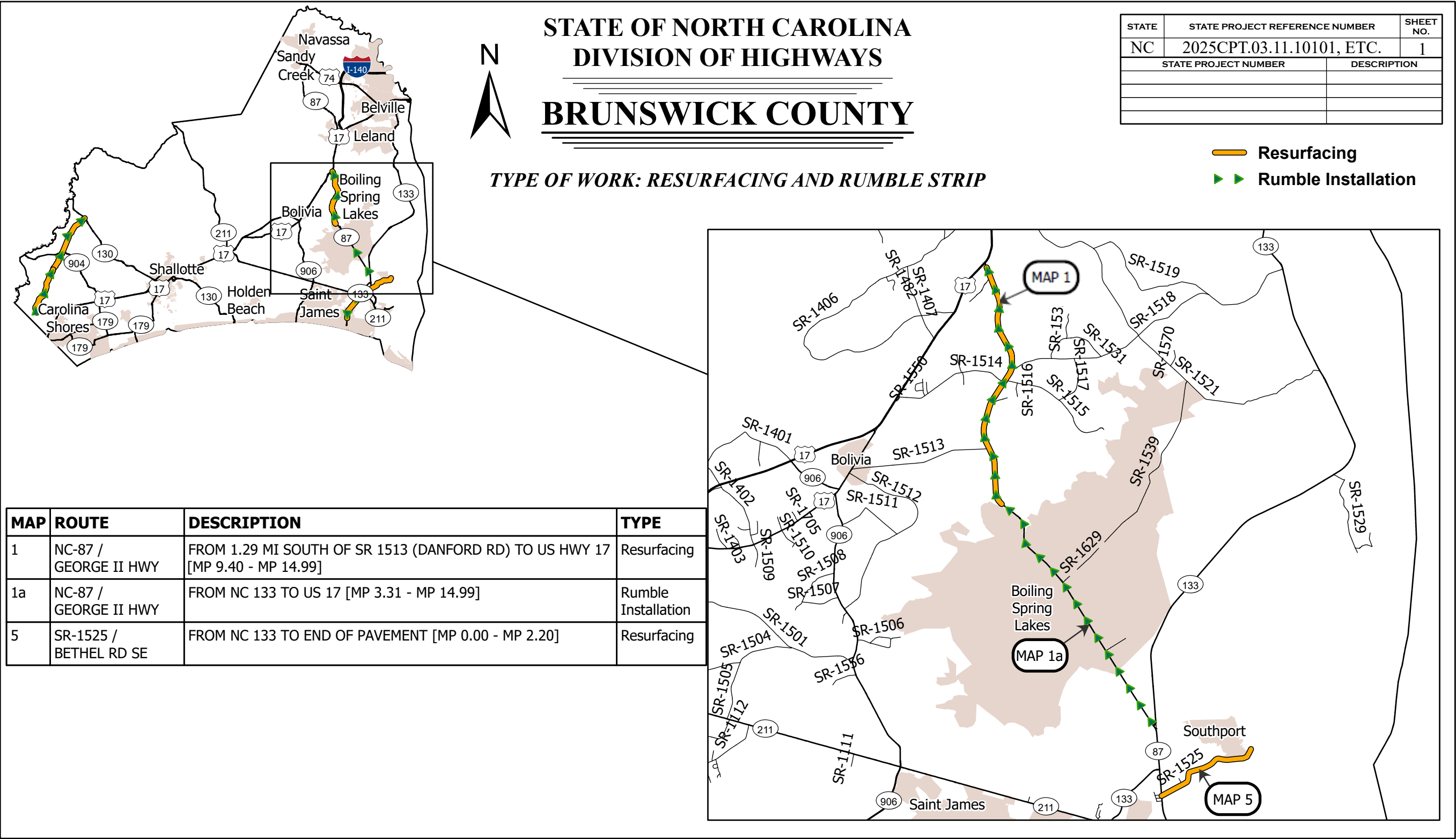


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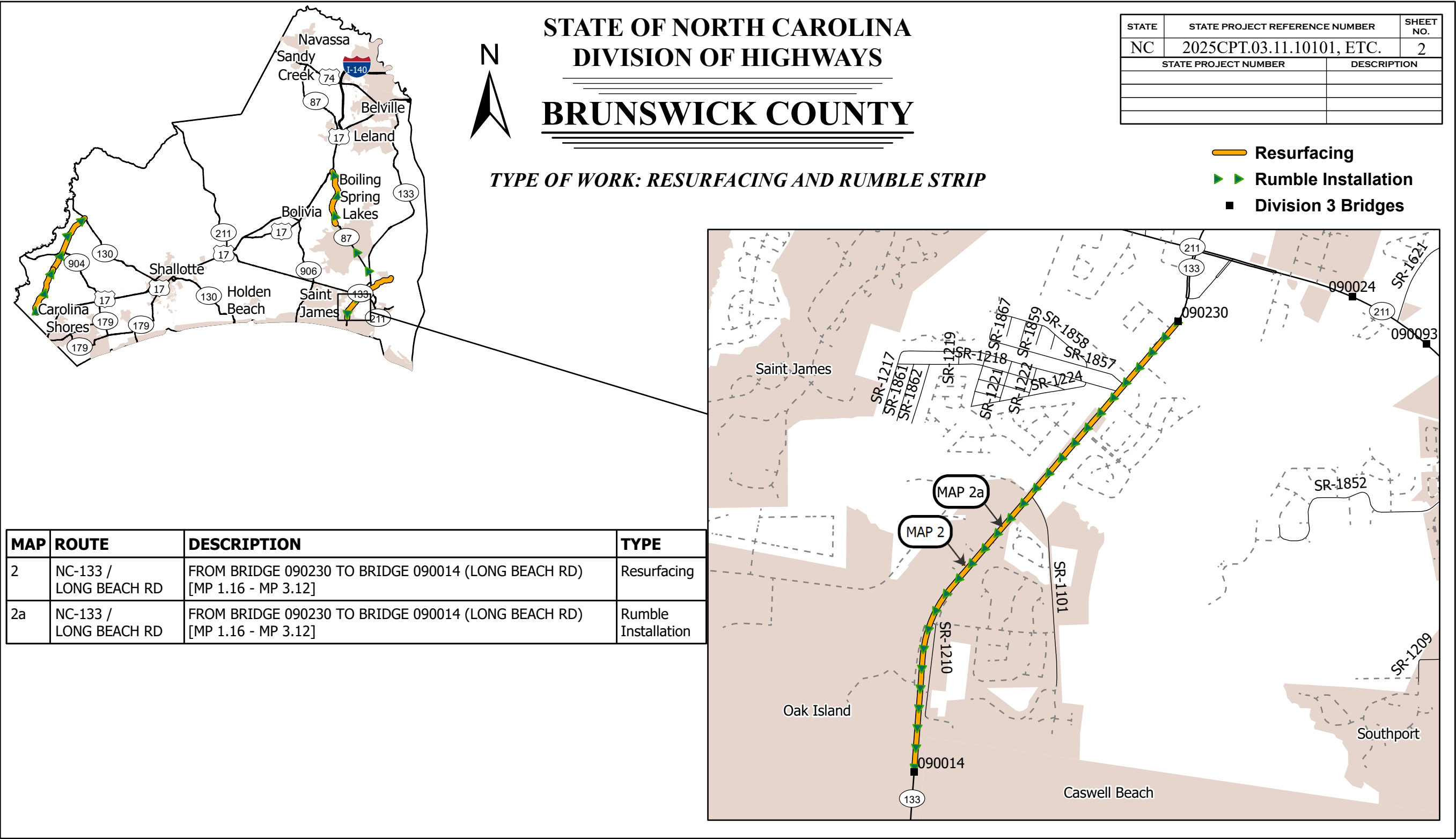
CONTRACT: C205109



<i>PROJECT LENGTH</i>		Prepared in the Office of: <i>DIVISION OF HIGHWAYS</i> 5501 BARBADOS BLVD., CASTLE HAYNE, NC, 28429								
<table border="1"><thead><tr><th>MAP</th><th>MILES</th></tr></thead><tbody><tr><td>1</td><td>5.59</td></tr><tr><td>1a</td><td>11.68</td></tr><tr><td>5</td><td>2.20</td></tr></tbody></table>		MAP		MILES	1	5.59	1a	11.68	5	2.20
MAP	MILES									
1	5.59									
1a	11.68									
5	2.20									

WBS NO: 2025CPT.03.11.10101, ETC.

CONTRACT: C205109



<i>PROJECT LENGTH</i>		<i>DIVISION OF HIGHWAYS</i> 5501 BARBADOS BLVD., CASTLE HAYNE, NC, 28429							
<table border="1"><thead><tr><th>MAP</th><th>MILES</th></tr></thead><tbody><tr><td>2</td><td>1.96</td></tr><tr><td>2a</td><td>1.96</td></tr></tbody></table>		MAP	MILES		2	1.96	2a	1.96	This exhibit does not meet NC 47-30 requirements and therefore is not intended for design, construction, or recording or transfer of title.
MAP	MILES								
2	1.96								
2a	1.96								

CONTRACT: C205109



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

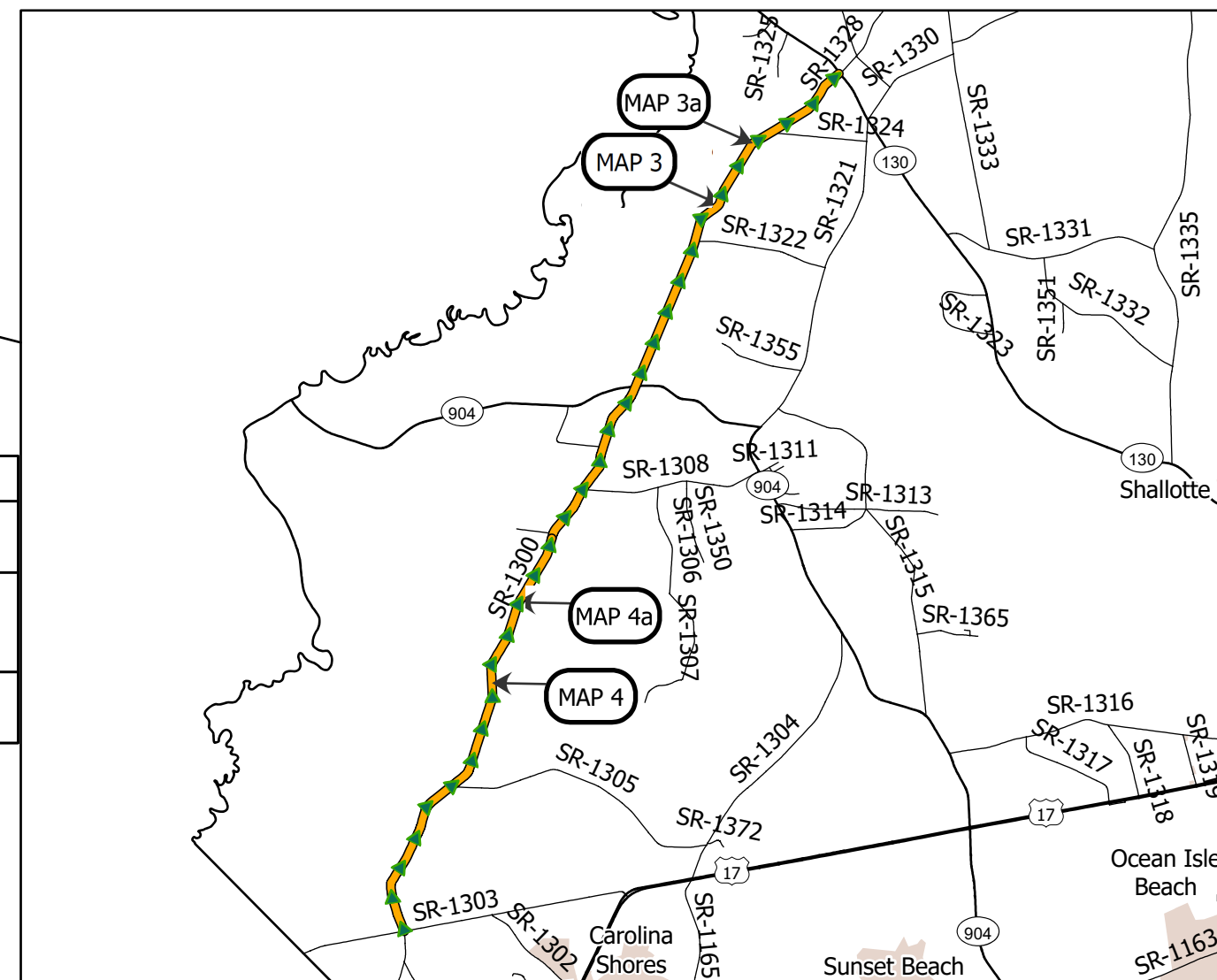
TYPE OF WORK: RESURFACING AND RUMBLE STRIP

STATE	STATE PROJECT REFERENCE NUMBER	SHEET NO.
NC	2025CPT.03.11.10101, ETC.	3
STATE PROJECT NUMBER		DESCRIPTION

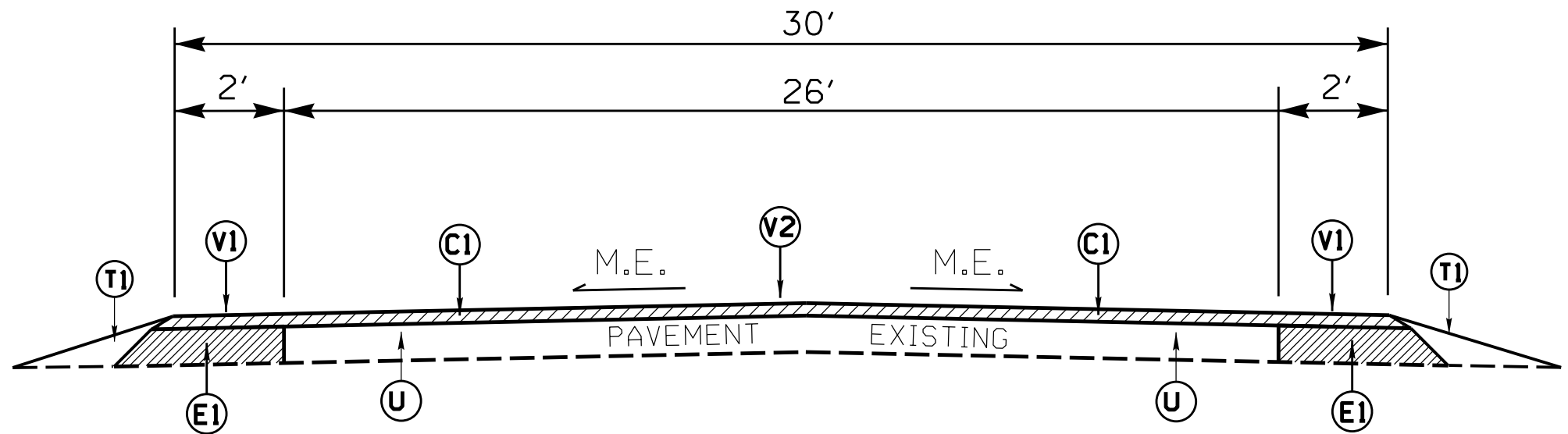
 **Resurfacing**

 **Rumble Installation**

MAP	ROUTE	DESCRIPTION	TYPE
3	SR-1300 / ASH-LITTLE RIVER RD	FROM NC HWY 130 (WHITEVILLE RD NW) TO 0.05 MI SOUTH OF SR 1354 (FRIENDSHIP RD) [MP 0.00 - MP 6.18]	Resurfacing
4	SR-1300 / ASH-LITTLE RIVER RD	FROM 0.05 MI S OF SR 1354 (FRIENDSHIP RD) TO SR 1303 (HICKMAN RD) [MP 6.18 - MP 11.02]	Resurfacing
3a & 4a	SR-1300 / ASH-LITTLE RIVER RD	FROM NC HWY 130 (WHITEVILLE RD NW) TO SR 1303 (HICKMAN RD) [MP 0.00 - MP 11.02]	Rumble Installation



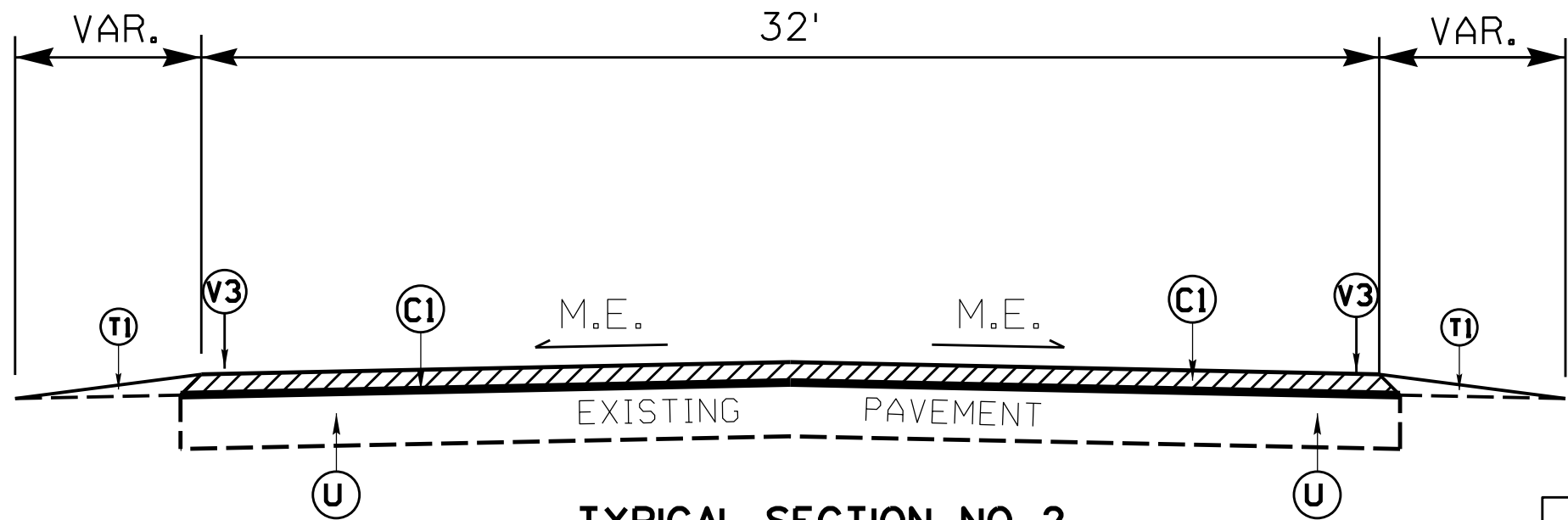
<i>PROJECT LENGTH</i>		Prepared in the Office of: <i>DIVISION OF HIGHWAYS</i> 5501 BARBADOS BLVD., CASTLE HAYNE, NC, 28429									
<table border="1"><thead><tr><th>MAP</th><th>MILES</th></tr></thead><tbody><tr><td>3</td><td>6.18</td></tr><tr><td>4</td><td>4.84</td></tr><tr><td>3a & 4a</td><td>11.02</td></tr></tbody></table>		MAP	MILES		3	6.18	4	4.84	3a & 4a	11.02	This exhibit does not meet NC 47-30 requirements and therefore is not intended for design, construction, or recording or transfer of title.
MAP	MILES										
3	6.18										
4	4.84										
3a & 4a	11.02										



TYPICAL SECTION NO. 1

MAP NO. 1
NC 87 (GEORGE II HWY.)
MP 9.40 - MP 14.99

V5 FRIS MILL 1-1/2"
MP 13.20 - MP 13.23



TYPICAL SECTION NO. 2

MAP NO. 2
NC 133 (LONG BEACH RD.)
MP 1.16 - MP 3.12

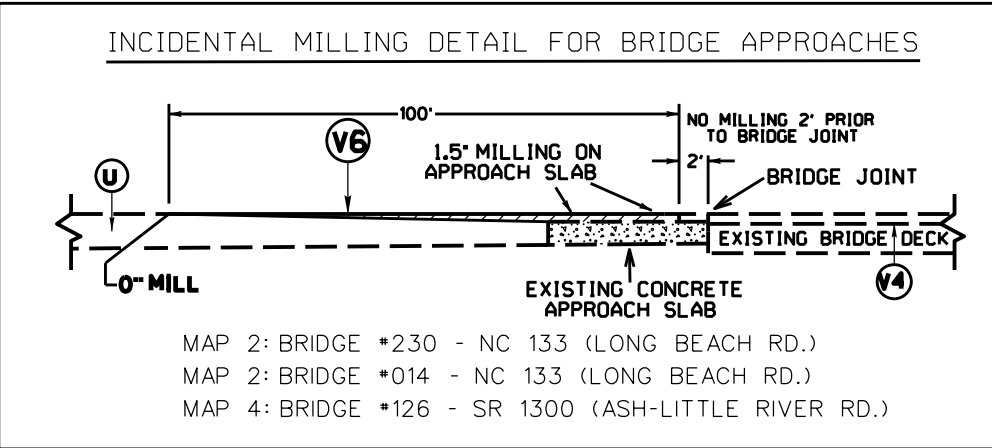
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
E1	PROP. APPROX. 5" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ.YD.
R1	EXISTING CONCRETE BRIDGE BARRIER
T1	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT
V1	14" SINUSOIDAL MILLED RUMBLE STRIP, SHOULDER WITH BICYCLE BREAK PATTERN (SHEET 1 OF 3)
V2	18" SINUSOIDAL MILLED RUMBLE STRIPE, CENTERLINE (SHEET 3 OF 3)
V3	8" SINUSOIDAL MILLED RUMBLE STRIPE, EDGELINE WITH BICYCLE BREAK PATTERN (SHEET 2 OF 3)
V4	14" SINUSOIDAL MILLED RUMBLE STRIPE, CENTERLINE (SHEET 3 OF 3)
V5	MILLING ASPHALT PAVEMENT, 1½" DEPTH
V6	MILLING ASPHALT PAVEMENT, 0" - 1½" DEPTH

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY.

SHOULDER WORK ON MAP NO.1-5 AS NEEDED, TO BE DETERMINED BY ENGINEER.

MAP NO. 1 - MAINTAIN EXISTING LANE WIDTHS.

PAVEMENT EDGE SLOPES ARE 1:1, EXCEPT FINAL SURFACE COURSE. SEE SHOULDER WEDGE DETAIL.



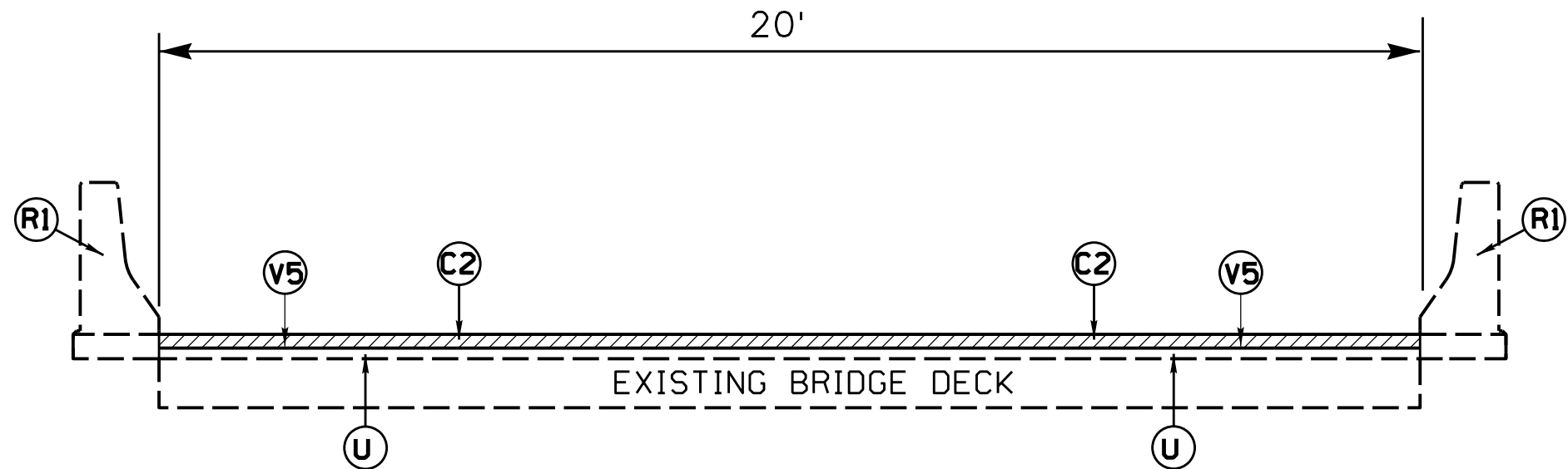


PAVEMENT SCHEDULE	
C2	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
E1	PROP. APPROX. 5" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ.YD.
T1	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT
V3	8" SINUSOIDAL MILLED RUMBLE STRIPE, EDGELINE WITH BICYCLE BREAK PATTERN (SHEET 2 OF 3)
V4	14" SINUSOIDAL MILLED RUMBLE STRIP, CENTERLINE (SHEET 3 OF 3)

PAVEMENT EDGE SLOPES ARE 1:1, EXCEPT FINAL SURFACE COURSE.
SEE SHOULDER WEDGE DETAIL.

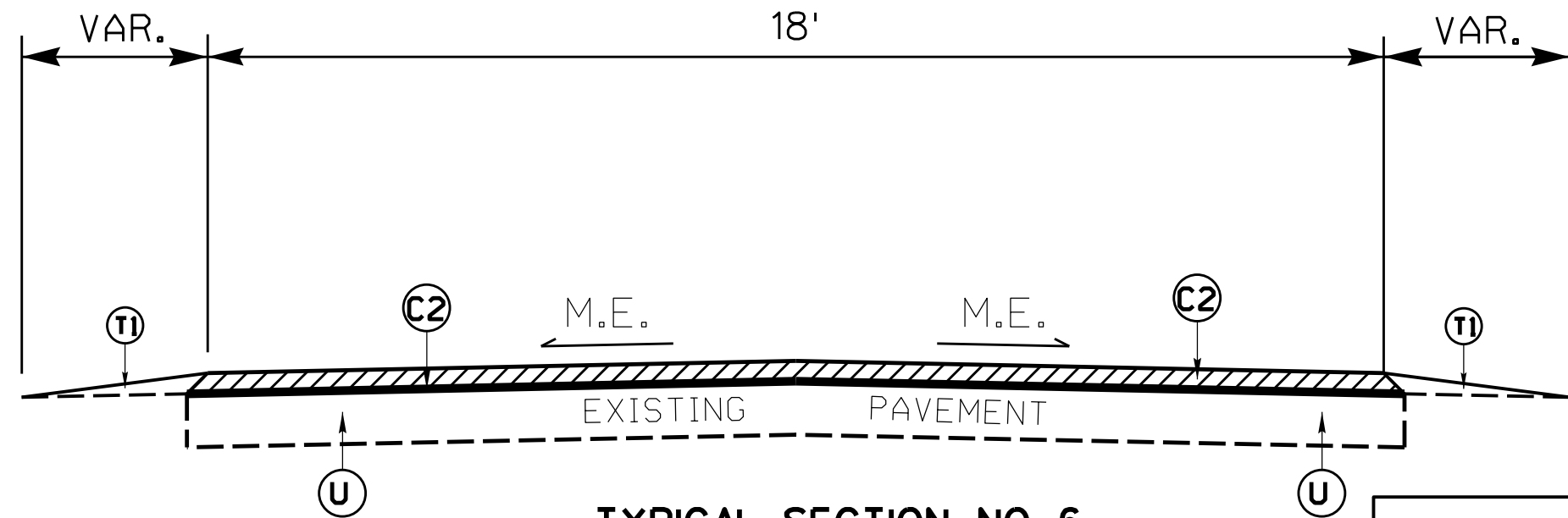


MAP NO. 4
SR 1300 (ASH-LITTLE RIVER RD.)
MP 6.18 - MP 11.02



TYPICAL SECTION NO. 5

MAP NO. 3
SR 1300 (ASH-LITTLE RIVER RD.)
BRUNSWICK BRIDGE No. 087
MP 1.92 - MP 1.95



TYPICAL SECTION NO. 6

MAP NO. 5
SR 1525 (BETHEL RD.SE)
MP 0.00 - MP 2.20

V5 FRIS MILL 1-1/2"
MP 1.62 - MP 1.85
MP 2.12 - MP 2.20

PAVEMENT SCHEDULE

C2	PROP. APPROX. 1½" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD.
R1	EXISTING CONCRETE BRIDGE BARRIER
T1	EARTH MATERIAL (SHOULDER RECONSTRUCTION)
U	EXISTING PAVEMENT
V5	MILLING ASPHALT PAVEMENT, 1½" DEPTH
V6	MILLING ASPHALT PAVEMENT, 0" - 1½" DEPTH

NOTES: MILL A SINGLE LANE AND PAVE BACK BY THE END OF EACH WORK DAY.

SHOULDER WORK ON MAP NO.1-5 AS NEEDED, TO BE DETERMINED BY ENGINEER.

V6 MAP NO. 3 - TIE INTO SCIPPIO SWAMP BRIDGE *077 JOINT MP 5.14 & MP 5.19

PAVEMENT EDGE SLOPES ARE 1:1, EXCEPT FINAL SURFACE COURSE. SEE SHOULDER WEDGE DETAIL.

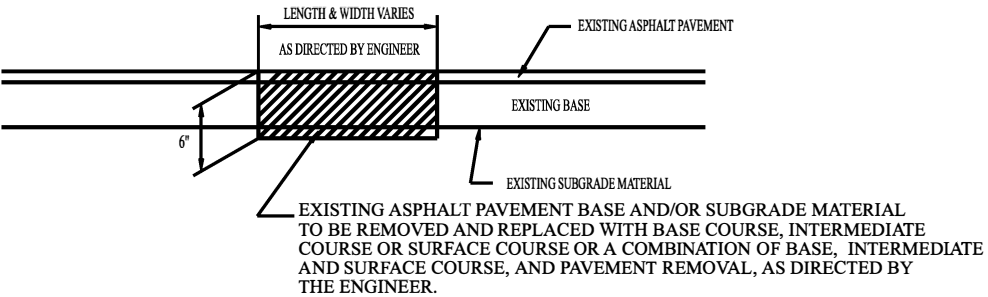
2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N.C. Department of Transportation - Raleigh, N.C., Dated January, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

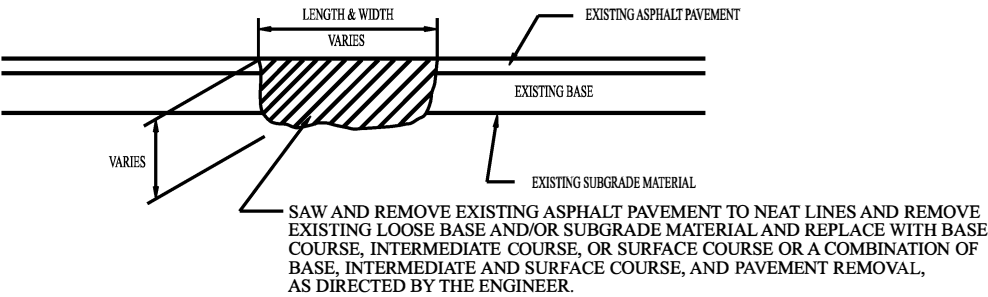
STD.NO.	TITLE
DIVISION II - WORK ZONE TRAFFIC CONTROL	
1101.01	WORK ZONE ADVANCE WARNING SIGNS
DIVISION 12 - PVT MARKING, MARKERS AND DELINEATION	
1205.01	Pavement Markings
1205.08	Pavement Markings - Symbols & Word Messages

EFF.01-16-2024
REV.

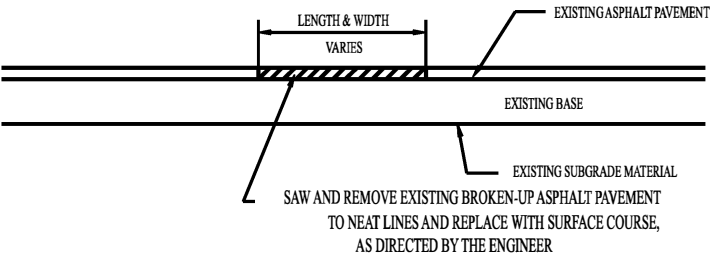
DETAILS OF REPAIRING EXISTING PAVEMENT PRIOR TO RESURFACING FOR FULL DEPTH AND MILLING



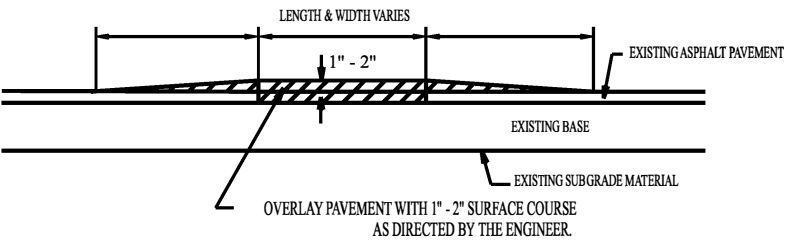
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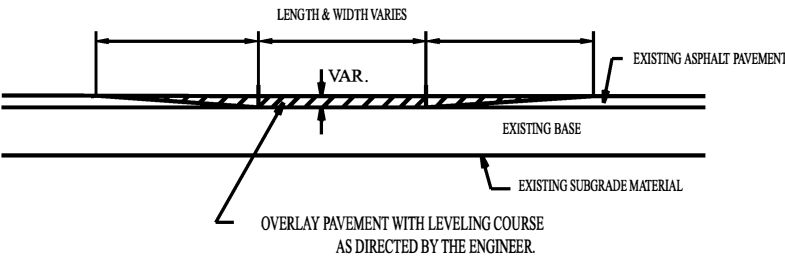
DETAIL NO. 2



DETAIL NO. 3



DETAIL NO. 4



DETAIL NO. 5

REVISIONS

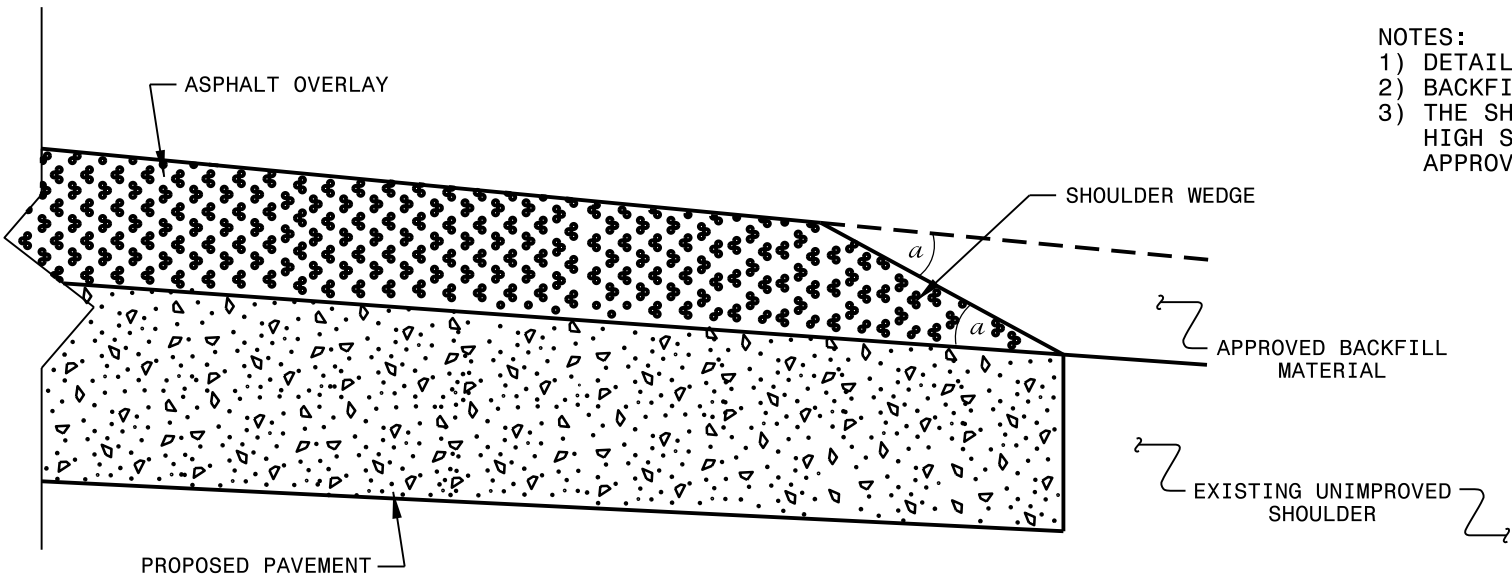
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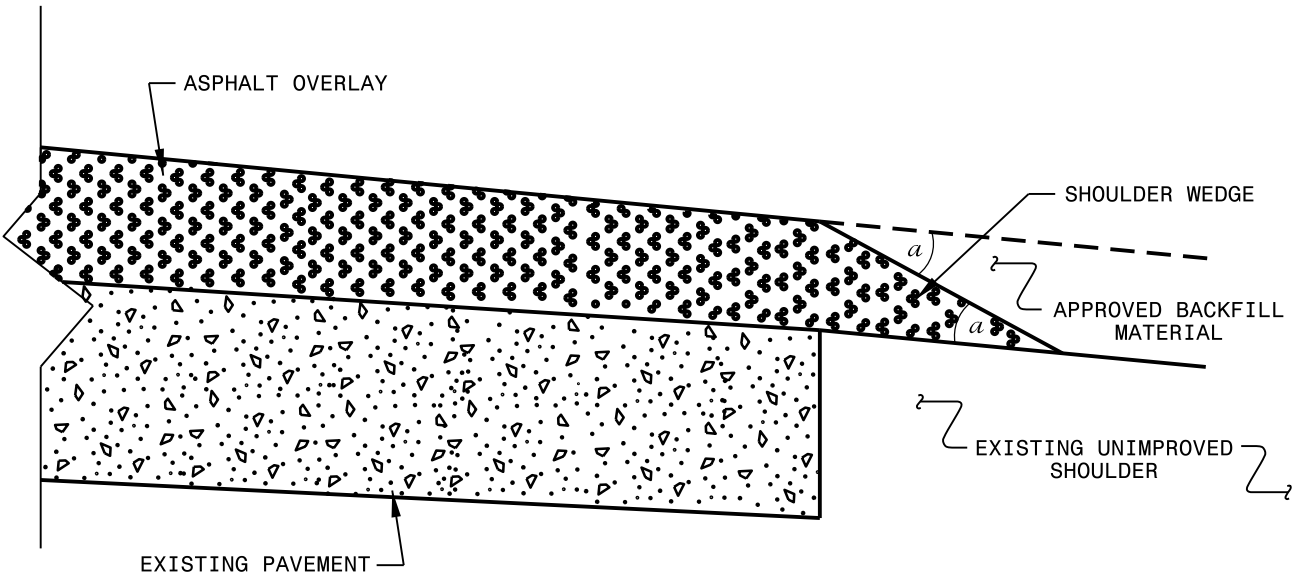
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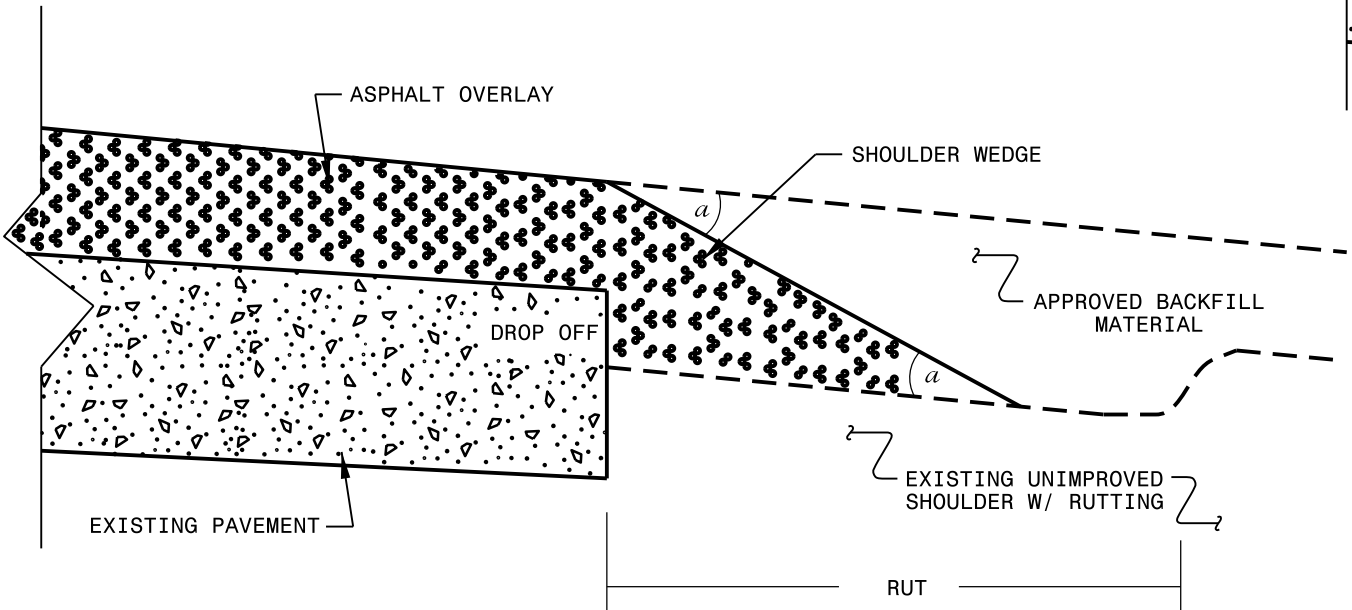
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



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:	2/2/16
CHECKED BY:		DATE:	
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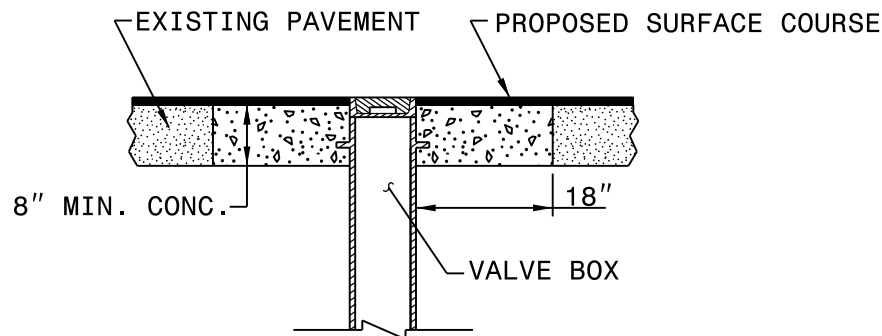
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

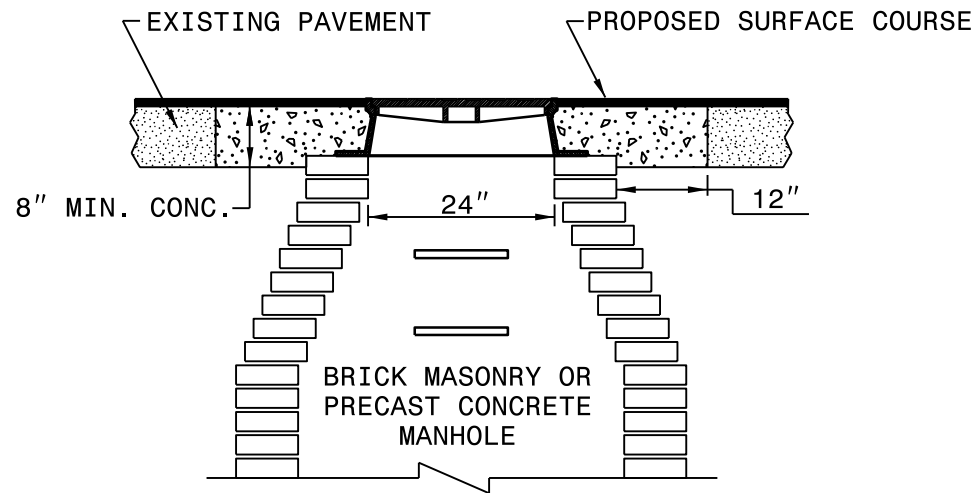
SHEET 1 OF 1
840D55

GENERAL NOTES:

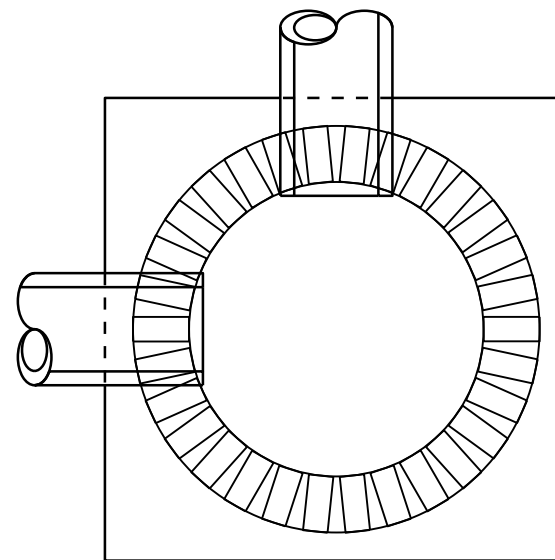
1. USE RAPID SET GROUT, MORTAR, OR CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. REMOVE ALL FAULTY EXISTING BRICKWORK AND REPLACE WITH NEW BRICK MASONRY.
3. SHEER CUT EXCAVATION FOR THE ADJUSTMENT ON ALL SIDES.
4. FILL AREA BELOW 8" DEPTH WITH 78M OR NO. 57 CLEAN STONE.
5. MIX MORTAR TO NCDOT SPECIFICATIONS.
6. MORTAR JOINTS $\frac{1}{2}$ " +/- $\frac{1}{8}$ "



VALVE BOX CONCRETE ENCASEMENT



MANHOLE CONCRETE ENCASEMENT



ELEVATION VIEW

PLACE BRICK ACCORDING TO ELEVATION VIEW

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MANHOLE AND VALVE BOX ADJUSTMENTS

SHEET 1 OF 1
840D55

Signed by:

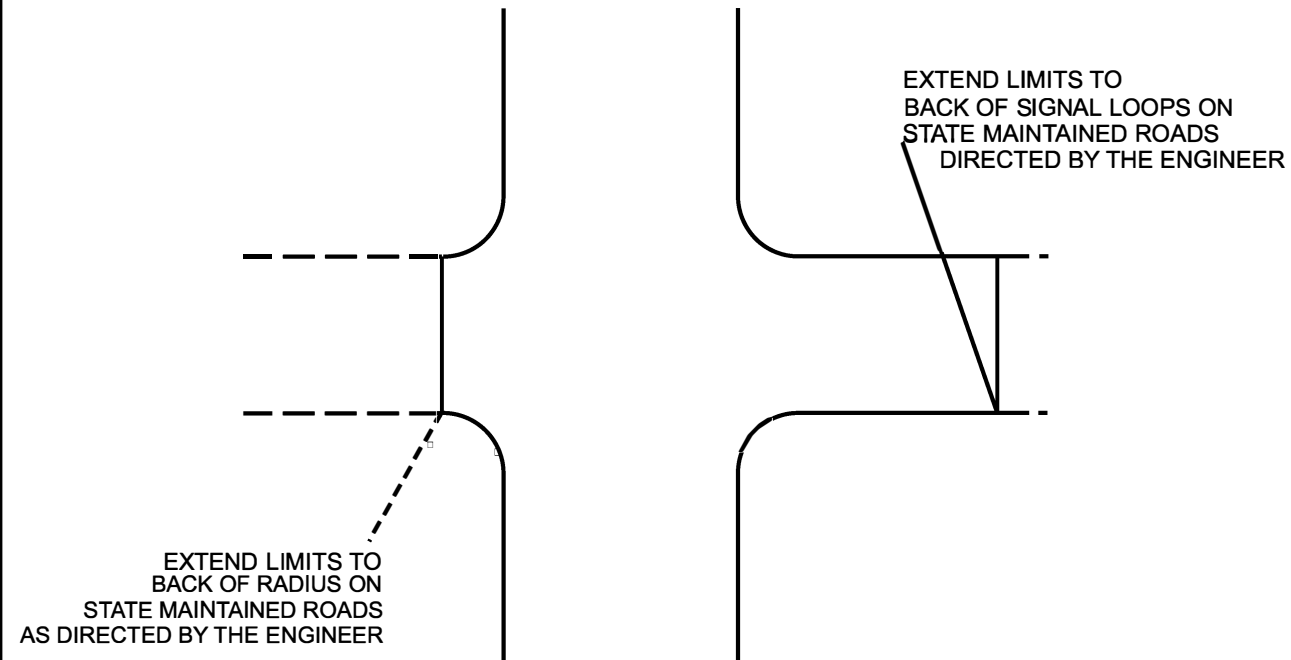
Nicole M. Hackler



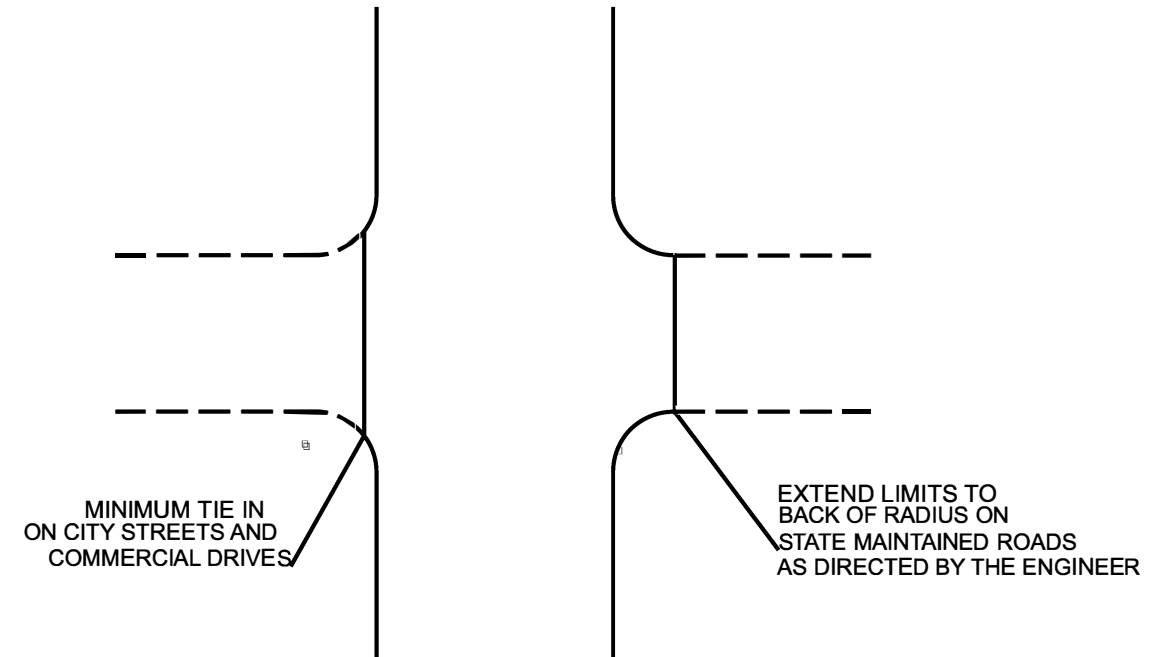
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: E.E. WARD DATE: _____
CHECKED BY: _____ DATE: _____
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TYPICAL DETAIL OF PROJECT LIMITS AT SIGNALIZED Y LINES

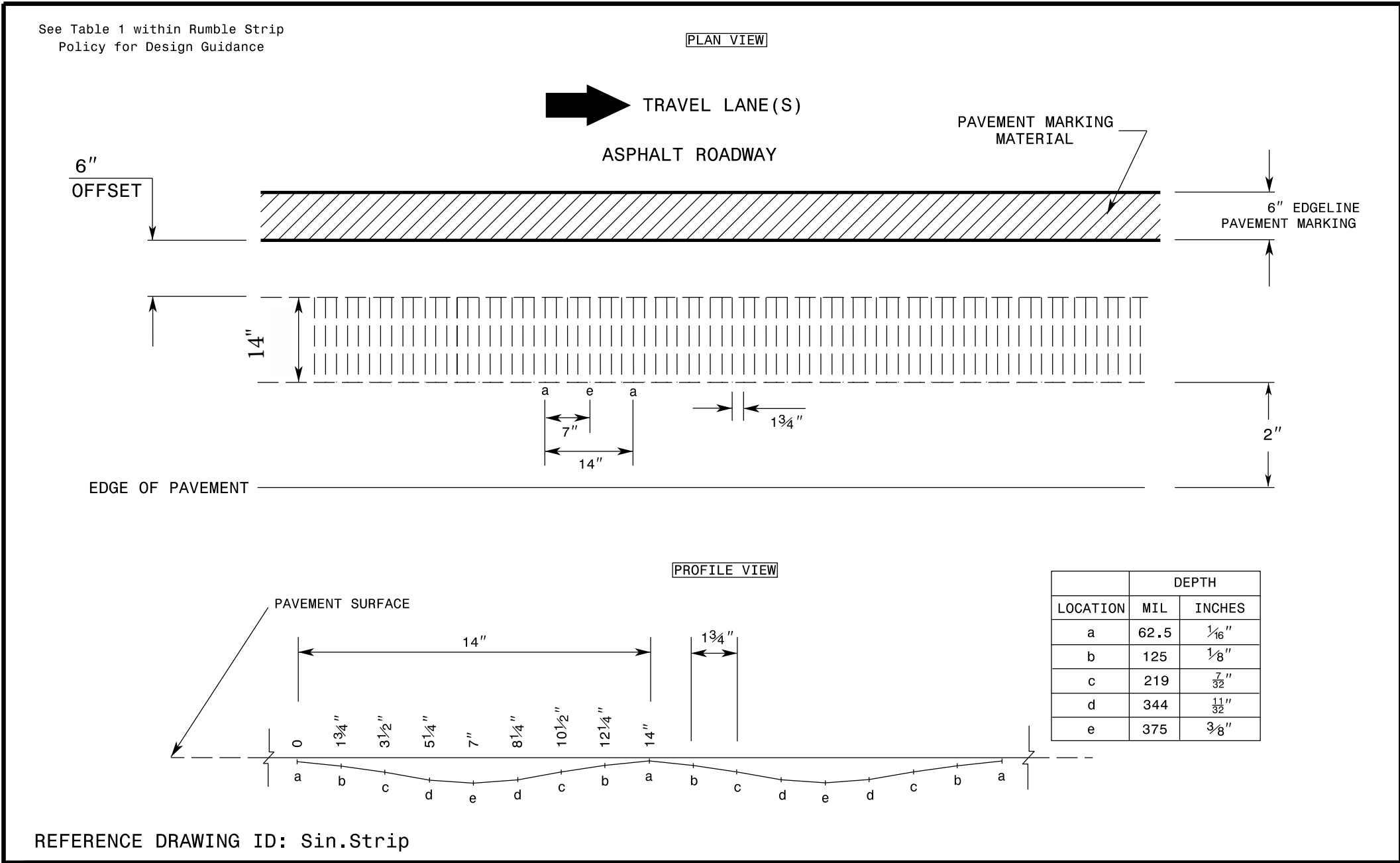


TYPICAL DETAIL OF PROJECT LIMITS AT UNSIGNALIZED Y LINES

ADDITIONAL INTERSECTIONS (NON-TYPICAL)

Extend paving lim1 ts to back of r-radius
or- loop on the following 1nter-sect1ons:

[illegible]



NOTES:

1) Specification in table taken from MNDOT Research Project Final Report 2016-23: Sinusoidal Rumble Strip Design Optimization Study By: Terhaar et al, June 2016

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
SINUSOIDAL SHOULDER RUMBLE STRIP

SHEET 2 OF 9



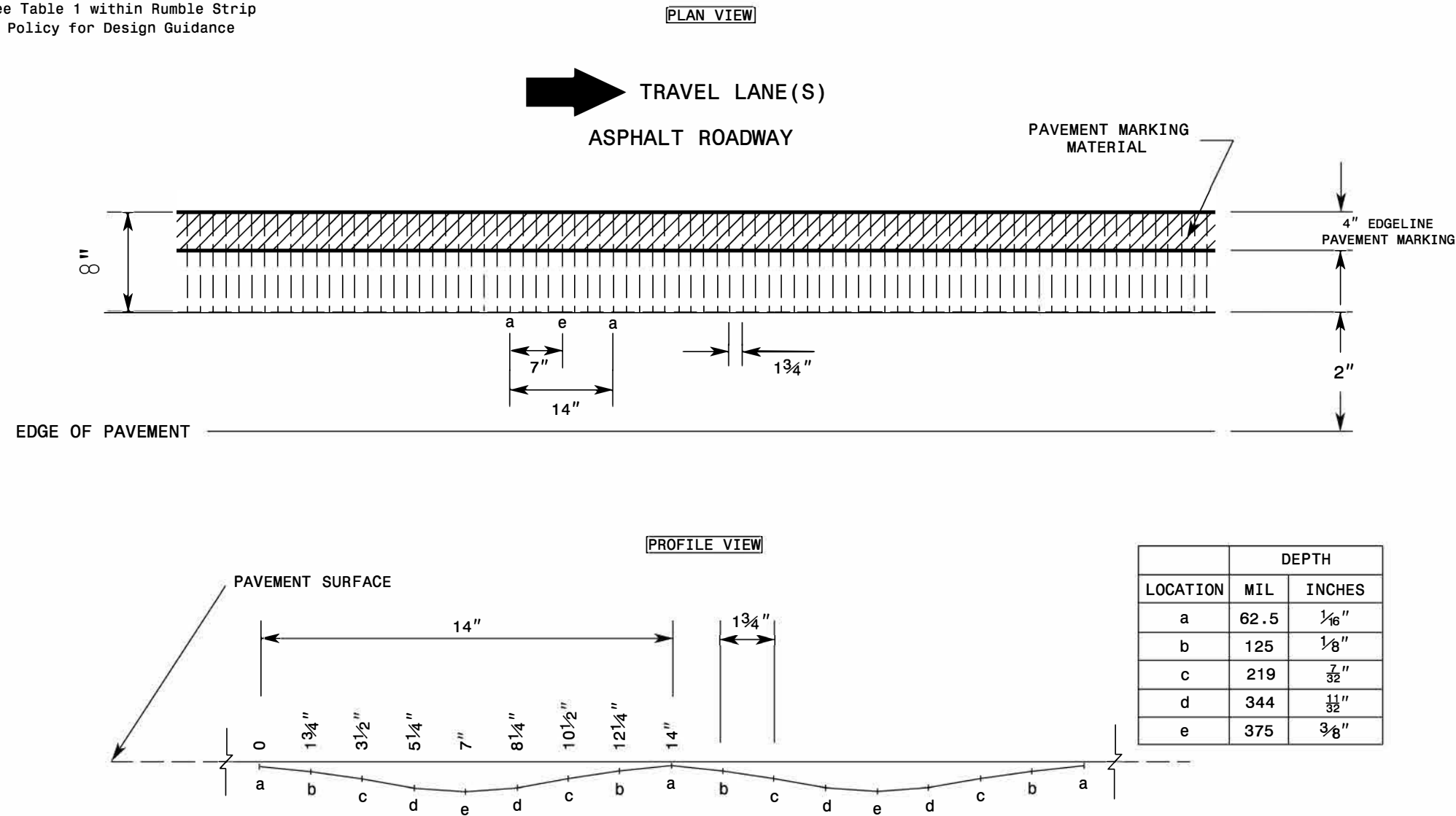
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Jessi L. Leonard
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05/12/2025

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: C. SIMPSON DATE: 04-24-2025
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

See Table 1 within Rumble Strip
Policy for Design Guidance



REFERENCE DRAWING ID: Sin.Stripe

NOTES:

- 1) Specification in table taken from MNDOT Research Project Final Report 2016-23: *Sinusoidal Rumble Strip Design Optimization Study By: Terheer et. al, June 2016*
- 2) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 3) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.

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ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
SINUSOIDAL EDGELINE RUMBLE STRIPE

SHEET 4 OF 9



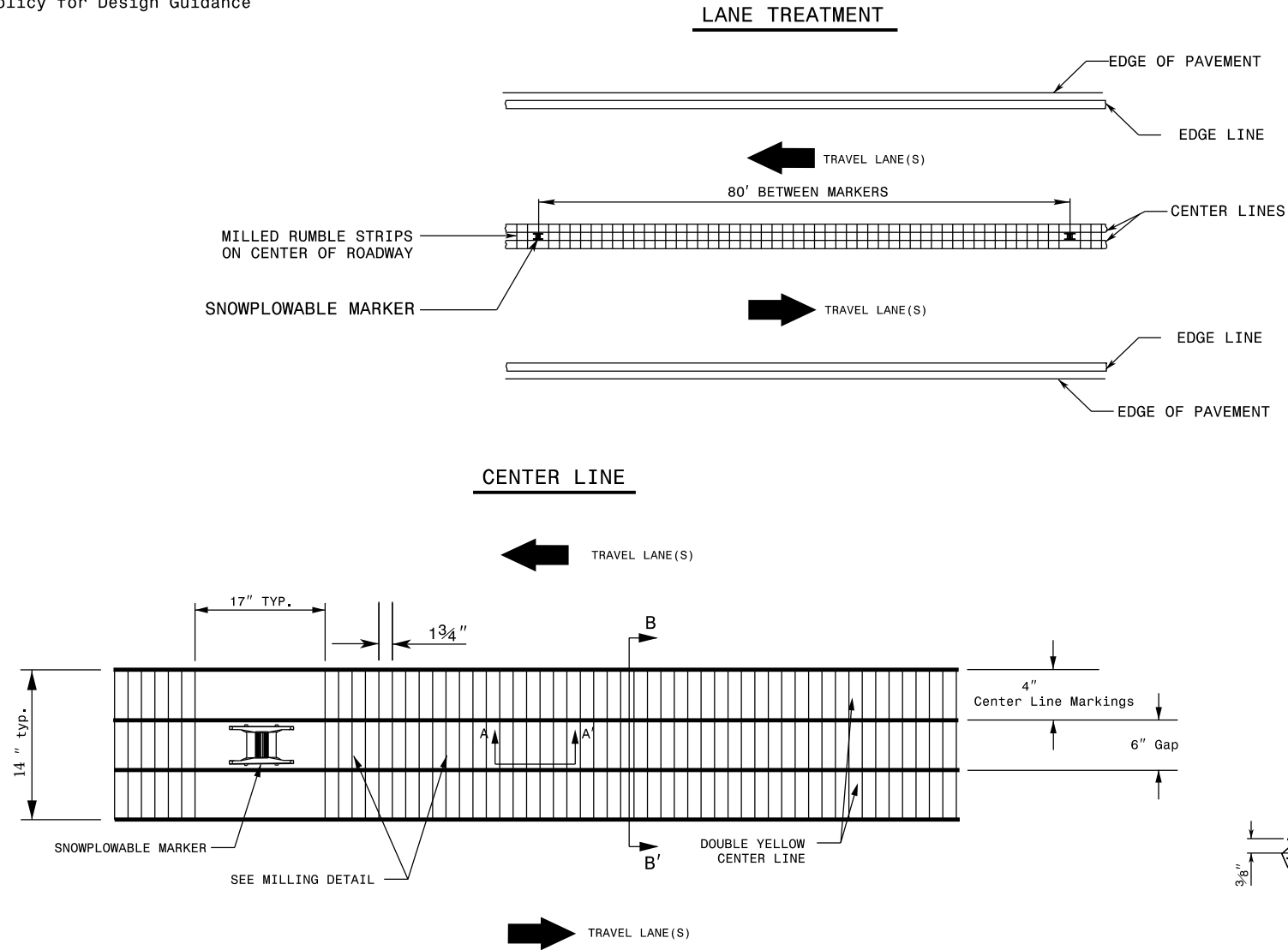
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Jessi L. Leonard
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05/12/2025

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Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: C. SIMPSON DATE: 04-24-2025
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

See Table 2 within Rumble Strip
Policy for Design Guidance



REFERENCE DRAWING ID: Sin.CL with Snowplowable Markers

NOTES:

- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
- 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.
- 3) INSTALL SNOWFLOWABLE MARKERS AT APPROXIMATELY 80' INCREMENTS. DO NOT MILL RUMBLE STRIPS IN SECTION WHERE SNOWFLOWABLE MARKERS ARE INSTALLED.

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ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
SINUSOIDAL CENTERLINE RUMBLE STRIPE WITH SNOWFLOWABLE MARKERS

SHEET 8 OF 9



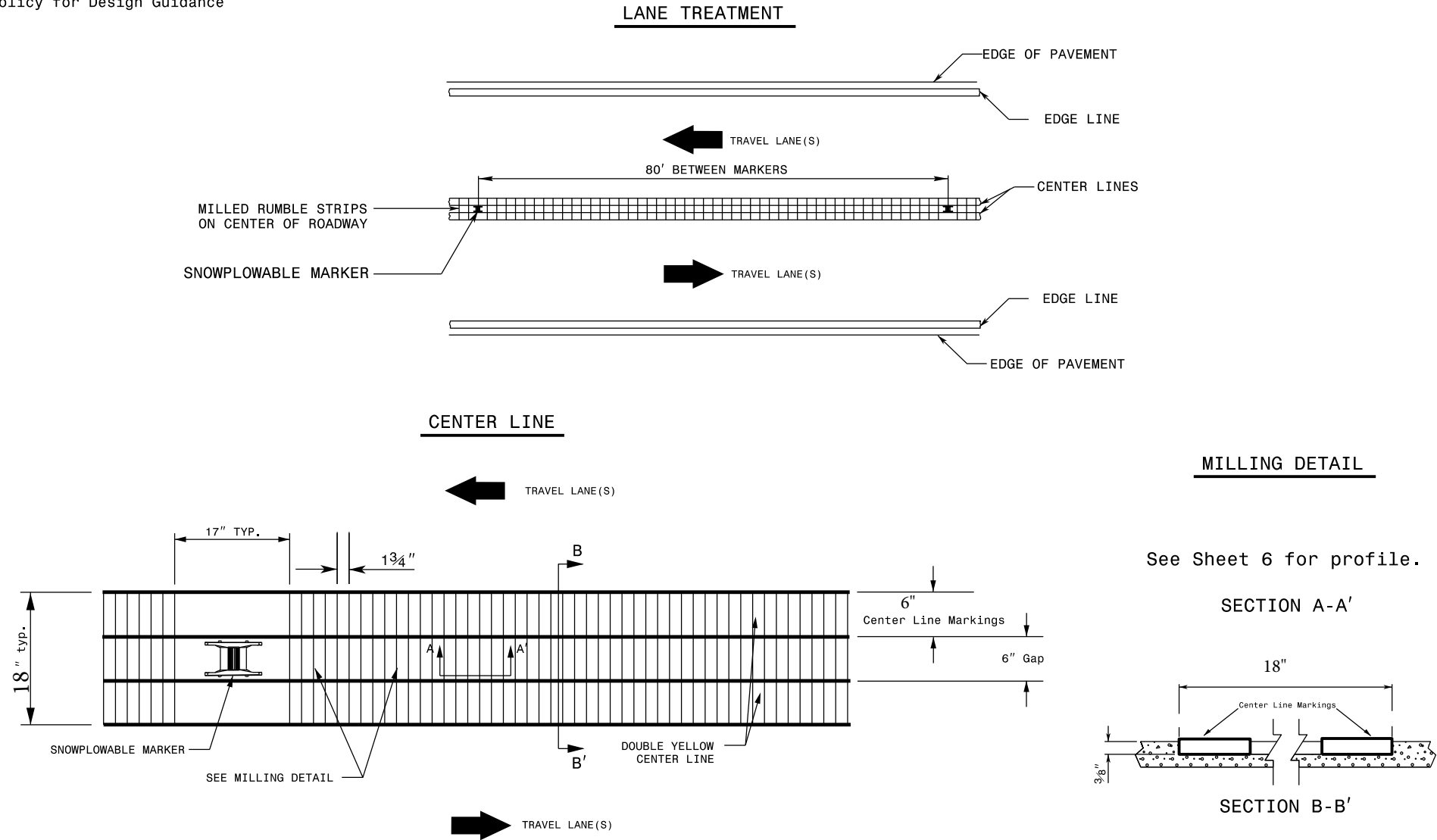
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Jessi L. Leonard
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05/12/2025

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SEE TITLE BLOCK

ORIGINAL BY: C. SIMPSON DATE: 04-24-2025
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

See Table 2 within Rumble Strip
Policy for Design Guidance



REFERENCE DRAWING ID: Sin.CL with Snowplowable Markers

- NOTES:**
- 1) USING A VACUUM, REMOVE ALL DEBRIS FROM THE MILLINGS JUST PRIOR TO PLACING ANY PAVEMENT MARKINGS.
 - 2) ENSURE GLASS BEADS ARE SPREAD UNIFORMLY OVER THE ENTIRE SURFACE OF THE PAVEMENT MARKING MATERIAL.
 - 3) INSTALL SNOWPLOWABLE MARKERS AT APPROXIMATELY 80' INCREMENTS. DO NOT MILL RUMBLE STRIPS IN SECTION WHERE SNOWPLOWABLE MARKERS ARE INSTALLED.

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ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
SINUSOIDAL CENTERLINE RUMBLE STRIPE WITH SNOWPLOWABLE MARKERS

SHEET 8 OF 9



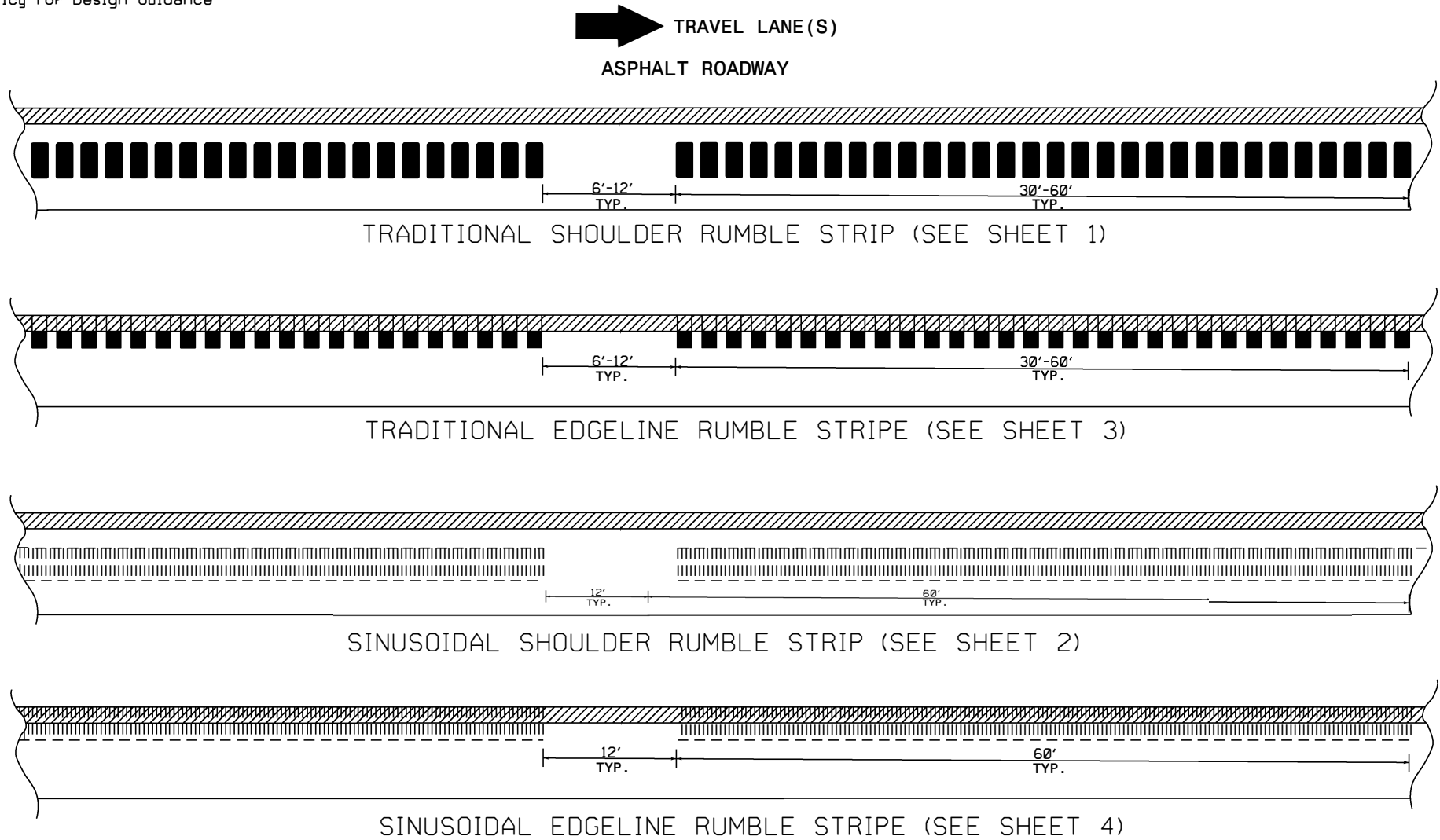
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Jessi L. Leonard
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05/12/2025

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MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

See Page 4 within Rumble Strip
Policy for Design Guidance



REFERENCE DRAWING ID: Bicycle Gap

NOTES:

- 1) FOR ROADWAYS WITH NOMINAL PAVED SHOULDER WIDTHS OF AT LEAST 5 FEET, GAPS IN MILLED PATTERNS, VARYING BETWEEN 6 AND 12 FEET, SHALL BE PROVIDED TO ALLOW BICYCLISTS TO MOVE BETWEEN THE THROUGH LANE AND THE RIGHT SHOULDER. THE PATTERN SHOULD BE A MINIMUM OF A 5:1 RUMBLE-TO-GAP RATIO.
- 2) FOR ROADWAYS WITH NOMINAL PAVED SHOULDER WIDTHS OF 1.5 FEET UP TO 5 FEET FOR A LENGTH OF 200' OR GREATER, A BICYCLE GAP SHOULD BE CONSIDERED.
- 3) FOR ROADWAYS WITH NOMINAL PAVED SHOULDER WIDTHS OF LESS THAN 1.5 FEET, NO BICYCLE GAP IS NEEDED.

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ROADWAY DETAIL DRAWING FOR
RUMBLE STRIPS / STRIPES
BICYCLE GAP FOR SHOULDER RUMBLE STRIP / EDGELINE RUMBLE STRIPE

SHEET 9 OF 9



DocuSigned by:
Jessi L. Leonard
4D590D07E47C40F...
05/12/2025

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Office 919-707-8950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: C. SIMPSON	DATE: 04-24-2025
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

PROJECT NO.	SHEET NO.
2025CPT.03.11.10101, ETC.	16

SUMMARY OF QUANTITIES

												0106000000-E	1220000000-E	1245000000-E	1297000000-E	1308000000-E	1330000000-E	1491000000-E	1519000000-E	1520000000-E	1523000000-E	1575000000-E	1705500000-E
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEG N MP	END MP	BORROW EXCAVATION	INCIDENTAL STONE BASE	SHOULDER RECONSTRUC TION	1.5" MILLING	0"- 1.5" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0C	SURFACE COURSE, S9.5B	LEVELING COURSE, S9.5B	SURFACE COURSE, S9.5C	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT (MILL)
								MI	FT			CY	TON	SMI	SY	SY	SY	TONS	TON	TON	TON	TON	TON
2025CPT.03.11.10101	Brunswick	1	NC-87 / GEORGE II HWY	FROM 1.29 MI SOUTH OF SR 1513 (DANFORD RD) TO US HWY 17 [MP 9.40 - MP 14.99]	1	2	2WU	5.59	30	9.40	14.99	954	170	5.42	617		1,063	3,804		7,705	652	554	
TOTAL FOR MAP NO. 1								5.59				954	170	5.42	617		1,063	3,804		7,705	652	554	
2025CPT.03.11.10101	Brunswick	2	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.16 - MP 3.12]	2	2	2WU	1.96	32	1.16	3.12	351	66	4.00		400	1,679			4,004	239	56	
TOTAL FOR MAP NO. 2								1.96				351	66	4.00		400	1,679			4,004	239	56	
TOTAL FOR PROJ NO. 2025CPT.03.11.10101								7.55				1,305	236	9.42	617	400	2,742	3,804		11,709	891	610	
2025CPT.03.11.20101	Brunswick	3	SR-1300 / ASH-LITTLE RIVER RD	FROM NC HWY 130 (WHITEVILLE RD NW) TO 0.05 MI SOUTH OF SR 1354 (FRIENDSHIP RD) [MP 0.00 - MP 6.18]	3	2	2WU	6.18	20	0.00	6.18	765	254	12.23	858	250	1,450		6,366			451	776
TOTAL FOR MAP NO. 3								6.18				765	254	12.23	858	250	1,450		6,366			451	776
2025CPT.03.11.20101	Brunswick	4	SR-1300 / ASH-LITTLE RIVER RD	FROM 0.05 MI S OF SR 1354 (FRIENDSHIP RD) TO SR 1303 (HICKMAN RD) [MP 6.18 - MP 11.02]	4	2	2WU	4.84	20	6.18	11.02	844	170	9.59		250	573	1,683	4,955			415	354
TOTAL FOR MAP NO. 4								4.84				844	170	9.59		250	573	1,683	4,955			415	354
2025CPT.03.11.20101	Brunswick	5	SR-1525 / BETHEL RD SE	FROM NC 133 TO END OF PAVEMENT [MP 0.00 - MP 2.20]	6	2	2WU	2.2	18	0.00	2.20	257	64	4.19	8,486		366		2,356	60		159	40
TOTAL FOR MAP NO. 5								2.2				257	64	4.19	8,486		366		2,356	60		159	40
TOTAL FOR PROJ NO. 2025CPT.03.11.20101								13.22				1,866	488	26.01	9,344	500	2,389	1,683	13,677	60		1,025	1,170
2025CPT.03.11.10101	Brunswick	1a	NC-87 / GEORGE II HWY	FROM NC 133 TO US 17 [MP 3.31 - MP 14.99]	1	2	2WU	11.68	30	3.31	14.99												
TOTAL FOR MAP NO. 1a								11.68															
2025CPT.03.11.10101	Brunswick	2a	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.14 - MP 3.24]	2	2	2WU	1.96	32	1.16	3.12												
TOTAL FOR MAP NO. 2a								1.96															
TOTAL FOR PROJ NO. 2025CPT.03.11.10101								13.64															
2025CPT.03.11.20101	Brunswick	3a & 4a	SR-1300 / ASH-LITTLE RIVER RD NW	FROM NC HWY 130 (WHITEVILLE RD NW) TO SR 1303 (HICKMAN RD) [MP 0.00 - MP 11.02]	4	2	2WU	11.02	20	0.00	11.02												
TOTAL FOR MAP NO. 3a & 4a								11.02															
TOTAL FOR PROJ NO. 2025CPT.03.11.20101								11.02															
GRAND TOTAL								26.86				3,171	724	35.43	9,961	900	5,131	5,487	13,677	60	11,709	1,916	1,780

PROJECT NO.		SHEET NO.
2025CPT.03.11.10101, ETC.		18

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGI N MP	END MP	6018000000-E SEED FOR TEMPORARY SEEDING	6021000000-E FERTILIZER FOR TEMPORARY SEEDING	6036000000-E MATTING FOR EROSION CONTROL	6042000000-E 1/4" HARDWARE CLOTH	6071010000-E WATTLE	6084000000-E SEED & MULCHING	6090000000-E SEED FOR REPAIR SEEDING	6093000000-E FERTILIZER FOR REPAIR SEEDING	6117000000-N RESPONSE FOR EROSION CONTROL	7444000000-E INDUCTIVE LOOP SAWCUT
								MI	FT			LBS	TON	SY	LF	LF	AC	LB	TON	EA	LF
2025CPT.03.11.10101	Brunswick	1	NC-87 / GEORGE II HWY	FROM 1.29 MI SOUTH OF SR 1513 (DANFORD RD) TO US HWY 17 [MP 9.40 - MP 14.99]	1	2	2WU	5.59	30	9.40	14.99	271	1.50	40	271		5.50		1.50	10	
TOTAL FOR MAP NO. 1								5.59				271	1.50	40	271		5.50		1.50	10	
2025CPT.03.11.10101	Brunswick	2	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.16 - MP 3.12]	2	2	2WU	1.96	32	1.16	3.12	100	0.50	20	100	30	2.00	100	1.00	0	900
TOTAL FOR MAP NO. 2								1.96				100	0.50	20	100	30	2.00	100	1.00	0	900
TOTAL FOR PROJ NO. 2025CPT.03.11.10101								7.55				371	2.00	60	371	30	7.50	100	2.50	10	900
2025CPT.03.11.20101	Brunswick	3	SR-1300 / ASH-LITTLE RIVER RD	FROM NC HWY 130 (WHITEVILLE RD NW) TO 0.05 MI SOUTH OF SR 1354 (FRIENDSHIP RD) [MP 0.00 - MP 6.18]	3	2	2WU	6.18	20	0.00	6.18	310	1.50	50	310	100	6.00	310	1.50	4	
TOTAL FOR MAP NO. 3								6.18				310	1.50	50	310	100	6.00	310	1.50	4	
2025CPT.03.11.20101	Brunswick	4	SR-1300 / ASH-LITTLE RIVER RD	FROM 0.05 MI S OF SR 1354 (FRIENDSHIP RD) TO SR 1303 (HICKMAN RD) [MP 6.18 - MP 11.02]	4	2	2WU	4.84	20	6.18	11.02	240	1.00	40	240	80	5.00	240	1.00	9	
TOTAL FOR MAP NO. 4								4.84				240	1.00	40	240	80	5.00	240	1.00	9	
2025CPT.03.11.20101	Brunswick	5	SR-1525 / BETHEL RD SE	FROM NC 133 TO END OF PAVEMENT [MP 0.00 - MP 2.20]	6	2	2WU	2.2	18	0.00	2.20	110	0.50	20	110	40	2.00	110	0.50	2	
TOTAL FOR MAP NO. 5								2.2				110	0.50	20	110	40	2.00	110	0.50	2	
TOTAL FOR PROJ NO. 2025CPT.03.11.20101								13.22				660	3.00	110	660	220	13.00	660	3.00	15	
2025CPT.03.11.10101	Brunswick	1a	NC-87 / GEORGE II HWY	FROM NC 133 TO US 17 [MP 3.31 - MP 14.99]	1	2	2WU	11.68	30	3.31	14.99										
TOTAL FOR MAP NO. 1a								11.68													
2025CPT.03.11.10101	Brunswick	2a	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.14 - MP 3.24]	2	2	2WU	1.96	32	1.16	3.12										
TOTAL FOR MAP NO. 2a								1.96													
TOTAL FOR PROJ NO. 2025CPT.03.11.10101								13.64													
2025CPT.03.11.20101	Brunswick	3a & 4a	SR-1300 / ASH-LITTLE RIVER RD NW	FROM NC HWY 130 (WHITEVILLE RD NW) TO SR 1303 (HICKMAN RD) [MP 0.00 - MP 11.02]	4	2	2WU	11.02	20	0.00	11.02										
TOTAL FOR MAP NO. 3a & 4a								11.02													
TOTAL FOR PROJ NO. 2025CPT.03.11.20101								11.02													
GRAND TOTAL								26.86				1,031	5.00	170	1,031	250	20.50	760	5.50	25	900

PROJECT NO.	SHEET NO.
025CPT.03.11.10101, ET	19

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E	4415000000-N	4420000000-N	4434000000-N	4457000000-N	4480000000-N	4510000000-N	4685000000-E		4688000000-E	
								MI	FT			SF	EA	EA	EA	LS	EA	HR	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	6" X 90 M WHITE THERMO	6" X90 M YELLOW THERMO
2025CPT.03.11.10101	Brunswick	1	NC-87 / GEORGE II HWY	FROM 1.29 MI SOUTH OF SR 1513 (DANFORD RD) TO US HWY 17 [MP 9.40 - MP 14.99]	1	2	2WU	5.59	30	9.40	14.99	608	4	4	20	*	4	40				
TOTAL FOR MAP NO. 1								5.59				608	4	4	20		4	40				
2025CPT.03.11.10101	Brunswick	2	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.16 - MP 3.12]	2	2	2WU	1.96	32	1.16	3.12	224						40				
TOTAL FOR MAP NO. 2								1.96				224						40				
TOTAL FOR PROJ NO. 2025CPT.03.11.10101								7.55				832	4	4	20	1.00	4	80				
2025CPT.03.11.10101	Brunswick	3	SR-1300 / ASH-LITTLE RIVER RD		3	2	2WU	6.18	20	0.00	6.18	856				*						
TOTAL FOR MAP NO. 3				FROM 0.05 MI S OF SR 1354 (FRIENDSHIP RD) TO SR 1303 (HICKMAN RD) [MP 6.18 - MP 11.02]				6.18				856										
2025CPT.03.11.10101	Brunswick	4	SR-1300 / ASH-LITTLE RIVER RD		4	2	2WU	4.84	20	6.18	11.02	376										
TOTAL FOR MAP NO. 4				FROM NC 133 TO END OF PAVEMENT [MP 0.00 - MP 2.20]				4.84				376										
2025CPT.03.11.20101	Brunswick	5	SR-1525 / BETHEL RD SE	FROM NC 133 TO END OF PAVEMENT [MP 0.00 - MP 2.20]	6	2	2WU	2.2	18	0.00	2.20	256									22,152	17,220
TOTAL FOR MAP NO. 5								2.2				256									22,152	17,220
TOTAL FOR PROJ NO. 2025CPT.03.11.20101								13.22				1,488				1.00					22,152	17,220
																					39,372	
2025CPT.03.11.10101	Brunswick	1a	NC-87 / GEORGE II HWY	FROM NC 133 TO US 17 [MP 3.31 - MP 14.99]	1	2	2WU	11.68	30	3.31	14.99										123,749	106,772
TOTAL FOR MAP NO. 1a								11.68													123,749	106,772
2025CPT.03.11.10101	Brunswick	2a	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.14 - MP 3.24]	2	2	2WU	1.96	32	1.16	3.12								27,430	21,399		
TOTAL FOR MAP NO. 2a								1.96											27,430	21,399		
TOTAL FOR PROJ NO. 2025CPT.03.11.10101								13.64											27,430	21,399	123,749	106,772
																			48,829		230,521	
2025CPT.03.11.20101	Brunswick	3a & 4a	SR-1300 / ASH-LITTLE RIVER RD NW	FROM NC HWY 130 (WHITEVILLE RD NW) TO SR 1303 (HICKMAN RD) [MP 0.00 - MP 11.02]	4	2	2WU	11.02	20	0.00	11.02								116,432	76,777		
TOTAL FOR MAP NO. 3a & 4a								11.02											116,432	76,777		
TOTAL FOR PROJ NO. 2025CPT.03.11.20101								11.02											116,432	76,777		
																			193,209			
GRAND TOTAL								26.86				2,320	4	4	20	1	4	80	143,862	98,176	145,901	123,992
																			242,038		269,893	

PROJECT NO.	SHFFT NO.
2025CPT.03.11.10101, ETC.	20

THERMOPLASTIC AND PAINT QUANTITIES

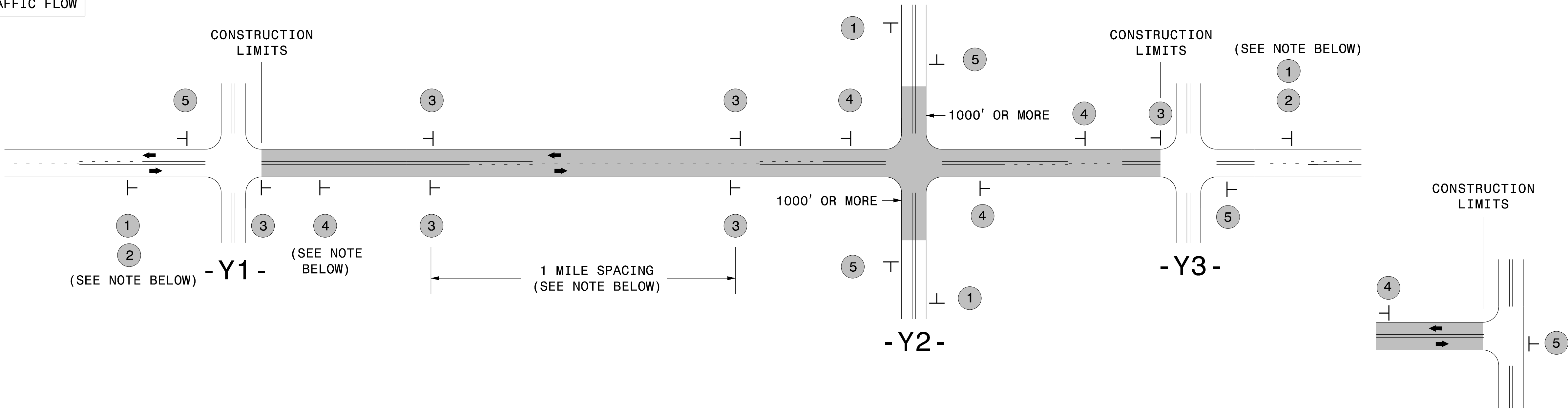
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4695000000-E	4704000000-E	4709000000-E	4720000000-E			4725000000-E					4810000000-E		4895000000-N		4900000000-N
								8" X 90 M YELLOW THERMO	THERMOPLASTIC PAVEMENT MARKING LINES (16" X 90 MILS)			THERMOPLASTIC PAVEMENT MARKING LINES (24" X 90 MILS)	THERMO MSG STOP 90 M	THERMO MSG AHEAD 90 M	THERMO RXR 90 MILS	THERMO STR ARROW (90 MIL)	THERMO LT ARROW (90 MIL)	THERMO RT ARROW (90 MIL)	THERMO STR & LT ARROW (90 MIL)	THERMO LT STR RT ARROW (90 MIL)	4" WHITE PAINT	4" YELLOW PAINT	POLYCARBON ATE H SHAPED MARKER (Y/Y)	POLYCARBON ATE H SHAPED MARKER (C/R)	YELLOW & YELLOW MARKERS		
								MI	FT			LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	
2025CPT.03.11.10101	Brunswick	1	NC-87 / GEORGE II HWY	FROM 1.29 MI SOUTH OF SR 1513 (DANFORD RD) TO US HWY 17 [MP 9.40 - MP 14.99]	1	2	2WU	5.59	30	9.40	14.99	520		116				6	14							36	
TOTAL FOR MAP NO. 1							5.59					520		116				6	14							36	
2025CPT.03.11.10101	Brunswick	2	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.16 - MP 3.12]	2	2	2WU	1.96	32	1.16	3.12	63		250				2	63	13	2	1					
TOTAL FOR MAP NO. 2							1.96					63		250				2	63	13	2	1					
TOTAL FOR PROJ NO. 2025CPT.03.11.10101							7.55					583		366				8	77	13	2	1				36	
																	101										
2025CPT.03.11.20101	Brunswick	3	SR-1300 / ASH-LITTLE RIVER RD		3	2	2WU	6.18	20	0.00	6.18			12	12	10											
TOTAL FOR MAP NO. 3				FROM 0.05 MI S OF SR 1354 (FRIENDSHIP RD) TO SR 1303 (HICKMAN RD) [MP 6.18 - MP 11.02]				6.18						12	12	10											
2025CPT.03.11.20101	Brunswick	4	SR-1300 / ASH-LITTLE RIVER RD		4	2	2WU	4.84	20	6.18	11.02			10						2			640	640			
TOTAL FOR MAP NO. 4				FROM NC 133 TO END OF PAVEMENT [MP 0.00 - MP 2.20]				4.84						10						2			640	640			
2025CPT.03.11.20101	Brunswick	5	SR-1525 / BETHEL RD SE	FROM NC 133 TO END OF PAVEMENT [MP 0.00 - MP 2.20]	6	2	2WU	2.2	18	0.00	2.20		84	54			4									154	
TOTAL FOR MAP NO. 5							2.2						84	54			4									154	
TOTAL FOR PROJ NO. 2025CPT.03.11.20101							13.22						84	76	12	10	4			2			640	640		154	
															26			2					1,280				
2025CPT.03.11.10101	Brunswick	1a	NC-87 / GEORGE II HWY	FROM NC 133 TO US 17 [MP 3.31 - MP 14.99]	1	2	2WU	11.68	30	3.31	14.99														772	15	
TOTAL FOR MAP NO. 1a							11.68																		772	15	
2025CPT.03.11.10101	Brunswick	2a	NC-133 / LONG BEACH RD	FROM BRIDGE 090230 TO BRIDGE 090014 (LONG BEACH RD) [MP 1.14 - MP 3.24]	2	2	2WU	1.96	32	1.16	3.12														264	104	
TOTAL FOR MAP NO. 2a							1.96																		264	104	
TOTAL FOR PROJ NO. 2025CPT.03.11.10101							13.64																		1,036	119	
																									1,155		
2025CPT.03.11.20101	Brunswick	3a & 4a	SR-1300 / ASH-LITTLE RIVER RD NW	FROM NC HWY 130 (WHITEVILLE RD NW) TO SR 1303 (HICKMAN RD) [MP 0.00 - MP 11.02]	4	2	2WU	11.02	20	0.00	11.02														730	8	
TOTAL FOR MAP NO. 3a & 4a							11.02																		730	8	
TOTAL FOR PROJ NO. 2025CPT.03.11.20101							11.02																		730	8	
																									738		
GRAND TOTAL							26.86					583	84	442	12	10	4	8	77	15	2	1	640	640	1,766	127	190
															26			103					1,280		1,893		

SIGNING FOR RESURFACING PROJECTS

LEGEND

STATIONARY SIGN

DIRECTION OF TRAFFIC FLOW

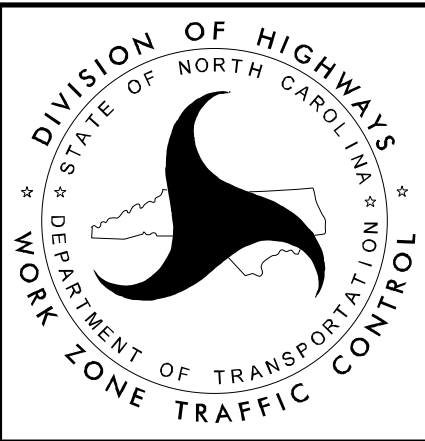


TEE INTERSECTION

MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	1 ROAD WORK AHEAD W20-1 48" X 48" NEXT XX MILES W7-3aP 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 CONSTRUCTION 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, PORTABLE ADVANCE WARNING 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. WORK ZONE TRAFFIC CONTROL STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION W20-7 A 48" X 48" PLACED 250' IN ADVANCE OF FLAGGER.
	3 LOW/SOFT SHOULDER SP 13107 48" X 48" - 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 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. - FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE.	
	5 END ROAD WORK G20-2 A 48" X 24" 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.	
LESS 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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

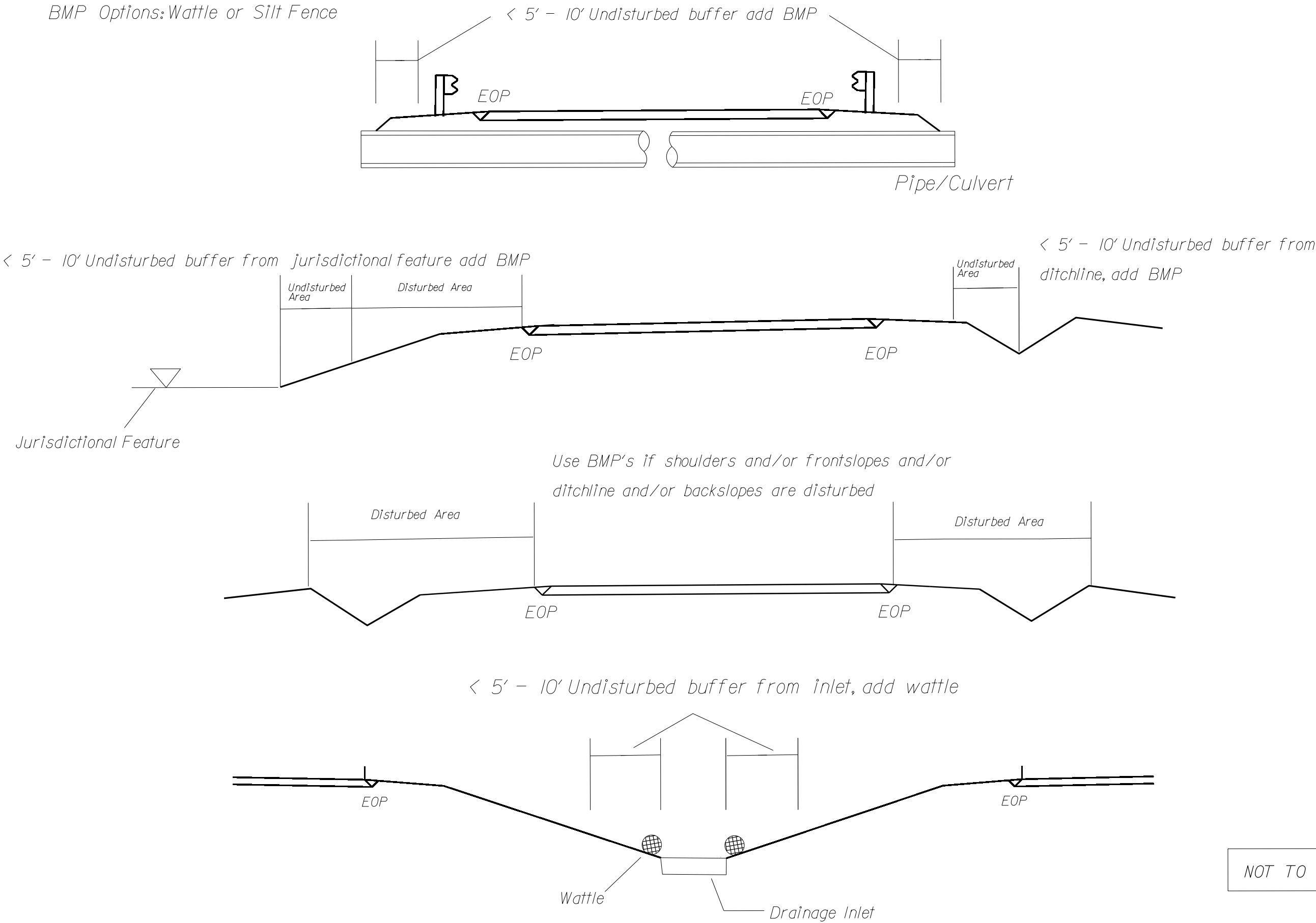
SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

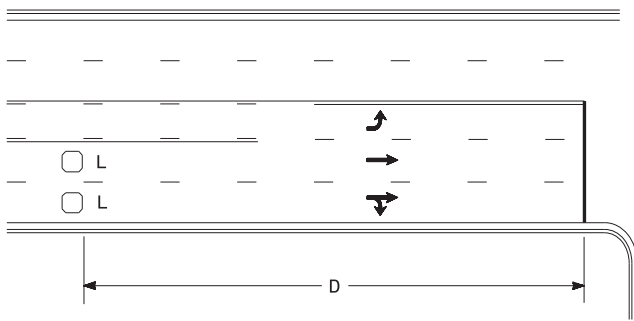
NOTES: Less than 5' – 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

BMP Options: Wattle or Silt Fence

EROSION CONTROL DETAIL



High Speed Detection
(≥40 mph)

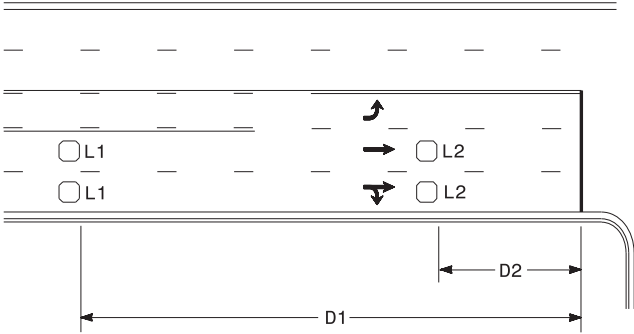


Speed Limit mph	D ft
40	250
45	300
50	355
55	420

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



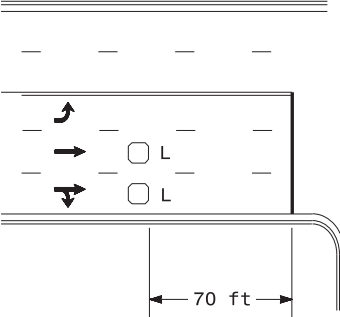
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

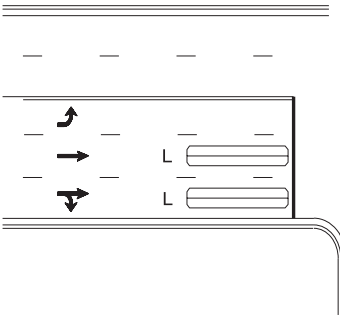
"Stretch" Operation

Low Speed Detection
(≤35 mph)



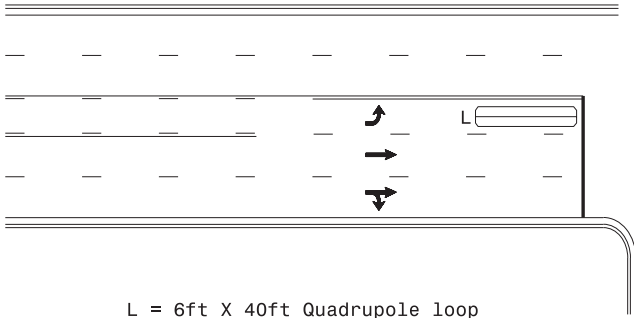
L = 6ft X 6ft
Wired in series

OR



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

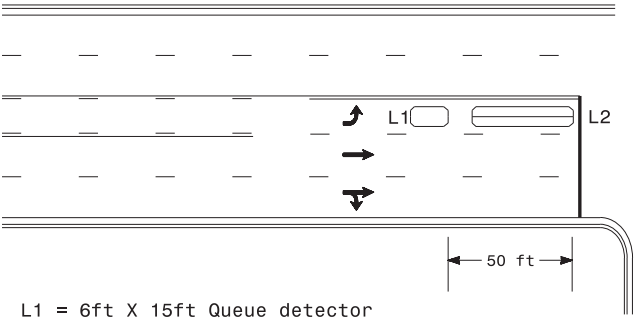
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

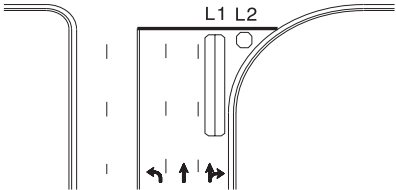
OR



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

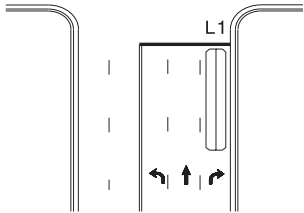
Queue Loop Detection

Right Turn Lane Detection

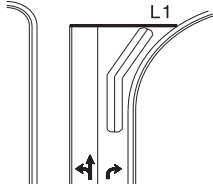


Shared Lane/
Wide Radius Turn

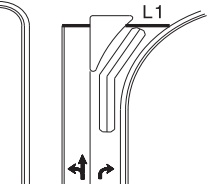
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

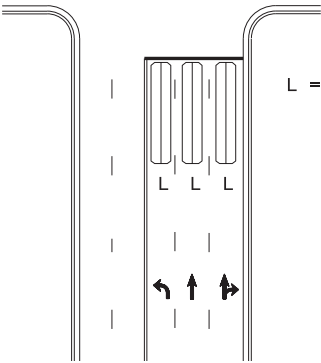


Wide Radius Turn



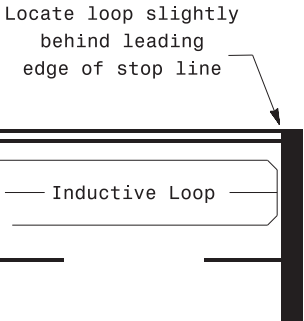
Channelized Turn

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

Prepared in the Offices of:

TRANSPORTATION MOBILITY AND SAFETY DIVISION

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

Signal Design Section

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Signal Loop Locations

PLAN DATE: September 2020

REVIEWED BY: JPG

PREPARED BY: PLA

REVIEWED BY:

REVISIONS

INIT.

DATE

SCALE

N/A

SEAL

NORTH CAROLINA

PROFESSIONAL ENGINEER

029904

WASON P. GALLOWAY

9/8/2020

SIG. INVENTORY NO.

09-SEP-2020 11:54
S:\17565\17565\SIGNALS\SIGNAL DESIGN SECTION\EASTERN REGIONAL LOOP Typical Loop Typical 2015.dgn
JGalloway