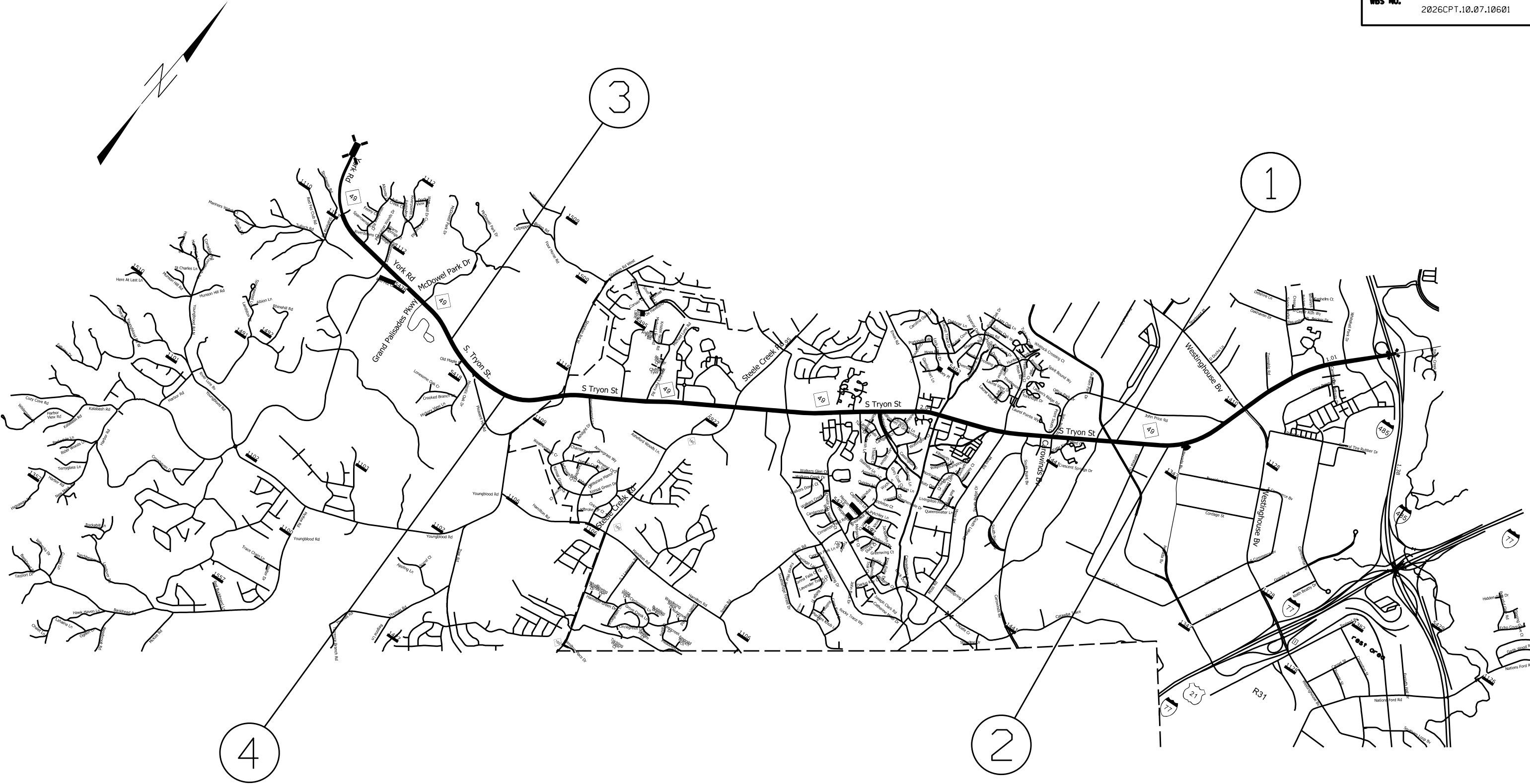


STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	1
WBS NO. 2026CPT.10.07.10601			



AREA MAP

2026 MECKLENBURG COUNTY
RESURFACING CONTRACT #1

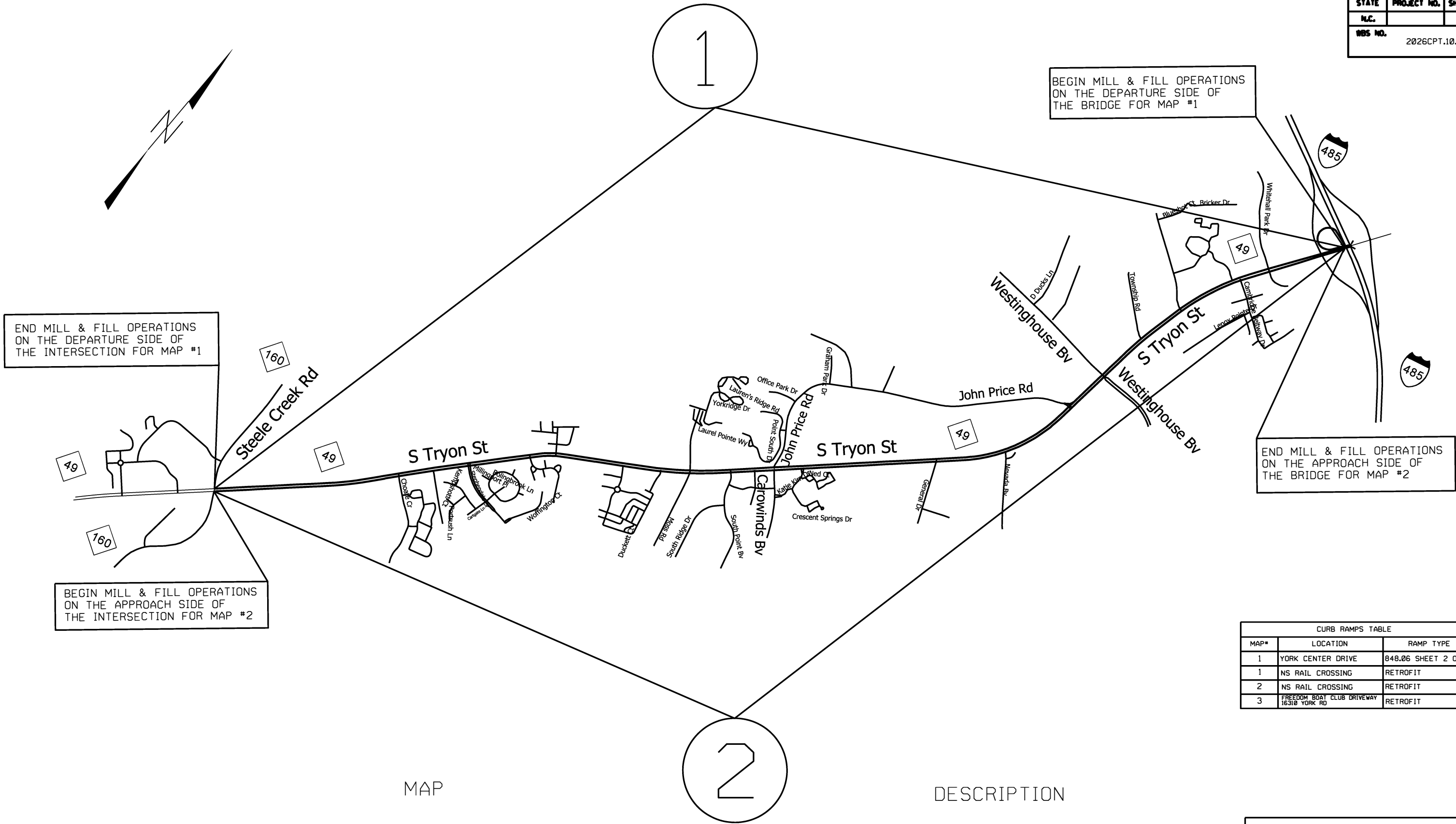
SCALE	-NA-
DATE	
DWG. BY	JHE
DESIGN BY	
APPROVED	

DIVISION OF HIGHWAYS

DESIGN

REVISIONS	

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		2	
WBS NO. 2026CPT.10.07.10601			



END MILL & FILL OPERATIONS
ON THE APPROACH SIDE OF
THE BRIDGE FOR MAP #2

CURB RAMPS TABLE		
MAP#	LOCATION	RAMP TYPE
1	YORK CENTER DRIVE	848.06 SHEET 2 OF 3
1	NS RAIL CROSSING	RETROFIT
2	NS RAIL CROSSING	RETROFIT
3	FREEDOM BOAT CLUB DRIVEWAY 16310 YORK RD	RETROFIT

#1 SB NC 49 S. TRYON STREET

FROM BRIDGE AT I-485 TO STEELE
CREEK ROAD

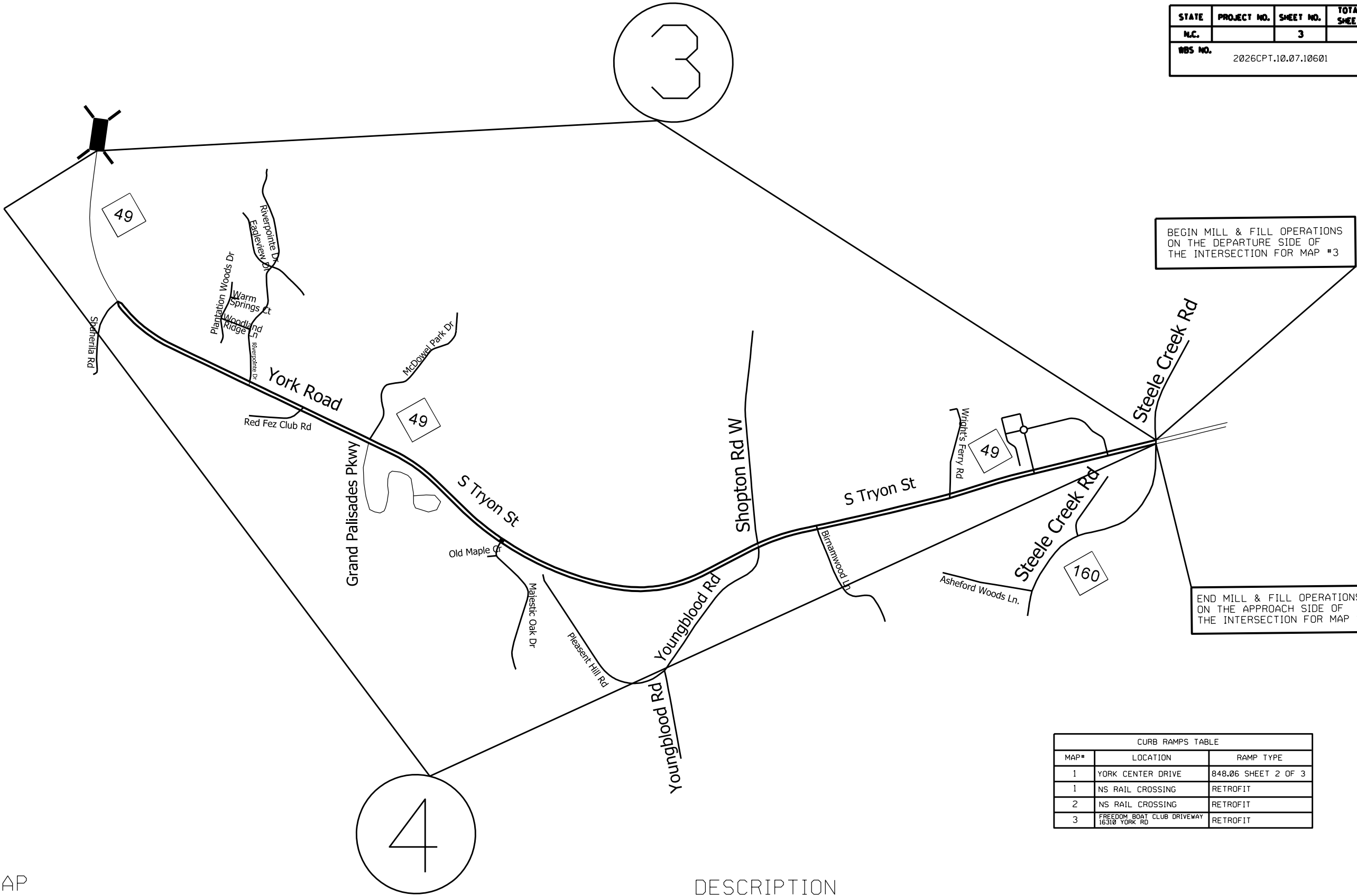
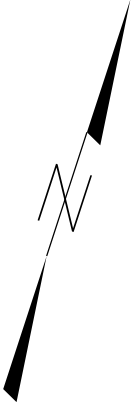
#2 NB NC 49 S. TRYON STREET

FROM STEELE CREEK ROAD TO BRIDGE
AT I-485

2026 MECKLENBURG COUNTY
RESURFACING CONTRACT #1

SCALE	-NA-		REVISIONS	
DATE				
OWG. BY	JHE			
DESIGN BY				
APPROVED				

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		3	
RDS NO.			2026CPT.10.07.10601



BEGIN MILL & FILL OPERATIONS
ON THE DEPARTURE SIDE OF
THE INTERSECTION FOR MAP #3

END MILL & FILL OPERATIONS
ON THE APPROACH SIDE OF
THE INTERSECTION FOR MAP #4

CURB RAMPS TABLE		
MAP#	LOCATION	RAMP TYPE
1	YORK CENTER DRIVE	848.06 SHEET 2 OF 3
1	NS RAIL CROSSING	RETROFIT
2	NS RAIL CROSSING	RETROFIT
3	FREEDOM BOAT CLUB DRIVEWAY 16310 YORK RD	RETROFIT

MAP

#3 SB NC 49 S. TRYON ST/YORK ROAD

#4 NB NC 49 YORK ROAD/S. TRYON ST

DESCRIPTION

FROM STEELE CREEK RD TO BUSTER
BOYD BRIDGE

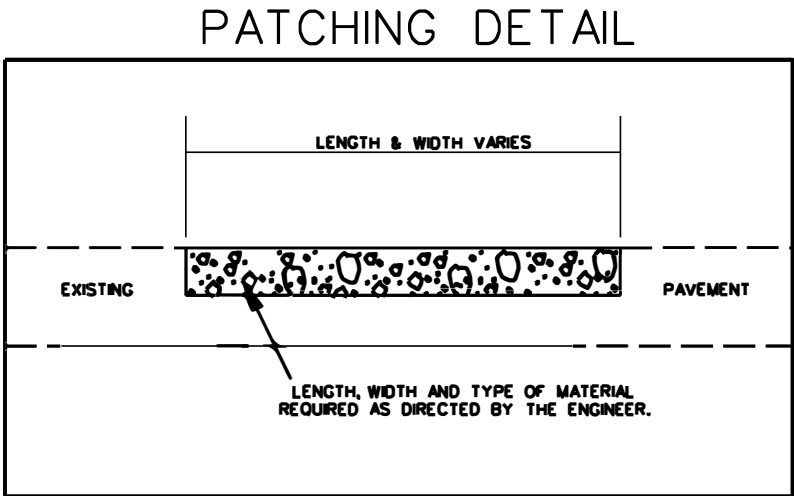
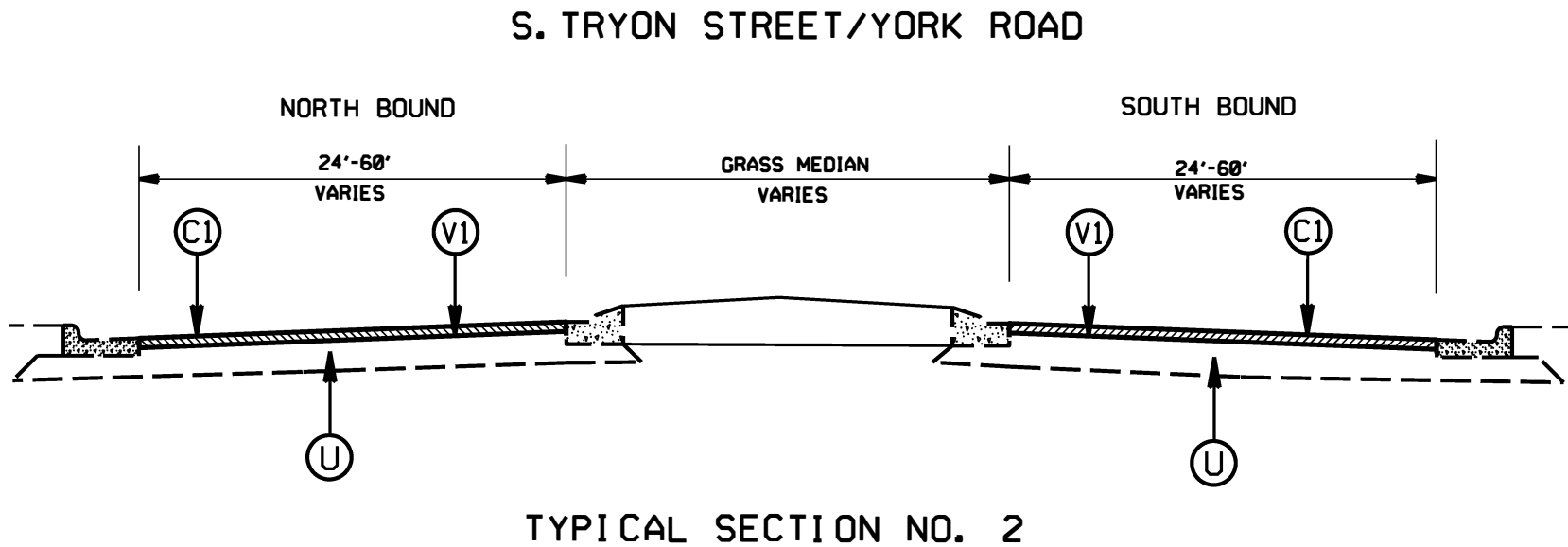
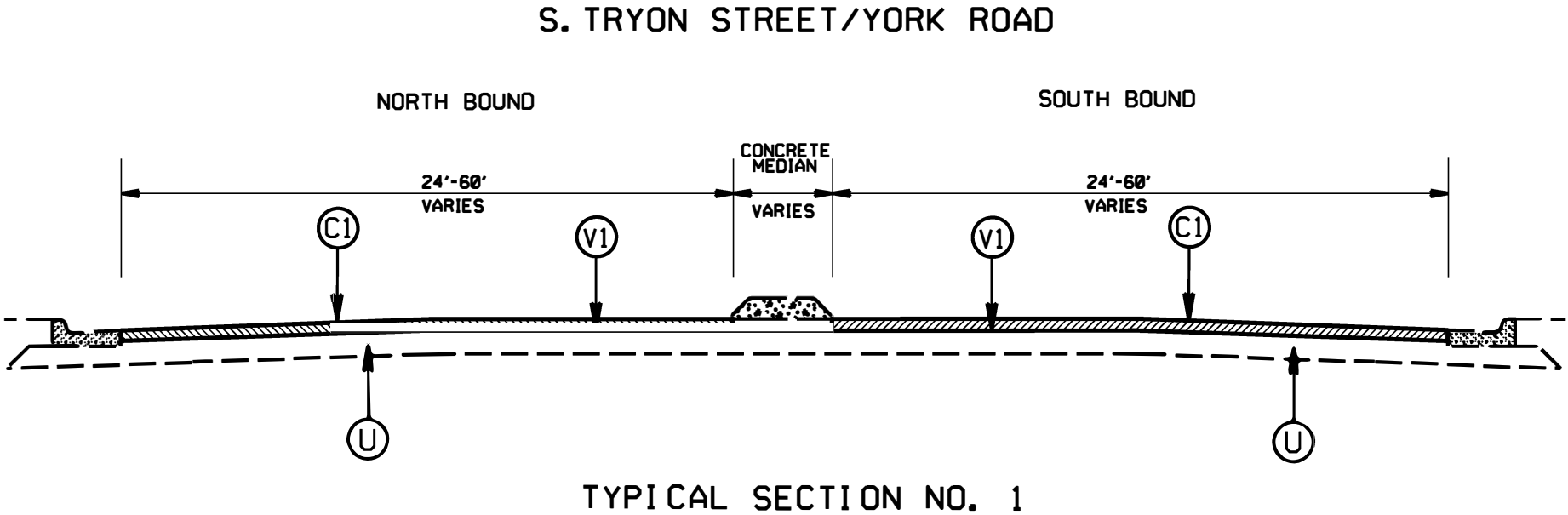
FROM BUSTER BOYD BRIDGE TO STEELE
CREEK RD

2026 MECKLENBURG COUNTY
RESURFACING CONTRACT #1

SCALE	-NA-		REVISIONS	
DATE				
DWG. BY	JHE			
DESIGN BY				
APPROVED				

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		4	
WBS NO. 2026CPT.10.07.10601			

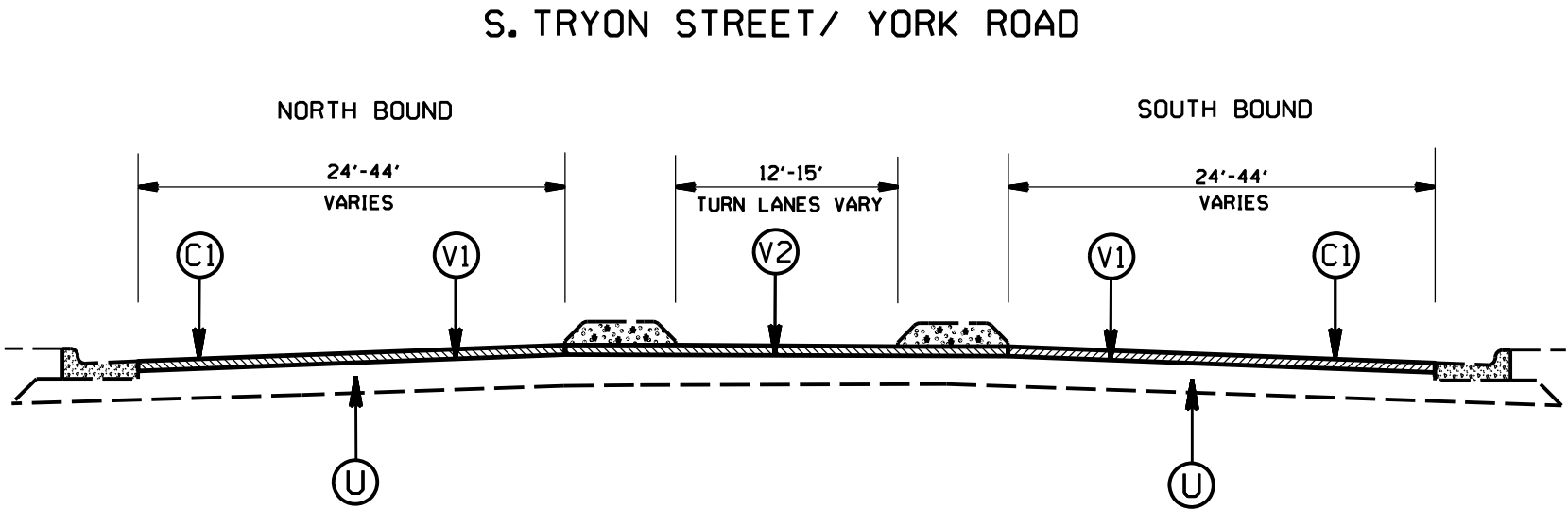
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V1	MILLING 1.5" DEPTH
V2	INCIDENTAL MILLING



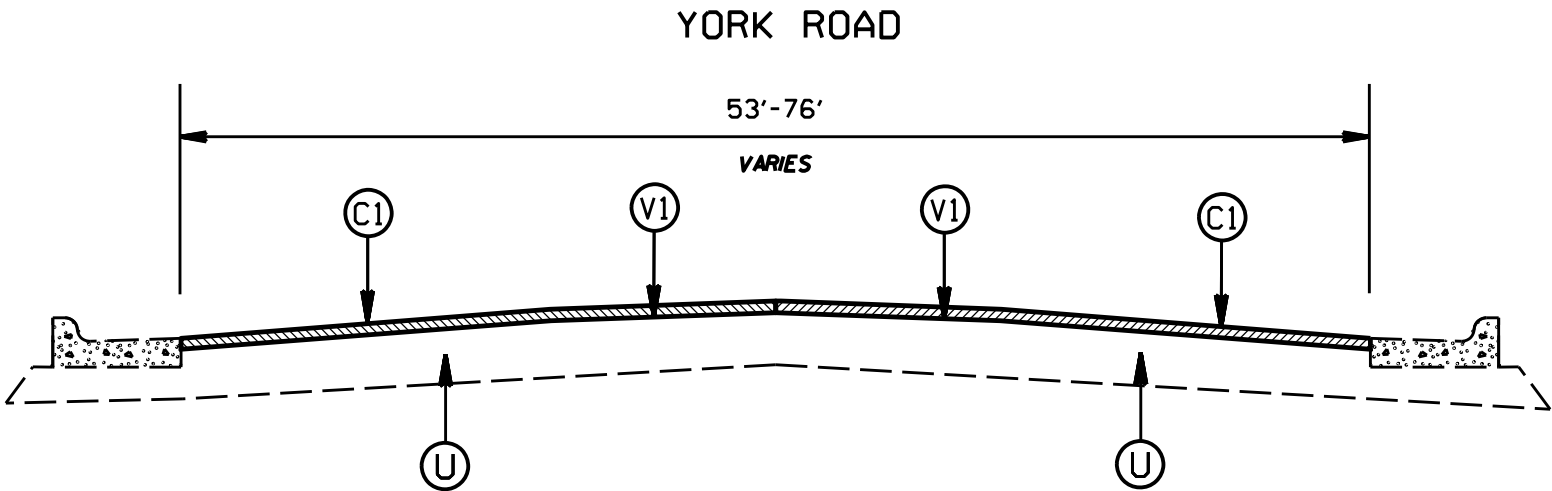
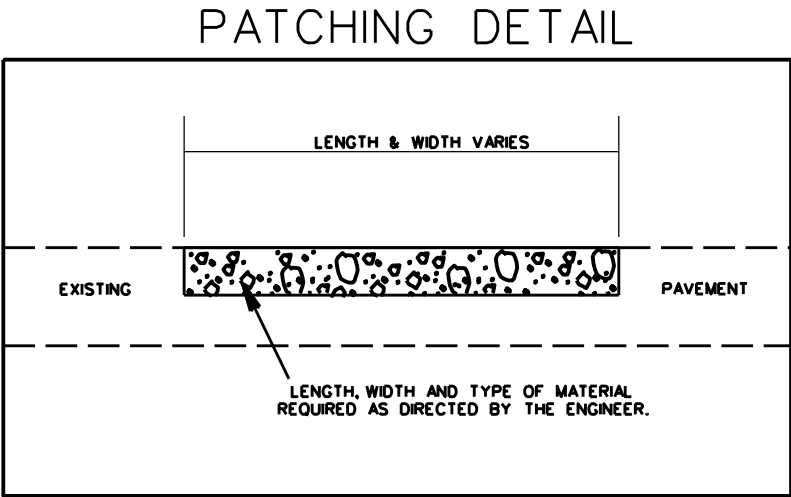
2026 MECKLENBURG COUNTY RESURFACING CONTRACT 1			
SCALE	-N/A-		REVISIONS
DATE			
DWG. BY	JME		
DESIGN BY			
APPROVED			

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		5	
WBS NO. 2026CPT.10.07.10601			

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V1	MILLING 1.5" DEPTH
V2	INCIDENTAL MILLING



TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 4

2026 MECKLENBURG COUNTY RESURFACING CONTRACT 1			
SCALE	-NA-		REVISIONS
DATE			
DWG. BY	JHE		
DESIGN BY			
APPROVED			

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		6	
WBS NO.		2026CPT.10.07.10601	

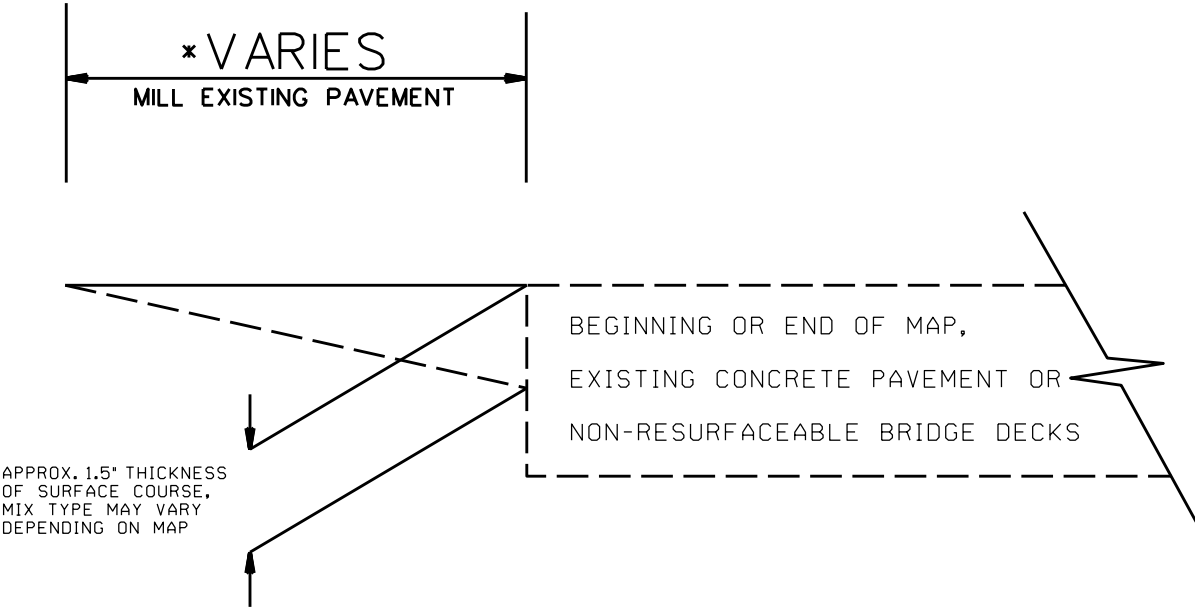
INCIDENTAL MILLING

NOTES:

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

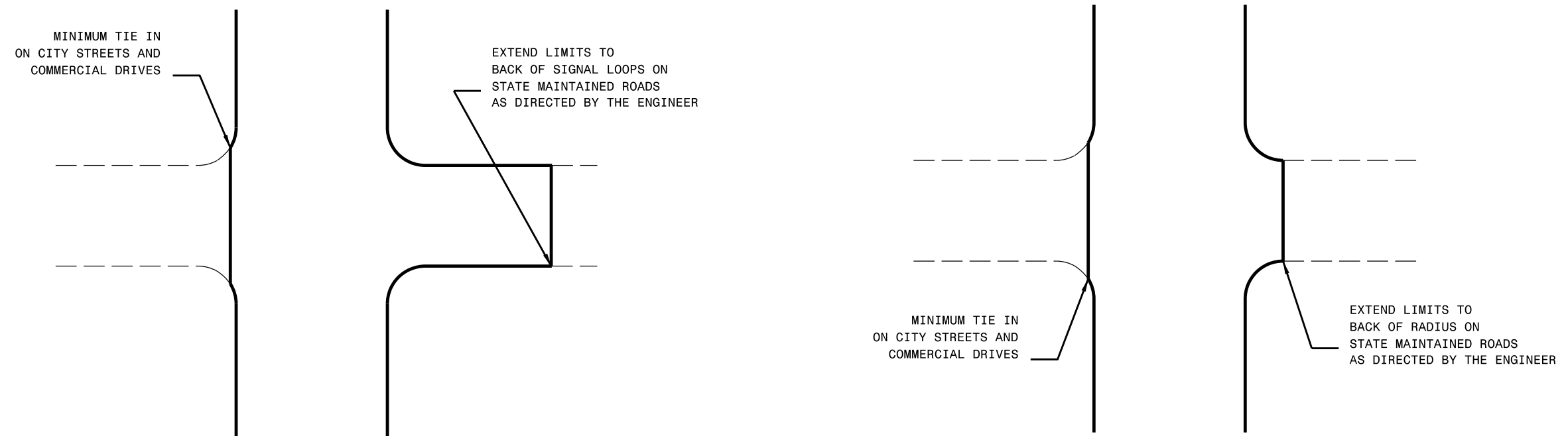
LOCATIONS SHALL INCLUDE TIES INTO EXISTING CONCRETE PAVEMENT AT BRIDGE APPROACHES WHERE THE BRIDGE WILL NOT BE RESURFACED, AND AT THE BEGINNING AND ENDING POINT OF EACH RESURFACING MAP.

PERFORM THE WORK IN ACCORDANCE WITH SECTION 607 OF THE JANUARY 2024 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. RESURFACING WILL BE ACCOMPLISHED AT THE SAME TIME AS THE MILLING OPERATION.



2026 MECKLENBURG COUNTY
RESURFACING CONTRACT #1

SCALE		REVISIONS	
DATE			
DWG. BY JHE			
DESIGN BY			
APPROVED			



TYPICAL DETAIL OF PROJECT LIMITS AT
SIGNALIZED Y LINES

TYPICAL DETAIL OF PROJECT LIMITS AT
UNSIGNALIZED Y LINES

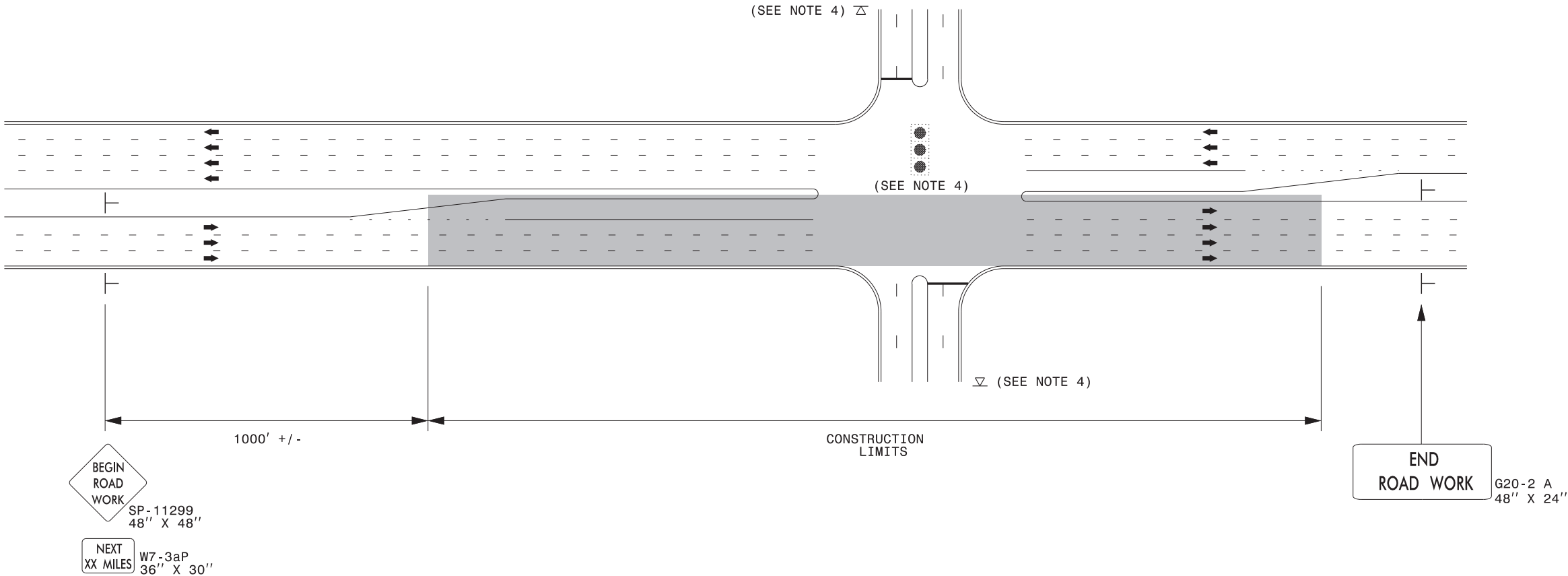
[illegible]

PROJECT NO.	SHEET NO.	TOTAL NO.
2026CPT.10.07.10601	8	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANE S	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1297000000-E	1330000000-E	1523000000-E	1575000000-E	1704000000-E	2605000000-N	2612300000-N	2830000000-N	2845000000-N	2846000000-N	5255000000-N	7444000000-E
												1.5" MILLING	INCIDENTAL MILLING	SURFACE COURSE, \$9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	CONCRETE CURB RAMPS	RETROFIT EXISTING CONCRETE CURB RAMPS	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	ADJ. OF OVERSIZED MANHOLES	PORTABLE LIGHTING	INDUCTIVE LOOP SAWCUT
												SY	SY	TONS	TONS	TONS	EA	EA	EA	EA	EA	LS	LF
2026CPT.10.07.10601	Mecklenburg	1	SB NC-49 S TRYON STREET (30400049060)	FROM BRIDGE AT I-485 TO STEELE CREEK ROAD	1,2,3	2	MD	4.34	24	20.14	24.48	43,677	47,820	8,455	528	600	1	2	16	6	13	*	6,102
TOTAL FOR MAP NO. 1								4.34				43,677	47,820	8,455	528	600	1	2	16	6	13		6,102
2026CPT.10.07.10601	Mecklenburg	2	NB NC-49 S TRYON STREET (30000049060)	FROM STEELE CREEK ROAD TO BRIDGE AT I-485	1,2,3	2	MD	4.34	24	3.46	7.80	61,129	25,670	8,021	512	800		2	8	14	0		6,316
TOTAL FOR MAP NO. 2								4.34				61,129	25,670	8,021	512	800		2	8	14	0		6,316
2026CPT.10.07.10601	Mecklenburg	3	SB NC-49 S. TRYON ST / YORK ROAD (30400049060)	FROM STEELE CREEK ROAD TO BUSTER BOYD BRIDGE	1,2,3	2	MD	3.44	28	24.48	27.92	51,932	13,396	6,037	385	600		2			0		2,712
TOTAL FOR MAP NO. 3								3.44				51,932	13,396	6,037	385	600		2			0		2,712
2026CPT.10.07.10601	Mecklenburg	4	NB NC-49 YORK ROAD / S. TRYON ST (30000049060)	FROM BUSTER BOYD BRIDGE TO STEELE CREEK ROAD	1,2,3,4	2	MD	3.46	28	0.00	3.46	50,342	4,922	5,107	340	800			1		1		3,258
TOTAL FOR MAP NO. 4								3.46				50,342	4,922	5,107	340	800			1		1		3,258
TOTAL FOR PROJ NO. 2026CPT.10.07.10601								15.58				207,080	91,808	27,620	1,765	2,800	1	6	25	20	14	1.0	18,388
GRAND TOTAL																							
								15.58				207,080	91,808	27,620	1,765	2,800	1	6	25	20	14	1.0	18,388

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

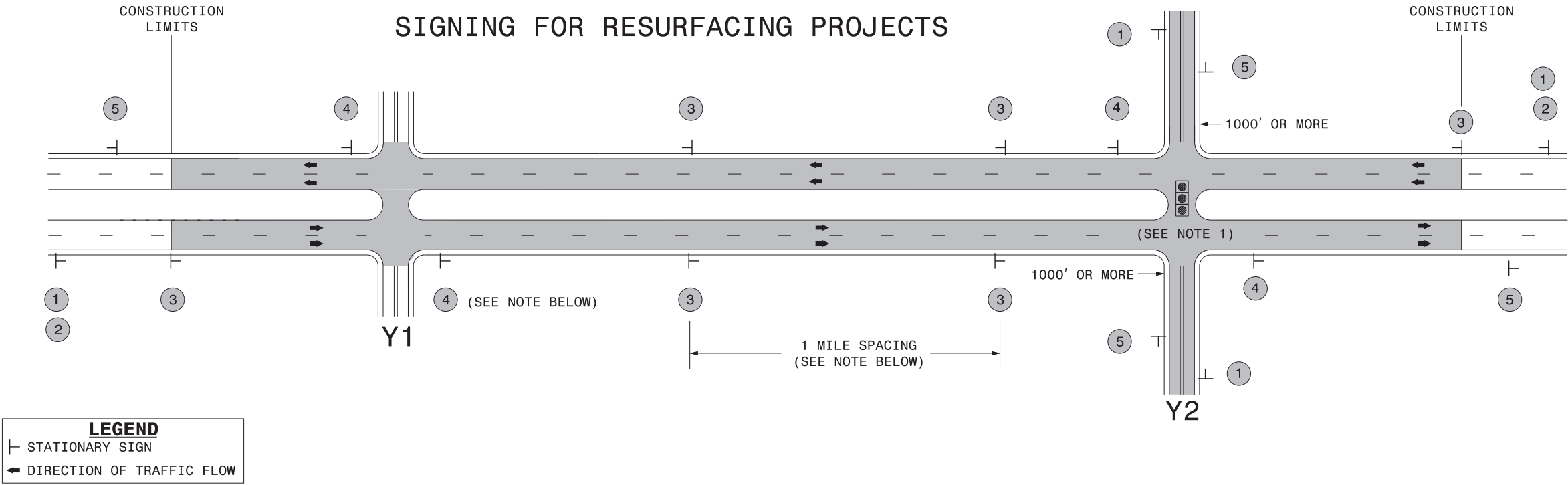
DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

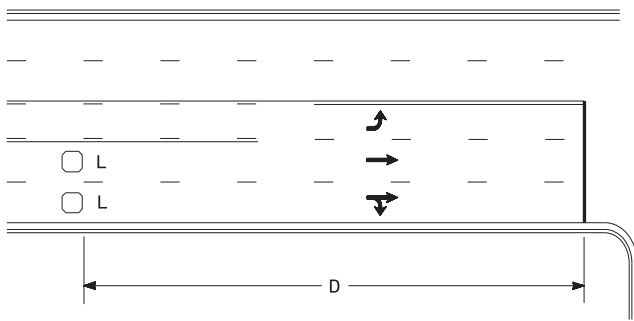


MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1 2 ROAD WORK AHEAD W20-1 48" X 48" NEXT XX MILES W7-3gP 24" X 18" PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE. #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)	NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS: 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS 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. ROAD WORK AHEAD W20-1 48" X 48" PLACED 500' IN ADVANCE OF FLAGGER. ROAD WORK AHEAD W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER. NOTES: 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.
	3 LOW/SOFT SHOULDER 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 ROAD UNDER CONST 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 END ROAD WORK G20-2 A 48" X 24" PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

High Speed Detection
(≥40 mph)

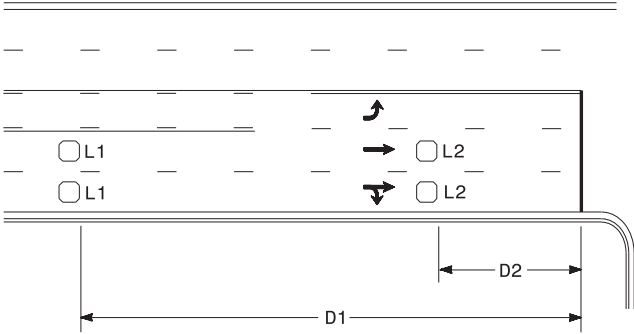


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



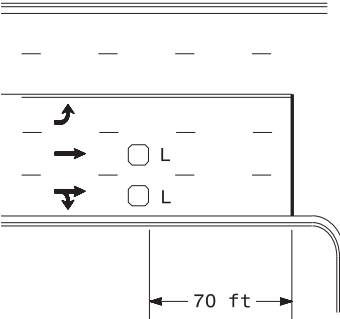
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

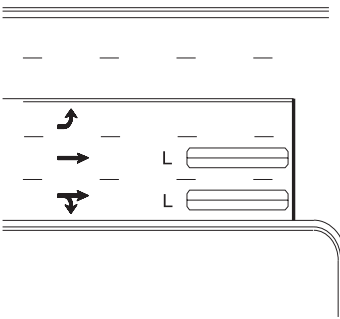
"Stretch" Operation

Low Speed Detection
(≤35 mph)



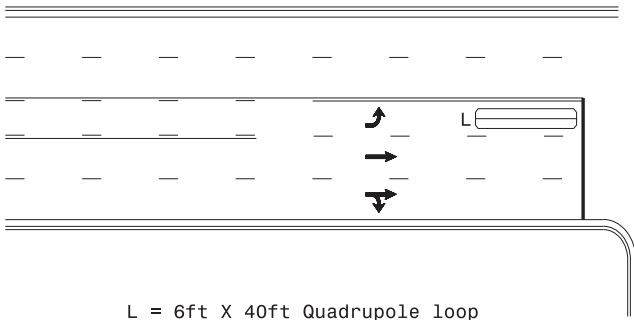
L = 6ft X 6ft
Wired in series

OR



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

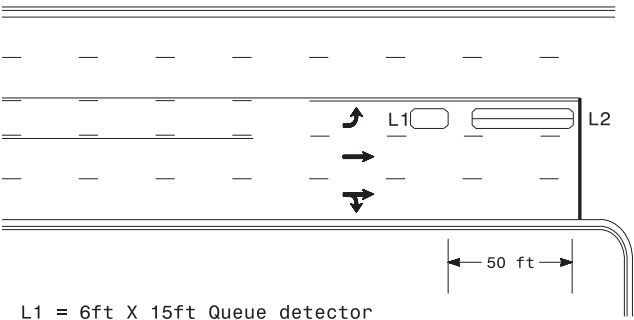
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

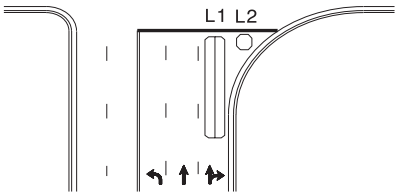
OR



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

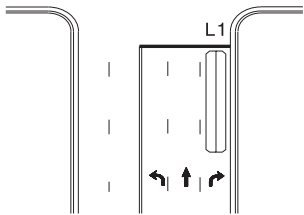
Queue Loop Detection

Right Turn Lane Detection

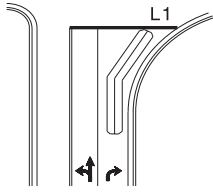


Shared Lane/
Wide Radius Turn

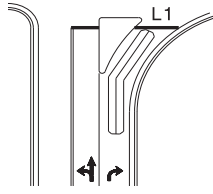
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

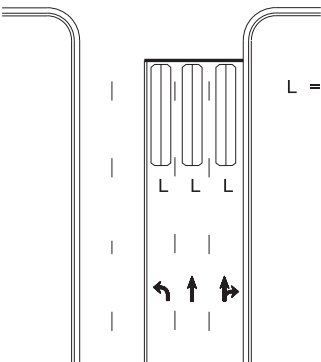


Wide Radius Turn



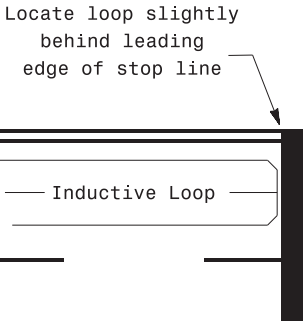
Channelized Turn

Side Street Detection



L = 6ft X 40ft
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines



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

	Typical Signal Loop Locations		
	PLAN DATE: September 2020	REVIEWED BY: JPG	
	PREPARED BY: PLA	REVIEWED BY:	
	REVISIONS	INIT. DATE	
SCALE N/A			