

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS

Letting Date: March 16, 2022

CONTRACT ID: DF00303

TIP NO.: -----

FEDERAL AID NO.: STATE FUNDED

WBS ELEMENT NO.: 2022CPT.06.13.10241.1 & 2022CPT.06.13.20241.1

ROUTE NO.: NC 904 & VARIOUS SR ROUTES

LOCATION: VARIOUS

COUNTY: COLUMBUS

LENGTH OF PROJECT: 17.67 MILES

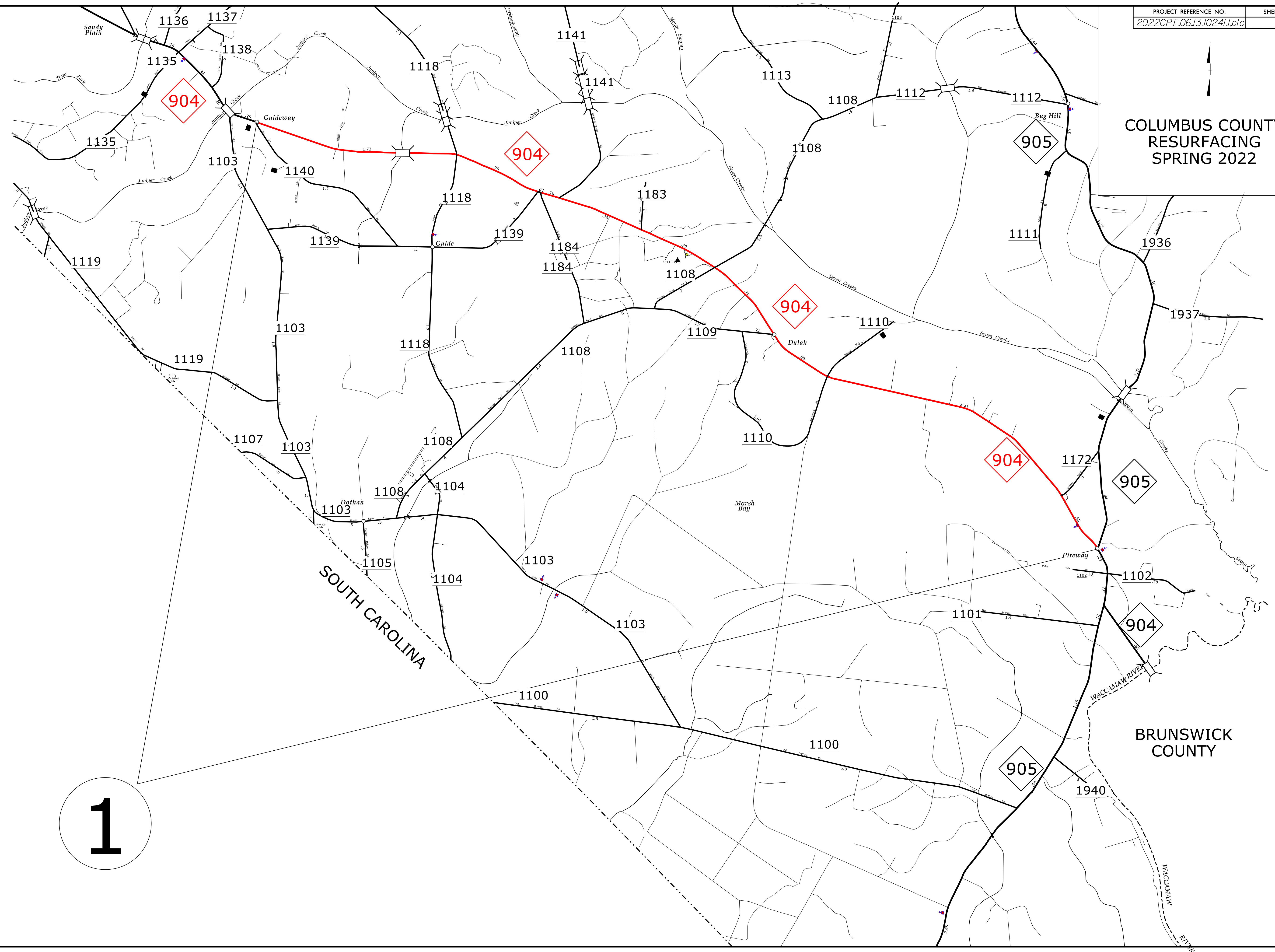
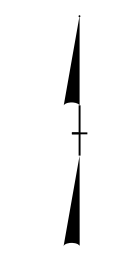
TYPE OF WORK: RESURFACING, WIDENING, MILLING, SHOULDERS & PVT. MKGS.

**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

COLUMBUS COUNTY RESURFACING SPRING 2022



1

REVISIONS

8/17/99
92-FER-2022-1849
S:\Projects\Resurfacing\2022 Spring\03\C2\COLUMBUS.dgn
Author: A. H. W. 2/20/22

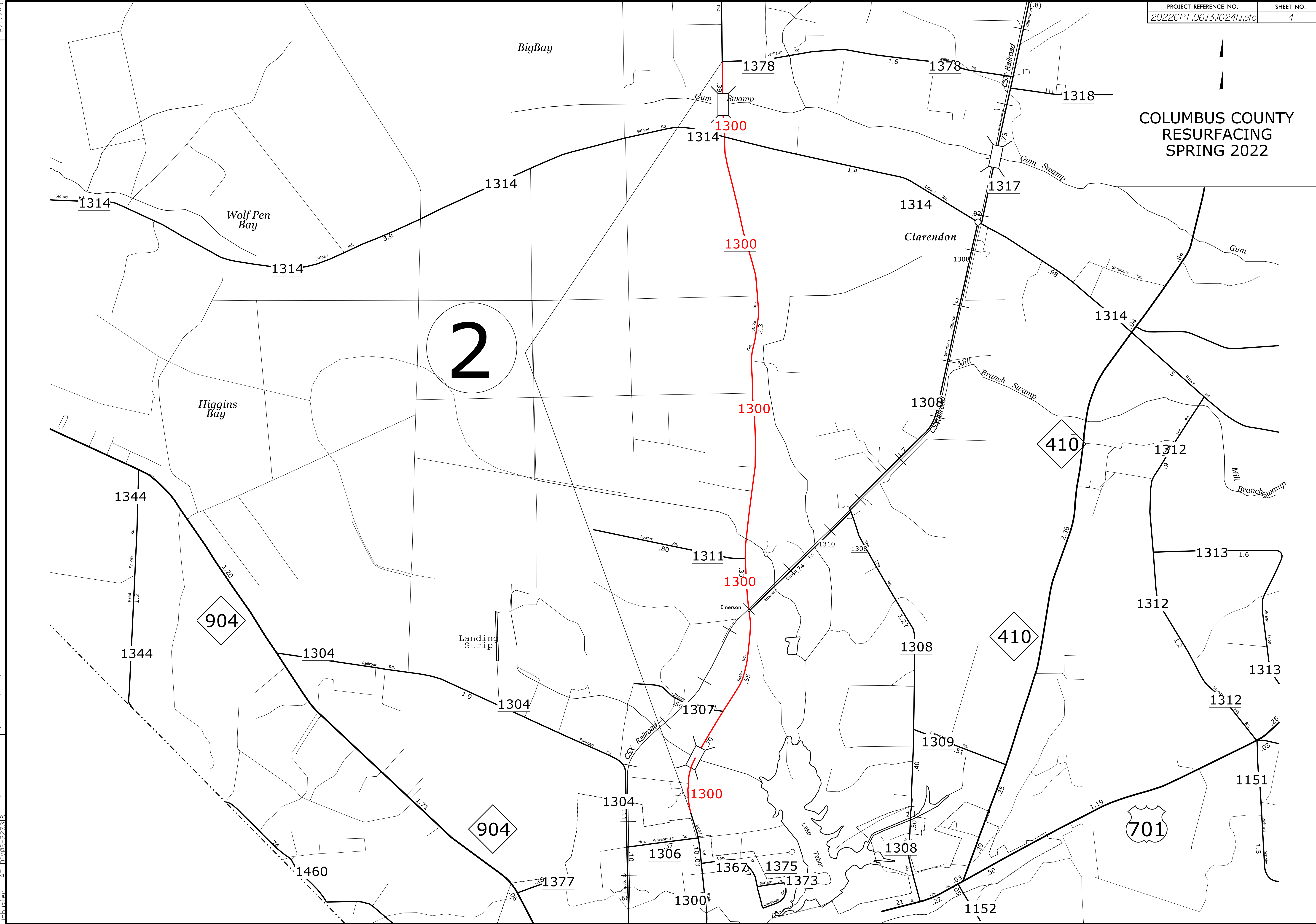
COLUMBUS COUNTY
RESURFACING
SPRING 2022



8/17/99

REVISIONS

9-2-FER-2022-4622
S:\Projects\2022\0613\COLUMBUS.dgn
8/17/2022 Spring 03\C2\COLUMBUS.dgn



2

904

410

904

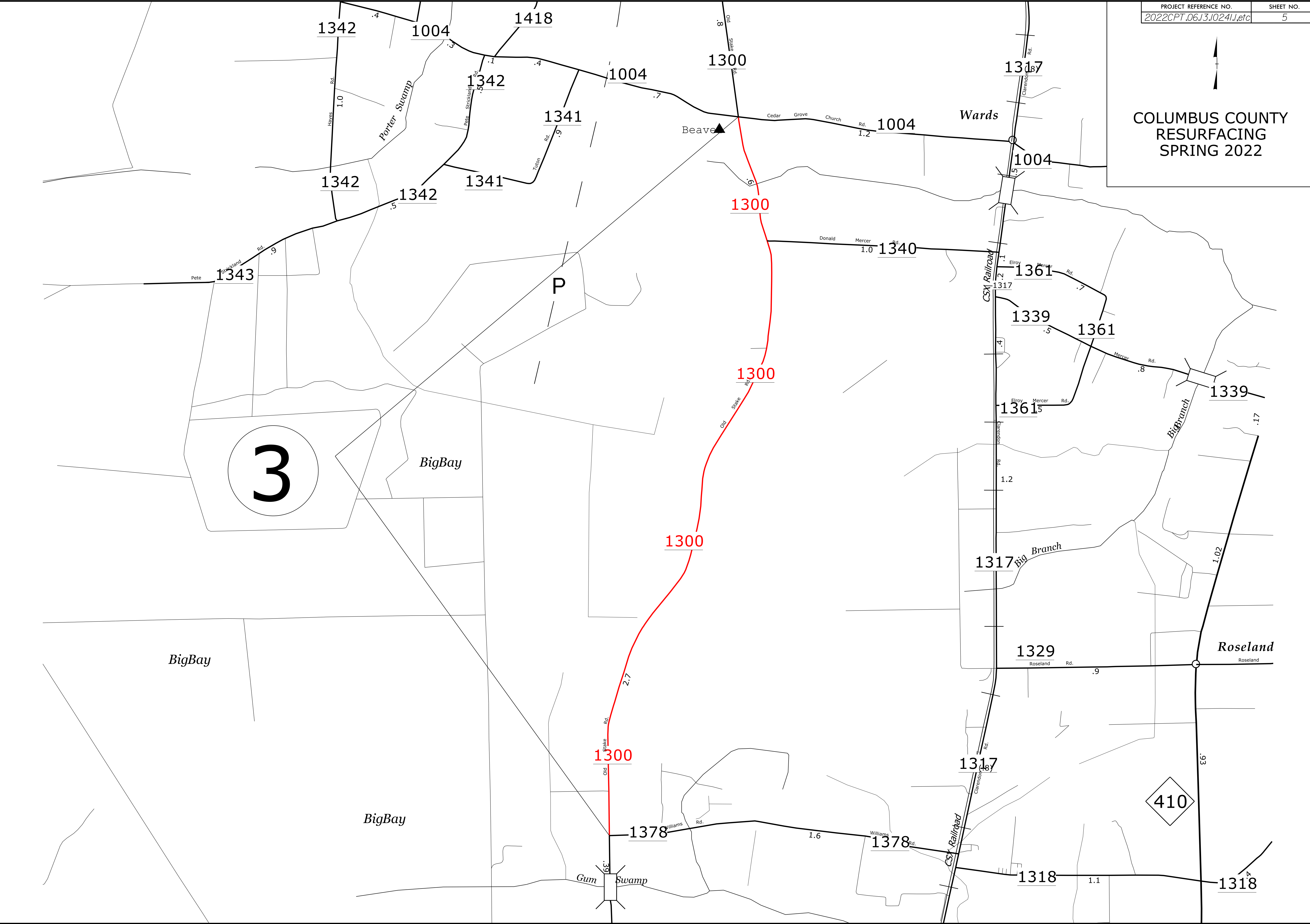
701

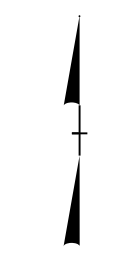

**COLUMBUS COUNTY
RESURFACING
SPRING 2022**

8/17/99

REVISIONS

92-FEB-2022 13:09
 2022CPT.06.13.10241.1, etc
 S:\Projects\2022\Spring\03\C2\COLUMBUS.dgn
 Author: A. H. W. G. S. 2/2/22

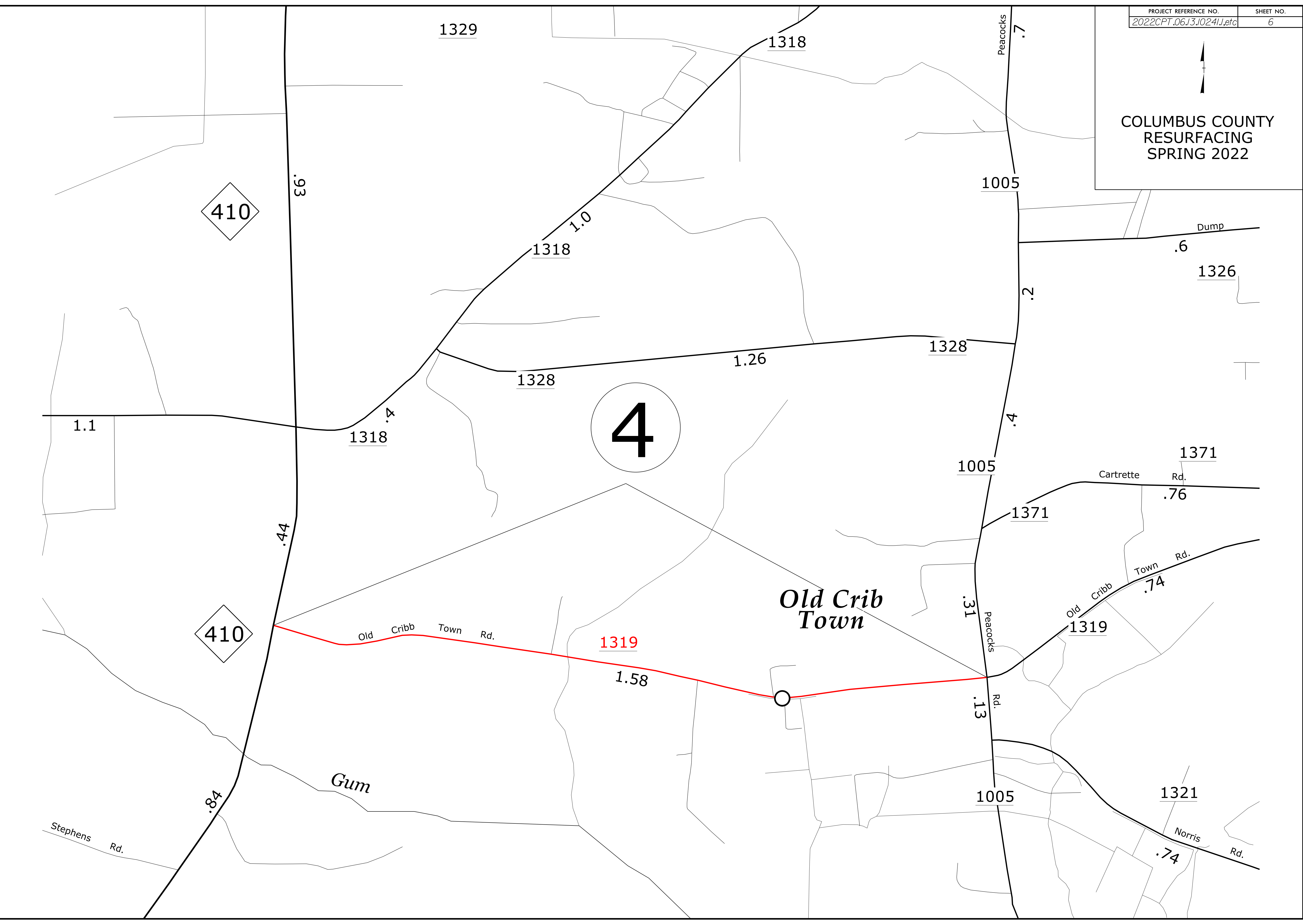




COLUMBUS COUNTY
RESURFACING
SPRING 2022

REVISIONS

8/17/99
92-FER-2022-1621 Work Files\Projects\Resurfacing\2022 Spring\03\C2\COLUMBUS.dgn
Author: ALVIN B. SCOTLAND

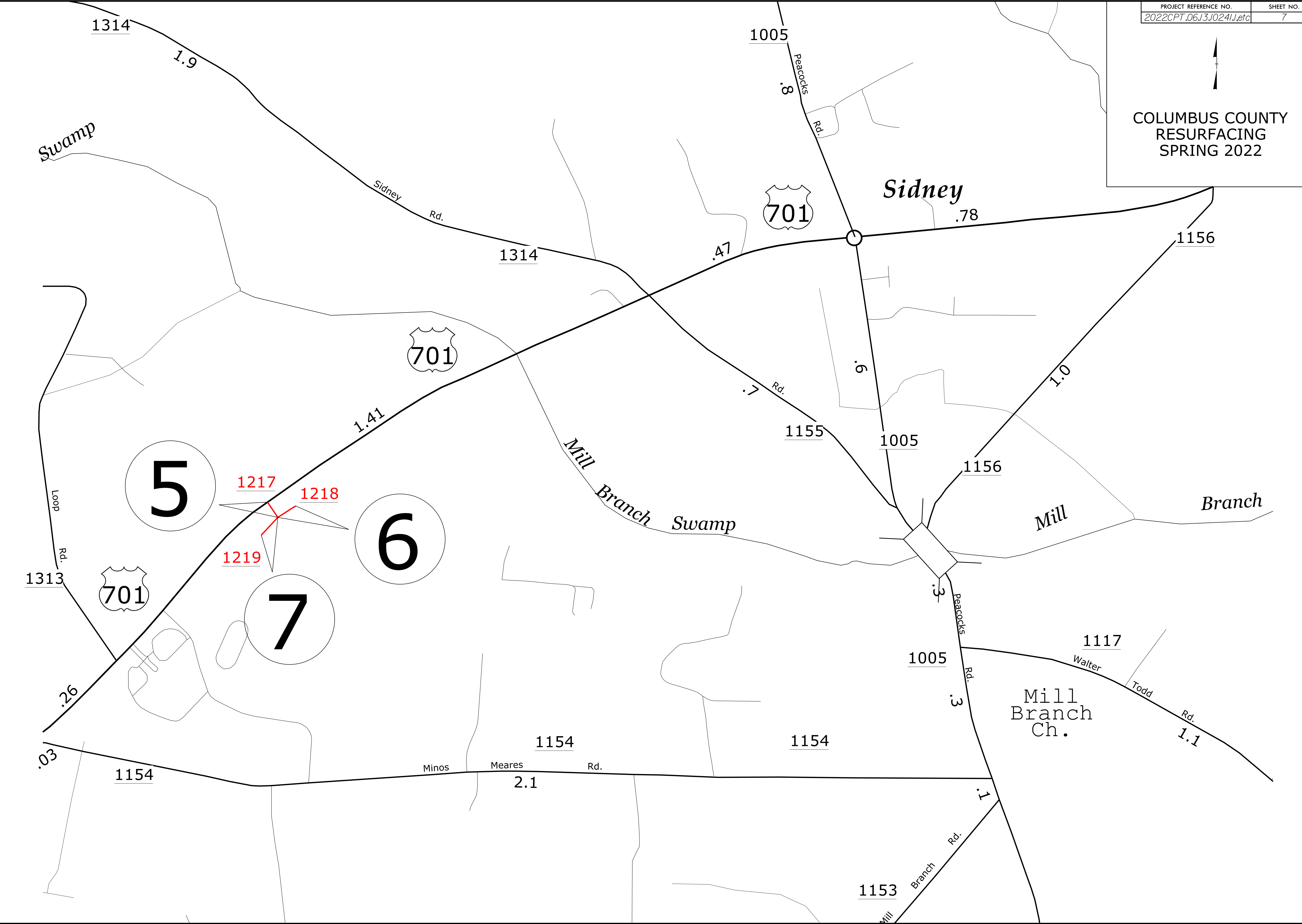




COLUMBUS COUNTY
RESURFACING
SPRING 2022

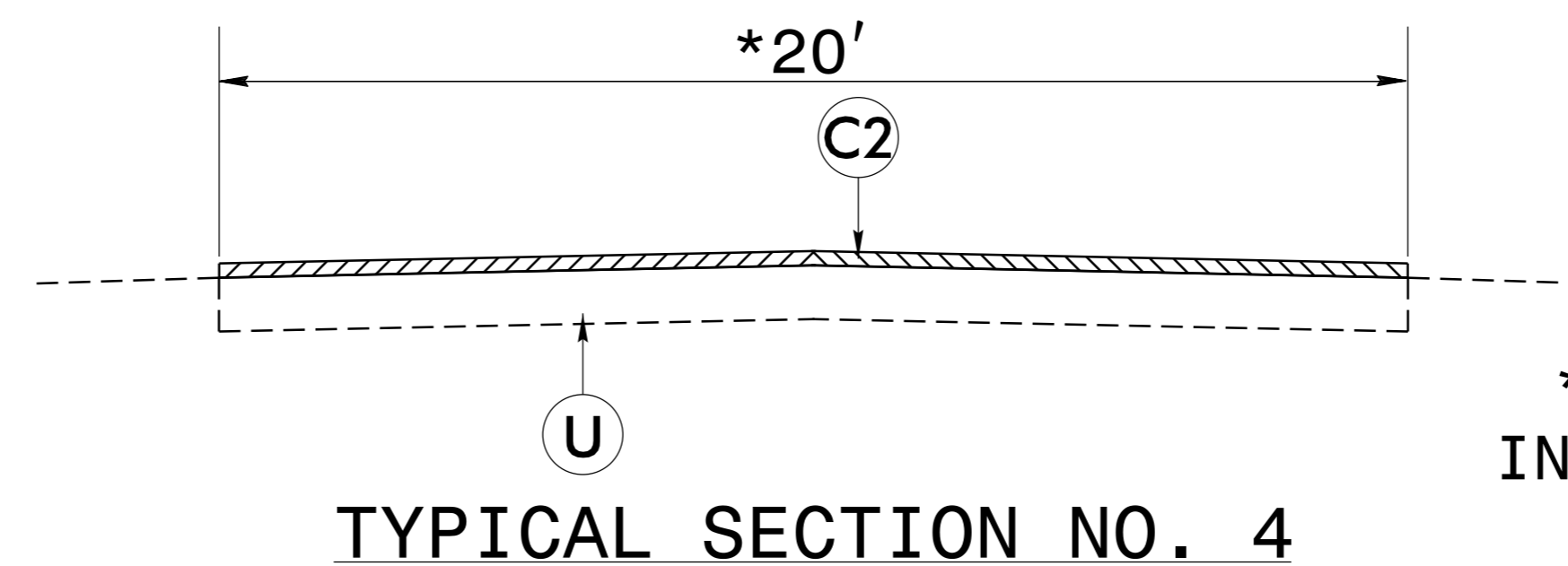
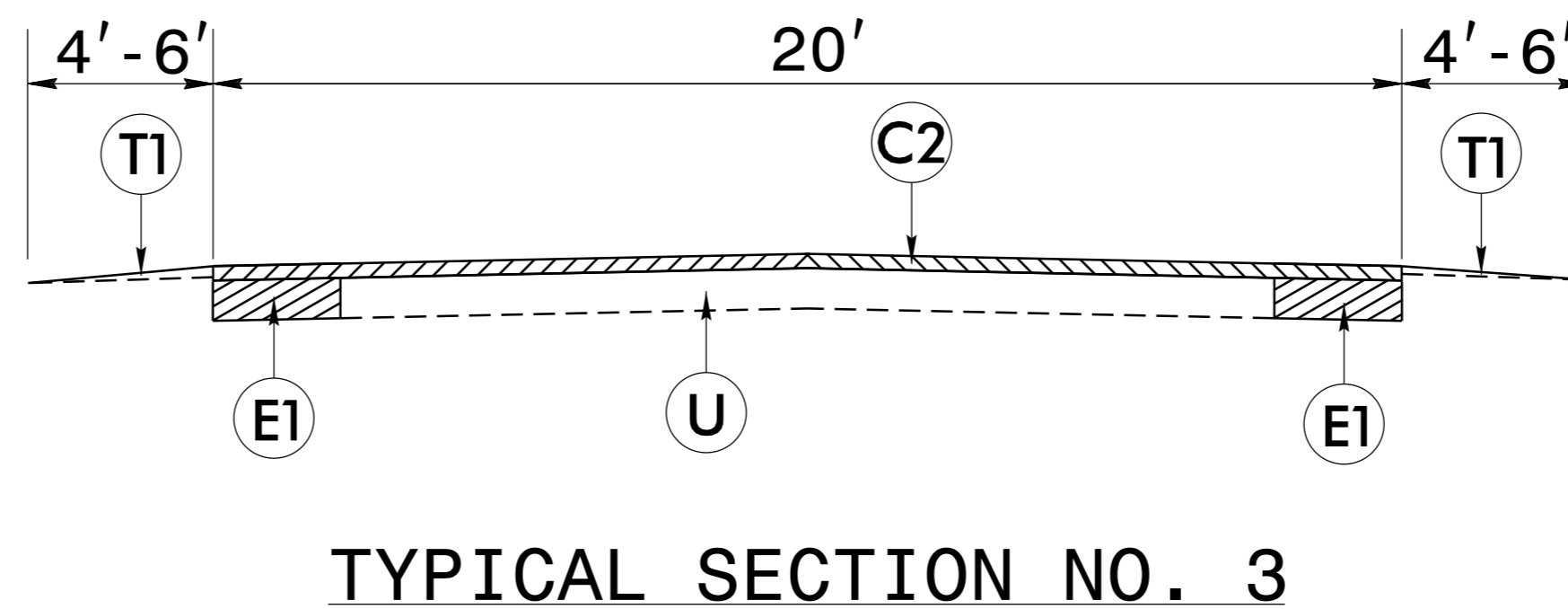
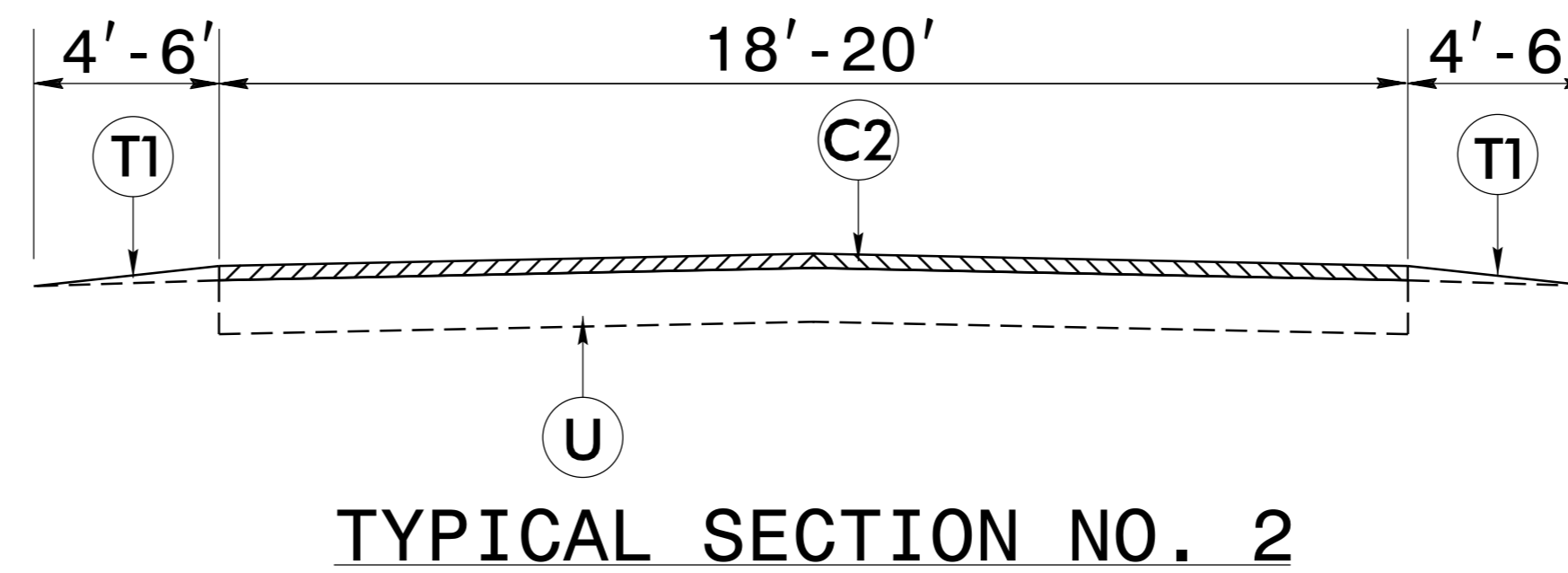
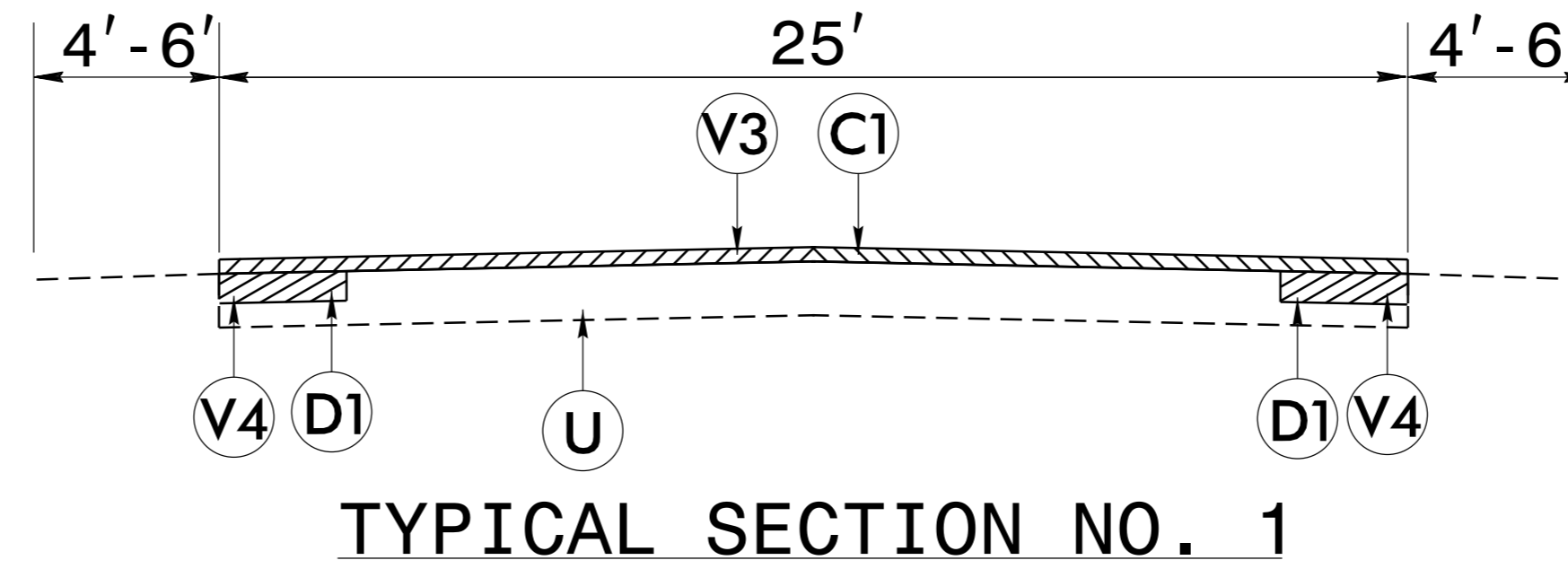
8/17/99
 92-FER-2022-662
 2022
 \Projects\Resurfacing\2022 Spring\03\C2\COLUMBUS.dgn
 2/21/22
 2:48:38
 22
 22

REVISIONS



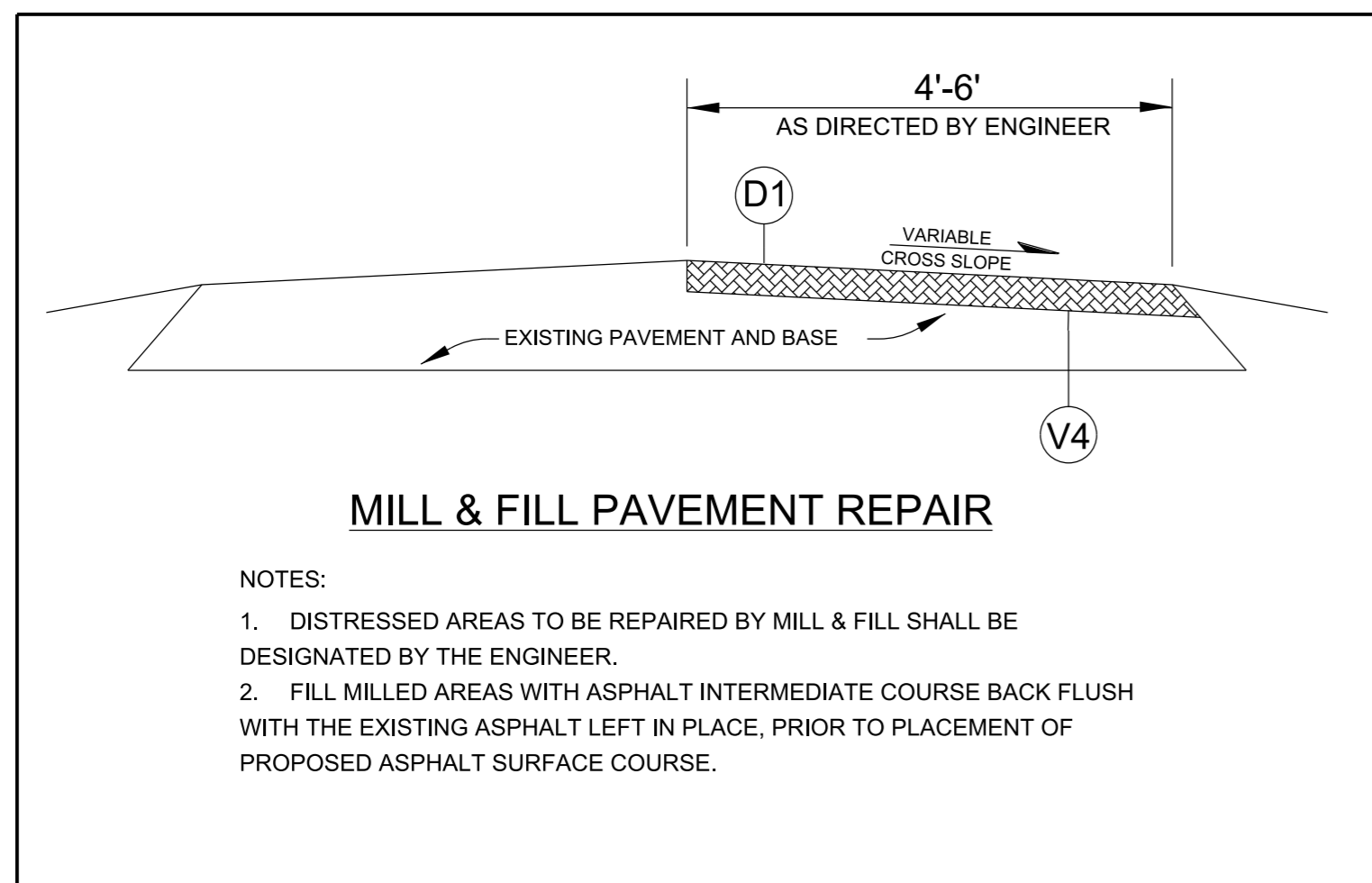
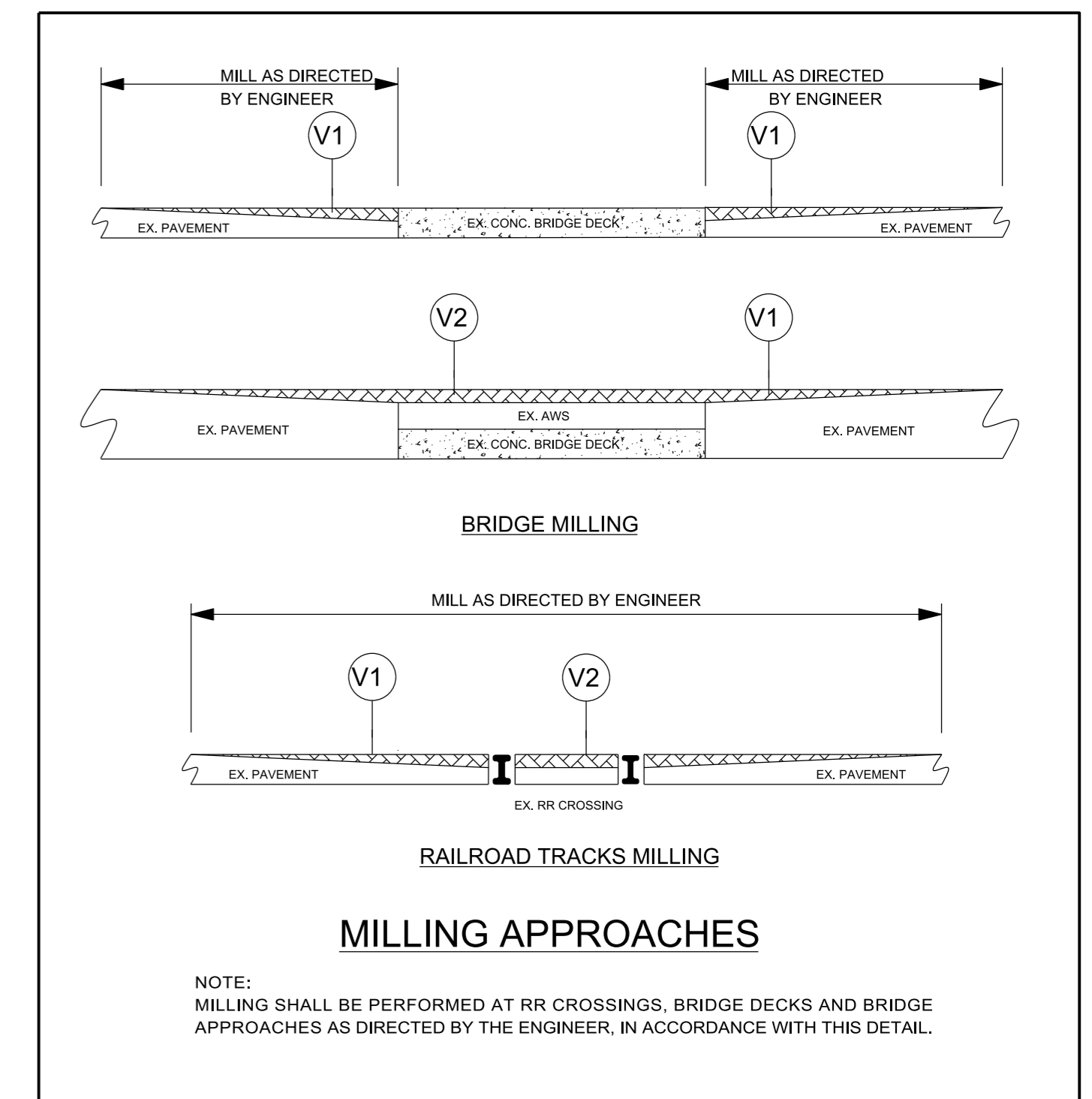
PAVEMENT SCHEDULE

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 165 LBS. PER SQ. YD.
D1	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 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
V4	2½" MILLING



NOTES:

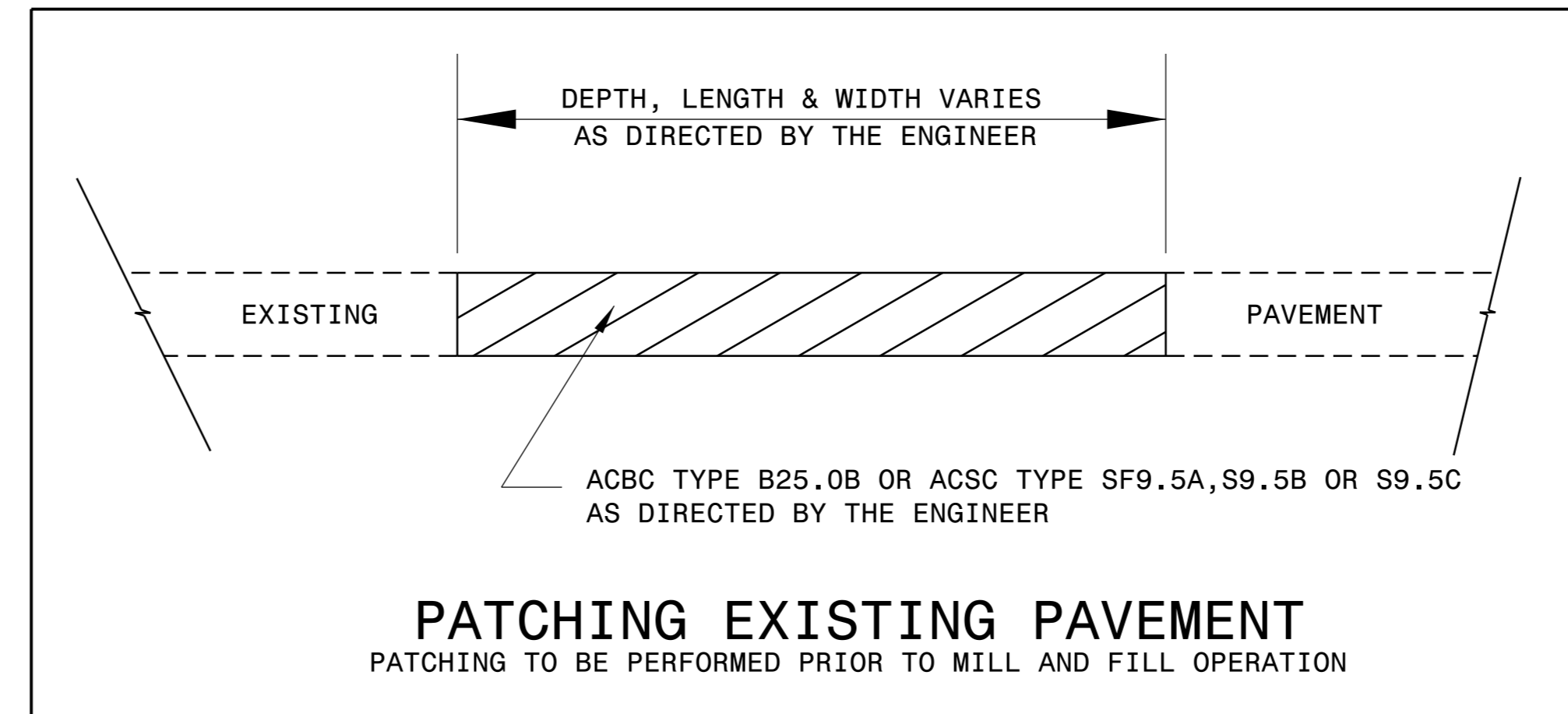
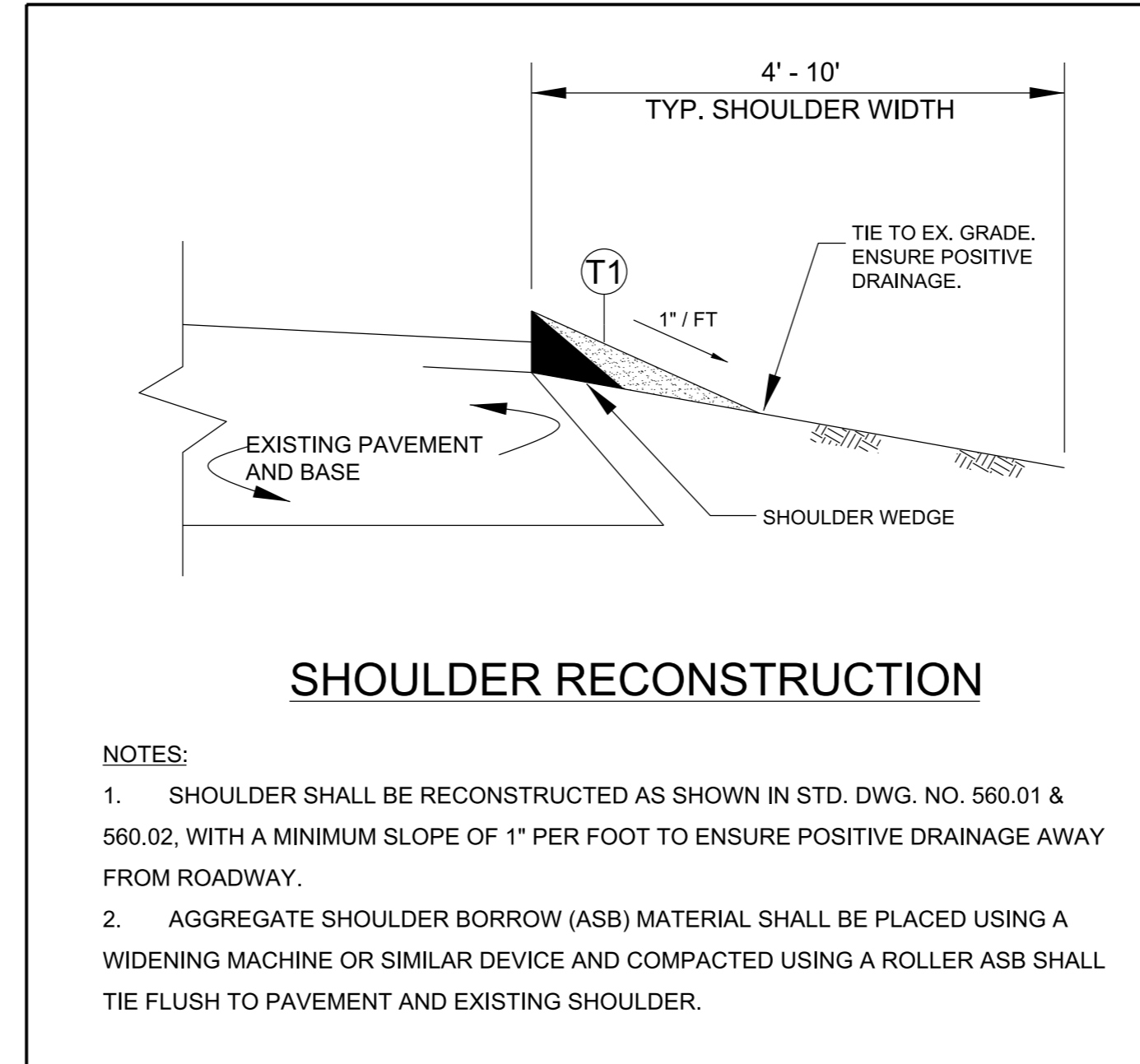
- UPON COMPLETION OF SURFACE MILLING, TEMPORARY PAINT MARKINGS SHALL BE INSTALLED WITHIN TIME FRAME ESTABLISHED IN STD. SPECS.
- CONTRACTOR SHALL BEGIN WIDENING AND/OR MILL & FILL OPERATION WITHIN 3 DAYS OF COMPLETING SURFACE MILLING.
- CONTRACTOR SHALL BEGIN PLACEMENT OF FINAL SURFACE WITHIN 3 DAYS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



*WIDTH VARIES TO INCLUDE CUL-DE-SACS

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 165 LBS. PER SQ. YD.
D1	2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 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
V4	2½" MILLING

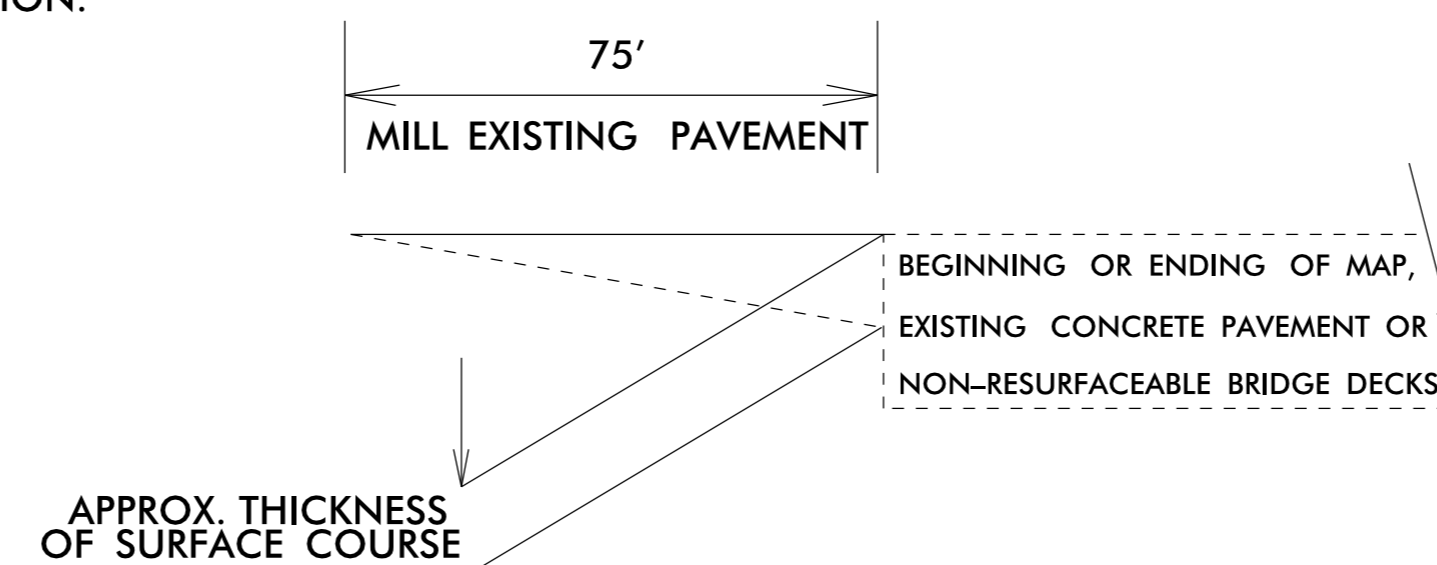


NOTES TO CONTRACTOR

FOR SURFACE MIXES OVER 1" IN THICKNESS, MILL THE EXISTING PAVEMENT IN ACCORDANCE WITH THE FOLLOWING SKETCH AS DIRECTED BY THE ENGINEER.

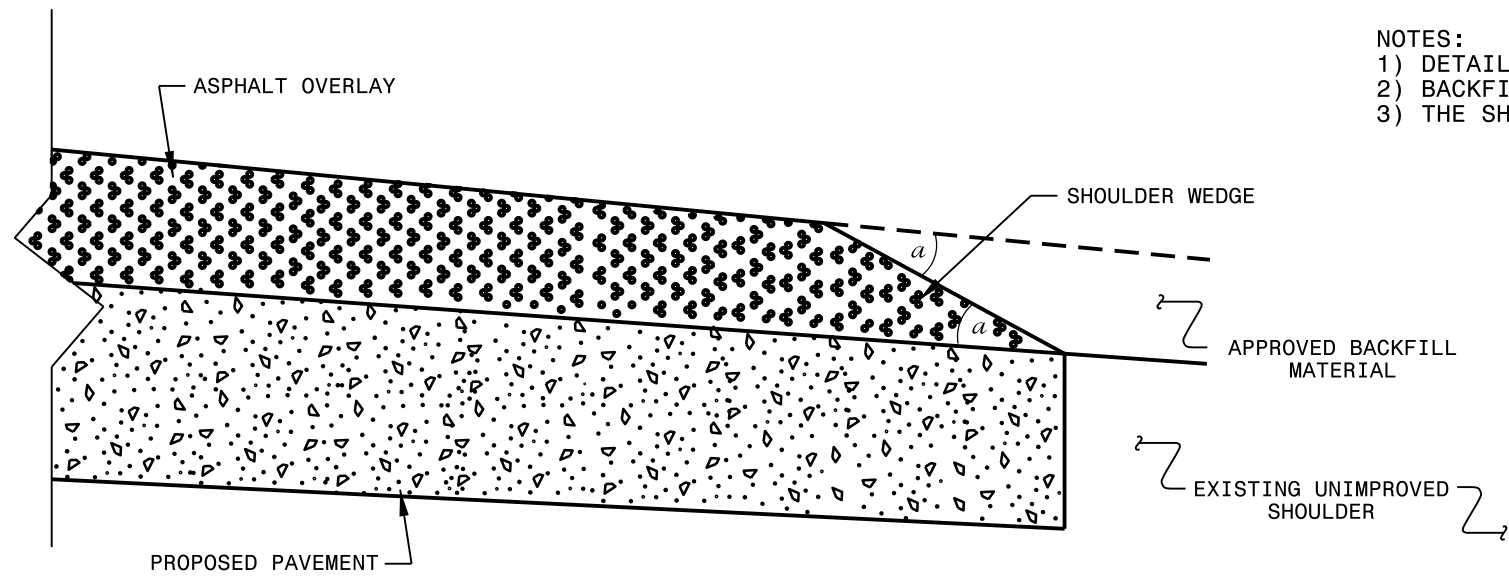
LOCATIONS SHALL INCLUDE TIES INTO EXISTING CONCRETE PAVEMENT, AT BRIDGE APPROACHES WHERE THE BRIDGE WILL NOT BE RESURFACED, AND AT THE BEGINNING AND ENDING POINT OF EACH RESURFACING MAP.

PERFORM THE WORK IN ACCORDANCE WITH SECTION 607 OF THE JANUARY 2012 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. RESURFACING WILL BE ACCOMPLISHED AT THE SAME TIME AS THE MILLING OPERATION.

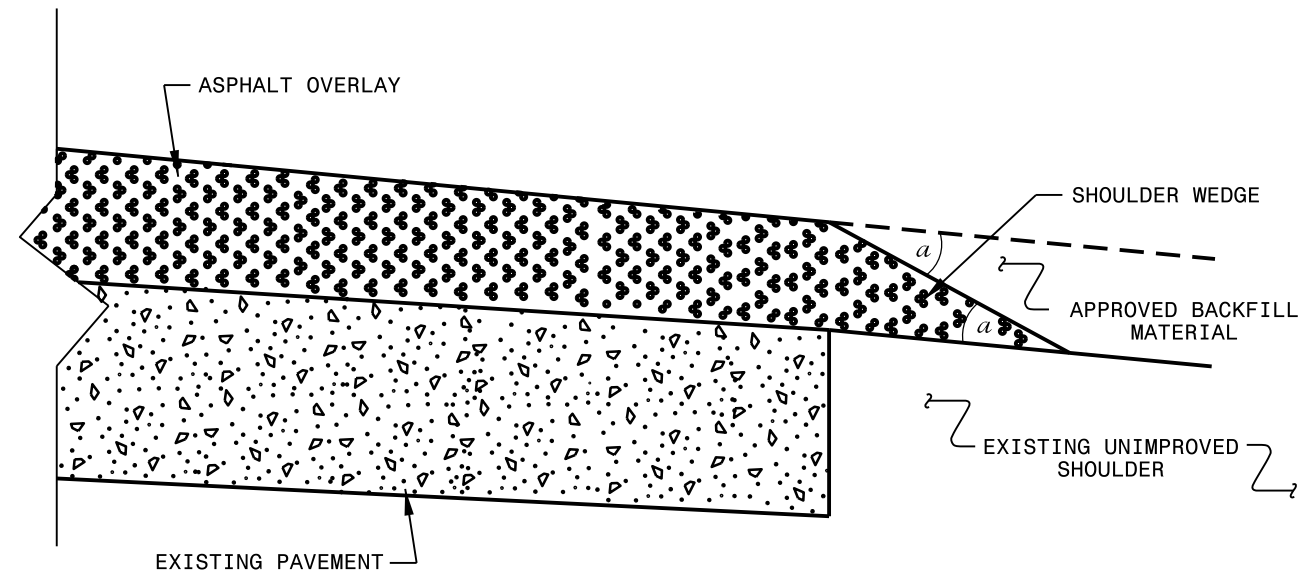


MILLING AT PAVEMENT TIE-INS DETAIL

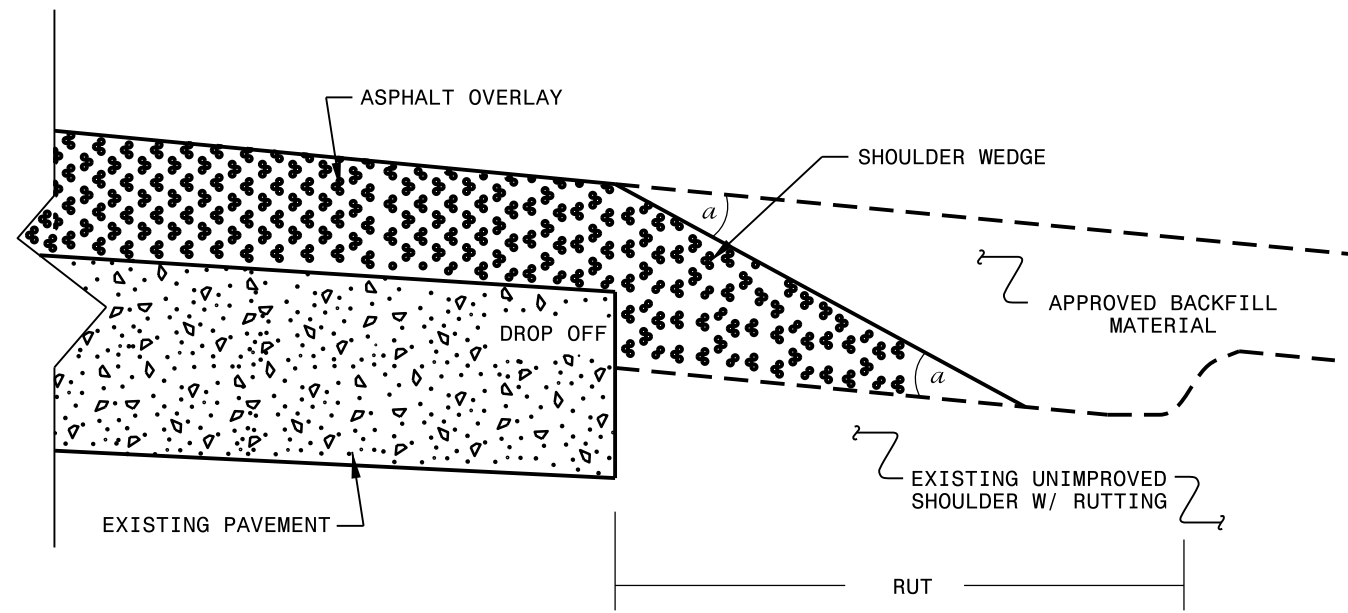
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



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			

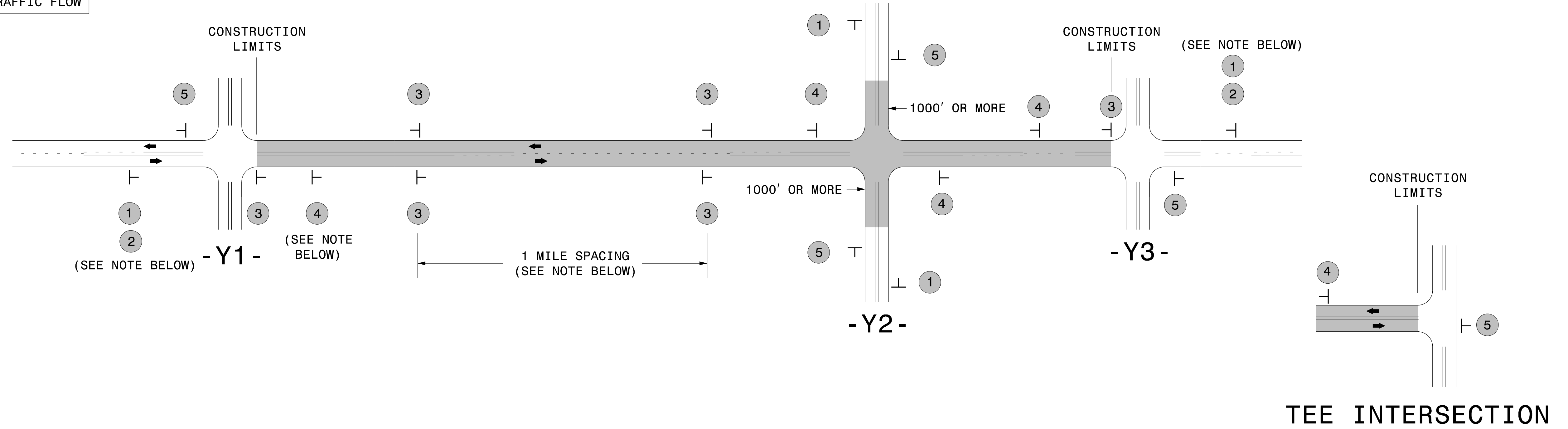
SYSTEMS DESIGN USER NAME

SIGNING FOR RESURFACING PROJECTS

LEGEND

┃ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



MAINLINE (-L-) SIGNING

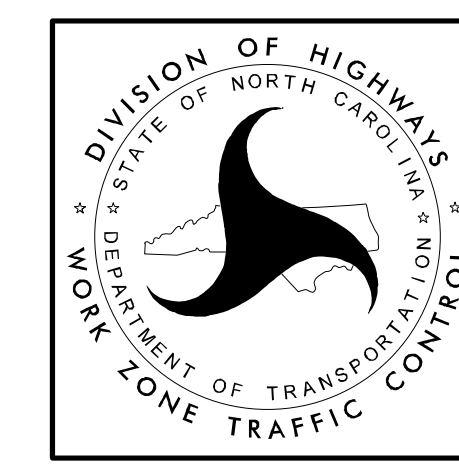
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1		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"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <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 style="text-align: center;"> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
	2		#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		- PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER. - AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.	
	4		- 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		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.



ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING

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'

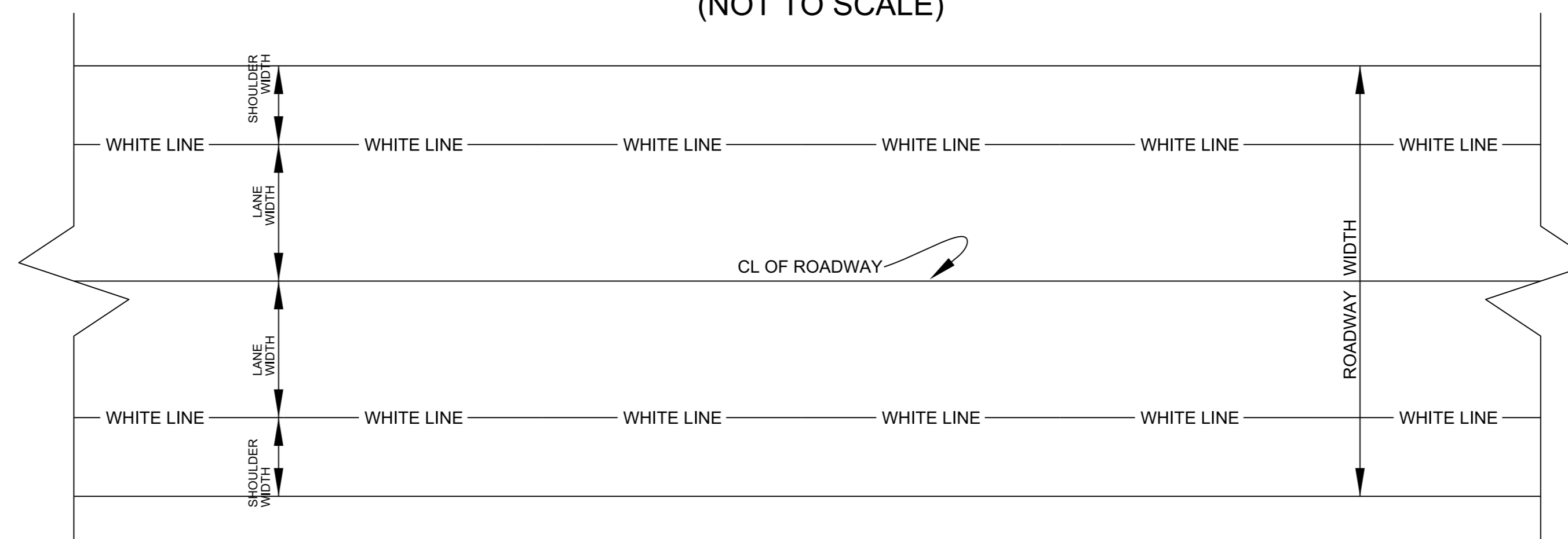
* May vary due to pavement width

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.
2022CPT.06.13.10241.1, 2022CPT.06.13.20241.1		

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	2.5" MILLING	0.75" MILLING	1½" MILLING		
										MI	FT	TONS	SMI	TON	SY	SY	SY
2022CPT.06.13.10241.1	Columbus	1	NC 904	FROM SR 1140 TO NC 905	1	2	2WU	NO	NO	8.34	25	83		4,400	122,320	269	
TOTAL FOR MAP NO. 1										8.34		83		4,400	122,320	269	
TOTAL FOR PROJ NO. 2022CPT.06.13.10241.1										8.34		83		4,400	122,320	269	
															126,989		
2022CPT.06.13.20241.1	Columbus	2	SR 1300-A	FROM END C&G TO SR 1378	3	2	2WU	NO	NO	4.26	20		8.52	1,421			
TOTAL FOR MAP NO. 2										4.26			8.52	1,421			
2022CPT.06.13.20241.1	Columbus	3	SR 1300-B	FROM SR 1378 TO SR 1004	2	2	2WU	NO	NO	3.28	20		6.56	1,094	587		
TOTAL FOR MAP NO. 3										3.28			6.56	1,094	587		
2022CPT.06.13.20241.1	Columbus	4	SR 1319	FROM SR 1005 TO NC 410	2	2	2WU	NO	NO	1.56	20		3.12	521			
TOTAL FOR MAP NO. 4										1.56			3.12	521			
2022CPT.06.13.20241.1	Columbus	5	SR 1217	FROM US 701 TO SR 1218 / 1219	4	2	2WU	NO	NO	0.06	20	1					
TOTAL FOR MAP NO. 5										0.06		1					
2022CPT.06.13.20241.1	Columbus	6	SR 1218	FROM SR 1217 TO CUL-DE-SAC	4	2	2WU	NO	NO	0.08	20	1					
TOTAL FOR MAP NO. 6										0.08		1					
2022CPT.06.13.20241.1	Columbus	7	SR 1219	FROM SR 1217 TO CUL-DE-SAC	4	2	2WU	NO	NO	0.09	20	1					
TOTAL FOR MAP NO. 7										0.09		1					
TOTAL FOR PROJ NO. 2022CPT.06.13.20241.1										9.33		3	18.20	3,036	587	587	
															587		
GRAND TOTAL										17.67		86	18.20	3,036	4,987	122,320	269
															127,576		

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	1519000000-E	1523000000-E	1575000000-E	
										INCIDENTAL MILLING	BASE COURSE, B25.0C	INTERMEDIATE COURSE, I19.0C	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX		
										MI	FT	SY	TONS	TONS	TONS	TONS	
2022CPT.06.13.10241.1	Columbus	1	NC 904	FROM SR 1140 TO NC 905	1	2	2WU	NO	NO	8.34	25	3,920		314	10,577	650	
TOTAL FOR MAP NO. 1										8.34		3,920		314	10,577	650	
TOTAL FOR PROJ NO. 2022CPT.06.13.10241.1										8.34		3,920		314	10,577	650	
2022CPT.06.13.20241.1	Columbus	2	SR 1300-A	FROM END C&G TO SR 1378	3	2	2WU	NO	NO	4.26	20	2,136	2,279		5,097	444	
TOTAL FOR MAP NO. 2										4.26		2,136	2,279		5,097	444	
2022CPT.06.13.20241.1	Columbus	3	SR 1300-B	FROM SR 1378 TO SR 1004	2	2	2WU	NO	NO	3.28	20	833		84	3,249	222	
TOTAL FOR MAP NO. 3										3.28		833		84	3,249	222	
2022CPT.06.13.20241.1	Columbus	4	SR 1319	FROM SR 1005 TO NC 410	2	2	2WU	NO	NO	1.56	20	556			1,560	105	
TOTAL FOR MAP NO. 4										1.56		556			1,560	105	
2022CPT.06.13.20241.1	Columbus	5	SR 1217	FROM US 701 TO SR 1218 / 1219	4	2	2WU	NO	NO	0.06	20			58	4	4	
TOTAL FOR MAP NO. 5										0.06				58	4	4	
2022CPT.06.13.20241.1	Columbus	6	SR 1218	FROM SR 1217 TO CUL-DE-SAC	4	2	2WU	NO	NO	0.08	20			77	5	5	
TOTAL FOR MAP NO. 6										0.08				77	5	5	
2022CPT.06.13.20241.1	Columbus	7	SR 1219	FROM SR 1217 TO CUL-DE-SAC	4	2	2WU	NO	NO	0.09	20			87	6	6	
TOTAL FOR MAP NO. 7										0.09				87	6	6	
TOTAL FOR PROJ NO. 2022CPT.06.13.20241.1										9.33		3,525	2,279	84	10,128	786	
															786		
GRAND TOTAL										17.67		7,445	2,279	398	10,128	10,577	1,436

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO.	SHEET NO.	TOTAL NO.
2022CPT.06.13.10241.1, 2022CPT.06.13.20241.1		

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH		WIDTH	4413000000-E	4457000000-N	4685000000-E		4688000000-E		4810000000-E		4891000000-E	4892000000-N	4900000000-N
								MI	FT		WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	6" X 90 M WHITE THERMO	6" X 90 M YELLOW THERMO	4" WHITE PAINT	4" YELLOW PAINT	24" X 90 M WHITE THERMO	THERMO RXR 90 M	YELLOW & YELLOW MARKERS
											SF	LS	LF	LF	LF	LF	LF	LF	EA	EA	
2022CPT.06.13.10241.1	Columbus	1	NC 904	FROM SR 1140 TO NC 905	1	2	2WU	8.34	25		934	1	88,070	61,649			88,070	61,649			550
TOTAL FOR MAP NO. 1								8.34			934	1	88,070	61,649			88,070	61,649			550
TOTAL FOR PROJ NO. 2022CPT.06.13.10241.1								8.34			934	1	88,070	61,649			88,070	61,649			550
											149,719				149,719						
2022CPT.06.13.20241.1	Columbus	2	SR 1300-A	FROM END C&G TO SR 1378	3	2	2WU	4.26	20		477				44,986	31,490			50	4	281
TOTAL FOR MAP NO. 2								4.26			477				44,986	31,490			50	4	281
2022CPT.06.13.20241.1	Columbus	3	SR 1300-B	FROM SR 1378 TO SR 1004	2	2	2WU	3.28	20		367				34,637	24,246					216
TOTAL FOR MAP NO. 3								3.28			367				34,637	24,246					216
2022CPT.06.13.20241.1	Columbus	4	SR 1319	FROM SR 1005 TO NC 410	2	2	2WU	1.56	20		175						16,474	12,500			
TOTAL FOR MAP NO. 4								1.56			175						16,474	12,500			
2022CPT.06.13.20241.1	Columbus	5	SR 1217	FROM US 701 TO SR 1218 / 1219	4	2	2WU	0.06	20		7										
TOTAL FOR MAP NO. 5								0.06			7										
2022CPT.06.13.20241.1	Columbus	6	SR 1218	FROM SR 1217 TO CUL-DE-SAC	4	2	2WU	0.08	20		9										
TOTAL FOR MAP NO. 6								0.08			9										
2022CPT.06.13.20241.1	Columbus	7	SR 1219	FROM SR 1217 TO CUL-DE-SAC	4	2	2WU	0.09	20		10										
TOTAL FOR MAP NO. 7								0.09			10										
TOTAL FOR PROJ NO. 2022CPT.06.13.20241.1								9.33			1,045				79,623	55,736	16,474	12,500	50	4	497
											135,359				28,974						
GRAND TOTAL								17.67			1,979	1	88,070	61,649	79,623	55,736	104,544	74,149	50	4	1,047
											149,719				135,359		178,693				