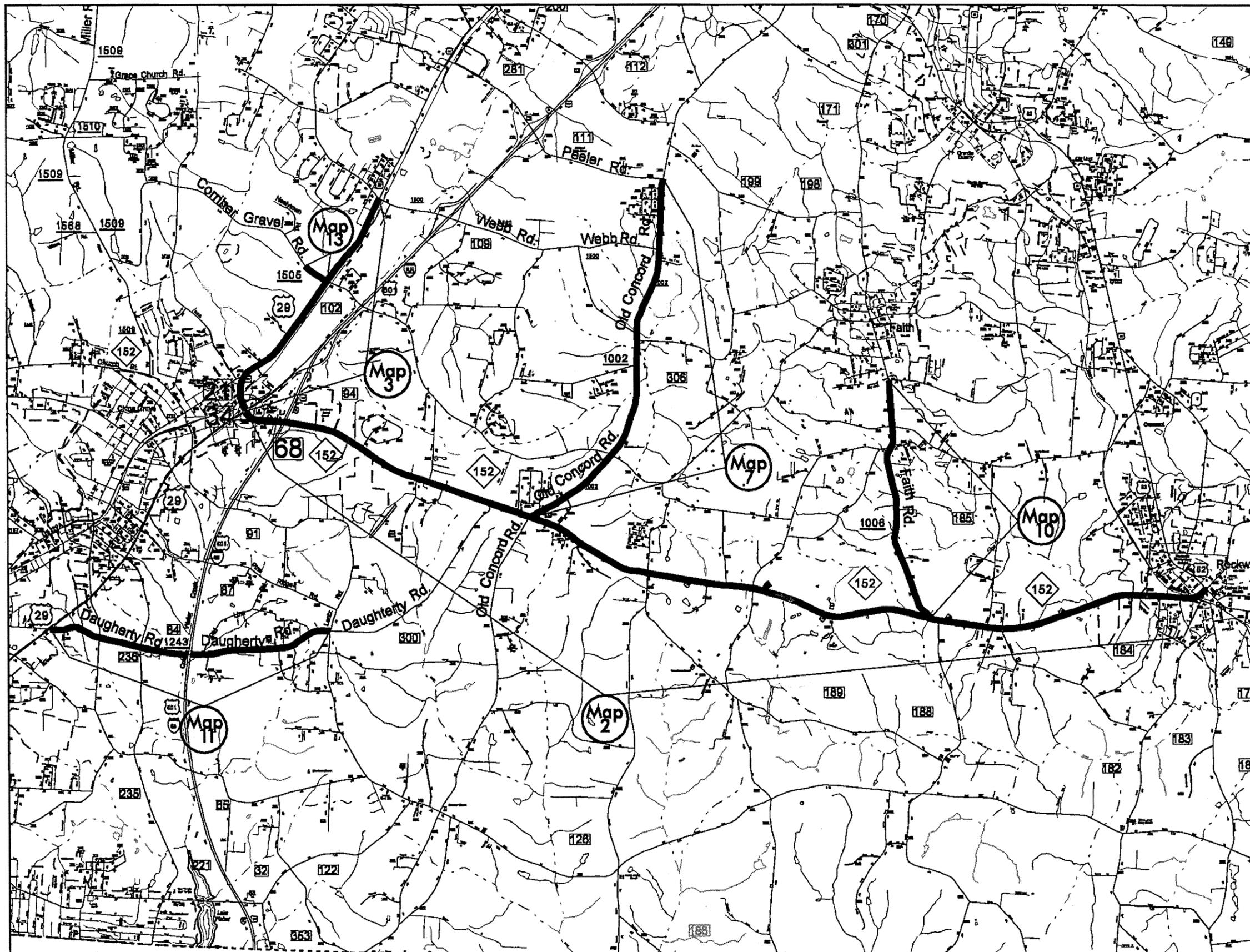


MAP 1
MAP 8
Map 9

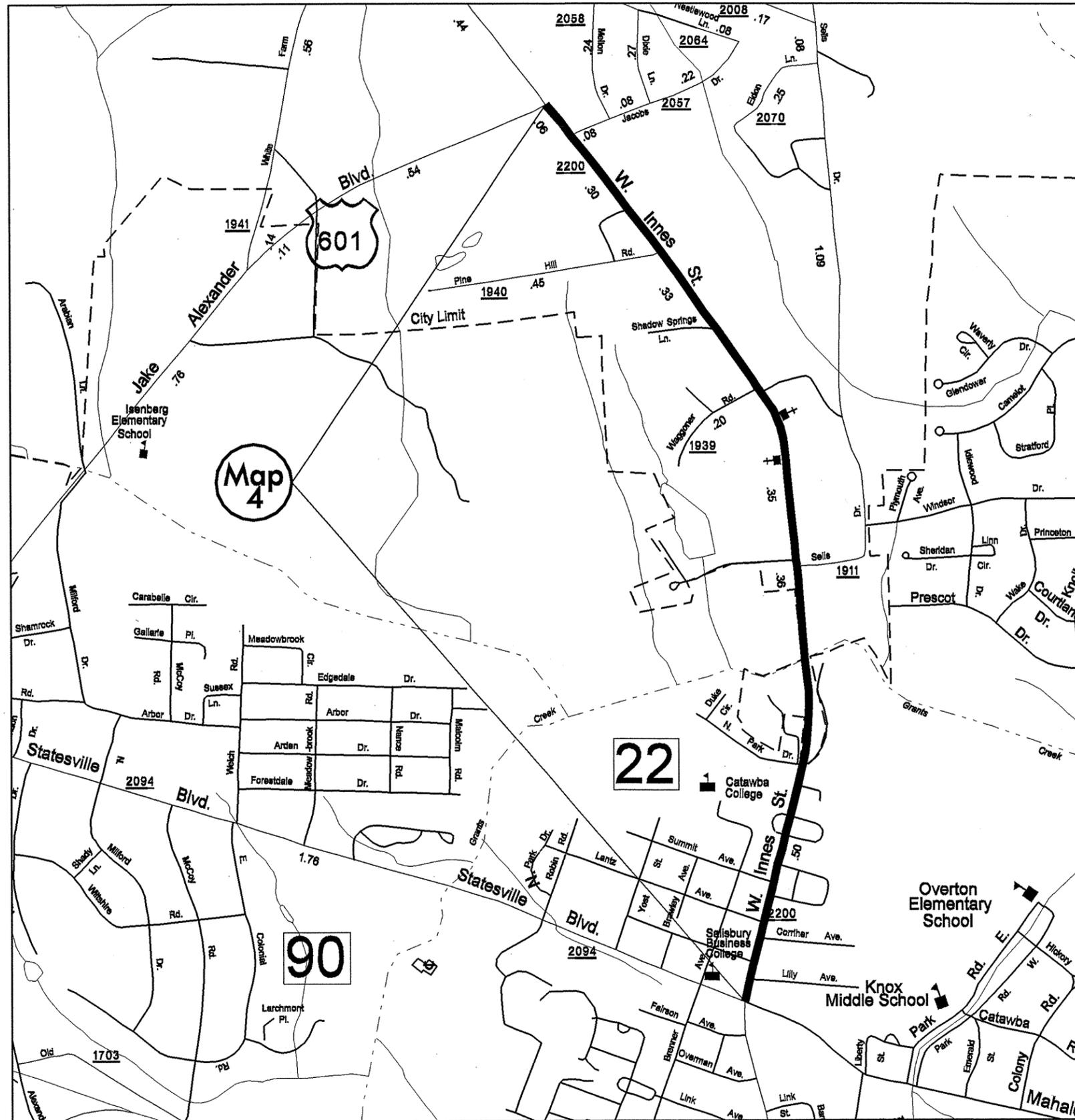
ROWAN COUNTY
NORTH CAROLINA



- MAP 2
- MAP 3
- Map 7
- MAP 10
- MAP 11
- Map 13

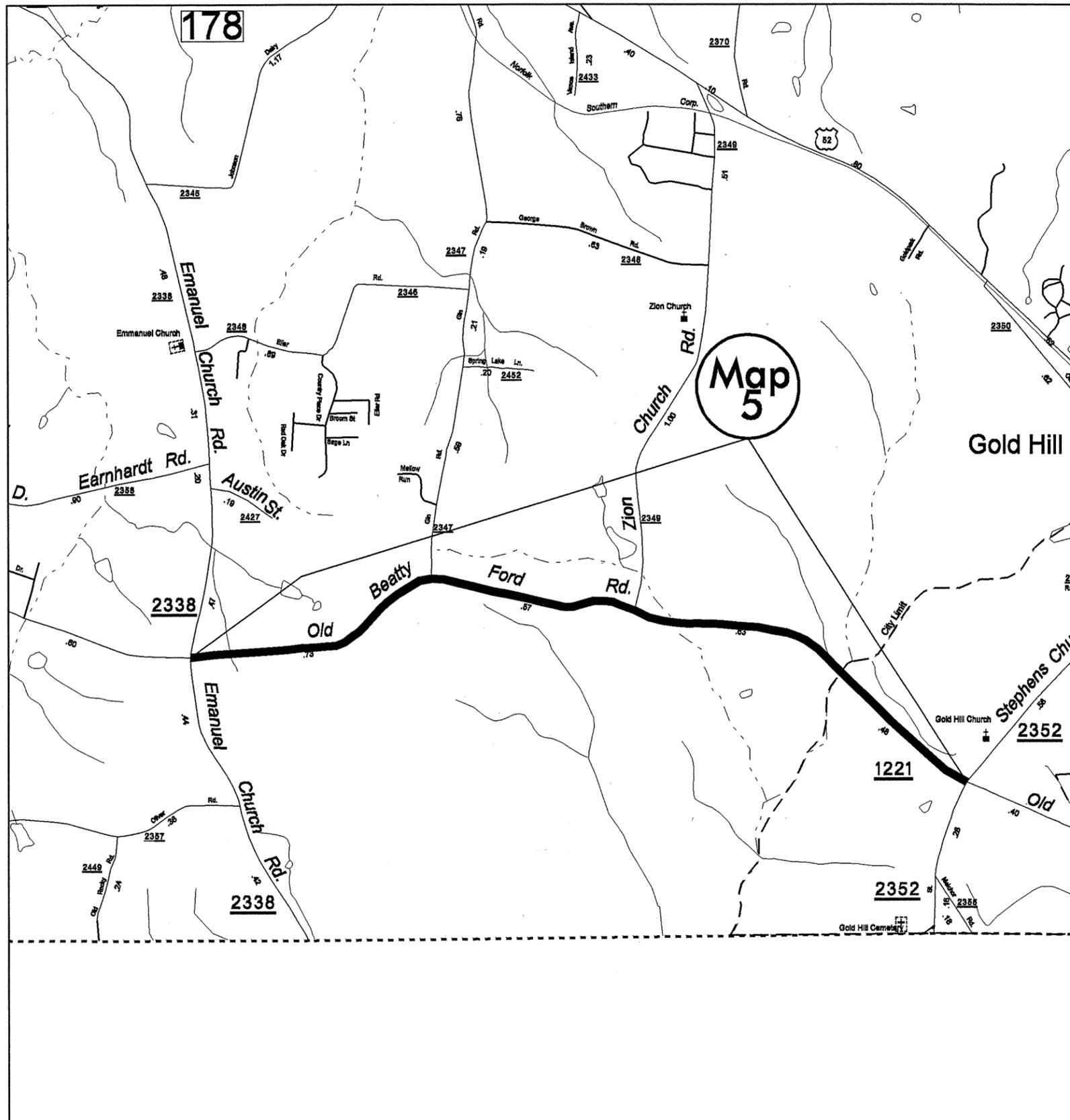
ROWAN COUNTY

NORTH CAROLINA



MAP 4

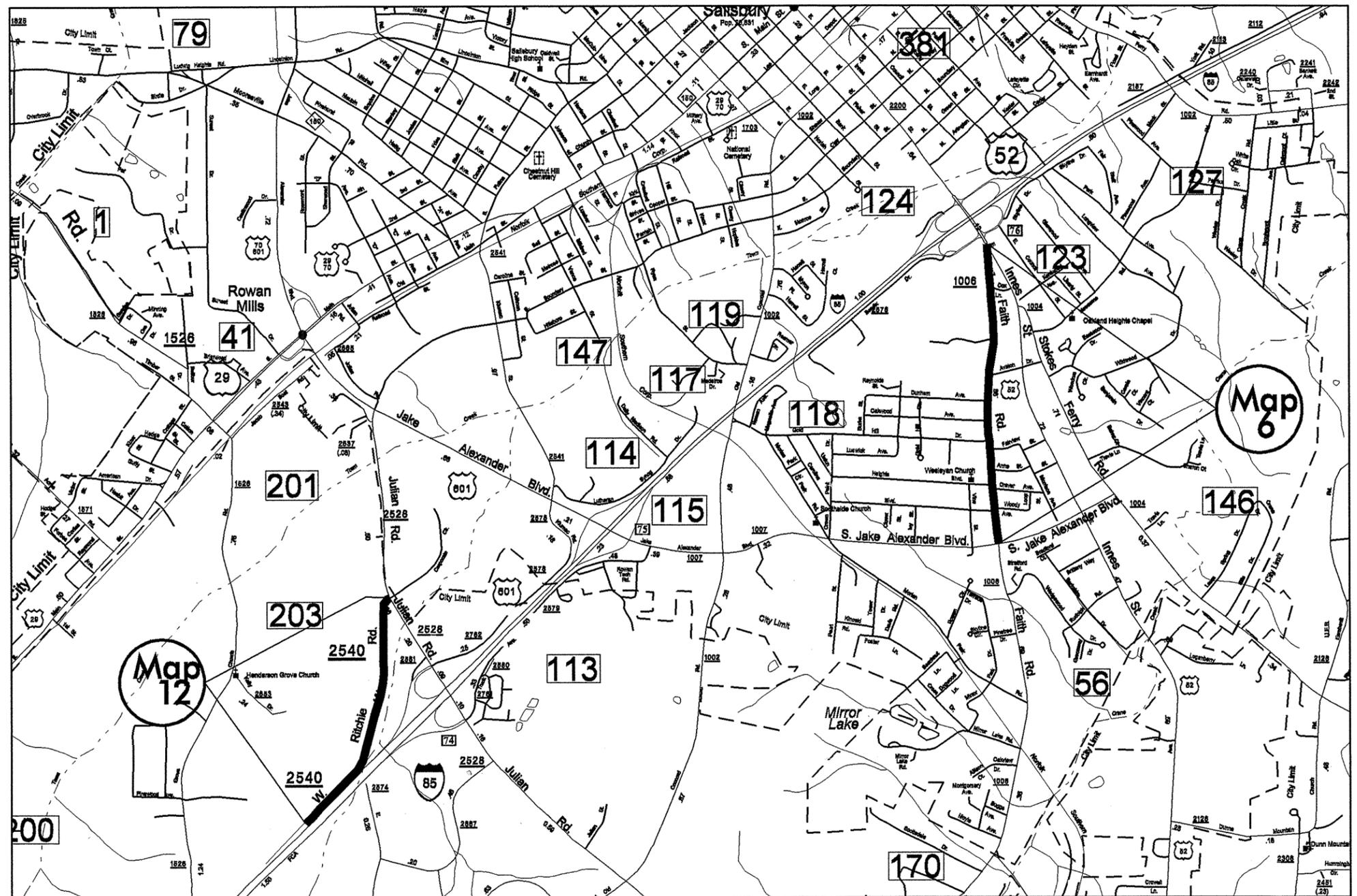
ROWAN COUNTY
NORTH CAROLINA



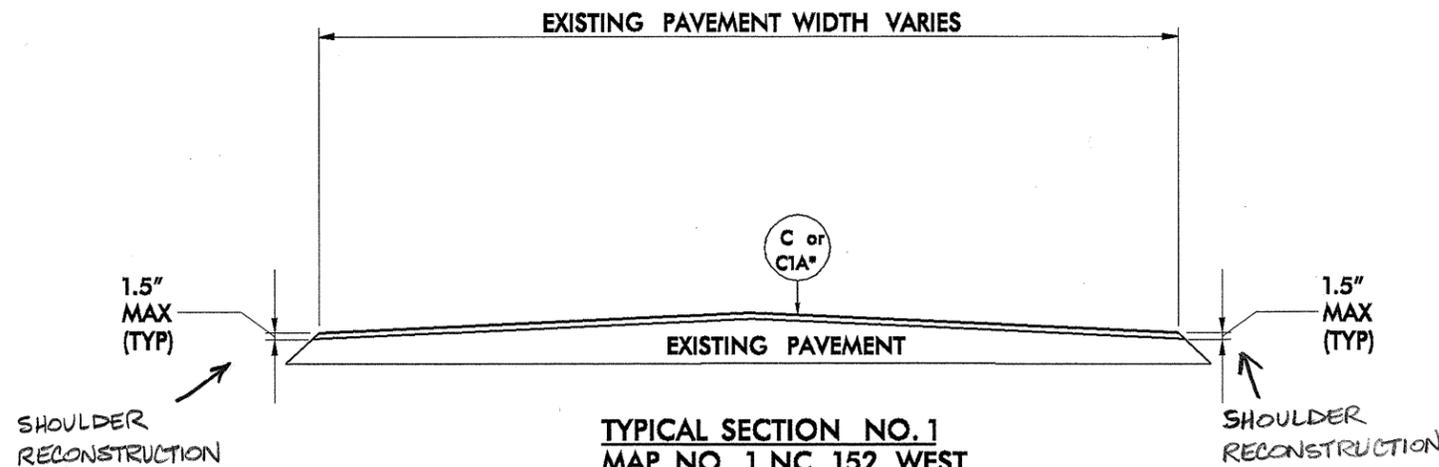
Note: Contractor is to
remove plowable markers
prior to paving.

MAP 5

ROWAN COUNTY
NORTH CAROLINA

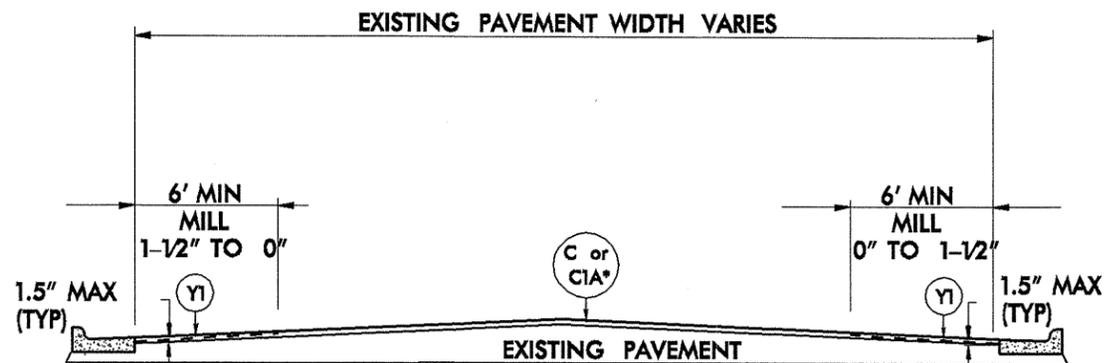


MAP 6
MAP 12
ROWAN COUNTY
NORTH CAROLINA



- TYPICAL SECTION NO. 1**
 MAP NO 1 NC 152 WEST
 MAP NO 2 NC 152 EAST
 MAP NO 3 US 29
 MAP NO 4 SR 2220 WEST INNES ST
 MAP NO 5 SR 1221 OLD BEATTY FORD RD
 MAP NO 6 SR 1006 FAITH RD
 MAP NO 7 SR 1002 OLD CONCORD RD
 MAP NO 8 SR 1350 SAW RD
 MAP NO 9 SR 1351 ENOCHVILLE RD
 MAP NO 10 SR 1006 FAITH RD
 MAP NO 11 SR 1243 DAUGHERTY RD
 MAP NO 12 SR 2540 WEST RITCHIE RD

* SEE SUMMARY OF QUANTITIES FOR ASPHALT MIX TYPE

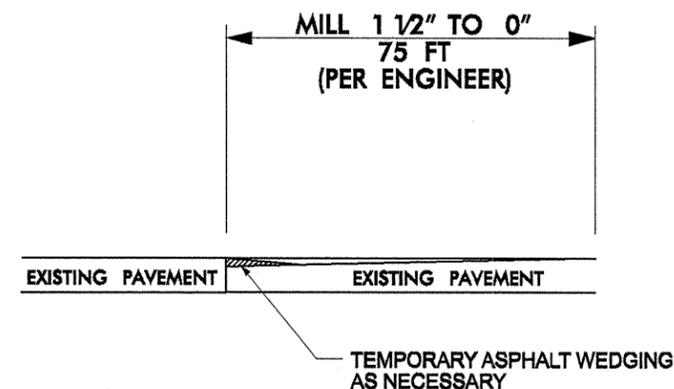


- TYPICAL SECTION NO. 2**
 MAP NO 2 NC 152 EAST
 MAP NO 4 SR 2220 WEST INNES ST
 MAP NO 6 SR 1006 FAITH RD

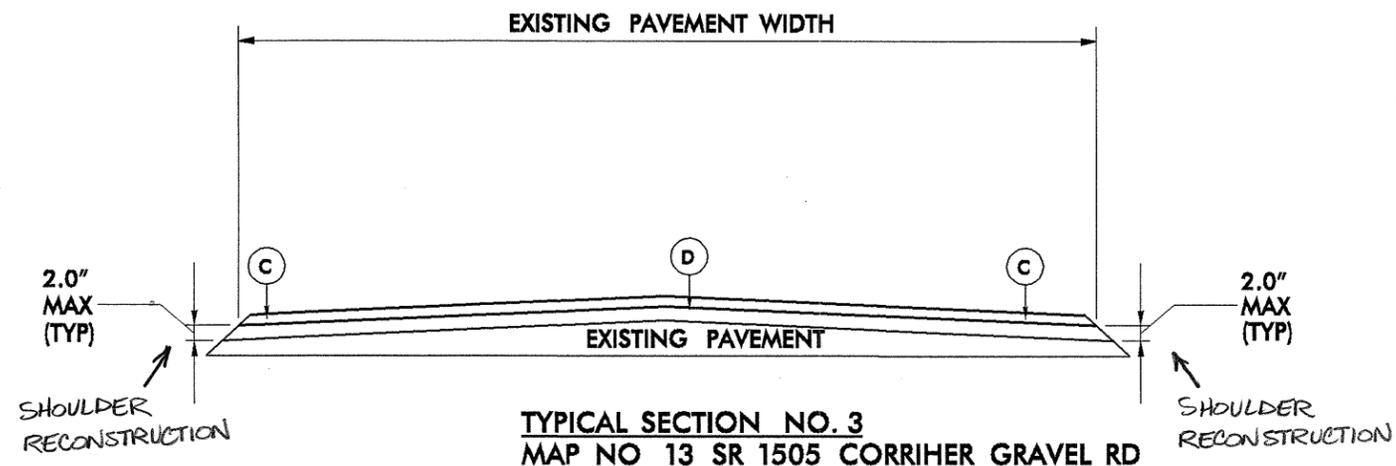
* SEE SUMMARY OF QUANTITIES FOR ASPHALT MIX TYPE

NOTE: ALL CURB AND GUTTER IS EXISTING

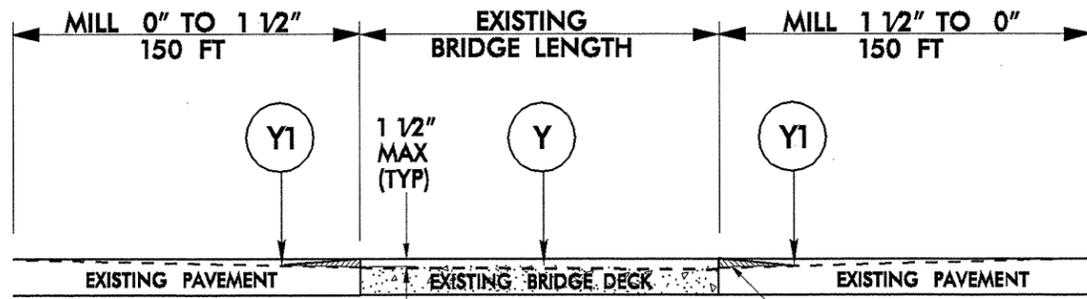
MILLED PAVEMENT JOINT AT BEGINNING/END OF MAPS



PAVEMENT SCHEDULE	
C	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
C1A	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19B, AT AN AVERAGE RATE OF 342 LBS PER SQ YD.
Y	MILL ASPHALT PAVEMENT, 1.5" DEPTH
Y1	MILL ASPHALT PAVEMENT, 0" TO 1.5" DEPTH

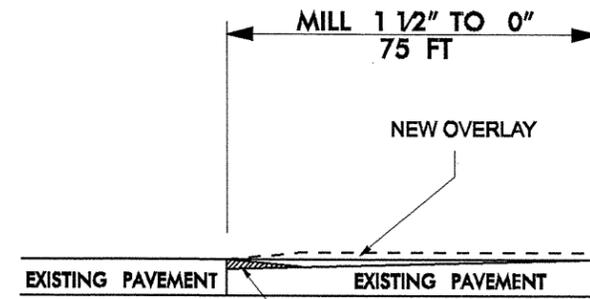


- TYPICAL SECTION NO. 3**
 MAP NO 13 SR 1505 CORRIHER GRAVEL RD

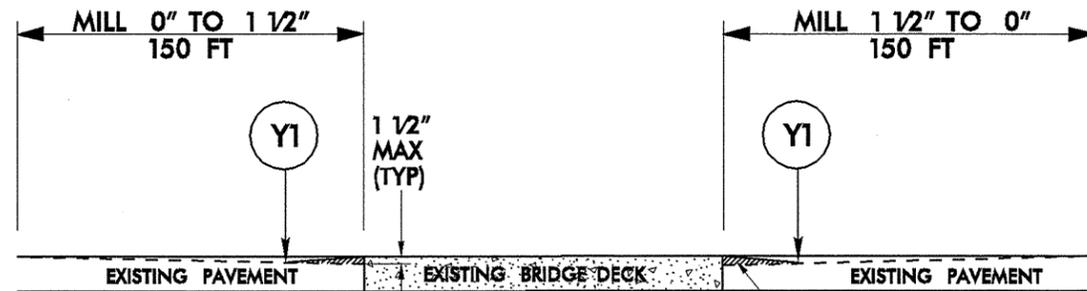


DETAIL A
MILL BRIDGE DECK AND APPROACHES
 (SEE BRIDGE DATA SHEET FOR PAVING INSTRUCTIONS)

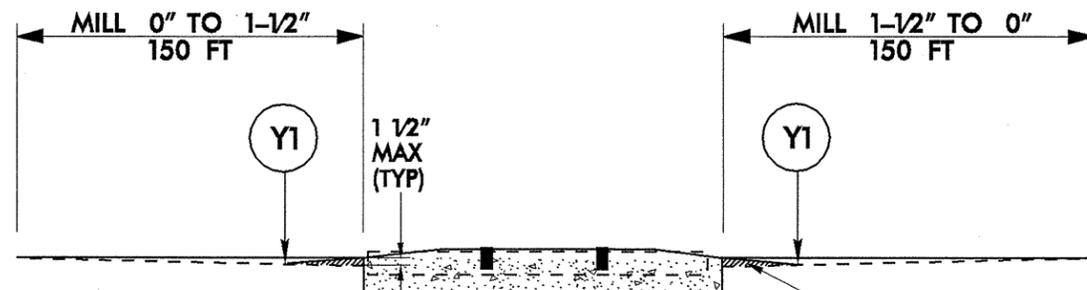
MAP NO 2 NC 152 EAST
 MAP NO 3 US 29
 MAP NO 4 SR 2220 WEST INNES ST



MILLED TIED-IN DETAIL
 MILLED PAVEMENT JOINT AT END OF MAPS 1, 4, 7, AND 9



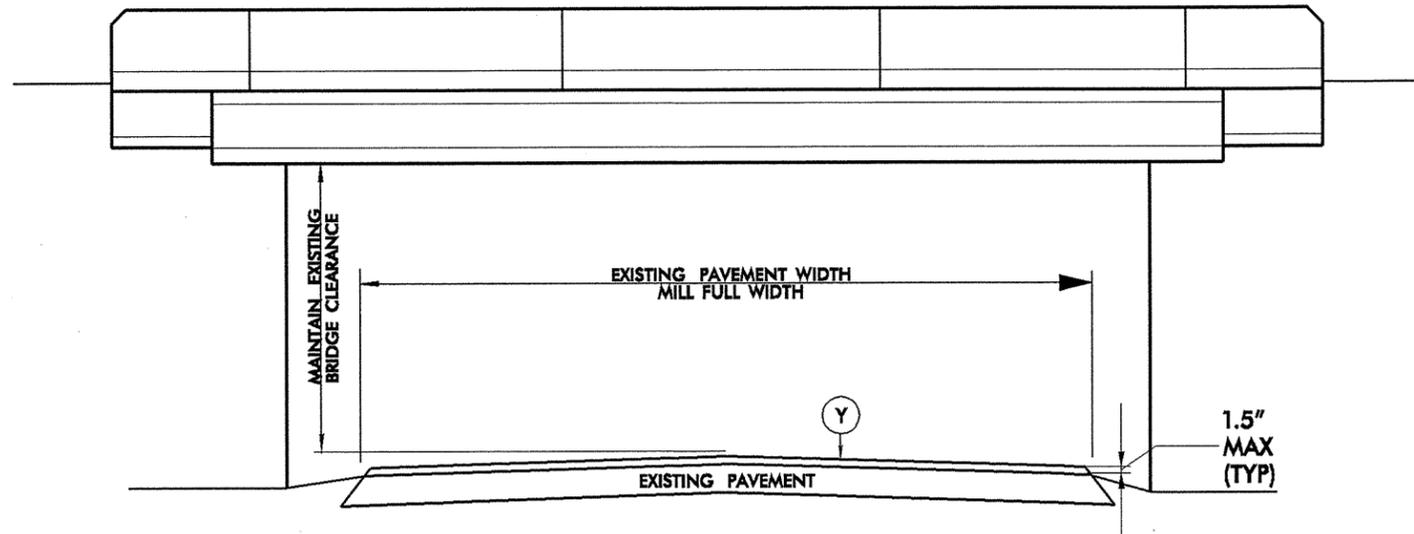
DETAIL B
MILLING BRIDGE APPROACHES
 (SEE BRIDGE DATA SHEET FOR PAVING INSTRUCTIONS)



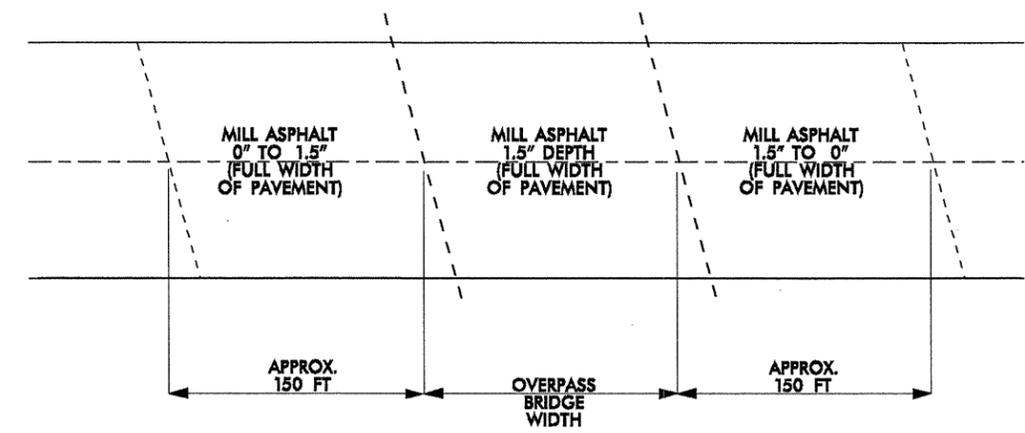
DETAIL C
MILLING RAILROAD CROSSING APPROACHES

PAVEMENT SCHEDULE

C	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
C1A	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19B, AT AN AVERAGE RATE OF 342 LBS PER SQ YD.
Y	MILL ASPHALT PAVEMENT, 1.5" DEPTH
Y1	MILL ASPHALT PAVEMENT, 0" TO 1.5" DEPTH



ELEVATION FOR
BRIDGE NO. 424 (MAP NO. 2 ONLY)
BRIDGE NO. 531 (MAP NO. 10 ONLY)
BRIDGE NO. 532 (MAP NO. 10 ONLY)



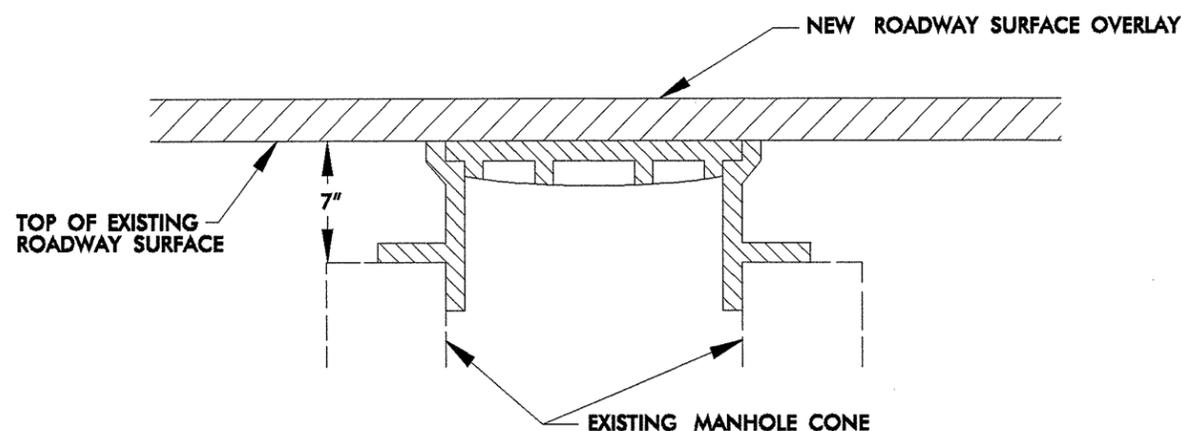
PLAN VIEW FOR MILLING
ASPHALT PAVEMENT UNDER OVERPASS

PAVEMENT SCHEDULE	
C	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
C1A	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, TO BE APPLIED AT AN AVERAGE RATE OF 168 LBS PER SQ YD
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19B, AT AN AVERAGE RATE OF 342 LBS PER SQ YD.
Y	MILL ASPHALT PAVEMENT, 1.5" DEPTH
Y1	MILL ASPHALT PAVEMENT, 0" TO 1.5" DEPTH

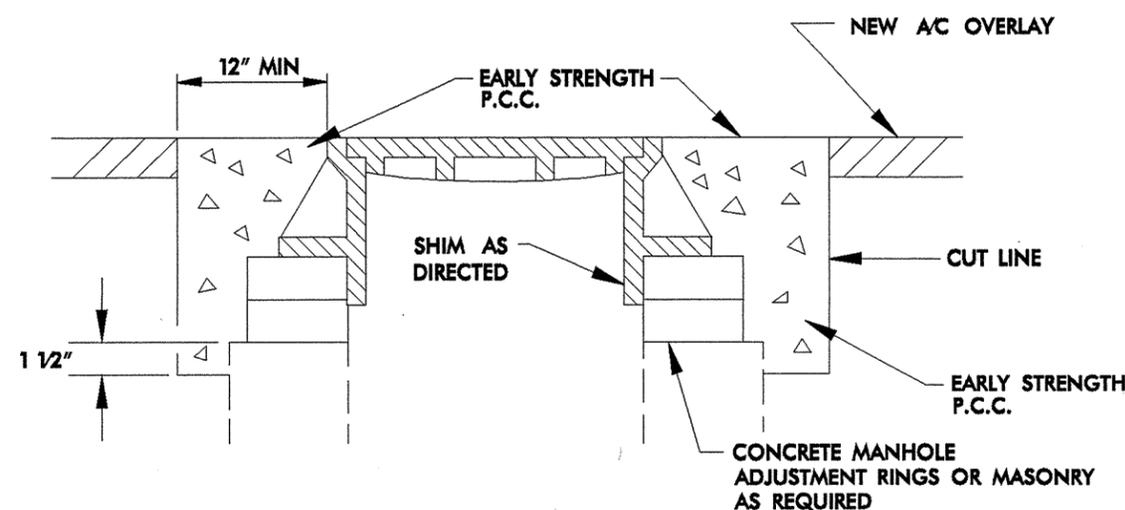
0.7
 NTY
 11.7
 11.7

CONSTRUCTION NOTES:

1. ALL QUANTITIES ARE "ESTIMATED" AS INDICATED IN THE "SUMMARY OF QUANTITIES".
2. CONSTRUCTION SHALL PROGRESS IN PHASES, IN THE ORDER INDICATED BELOW:
 - PHASE 1 - MILLING AND PATCHING (WHEN REQUIRED)
 - PHASE 2 - SURFACE OVERLAY
 - PHASE 3 - SHOULDER RECONSTRUCTION (AS NEEDED AND DIRECTED BY ENGINEER)
 - PHASE 4 - UTILITY ADJUSTMENTS (MANHOLE RING/COVER, VALVE/METER BOX RING/COVER, CATCH BASIN GRATE/COVER, DROP INLET GRATE/COVER, ETC.) WHEN REQUIRED.
3. BRIDGES THAT HAVE FLOOR DRAINS, SHALL HAVE ALL FLOOR DRAINS LEFT OPEN. EXTRA CARE SHALL BE EXERCISED IN MILLING (IF REQUIRED) AND IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE.
4. TEMPORARY ASPHALT WEDGING SHALL BE PLACED ON THE SAME DAY THAT BRIDGE AND/OR RAILROAD APPROACHES ARE MILLED (AND IF APPROACHES ARE MILLED PRIOR TO BRIDGE DECK).
5. FOR TWO-LANE ROADWAYS - IT SHALL BE UNDERSTOOD THAT TYPICALLY ON A ROADWAY MEASURING 20 FEET OR LESS IN WIDTH, THE CENTER OF THE WHITE EDGELINE SHALL BE LOCATED SIX INCHES FROM THE EDGE OF PAVEMENT ON EITHER SIDE OF THE ROADWAY; ON A ROADWAY MEASURING 22 FEET IN WIDTH, TRAVEL LANES SHALL MEASURE 10 FEET AND THE WHITE EDGELINE SHALL BE LOCATED ONE FOOT FROM THE EDGE OF PAVEMENT ON EITHER SIDE; ON A ROADWAY MEASURING 24 FEET IN WIDTH, TRAVEL LANES SHALL MEASURE 11 FEET AND THE WHITE EDGELINE SHALL BE LOCATED ONE FOOT FROM THE EDGE OF PAVEMENT ON EITHER SIDE; ON A ROADWAY MEASURING 26 FEET OR MORE IN WIDTH, TRAVEL LANES SHALL MEASURE 12 FEET AND THE WHITE EDGELINE SHALL BE LOCATED NO LESS THAN ONE FOOT FROM THE EDGE OF PAVEMENT ON EITHER SIDE. THIS SHALL BE STANDARD PRACTICE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
6. PAPER JOINTS ARE TO BE PLACED BETWEEN DAYS OF PAVING OPERATIONS AS SPECIFIED IN THE STANDARD SPECIFICATIONS SECTION 610-11.
7. ALL MILLED AREAS WILL BE PAVED WITHIN 72 HOURS UNLESS APPROVED BY THE ENGINEER.
8. REPLACE ANY PORTION OF STOP BARS AND OTHER PAVEMENT MARKINGS AT ANY INTERSECTION INCLUDING Y-LINES NOT ACTUALLY BEING PAVED OVER, THAT ARE OBLITERATED BY THE PAVING OPERATION EITHER BY HAULING WHEEL TRACKS OR TACK TRUCK BY THE END OF EACH RESURFACING OPERATION



STEP 1



STEPS 2,3, & 4

- STEP 1 COVER EXISTING MANHOLE WITH APPROVED MATERIAL AND CONSTRUCT OVERLAY ACROSS TOP OF MANHOLE
- STEP 2 SAW CUT EXCAVATION AROUND MANHOLE 12" MIN. FROM MANHOLE FRAME.
- STEP 3 RAISE MANHOLE FRAME RINGS TO FINISH PAVEMENT PROFILE AND CROSS SLOPE.
- STEP 4 BACKFILL WITH EARLY STRENGTH P.C.C. TO DEPTHS AS DIRECTED.

MANHOLE ADJUSTMENT DETAIL

PROJECT NO.	SHEET NO.	TOTAL NO.
9CR.10801.7, 9CR.20801.7	10	

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP NO.	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	BORROW EXCAVATION CY	1½" MILLING SY	0" TO 1½" MILLING SY	INTER-MEDIATE COURSE, 119.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	PG 64-22 PLANT MIX TONS	PG 70-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJUST DROP INLET EA	ADJUST MANHOLES EA	ADJUST METER OR VALVE BOX EA
9CR.10801.7	Rowan	1	NC 152 W	FROM PVT JT @ SR 1353 DEAL ROAD TO PVT JT @ INTERSECTION SR 1350 SAW ROAD	1	NO	1.512	24	205	3.02	60		400		1,977			119	20			
TOTAL FOR MAP NO. 1							1.512		205	3.02	60		400		1,977			119	20			
		2	NC 152 E	FROM US 29 TO US 52 (ROCKWELL)	1, 2	NO	9.103	26	1,090	14.49	290	1,691	7,523		14,736			884	20	1	7	3
TOTAL FOR MAP NO. 2							9.103		1,090	14.49	290	1,691	7,523		14,736			884	20	1	7	3
		3	US 29	FROM NC 152 TO SR 1500 WEBB ROAD	1	NO	2.215	62	330	4.43	89	1,344	1,968		7,863			472	20			
TOTAL FOR MAP NO. 3							2.215		330	4.43	89	1,344	1,968		7,863			472	20	0	0	0
TOTAL FOR PROJ NO. 9CR.10801.7							12.83		1,625	21.94	439	3,035	9,891		24,576			1,475	60	1	7	3
9CR.20801.7	Rowan	4	SR 2220 WEST INNES STREET	FROM SR 2094 STATESVILLE BLVD. TO PVT JT @ US 601	1, 2	NO	1.655	22		2.55	51	533	3,601		2,555		153		20		1	6
TOTAL FOR MAP NO. 4							1.655		0	2.55	51	533	3,601		2,555		153	0	20	0	1	6
		5	SR 1221 OLD BEATTY FORD ROAD	FROM SR 2352 ST. STEVENS CHURCH ROAD TO SR 2338 EMANUEL CHURCH RD	1	NO	2.341	20	215	4.68	94		334		2,554		153		20			
TOTAL FOR MAP NO. 5							2.341		215	4.68	94	0	334		2,554		153	0	20	0	0	0
		6	SR 1006 FAITH ROAD	FROM PVT JT @ CAR SPA NEAR US 52 (INNES) TO SR 1007 JAKE ALEXANDER BLVD.	1	NO	0.757	24	45	1.51	30		1,535		1,269		76		20		9	9
TOTAL FOR MAP NO. 6							0.757		45	1.51	30	0	1,535		1,269		76	0	20	0	9	9
		7	SR 1002 OLD CONCORD ROAD	FROM PVT JT @ FIRE DEPT NC 152E TO PVT JT @ SR 2538 PEELER ROAD	1	NO	3.392	22	510	6.78	136		367		4,068		244		20			
TOTAL FOR MAP NO. 7							3.392		510	6.78	136	0	367		4,068		244	0	20	0	0	0
		8	SR 1350 SAW ROAD	FROM NC 152 W TO SR 1351 ENOCHVILLE ROAD	1	NO	2.41	20	250	4.82	96		334		2,629		158		20			
TOTAL FOR MAP NO. 8							2.41		250	4.82	96	0	334		2,629		158	0	20	0	0	0
		9	SR 1351 ENOCHVILLE ROAD	FROM SR 1353 DEAL ROAD TO PVT JT AFTER SR 1404 UPPER OVERCASH	1	NO	2.162	22	150	4.32	86		367		2,593		156		20			
TOTAL FOR MAP NO. 9							2.162		150	4.32	86	0	367		2,593		156	0	20	0	0	0
		10	SR 1006 FAITH ROAD	FROM NC 152E TO SR 2316 RAINEY ROAD	1	NO	2.209	24	355	4.42	88		400		2,889		173		20			
TOTAL FOR MAP NO. 10							2.209		355	4.42	88	0	400		2,889		173	0	20	0	0	0
		11	SR 1243 DAUGHERTY ROAD	FROM SR 1337 LENTZ ROAD TO US 29	1	NO	2.618	22	255	5.24	105		934		3,140		188		20			
TOTAL FOR MAP NO. 11							2.618		255	5.24	105	0	934		3,140		188	0	20	0	0	0
		12	SR 2540 W. RITCHIE ROAD	FROM SR 2528 JULIAN ROAD TO SHED AT ERVIN CYCLE (END OF MAINTENANCE)	1	NO	0.418	18	60	0.84	17		300		411		25		20			
TOTAL FOR MAP NO. 12							0.418		60	0.84	17	0	300		411		25	0	20	0	0	0
		13	SR 1505 CORRIHER GRAVEL ROAD	FROM US 29 TO SECOND DRIVEWAY	3	NO	0.177	22	25	0.35	7		300	435	212		33		20			
TOTAL FOR MAP NO. 13							0.177		25	0.35	7	0	300	435	212	0	33	0	20	0	0	0
TOTAL FOR PROJ NO. 9CR.20801.7							18.139		1,865	35.51	710	533	8,472	435	22,320	0	1,359	0	200	0	10	15
GRAND TOTAL							30.969		3,490	57.45	1,149	3,568	18,363	435	22,320	24,576	1,359	1,475	260	1	17	18

PROJECT NO.	SHEET NO.	TOTAL NO.
9CR.10801.7, 9CR.20801.7	11	

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4510000000-N	4685000000-E	4686000000-E	4695000000-E		4697000000-E	4705000000-E	4710000000-E	4721000000-E					4725000000-E			4810000000-N	4905000000-N	
					LAW ENFORCEMENT HR	4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 90 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	16" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO RXR 120 M EA	THERMO MSG SCHOOL 120 M EA	THERMO MSG ONLY 120 M EA	THERMO STR ARROW 90 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	4" YELLOW PAINT LF	SNOW PLOWABLE MARKERS EA	
9CR.10801.7	Rowan	1	NC 152 W	FROM PVT JT @ SR 1353 DEAL ROAD TO PVT JT @ INTERSECTION SR 1350 SAW ROAD	20	16,269	15,967																100
TOTAL FOR MAP NO. 1					20	16,269	15,967																100
		2	NC 152 E	FROM US 29 TO US 52 (ROCKWELL)	60	97,948	96,128	175	950		150	400	6	12	8	2	14	8					714
TOTAL FOR MAP NO. 2					60	97,948	96,128	175	950		150	400	6	12	8	2	14	8					714
		3	US 29	FROM NC 152 TO SR 1500 WEBB ROAD	30	23,833	23,390									19	66	5	1				164
TOTAL FOR MAP NO. 3					30	23,833	23,390		0		0	0	0	0	0	19	66	5	1				164
TOTAL FOR PROJ NO. 9CR.10801.7					110	138,050	135,485	175	950		150	400	6	12	8	21	80	13	1				978
								1,125							26			115					
9CR.20801.7	Rowan	4	SR 2220 WEST INNES STREET	FROM SR 2094 STATESVILLE BLVD. TO PVT JT @ US 601	20	17,808	17,477		400	140		608				18		10	2				
TOTAL FOR MAP NO. 4					20	17,808	17,477		400	140		608				18		10	2				
		5	SR 1221 OLD BEATTY FORD ROAD	FROM SR 2352 ST. STEVENS CHURCH ROAD TO SR 2338 EMANUEL CHURCH RD		25,189	24,721																
TOTAL FOR MAP NO. 5						25,189	24,721																
		6	SR 1006 FAITH ROAD	FROM PVT JT @ CAR SPA NEAR US 52 (INNES) TO SR 1007 JAKE ALEXANDER BLVD.		8,145	7,994					210			8		3	4	4				
TOTAL FOR MAP NO. 6						8,145	7,994					210			8		3	4	4				
		7	SR 1002 OLD CONCORD ROAD	FROM PVT JT @ FIRE DEPT NC 152E TO PVT JT @ SR 2538 PEELER ROAD		36,498	35,820																
TOTAL FOR MAP NO. 7						36,498	35,820																
		8	SR 1350 SAW ROAD	FROM NC 152 W TO SR 1351 ENOCHVILLE ROAD		25,932	25,450					50					1	2			1		
TOTAL FOR MAP NO. 8						25,932	25,450					50					1	2			1		
		9	SR 1351 ENOCHVILLE ROAD	FROM SR 1353 DEAL ROAD TO PVT JT AFTER SR 1404 UPPER OVERCASH		23,263	22,831																
TOTAL FOR MAP NO. 9						23,263	22,831																
		10	SR 1006 FAITH ROAD	FROM NC 152E TO SR 2316 RAINEY ROAD		23,769	23,327																
TOTAL FOR MAP NO. 10						23,769	23,327																
		11	SR 1243 DAUGHERTY ROAD	FROM SR 1337 LENTZ ROAD TO US 29		28,170	27,646																
TOTAL FOR MAP NO. 11						28,170	27,646																
		12	SR 2540 W. RITCHIE ROAD	FROM SR 2528 JULIAN ROAD TO SHED AT ERVIN CYCLE (END OF MAINTENANCE)		4,498	4,414																
TOTAL FOR MAP NO. 12						4,498	4,414																
		13	SR 1505 CORRIHER GRAVEL ROAD	FROM US 29 TO SECOND DRIVEWAY		1,905	1,869																1,869
TOTAL FOR MAP NO. 13						1,905	1,869																1,869
TOTAL FOR PROJ NO. 9CR.20801.7					20	195,177	191,549		400	140		868			8		14	8	4	1			1,869
								400							26			27					
GRAND TOTAL					130	333,227	327,034	175	1,350	140	150	1,268	6	30	16	21	94	21	5	1		1,869	978
								1,525							52			142					

Rowan County 2010 Resurfacing Bridges

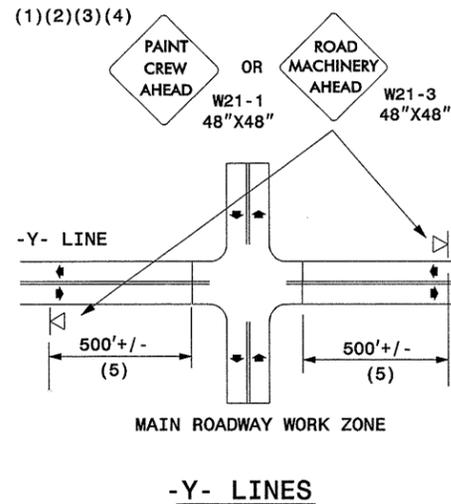
Map No.	Route No.	Route Name	Bridge No.	Feature Intersected	Floor Construction	Clear Roadway Width (Ft)	Horizontal Clearance Under (Ft)	Vertical Clearance Under	Length (Ft)	Posting	Recommended Treatment, From Bridge Maintenance
2	NC 152	NC 152	68	I-85	8"RC 2.5 AWS	58.6'	68.3'	16'6"	267	N/P	Mill 1 1/2" & Pave
3	US-29	US-29	21	Southern Railway	8" & 6" RC 2 AWS	56'	N/A	21'5"	216	N/P	Pave 1 1/2"
3	NC 152	NC 152	34	US-29	6.75 RC SLAB	40'	40.5'	14'3"	195	N/P	DO NOT PAVE
4	SR 2200	W. Innes Street	22	Grants Creek	7" RC 4 AWS	33.8'	N/A	N/A	141	SV 38 TTST LM	Mill 1 1/2" & Mill Approach & Pave
11	SR 1243	DAUGHTERY ROAD	84	I-85	7" RC Slab	34'	52'	16'10"	218	N/P	DO NOT PAVE

GENERAL NOTES

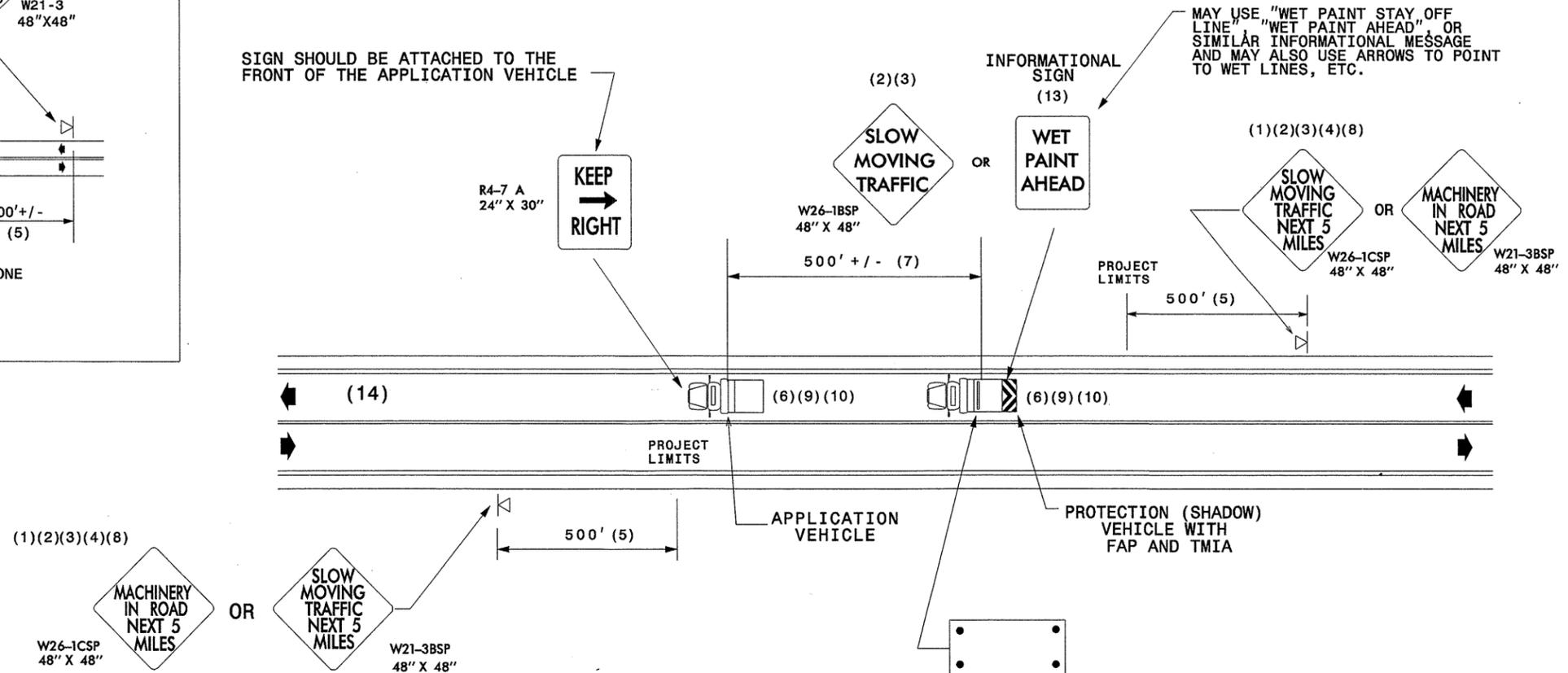
- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.
- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, i.e. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.
- (14) IF A LEAD VEHICLE IS ADDED TO OPERATION, IT SHOULD HAVE THE SAME ADVANCE WARNING SIGNS AS THE APPLICATION VEHICLE SHOWN BELOW.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), "CAUTION MODE"



SIGN SHOULD BE ATTACHED TO THE FRONT OF THE APPLICATION VEHICLE



MOVING OPERATION CARAVAN

(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON TWO-LANE TWO-WAY ROADWAYS

DRAWING NUMBER 6
IMPLEMENTATION DATE: 07/01/97
REVISED: 11/03/04

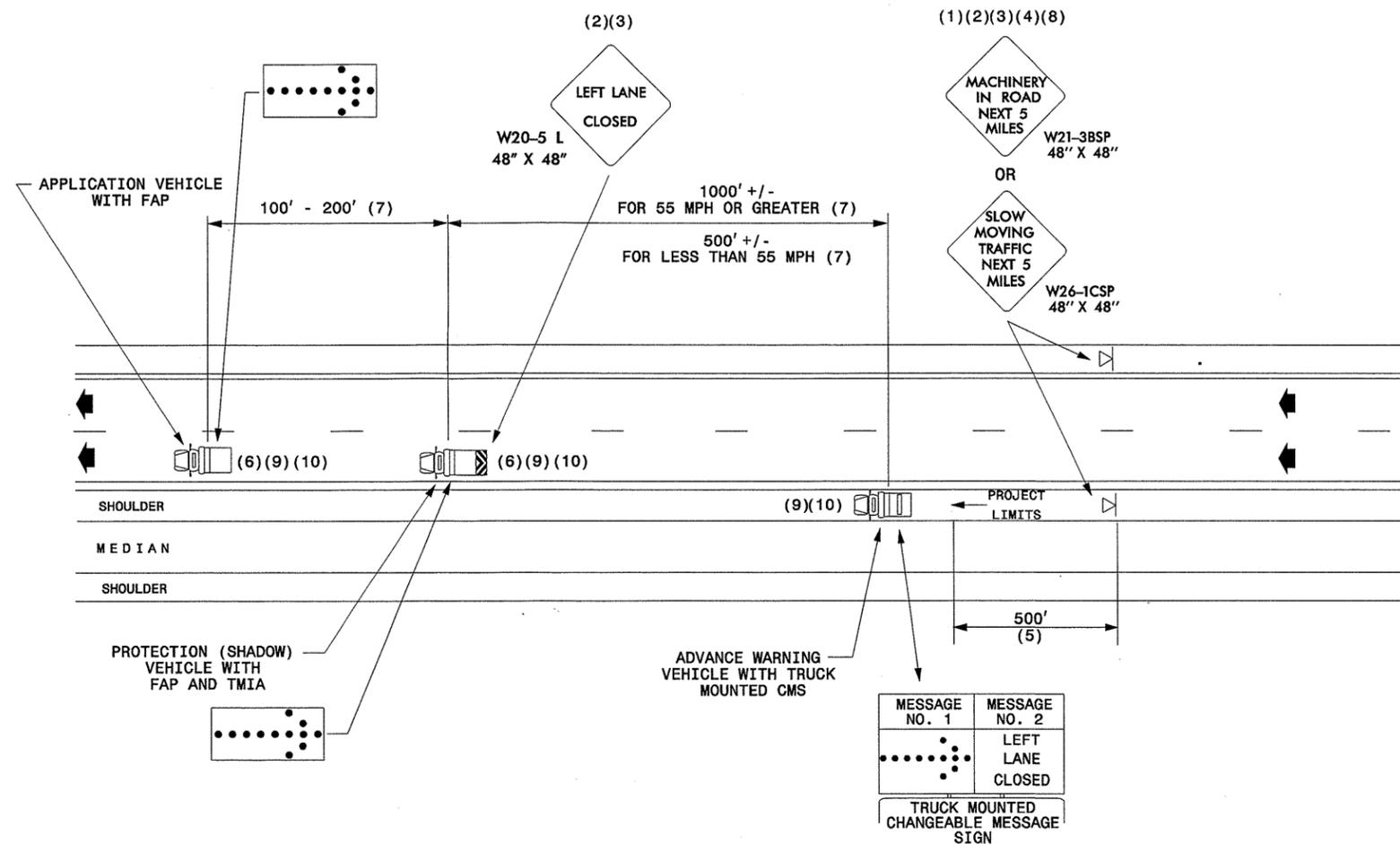
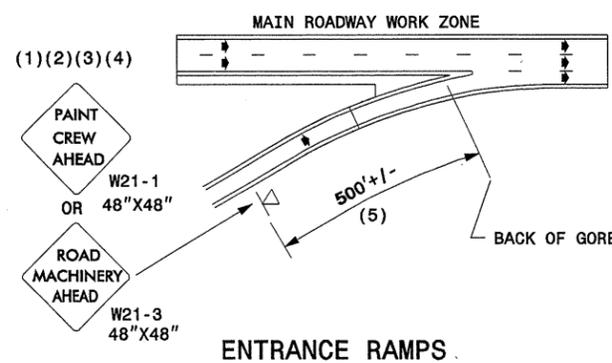
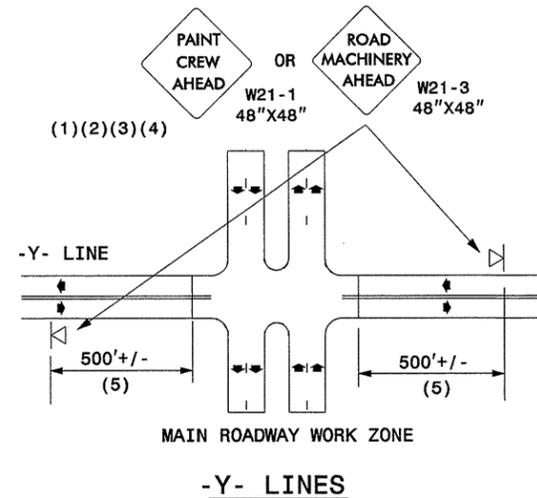
GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.

- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS) AND LIGHT BAR. MESSAGE SIGN LETTER HEIGHT SHOULD BE A MINIMUM OF 10 INCHES.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), APPROPRIATE DIRECTION INDICATED
-  CHANGEABLE MESSAGE SIGN



MOVING OPERATION CARAVAN

(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON NON-INTERSTATE MULTILANE DIVIDED ROADWAYS

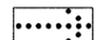
DRAWING NUMBER 7
IMPLEMENTATION DATE: 07/01/97
REVISED: 11/03/04

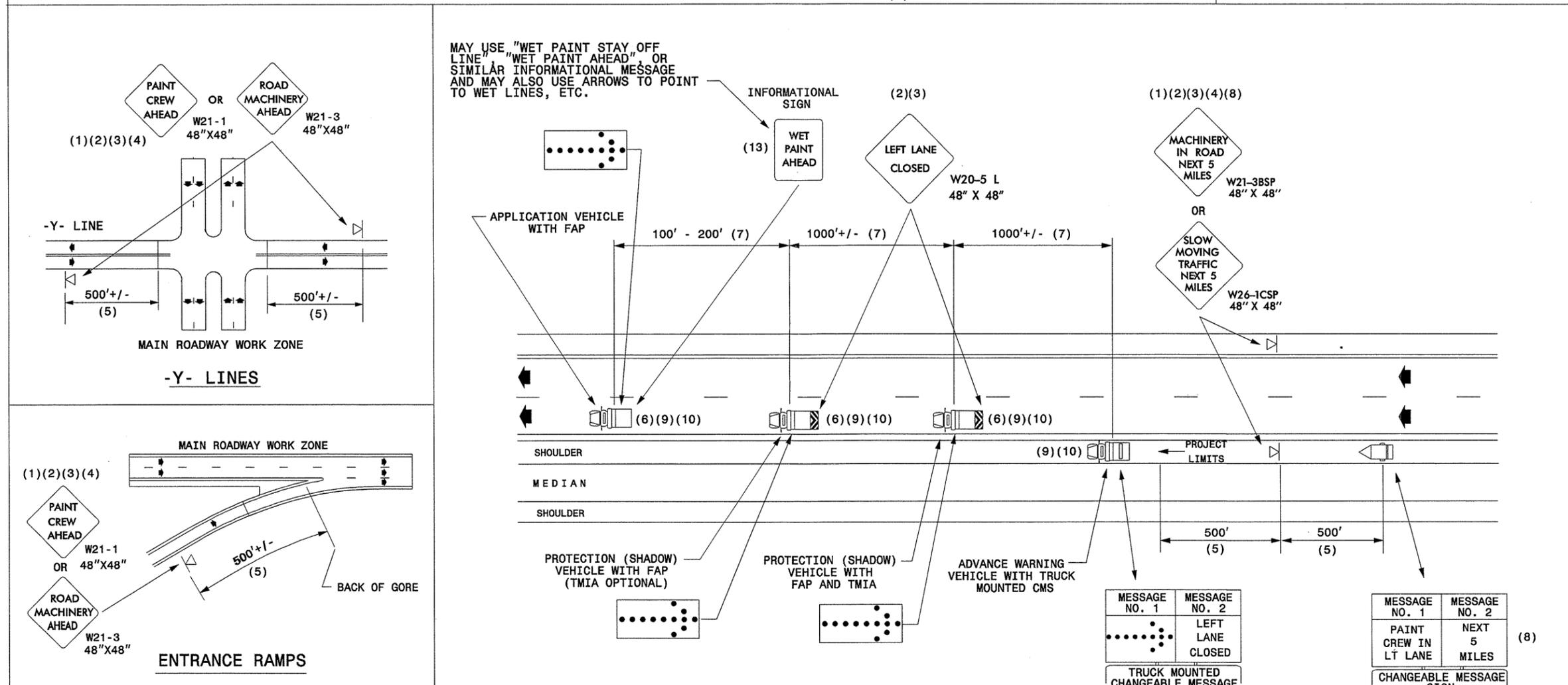
GENERAL NOTES

- (1) THE FOLLOWING OPTIONS MAY BE USED FOR ADVANCE WARNING SIGNS:
 - A. TRUCK MOUNTED SIGNS
 - B. TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS)
 - C. GROUND MOUNTED ADVANCE WARNING SIGNS (MUST CIRCLE TO PICK UP SIGNS)
 - D. GROUND MOUNTED CHANGEABLE MESSAGE SIGN (CMS) (MUST USE CIRCLE TO PICK UP SIGNS)
- (2) ALL ADVANCE WARNING SIGNS MUST BE 48" X 48" WITH FLUORESCENT ORANGE TYPE VII, VIII OR IX SHEETING. IF SPACE LIMITATIONS ON SHOULDER PROHIBIT A 48" X 48" SIGN, A SMALLER SIGN CAN BE USED WITH APPROVAL FROM ENGINEER.
- (3) SIGNS ON VEHICLES SHOULD BE MOUNTED A MINIMUM OF ONE (1) FOOT FROM THE GROUND AND SHOULD NOT BLOCK THE MOTORIST'S SIGHT OF THE FLASHING ARROW PANEL AND/OR LIGHTBAR.
- (4) GROUND MOUNTED ADVANCED WARNING SIGNS SHOULD BE MOUNTED A MINIMUM OF FIVE (5) FEET FROM THE GROUND TO BOTTOM OF SIGN.
- (5) SIGN SPACING SHOULD BE ADJUSTED FOR HORIZONTAL AND VERTICAL CURVES, ETC. TO IMPROVE SIGHT DISTANCES.

- (6) ADDITIONAL VEHICLES SHOULD BE USED IN WORK CARAVAN TO FACILITATE DRYING OF PAVEMENT MARKING MATERIAL (TMIA'S ARE OPTIONAL ON THESE ADDITIONAL VEHICLES). HOWEVER, THE FIRST VEHICLE MOTORISTS SEE IN THE TRAVEL LANE SHALL HAVE A TMIA.
- (7) ADJUST DISTANCE AS NEEDED TO PREVENT MOTORISTS FROM ENTERING SPACE BETWEEN THE APPLICATION AND PROTECTION VEHICLE. DISTANCE CAN BE LENGTHENED TO ACCOMODATE SIGHT DISTANCE NEEDS.
- (8) ROUND UP MILEAGE TO NEXT WHOLE MILE. WORK ZONE SHOULD NOT EXCEED FIVE (5) MILES IN LENGTH.
- (9) RADIO COMMUNICATION BETWEEN VEHICLES IS REQUIRED.
- (10) USE OF A LIGHT BAR ON ALL VEHICLES IS PREFERRED, BUT A ROTATING BEACON MAY BE USED INSTEAD.
- (11) IF WORK IS PERFORMED AT NIGHT, THE WORK AREA MUST BE ILLUMINATED WITH MACHINE AND/OR TOWER LIGHTS AS APPROVED BY THE ENGINEER.
- (12) ALL TRAFFIC CONTROL DEVICES WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR PAVEMENT MARKING AND MARKERS.
- (13) INFORMATIONAL SIGNS SHOULD BE ACTIVITY SPECIFIC, I.E. "PAINT CREW IN ROAD". SIGNS MAY BE RECTANGULAR OR DIAMOND SHAPE. SIGN SIZE SHOULD BE BASED ON THE MOTORIST ABILITY TO RECOGNIZE SIGN WHEN TRAVELING FIVE (5) MILES ABOVE POSTED SPEED LIMIT.

LEGEND

-  PORTABLE SIGN. SIGNS MUST BE NCHRP-350 AND NCDOT APPROVED.
-  DIRECTION OF TRAFFIC FLOW
-  APPLICATION VEHICLE WITH LIGHT BAR
-  PROTECTION VEHICLE WITH TRUCK MOUNTED IMPACT ATTENUATOR (TMIA) AND LIGHT BAR (SEE ROADWAY STANDARD NO. 1165.01). TMIA MUST BE NCHRP-350 TEST LEVEL 3 (60+MPH) APPROVED.
-  ADVANCE WARNING VEHICLE WITH TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (CMS) AND LIGHT BAR. MESSAGE SIGN LETTER HEIGHT SHOULD BE A MINIMUM OF 10 INCHES.
-  FLASHING ARROW PANEL, TYPE "B" (60"X30" MIN.), APPROPRIATE DIRECTION INDICATED
-  CHANGEABLE MESSAGE SIGN

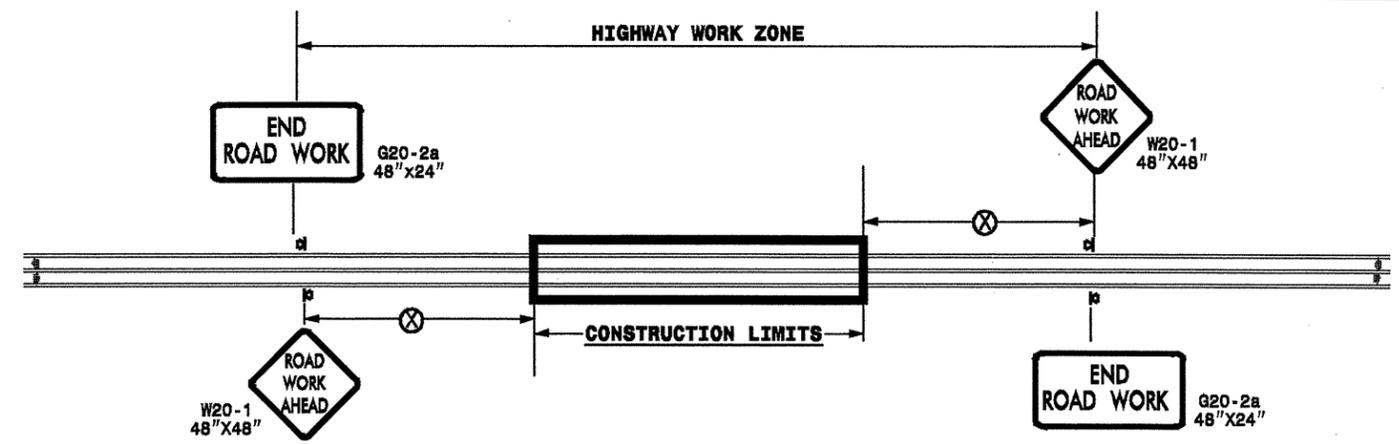


MOVING OPERATION CARAVAN

(OPERATIONS TRAVELING 3 MPH OR FASTER)
PLACING PAVEMENT MARKING OR MARKERS
ON INTERSTATE ROADWAYS

DRAWING NUMBER 8
IMPLEMENTATION DATE: 11/03/04
REVISED:

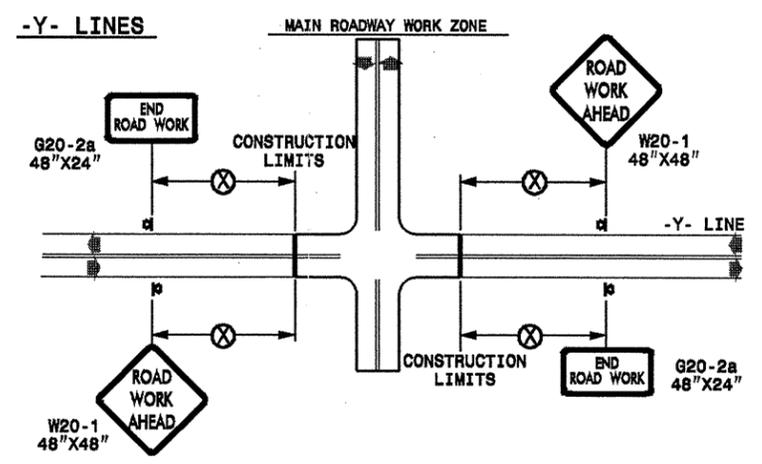
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

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

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCE WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

◀ PORTABLE SIGN

➔ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

APPROVED: _____	DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED ADVANCED WORK ZONE WARNING SIGNS	
SEAL	SCALE: NONE	REVISIONS	
	DATE:	7-98	10/01
	DWG. BY:	10-98	09/04
	DESIGN BY:	01/01	11/04
REVIEWED BY:			

03-DEC-2009 18:32 s:\signing\resurfacing_030509\resurfacing2010\dlv09\c202531a-b-9cr108017x2-2wayundivurbfrwysjuly2006-portable.dgn pseymore AT W212237502

