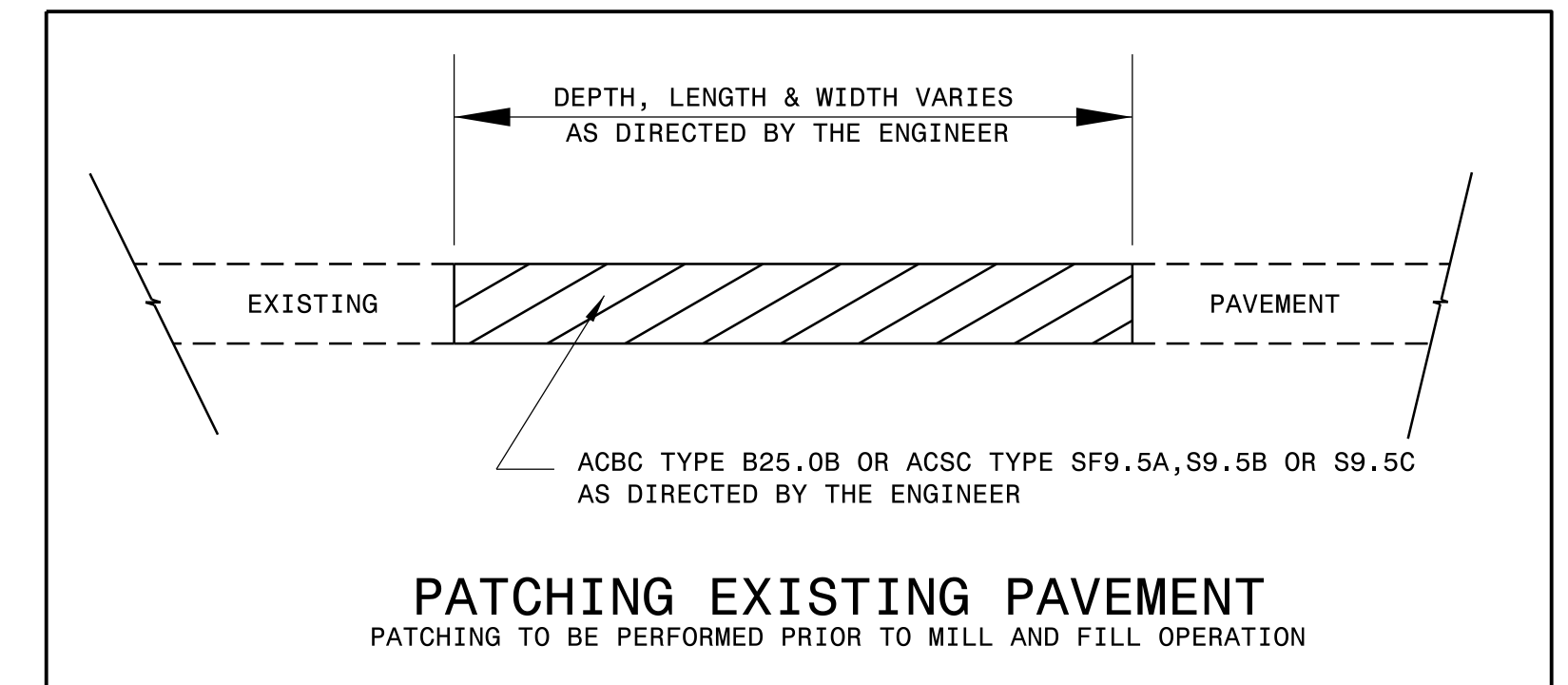


TYPICAL SECTION NO. 2

MILL AND FILL AS DIRECTED BY ENGINEER (SEE DETAIL)

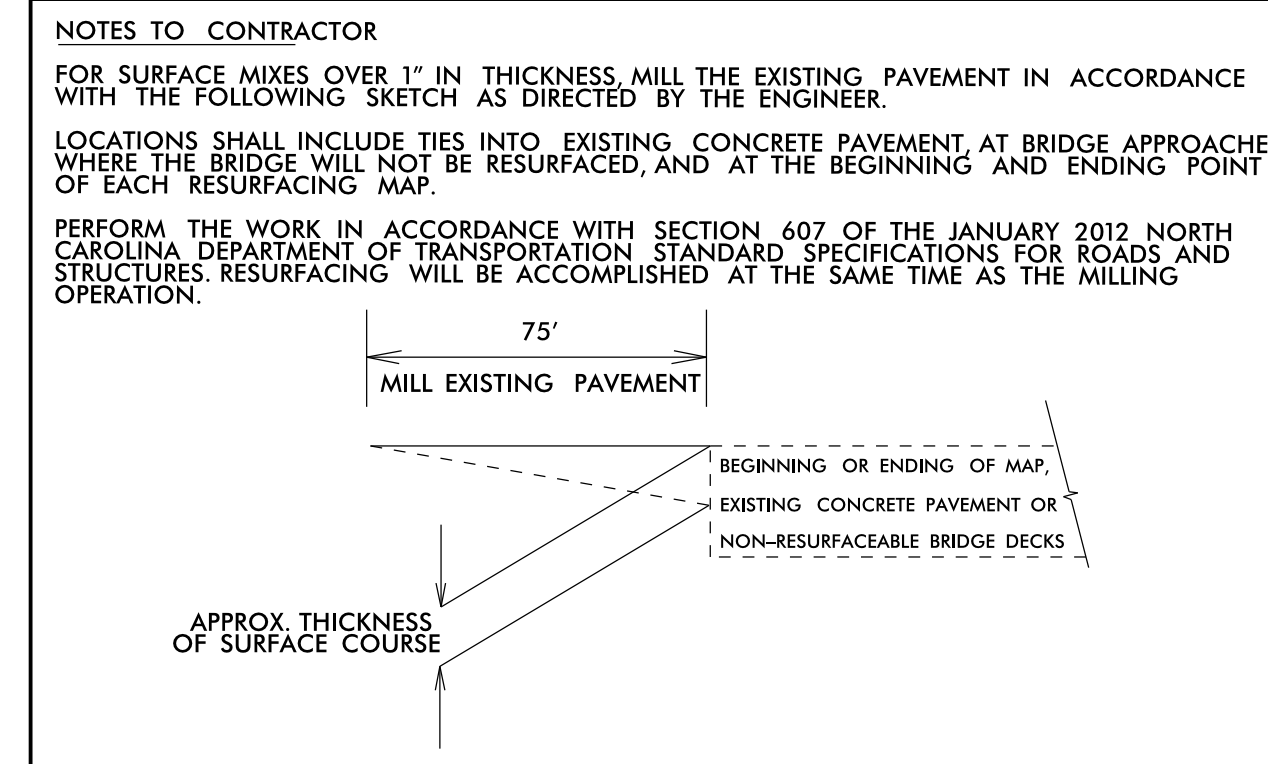
NOTES:

- UPON COMPLETION OF SURFACE MILLING, TEMPORARY PAINT MARKINGS SHALL BE INSTALLED WITHIN TIME FRAME ESTABLISHED IN STD. SPECS.
- CONTRACTOR SHALL BEGIN WIDENING AND/OR MILL & FILL OPERATION WITHIN 3 DAYS OF COMPLETING SURFACE MILLING.
- CONTRACTOR SHALL BEGIN PLACEMENT OF FINAL SURFACE WITHIN 3 DAYS OF COMPLETING WIDENING AND/OR MILL & FILL OPERATION.

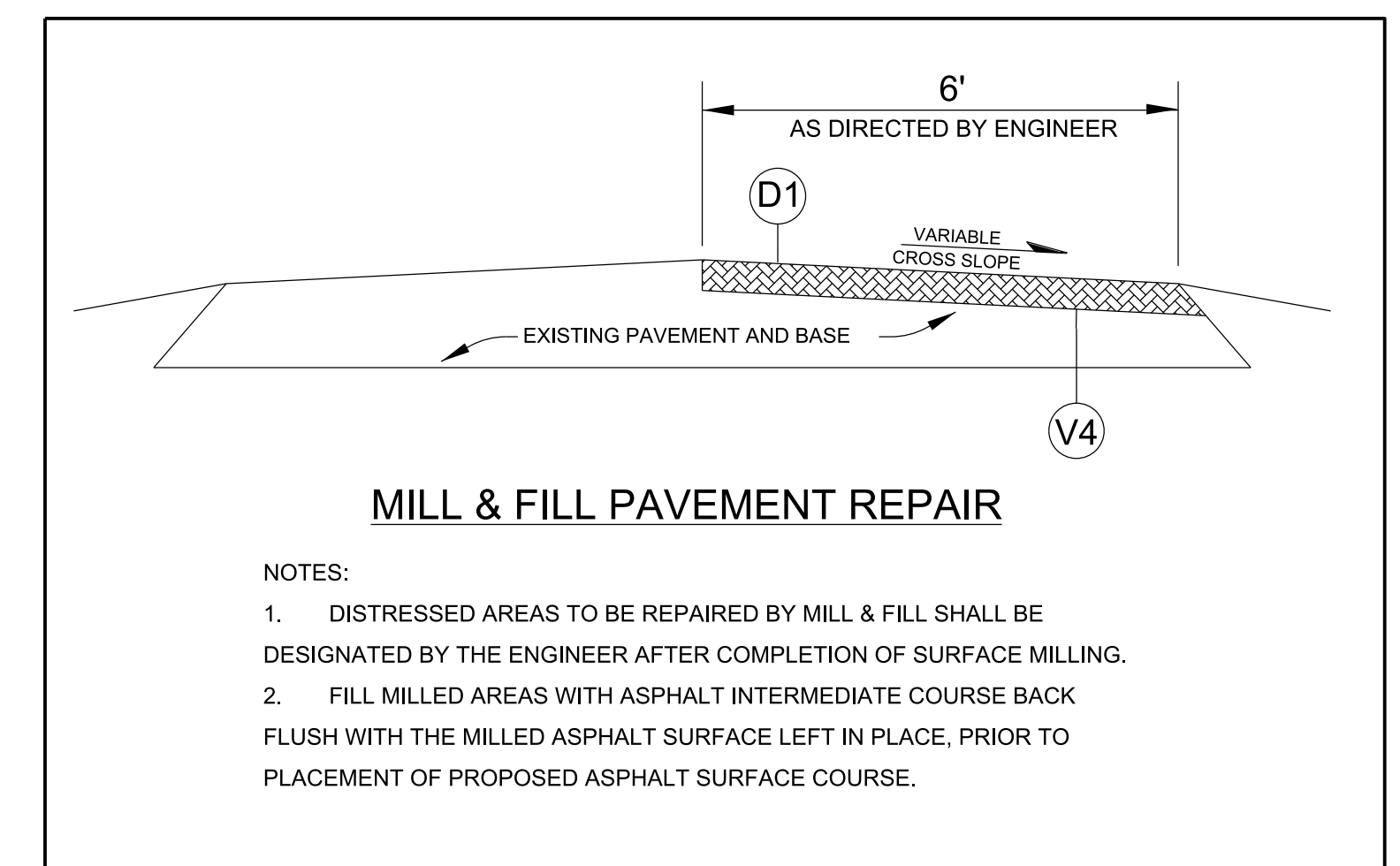


SHOULDER RECONSTRUCTION

- 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 AND COMPACTED USING A ROLLER ASB SHALL TIE FLUSH TO PAVEMENT AND EXISTING SHOULDER.



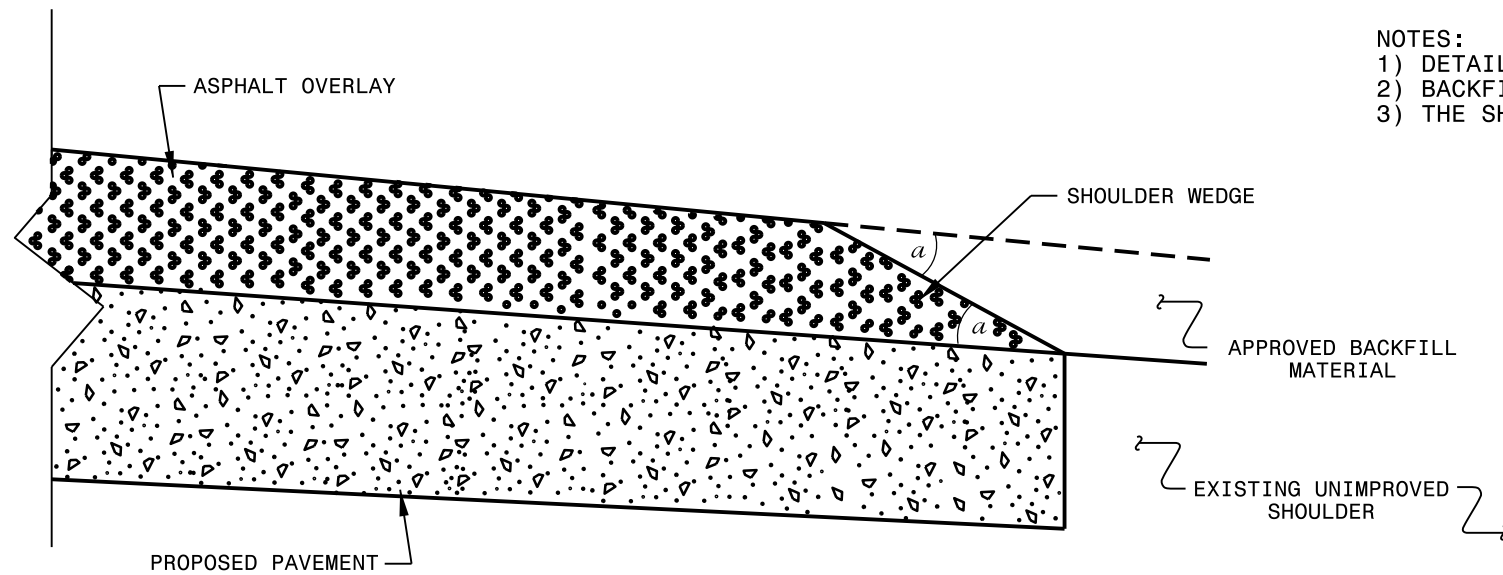
MILLING AT PAVEMENT TIE-INS DETAIL



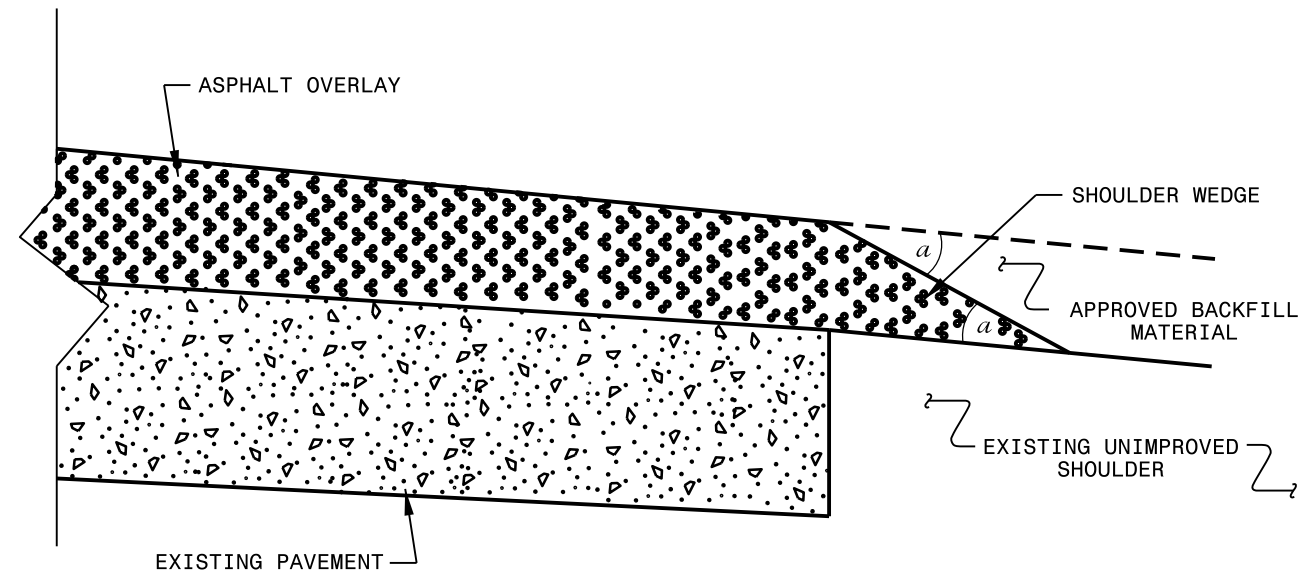
- NOTES:
- DISTRESSED AREAS TO BE REPAIRED BY MILL & FILL SHALL BE DESIGNATED BY THE ENGINEER AFTER COMPLETION OF SURFACE MILLING.
 - FILL MILLED AREAS WITH ASPHALT INTERMEDIATE COURSE BACK FLUSH WITH THE MILLED ASPHALT SURFACE LEFT IN PLACE, PRIOR TO PLACEMENT OF PROPOSED ASPHALT SURFACE COURSE.

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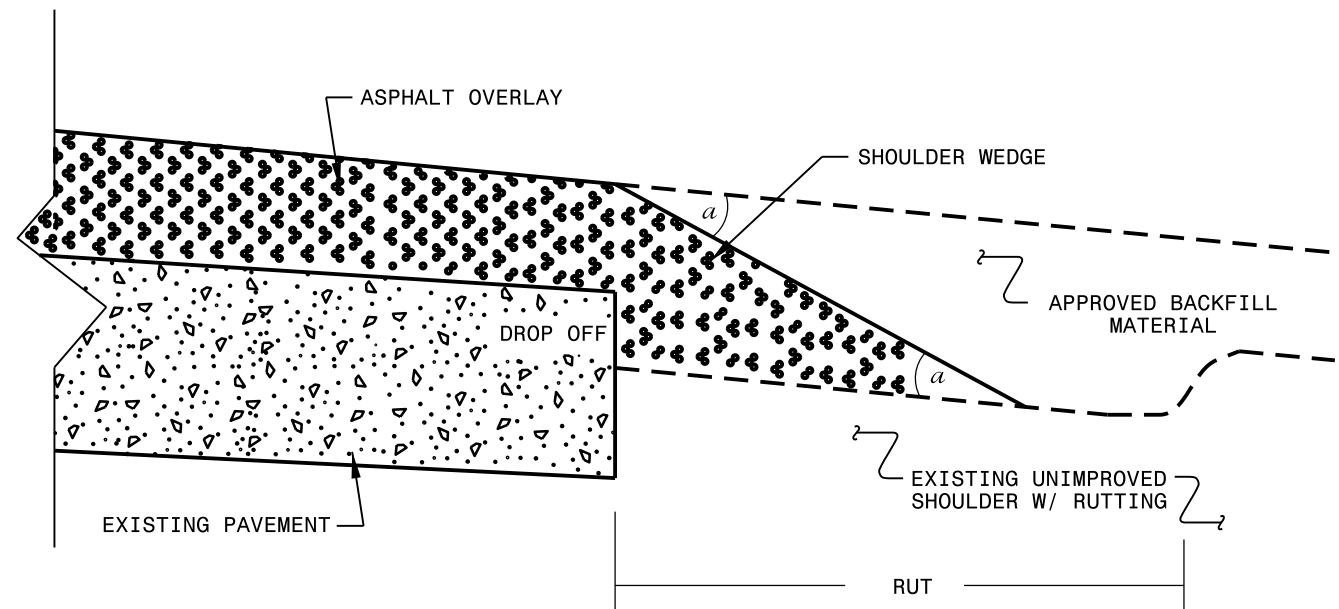
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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



SHOULDER WEDGE DETAIL
(Resurfacing Projects w/ NO Widening)



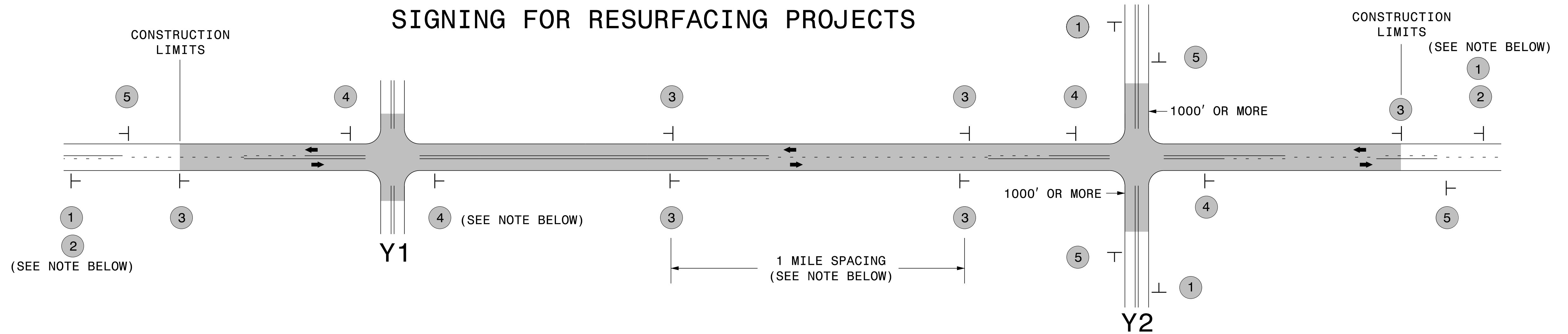
SHOULDER WEDGE DETAIL
(Resurfacing Adjacent to Rutted Shoulder)

- 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.: 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"> 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;"> 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.		



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'

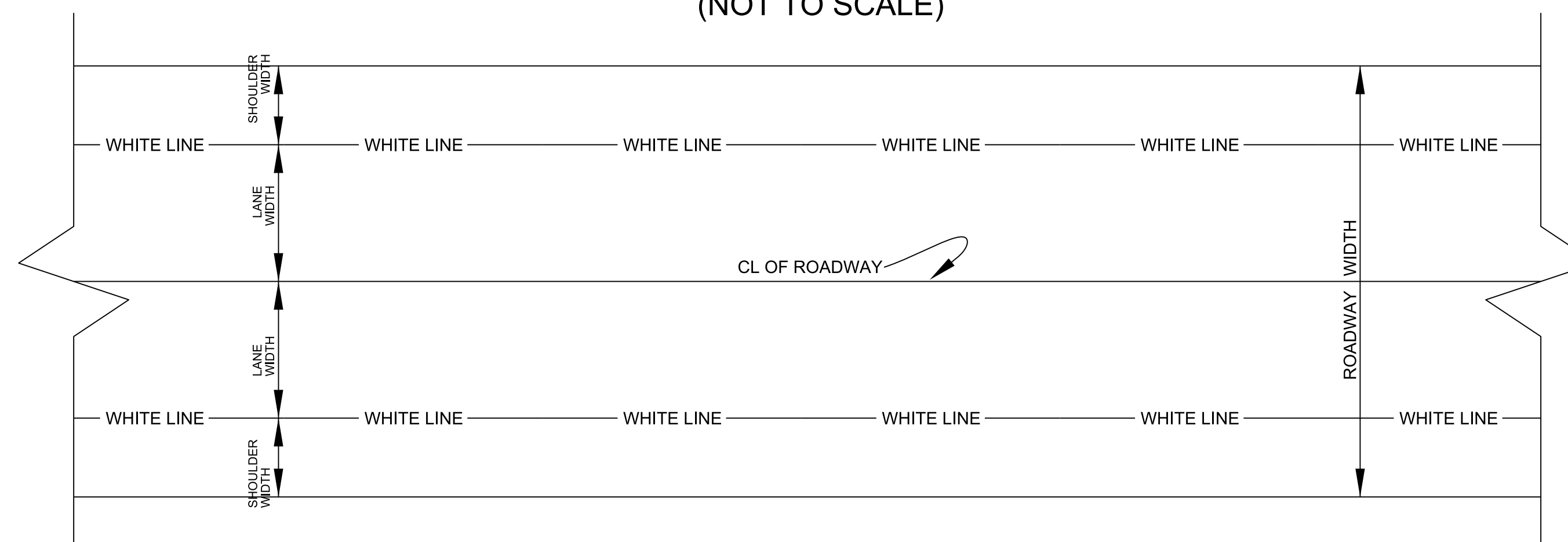
* May vary due to pavement width

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.
2021CPT.06.07.10091.1		

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	1220000000-E		1245000000-E	1260000000-E	1297000000-E			
										INCIDENTAL STONE BASE	SHOULDER RECONSTRUCTION	AGGREGATE SHOULDER BORROW	0.75" MILLING	1½" MILLING	4.0" MILLING		
										MI	FT	TONS	SMI	TON	SY	SY	SY
2021CPT.06.07.10091.1	Bladen	1	NC 20	FROM ROBESON CL TO NC 87	1	2	2WU	NO	NO	3.86	26		7.70	1,287	49,820		
TOTAL FOR MAP NO. 1										3.86		7.70	1,287	49,820			
2021CPT.06.07.10091.1	Bladen	2	NC 53	FROM US 701 TO SR 1325	2	2	2WU	NO	NO	10.36	25	104			152,280	7,040	
TOTAL FOR MAP NO. 2										10.36		104			152,280	7,040	
TOTAL FOR PROJ NO. 2021CPT.06.07.10091.1										14.22		104	7.70	1,287	49,820	152,280	7,040
GRAND TOTAL										14.22		104	7.70	1,287	49,820	152,280	7,040

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	1330000000-E		1491000000-E	1503000000-E	1523000000-E	1575000000-E	1704000000-E	
										INCIDENTAL MILLING	BASE COURSE, B25.0C	INTERMEDIATE COURSE, 119.0C	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT		
										MI	FT	SY	TONS	TONS	TONS	TONS	TONS
2021CPT.06.07.10091.1	Bladen	1	NC 20	FROM ROBESON CL TO NC 87	1	2	2WU	NO	NO	3.86	26	1,667	2,840		5,962	486	19
TOTAL FOR MAP NO. 1										3.86		1,667	2,840		5,962	486	19
2021CPT.06.07.10091.1	Bladen	2	NC 53	FROM US 701 TO SR 1325	2	2	2WU	NO	NO	10.36	25	3,087		1,605	12,990	856	52
TOTAL FOR MAP NO. 2										10.36		3,087		1,605	12,990	856	52
TOTAL FOR PROJ NO. 2021CPT.06.07.10091.1										14.22		4,754	2,840	1,605	18,952	1,342	71
GRAND TOTAL										14.22		4,754	2,840	1,605	18,952	1,342	71

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO.	SHEET NO.	TOTAL NO.
2021CPT.06.07.10091.1		

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH		4413000000-E	4457000000-N	4685000000-E		4695000000-E	4810000000-E	
								MI	FT	WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	4" WHITE PAINT	4" YELLOW PAINT
								SF	LS	LF	LF	LF	LF	LF		
2021CPT.06.07.10091.1	Bladen	1	NC 20	FROM ROBESON CL TO NC 87	1	2	2WU	3.86	26	432	1	40,128	34,108		40,128	34,108
TOTAL FOR MAP NO. 1								3.86		432	1	40,128	34,108		40,128	34,108
2021CPT.06.07.10091.1	Bladen	2	NC 53	FROM US 701 TO SR 1325	2	2	2WU	10.36	25	1,160		109,924	93,349	80	109,924	93,349
TOTAL FOR MAP NO. 2								10.36		1,160		109,924	93,349	80	109,924	93,349
TOTAL FOR PROJ NO. 2021CPT.06.07.10091.1								14.22		1,592	1	150,052	127,457	80	150,052	127,457
												277,509		277,509		
GRAND TOTAL								14.22		1,592	1	150,052	127,457	80	150,052	127,457
												277,509		277,509		

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH		4820000000-E	4835000000-E	4891000000-E	4900000000-N	
								MI	FT	8" WHITE PAINT	24" WHITE PAINT	24" X 90 M WHITE THERMO	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS
								EA	EA	EA	EA	EA		
2021CPT.06.07.10091.1	Bladen	1	NC 20	FROM ROBESON CL TO NC 87	1	2	2WU	3.86	26		25	25	260	
TOTAL FOR MAP NO. 1								3.86			25	25	260	
2021CPT.06.07.10091.1	Bladen	2	NC 53	FROM US 701 TO SR 1325	2	2	2WU	10.36	25	80			690	20
TOTAL FOR MAP NO. 2								10.36		80			690	20
TOTAL FOR PROJ NO. 2021CPT.06.07.10091.1								14.22		80	25	25	950	20
													970	
GRAND TOTAL								14.22		80	25	25	950	20
													970	