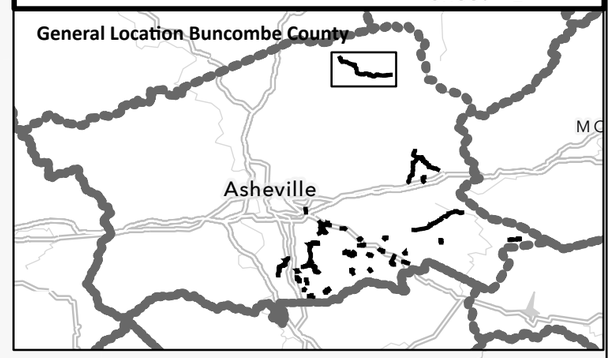
WBS - 2027CPT.13.04.20111 Sheet 1

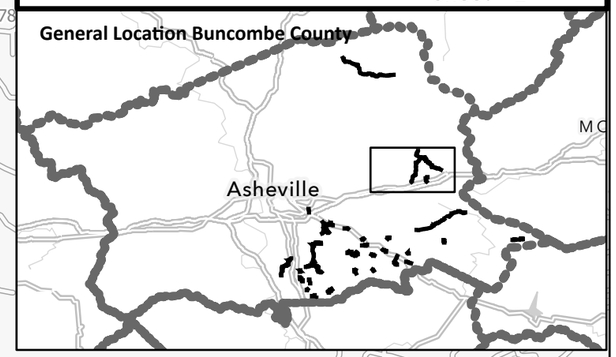


Source: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

197
SR-2171
SR-2169
SR-2231
SR-2170
Bridge 145
SR-2174
SR-2179
SR-2165
1
SR-2173
SR-2203
SR-1003
SR-2176
SR-2175
SR-2177
SR-2178
Bridge 146
Bridge 147
Bridge 148
Bridge 149
0 0.25 0.5 Miles
N

MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
1	SR 2173 (DILLINGHAM ROAD)	NC 197	END OF MAINTENANCE	4.95

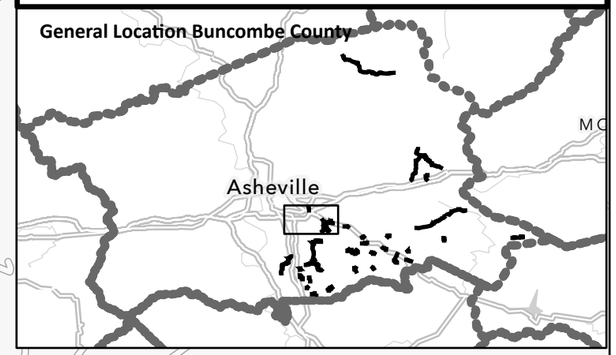
WBS - 2027CPT.13.04.20111 Sheet 2

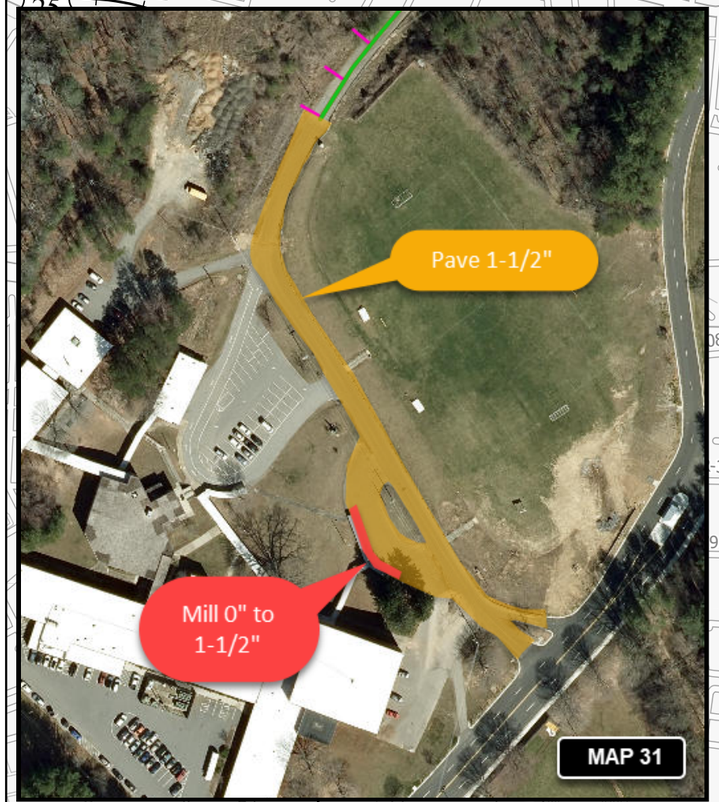


MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
2	SR 2474 (NORTH FORK ROAD)	SR 2435 (OLD US 70)	NC 9	4.76
3	SR 2500 (NORTH BLUE RIDGE ROAD)	SR 2435 (OLD US 70)	US 70	0.03
4	SR 2500 (NORTH BLUE RIDGE ROAD)	SR 2473 (CRAIGMONT ROAD)	SR 2435 (OLD US 70)	0.46
5	SR 2576 (NORTH FORK LEFT FORK)	SR 2474 (NORTH FORK ROAD)	MP 0.84	0.84

WBS - 2027CPT.13.04.20111 Sheet 3

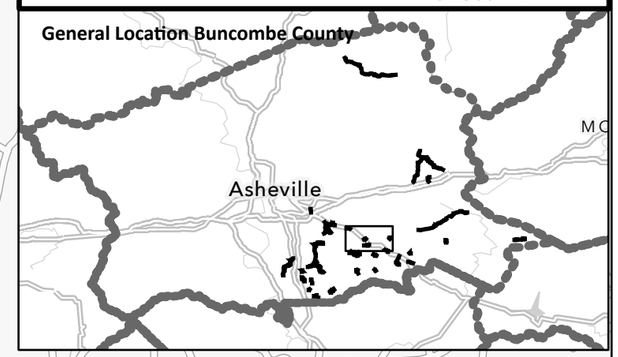
General Location Buncombe County





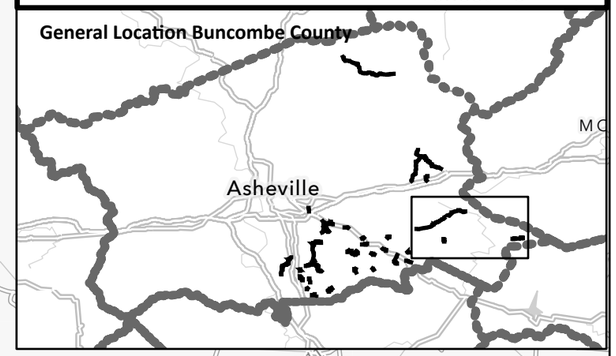
MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
6	SR 2771 (OLD CHARLOTTE HIGHWAY)	US 74	SR 2772 (JUNE SAYLES ROAD)	0.31
15	SR 2862 (OLD CHARLOTTE HIGHWAY)	US 74	END OF MAINTENANCE	0.35
18	SR 2891 (OLDE EASTWOOD VILLAGE BOULEVARD)	SR 2771 (OLD CHARLOTTE HIGHWAY)	CUL DE SAC	0.18
23	SR 3121 (ROSE HILL ROAD)	US 74A PAVEMENT JOINT	SR 3074 (BEE RIDGE ROAD) TO PAVEMENT JOINT	1.17
28	SR 3231 (REYNOLDS SCHOOL ROAD)	SR 3121 (ROSE HILL ROAD)	END OF STATE MAINTENANCE	0.79
29	SR 3268 (REYNOLDA DRIVE)	SR 3231 (REYNOLDS SCHOOL ROAD)	CUL DE SAC	0.22
31	SR 3279 (REYNOLDS MIDDLE SCHOOL)	SR 3279 (CHARLES A LYTLE LANE)	HIGH SCHOOL ROAD INTERSECTION	0.01
32	SR 3279 (CHARLES A LYTLE LANE)	US 74 PAVEMENT JOINT	END OF MAINTENANCE	0.11

WBS - 2027CPT.13.04.20111 Sheet 4



MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
7	SR 2773 (OLD CHARLOTTE HIGHWAY)	US 74 ALTERNATE	US 74 ALTERNATE	0.3
12	SR 2840 (EASTCREST DRIVE)	US 74 ALTERNATE	SR 2841 (EASTRIDGE COURT)	0.13
13	SR 2841 (EASTRIDGE COURT)	CUL DE SAC	CUL DE SAC	0.11
19	SR 2895 (NUTHATCH COURT)	SR 2816 (CHURCH ROAD)	CUL DE SAC	0.28
20	SR 2896 (CHICKADEE LANE)	SR 2816 (CHURCH ROAD)	SR 2895 (NUTHATCH COURT)	0.09
24	SR 3128 (OLD GAP CREEK ROAD)	SR 3133 (SHARON ROAD)	SR 3127 (EMMAS GROVE ROAD)	0.46

WBS - 2027CPT.13.04.20111 Sheet 5



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9

Bridge 117

SR-2787

SR-2788

8

SR-2851

SR-2784

SR-2776

SR-2179

SR-2785

SR-2805

SR-2807

SR-2808

SR-2850

14

SR-2790

SR-2789

Broad River

SR-2791

SR-2795

9

SR-2794

SR-2786

SR-2806

SR-2797

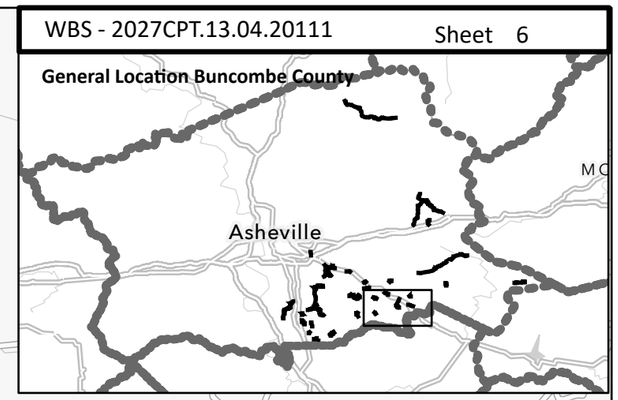
SR-2796

0 0.25 0.5 Miles

N

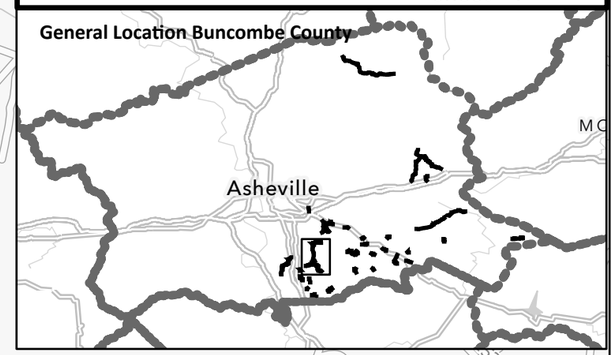
MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
8	SR 2776 (OLD FORT / CHESTNUT HILL ROAD)	SR 2785 (DYE LEAF ROAD)	NC 9	4.59
9	SR 2791 (OLD FORT ROAD)	SR 2755 (STONE MOUNTAIN FARM ROAD)	SR 2794 (CAMP ELLIOTT ROAD)	0.96
14	SR 2850 (GARRISON ROAD)	SR 2806 (GARREN CREEK ROAD)	END OF MAINTENANCE	0.41

WBS - 2027CPT.13.04.20111 Sheet 6



MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
10	SR 2813 (SUGAR HOLLOW / BUTTERROW COVE ROAD)	US 74	END OF MAINTENANCE	0.4
11	SR 2815 (VILLAGE ROAD)	US 74	US 74	0.35
16	SR 2884 (COBBLE HILL ROAD)	SR 2810 (HOLLYWOOD ROAD)	CUL DE SAC	0.13
17	2887 (SMITH KNOLLS ROAD)	US 74 ALTERNATE	END OF MAINTENANCE	1.01
48	SR 3354 (CANE CREEK CIRCLE)	SR 3136 (CANE CREEK ROAD)	SR 3355 (CANE CREEK CIRCLE)	0.25
49	SR 3355 (CANE CREEK CIRCLE)	SR 3354 (CANE CREEK CIRCLE)	CUL DE SAC	0.28
50	SR 3356 (KNOLL DRIVE)	SR 3138 (UPPER BRUSH CREEK ROAD)	CUL DE SAC	0.15
51	SR 3357 (SOUTH KNOLL COURT)	SR 3356 (KNOLL DRIVE)	CUL DU SAC	0.05

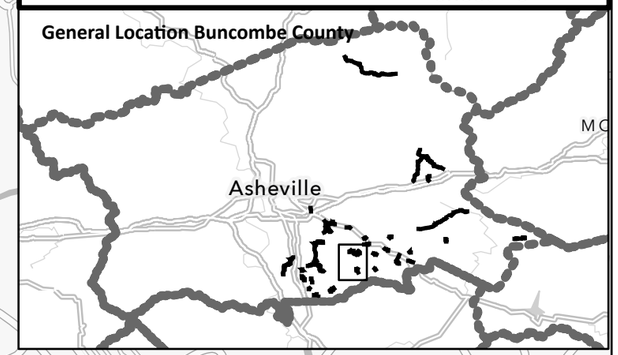
WBS - 2027CPT.13.04.20111 Sheet 7



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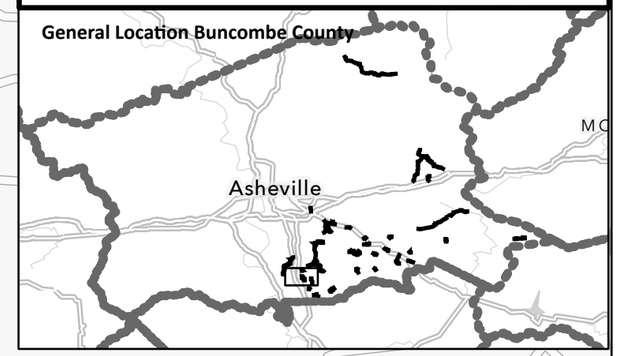
MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
21	SR 3117 (SCHOOL ROAD)	SR 3121 (PINNERS COVE RD)	SR 3150 (CONCORD ROAD)	0.79
22	SR 3121 (PINNERS COVE ROAD)	SR 3119 (MERRILLS COVE ROAD)	SR 3116 (MILLS GAP ROAD)	3.73
30	SR 3277 (FOREST RUN DRIVE)	SR 3121 (PINNERS COVE ROAD)	CUL DE SAC	0.23
40	SR 3326 (WESTON HEIGHTS DRIVE)	SR 3150 (CONCORD ROAD)	CUL DE SAC	0.46
43	SR 3336 (WESTON PLACE)	SR 3326 (WESTON HEIGHTS DRIVE)	CUL DE SAC	0.04
45	SR 3345 (WESTON WAY)	SR 3326 (WESTON HEIGHTS DRIVE)	CUL DE SAC	0.05

WBS - 2027CPT.13.04.20111 Sheet 8



MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
25	SR 3131 (LYTLE ROAD)	SR 3128 (EMMAS GROVE ROAD)	END OF MAINTENANCE	0.36
34	SR 3290 (FOX RIDGE DRIVE)	SR 3128 (EMMAS GROVE ROAD)	CUL DE SAC	0.33
41	SR 3327 (MEADOW WOOD TRAIL)	SR 3131 (LYTLE ROAD)	CUL DE SAC	0.34
42	SR 3335 (MEADOW BROOK DRIVE)	SR 3327 (MEADOW WOOD TRAIL)	SR 3327 (MEADOW WOOD TRAIL)	0.46
47	SR 3348 (KIT COURT)	SR 3290 (FOX RIDGE DRIVE)	CUL DE SAC	0.17
52	SR 3358 (MOUNTAIN VIEW LANE)	SR 3335 (MEADOW BROOK DRIVE)	CUL DE SAC	0.13
53	SR 3374 (SPRING LAKE DRIVE)	SR 3136 (CANE CREEK ROAD)	CUL DE SAC	0.37
54	SR 3375 (KNOLLWOOD DRIVE)	SR 3374 (SPRING LAKE DRIVE)	CUL DE SAC	0.04
55	SR 3376 (GUN FLINT TRAIL)	SR 3374 (SPRING LAKE DRIVE)	CUL DE SAC	0.17

WBS - 2027CPT.13.04.20111 Sheet 9



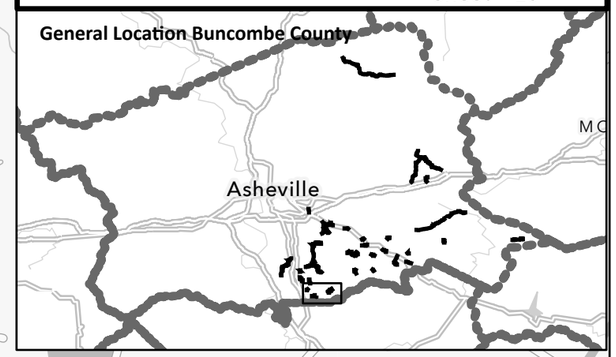


MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
26	SR 3167 (MOUNT ROYAL DRIVE /LAUREL COURT/LAUREL ROAD/IVEY COURT)	SR 3162 (ROYAL PINES DRIVE)	SR3167 (RHODODENDRON DRIVE)	0.52
27	SR 3217 (GLEN ARDEN ELEMENTARY SCHOOL)	SR 3217 (SAINT JOHNS STREET)	SR 3217 (SAINT JOHNS STREET)	0.01
33	SR 3282 (BREEZEWAY DRIVE)	SR 3256 (TUCKAWAY DRIVE)	END OF STATE MAINTENANCE	0.14
39	SR 3318 (SPRING COVE COURT)	BEGIN OF STATE MAINTENANCE	END OF STATE MAINTENANCE	0.06

0 0.25 0.5 Miles

N

WBS - 2027CPT.13.04.20111 Sheet 10



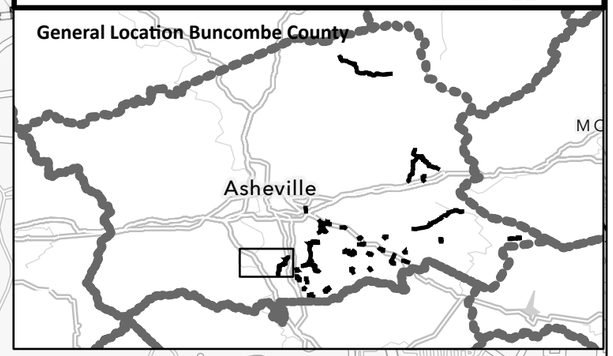
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

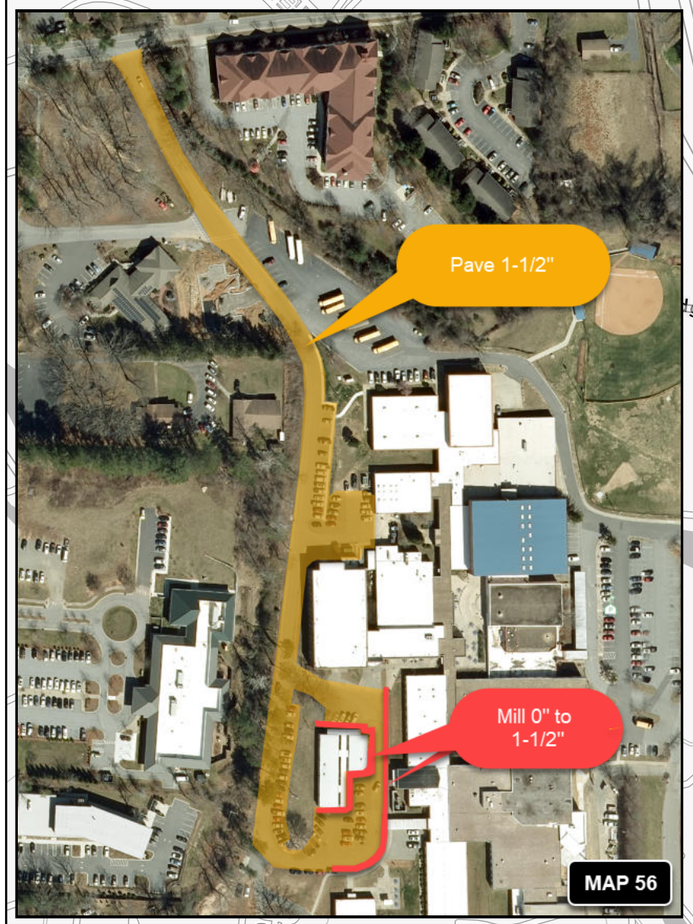
MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
35	SR 3300 (WHITE PINE CIRCLE)	SR 3221 (WHITE PINE DRIVE)	SR 3221 (WHITE PINE DRIVE)	0.86
36	SR 3301 (WHITE PINE WAY)	SR 3300 (WHITE PINE CIRCLE)	SR 3300 (WHITE PINE CIRCLE)	0.13
37	SR 3302 (BALDWIN COURT)	SR 3189 (BALDWIN ROAD)	SR 3315 (MEADOWS CIRCLE)	0.17
38	SR 3305 (WOODHAVEN DRIVE)	SR 3187 (PENSACOLA AVENUE)	END OF STATE MAINTENANCE	0.11
44	SR 3342 (SPRINGFIELD WAY)	SR 3189 (BALDWIN ROAD)	CUL DE SAC	0.1
46	SR 3347 (EMERALD COURT)	SR 3189 (BALDWIN ROAD)	CUL DE SAC	0.07

0 0.25 0.5 Miles

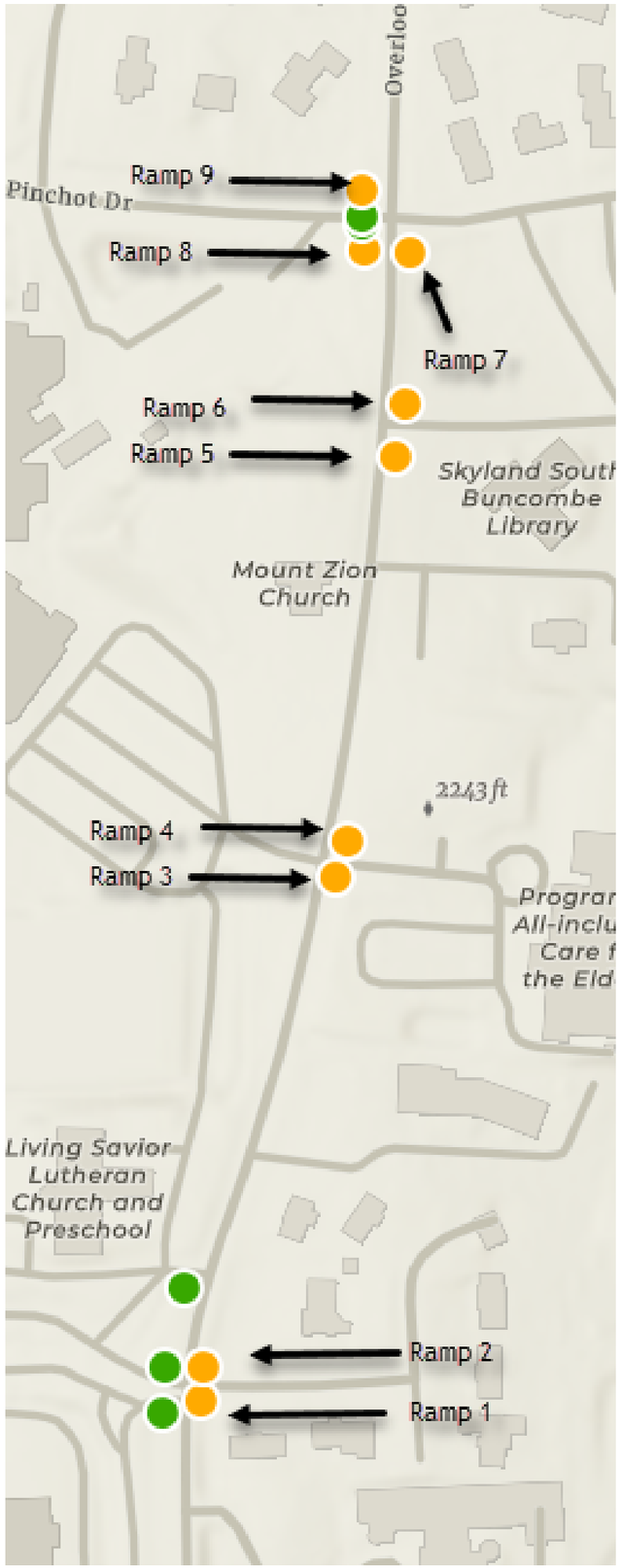
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WBS - 2027CPT.13.04.20111 Sheet 11

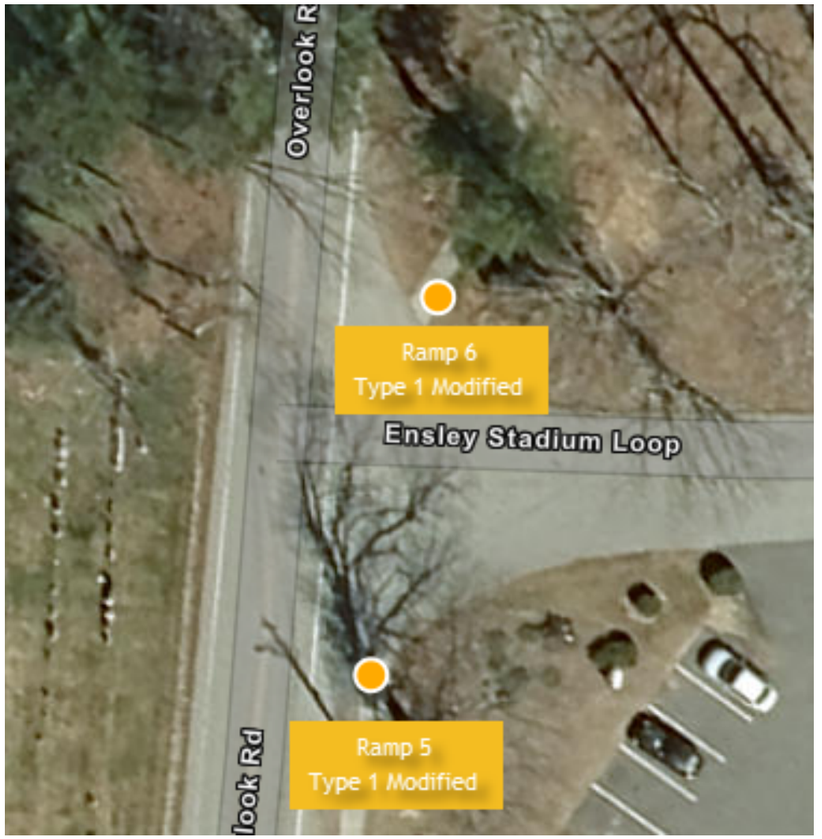


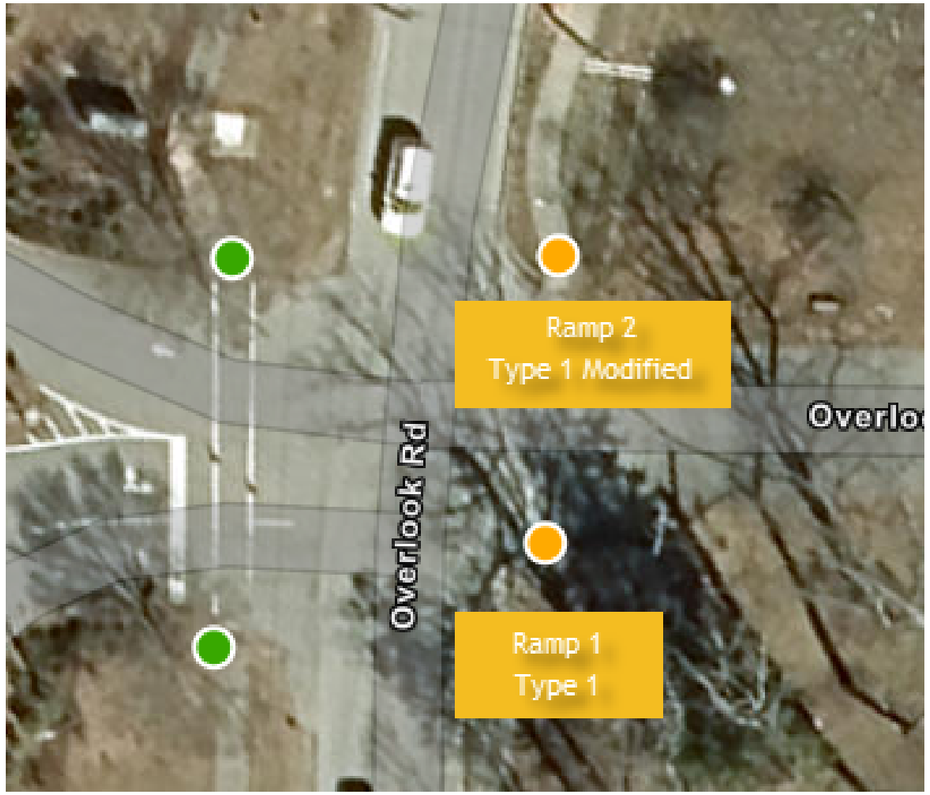


MAP	ENGLISH_RO	FROM_DESC	TO_DESC	LENGTH
56	SR 3503 (TC ROBERSON HIGH SCHOOL)	SPRINGSIDE ROAD (CITY)	SPRINGSIDE ROAD (CITY)	0.1
57	SR 3503 (OVERLOOK ROAD)	US 25 (HENDERSONVILLE ROAD)	NC 146 (LONG SHOALS ROAD)	1.86
58	SR 3503 (OVERLOOK ROAD EXTENSION)	NC 146 (LONG SHOALS ROAD)	END OF MAINTENANCE	0.06







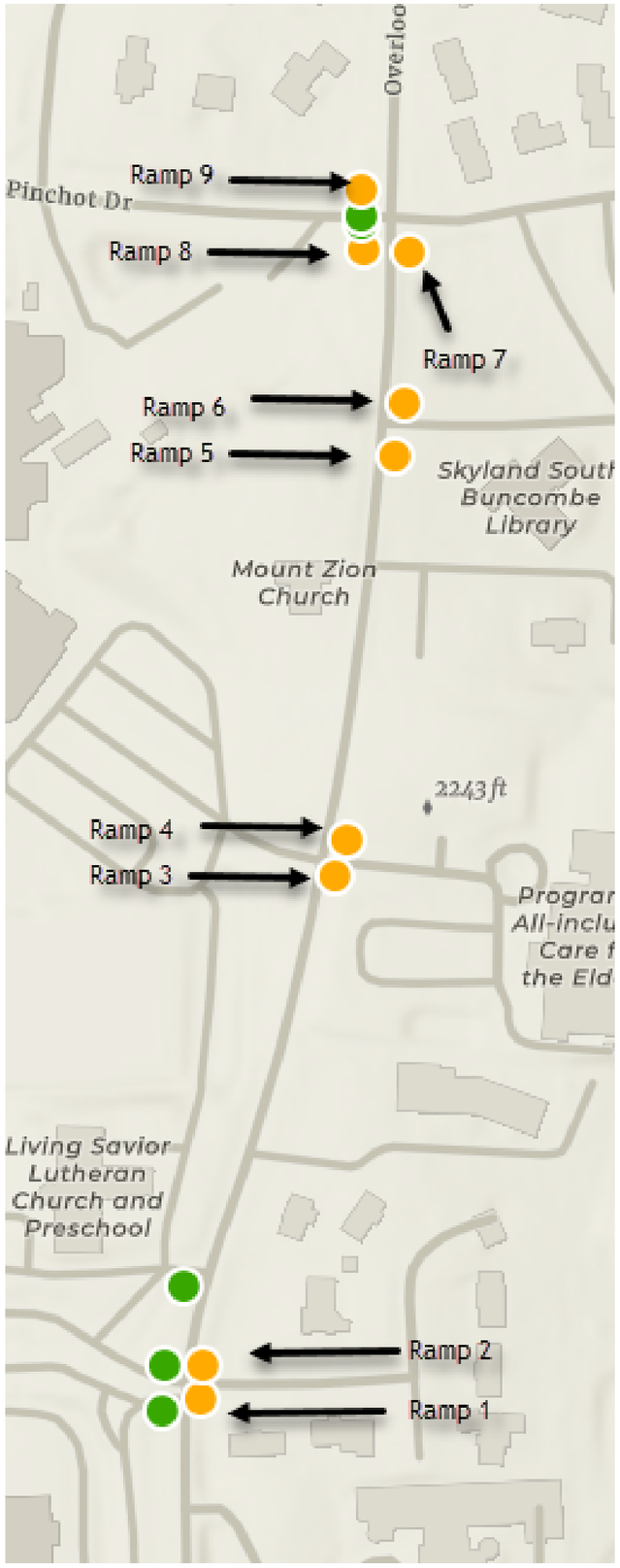


REMOVE AND REPLACE

N

SR 3503 OVERLOOK ROAD
WBS NUMBER
2027CPT.13.04.20111
SHEET 12
FROM US 25
TO NC 146 (LONG SHOALS ROAD)

NORTH CARLOINA DEPARTMENT
OF TRANSPERTATION DIVISION 13





REMOVE AND REPLACE

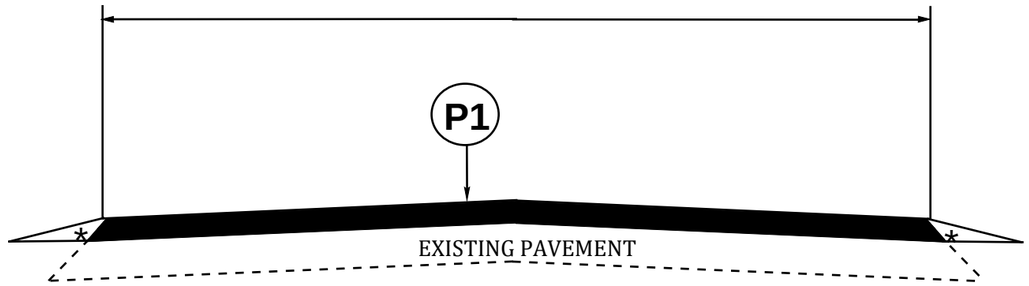
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SR 3503 OVERLOOK ROAD
WBS NUMBER
2027CPT.13.04.20111
SHEET 13
FROM US 25
TO NC 146 (LONG SHOALS ROAD)

NORTH CARLOINA DEPARTMENT
OF TRANSPERTATION DIVISION 13

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	14

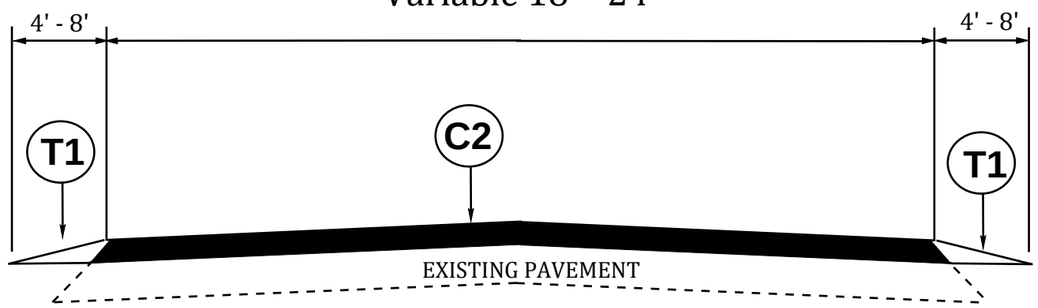
18'



TYPICAL SECTION #1

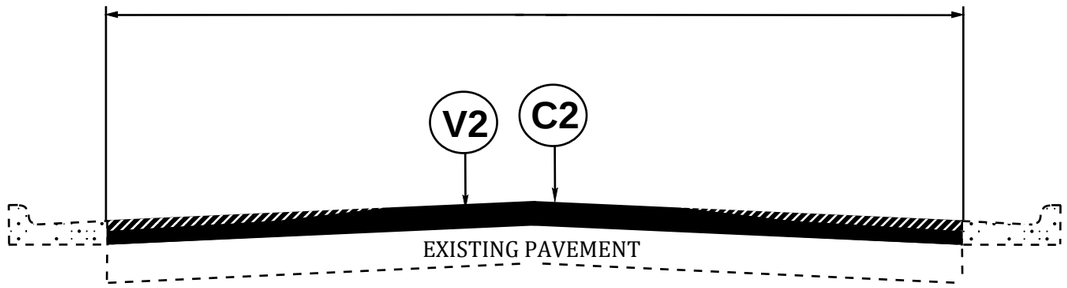
* EXISTING SHOULDERS

Variable 18' - 24'



TYPICAL SECTION #2

Variable 20' - 24'

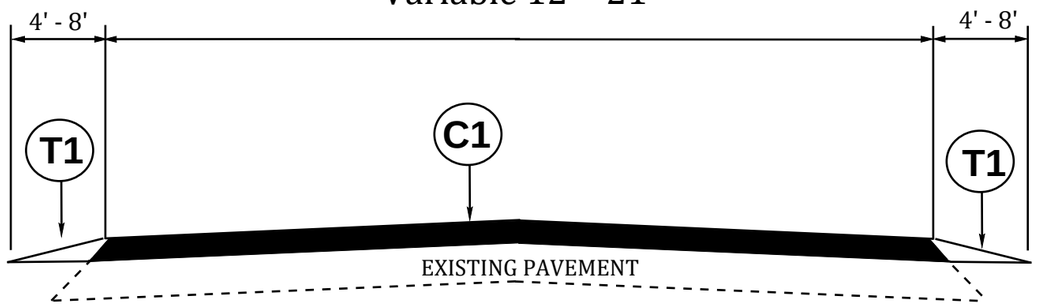


TYPICAL SECTION #3

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
P1	PATCHING ONLY
T1	SHOULDER RECONSTRUCTION
V2	MILLING ASPHALT PAVEMENT 1-1/2" DEPTH
V3	MILLING ASPHALT PAVEMENT 0" TO 1-1/4"
V4	MILLING ASPHALT PAVEMENT 0" TO 1-1/2"
V5	INCIDENTAL MILLING

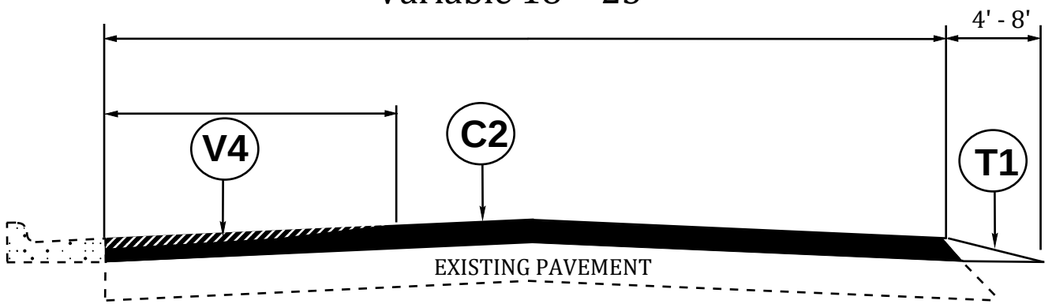
PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	15

Variable 12' - 21'



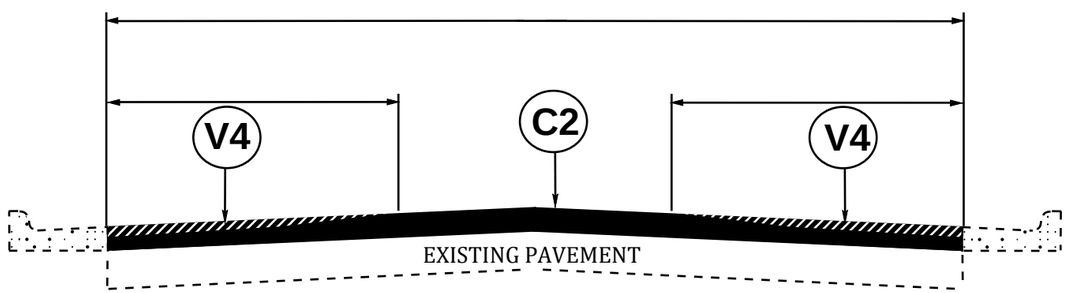
TYPICAL SECTION #4

Variable 18' - 25'



TYPICAL SECTION #5

Variable 20' - 24'

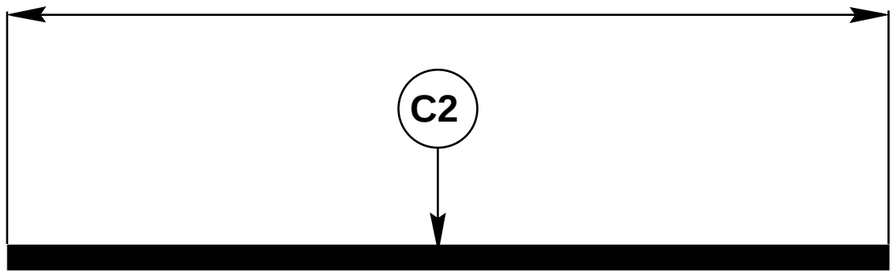


TYPICAL SECTION #6

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
P1	PATCHING ONLY
T1	SHOULDER RECONSTRUCTION
V2	MILLING ASPHALT PAVEMENT 1-1/2" DEPTH
V3	MILLING ASPHALT PAVEMENT 0" TO 1-1/4"
V4	MILLING ASPHALT PAVEMENT 0" TO 1-1/2"
V5	INCIDENTAL MILLING

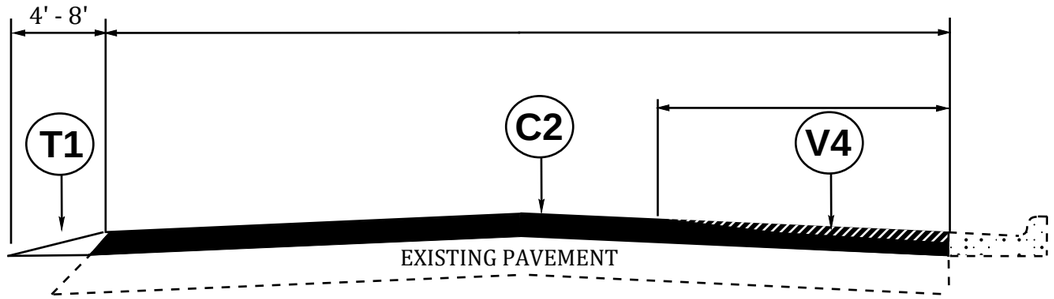
PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	16

Variable 18' - 30'



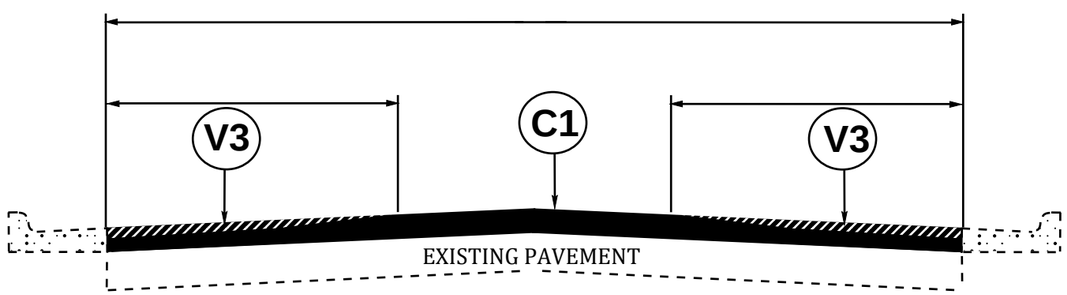
TYPICAL SECTION #7

Variable 12' - 21'



TYPICAL SECTION #8

Variable 20' - 24'



TYPICAL SECTION #9

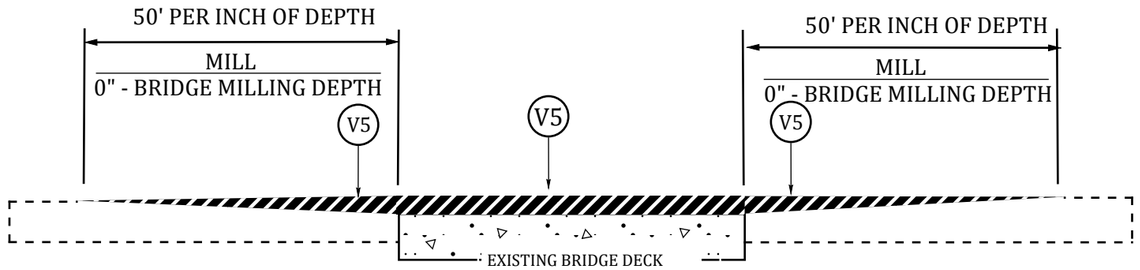
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
P1	PATCHING ONLY
T1	SHOULDER RECONSTRUCTION
V2	MILLING ASPHALT PAVEMENT 1-1/2" DEPTH
V3	MILLING ASPHALT PAVEMENT 0" TO 1-1/4"
V4	MILLING ASPHALT PAVEMENT 0" TO 1-1/2"
V5	INCIDENTAL MILLING

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	17

BRIDGE DATA

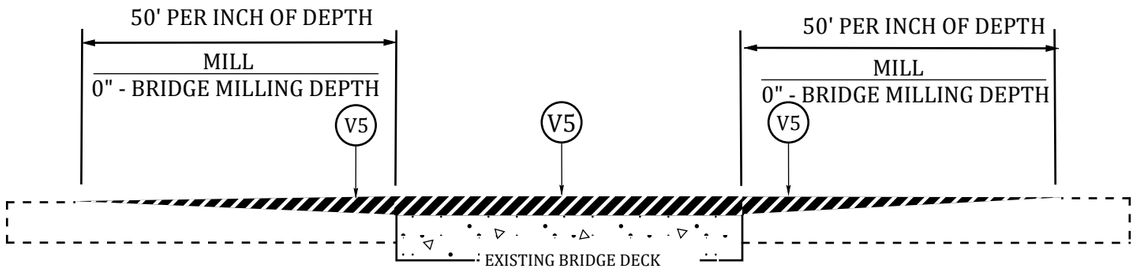
Map No.	Route No.	Route Name	Bridge No.	Recommended Treatment, From Bridge Maintenance
8	2776	OLD FORT / CHESTNUT HILL ROAD	100117	Mill and resurface.
11	2815	VILLAGE ROAD	100100	Mill and resurface.
22	3121	PINNERS COVE ROAD	100177	COORDINATE WITH BRIDGE MAINTENANCE TO REMOVE EXISTING ASPHALT 15 DAYS BEFORE RESURFACING BEGINS.

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	18



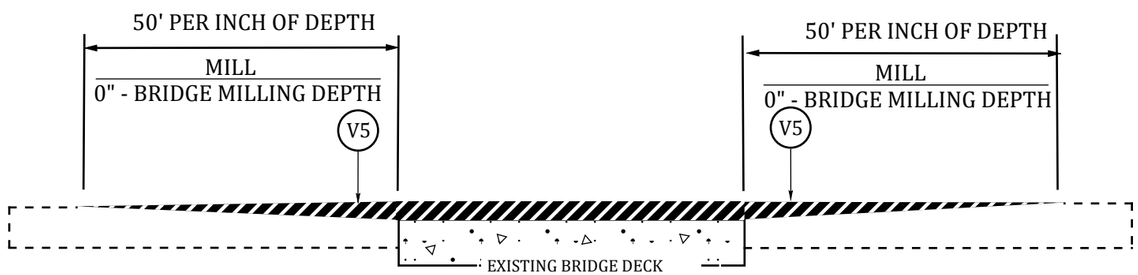
MILLING DETAIL AT BRIDGE APPROACHES

WHERE BRIDGES WILL BE MILLED THEN RESURFACED.
THIS WILL BE PAID FOR AS INCIDENTAL MILLING.
USE AT BRIDGE NUMBER: 117 MAP 8.



MILLING DETAIL AT BRIDGE APPROACHES

WHERE BRIDGES WILL BE MILLED THEN RESURFACED.
THIS WILL BE PAID FOR AS INCIDENTAL MILLING.
USE AT BRIDGE NUMBER: 100 MAP 11.



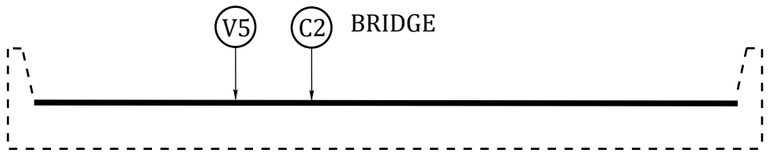
* COORDINATE WITH BRIDGE MAINTENANCE TO REMOVE EXISTING ASPHALT 15 DAYS BEFORE RESURFACING BEGINS.

MILLING DETAIL AT BRIDGE APPROACHES

WHERE BRIDGES WILL BE MILLED THEN RESURFACED.
THIS WILL BE PAID FOR AS INCIDENTAL MILLING.
USE AT BRIDGE NUMBER: 177 MAP 22.

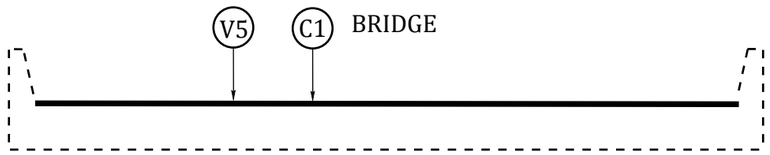
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
P1	PATCHING ONLY
T1	SHOULDER RECONSTRUCTION
V2	MILLING ASPHALT PAVEMENT 1-1/2" DEPTH
V3	MILLING ASPHALT PAVEMENT 0" TO 1-1/4"
V4	MILLING ASPHALT PAVEMENT 0" TO 1-1/2"
V5	INCIDENTAL MILLING

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	19



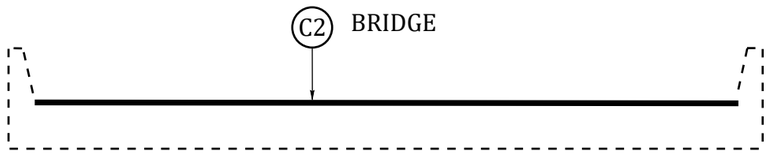
BRIDGE DETAIL

.BRIDGE NUMBER 117 MAP 8
SEE MAP FOR BRIDGE LOCATION.



BRIDGE DETAIL

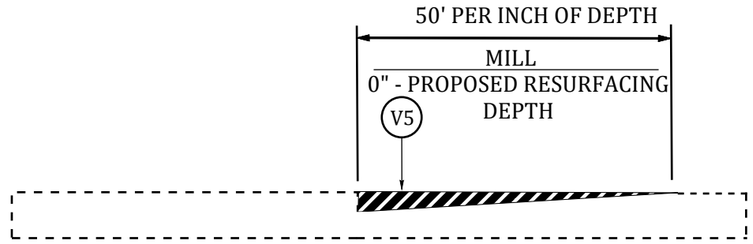
BRIDGE NUMBER 100 MAP 11.
SEE MAP FOR BRIDGE LOCATION.



BRIDGE DETAIL

BRIDGE NUMBER 177 MAP 22.
SEE MAP FOR BRIDGE LOCATION.

* COORDINATE WITH BRIDGE MAINTENANCE TO REMOVE EXISTING ASPHALT 15 DAYS BEFORE RESURFACING BEGINS.

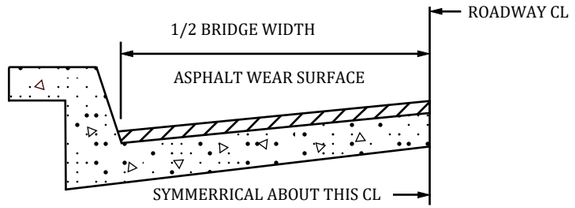


MILLING DETAIL TO TIE INTO EXIST PAVEMENT

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING, END AND Y LINES OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC SURFACE COURSE, TYPE 9.5B OR S9.5C. THIS WILL BE PAID FOR AS INCIDENTAL MILLING.

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD
C2	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD
P1	PATCHING ONLY
T1	SHOULDER RECONSTRUCTION
V2	MILLING ASPHALT PAVEMENT 1-1/2" DEPTH
V3	MILLING ASPHALT PAVEMENT 0" TO 1-1/4"
V4	MILLING ASPHALT PAVEMENT 0" TO 1-1/2"
V5	INCIDENTAL MILLING

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	20



BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN.

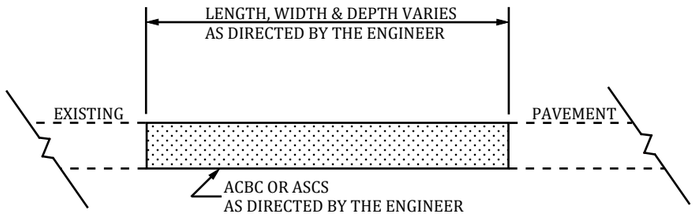
THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. THE MINIMUM THICKNESS SHOULD DEPEND ON PAVEMENT TYPE AS FOLLOWS: S4.75A 1/2", S9.5B 1", S9.5C,D 1.5" - 2". ULTRA-THIN HOT MIX ASPHALT ".

NOTES

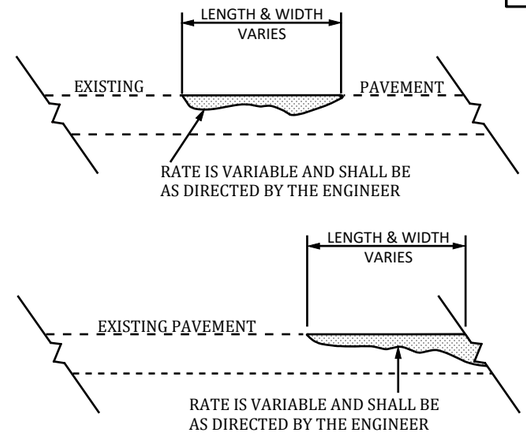
EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE TABLE OF QUANTITIES.

SHOULDERS AND DITCHES ARE TO BE CONSTRUCTED BY OTHERS UNLESS OTHERWISE INDICATED.

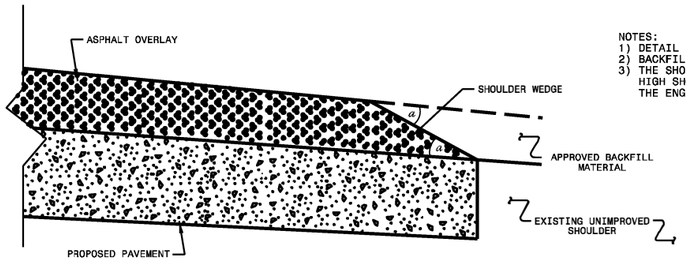
BRIDGES ARE TO BE RESURFACED AT LOCATIONS AND TO DEPTH AS DIRECTED BY THE ENGINEER.



PATCHING EXISTING PAVEMENT

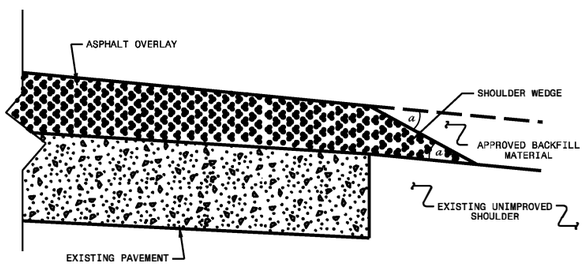


DETAIL SHOWING METHOD OF WEDGING

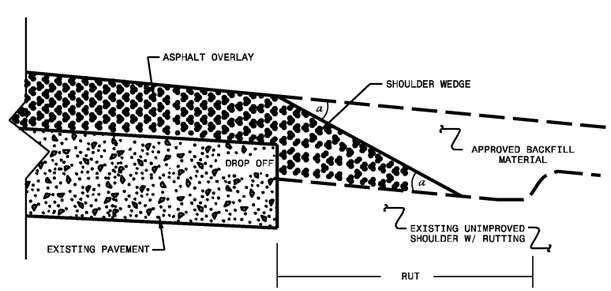


NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS DIRECTED BY THE ENGINEER.

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)

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	21

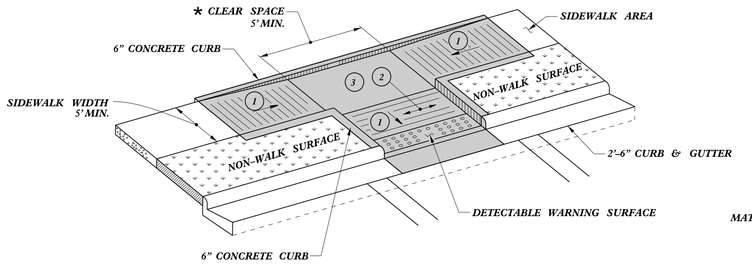
Curb Ramp Data

Map No	Route	Route Name	Ramp No	Latitude	Logitude	Recommended Type
57	SR 3503	Overlook Road	1	35.484804	-82.538542	Type 1
57	SR 3503	Overlook Road	2	35.484924	-82.538536	Type 1 Modified
57	SR 3503	Overlook Road	3	35.486703	-82.537940	Type 1 Modified
57	SR 3503	Overlook Road	4	35.486837	-82.537895	Type 3 Modified
57	SR 3503	Overlook Road	5	35.488233	-82.537676	Type 1 Modified
57	SR 3503	Overlook Road	6	35.488424	-82.537634	Type 1 Modified
57	SR 3503	Overlook Road	7	35.488978	-82.537614	Type 2B
57	SR 3503	Overlook Road	8	35.488991	-82.537811	Type 2B
57	SR 3503	Overlook Road	9	35.489202	-82.537823	Type 2B

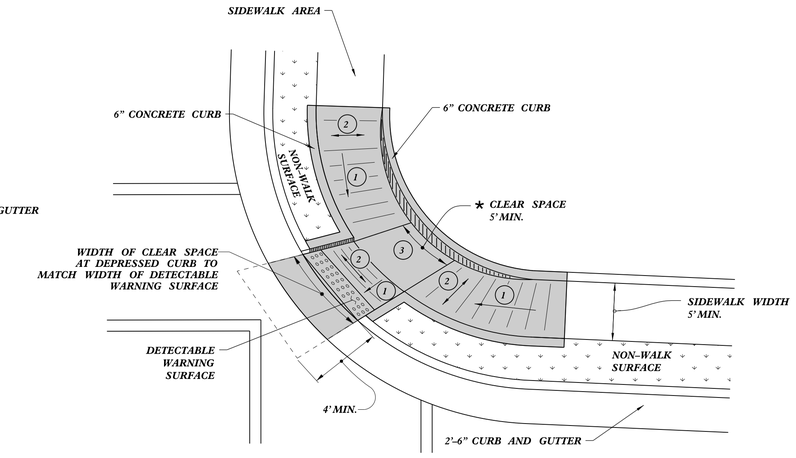
Docusign Envelope ID: 533E2B89-B382-8066-82B8-357C80406C20

PROJECT REFERENCE NO.	SHEET NO.
2027CPT.13.04.20111	22

* – *WHERE CLEAR SPACE IS CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4'MINIMUM X 5'MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.*



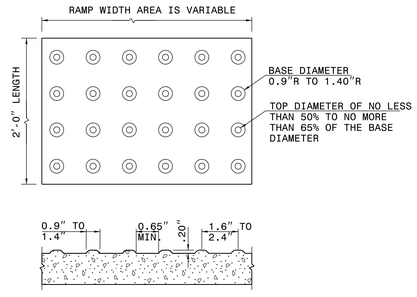
TYPE 3



TYPE 3 MODIFIED
INSTALLATION IN A RADIUS

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.

DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

(1) *8.33% (12:1) MAX RAMP SLOPE*

(2) *CROSS SLOPE: 2.00%*

(3) *MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.*

PAY LIMITS FOR 1 CURB RAMP

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

ROADWAY DETAIL DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF13

848D06

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M HACKLER

Signed by:
Nicole M. Hackler
5884323D34164C5...

10/22/2026

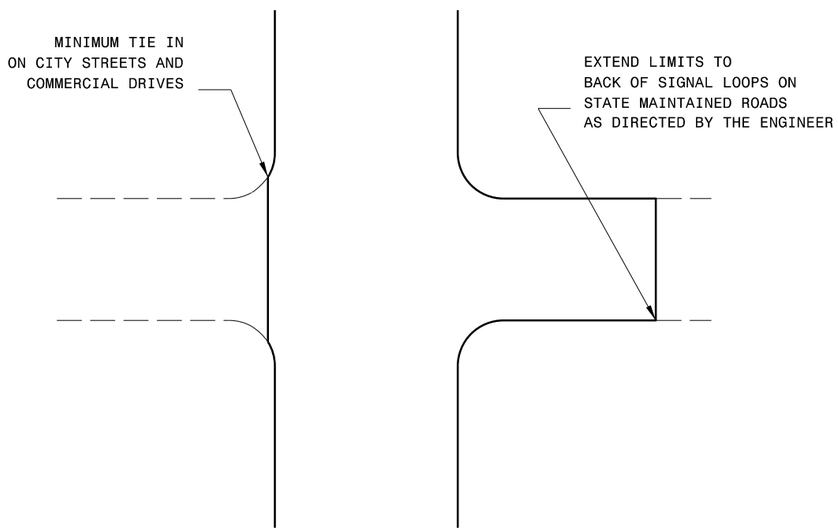
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

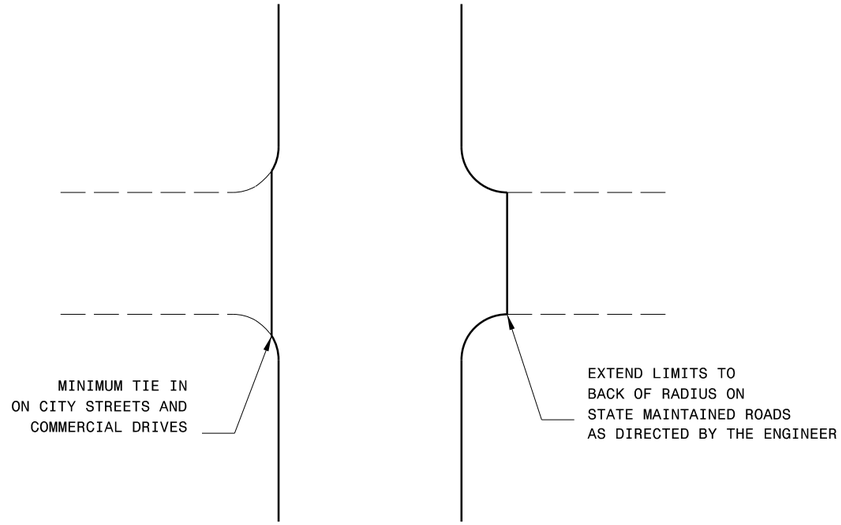
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 12-22-2023
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: special details\nmhackler\D0609.dgn

PROJECT REFERENCE NO.	SHEET NO.
2027CPT.13.04.20111	23



TYPICAL DETAIL OF PROJECT LIMITS AT
SIGNALIZED Y LINES

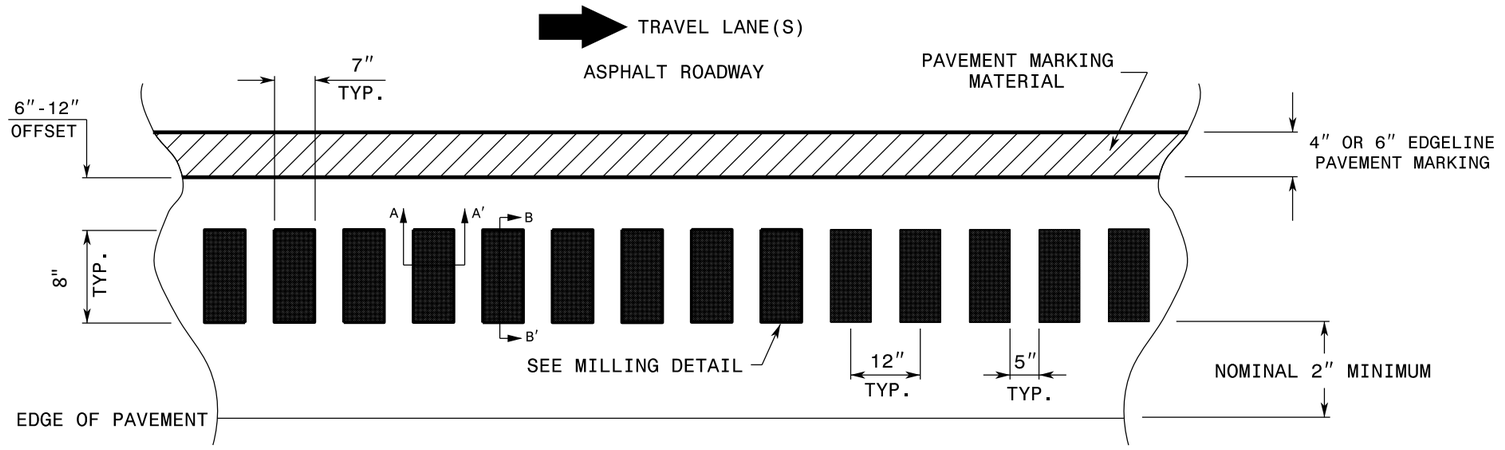


TYPICAL DETAIL OF PROJECT LIMITS AT
UNSIGNALIZED Y LINES

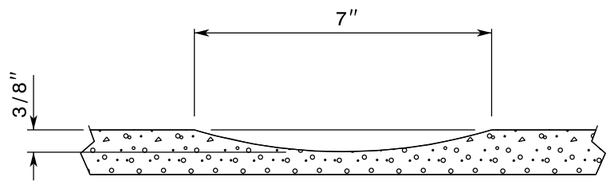
ADDITIONAL INTERSECTIONS (NON-TYPICAL)		
Extend paving limits to back of radius or loop on the following intersections:		
MAP#	STREET NAME	COMMENTS
ALL MAPS	ALL STREETS	50' TYPICAL
		EXTEND PAVING LIMITS PAST BACK OF INITIAL
		SET OF SIGNAL LOOPS OR CONCRETE ISLAND
		5' WHEN PRESENT ON SR ROADS AS DIRECTED
		BY ENGINEER
		FOLLOW DETAILS ABOVE FOR TIE - INS ON ALL
		CITY STREETS AND COMMERCIAL DRIVES

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	24

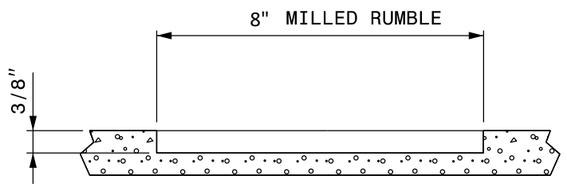
See Table 1 within Rumble Strip Policy for Design Guidance



MILLING DETAIL:



SECTION A-A′



SECTION B-B′

REFERENCE DRAWING ID: Trad.Strip

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

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

SHEET 1 OF 9

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

Signed by: William C Carver
163525A8519349F...
10/23/2026

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

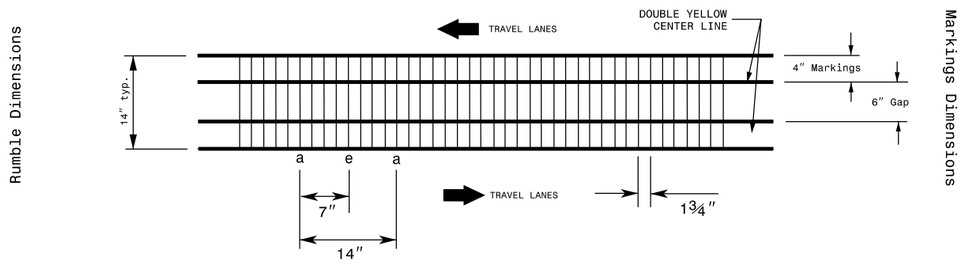
SEE TITLE BLOCK

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

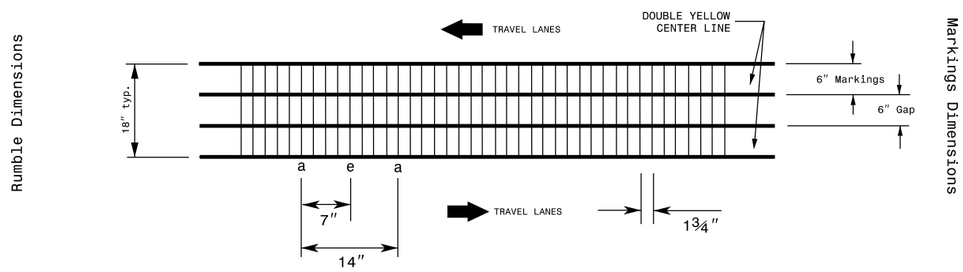
PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	25

See Table 2 within Rumble Strip Policy for Design Guidance

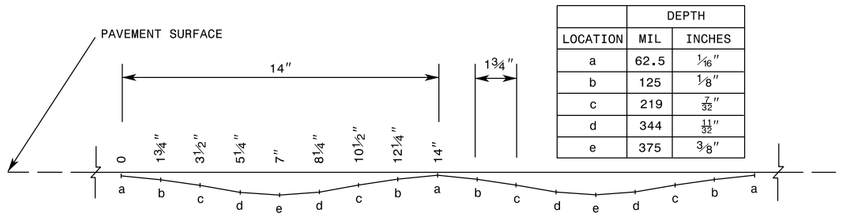
If 4″ Markings will be used:



If 6″ Markings will be used:



PROFILE:



	DEPTH	
LOCATION	MIL	INCHES
a	62.5	1/16″
b	125	1/8″
c	219	7/32″
d	344	11/32″
e	375	3/8″

REFERENCE DRAWING ID: Sin.CL

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*
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.

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

ROADWAY DETAIL DRAWING FOR

RUMBLE STRIPS / STRIPES

SINUSOIDAL CENTERLINE RUMBLE STRIPE

SHEET 6 OF 9

NORTH CAROLINA PROFESSIONAL SEAL 041993 ENGINEER WILLIAM C. CARVER

Signed by: William C Carver
163525A8519349F...

10/23/2026

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.: _____

PROJECT NO.	SHEET NO.	TOTAL NO.
2027CPT.13.04.20111		
	28	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1220000000-E INCIDENTAL STONE BASE	1245000000-E SHOULDER RECONSTRUCTION	1260000000-E AGGREGATE SHOULDER BORROW	1297000000-E MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH	1308000000-E MILLING ASPHALT PAVEMENT, 0" TO 1-1/2"	1308000000-E MILLING ASPHALT PAVEMENT, 0" TO 1-1/4"	1330000000-E INCIDENTAL MILLING	1519000000-E ASPHALT CONC SURFACE COURSE, TYPE S9.5B	1520000000-E LEVELING COURSE, TYPE S9.5B	1575000000-E ASPHALT BINDER FOR PLANT MIX	1704000000-E PATCHING EXISTING PAVEMENT	1881000000-E SINUSOIDAL MILLED RUMBLE STRIPS 8" (EDGELINE)	1881000000-E SINUSOIDAL MILLED RUMBLE STRIPS 18" (CENTERLINE)	2612500000-N REMOVE AND REPLACE CONCRETE CURB RAMPS	2738000000-E GENERIC PAVING ITEM, REMOVE AND REPLACE 4" CONCRETE SIDEWALK	2752000000-E GENERIC PAVING ITEM, REMOVE AND REPLACE 2'-6" CONCRETE CURB & GUTTER	2830000000-N ADJUSTMENT OF MANHOLES	2845000000-N ADJUSTMENT OF METER BOXES OR VALVE BOXES	7444000000-E INDUCTIVE LOOP SAWCUT	7456100000-E LEAD-IN CABLE (14-2)
								MI	FT			TON	SMI	TON	SY	SY	SY	SY	TON	TONS	TON	TON	LF	LF	EA	SY	LF	EA	EA	LF	LF
2027CPT.13.04.20111	BUNCOMBE	1	SR 2173 (DILLINGHAM ROAD)	FROM NC 197 TO END OF MAINTENANCE	1	2	2WU	4.95	18.00	0.00	4.95	5									35	728									
		2	SR 2474 (NORTH FORK ROAD)	FROM SR 2435 (OLD US 70) TO NC 9	2	2	2WU	4.76	19.00	0.01	4.77	140	9.52	1,238				2,514	4,844		329	293							15	5		
		3	SR 2500 (NORTH BLUE RIDGE ROAD)	FROM SR 2435 OLD US 70 TO US 70	3	2	2WU	0.03	28.00	0.89	0.92	5			493				45		3	11									
		4	SR 2500 (NORTH BLUE RIDGE ROAD)	FROM SR 2473 (CRAIGMONT ROAD) TO SR 2435 OLD US 70 (OLD US 70)	3	2	2WU	0.46	19.00	0.42	0.88	11			5,128						30	11							2			
		5	SR 2576 (NORTH FORK LEFT FORK)	FROM SR 2474 (NORTH FORK ROAD) TO MP 0.84	2	2	2WU	0.84	20.00	0.00	0.84	22	1.68	219				220	873	300	79	58								4		
		6	SR 2771 (OLD CHARLOTTE HIGHWAY)	FROM US 74 TO SR 2772 (JUNE SAYLES ROAD)	2, 5	2	2WU	0.31	18.50	0.01	0.32	6	0.51	66		400		786	325		23	49							2	1	144	20
		7	SR 2773 (OLD CHARLOTTE HIGHWAY)	FROM US 74 ALTERNATE TO US 74 ALTERNATE	2	2	2WU	0.30	18.00	0.01	0.31	5	0.60	78				375	281		20	26										
		8	SR 2776 (OLD FORT / CHESTNUT HILL ROAD)	FROM SR 2785 (DYE LEAF ROAD) TO NC 9	2	2	2WU	4.59	21.00	5.53	10.12	142	9.18	1,194				2,707	5,119		369	765										
		9	SR 2791 (OLD FORT ROAD)	FROM SR 2755 (STONE MOUNTAIN FARM ROAD) TO SR 2794 (CAMP ELLIOTT ROAD)	2	2	2WU	0.96	19.00	2.20	3.16	10	1.92	250				488	947		71	202										
		10	SR 2813 (SUGAR HOLLOW / BUTTERROW COVE ROAD)	FROM US 74 TO END OF MAINTENANCE	4	2	2WU	0.40	18.00	0.01	0.41	12	0.80	130				450	329		25	69										
		11	SR 2815 (VILLAGE ROAD)	FROM US 74 TO US 74	4	2	2WU	0.35	18.00	0.01	0.36	5	0.70	91				1,790	304		24	85								2		
		12	SR 2840 (EASTCREST DRIVE)	FROM US 74 ALTERNATE TO SR 2841 (EASTRIDGE COURT)	4	2	2WU	0.13	19.50	0.01	0.14	5	0.26	34				200	110		8	26										
		13	SR 2841 (EASTRIDGE COURT)	FROM CUL DE SAC TO CUL DE SAC	4	2	2WU	0.11	18.00	0.00	0.11	16	0.22	29				120	130		9	20								2		
		14	SR 2850 (GARRISON ROAD)	FROM SR 2806 (GARREN CREEK ROAD) TO END OF MAINTENANCE	2	2	2WU	0.41	18.00	0.01	0.42	20	0.82	107				400	384		26	29										
		15	SR 2862 (OLD CHARLOTTE HIGHWAY)	FROM US 74 ALTERNATE TO END OF MAINTENANCE	2	2	2WU	0.35	18.00	0.04	0.39	5	0.70	91				1,244	475	20	34	40							5			
		16	SR 2884 (COBBLE HILL ROAD)	FROM SR 2810 (HOLLYWOOD ROAD) TO CUL DE SAC	4	2	2WU	0.13	12.00	0.01	0.14	5	0.26	34				130	75		6	20										
		17	2887 (SMITH KNOLLS ROAD)	FROM US 74 ALTERNATE TO END OF MAINTENANCE	2	2	2WU	1.00	19.00	0.01	1.01	5	2.00	260				316	987		65	27										
		18	SR 2891 (OLDE EASTWOOD VILLAGE BOULEVARD)	FROM SR 2771 (OLD CHARLOTTE HIGHWAY) TO CUL DE SAC	3	2	2WU	0.18	20.00	0.00	0.18	5			3,201				289		19	11							8			
		19	SR 2895 (NUTHATCH COURT)	FROM SR 2816 (CHURCH ROAD) TO CUL DE SAC	4	2	2WU	0.28	19.00	0.01	0.29	5	0.56	73				212	257		21	80										
		20	SR 2896 (CHICKADEE LANE)	FROM SR 2816 (CHURCH ROAD) TO SR 2895 (NUTHATCH COURT)	4	2	2WU	0.09	18.50	0.01	0.10	5	0.18	24				205	75		7	35										
		21	SR 3117 (SCHOOL ROAD)	FROM SR 3121 (PINNERS COVE ROAD) TO SR 3150 (CONCORD ROAD)	2	2	2WU	0.79	18.00	0.01	0.80	34	1.58	206				400	757		62	273										
		22	SR 3121 (PINNERS COVE ROAD)	FROM SR 3119 (MERRILLS COVE ROAD) TO SR 3116 (MILLS GAP ROAD)	2	2	2WU	3.73	21.00	2.24	5.97	74	6.74	876				2,042	4,224		305	626								2		
		23	SR 3121 (ROSE HILL ROAD)	FROM US 74A PAVEMENT JOINT TO SR 3074 (BEE RIDGE ROAD) TO PAVEMENT JOINT	2	2	2WU	1.17	20.00	0.03	1.20	10	2.34	304				1,052	1,300		90	117							1		288	54
		24	SR 3128 (OLD GAP CREEK ROAD)	FROM SR 3133 (SHARON ROAD) TO SR 3127 (EMMAS GROVE ROAD)	2	2	2WU	0.46	19.00	0.01	0.47	26	0.92	120				446	488		43	232								3		
		25	SR 3131 (LYTLE ROAD)	FROM SR 3128 (EMMAS GROVE ROAD) TO END OF MAINTENANCE	4	2	2WU	0.36	18.50	0.01	0.37	5	0.72	94				360	366		26	38										
		26	SR 3167 (MOUNT ROYAL DRIVE /LAUREL COURT/ LAUREL ROAD/IVEY COURT)	FROM SR 3162 (ROYAL PINES DRIVE) TO SR3167 (RHODODENDRON DRIVE)	4	2	2WU	0.52	18.00	0.01	0.53	14	1.04	135				702	403		40	282							3	2		
		27	SR 3217 (GLEN ARDEN ELEMENTARY SCHOOL)	FROM SR 3217 (SAINT JOHNS STREET) TO SR 3217 (SAINT JOHNS STREET)	5, 7	2	2WU	0.01	25.00	1.19	1.20		0.58	76		328		275	551		36	12										

PROJECT NO.	SHEET NO.	TOTAL NO.
2027CPT.13.04.20111	29	

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	1220000000-E INCIDENTAL STONE BASE	1245000000-E SHOULDER RECONSTRUCTION	1260000000-E AGGREGATE SHOULDER BORROW	1297000000-E MILLING ASPHALT PAVEMENT, 1-1/2" DEPTH	1308000000-E MILLING ASPHALT PAVEMENT, 0" TO 1-1/2"	1308000000-E MILLING ASPHALT PAVEMENT, 0" TO 1-1/4"	1330000000-E INCIDENTAL MILLING	1519000000-E ASPHALT CONC SURFACE COURSE, TYPE S9.5B	1520000000-E LEVELING COURSE, TYPE S9.5B	1575000000-E ASPHALT BINDER FOR PLANT MIX	1704000000-E PATCHING EXISTING PAVEMENT	1881000000-E SINUSOIDAL MILLED RUMBLE STRIPS 8" (EDGELINE)	1881000000-E SINUSOIDAL MILLED RUMBLE STRIPS 18" (CENTERLINE)	2612500000-N REMOVE AND REPLACE CONCRETE CURB RAMPS	2738000000-E GENERIC PAVING ITEM, REMOVE AND REPLACE 4" CONCRETE SIDEWALK	2752000000-E GENERIC PAVING ITEM, REMOVE AND REPLACE 2'-6" CONCRETE CURB & GUTTER	2830000000-N ADJUSTMENT OF MANHOLES	2845000000-N ADJUSTMENT OF METER BOXES OR VALVE BOXES	7444000000-E INDUCTIVE LOOP SAWCUT	7456100000-E LEAD-IN CABLE (14-2)
								MI	FT			TON	SMI	TON	SY	SY	SY	SY	TON	TONS	TON	TON	LF	LF	EA	SY	LF	EA	EA	LF	LF
2027CPT.13.04.20111	BUNCOMBE	28	SR 3231 (REYNOLDS SCHOOL ROAD)	FROM SR 3121 (ROSE HILL ROAD) TO END OF STATE MAINTENANCE	4	2	2WU	0.79	18.50	0.00	0.79	54	1.58	205					662		50	142							7		
		29	SR 3268 (REYNOLDA DRIVE)	FROM SR 3231 (REYNOLDS SCHOOL ROAD) TO CUL DE SAC	4	2	2WU	0.22	21.00	0.00	0.22	5	0.44	57				635	248		17	11									
		30	SR 3277 (FOREST RUN DRIVE)	FROM SR 3121 (PINNERS COVE ROAD) TO CUL DE SAC	6	2	2WU	0.24	24.00	0.01	0.25					844		159	312		24	68									
		31	SR 3279 (REYNOLDS MIDDLE SCHOOL)	FROM SR 3279 (CHARLES A LYTLE LANE) TO HIGH SCHOOL ROAD INTERSECTION	5, 7	2	2WU	0.01	18.00	0.12	0.13		0.34	45		175		300	372		25	11									
		32	SR 3279 (CHARLES A LYTLE LANE)	FROM US 74 ALTERNATE PAVEMENT JOINT TO END OF MAINTENANCE	2, 8	2	2WU	0.11	22.00	0.02	0.13		0.22	28		35		325	126		11	52									
		33	SR 3282 (BREEZEWAY DRIVE)	FROM SR 3256 (TUCKAWAY DRIVE) TO END OF STATE MAINTENANCE	2, 6	2	2WU	0.14	20.00	0.00	0.14	5	0.28	36		166		225	173		13	36									
		34	SR 3290 (FOX RIDGE DRIVE)	FROM SR 3128 (EMMAS GROVE ROAD) TO CUL DE SAC	4	2	2WU	0.33	18.00	0.01	0.34	5	0.66	86				129	300		21	35									
		35	SR 3300 (WHITE PINE CIRCLE)	FROM SR 3221 (WHITE PINE DRIVE) TO SR 3221 (WHITE PINE DRIVE)	4	2	2WU	0.86	20.00	0.01	0.87	5	1.72	224				250	757		53	72									
		36	SR 3301 (WHITE PINE WAY)	FROM SR 3300 (WHITE PINE CIRCLE) TO SR 3300 (WHITE PINE CIRCLE)	4	2	2WU	0.13	20.00	0.00	0.13	5	0.26	34					115		8	11									
		37	SR 3302 (BALDWIN COURT)	FROM SR 3189 (BALDWIN ROAD) TO SR 3315 (MEADOWS CIRCLE)	4	2	2WU	0.17	19.00	0.01	0.18	20	0.34	45				190	171		13	36									
		38	SR 3305 (WOODHAVEN DRIVE)	FROM SR 3187 (PENSACOLA AVENUE) TO END OF STATE MAINTENANCE	2	2	2WU	0.11	20.00	0.00	0.11	5	0.38	49					160		11	11									
		39	SR 3318 (SPRING COVE COURT)	FROM BEGIN OF STATE MAINTENANCE TO END OF STATE MAINTENANCE	9	2	2WU	0.06	20.00	0.00	0.06	5					1,192	115	212		14	11									
		40	SR 3326 (WESTON HEIGHTS DRIVE)	FROM SR 3150 (CONCORD ROAD) TO CUL DE SAC	9	2	2WU	0.46	20.00	0.01	0.47	5					3,239	125	429		32	85									
		41	SR 3327 (MEADOW WOOD TRAIL)	FROM SR 3131 (LYTLE ROAD) TO CUL DE SAC	2	2	2WU	0.34	20.00	0.00	0.34	5	0.68	88				479	378		27	53								1		
		42	SR 3335 (MEADOW BROOK DRIVE)	FROM SR 3327 (MEADOW WOOD TRAIL) TO SR 3327 (MEADOW WOOD TRAIL)	4	2	2WU	0.46	18.50	0.00	0.46	5	0.92	120					384		28	62								3		
		43	SR 3336 (WESTON PLACE)	FROM SR 3326 (WESTON HEIGHTS DRIVE) TO CUL DE SAC	9	2	2WU	0.04	20.00	0.00	0.04	5					724		70		5	15									
		44	SR 3342 (SPRINGFIELD WAY)	FROM SR 3189 (BALDWIN ROAD) TO CUL DE SAC	9	2	2WU	0.10	18.00	0.00	0.10	5					704	125	100		7	12								1		
		45	SR 3345 (WESTON WAY)	FROM SR 3326 (WESTON HEIGHTS DRIVE) TO CUL DE SAC	9	2	2WU	0.05	20.00	0.00	0.05	5					352		69		6	22									
		46	SR 3347 (EMERALD COURT)	FROM SR 3189 (BALDWIN ROAD) TO CUL DE SAC	4	2	2WU	0.07	19.00	0.01	0.08	5	0.16	21				115	66		5	11									
		47	SR 3348 (KIT COURT)	FROM SR 3290 (FOX RIDGE DRIVE) TO CUL DE SAC	4	2	2WU	0.17	18.00	0.00	0.17	5	0.34	44					158		11	20									
		48	SR 3354 (CANE CREEK CIRCLE)	FROM SR 3136 (CANE CREEK ROAD) TO SR 3355 (CANE CREEK CIRCLE)	4	2	2WU	0.25	18.50	0.01	0.26	5	0.50	65				155	201		14	23									
		49	SR 3355 (CANE CREEK CIRCLE)	FROM SR 3354 (CANE CREEK CIRCLE) TO CUL DE SAC	4	2	2WU	0.28	18.00	0.00	0.28	5	0.54	70					241		17	38									
		50	SR 3356 (KNOLL DRIVE)	FROM SR 3138 (UPPER BRUSH CREEK ROAD) TO CUL DE SAC	4	2	2WU	0.15	19.00	0.00	0.15	5	0.30	39				167	156		11	20									
		51	SR 3357 (SOUTH KNOLL COURT)	FROM SR 3356 (KNOLL DRIVE) TO CUL DE SAC	4	2	2WU	0.05	18.00	0.00	0.05	5	0.10	13					80		6	11									
		52	SR 3358 (MOUNTAIN VIEW LANE)	FROM SR 3335 (MEADOW BROOK DRIVE) TO CUL DE SAC	4	2	2WU	0.13	20.00	0.00	0.13	5	0.26	34					142		11	29								2		
		53	SR 3374 (SPRING LAKE DRIVE)	FROM SR 3136 (CANE CREEK ROAD) TO CUL DE SAC	4	2	2WU	0.36	18.00	0.01	0.37	10	0.72	94				225	312		24	86									
		54	SR 3375 (KNOLLWOOD DRIVE)	FROM SR 3374 (SPRING LAKE DRIVE) TO CUL DE SAC	4	2	2WU	0.05	18.00	0.00	0.05	5	0.10	13					56		4	14									
		55	SR 3376 (GUN FLINT TRAIL)	FROM SR 3374 (SPRING LAKE DRIVE) TO CUL DE SAC	4	2	2WU	0.17	18.00	0.00	0.17	6	0.34	45					168		12	15									
		56	SR 3503 (TC ROBERSON HIGH SCHOOL)	FROM SPRINGSIDE ROAD (CITY) TO SPRINGSIDE ROAD (CITY)	5, 7	2	2WU	0.01	30.00	1.48	1.49		0.54	70		695		575	686		45	15									
		57	SR 3503 (OVERLOOK ROAD)	FROM US 25 (HENDERSONVILLE ROAD) TO NC 146 (LONG SHOALS ROAD)	3	2	2WU	1.86	24.00	0.02	1.88	6			28,777				2,590		170	30	755	755	9	10	15	5	6	1,320	500
		58	SR 3503 (OVERLOOK ROAD EXTENSION)	FROM NC 146 (LONG SHOALS ROAD) TO END OF MAINTENANCE	3	2	2WU	0.05	24.00	1.91	1.96	5			740				70		5	11								408	250
TOTAL FOR PROJ NO. 2027CPT.13.04.20111								**35.89**				**803**	**55.55**	**7,254**	**38,339**	**2,643**	**6,211**	**21,728**	**34,356**	**320**	**2,505**	**5,233**	**755**	**755**	**9**	**10**	**15**	**42**	**40**	**2,160**	**824**
GRAND TOTAL								**35.89**				**803**	**55.55**	**7,254**	**38,339**	**2,643**	**6,211**	**21,728**	**34,356**	**320**	**2,505**	**5,233**	**755**	**755**	**9**	**10**	**15**	**42**	**40**	**2,160**	**824**

PROJECT NO.	SHEET NO.	TOTAL NO.
2027CPT.13.04.20111		
	30	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E WORK ZONE ADVANCE /GENERAL WARNING SIGNING	4447000000-E PEDESTRIAN CHANNELIZING DEVICES	4457000000-N TEMPORARY TRAFFIC CONTROL	4688000000-E THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS) YELLOW	4688000000-E THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS) WHITE	4695000000-E THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) WHITE	4709000000-E THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE STOP BAR	4709000000-E THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE HI-VISIBILTY CROSSWALK	4720000000-E THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) SCHOOL	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) STR & LT ARROW	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	4810000000-E PAINT PAVEMENT MARKING LINES (4") WHITE	4810000000-E PAINT PAVEMENT MARKING LINES (4") YELLOW	4820000000-E PAINT PAVEMENT MARKING LINES (8") WHITE	4890000000-E HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 60 MILS) (WHITE)	4890000000-E HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 60 MILS) (YELLOW)	4890000000-E YEILD LINE THERMOPLASTIC PAVEMENT MARKING 24" (90 MILS)	4895000000-N INLAID CRADLE MARKER (YELLOW / YELLOW)	4895000000-N INLAID CRADLE MARKER (CRYSTAL / RED)
								MI	FT			SF	LF	LS	LF	LF	LF	LF	LF	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA
2027CPT.13.04.20111	BUNCOMBE	1	SR 2173 (DILLINGHAM ROAD)	FROM NC 197 TO END OF MAINTENANCE	1	2	2WU	4.95	18.00	0.00	4.95	554																			
		2	SR 2474 (NORTH FORK ROAD)	FROM SR 2435 (OLD US 70) TO NC 9	2	2	2WU	4.76	19.00	0.01	4.77	533						32			2	2					50,265	50,265			
		3	SR 2500 (NORTH BLUE RIDGE ROAD)	FROM SR 2435 OLD US 70 TO US 70	3	2	2WU	0.03	28.00	0.89	0.92	4						18						320	320	18	320	320			
		4	SR 2500 (NORTH BLUE RIDGE ROAD)	FROM SR 2473 (CRAIGMONT ROAD) TO SR 2435 OLD US 70 (OLD US 70)	3	2	2WU	0.46	19.00	0.42	0.88	52												4,858	4,858		4,858	4,858			
		5	SR 2576 (NORTH FORK LEFT FORK)	FROM SR 2474 (NORTH FORK ROAD) TO MP 0.84	2	2	2WU	0.84	20.00	0.00	0.84	132															14,266	14,266			
		6	SR 2771 (OLD CHARLOTTE HIGHWAY)	FROM US 74 TO SR 2772 (JUNE SAYLES ROAD)	2, 5	2	2WU	0.31	18.50	0.01	0.32	35						34									1,680	1,680		23	
		7	SR 2773 (OLD CHARLOTTE HIGHWAY)	FROM US 74 ALTERNATE TO US 74 ALTERNATE	2	2	2WU	0.30	18.00	0.01	0.31	34															400	400			
		8	SR 2776 (OLD FORT / CHESTNUT HILL ROAD)	FROM SR 2785 (DYE LEAF ROAD) TO NC 9	2	2	2WU	4.59	21.00	5.53	10.12	514															48,470	48,470			
		9	SR 2791 (OLD FORT ROAD)	FROM SR 2755 (STONE MOUNTAIN FARM ROAD) TO SR 2794 (CAMP ELLIOTT ROAD)	2	2	2WU	0.96	19.00	2.20	3.16	108															10,138	10,138			
		10	SR 2813 (SUGAR HOLLOW / BUTTERROW COVE ROAD)	FROM US 74 TO END OF MAINTENANCE	4	2	2WU	0.40	18.00	0.01	0.41	45															4,224	4,224			
		11	SR 2815 (VILLAGE ROAD)	FROM US 74 TO US 74	4	2	2WU	0.35	18.00	0.01	0.36	40															3,696	3,696			
		12	SR 2840 (EASTCREST DRIVE)	FROM US 74 ALTERNATE TO SR 2841 (EASTRIDGE COURT)	4	2	2WU	0.13	19.50	0.01	0.14	15															100	100			
		13	SR 2841 (EASTRIDGE COURT)	FROM CUL DE SAC TO CUL DE SAC	4	2	2WU	0.11	18.00	0.00	0.11	12																			
		14	SR 2850 (GARRISON ROAD)	FROM SR 2806 (GARREN CREEK ROAD) TO END OF MAINTENANCE	2	2	2WU	0.41	18.00	0.01	0.42	46																			
		15	SR 2862 (OLD CHARLOTTE HIGHWAY)	FROM US 74 ALTERNATE TO END OF MAINTENANCE	2	2	2WU	0.35	18.00	0.04	0.39	40															400	400			
		16	SR 2884 (COBBLE HILL ROAD)	FROM SR 2810 (HOLLYWOOD ROAD) TO CUL DE SAC	4	2	2WU	0.13	12.00	0.01	0.14	15																			
		17	2887 (SMITH KNOLLS ROAD)	FROM US 74 ALTERNATE TO END OF MAINTENANCE	2	2	2WU	1.00	19.00	0.01	1.01	112																			
		18	SR 2891 (OLDE EASTWOOD VILLAGE BOULEVARD)	FROM SR 2771 (OLD CHARLOTTE HIGHWAY) TO CUL DE SAC	3	2	2WU	0.18	20.00	0.00	0.18	20																			
		19	SR 2895 (NUTHATCH COURT)	FROM SR 2816 (CHURCH ROAD) TO CUL DE SAC	4	2	2WU	0.28	19.00	0.01	0.29	32																			
		20	SR 2896 (CHICKADEE LANE)	FROM SR 2816 (CHURCH ROAD) TO SR 2895 (NUTHATCH COURT)	4	2	2WU	0.09	18.50	0.01	0.10	10																			
		21	SR 3117 (SCHOOL ROAD)	FROM SR 3121 (PINNERS COVE ROAD) TO SR 3150 (CONCORD ROAD)	2	2	2WU	0.79	18.00	0.01	0.80	89															8,448	8,448			
		22	SR 3121 (PINNERS COVE ROAD)	FROM SR 3119 (MERRILLS COVE ROAD) TO SR 3116 (MILLS GAP ROAD)	2	2	2WU	3.73	21.00	2.24	5.97	418															39,388	39,388			10
		23	SR 3121 (ROSE HILL ROAD)	FROM US 74A PAVEMENT JOINT TO SR 3074 (BEE RIDGE ROAD) TO PAVEMENT JOINT	2	2	2WU	1.17	20.00	0.03	1.20	131															12,355	12,355		6	1
		24	SR 3128 (OLD GAP CREEK ROAD)	FROM SR 3133 (SHARON ROAD) TO SR 3127 (EMMAS GROVE ROAD)	2	2	2WU	0.46	19.00	0.01	0.47	52															4,858	4,858			
		25	SR 3131 (LYTLE ROAD)	FROM SR 3128 (EMMAS GROVE ROAD) TO END OF MAINTENANCE	4	2	2WU	0.36	18.50	0.01	0.37	40																			
		26	SR 3167 (MOUNT ROYAL DRIVE /LAUREL COURT/ LAUREL ROAD/IVEY COURT)	FROM SR 3162 (ROYAL PINES DRIVE) TO SR3167 (RHODODENDRON DRIVE)	4	2	2WU	0.52	18.00	0.01	0.53	58																			
		27	(GLEN ARDEN ELEMENTARY SCHOOL)	FROM SR 3217 (SAINT JOHNS STREET) TO SR 3217 (SAINT JOHNS STREET)	5, 7	2	2WU	0.01	25.00	1.19	1.20	5						145									625				
		28	SR 3231 (REYNOLDS SCHOOL ROAD)	FROM SR 3121 (ROSE HILL ROAD) TO END OF STATE MAINTENANCE	4	2	2WU	0.79	18.50	0.00	0.79	89															8,342	8,342			

PROJECT NO.	SHEET NO.	TOTAL NO.
2027CPT.13.04.20111	31	

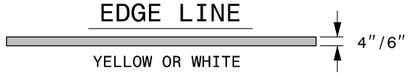
THERMOPLASTIC AND PAINT QUANTITIES

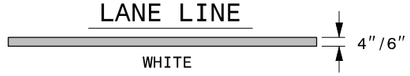
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	BEGIN MP	END MP	4413000000-E WORK ZONE ADVANCE /GENERAL WARNING SIGNING	4447000000-E PEDESTRIAN CHANNELIZING DEVICES	4457000000-N TEMPORARY TRAFFIC CONTROL	4688000000-E THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS) YELLOW	4688000000-E THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS) WHITE	4695000000-E THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) WHITE	4709000000-E THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE STOP BAR	4709000000-E THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS) WHITE HI-VISIBILTY CROSSWALK	4720000000-E THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS) SCHOOL	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) STR & LT ARROW	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) RT ARROW	4725000000-E THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) LT ARROW	4810000000-E PAINT PAVEMENT MARKING LINES (4") WHITE	4810000000-E PAINT PAVEMENT MARKING LINES (4") YELLOW	4820000000-E PAINT PAVEMENT MARKING LINES (8") WHITE	4890000000-E HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 60 MILS) (WHITE)	4890000000-E HOT SPRAY THERMOPLASTIC PAVEMENT MARKING LINES (4", 60 MILS) (YELLOW)	4890000000-E YEILD LINE THERMOPLASTIC PAVEMENT MARKING 24" (90 MILS)	4895000000-N INLAID CRADLE MARKER (YELLOW / YELLOW)	4895000000-N INLAID CRADLE MARKER (CRYSTAL / RED)
								MI	FT			SF	LF	LS	LF	LF	LF	LF	LF	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA
2027CPT.13.04.20111	BUNCOMBE	29	SR 3268 (REYNOLDA DRIVE)	FROM SR 3231 (REYNOLDS SCHOOL ROAD) TO CUL DE SAC	4	2	2WU	0.22	21.00	0.00	0.22	25		*																			
		30	SR 3277 (FOREST RUN DRIVE)	FROM SR 3121 (PINNERS COVE ROAD) TO CUL DE SAC	6	2	2WU	0.24	24.00	0.01	0.25	27																					
		31	SR 3279 (REYNOLDS MIDDLE SCHOOL)	FROM SR 3279 (CHARLES A LYTLE LANE) TO HIGH SCHOOL ROAD INTERSECTION	5, 7	2	2WU	0.01	18.00	0.12	0.13	5						16												1,186			
		32	SR 3279 (CHARLES A LYTLE LANE)	FROM US 74 ALTERNATE PAVEMENT JOINT TO END OF MAINTENANCE	2, 8	2	2WU	0.11	22.00	0.02	0.13	12																1,162	1,162		2	
		33	SR 3282 (BREEZEWAY DRIVE)	FROM SR 3256 (TUCKAWAY DRIVE) TO END OF STATE MAINTENANCE	2, 6	2	2WU	0.14	20.00	0.00	0.14	16																				
		34	SR 3290 (FOX RIDGE DRIVE)	FROM SR 3128 (EMMAS GROVE ROAD) TO CUL DE SAC	4	2	2WU	0.33	18.00	0.01	0.34	37																				
		35	SR 3300 (WHITE PINE CIRCLE)	FROM SR 3221 (WHITE PINE DRIVE) TO SR 3221 (WHITE PINE DRIVE)	4	2	2WU	0.86	20.00	0.01	0.87	96																				
		36	SR 3301 (WHITE PINE WAY)	FROM SR 3300 (WHITE PINE CIRCLE) TO SR 3300 (WHITE PINE CIRCLE)	4	2	2WU	0.13	20.00	0.00	0.13	15																				
		37	SR 3302 (BALDWIN COURT)	FROM SR 3189 (BALDWIN ROAD) TO SR 3315 (MEADOWS CIRCLE)	4	2	2WU	0.17	19.00	0.01	0.18	19																				
		38	SR 3305 (WOODHAVEN DRIVE)	FROM SR 3187 (PENSACOLA AVENUE) TO END OF STATE MAINTENANCE	2	2	2WU	0.11	20.00	0.00	0.11	12																				
		39	SR 3318 (SPRING COVE COURT)	FROM BEGIN OF STATE MAINTENANCE TO END OF STATE MAINTENANCE	9	2	2WU	0.06	20.00	0.00	0.06	7																				
		40	SR 3326 (WESTON HEIGHTS DRIVE)	FROM SR 3150 (CONCORD ROAD) TO CUL DE SAC	9	2	2WU	0.46	20.00	0.01	0.47	52																				
		41	SR 3327 (MEADOW WOOD TRAIL)	FROM SR 3131 (LYTLE ROAD) TO CUL DE SAC	2	2	2WU	0.34	20.00	0.00	0.34	38																				
		42	SR 3335 (MEADOW BROOK DRIVE)	FROM SR 3327 (MEADOW WOOD TRAIL) TO SR 3327 (MEADOW WOOD TRAIL)	4	2	2WU	0.46	18.50	0.00	0.46	52																				
		43	SR 3336 (WESTON PLACE)	FROM SR 3326 (WESTON HEIGHTS DRIVE) TO CUL DE SAC	9	2	2WU	0.04	20.00	0.00	0.04	5																				
		44	SR 3342 (SPRINGFIELD WAY)	FROM SR 3189 (BALDWIN ROAD) TO CUL DE SAC	9	2	2WU	0.10	18.00	0.00	0.10	11																				
		45	SR 3345 (WESTON WAY)	FROM SR 3326 (WESTON HEIGHTS DRIVE) TO CUL DE SAC	9	2	2WU	0.05	20.00	0.00	0.05	6																				
		46	SR 3347 (EMERALD COURT)	FROM SR 3189 (BALDWIN ROAD) TO CUL DE SAC	4	2	2WU	0.07	19.00	0.01	0.08	8																				
		47	SR 3348 (KIT COURT)	FROM SR 3290 (FOX RIDGE DRIVE) TO CUL DE SAC	4	2	2WU	0.17	18.00	0.00	0.17	19																				
		48	SR 3354 (CANE CREEK CIRCLE)	FROM SR 3136 (CANE CREEK ROAD) TO SR 3355 (CANE CREEK CIRCLE)	4	2	2WU	0.25	18.50	0.01	0.26	28																				
		49	SR 3355 (CANE CREEK CIRCLE)	FROM SR 3354 (CANE CREEK CIRCLE) TO CUL DE SAC	4	2	2WU	0.28	18.00	0.00	0.28	31																				
		50	SR 3356 (KNOLL DRIVE)	FROM SR 3138 (UPPER BRUSH CREEK ROAD) TO CUL DE SAC	4	2	2WU	0.15	19.00	0.00	0.15	17																				
		51	SR 3357 (SOUTH KNOLL COURT)	FROM SR 3356 (KNOLL DRIVE) TO CUL DE SAC	4	2	2WU	0.05	18.00	0.00	0.05	6																				
		52	SR 3358 (MOUNTAIN VIEW LANE)	FROM SR 3335 (MEADOW BROOK DRIVE) TO CUL DE SAC	4	2	2WU	0.13	20.00	0.00	0.13	15																				
		53	SR 3374 (SPRING LAKE DRIVE)	FROM SR 3136 (CANE CREEK ROAD) TO CUL DE SAC	4	2	2WU	0.36	18.00	0.01	0.37	40																				
		54	SR 3375 (KNOLLWOOD DRIVE)	FROM SR 3374 (SPRING LAKE DRIVE) TO CUL DE SAC	4	2	2WU	0.05	18.00	0.00	0.05	6																				
		55	SR 3376 (GUN FLINT TRAIL)	FROM SR 3374 (SPRING LAKE DRIVE) TO CUL DE SAC	4	2	2WU	0.17	18.00	0.00	0.17	19																				
		56	SR 3503 (TC ROBERSON HIGH SCHOOL)	FROM SPRINGSIDE ROAD (CITY) TO SPRINGSIDE ROAD (CITY)	5, 7	2	2WU	0.01	30.00	1.48	1.49	5																				
		57	SR 3503 (OVERLOOK ROAD)	FROM US 25 (HENDERSONVILLE ROAD) TO NC 146 (LONG SHOALS ROAD)	3	2	2WU	1.86	24.00	0.02	1.88	208	64		19,404	16,154	200	136	170	12	4	8	3							28	236	
		58	SR 3503 (OVERLOOK ROAD EXTENSION)	FROM NC 146 (LONG SHOALS ROAD) TO END OF MAINTENANCE	3	2	2WU	0.05	24.00	1.91	1.96	6			316		128	25													10
TOTAL FOR PROJ NO. 2027CPT.13.04.20111								**35.89**				**4,078**	**64**	**1**	**19,720**	**16,154**	**328**	**406**	**170**	**12**	**6**	**10**	**3**	**5,178**	**5,178**	**18**	**213,995**	**214,556**	**28**	**267**	**21**
															35,874			**576**			**19**			**10,356**			**428,551**			**288**	
GRAND TOTAL								**35.89**				**4,078**	**64**	**1**	**19,720**	**16,154**	**328**	**406**	**170**	**12**	**6**	**10**	**3**	**5,178**	**5,178**	**18**	**213,995**	**214,556**	**28**	**267**	**21**
															35,874			**576**			**19**			**10,356**			**428,551**			**288**	

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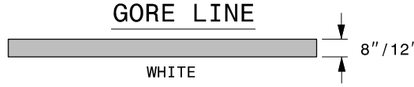
PROJECT REFERENCE NO.	SHEET NO.
2027CPT.13.04.20111	TMP-1

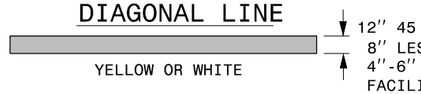
CONTINUOUS LINES

EDGE LINE


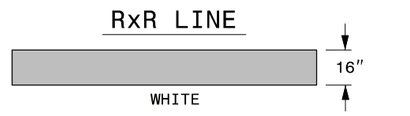
LANE LINE


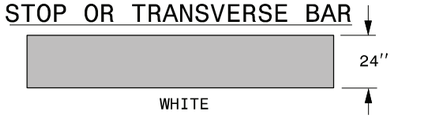
CENTER LINE


GORE LINE


DIAGONAL LINE


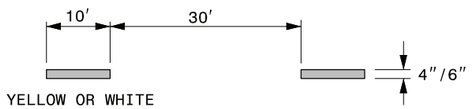
CROSSWALK LINE


RxR LINE


STOP OR TRANSVERSE BAR


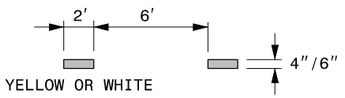
10′-30′/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10′-30′/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



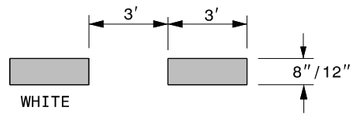
2′-6′/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2′-6′/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS.



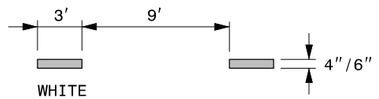
3′-3′/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3′-3′/SP MINI-SKIPS FOR THE WHITE EDGE LINE ENTENSIONS AT ROUNDABOUTS.



3′-9′/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3′-9′/SP MINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



GENERAL NOTES:

1- USE 6″ LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

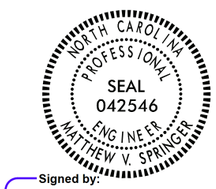
ROADWAY DETAIL DRAWING FOR

PAVEMENT MARKINGS

LINE TYPES AND OFFSETS

SHEET 1 OF 2

1205D01



Signed by:
Matthew V. Springer, PE
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10/23/2026

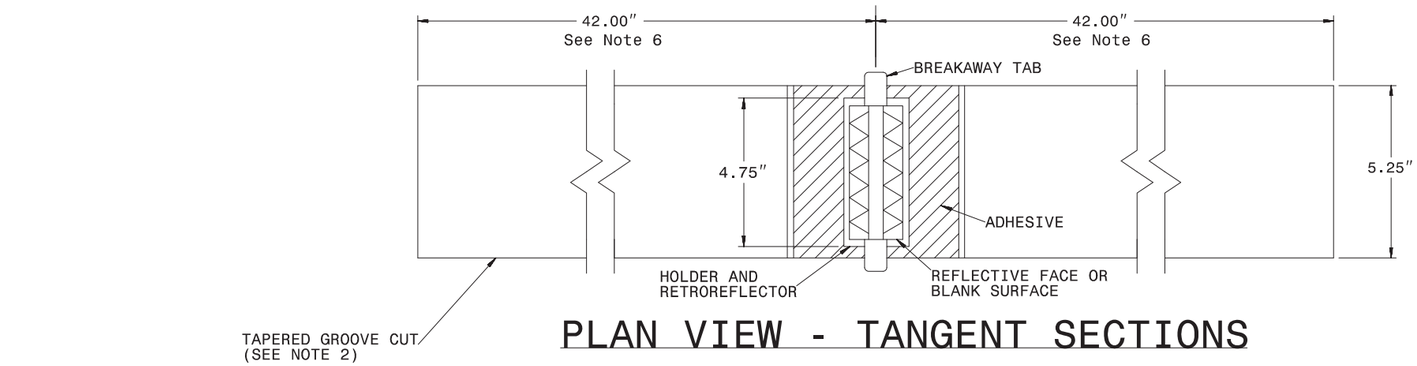
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

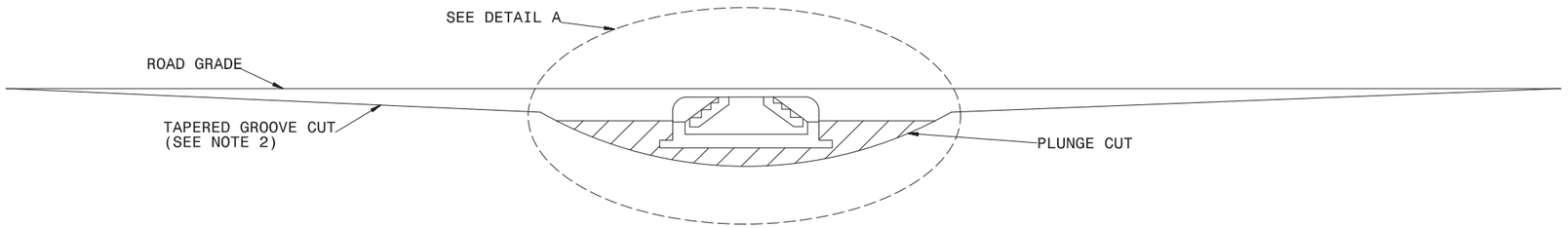
ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

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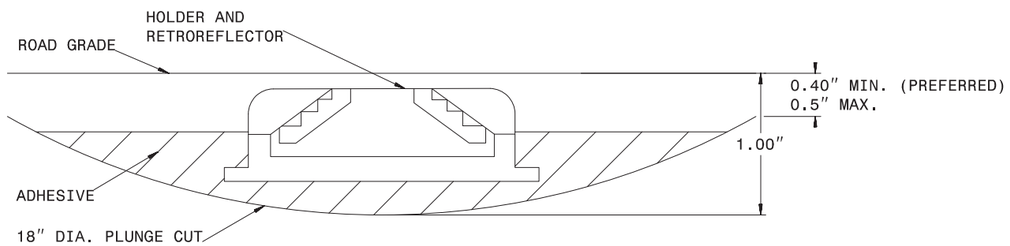
PROJECT REFERENCE NO.	SHEET NO.
2027CPT.13.04.20111	TMP-2



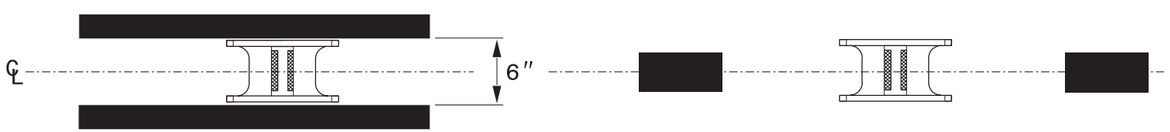
PLAN VIEW - TANGENT SECTIONS



PROFILE VIEW



DETAIL A



MARKER SPACING



Signed by:
Matthew V. Springer, PE
BC60F6E8B584403...

10/23/2026

NOTES:

1. ALL GROOVE EDGES SHALL BE AT LEAST 2 INCHES FROM ANY SEAM OR PAVEMENT JOINT
2. GROOVE CUTS MAY BE TAPERED OR BEVELED. TAPERED CUTS SHALL START AT ROAD LEVEL ON EACH END AND TAPER AT A FIXED RATE AS SHOWN ON THE PROFILE VIEW. BEVELED GROOVE CUTS SHALL BE 0.5″ MAXIMUM DEPTH (0.4″ PREFERRED), AND SHALL BE 0.4″ MINIMUM DEPTH AT BOTH ENDS OF THE PLUNGE CUT.
3. GROOVE AND PLUNGE CUT SHALL BE CLEAN AND DRY PRIOR TO PLACEMENT OF ADHESIVE.
4. THE EPOXY ADHESIVE SHALL BE THOROUGHLY MIXED UNTIL IT IS UNIFORM IN COLOR, AND APPLIED IN COLOR, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. MARKER SHALL BE INSTALLED AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH THE BREAKWAY TABS RESTING ON THE PAVEMENT SURFACE. THE EPOXY SHALL BE FILLED TO THE LEVEL OF THE TOP OF THE MARKER HOLDER. EPOXY SHALL NOT TOUCH THE RETROREFELCTOR.
6. TOTAL GROOVE LENGTH MAY BE SHORTENED TO 54″ ON SHARP CURVES IF APPROVED BY THE ENGINEER. GROOVES SHALL NOT OVERLAP WITH LOOP DETECTOR WIRES.

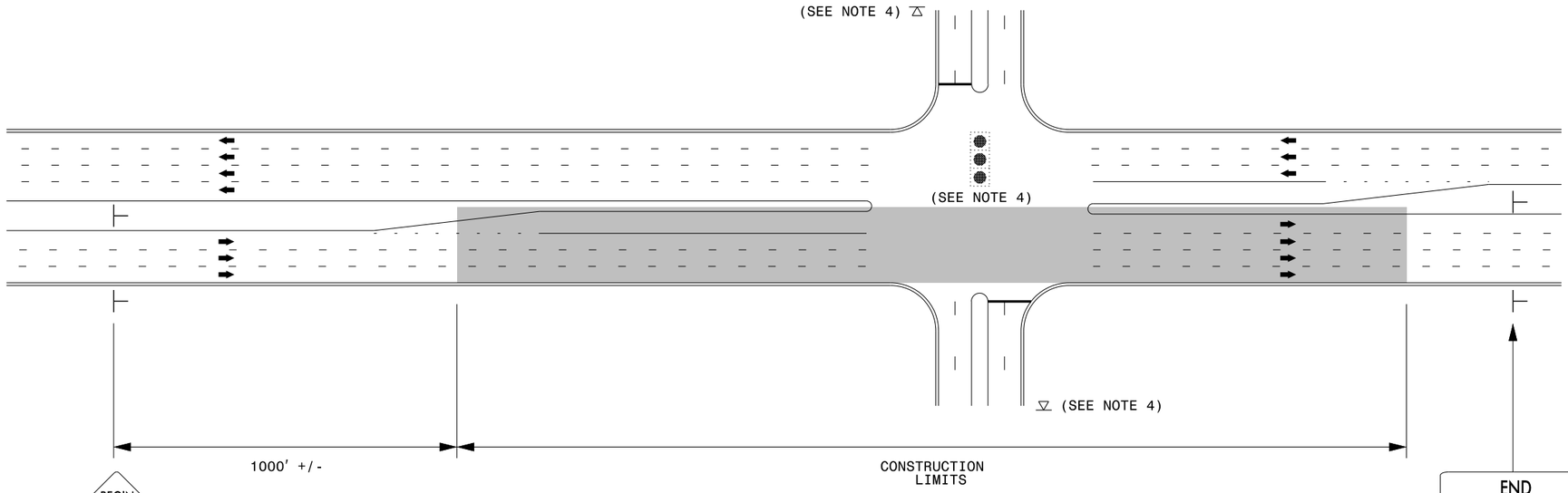
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Office 919-707-8950 FAX 919-250-4119

DETAIL OF INLAID CRADLE MARKER

ORIGINAL BY:	rgwatson	DATE:	02-06-2024
MODIFIED BY:		DATE:	
CHECKED BY:		DATE:	
FILE SPEC.:			

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	TMP-3

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

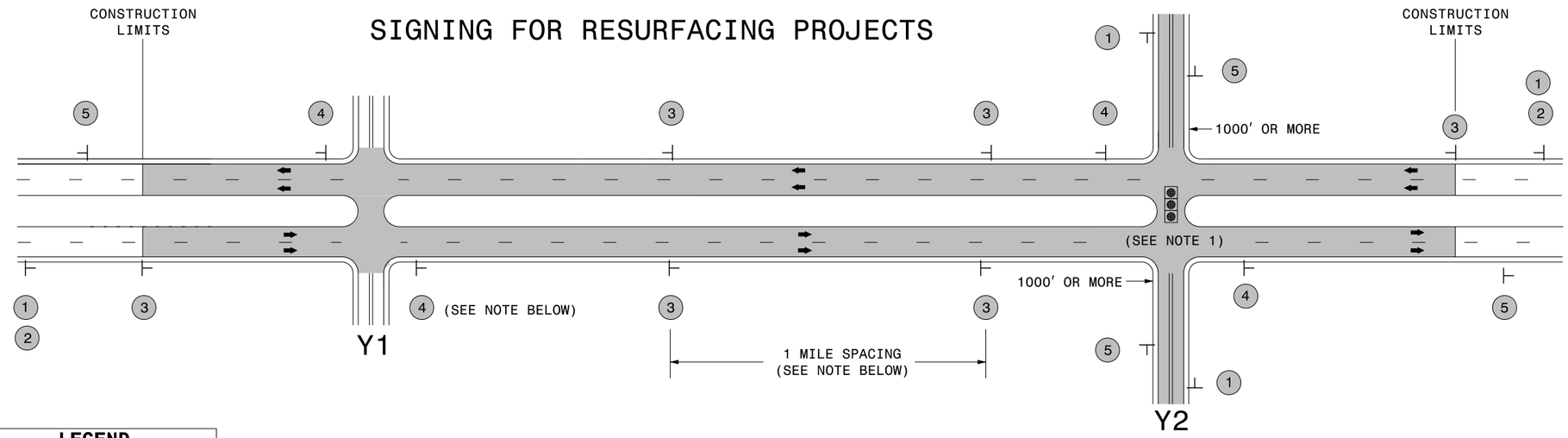
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR URBAN / SUBURBAN FACILITIES

4/8/2015
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User:rmgarrett

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	TMP-4

SIGNING FOR RESURFACING PROJECTS



LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1 — ROAD WORK AHEAD (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.

2 — NEXT XX MILES (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 — 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 ½ 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.

-Y- LINE SIGNING

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.

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.

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

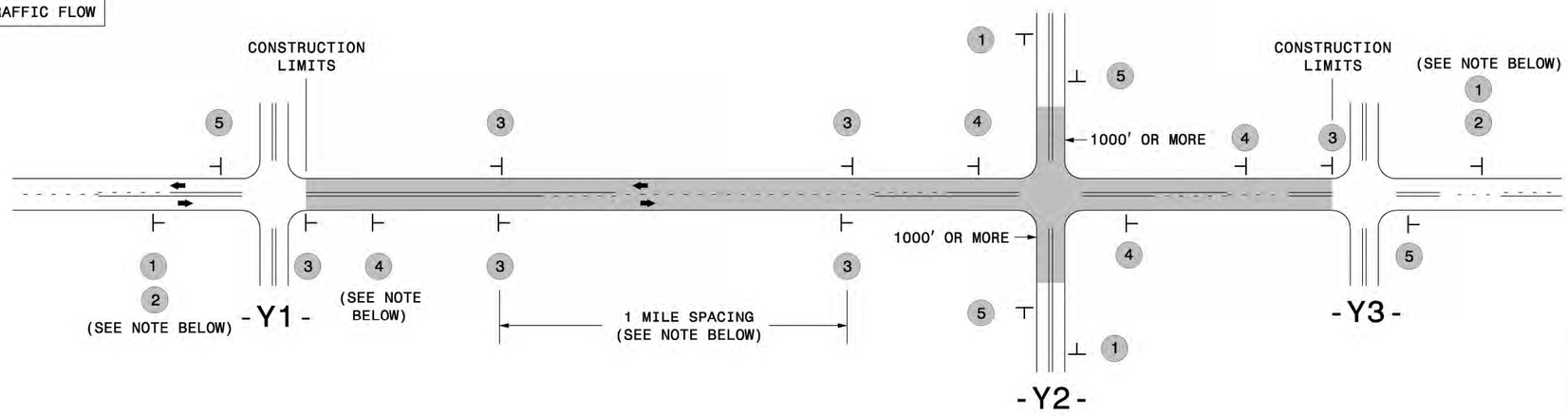
RESURFACING
ADVANCE WARNING SIGNS
FOR RURAL AND SUBURBAN
MULTI-LANE ROADWAYS
W/ SHOULDER SECTIONS

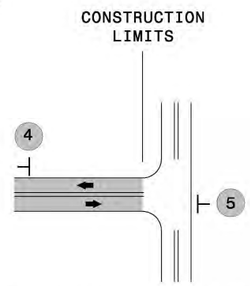
3/23/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_UrSu_Shldr.dgn
User:rmgarrett

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	TMP-5

SIGNING FOR RESURFACING PROJECTS

LEGEND
- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW





TEE INTERSECTION

MAINLINE (-L-) SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION

1	ROAD WORK AHEAD 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.
2	NEXT XX MILES W7-3aP 24″ X 18″	#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	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 ½ 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.

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.

-Y- LINE SIGNING

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.

W20-7 A 48″ X 48″
PLACED 250′ IN ADVANCE OF FLAGGER.

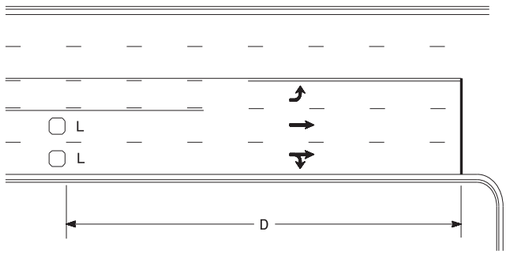
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

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

5/15/2017
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User:kaddis

PROJECT NO.	SHEET NO.
2027CPT.13.04.20111	SIG-1

High Speed Detection
(≥35 mph)

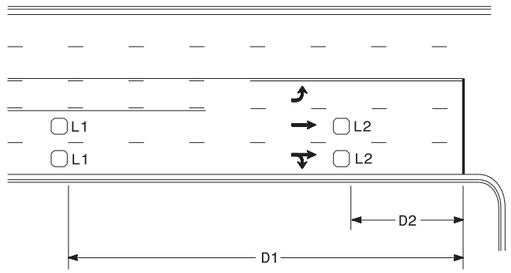


Speed Limit mph	D ft
35	200
40	250
45	300
50	355
55	420
60	475
65	550

L = 6ft X 6ft
Wired separately

Volume Density Operation

OR



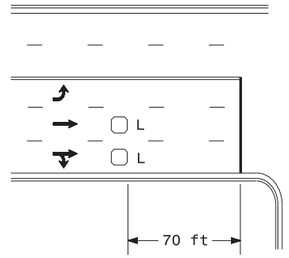
Speed Limit mph	D1 ft	D2 ft
40	250	80
45	300	90
50	355	100
55	420	110
60	475	120
65	550	130

L1 = 6ft X 6ft
Wired in series

L2 = 6ft X 6ft
Wired in series

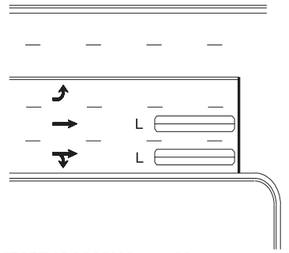
"Stretch" Operation

Low Speed Detection
(≤35 mph)



L = 6ft X 6ft
Wired in series

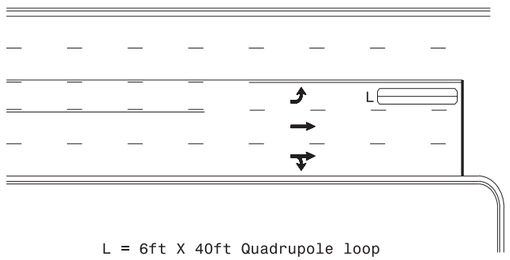
OR



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

2027CPT.13.04.20111 36

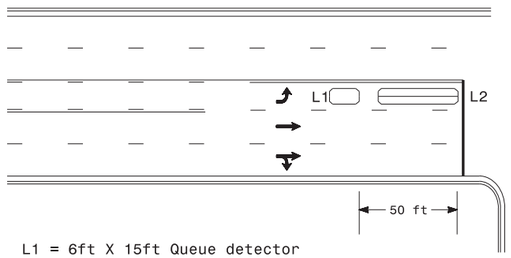
Left Turn Lane Detection



L = 6ft X 40ft Quadrupole loop

Presence Loop Detection

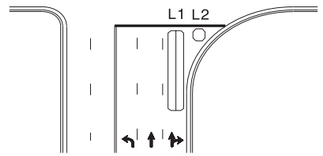
OR



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

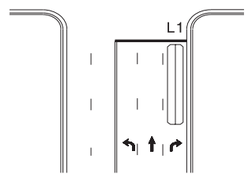
Queue Loop Detection

Right Turn Lane Detection

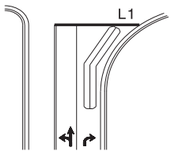


Shared Lane/
Wide Radius Turn

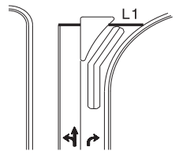
L1 = 6ft X 40ft Quadrupole loop
L2 = 6ft X 6ft [Minimum] Presence loop
Wired separately



Standard Turn

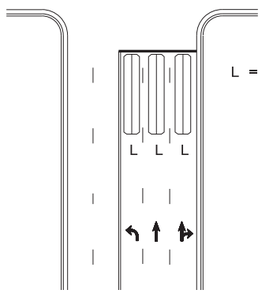


Wide Radius Turn



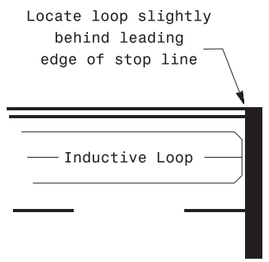
Channelized Turn

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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Typical Signal Loop Locations

PLAN DATE: September 2025 | REVIEWED BY:
PREPARED BY: J.A. Lohr | REVIEWED BY:

SCALE
N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL 026486
ENGINEER
ROBERT J. ZIEMBA
DocuSigned by:
11/25/2025
DATE
SIG. INVENTORY NO.

17-NOV-2025 07:35
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jalohr