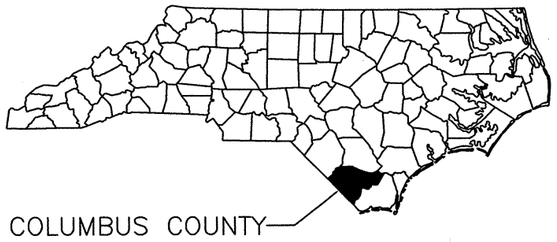
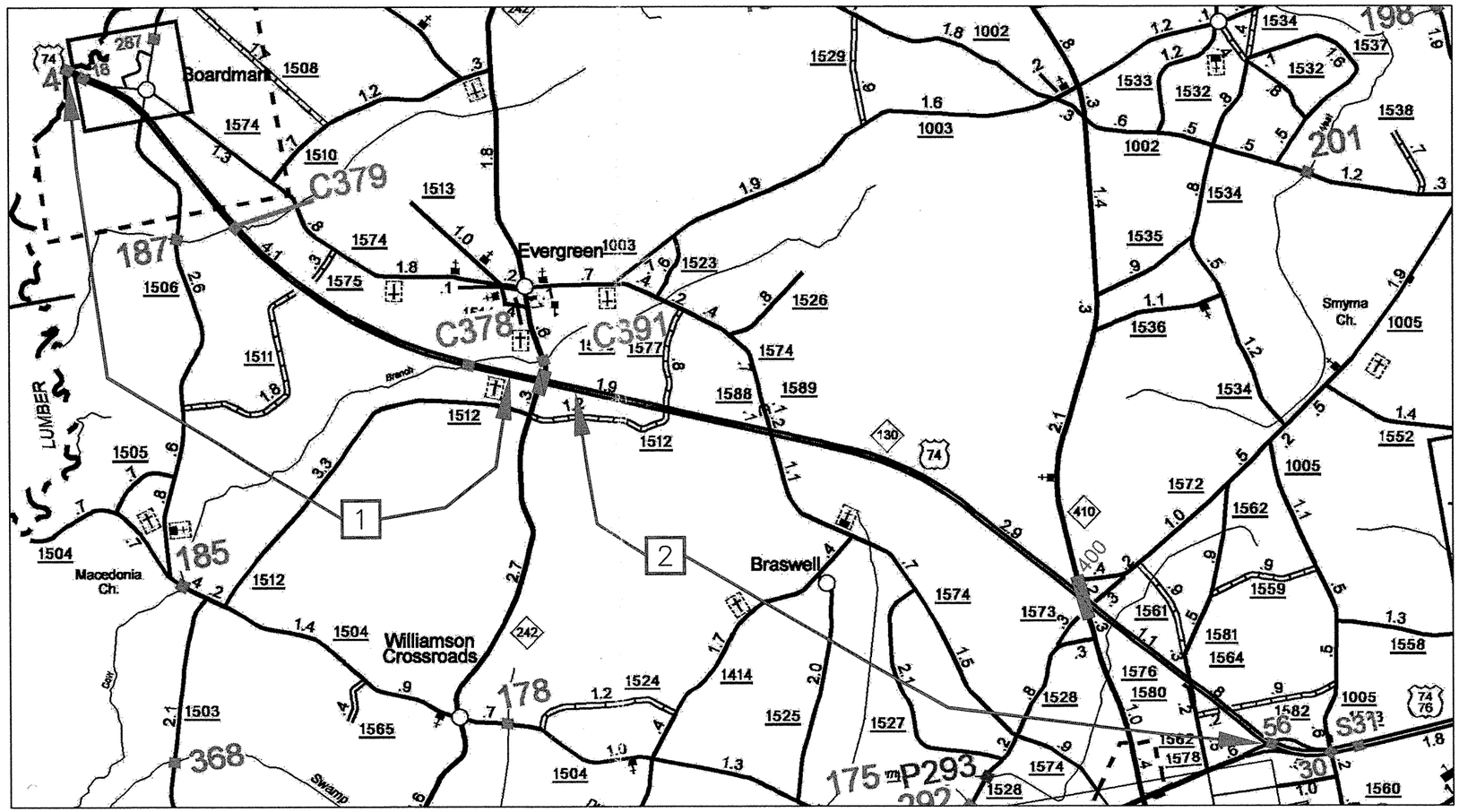
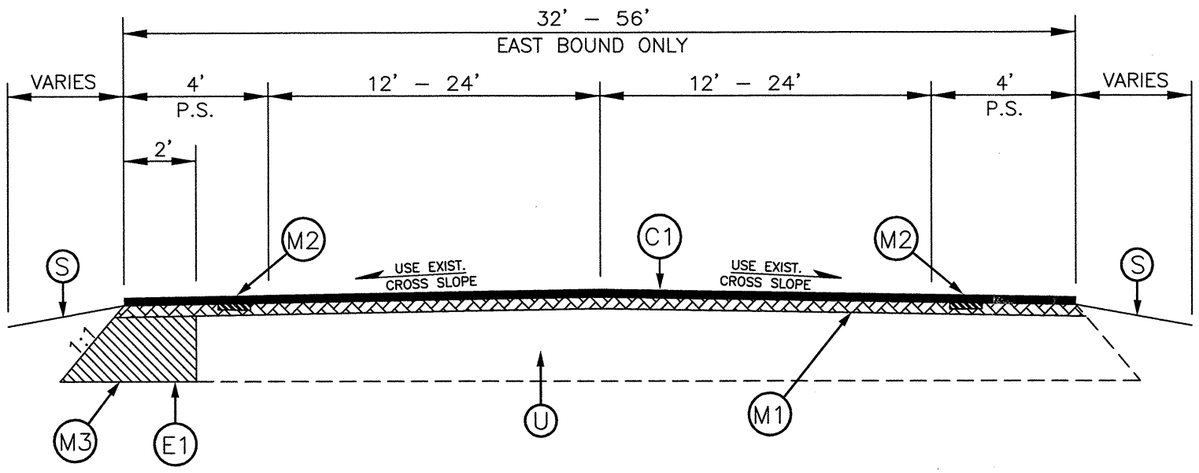
PROJECT REFERENCE NO.	SHEET NO.
R-5511 – 45464.3.FS1	1

RESURFACING MAP – COLUMBUS COUNTY



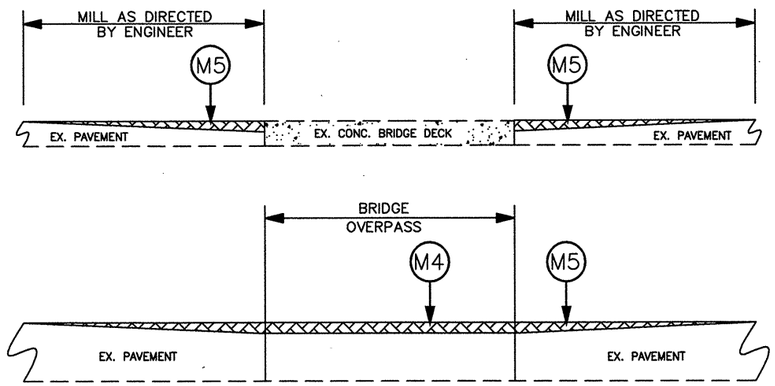


PROJECT REFERENCE NO.	SHEET NO.
R-5511 – 45464.3.FS1	2



TYPICAL SECTION NO. 1

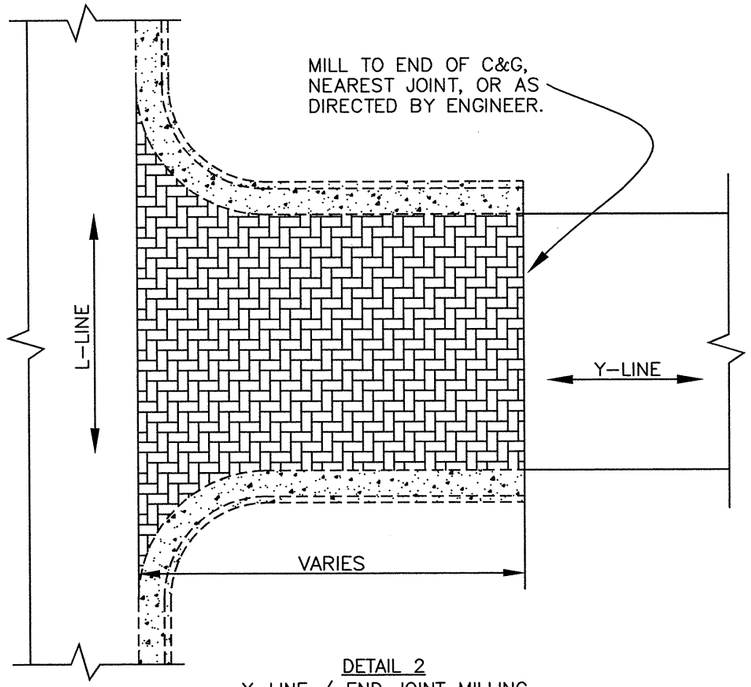
NOTES:
1. INCLUDES MILLING ON BRIDGE APPROACHES & BRIDGE UNDERPASSES, AS NEEDED, OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 1.
2. INCLUDES INCIDENTAL MILLING AT THE ENDS OF SECTIONS FOR SMOOTH TIE-INS, CURB RADII, AND STREET INTERSECTIONS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 2.
3. CONTRACTOR SHALL BE REQUIRED TO EVEN UP THE ROADWAY PROFILE ACROSS LANES AT THE END OF EACH WORK DAY.



DETAIL 1
BRIDGE MILLING

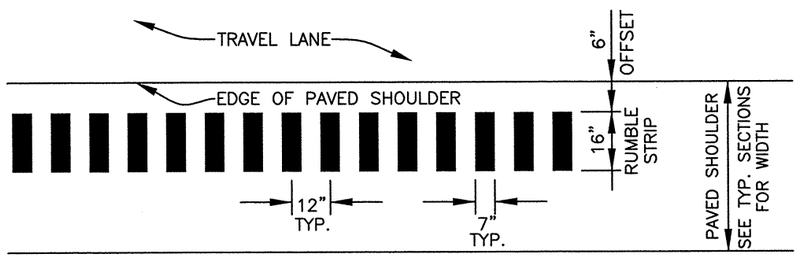
NOTE:
MILLING SHALL BE PERFORMED AT BRIDGE APPROACHES AND BRIDGE UNDERPASSES AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THIS DETAIL.

PAVEMENT SCHEDULE	
C1	Proposed approximately 2" of Asphalt Concrete Surface Course, Type S-9.5-C, at an average rate of 224 pounds per square yard.
C2	Proposed approximately 2" of Asphalt Concrete Surface Course, Type S9.5B, at an average rate of 224 pounds per square yard.
D1	Proposed approximately 2½" of Asphalt Concrete Intermediate Course, Type I-19.0-C, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-C, at an average rate of 627 pounds per square yard for standard widening.
M1	Milling existing asphalt to a depth of ½" for the entire width of the roadway, or as Directed by the Engineer, for roadway profile correction.
M2	Proposed Milled Rumble Strips, placed in the final asphalt surface, in accordance with Standard Drawing 665.01 of the Roadway Standard Drawings.
M3	Milling existing soil shoulder, to a depth of 5½", with a width of 2' where indicated by Typical, for standard widening.
M4	Milling Depth 2" for the entire width of the roadway, or as Directed by the Engineer.
M5	Incidental Milling 0" – 2" at all Bridge Approaches & Bridge Underpasses, for the entire width of the roadway, or as Directed by the Engineer.
M6	Milling existing asphalt to a depth of 2½" at all designated Mill & Fill Patch Areas, with a variable width from 12' to 24', or as Directed by the Engineer.
S	Shoulder Reconstruction
U	Existing Pavement and Base or Earth Subgrade.
DRAWINGS NOT TO SCALE	



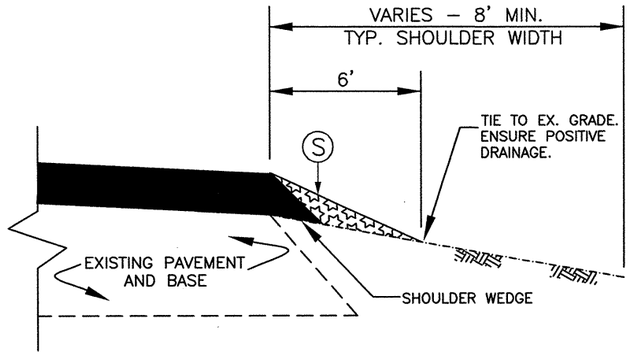
DETAIL 2
Y-LINE / END JOINT MILLING

NOTE: INCLUDES INCIDENTAL MILLING AT THE ENDS OF SECTIONS FOR SMOOTH TIE-INS, CURB RADII, AND STREET INTERSECTIONS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THIS DETAIL.



DETAIL 3
PAVED SHOULDER – PLAN VIEW

NOTE:
REFER TO STD. DWG. NO. 665.01 – "ASPHALT SHOULDERS MILLED RUMBLE STRIPS", IN THE NCDOT ROADWAY STANDARD DRAWINGS, LATEST EDITION, FOR ADDITIONAL INFORMATION.



DETAIL 4
SHOULDER RECONSTRUCTION

NOTES:
1. SHOULDER SHALL BE RECONSTRUCTED FROM THE EDGE OF PAVEMENT OUT TO A WIDTH OF 6'. 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 FROM WIDENING OPERATIONS WITHIN THE PROJECT LIMITS, 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 2" of Asphalt Concrete Surface Course, Type S-9.5-C, at an average rate of 224 pounds per square yard.
C2	Proposed approximately 2" of Asphalt Concrete Surface Course, Type S9.5B, at an average rate of 224 pounds per square yard.
D1	Proposed approximately 2½" of Asphalt Concrete Intermediate Course, Type I-19.0-C, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B-25.0-C, at an average rate of 627 pounds per square yard for standard widening.
M1	Milling existing asphalt to a depth of ½" for the entire width of the roadway, or as Directed by the Engineer, for roadway profile correction.
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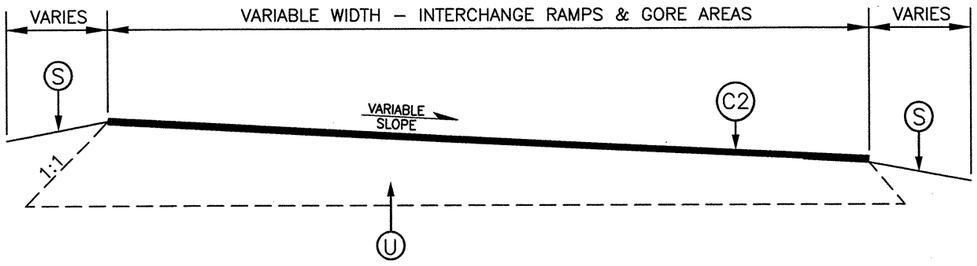
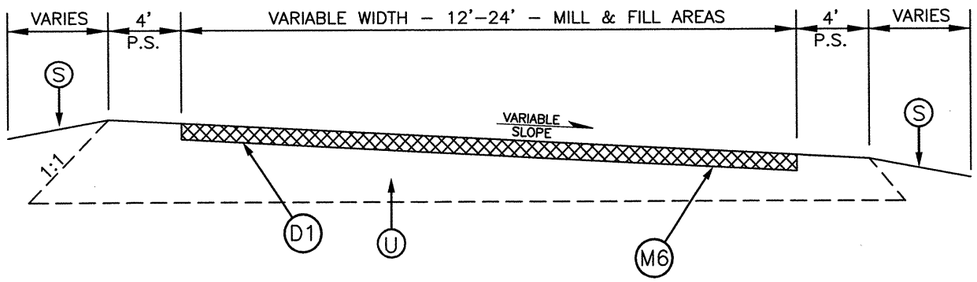
M4	Milling Depth 2" for the entire width of the roadway, or as Directed by the Engineer.
M5	Incidental Milling 0" – 2" at all Bridge Approaches & Bridge Underpasses, for the entire width of the roadway, or as Directed by the Engineer.
M6	Milling existing asphalt to a depth of 2½" at all designated Mill & Fill Patch Areas, with a variable width from 12' to 24', or as Directed by the Engineer.
S	Shoulder Reconstruction
U	Existing Pavement and Base or Earth Subgrade.
DRAWINGS NOT TO SCALE	



DETAIL 6
RAMPS & GORE AREAS

NOTES:
1. FOR USE WITH ALL INTERCHANGE RAMPS AND GORE AREAS.
2. INCLUDES INCIDENTAL MILLING AT THE ENDS OF SECTIONS FOR SMOOTH TIE–INS, CURB RADII, AND STREET INTERSECTIONS, AS NEEDED, OR AS DIRECTED BY THE ENGINEER. SEE DETAIL 2.



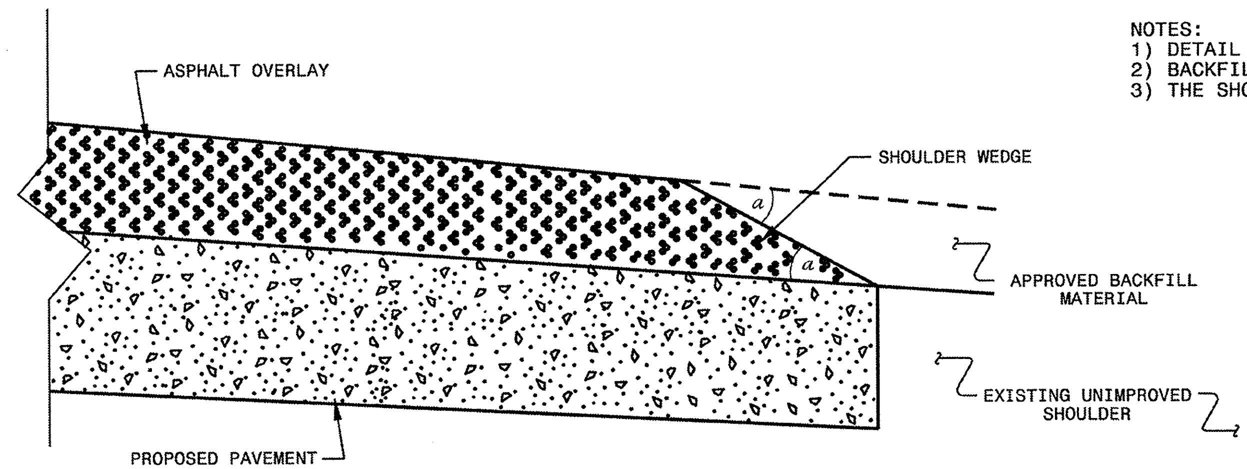
DETAIL 5
MILL & FILL PAVEMENT REPAIR

NOTES:

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

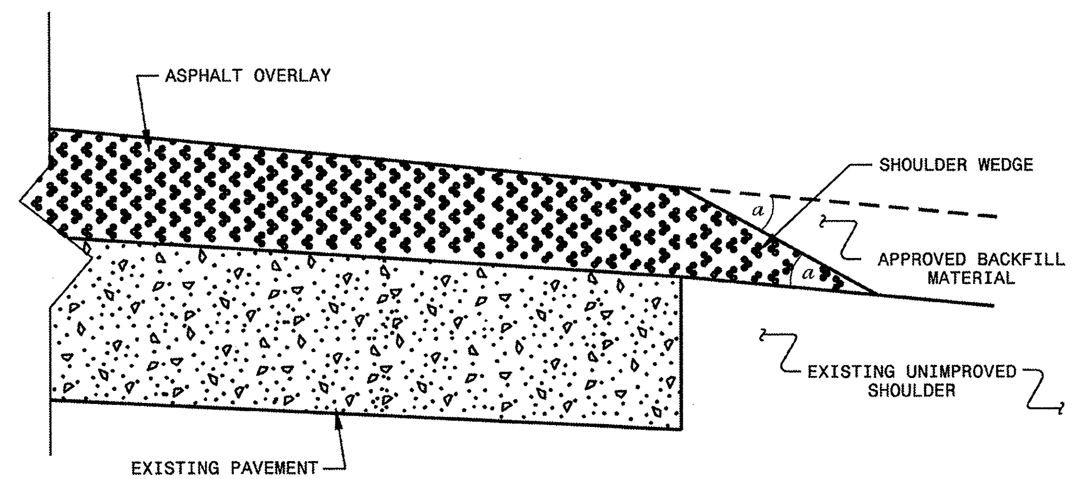
PAVEMENT SCHEDULE	
C1	Proposed approximately 2" of Asphalt Concrete Surface Course, Type S–9.5–C, at an average rate of 224 pounds per square yard.
C2	Proposed approximately 2" of Asphalt Concrete Surface Course, Type S9.5B, at an average rate of 224 pounds per square yard.
D1	Proposed approximately 2½" of Asphalt Concrete Intermediate Course, Type I–19.0–C, at an average rate of 285 pounds per square yard.
E1	Proposed approximately 5½" of Asphalt Concrete Base Course, Type B–25.0–C, at an average rate of 627 pounds per square yard for standard widening.
M1	Milling existing asphalt to a depth of ½" for the entire width of the roadway, or as Directed by the Engineer, for roadway profile correction.
M2	Proposed Milled Rumble Strips, placed in the final asphalt surface, in accordance with Standard Drawing 665.01 of the Roadway Standard Drawings.
M3	Milling existing soil shoulder, to a depth of 5½", with a width of 2' where indicated by Typical, for standard widening.
M4	Milling Depth 2" for the entire width of the roadway, or as Directed by the Engineer.
M5	Incidental Milling 0" – 2" at all Bridge Approaches & Bridge Underpasses, for the entire width of the roadway, or as Directed by the Engineer.
M6	Milling existing asphalt to a depth of 2½" at all designated Mill & Fill Patch Areas, with a variable width from 12' to 24', or as Directed by the Engineer.
S	Shoulder Reconstruction
U	Existing Pavement and Base or Earth Subgrade.
DRAWINGS NOT TO SCALE	

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



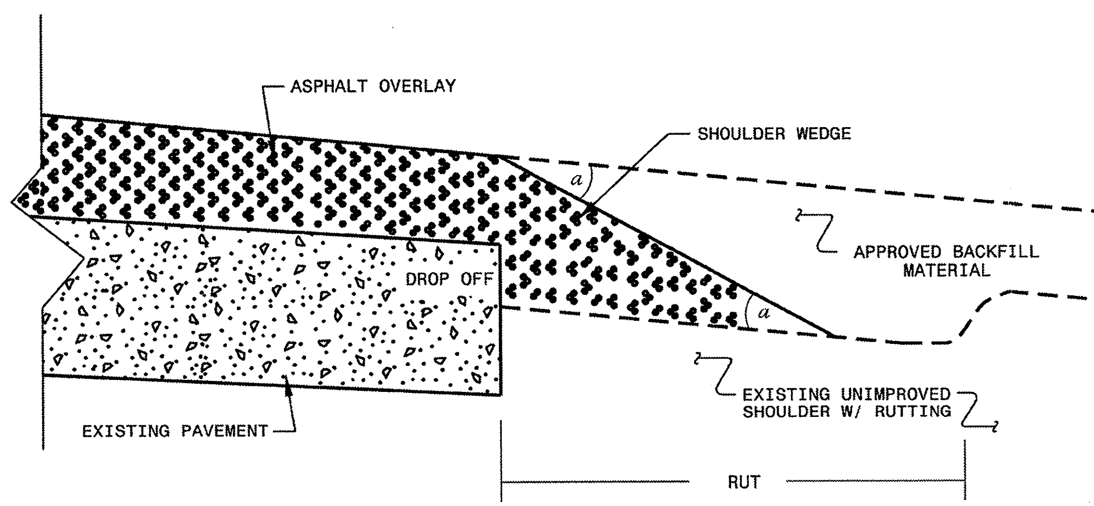
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening or with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

SHOULDER WEDGE DETAILS

ORIGINAL BY: T.SPELL DATE: 7-19-11
MODIFIED BY: DATE: 10/16/12
CHECKED BY: DATE:
FILE SPEC.: s:usr/details/stand/shoulderwedgedetail.dgn

PROJECT NO.	SHEET NO.	TOTAL NO.
45464.3.FS1 -- R-5511	6	

SUMMARY OF QUANTITIES

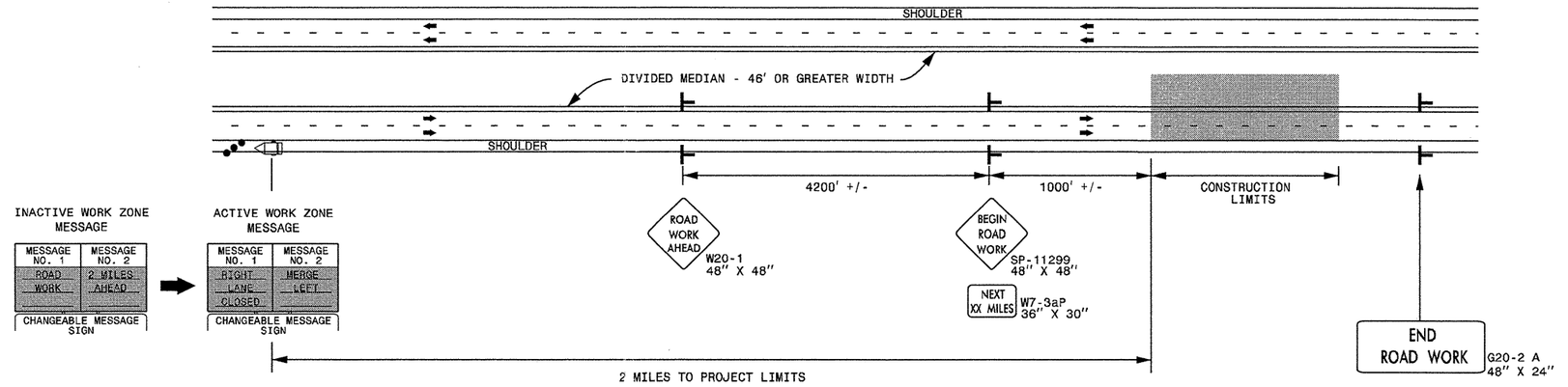
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	AGGREGATE SHOULDER BORROW TON	0.5" MILLING SY	2.5" MILLING SY	2" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0C TONS	INTERMEDIATE COURSE, I19.0C TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	ASPHALT CONC SURFACE COURSE, TYPE S9.5C (LEVELING COURSE) TON	ASPHALT BINDER FOR PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) LF
45464.3.FS1	Columbus	1	US 74 - A EBL	FROM ROBESON COUNTY LINE TO CONST. JT. WEST OF NC 242	1	NO	NO	4.36	32	1,324	81,852	2,112		6,936	1,669	301		10,093	79	689	65	46,042
45464.3.FS1	Columbus	2	US 74 - B (EBL)	FROM CJ - E. OF NC 242 TO US 76 (CJ @ FLYOVER)	1	NO	NO	6.21	32	2,262	116,582	2,112	1,502	5,600	2,377	301	1,419	14,402	118	1,062	93	65,578
GRAND TOTAL FOR PROJ NO. 45464.3.FS1 -- R-5511								**10.57**		**3,586**	**198,434**	**4,224**	**1,502**	**12,536**	**4,046**	**602**	**1,419**	**24,495**	**197**	**1,751**	**158**	**111,620**

THERMOPLASTIC AND PAINT QUANTITIES

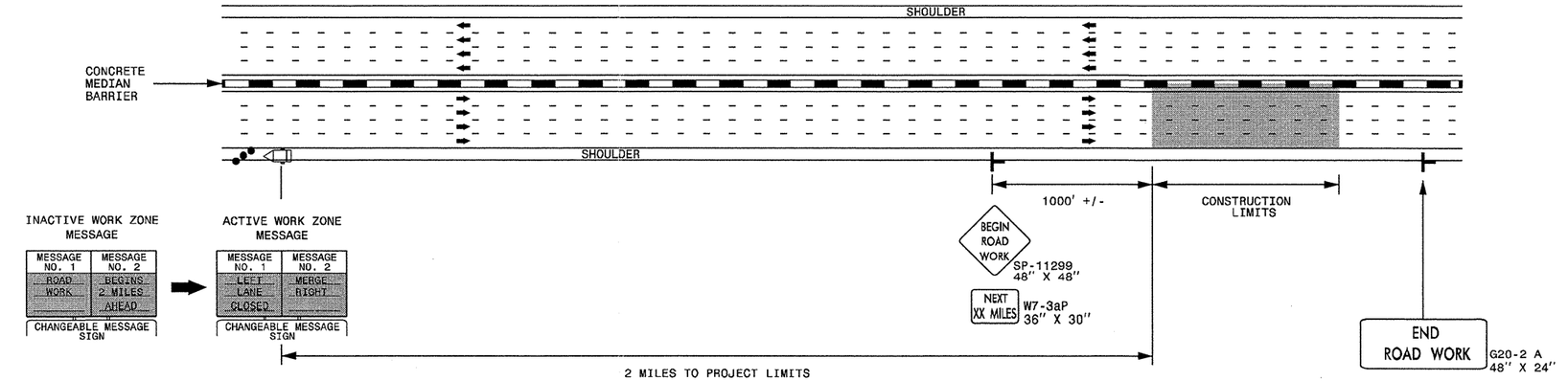
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	WIDTH	4589000000-N TEMPORARY TRAFFIC CONTROL LS	4595000000-E WORK ZONE ADVANCE/ GENERAL WARNING SIGNING SF	4688000000-E 6" X 90 M WHITE THERMO LF	4688000000-E 6" X 90 M YELLOW THERMO LF	4690000000-E 6" X 120 M WHITE THERMO LF	4700000000-E 12" X 90 M WHITE THERMO LF	4710000000-E 24" X 120 M WHITE THERMO LF	4725000000-E THERMO LT ARROW 90 M EA	4725000000-E THERMO RT ARROW 90 M EA	4725000000-E THERMO STR ARROW 90 M EA	4815000000 6" WHITE PAINT LF	4825000000-E 12" WHITE PAINT LF	4900000000-N CRYSTAL & RED MARKERS EA
45464.3.FS1	Columbus	1	US 74 - A EBL	FROM ROBESON COUNTY LINE TO CONST. JT. WEST OF NC 242	1	2	32	*	56	25,000	25,000	7,700		100	3	3	6	7,700		350
45464.3.FS1	Columbus	2	US 74 - B (EBL)	FROM CJ - E. OF NC 242 TO US 76 (CJ @ FLYOVER)	1	2	32	*	56	35,000	35,000	9,850	1,400	50	3	3	9	9,850	1,400	1,425
GRAND TOTAL FOR PROJ NO. 45464.3.FS1 -- R-5511								**1**	**112**	**60,000**	**60,000**	**17,550**	**1,400**	**150**	**6**	**6**	**15**	**17,550**	**1,400**	**1,775**
										120,000					**27**					

PROJ. REFERENCE NO.	SHEET NO.
45464.3.FS1	7

DIVIDED MEDIANS WITH WIDTHS 46′ OR GREATER



DIVIDED MEDIANS WITH WIDTHS LESS THAN 46′ OR WITH PERMANENT MEDIAN BARRIER



LEGEND

- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM

NOTES:

1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6′ AS MEASURED FROM THE EDGE OF PAVEMENT.
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) FOR MEDIAN WIDTHS LESS THAN 46′ (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
5) INSTALL "ROAD WORK AHEAD"(W20-1) ALONG ENTRANCE RAMPS 500′ PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMPS WITHIN THE WORK ZONE.
6) 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 AND WITH DIVIDED MEDIANS OF 46′ OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

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

RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH