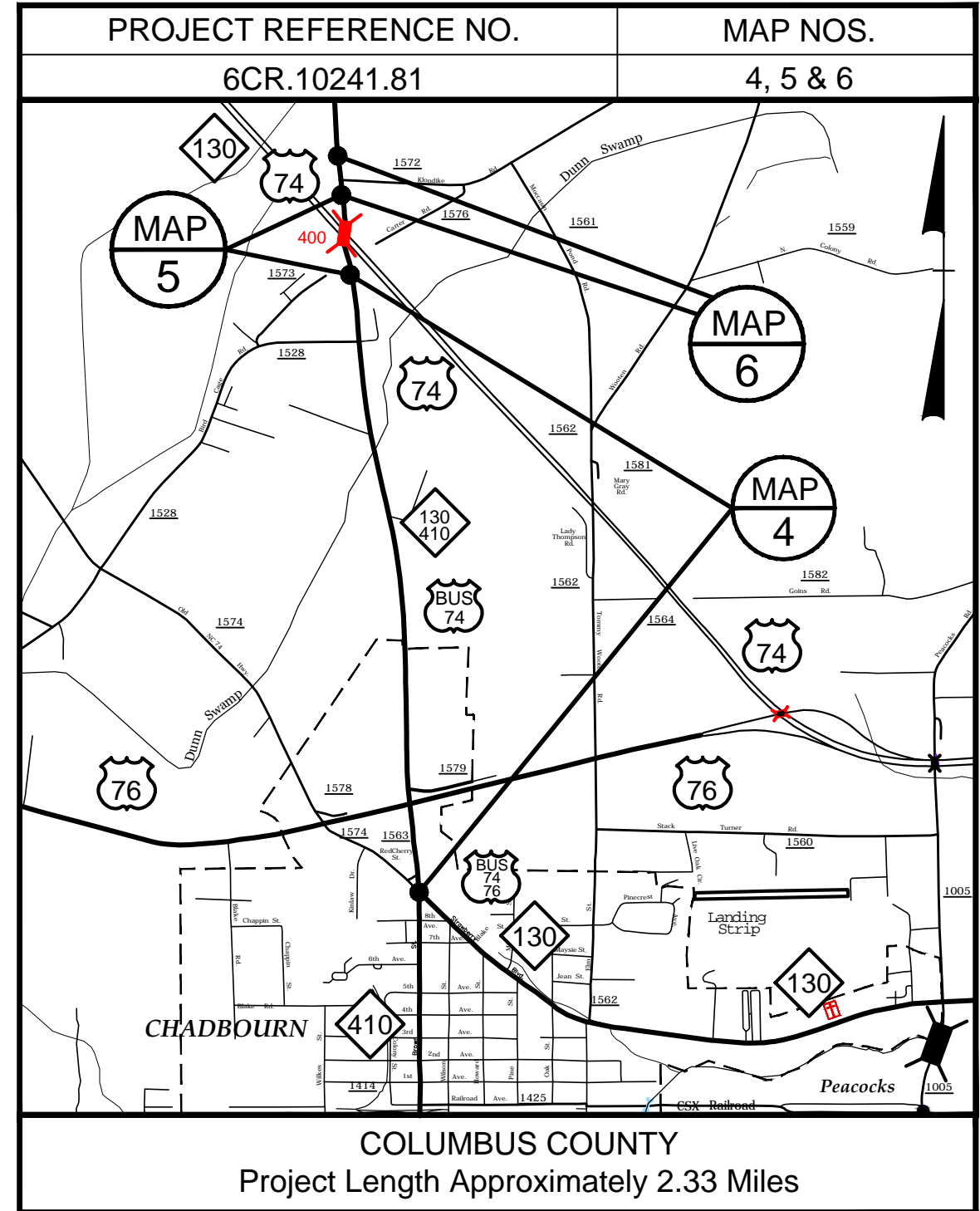
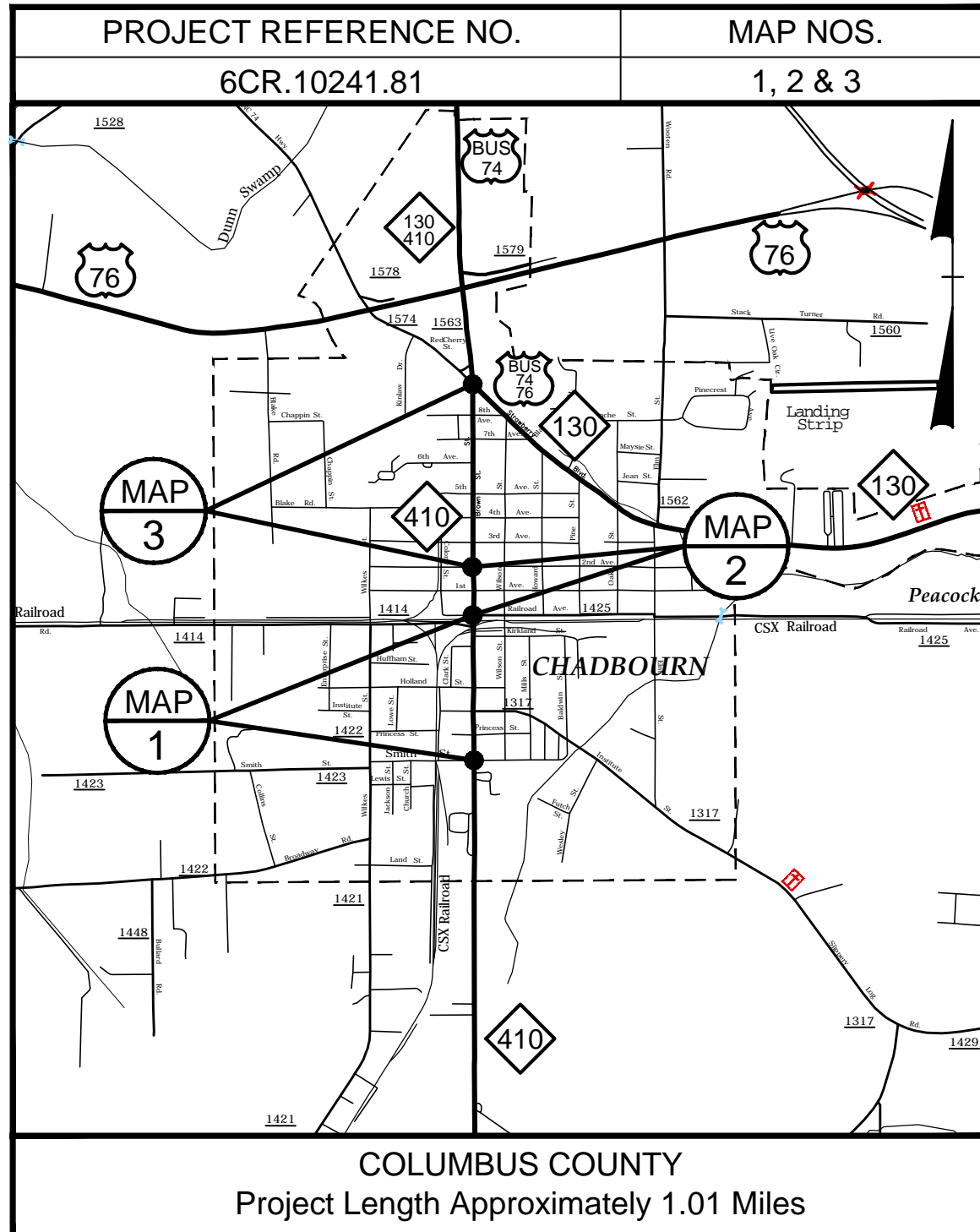
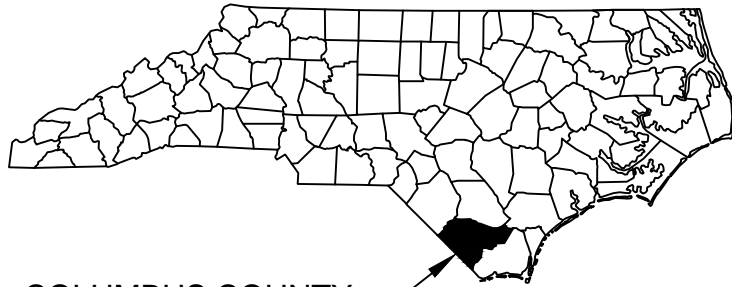


COLUMBUS COUNTY

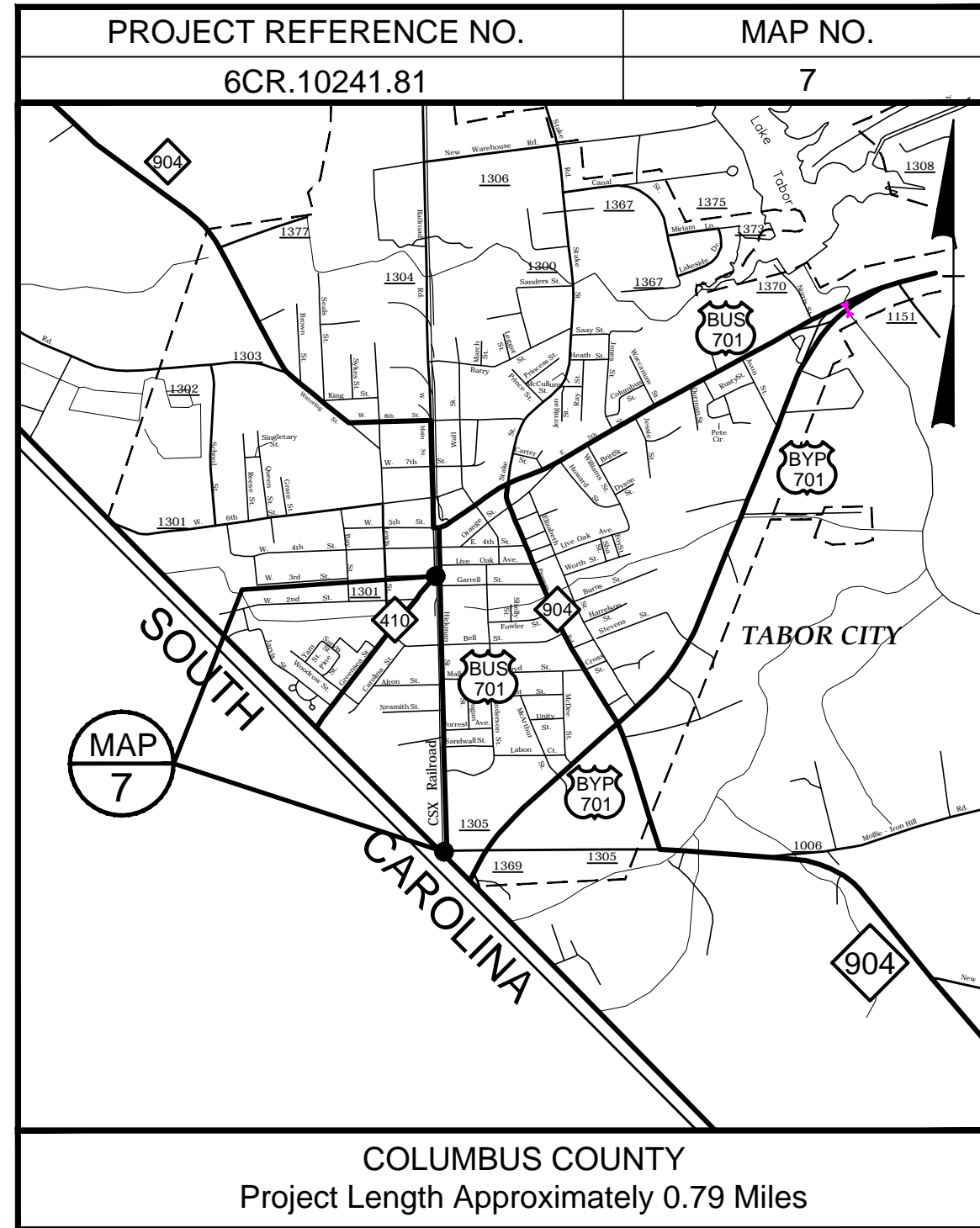
RESURFACING MAPS - COLUMBUS COUNTY



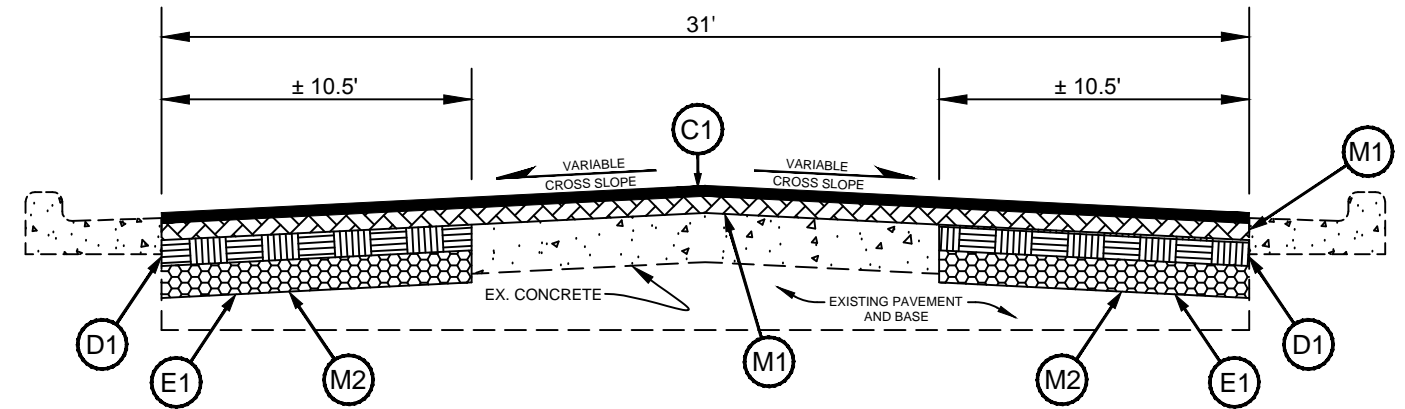


COLUMBUS COUNTY

RESURFACING MAPS - COLUMBUS COUNTY



TYPICAL SECTION NO. 1
NC 410-A - FROM SMITH ST. TO RAILROAD AVE.



NOTES:

1. FILL DEEP MILLED AREAS WITH BASE AND INTERMEDIATE COURSE AS SHOWN. FILL BACK FLUSH WITH THE EXISTING ASPHALT LEFT IN PLACE AFTER FULL WIDTH MILLING, BUT PRIOR TO PLACEMENT OF PROPOSED ASPHALT SURFACE COURSE.
2. INCLUDES MILLING ON ASPHALT BRIDGE DECKS, BRIDGE APPROACHES & RR CROSSINGS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 3
3. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 4.

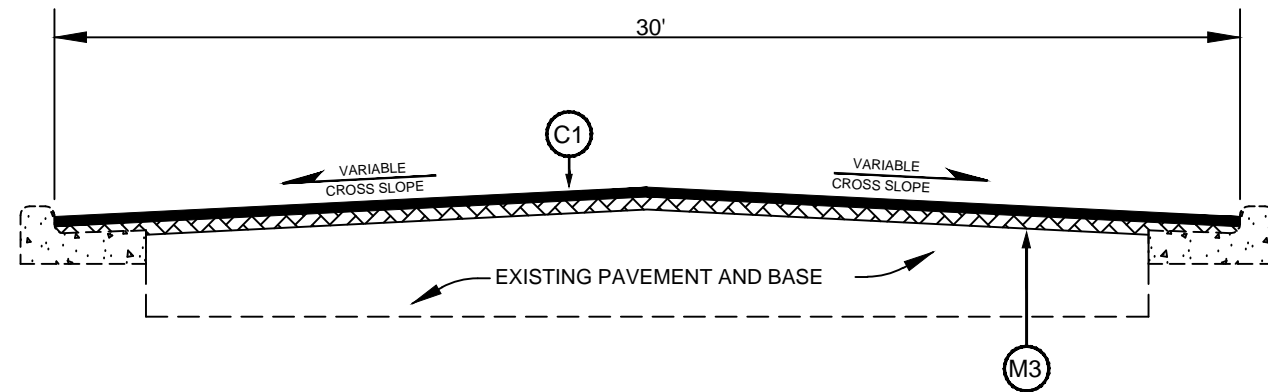
PAVEMENT SCHEDULE

C1	Proposed approximately 1 1/2" of Asphalt Concrete Surface Course, Type S-9.5-B, at an average rate of 168 pounds per square yard.
D1	Proposed approximately 3 1/2" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 399 pounds per square yard.
D2	Proposed approximately 2 1/2" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5 1/2" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard.
E2	Proposed approximately 5 1/2" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for 2' widening at inside curve radii, as Directed by the Engineer.
M1	Milling Depth 1 1/2" for the entire width of the roadway.
M2	Milling Depth of an additional 9", for a width as shown in the typical, from the edge of the Gutter Pan.
M3	Milling Depth 1 1/2" for the entire width of the roadway including the Gutter Pan.
M4	Milling Depth 3/4" for the entire width of the roadway for roadway profile correction.
M5	Milling existing soil shoulder, to a depth of 5 1/2", with a width of 2' where indicated by Typical, for inside curve widening.
M6	Milling Depth 0" - 1 1/2" at the edge of Curb & Gutter. Milling shall extend below the lip of the Curb & Gutter by the thickness of the Proposed Overlay.
M7	Milling Depth 0" - 1 1/2" at all Bridge and Railroad Approaches, for the entire width of the roadway, or as Directed by the Engineer.
M8	Milling Depth 2 1/2" at all designated distressed areas, with a variable width from 9' to 12', or as Directed by the Engineer.
S	Shoulder Reconstruction as directed by the Engineer.

DRAWINGS NOT TO SCALE

TYPICAL SECTION NO. 2

NC 410-A - FROM RAILROAD AVE. TO 2nd AVE.

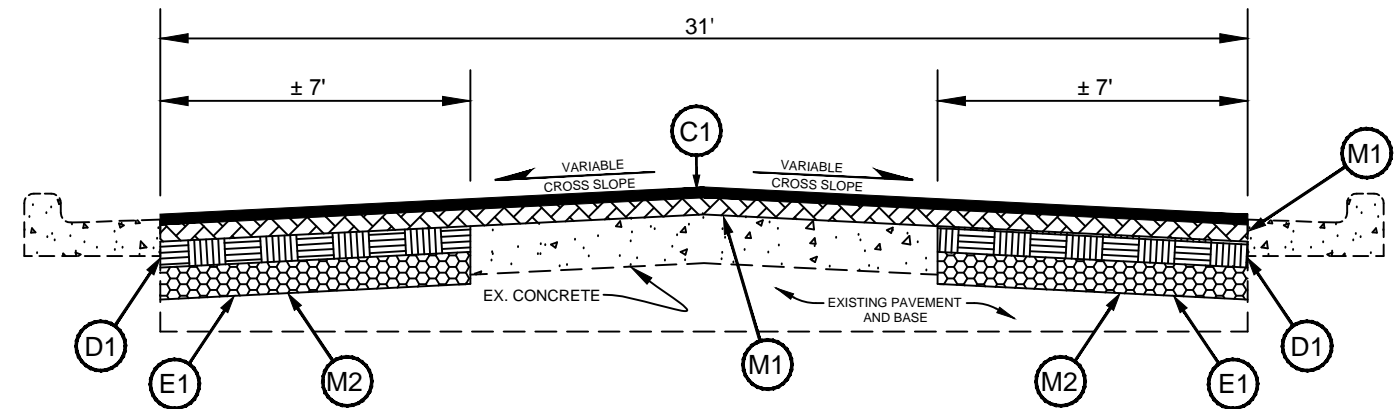


NOTE:

1. INCLUDES MILLING ON ASPHALT BRIDGE DECKS, BRIDGE APPROACHES & RR CROSSINGS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 3.
2. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 4.

TYPICAL SECTION NO. 3

NC 410-A - FROM 2nd AVE. TO US 74 BUS. (STRAWBERRY BLVD.)

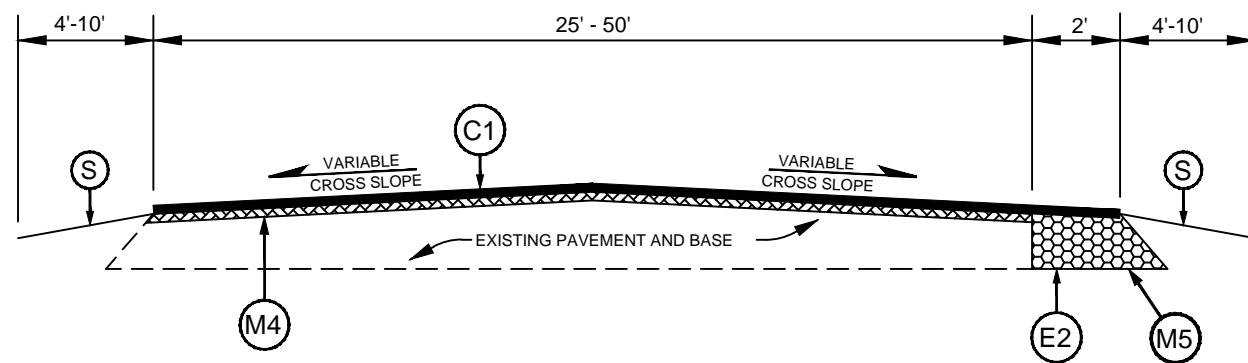


NOTES:

1. FILL DEEP MILLED AREAS WITH BASE AND INTERMEDIATE COURSE AS SHOWN. FILL BACK FLUSH WITH THE EXISTING ASPHALT LEFT IN PLACE AFTER FULL WIDTH MILLING, BUT PRIOR TO PLACEMENT OF PROPOSED ASPHALT SURFACE COURSE.
2. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 4.

TYPICAL SECTION NO. 4

NC 410-B - FROM US 74 BUS. TO PVT. CHANGE @ S. SIDE OF BRIDGE #400 & FROM PVT. CHANGE @ N. SIDE OF BRIDGE #400 TO CJ 0.1 MI. N. OF SR 1572



NOTES:

1. INCLUDES 2' WIDENING ON THE INSIDE RADIUS OF ALL CURVES, PROVIDED ADEQUATE SHOULDER WIDTH EXISTS. ENGINEER WILL IDENTIFY CURVES TO BE WIDENED IN THE FIELD. SEE DETAIL 1.
2. INCLUDES MILL & FILL PAVEMENT REPAIR WHERE IDENTIFIED BY ENGINEER. SEE DETAIL 2.
3. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 4.

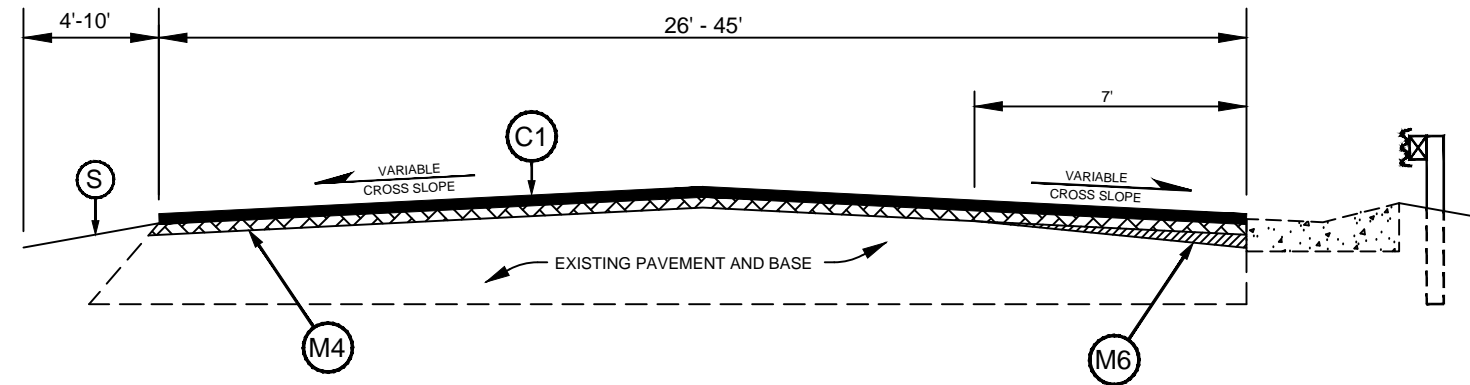
PAVEMENT SCHEDULE

C1	Proposed approximately 1½" of Asphalt Concrete Surface Course, Type S-9.5-B, at an average rate of 168 pounds per square yard.
D1	Proposed approximately 3½" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 399 pounds per square yard.
D2	Proposed approximately 2½" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard.
E2	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for 2' widening at inside curve radii, as Directed by the Engineer.
M1	Milling Depth 1½" for the entire width of the roadway.
M2	Milling Depth of an additional 9", for a width as shown in the typical, from the edge of the Gutter Pan.
M3	Milling Depth 1½" for the entire width of the roadway including the Gutter Pan.
M4	Milling Depth ¾" for the entire width of the roadway for roadway profile correction.
M5	Milling existing soil shoulder, to a depth of 5½", with a width of 2' where indicated by Typical, for inside curve widening.
M6	Milling Depth 0" - 1½" at the edge of Curb & Gutter. Milling shall extend below the lip of the Curb & Gutter by the thickness of the Proposed Overlay.
M7	Milling Depth 0" - 1½" at all Bridge and Railroad Approaches, for the entire width of the roadway, or as Directed by the Engineer.
M8	Milling Depth 2½" at all designated distressed areas, with a variable width from 9' to 12', or as Directed by the Engineer.
S	Shoulder Reconstruction as directed by the Engineer.

DRAWINGS NOT TO SCALE

TYPICAL SECTION NO. 5

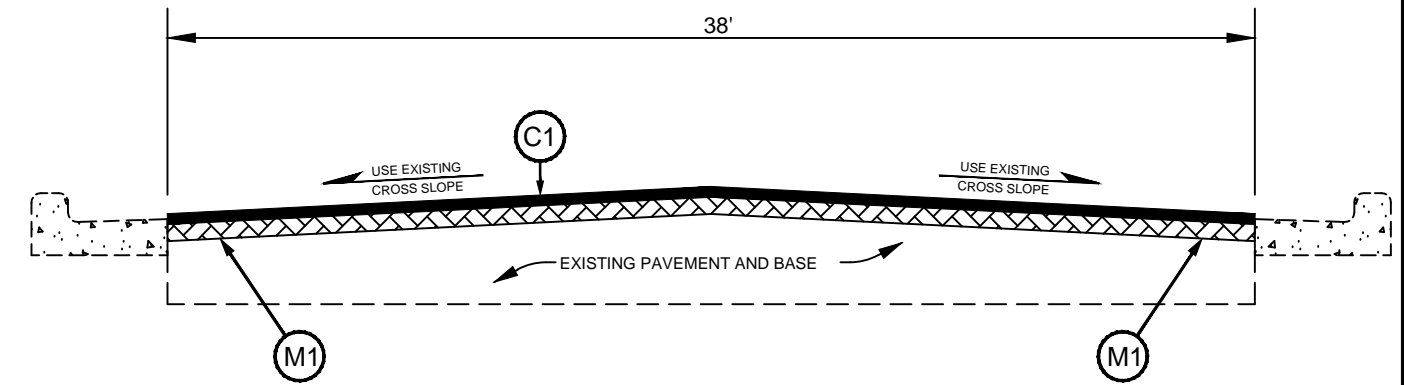
NC 410-B - FROM PVT. CHANGE @ S. SIDE OF BRIDGE #400 TO PVT. CHANGE @ N. SIDE OF BRIDGE #400



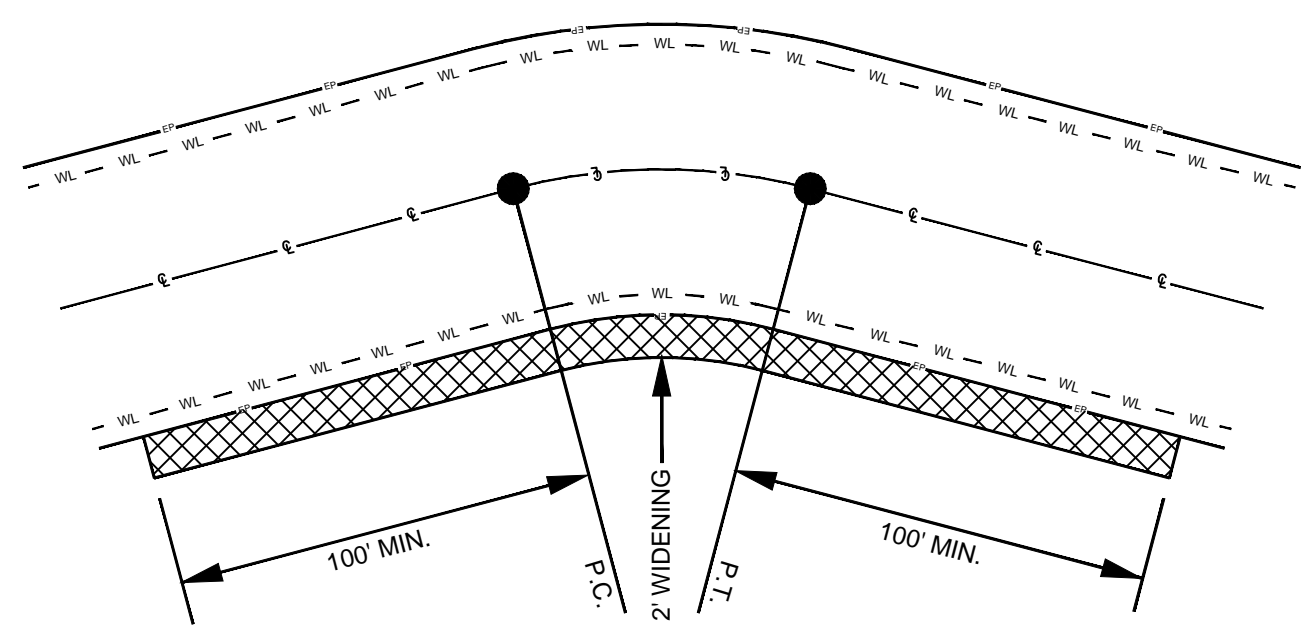
- NOTES:**
1. INCLUDES MILLING ON ASPHALT BRIDGE DECKS, BRIDGE APPROACHES & RR CROSSINGS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 3.
 2. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 4.

TYPICAL SECTION NO. 6

US 701 BUS. - FROM SC LINE TO NC 410



- NOTES:**
1. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 4.



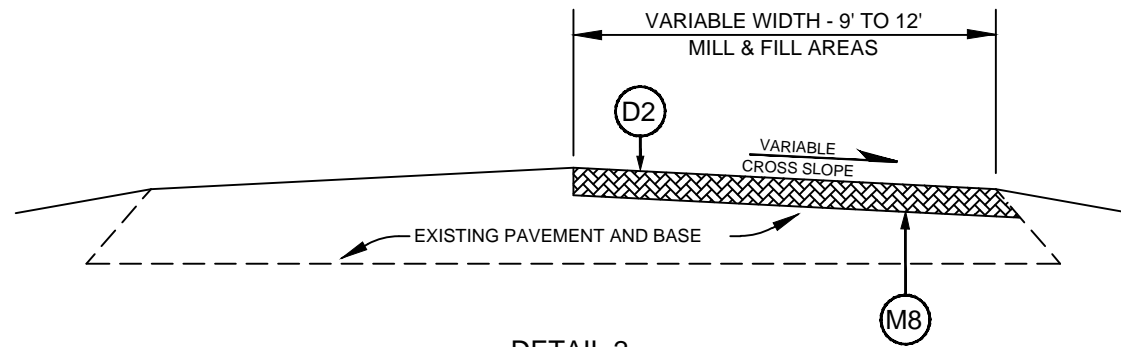
DETAIL 1
2' INSIDE CURVE WIDENING

- NOTES:**
1. CONSTRUCT CURVE WIDENING ON ALL CURVES, PROVIDED ADEQUATE SHOULDER EXISTS, OR AS DIRECTED BY ENGINEER.
 2. MAINTAIN LANE WIDTHS AND WHITE EDGE LINE PLACEMENT AS SHOWN. CURVE WIDENING SHOULD ACT AS A PAVED SHOULDER, NOT ADDITIONAL LANE WIDTH.

PAVEMENT SCHEDULE

C1	Proposed approximately 1 1/2" of Asphalt Concrete Surface Course, Type S-9.5-B, at an average rate of 168 pounds per square yard.
D1	Proposed approximately 3 1/2" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 399 pounds per square yard.
D2	Proposed approximately 2 1/2" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5 1/2" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard.
E2	Proposed approximately 5 1/2" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for 2' widening at inside curve radii, as Directed by the Engineer.
M1	Milling Depth 1 1/2" for the entire width of the roadway.
M2	Milling Depth of an additional 9", for a width as shown in the typical, from the edge of the Gutter Pan.
M3	Milling Depth 1 1/2" for the entire width of the roadway including the Gutter Pan.
M4	Milling Depth 3/4" for the entire width of the roadway for roadway profile correction.
M5	Milling existing soil shoulder, to a depth of 5 1/2", with a width of 2' where indicated by Typical, for inside curve widening.
M6	Milling Depth 0" - 1 1/2" at the edge of Curb & Gutter. Milling shall extend below the lip of the Curb & Gutter by the thickness of the Proposed Overlay.
M7	Milling Depth 0" - 1 1/2" at all Bridge and Railroad Approaches, for the entire width of the roadway, or as Directed by the Engineer.
M8	Milling Depth 2 1/2" at all designated distressed areas, with a variable width from 9' to 12', or as Directed by the Engineer.
S	Shoulder Reconstruction as directed by the Engineer.

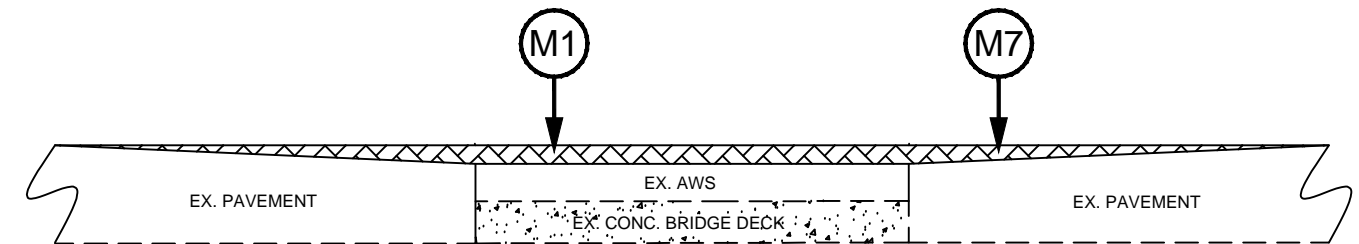
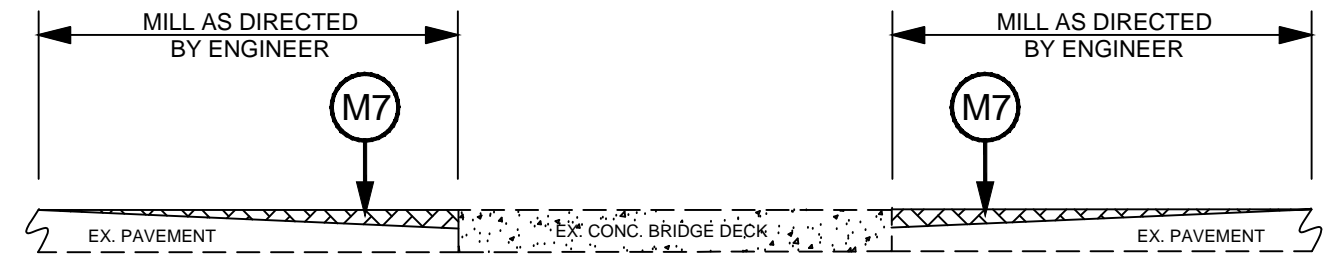
DRAWINGS NOT TO SCALE



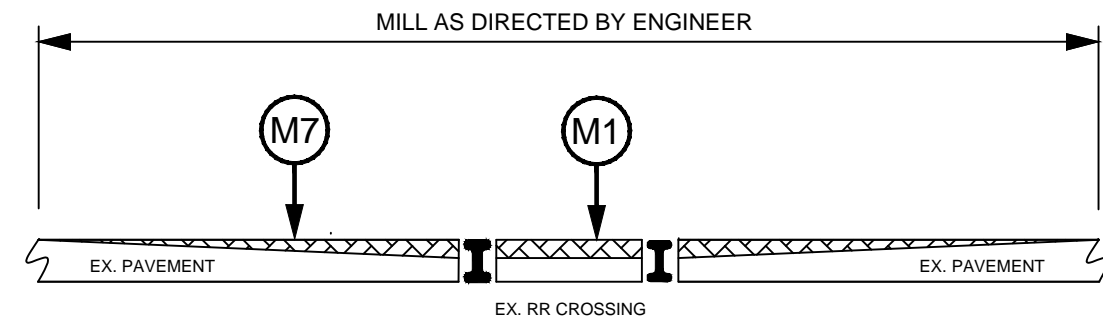
DETAIL 2
MILL & FILL PAVEMENT REPAIR

NOTES:

1. DISTRESSED AREAS TO BE REPAIRED BY MILL & FILL SHALL BE DESIGNATED BY THE ENGINEER.
2. FILL MILLED AREAS WITH ASPHALT INTERMEDIATE COURSE BACK FLUSH WITH THE EXISTING ASPHALT LEFT IN PLACE, PRIOR TO PLACEMENT OF PROPOSED ASPHALT SURFACE COURSE.



BRIDGE MILLING



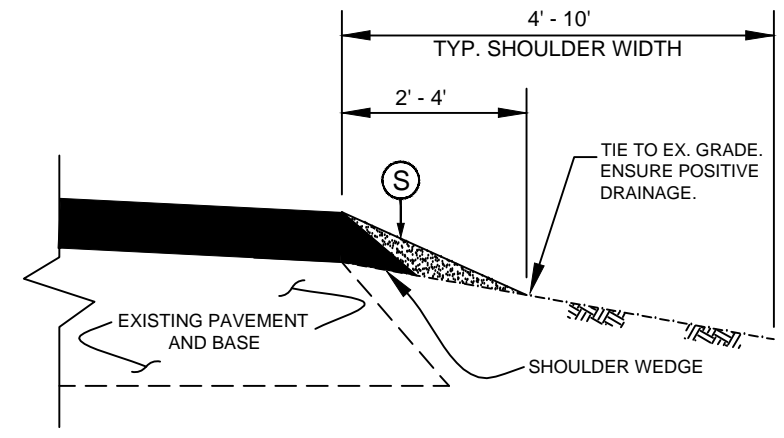
RAILROAD TRACKS MILLING

DETAIL 3
MILLING APPROACHES

NOTE:
MILLING SHALL BE PERFORMED AT RR CROSSINGS, BRIDGE DECKS AND BRIDGE APPROACHES AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THIS DETAIL.

PAVEMENT SCHEDULE	
C1	Proposed approximately 1½" of Asphalt Concrete Surface Course, Type S-9.5-B, at an average rate of 168 pounds per square yard.
D1	Proposed approximately 3½" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 399 pounds per square yard.
D2	Proposed approximately 2½" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard.
E2	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for 2' widening at inside curve radii, as Directed by the Engineer.
M1	Milling Depth 1½" for the entire width of the roadway.
M2	Milling Depth of an additional 9", for a width as shown in the typical, from the edge of the Gutter Pan.
M3	Milling Depth 1½" for the entire width of the roadway including the Gutter Pan.
M4	Milling Depth ¾" for the entire width of the roadway for roadway profile correction.
M5	Milling existing soil shoulder, to a depth of 5½", with a width of 2' where indicated by Typical, for inside curve widening.
M6	Milling Depth 0" - 1½" at the edge of Curb & Gutter. Milling shall extend below the lip of the Curb & Gutter by the thickness of the Proposed Overlay.
M7	Milling Depth 0" - 1½" at all Bridge and Railroad Approaches, for the entire width of the roadway, or as Directed by the Engineer.
M8	Milling Depth 2½" at all designated distressed areas, with a variable width from 9' to 12', or as Directed by the Engineer.
S	Shoulder Reconstruction as directed by the Engineer.

DRAWINGS NOT TO SCALE



**DETAIL 5
SHOULDER RECONSTRUCTION**

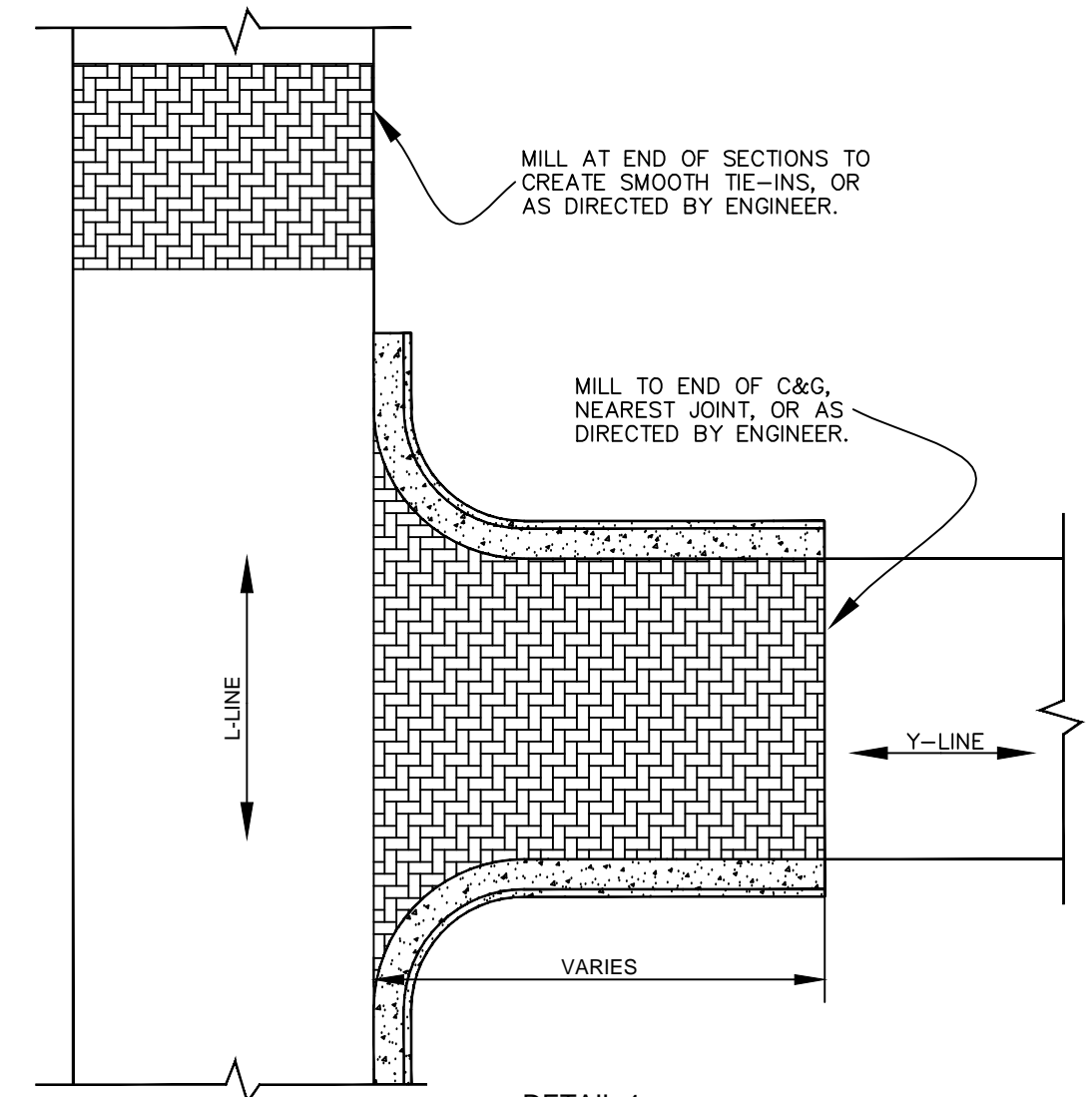
NOTES:

1. SHOULDER SHALL BE RECONSTRUCTED AS SHOWN IN STD. DWG. NO. 560.01 & 560.02, WITH A MINIMUM SLOPE OF 1" PER FOOT TO ENSURE POSITIVE DRAINAGE AWAY FROM ROADWAY.
2. AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE.
3. A VEGETATIVE BUFFER SHALL BE MAINTAINED BETWEEN THE DISTURBED AREA ALONG THE EDGE OF PAVEMENT AND THE DITCH SHOULDER POINT TO MINIMIZE EROSION. PULLING DITCHES OR CUTTING SHOULDERS TO GENERATE BORROW MATERIAL WILL NOT BE ALLOWED.
4. REQUIRED BORROW MATERIAL MAY BE OBTAINED BY THE CONTRACTOR FROM WIDENING OPERATIONS WITHIN THE PROJECT LIMITS, FROM NCDOT APPROVED BORROW PITS OR FROM NCDOT STOCKPILES. ANY EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN APPROVED DISPOSAL SITE.

PAVEMENT SCHEDULE

C1	Proposed approximately 1½" of Asphalt Concrete Surface Course, Type S-9.5-B, at an average rate of 168 pounds per square yard.
D1	Proposed approximately 3½" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 399 pounds per square yard.
D2	Proposed approximately 2½" of Asphalt Concrete Intermediate Course, Type I-19.0-B, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard.
E2	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-B, at an average rate of 627 pounds per square yard for 2' widening at inside curve radii, as Directed by the Engineer.
M1	Milling Depth 1½" for the entire width of the roadway.
M2	Milling Depth of an additional 9", for a width as shown in the typical, from the edge of the Gutter Pan.
M3	Milling Depth 1½" for the entire width of the roadway including the Gutter Pan.
M4	Milling Depth ¾" for the entire width of the roadway for roadway profile correction.
M5	Milling existing soil shoulder, to a depth of 5½", with a width of 2' where indicated by Typical, for inside curve widening.
M6	Milling Depth 0" - 1½" at the edge of Curb & Gutter. Milling shall extend below the lip of the Curb & Gutter by the thickness of the Proposed Overlay.
M7	Milling Depth 0" - 1½" at all Bridge and Railroad Approaches, for the entire width of the roadway, or as Directed by the Engineer.
M8	Milling Depth 2½" at all designated distressed areas, with a variable width from 9' to 12', or as Directed by the Engineer.
S	Shoulder Reconstruction as directed by the Engineer.

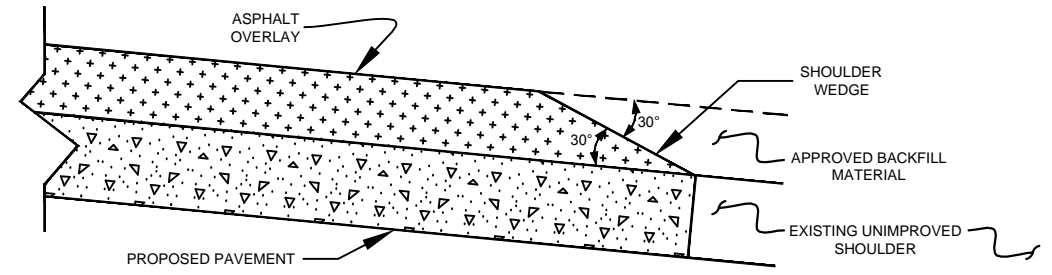
DRAWINGS NOT TO SCALE



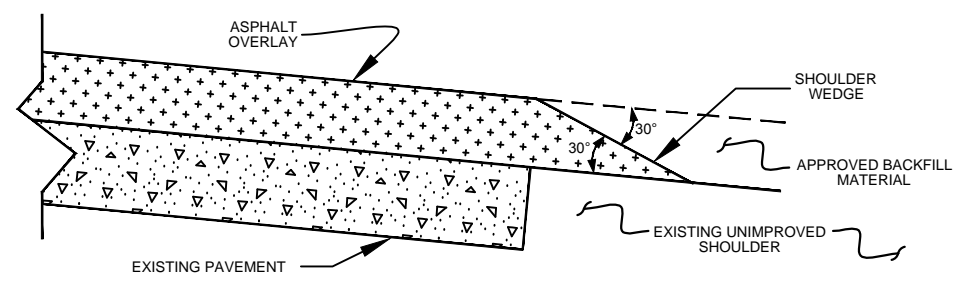
**DETAIL 4
Y-LINE / BUTT JOINT MILLING**

NOTES:

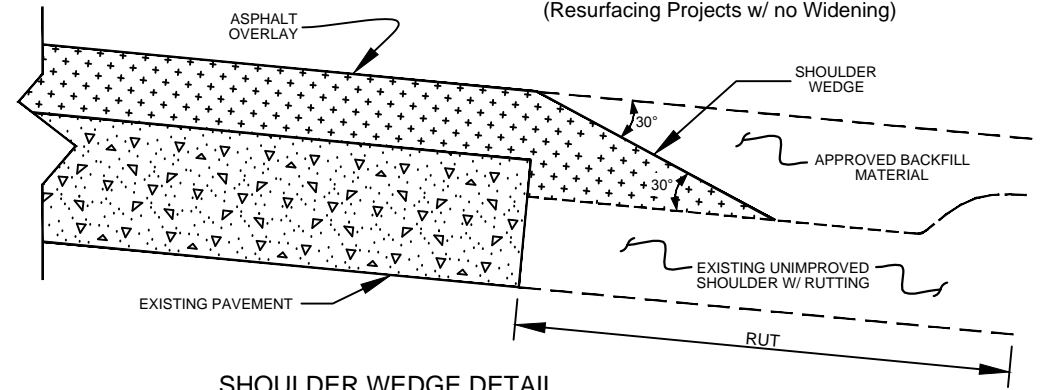
1. INCLUDES INCIDENTAL MILLING AT THE ENDS OF MAIN LINE SECTIONS, CURB RADII, AND ALL PUBLIC ROADWAY INTERSECTIONS (NCDOT & MUNICIPALITY), OR AS DIRECTED BY THE ENGINEER.
2. PAVE TO THE END OF THE MILLED SURFACE TO CREATE A SMOOTH TRANSITION.



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)

DETAIL 6
SHOULDER WEDGE DETAILS

- 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.

DETAIL 7
GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS

Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

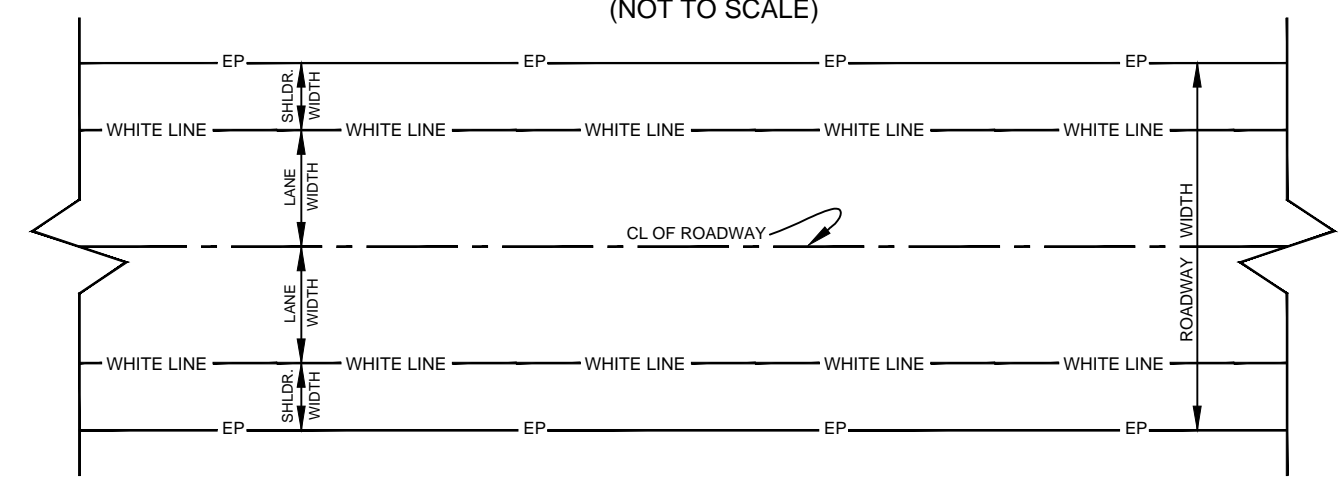
TWO LANE - TWO WAY ROADWAY - 55 MPH		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	12'	2'
32'	12'	4'

* May vary due to pavement width

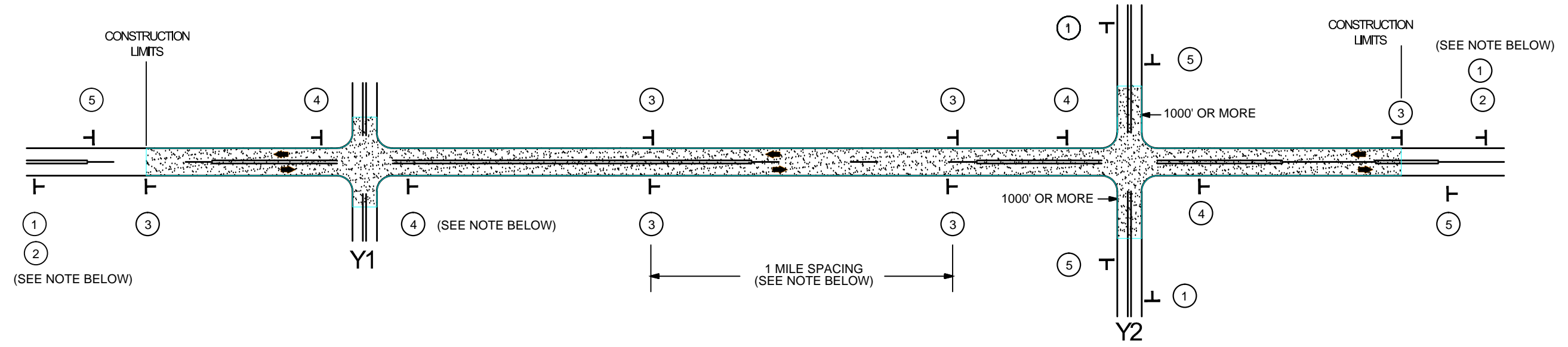
TWO LANE - TWO WAY ROADWAY 50 MPH OR LESS		
ROADWAY WIDTH	LANE WIDTH	SHOULDER WIDTH
18'	9' *	0'
20'	10' *	0'
22'	10'	1'
24'	10'	2'
26'	11'	2'
28'	11'	3'
32'	11'	5'

* May vary due to pavement width

SCHMATIC OF ROADWAY
(NOT TO SCALE)



SIGNING FOR RESURFACING PROJECTS

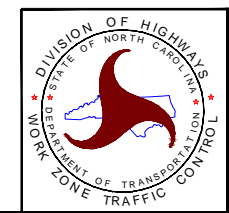


LEGEND	
	STATIONARY SIGN
	DIRECTION OF TRAFFIC FLOW

MAINLINE (-L-) SIGNING

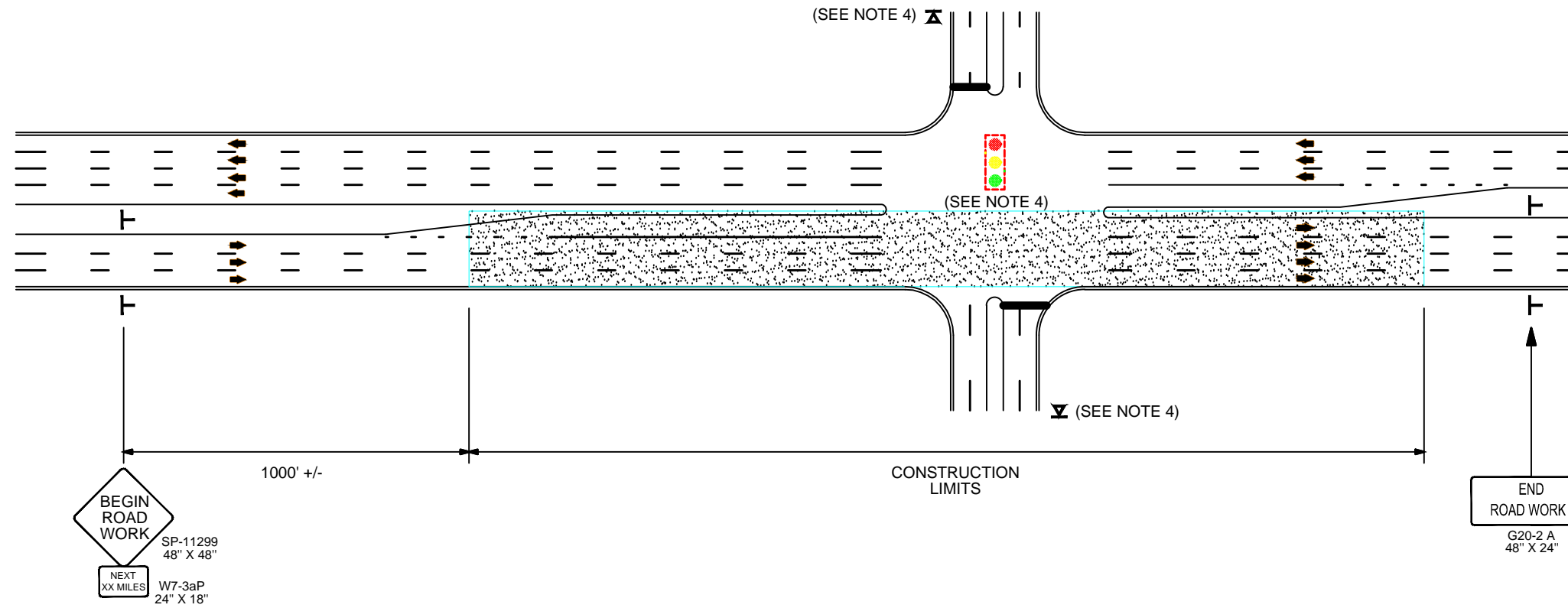
-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	 	<p>PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.</p> <p>#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)</p>	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> LESS THAN 1000' OF RESURFACING ALONG -Y- LINE SUBDIVISION ROADS DEAD END ROADS <p>WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> PLACED 500' IN ADVANCE OF FLAGGER. </div> <div style="text-align: center;"> PLACED 250' IN ADVANCE OF FLAGGER. </div> </div>
		<p>PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.</p>	
		<p>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.</p>	
		<p>PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.</p>	



RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS

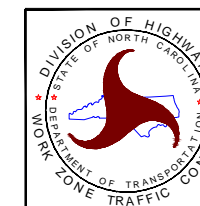
URBAN / SUBURBAN WORKZONES



NOTES:

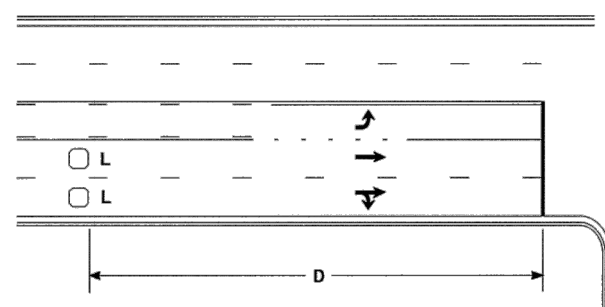
1. 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
2. MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. 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



**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

High Speed Detection [≥40 mph (64 km/hr)]

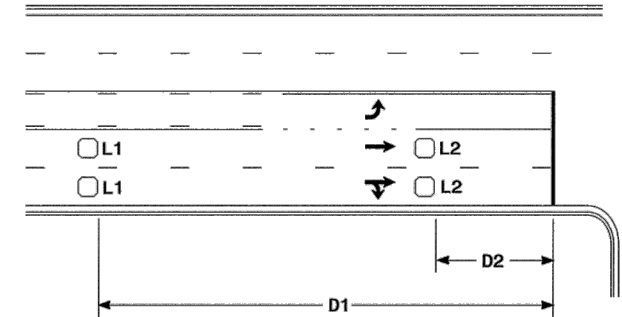


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

Volume Density Operation

OR

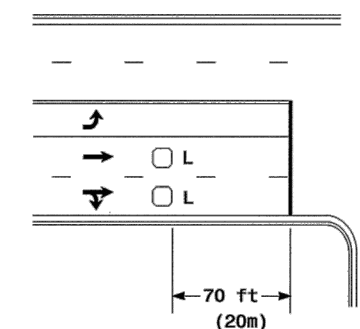


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

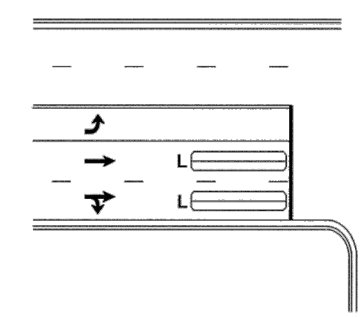
"Stretch" Operation

Low Speed Detection [≤35 mph (56 km/hr)]



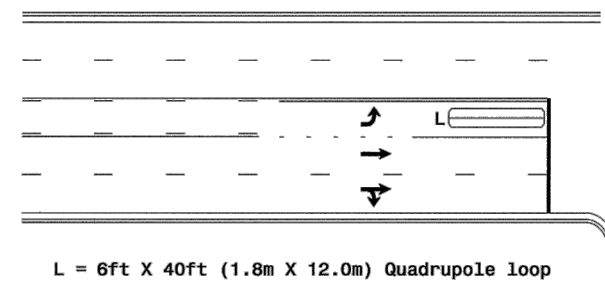
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

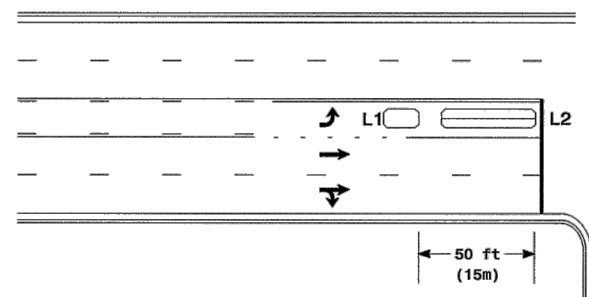
Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

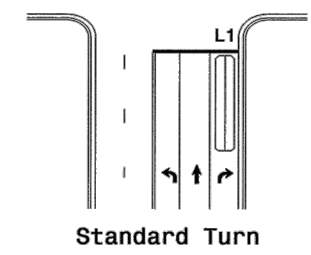
OR



L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

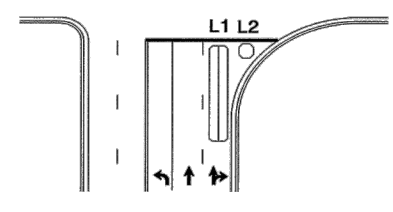
Queue Loop Detection

Right Turn Lane Detection

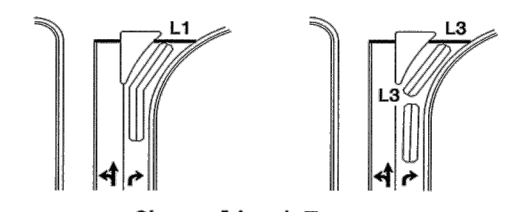


Standard Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

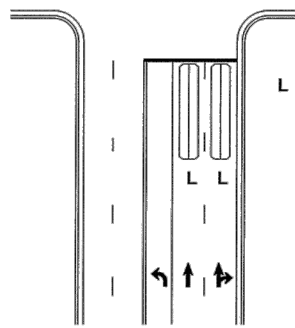


Wide Radius Turn



Channelized Turn

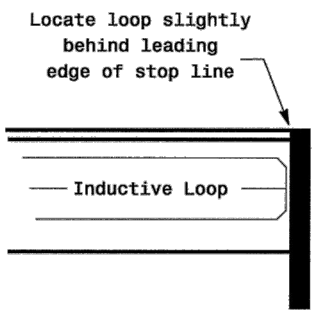
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

19-MEC-2006 14123
10/10/06 10:10:10 am h:\m\sew\loop\p\cal12006.dgn
pdl alexander

Presence Loop Placement at Stop Lines



Locate loop slightly
behind leading
edge of stop line

Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns
6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns

	Typical Loop Locations		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY:	
REVISIONS: <i>Revise pavement markings</i>		INIT. DATE: <i>PL</i> 12/19/06	SIGNATURE: <i>P. L. Alexander</i> DATE:
			SIG. INVENTORY NO.

SUMMARY OF QUANTITIES

																	PROJECT NO.		SHEET NO.	TOTAL NO.															
																	6CR.10241.81		1	2															
PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	GENERIC GRADING ITEM AGGREGATE SHOULDER BORROW	SHOULDER RECONSTRUCTION	¾" MILLING	1½" MILLING	2½" MILLING	9" MILLING	0" TO 1½" MILLING	INCIDENTAL MILLING	BASE COURSE, B25.0B	INTERMEDIATE COURSE, I19.0B	SURFACE COURSE, S9.5B													
NO		NO			NO							TON	SMI	SY	SY	SY	SY	SY	SY	TONS	TONS	TONS													
6CR.10241.81	Columbus	1	NC 410-A	FROM SMITH ST. TO RR AVE.	1	3	MU	NO	NO	0.34	31				6,183		4,189		444	1,313	836	645													
TOTAL FOR MAP NO. 1										0.34					6,183		4,189		444	1,313	836	645													
6CR.10241.81	Columbus	2	NC 410-B	FROM RR AVE. TO 2ND AVE.	2	2	2WU	NO	NO	0.19	30				3,344				178			331													
TOTAL FOR MAP NO. 2										0.19					3,344				178			331													
6CR.10241.81	Columbus	3	NC 410-C	FROM 2ND AVE. TO US 74 BUS.	3	3	MU	NO	NO	0.48	31				8,730		3,942		533	1,236	786	885													
TOTAL FOR MAP NO. 3										0.48					8,730		3,942		533	1,236	786	885													
6CR.10241.81	Columbus	4	NC 410-D	FROM US 74 BUS. TO BEGIN GUTTER S. OF BRIDGE 400	4	2	2WU	NO	NO	2.02	25	674	4.00	32,296			5,355		267	96	763	3,039													
TOTAL FOR MAP NO. 4										2.02					674		4.00		32,296		5,355		267	96	763	3,039									
6CR.10241.81	Columbus	5	NC 410-E	FROM BEGIN GUTTER S. OF BRIDGE 400 TO END GUTTER N. OF BRIDGE 400	5	2	2WU	NO	NO	0.16	26	54	0.30	2,441				657	578			240													
TOTAL FOR MAP NO. 5										0.16					54		0.30		2,441		657		578		240										
6CR.10241.81	Columbus	6	NC 410-F	FROM END GUTTER N. OF BRIDGE 400 TO CJ 0.1 MI. N. OF SR 1572	4	3	MU	NO	NO	0.15	38	51	0.30	3,766					133			354													
TOTAL FOR MAP NO. 6										0.15					51		0.30		3,766		133		354												
6CR.10241.81	Columbus	7	US 701 BUS.	FROM SC LINE TO NC 410	6	2	2WU	NO	NO	0.79	38				17,612				222			1,542													
TOTAL FOR MAP NO. 7										0.79							17,612		222			1,542													
TOTAL FOR PROJ NO. 6CR.10241.81										4.13					779		4.60		38,503		35,869		5,355		8,131		657		2,355		2,645		2,385		7,036
GRAND TOTAL										4.13					779		4.60		38,503		35,869		5,355		8,131		657		2,355		2,645		2,385		7,036

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH	WIDTH	LEVELING COURSE, S9.5B	ASPHALT BINDER FOR PLANT MIX	PATCHING EXISTING PAVEMENT	ADJ. OF MANHOLES	ADJ. OF METER OR VALVE BOX	PAVED TRENCHING (1 CONDUIT, 2")	UNPAVED TRENCHING (1 CONDUIT, 2")	JUNCTION BOX (STANDARD SIZE)	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	2" RISER WITH WEATHERHEAD	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)				
NO		NO			NO							TONS	TONS	TONS	EA	EA	LF	LF	EA	EA	EA	LF	LF				
6CR.10241.81	Columbus	1	NC 410-A	FROM SMITH ST. TO RR AVE.	1	3	MU	NO	NO	0.34	31	10	137	14	2	2											
TOTAL FOR MAP NO. 1										0.34					10	137	14	2	2								
6CR.10241.81	Columbus	2	NC 410-B	FROM RR AVE. TO 2ND AVE.	2	2	2WU	NO	NO	0.19	30		20		2	2	100	100	1	1	1	325	100				
TOTAL FOR MAP NO. 2										0.19					20		2	2	100	100	1	1	1	325	100		
6CR.10241.81	Columbus	3	NC 410-C	FROM 2ND AVE. TO US 74 BUS.	3	3	MU	NO	NO	0.48	31	20	147	19	2	2	200	200	2	2	2	1,250	200				
TOTAL FOR MAP NO. 3										0.48					20	147	19	2	2	200	200	2	2	2	1,250	200	
6CR.10241.81	Columbus	4	NC 410-D	FROM US 74 BUS. TO BEGIN GUTTER S. OF BRIDGE 400	4	2	2WU	NO	NO	2.02	25	37	226	40			200	200	2	2	2	1,250	200				
TOTAL FOR MAP NO. 4										2.02					37	226	40			200	200	2	2	2	1,250	200	
6CR.10241.81	Columbus	5	NC 410-E	FROM BEGIN GUTTER S. OF BRIDGE 400 TO END GUTTER N. OF BRIDGE 400	5	2	2WU	NO	NO	0.16	26		14														
TOTAL FOR MAP NO. 5										0.16					14												
6CR.10241.81	Columbus	6	NC 410-F	FROM END GUTTER N. OF BRIDGE 400 TO CJ 0.1 MI. N. OF SR 1572	4	3	MU	NO	NO	0.15	38		21														
TOTAL FOR MAP NO. 6										0.15					21												
6CR.10241.81	Columbus	7	US 701 BUS.	FROM SC LINE TO NC 410	6	2	2WU	NO	NO	0.79	38		93	12	3	3											
TOTAL FOR MAP NO. 7										0.79					93	12	3	3									
TOTAL FOR PROJ NO. 6CR.10241.81										4.13					67	658	85	9	9	500	500	5	5	5	2,825	500	
GRAND TOTAL										4.13					67	658	85	9	9	500	500	5	5	5	2,825	500	

THERMOPLASTIC AND PAINT QUANTITIES

														PROJECT NO.		SHEET NO.		TOTAL NO.	
														6CR.10241.81		2		2	
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4510000000-N	4685000000-E	4686000000-E	4695000000-E	4705000000-E	4710000000-E		
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL	LAW ENFORCEMENT	4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	4" X 120 M YELLOW THERMO	4" X 120 M WHITE THERMO	8" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	16" X 120 M WHITE THERMO
										SF	LS	HR	LF	LF	LF	LF	LF	LF	
6CR.10241.81	Columbus	1	NC 410-A	FROM SMITH ST. TO RR AVE.	1	3	MU	0.34	31	126	1				5,250		100	150	100
TOTAL FOR MAP NO. 1									126	1				5,250		100	150	100	
6CR.10241.81	Columbus	2	NC 410-B	FROM RR AVE. TO 2ND AVE.	2	2	2WU	0.19	30	126		40			2,000			50	55
TOTAL FOR MAP NO. 2									126		40			2,000			50	55	
6CR.10241.81	Columbus	3	NC 410-C	FROM 2ND AVE. TO US 74 BUS.	3	3	MU	0.48	31	126		40	365		6,500	150	120		75
TOTAL FOR MAP NO. 3									126		40	365		6,500	150	120		75	
6CR.10241.81	Columbus	4	NC 410-D	FROM US 74 BUS. TO BEGIN GUTTER S. OF BRIDGE 400	4	2	2WU	2.02	25	226		40	21,500	650	15,200	200	240	520	250
TOTAL FOR MAP NO. 4									226		40	21,500	650	15,200	200	240	520	250	
6CR.10241.81	Columbus	5	NC 410-E	FROM BEGIN GUTTER S. OF BRIDGE 400 TO END GUTTER N. OF BRIDGE 400	5	2	2WU	0.16	26	18			700		1,320	100			
TOTAL FOR MAP NO. 5									18			700		1,320	100				
6CR.10241.81	Columbus	6	NC 410-F	FROM END GUTTER N. OF BRIDGE 400 TO CJ 0.1 MI. N. OF SR 1572	4	3	MU	0.15	38	17			1,900		2,500	100	100		110
TOTAL FOR MAP NO. 6									17			1,900		2,500	100	100		110	
6CR.10241.81	Columbus	7	US 701 BUS.	FROM SC LINE TO NC 410	6	2	2WU	0.79	38	126			500		9,000				
TOTAL FOR MAP NO. 7									126			500		9,000					
TOTAL FOR PROJ NO. 6CR.10241.81									765	1	120	24,965	650	41,770	550	560	520	200	590
												25,615		42,320		1,080			
GRAND TOTAL									765	1	120	24,965	650	41,770	550	560	520	200	590
												25,615		42,320		1,080			

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4721000000-E	4725000000-E				4770000000-E	4810000000-E		4830000000-E	4900000000-N	
										THERMO RXR 120 M	THERMO LT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR ARROW 90 M	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE III (4")	4" YELLOW PAINT	4" WHITE PAINT	16" WHITE PAINT	YELLOW & YELLOW MARKERS	CRYSTAL & RED MARKERS
										EA	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA
6CR.10241.81	Columbus	1	NC 410-A	FROM SMITH ST. TO RR AVE.	1	3	MU	0.34	31	2	10					5,250		50	70	
TOTAL FOR MAP NO. 1									2	10				5,250		50	70			
6CR.10241.81	Columbus	2	NC 410-B	FROM RR AVE. TO 2ND AVE.	2	2	2WU	0.19	30	2					2,000		50	15		
TOTAL FOR MAP NO. 2									2					2,000		50	15			
6CR.10241.81	Columbus	3	NC 410-C	FROM 2ND AVE. TO US 74 BUS.	3	3	MU	0.48	31		17		3		6,600	600		85	10	
TOTAL FOR MAP NO. 3										17		3		6,600	600		85	10		
6CR.10241.81	Columbus	4	NC 410-D	FROM US 74 BUS. TO BEGIN GUTTER S. OF BRIDGE 400	4	2	2WU	2.02	25		12		2	3	15,200	21,500		200	60	
TOTAL FOR MAP NO. 4										12		2	3	15,200	21,500		200	60		
6CR.10241.81	Columbus	5	NC 410-E	FROM BEGIN GUTTER S. OF BRIDGE 400 TO END GUTTER N. OF BRIDGE 400	5	2	2WU	0.16	26						1,500	1,320	800		35	20
TOTAL FOR MAP NO. 5														1,500	1,320	800		35	20	
6CR.10241.81	Columbus	6	NC 410-F	FROM END GUTTER N. OF BRIDGE 400 TO CJ 0.1 MI. N. OF SR 1572	4	3	MU	0.15	38		3		2		2,500	1,900		40	35	
TOTAL FOR MAP NO. 6										3		2		2,500	1,900		40	35		
6CR.10241.81	Columbus	7	US 701 BUS.	FROM SC LINE TO NC 410	6	2	2WU	0.79	38						9,000			160		
TOTAL FOR MAP NO. 7														9,000			160			
TOTAL FOR PROJ NO. 6CR.10241.81									4	42	10	3	5	1,500	41,870	24,800	100	605	125	
											60				66,670		730			
GRAND TOTAL									4	42	10	3	5	1,500	41,870	24,800	100	605	125	
											60				66,670		730			