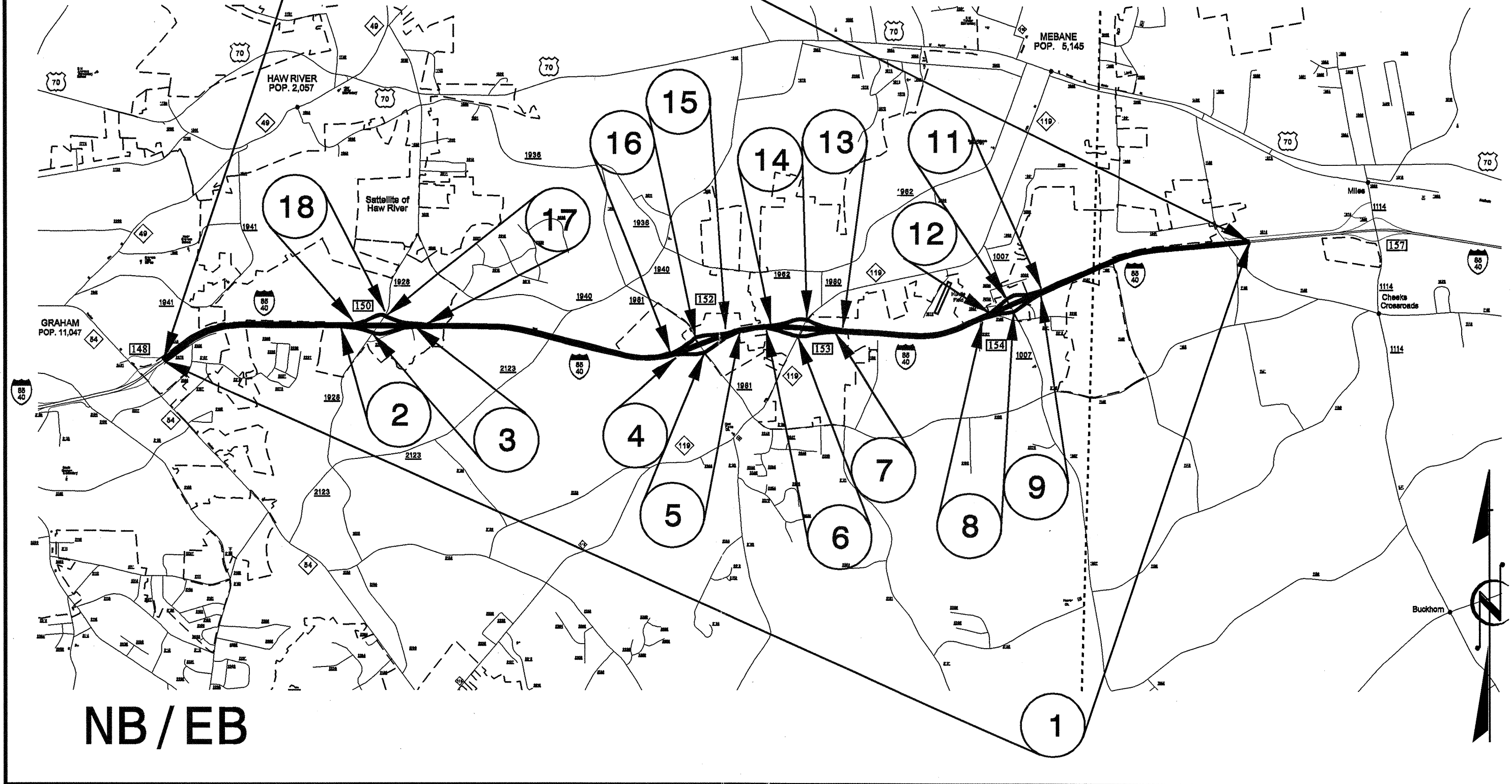


SB / WB

ALAMANCE
COUNTY

ORANGE
COUNTY



NB / EB

PROJECT NO.	SHEET NO.	TOTAL NO.
40248.3.GV1	2	6

SUMMARY OF QUANTITIES

PROJECT NO.	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	LENGTH	WIDTH	COMPREHENSIVE GRADING	REMOVAL OF EXISTING ASPHALT PAVEMENT	FABRIC FOR SOIL STABILIZATION	3.5" MILLING	1 1/2" MILLING	11" MILLING	2.5" MILLING	2" MILLING	0" TO 1.5" MILLING	2" TO 3.5" MILLING	MILLED RUMBLE STRIPS	INCIDENTAL MILLING	BASE COURSE, B25.0C	INTERMEDIATE COURSE, I19.0D	SURFACE COURSE, S9.5B	SURFACE COURSE, S9.5D	PG 64-22 PLANT MIX	PG 70-22 PLANT MIX	PG 76-22 PLANT MIX	ADJ. OF GRATES AND/OR FRAMES ON DROP INLETS	REPAIR OF DROP INLETS	SEED & MULCHING	TRENCHING (UNPAVED) (1)(2")	PULL BOX (STANDARD)	INDUCTIVE LOOP SAW CUT	LEAD-IN CABLE (18-2)	LEAD-IN CABLE (18-4)	PORTABLE LIGHTING				
NO		NO			NO	MI	FT	LS	SY	SY	SY	SY	SY	SY	SY	SY	SY	LF	SY	TONS	TONS	TON	TON	TONS	TONS	TONS	EA	EA	AC	LF	EA	LF	LF	LF	LF	LS			
40248.3.GV1	Alamance & Orange	1	I-85 NB/I-40 EB	FROM NC 54 IN ALAMANCE TO 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE	1	7.802	67.5 - 75.5				2,734				219,370	4,530	11,146	81,264	6,000			7,879	45,475	473		2,505	56	20				500					"		
	Alamance	2	OFF RAMP EB - JIMMIE KERR ROAD EXIT	EXIT 150	2	0.136	24 - 55							1,797								258		228		12	13						205						"
	Alamance	3	ON RAMP EB - JIMMIE KERR ROAD EXIT	EXIT 150	3	0.199	24					2,972												251		14													"
	Alamance	4	OFF RAMP EB - TROLLINGWOOD RD EXIT	EXIT 152	4	0.178	23	LS	2,958	1,000											1,379	682		567	58	32	31			0.35									"
	Alamance	5	ON RAMP EB - TROLLINGWOOD RD EXIT	EXIT 152	4	0.195	22	LS	3,046	1,000											1,417	700		514	61	33	29			0.35								"	
	Alamance	6	OFF RAMP EB - NC 119 EXIT	EXIT 153	5	0.172	23 - 32						1,034											368			20						213					"	
	Alamance	7	ON RAMP EB - NC 119 EXIT	EXIT 153	3	0.187	22 - 38						2,766											233			13											"	
	Alamance	8	OFF RAMP EB - MEBANE OAKS RD EXIT	EXIT 154	5	0.12	22 - 48						458											281			15				10	1	410	10	10			"	
	Alamance	9	ON RAMP EB - MEBANE OAKS RD EXIT	EXIT 154	3	0.138	24 - 25						2,305											195			10											"	
	Orange & Alamance	10	I-85 SB/I-40 WB	FROM 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE TO NC 54 IN ALAMANCE	1	7.855	67.5 - 73.5					2,817		4,547		223,794	4,098	11,361	81,816	6,000	1,296	1,037	7,585	46,871	511	49	2,580						500						"
	Alamance	11	OFF RAMP WB - MEBANE OAKS ROAD	EXIT 154	3	0.169	24 - 45						3,583											302			16						410						"
	Alamance	12	ON RAMP WB - MEBANE OAKS ROAD	EXIT 154	3	0.11	24						1,549											131			7												"
	Alamance	13	OFF RAMP WB - NC 119	EXIT 153	5	0.158	24 - 36						961											340			19						213						"
	Alamance	14	ON RAMP WB - NC 119	EXIT 153	3	0.206	24						2,992											253			14											"	
	Alamance	15	OFF RAMP WB - TROLLINGWOOD ROAD	EXIT 152	4	0.156	24 - 28	LS	2,207	1,000											1,038	511		442	44	25	24			0.30								"	
	Alamance	16	ON RAMP WB - TROLLINGWOOD ROAD	EXIT 152	4	0.129	24	LS	1,819	1,000											851	420		308	37	20	17			0.25								"	
	Alamance	17	OFF RAMP WB - JIMMIE KERR ROAD EXIT	EXIT 150	3	0.144	24						2,075											175			10						205					"	
	Alamance	18	ON RAMP WB - JIMMIE KERR ROAD EXIT	EXIT 150	2	0.158	24							2,244									323		189		15	11										"	
TOTAL FOR PROJ NO. 40248.3.GV1						18.212		1	10,030	4,000	5,551	20,695	4,547	4,041	443,164	8,628	22,507	163,080	12,000	5,981	3,931	15,464	97,123	1,184	186	5,348	56	20	1.25	10	1	2,656	10	10	LS				

NOTE: THERE IS NO SEPARATE PAYMENT FOR REMOVAL OF EXISTING ASPHALT PAVEMENT. IT IS INCLUDED IN THE LUMP SUM GRADING.

PROJECT NO.	SHEET NO.	TOTAL NO.
I-4918 (40248.3.GV1)	3	6

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	4400000000-E	4405000000-E	4410000000-E	4415000000-N	4420000000-N	4430000000-E	4445000000-N	4465000000-N	4480000000-N	4485000000-E	4688000000-E		4690000000-E	4695000000-E	4700000000-E	
					WORK ZONE SIGNS, STATION-ARY-SF	WORK ZONE SIGNS, PORTABLE-SF	WORK ZONE SIGNS, BARRICADE MOUNTED-SF	FLASHING ARROW PANELS, TYPE C-EA	CHAGEABLE MESSAGE SIGN-EA	DRUMS-EA	BARRICADES (TYPE III)-LF	TEMP CRASH CUSHIONS-EA	TMIA-EA	PORTABLE CONCRETE BARRIER-LF	6" X 90 M WHITE THERMO-LF	6" X 90 M YELLOW THERMO-LF	6" X 120 M WHITE THERMO-LF	8" X 90 M WHITE RAMP ARROW-LF	12" X 90 M WHITE THERMO-LF	
40248.3.GV1	Alamance/Orange	1	I-85 NB/I-40 EB	FROM NC 54 IN ALAMANCE TO 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE	682	888	90	6	3	600	24		3		41,182	41,182	32,046		5,801	
	Alamance	2	OFF RAMP EB - JIMMIE KERR ROAD	EXIT 150											1,071	811		40		
	Alamance	3	ON RAMP EB - JIMMIE KERR ROAD	EXIT 150											1,171	1,170				
	Alamance	4	OFF RAMP EB - TROLLINGWOOD RD	EXIT 152											1,272	1,079		40		
	Alamance	5	ON RAMP EB - TROLLINGWOOD RD	EXIT 152											1,165	1,038				
	Alamance	6	OFF RAMP EB - NC 119	EXIT 153											1,123	913	285			
	Alamance	7	ON RAMP EB - NC 119	EXIT 153											991	991				
	Alamance	8	OFF RAMP EB - MEBANE OAKS RD	EXIT 154											629	629	552			
	Alamance	9	ON RAMP EB - MEBANE OAKS RD	EXIT 154											731	731				
	Alamance/Orange	10	I-85 SB/I-40 WB	FROM 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE TO NC 54 IN ALAMANCE									2		5,280	41,478	41,478	32,784		5,899
	Alamance	11	OFF RAMP WB - MEBANE OAKS ROAD	EXIT 154											933	893	500			
	Alamance	12	ON RAMP WB - MEBANE OAKS ROAD	EXIT 154											583	583				
	Alamance	13	OFF RAMP WB - NC 119	EXIT 153											959	841	331			
	Alamance	14	ON RAMP WB - NC 119	EXIT 153											1,088	1,088				
	Alamance	15	OFF RAMP WB - TROLLINGWOOD ROAD	EXIT 152											821	821		40		
	Alamance	16	ON RAMP WB - TROLLINGWOOD ROAD	EXIT 152											682	682				
	Alamance	17	OFF RAMP WB - JIMMIE KERR ROAD	EXIT 150											759	759		40		
	Alamance	18	ON RAMP WB - JIMMIE KERR ROAD	EXIT 150											837	837				
TOTAL FOR PROJ NO. 40248.3.GV1					682	888	90	6	3	600	24	2	3	5,280	97,475	96,526	66,498	160	11,700	
																194,001				

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	4710000000-E	4725000000-E				4815000000-E		4825000000-E	4835000000-E	4845000000-N				4905000000-N	4960000000-N		
					24" X 120 M WHITE THERMO-LF	THERMO STR ARROW 90 M-EA	THERMO RT ARROW 90 M-EA	THERMO STR & LT ARROW 90 M-EA	THERMO LT ARROW 90 M-EA	6" WHITE PAINT-LF	6" YELLOW PAINT-LF	12" WHITE PAINT-LF	24" WHITE PAINT-LF	PAINT STR ARROW-EA	PAINT RT ARROW-EA	PAINT STR & LT ARROW-EA	PAINT LT ARROW-EA	SNOW PLOWABLE MARKERS-EA	EXISTING BARRIER DELINEATORS-EA		
40248.3.GV1	Alamance/Orange	1	I-85 NB/I-40 EB	FROM NC 54 IN ALAMANCE TO 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE		9					146,456	82,364	11,602		18			2,040	429		
	Alamance	2	OFF RAMP EB - JIMMIE KERR ROAD	EXIT 150	30		1	1			2,142	1,622		60	2	2		28			
	Alamance	3	ON RAMP EB - JIMMIE KERR ROAD	EXIT 150	30						2,342	2,340		60							
	Alamance	4	OFF RAMP EB - TROLLINGWOOD RD	EXIT 152	53		1	1			2,544	2,158		106	2	2		21			
	Alamance	5	ON RAMP EB - TROLLINGWOOD RD	EXIT 152							2,330	2,076						4			
	Alamance	6	OFF RAMP EB - NC 119	EXIT 153	32		4	3			2,816	1,826		64	8	6		10			
	Alamance	7	ON RAMP EB - NC 119	EXIT 153							1,982	1,982									
	Alamance	8	OFF RAMP EB - MEBANE OAKS RD	EXIT 154	110		2	2	2		2,362	1,258		220	4	4	4				
	Alamance	9	ON RAMP EB - MEBANE OAKS RD	EXIT 154							1,462	1,462									
	Alamance/Orange	10	I-85 SB/I-40 WB	FROM 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE TO NC 54 IN ALAMANCE		9					142,232	79,364	11,798		18			2,013	434		
	Alamance	11	OFF RAMP WB - MEBANE OAKS ROAD	EXIT 154	80		5	3			2,866	1,786		160	10	6					
	Alamance	12	ON RAMP WB - MEBANE OAKS ROAD	EXIT 154							1,166	1,166									
	Alamance	13	OFF RAMP WB - NC 119	EXIT 153	20		4	3			2,580	1,682		40	8	6		6			
	Alamance	14	ON RAMP WB - NC 119	EXIT 153							2,126	2,126									
	Alamance	15	OFF RAMP WB - TROLLINGWOOD ROAD	EXIT 152				1			1,642	1,642				2		14			
	Alamance	16	ON RAMP WB - TROLLINGWOOD ROAD	EXIT 152							1,364	1,364									
	Alamance	17	OFF RAMP WB - JIMMIE KERR ROAD	EXIT 150	70			1			1,518	1,518		140		2		14			
	Alamance	18	ON RAMP WB - JIMMIE KERR ROAD	EXIT 150							1,674	1,674									
TOTAL FOR PROJ NO. 40248.3.GV1					425	18	17	15	2	321,604	189,410	23,400	850	36	34	30	4	4,150	863		
																52		511,014		104	

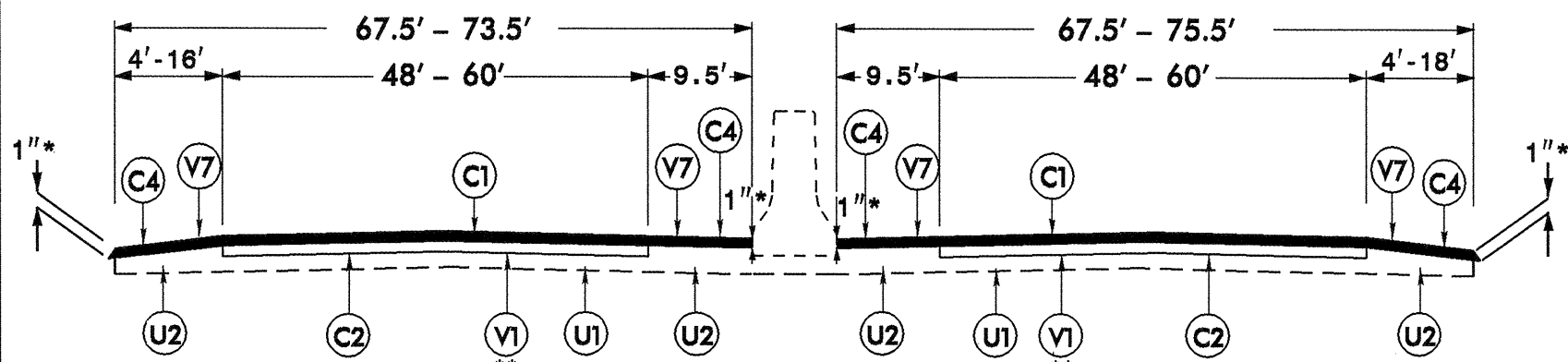
PROJECT NO.	SHEET NO.	TOTAL SHEETS
40248.3.GV1 (I-4918)	4	6

NOTE: STA 0+00 EBNB - STARTS AT NEW PAVEMENT JOINT EAST OF NC 54

STA 0+00 WBSB - STARTS AT NEW PAVEMENT JOINT 1.1 MILES EAST OF THE ALAMANCE/ORANGE COUNTY LINE

WBSB STA 58+54 LB=STA 0+00 LA AT THE ORANGE/ALAMANCE COUNTY LINE

DO NOT PAVE BRIDGES AT THE FOLLOWING LOCATIONS:
 EBNB STA 48+07 TO STA 51+80
 EBNB STA 96+04 TO STA 98+01
 WBSB STA 254+89 TO STA 256+85
 WBSB STA 301+76 TO STA 305+50



TYPICAL SECTION NO. 1

* Taper paved shoulder to 1" depth at median barrier wall and at earth shoulder.

** V1 - Mill travel lanes only, do not mill shoulders

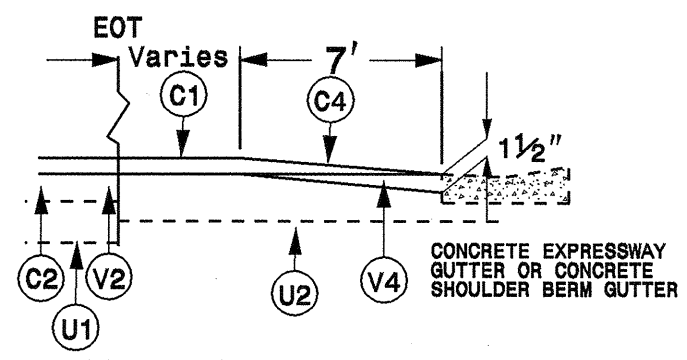
Use Typical Section No. 1 on Maps 1 and 10

PAVEMENT SCHEDULE

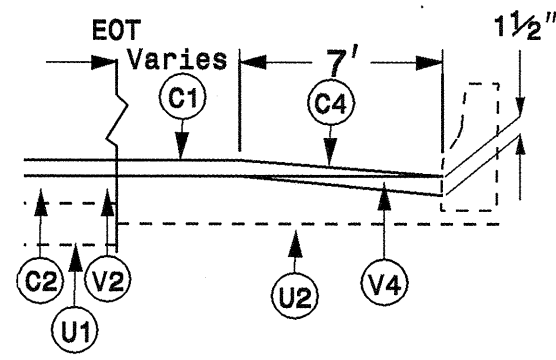
C1	PROP. APPROX. 1 1/2" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.
C2	PROP. APPROX. 2" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C3	PROP. APPROX. 3" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C4	PROP. APPROX. 1 1/2" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.
D1	PROP. APPROX. 2 1/2" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 3" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D3	PROP. APPROX. 4" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 458 LBS. PER SQ. YD.
E1	PROP. APPROX. 8" ASPHALT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 458 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E2	PROP. APPROX. 5" ASPHALT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
J	EXISTING AGGREGATE BASE COURSE OR CTABC
R1	EXISTING SHLDR. BERM GUTTER U1 EXISTING TRAVELWAY.
R2	EXISTING 2-6 CURB AND GUTTER U2 EXISTING PAVED SHOULDER.

MILLING SCHEDULE

V1	MILLING BITUMINOUS PAVEMENT, 2" DEPTH.
V2	MILLING BITUMINOUS PAVEMENT, 2 1/2" DEPTH.
V3	MILLING BITUMINOUS PAVEMENT, 1 1/2" DEPTH.
V4	MILLING BITUMINOUS PAVEMENT, 0" to 1 1/2" DEPTH.
V5	MILLING BITUMINOUS PAVEMENT, 2" to 3 1/2" DEPTH.
V6	MILLING BITUMINOUS PAVEMENT, 3 1/2" DEPTH.
V7	MILLED RUMBLE STRIP. use in conjunction with Standard Drawing # 885.01
V8	MILLING BITUMINOUS PAVEMENT, 11" DEPTH.



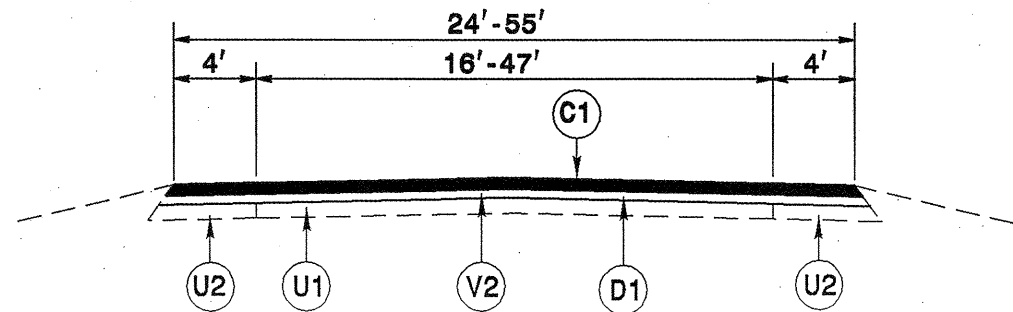
MILLING TYPICAL SECTION 1
 TO BE USED IN CONJUNCTION WITH TS # 1 & 3



MILLING TYPICAL SECTION 2
 TO BE USED IN CONJUNCTION WITH TS # 1

SYSTEMS CONSTRUCTION

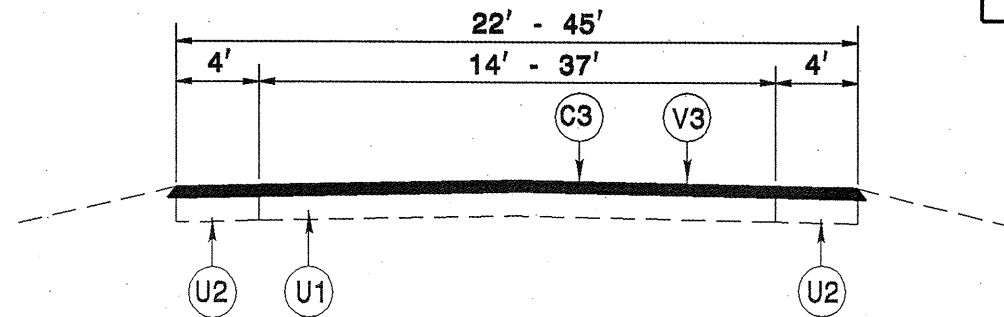
PROJECT NO.	SHEET NO.	TOTAL SHEETS
40248.3.GV1 (I-4918)	5	6



TYPICAL SECTION NO. 2

Use Typical Section No. 2 for Maps 2 and 18

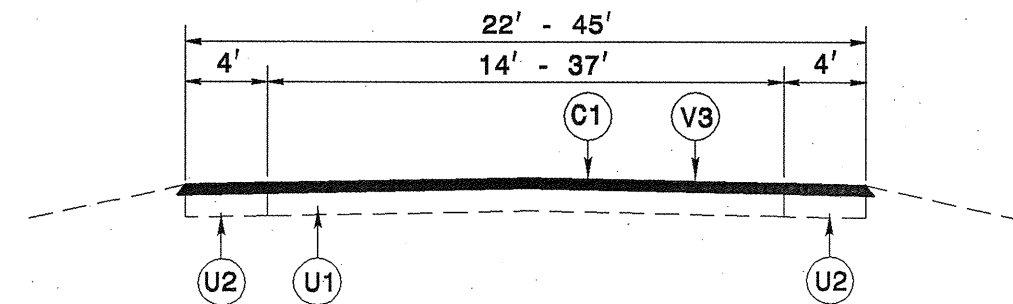
Note: In locations on Map 2 where there is newer pavement, do not mill, but overlay with C1.



TYPICAL SECTION NO. 5

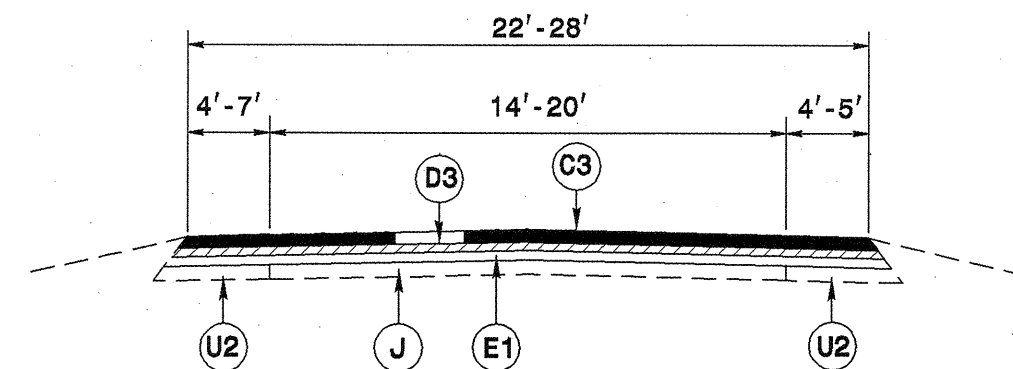
Use Typical Section No. 5 for Maps 6, 8, and 13

Note: In locations where there is newer pavement, do not mill, but overlay with C1.



TYPICAL SECTION NO. 3

Use Typical Section No. 3 for Maps 3, 7, 9, 11, 12, 14, and 17

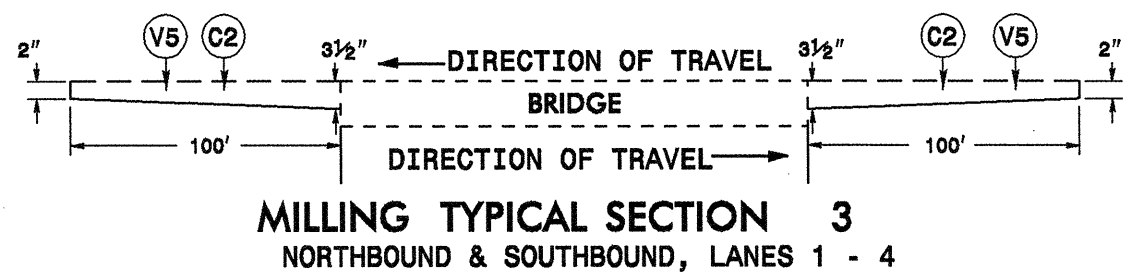


TYPICAL SECTION NO. 4

Use Typical Section No. 4 for Maps 4, 5, 15, and 16.

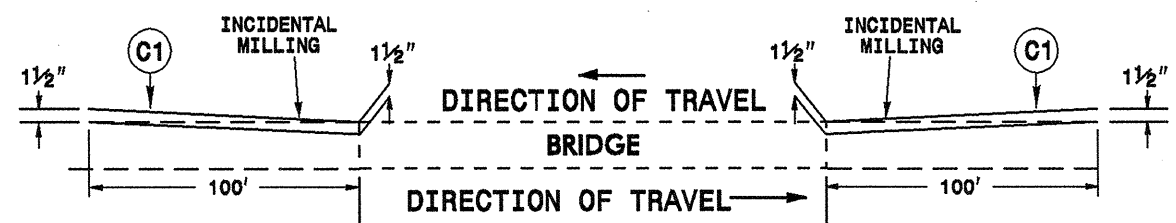
PAVEMENT SCHEDULE			
C1	PROP. APPROX. 1½" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.		
C2	PROP. APPROX. 2" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C3	PROP. APPROX. 3" ASPHALT. CONC. SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
D1	PROP. APPROX. 2½" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.		
D2	PROP. APPROX. 3" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.		
D3	PROP. APPROX. 4" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.		
E1	PROP. APPROX. 8" ASPHALT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS		
E2	PROP. APPROX. 5" ASPHALT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.		
J	EXISTING AGGREGATE BASE COURSE OR CTAB		
R1	EXISTING SHLDR. BERM GUTTER	U1	EXISTING TRAVELWAY.
R2	EXISTING 2-6 CURB AND GUTTER	U2	EXISTING PAVED SHOULDER.
MILLING SCHEDULE			
V1	MILLING BITUMINOUS PAVEMENT, 2" DEPTH.		
V2	MILLING BITUMINOUS PAVEMENT, 2½" DEPTH.		
V3	MILLING BITUMINOUS PAVEMENT, 1½" DEPTH.		
V4	MILLING BITUMINOUS PAVEMENT, 0" to 1½" DEPTH.		
V5	MILLING BITUMINOUS PAVEMENT, 2" to 3½" DEPTH.		
V6	MILLING BITUMINOUS PAVEMENT, 3½" DEPTH.		
V7	MILLED RUMBLE STRIP. use in conjunction with Standard Drawing # 665.01		
V6	MILLING BITUMINOUS PAVEMENT, 11" DEPTH.		

\$\$\$\$\$SYTIME\$\$\$\$\$DGN\$\$\$\$\$USERNAME\$\$\$\$\$



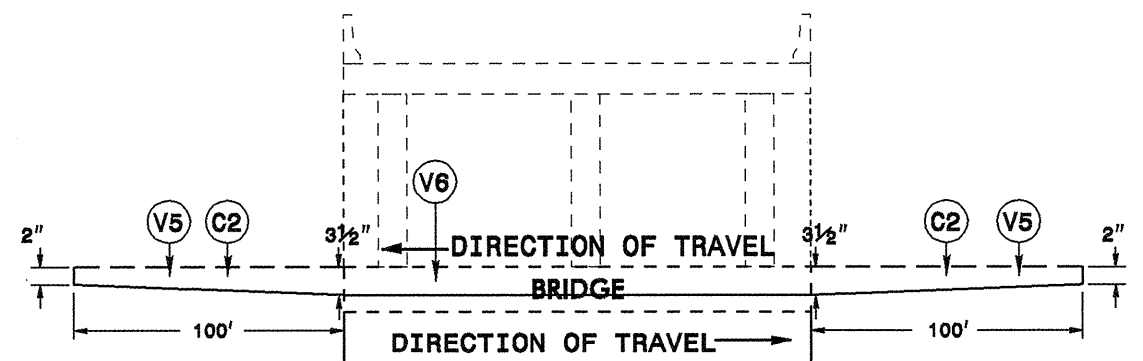
MILLING TYPICAL SECTION 3
NORTHBOUND & SOUTHBOUND, LANES 1 - 4

NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NO. 1 ON MAP 1; TS. NO. 1 ON MAP 10



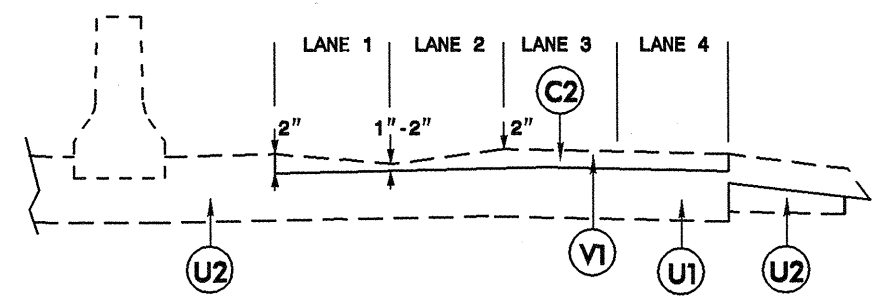
MILLING TYPICAL SECTION 4
NORTHBOUND & SOUTHBOUND, LANES 1 - 4 & SHOULDERS

NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NO. 1 ON MAP 1; TS. NO. 1 ON MAP 10



MILLING TYPICAL SECTION 5
NORTHBOUND & SOUTHBOUND, LANES 1 - 4 & SHOULDERS

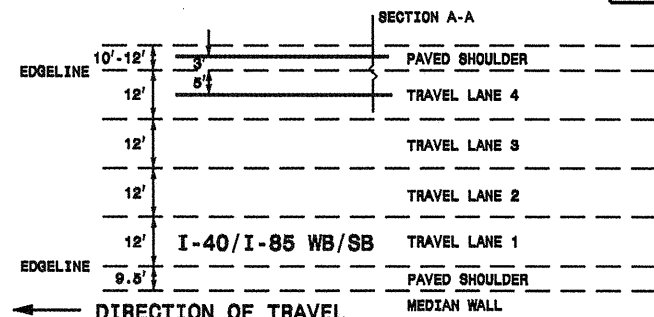
NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NO. 1 ON MAP 1; TS. NO. 1 ON MAP 10



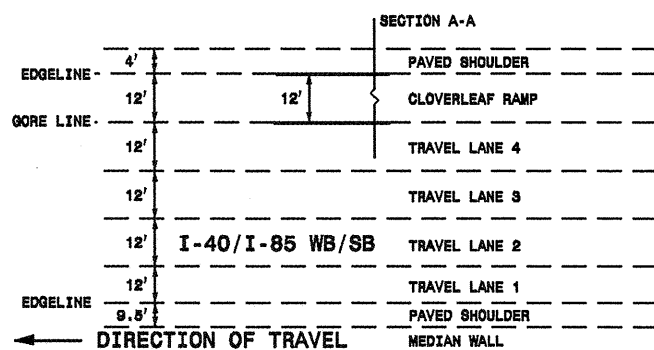
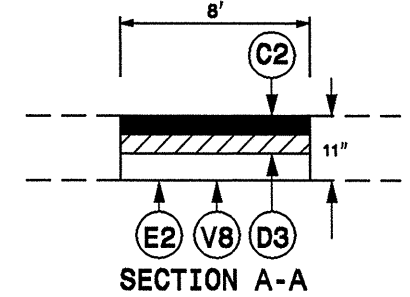
MILLING TYPICAL SECTION 6

SOUTHBOUND, MILLING TYPICAL TO CORRECT DIP IN LANES 1 - 2 STA 180+40 TO STA 183+90

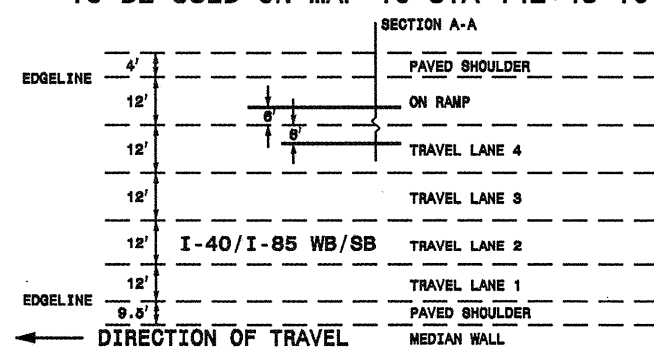
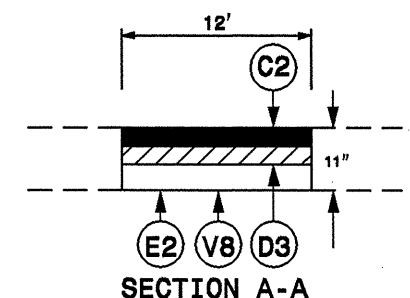
NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NOS. 1 ON MAP 10



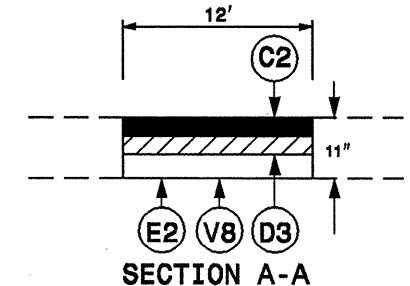
FULL DEPTH PAVEMENT REPAIR TYPICAL SECTION 1
TO BE USED ON MAP 10 STA 73+67 TO STA 126+51



FULL DEPTH PAVEMENT REPAIR TYPICAL SECTION 2
TO BE USED ON MAP 10 STA 142+43 TO STA 143+32, EXIT 152 OFF RAMP



FULL DEPTH PAVEMENT REPAIR TYPICAL SECTION 3
TO BE USED ON MAP 10 STA 168+96 TO STA 171+27, EXIT 152 ON RAMP



PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT. CONC. SURFACE COURSE, TYPE 89.5D, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.	R2	EXISTING 2-8 CURB AND GUTTER	U2	EXISTING PAVED SHOULDER.
C2	PROP. APPROX. 2" ASPHALT. CONC. SURFACE COURSE, TYPE 89.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	MILLING SCHEDULE			
C3	PROP. APPROX. 3" ASPHALT. CONC. SURFACE COURSE, TYPE 89.5D, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	V1	MILLING BITUMINOUS PAVEMENT, 2" DEPTH.		
D1	PROP. APPROX. 2 1/2" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 288 LBS. PER SQ. YD.	V2	MILLING BITUMINOUS PAVEMENT, 2 1/2" DEPTH.		
D2	PROP. APPROX. 3" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	V3	MILLING BITUMINOUS PAVEMENT, 1 1/2" DEPTH.		
D3	PROP. APPROX. 4" ASPHALT. CONC. INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V4	MILLING BITUMINOUS PAVEMENT, 0" to 1 1/2" DEPTH.		
E1	PROP. APPROX. 8" ASPHALT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	V5	MILLING BITUMINOUS PAVEMENT, 2" to 3 1/2" DEPTH.		
E2	PROP. APPROX. 8" ASPHALT. CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 870 LBS. PER SQ. YD.	V6	MILLING BITUMINOUS PAVEMENT, 3 1/2" DEPTH.		
J	EXISTING AGGREGATE BASE COURSE OR CTABC	V7	MILLED RUMBLE STRIP. Use in conjunction with Standard Drawing # 685.01		
R1	EXISTING SHLDR. BERM GUTTER	U1	EXISTING TRAVELWAY.	V8	MILLING BITUMINOUS PAVEMENT, 11" DEPTH.

SYSTEM TIME DGN USE

PHASING

STEPS 1 THROUGH 4 MAY BE PERFORMED CONCURRENTLY WITHIN THE PARAMETERS OF THE INTERMEDIATE CONTRACT TIMES (SEE CONTRACT AND LIQUIDATED DAMAGES)

STEPS 5 THROUGH 7 ARE TO BE PERFORMED WITHIN THE PARAMETERS OF THE INTERMEDIATE CONTRACT TIMES (SEE CONTRACT AND LIQUIDATED DAMAGES)

STEP 1 -- USING RSD 1101.02, SHEET 3 OF 7, IN CONJUNCTION WITH SHEET DET-3A, CLOSE THE "ON RAMP" FROM EXIT 153 (NC 119) AND SHEET DET-2 TO CLOSE THE "OFF RAMP" TO EXIT 152 (TROLLINGWOOD RD.) AND PERFORM THE WORK BELOW:

CONSTRUCT FULL DEPTH REPAIR WORK WITHIN THE AUXILIARY LANE ON I-40 WB/I-85 SB EAST OF EXIT 152 (SEE CONSTRUCTION PLANS).

STEP 2 -- USE SHEETS DET-2 OR DET-2A TO DETOUR TRAFFIC AND CLOSE ONE OF THE ON/OFF RAMPS FOR EXIT 152 (TROLLINGWOOD RD.), AS DIRECTED BY THE ENGINEER, CONSTRUCT FULL DEPTH REPAIR WORK TO THE RAMP UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE PRIOR TO RE-OPENING TO TRAFFIC.

PERFORM THE SAME ON EACH OF THE REMAINING RAMPS, AS DIRECTED BY THE ENGINEER, NO MORE THAN ONE RAMP AT A TIME.

STEP 3 -- USING TCP-2, DETAIL "A", INSTALL THE LONG TERM LANE CLOSURE, INCLUDING PORTABLE CONCRETE BARRIER, CRASH CUSHIONS AND TEMPORARY WHITE EDGELINE AS DETAILED ON SHEET TCP-3.

-- BEHIND BARRIER, CONSTRUCT FULL DEPTH REPAIR WORK UP TO THE EXISTING PAVEMENT ELEVATION AS SHOWN ON TCP-3.

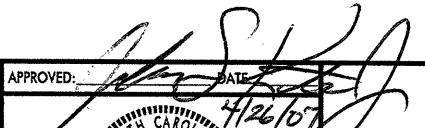


STEP 4 -- USING TCP-2, DETAIL "A", REMOVE THE TEMPORARY WHITE EDGELINE AND REPLACE WITH A SKIP LINE, REMOVE PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS, AND RE-OPEN OUTSIDE TRAVEL LANE AND PAVED SHOULDER OF WB I-40/I-85 (TRAVEL LANE 4)

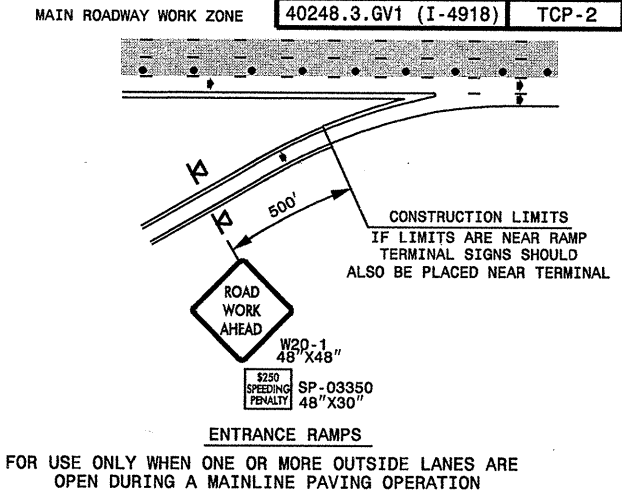
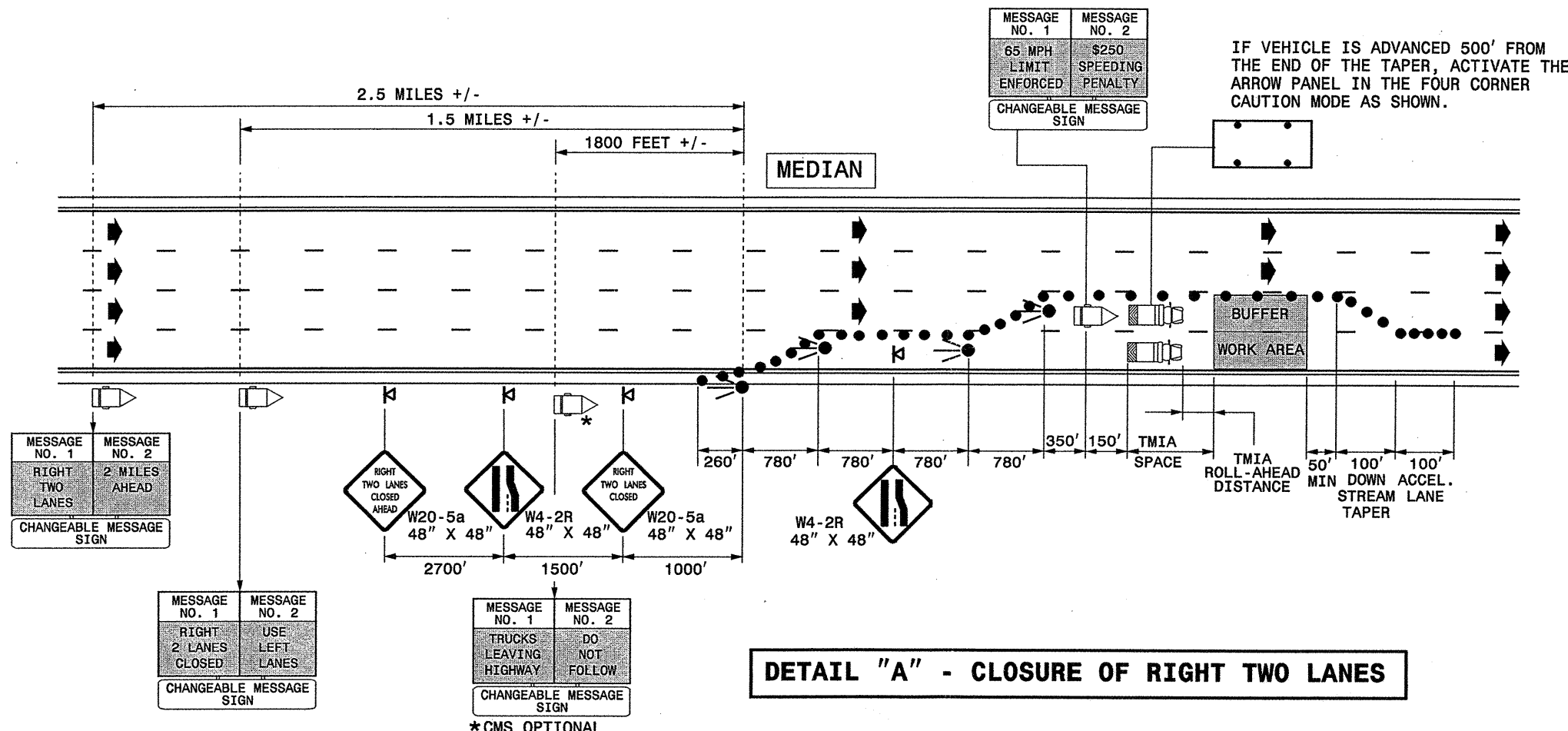
STEP 5 -- USING TCP-2, AND SHEETS DET-1 THROUGH DET-4A, COMPLETE THE REMAINING MILLING/PAVING OPERATIONS UP TO THE EXISTING ELEVATION, PLACE TEMPORARY PAINT MARKINGS, AND THE INSTALLATION OF INDUCTIVE LOOPS. SEE RSD 1101.02 SHEETS 3, 6 AND 7 FOR TRAFFIC CONTROL DURING LOOP INSTALLATION

STEP 6 -- USING TCP-2, AND SHEETS DET-1 THROUGH DET-4A, AND RSD 1101.02 SHEET 3 TO PLACE THE FINAL LAYER OF SURFACE COURSE, AND FINAL MARKINGS/MARKERS, AS DIRECTED BY THE ENGINEER.

STEP 7 - REMOVE ALL TRAFFIC CONTROL DEVICES.

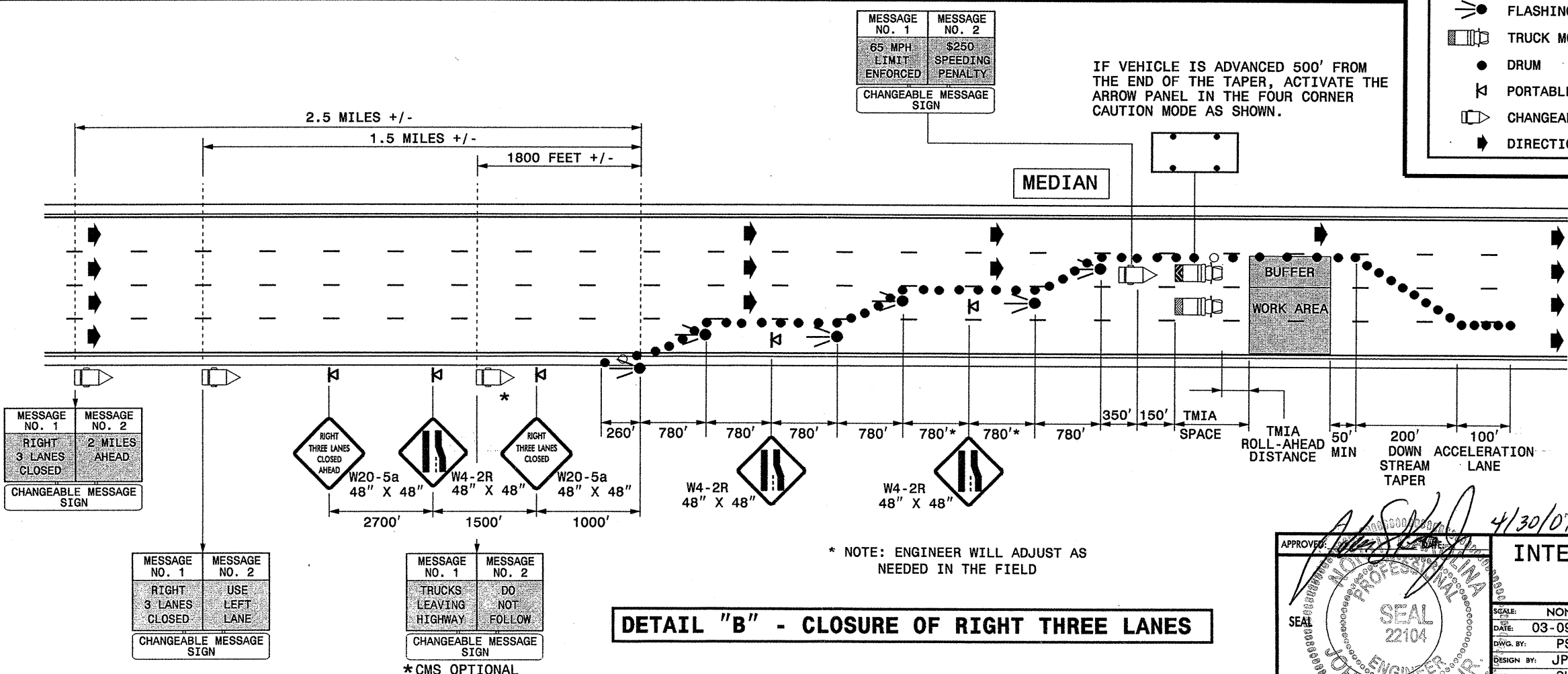
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 \\DOT\dfsroot\GROUPS-WZTCCC\design\group4\resurfacing\resurfacing2006\div07\402483\gialamance1498_18540\14918final tcp_donparker\14918_phasing.dgn
 pseymore AT WZTCCC

APPROVED:  DATE: 4/26/07	<h2 style="margin: 0;">PHASING</h2>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SCALE:</td> <td>NONE</td> </tr> <tr> <td>DATE:</td> <td>APR 2007</td> </tr> <tr> <td>DWG. BY:</td> <td>DAP</td> </tr> <tr> <td>DESIGN BY:</td> <td>DAP</td> </tr> <tr> <td>REVIEWED BY:</td> <td>JSK</td> </tr> </table>	SCALE:	NONE	DATE:	APR 2007	DWG. BY:	DAP	DESIGN BY:	DAP	REVIEWED BY:	JSK	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left;">REVISIONS</th> </tr> <tr> <td style="width: 50%;"> </td> <td style="width: 50%;"> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISIONS							
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DESIGN BY:	DAP																				
REVIEWED BY:	JSK																				
REVISIONS																					
																					



- GENERAL NOTES**
- 1-Refer to Notes on Rdwy Std 1101.02 Sheet 3 of 9.
 - 2-Coordinate use of overhead DMSs with the Division.
 - 3-Use following configuration for FAP (Flashing Arrow Panel)
 - 4-Symbols shown are for Right Lane Closure, use appropriate signs, messages and arrows for Left Lane Closure. Portable CMSs to remain positioned as shown.

- LEGEND**
- FLASHING ARROW PANEL (TYPE C)
 - TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
 - DRUM
 - PORTABLE SIGN
 - CHANGEABLE MESSAGE SIGN (CMS)
 - DIRECTION OF TRAFFIC FLOW



* NOTE: ENGINEER WILL ADJUST AS NEEDED IN THE FIELD

APPROVED: *[Signature]* 4/30/07

INTERSTATE DUAL/TRIPLE LANE CLOSURE

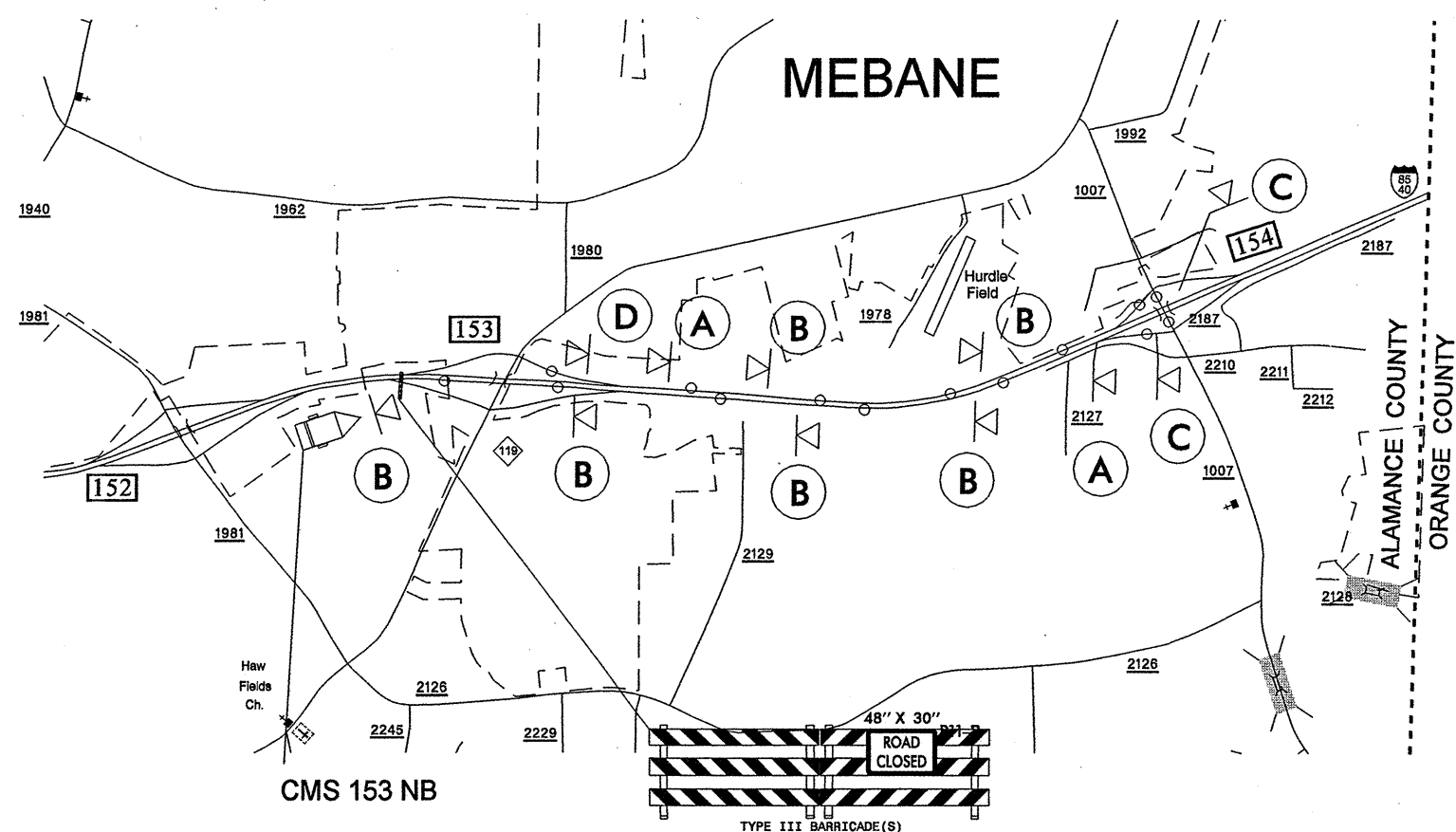
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DESIGN BY: JPG
REVIEWED BY: SK

SEAL 22104
ENGINEER

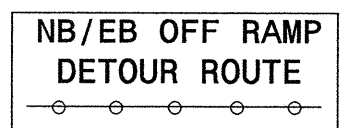
REVISIONS

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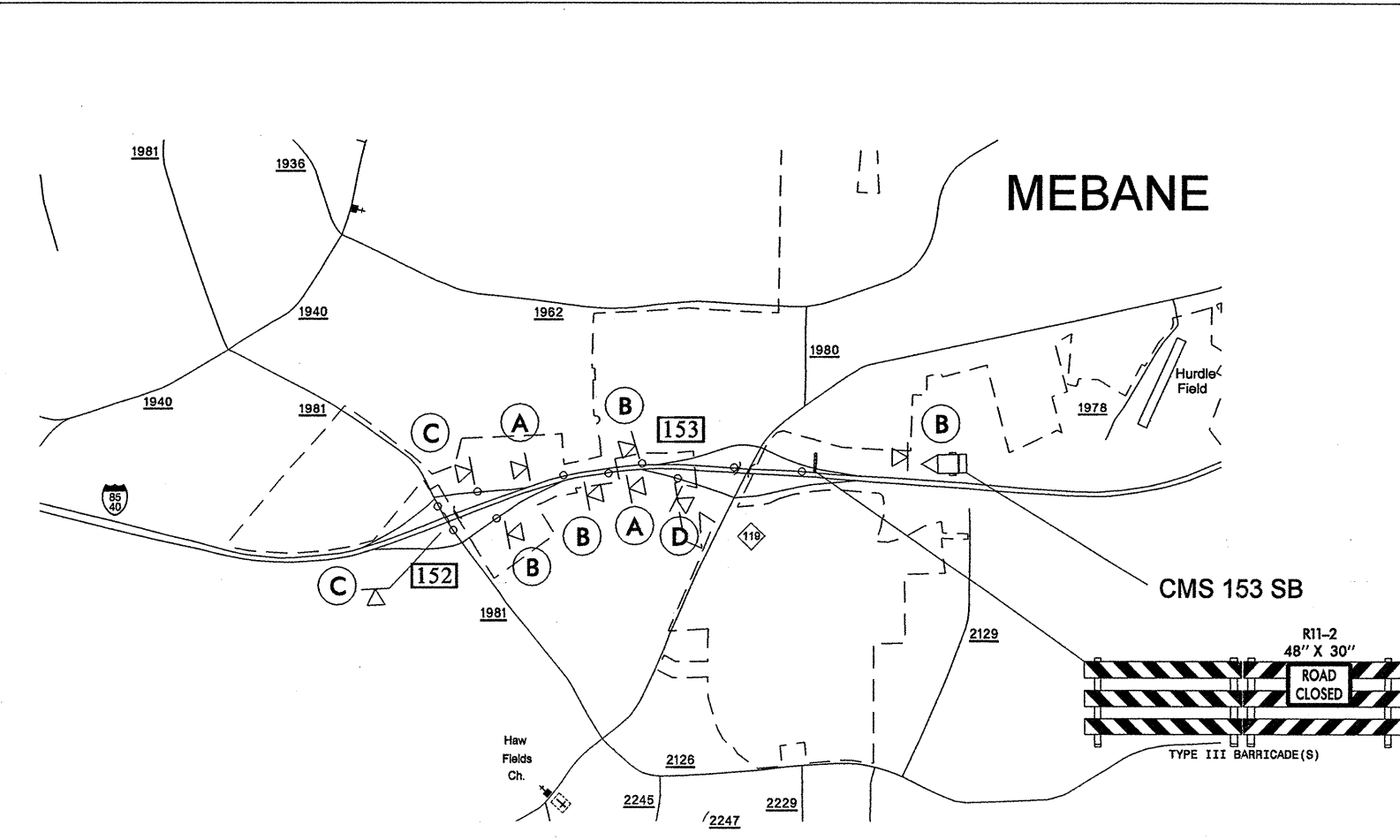
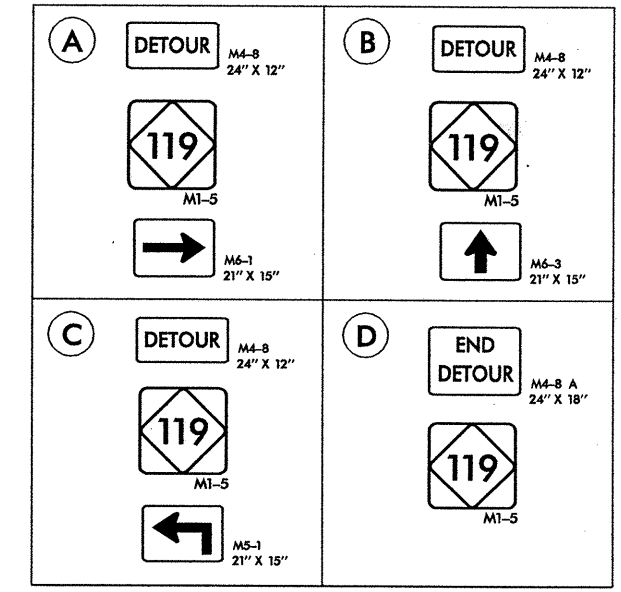


EXIT 153 [I-85 NB/I-40 EB OFF RAMP]

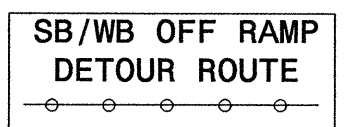


- Notes:
1. Close I 85 Off/On Ramps at same time on the same side of I 85 (Use in conjunction with All Detour Sheets)
 2. Place the appropriate signs and traffic control devices; Close the I.85 Off/On Ramps using drums spaced at 5'-centers and Type III barricades or as agreed upon with the Engineer, and begin work.
 3. Complete all work and remove all signs and traffic control devices.
 4. Portable Changeable Message Signs (PCMS) shall be used in combination with portable detour route signs.

Portable Changeable Message Signs Messages For Closure of Exit 153 On/Off Ramps (I-85 Northbound/I-40 Eastbound and I-85 Southbound/I-40 Westbound)			
	MESSAGE 1	MESSAGE 2	
CMS 153 NB ROAD CLOSURE	EXIT 153 RAMP CLOSED	NC 119 DETOUR AHEAD	
CMS 153 SB ROAD CLOSURE	EXIT 153 RAMP CLOSED	NC 119 DETOUR AHEAD	

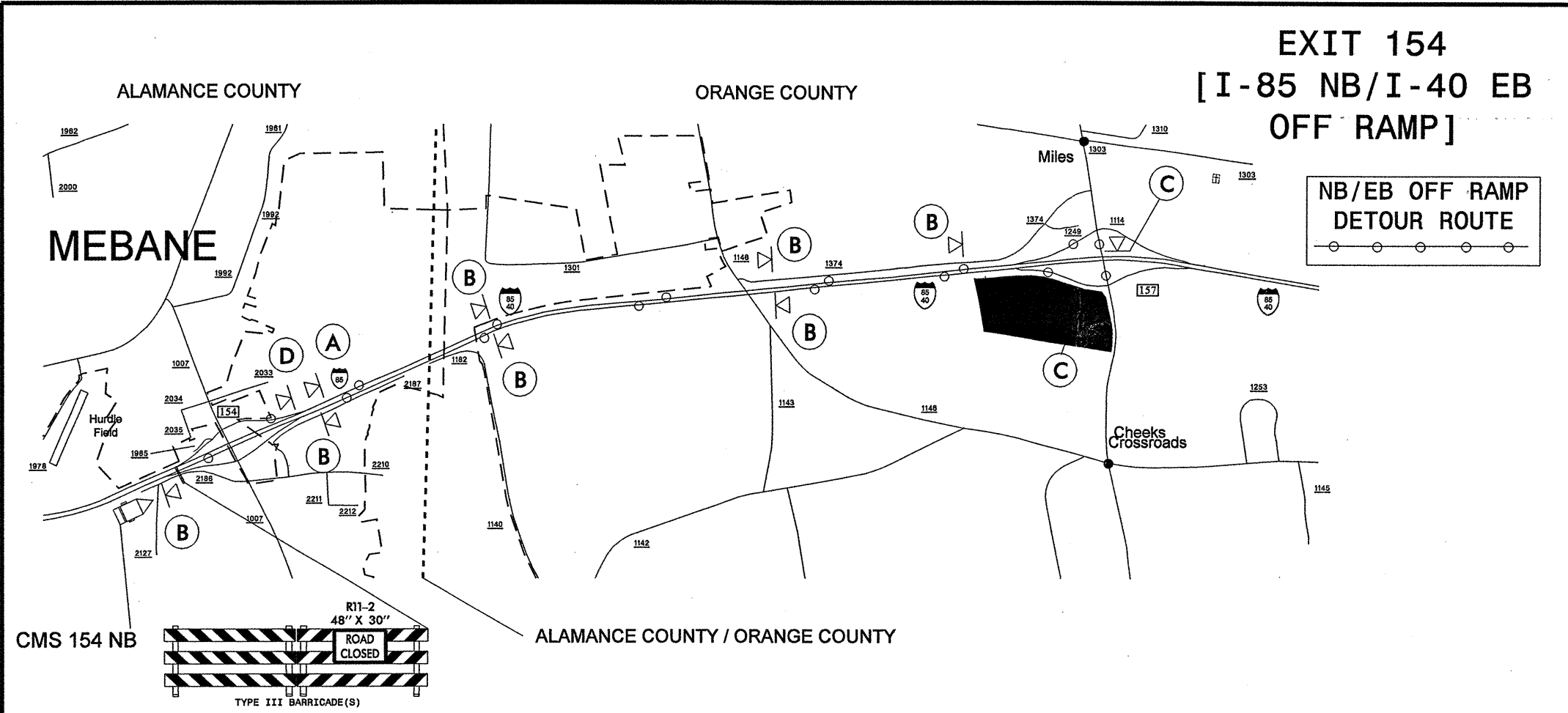


EXIT 153 [I-85 SB/I-40 WB OFF RAMP]



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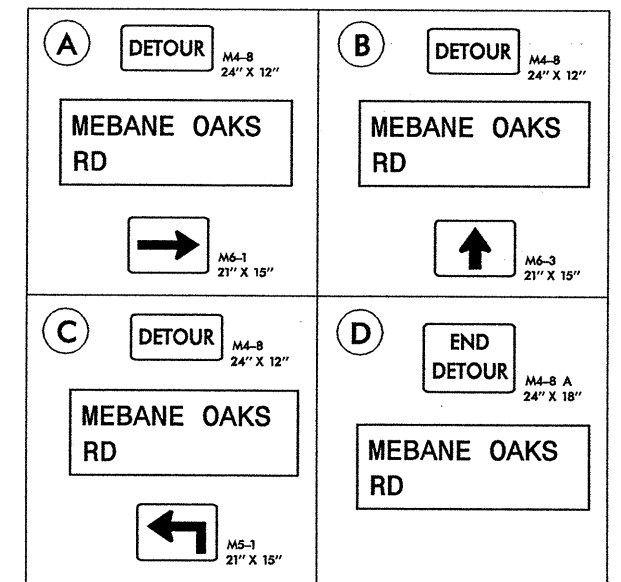
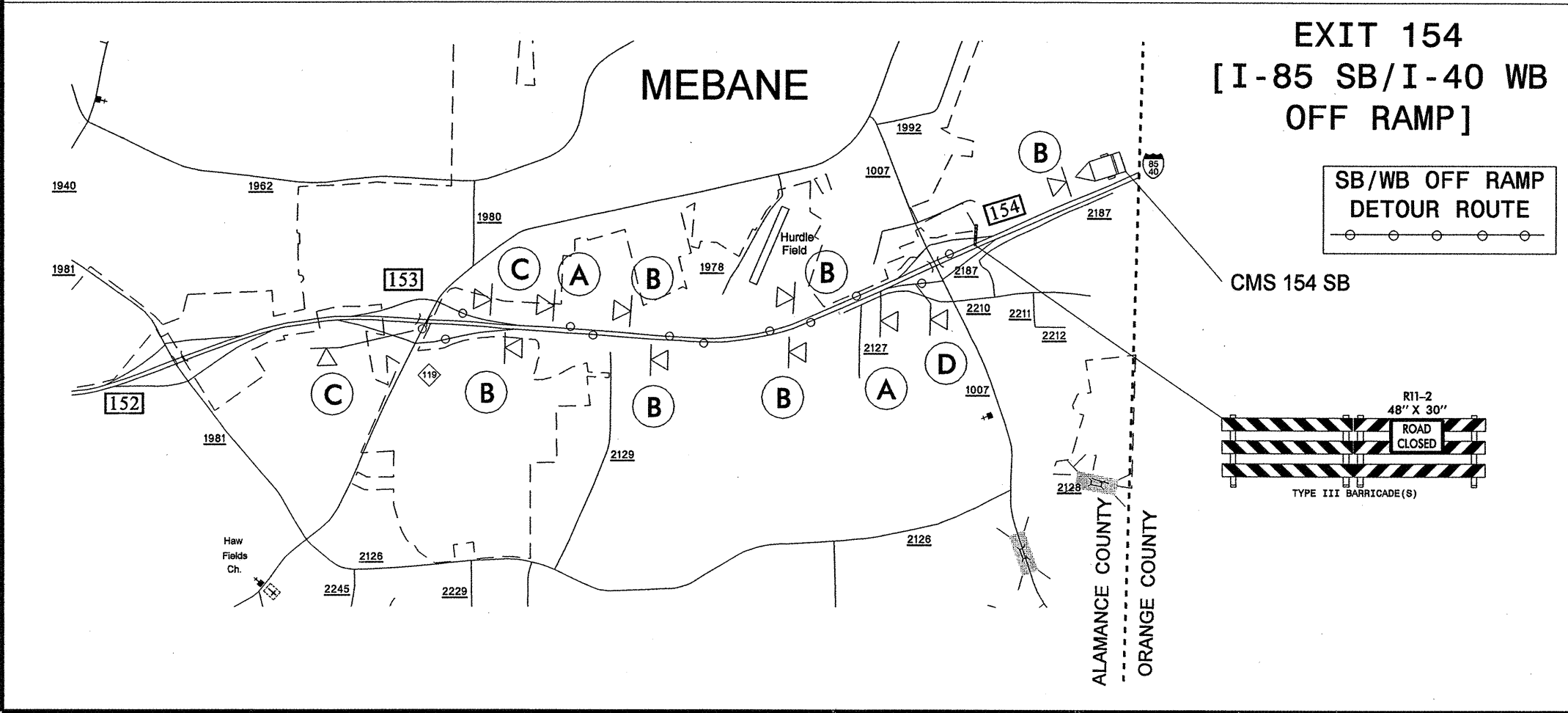
5/14/99



- Notes:
1. Close I 85 Off/On Ramps at same time on the same side of I 85 (Use in conjunction with All Detour Sheets)
 2. Place the appropriate signs and traffic control devices; Close the I 85 Off/On Ramps using drums spaced at 5' centers and Type III barricades or as agreed upon with the Engineer, and begin work.
 3. Complete all work and remove all signs and traffic control devices.
 4. Portable Changeable Message Signs (PCMS) shall be used in combination with portable detour route signs.

Portable Changeable Message Signs
Messages For Closure of Exit 154 On/Off Ramps
(I-85 Northbound/I-40 Eastbound and
I-85 Southbound/I-40 Westbound)

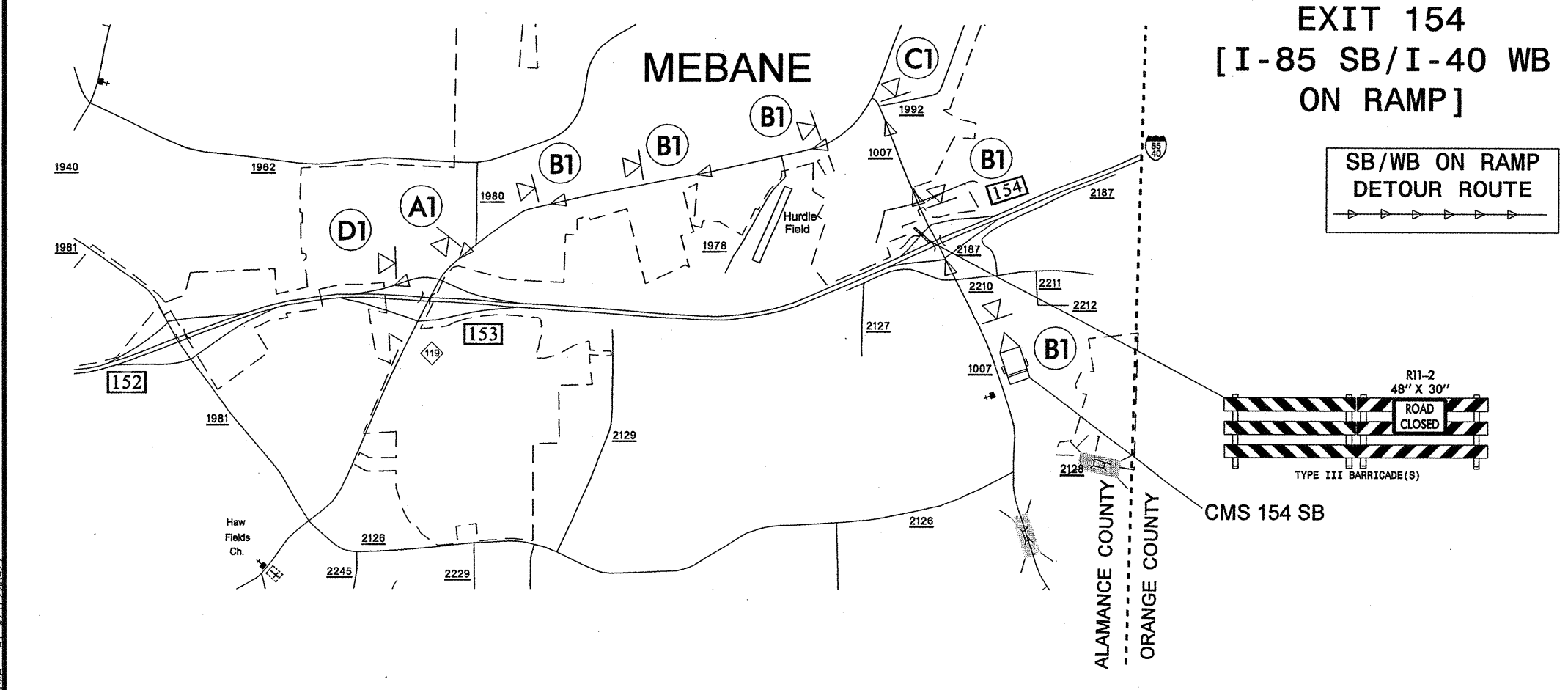
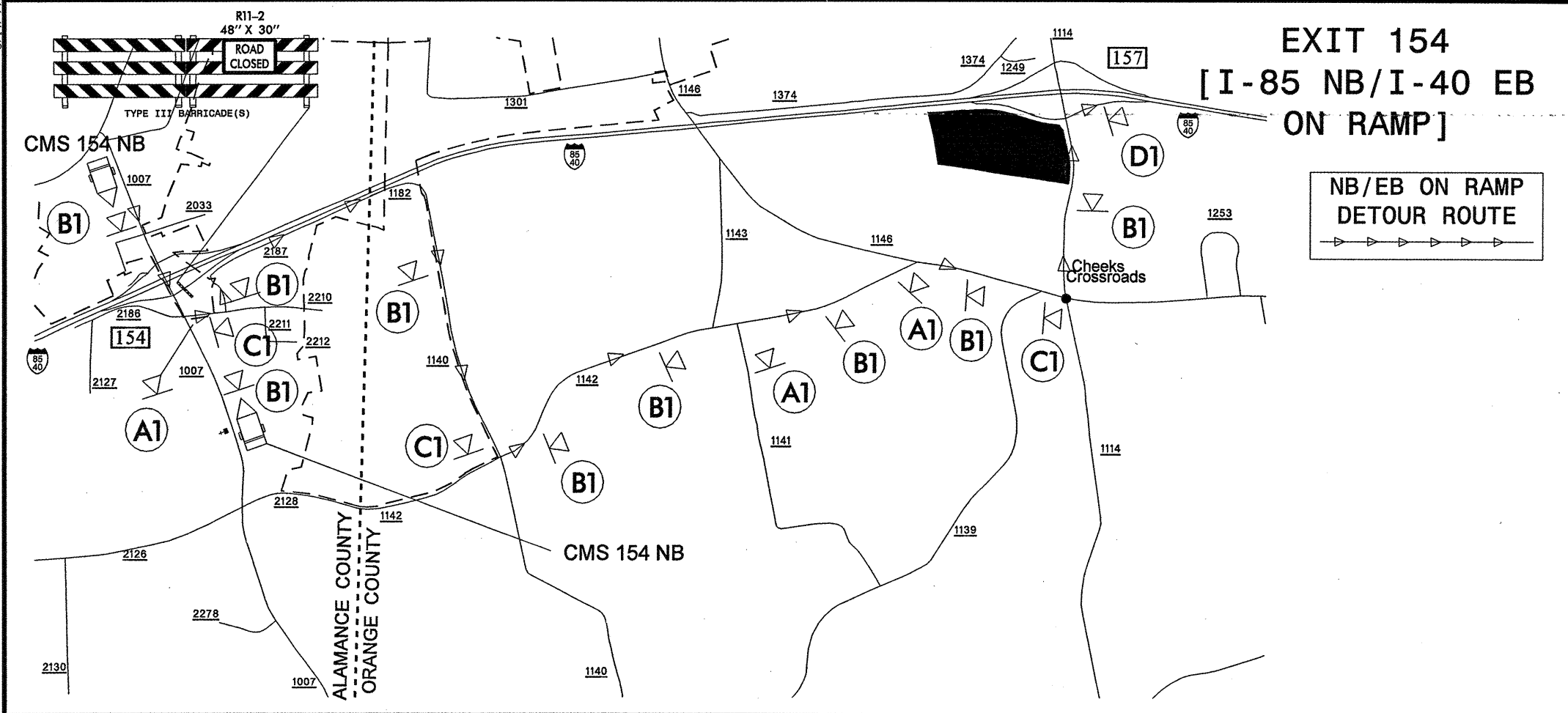
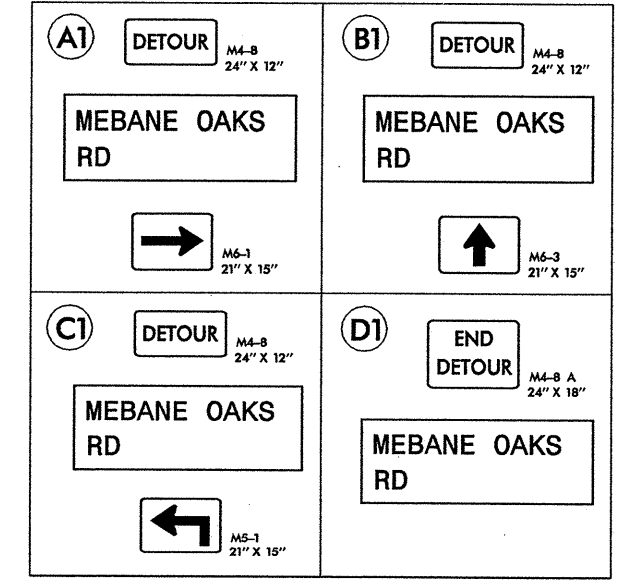
	MESSAGE 1	MESSAGE 2	
CMS 154 NB ROAD CLOSURE	EXIT 154 RAMP CLOSED	MEB OAKS DETOUR AHEAD	
CMS 154 SB ROAD CLOSURE	EXIT 154 RAMP CLOSED	MEB OAKS DETOUR AHEAD	



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page 5 of 5

- Notes:
- Close I 85 Off/On Ramps at same time on the same side of I 85 (Use in conjunction with All Detour Sheets)
 - Place the appropriate signs and traffic control devices; Close the I 85 Off/On Ramps using drums spaced at 5' centers and type III barricades or as agreed upon with the Engineer, and begin work.
 - Complete all work and remove all signs and traffic control devices.
 - Portable Changeable Message Signs (PCMS) shall be used in combination with portable detour route signs.

Portable Changeable Message Signs Messages For Closure of Exit 154 On/Off Ramps (I-85 Northbound/I-40 Eastbound and I-85 Southbound/I-40 Westbound)			
	MESSAGE 1	MESSAGE 2	
CMS 154 NB ROAD CLOSURE	I-85 NB RAMP CLOSED	FOLLOW DETOUR	
CMS 154 SB ROAD CLOSURE	I-85 SB RAMP CLOSED	FOLLOW DETOUR	



5/14/99

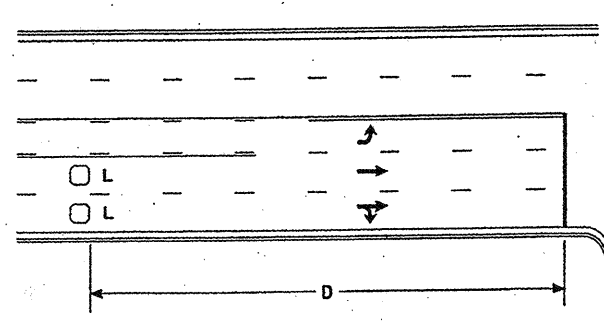
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page 1 of 1

PROJECT REFERENCE NO.	SHEET NO.
40248.3.1	518 1
(I-4918)	

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

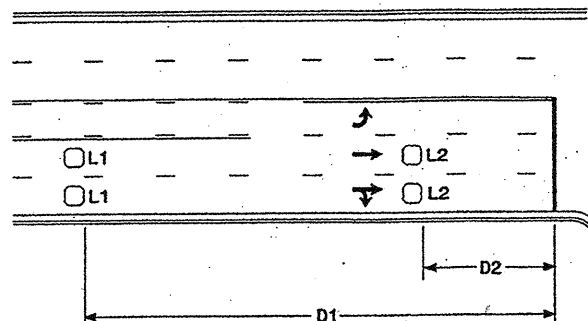


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

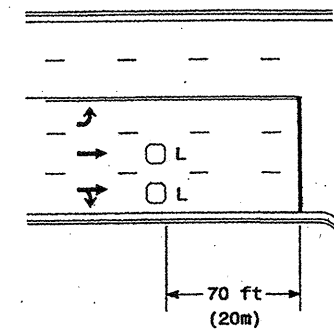


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

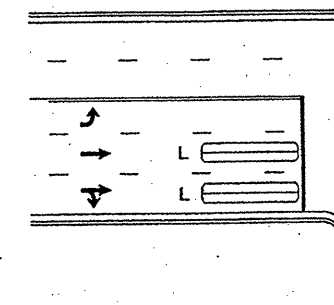
"Stretch" Operation

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



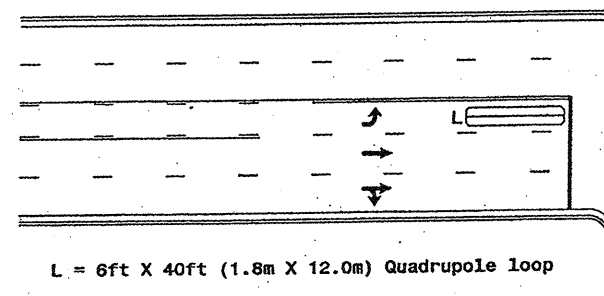
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

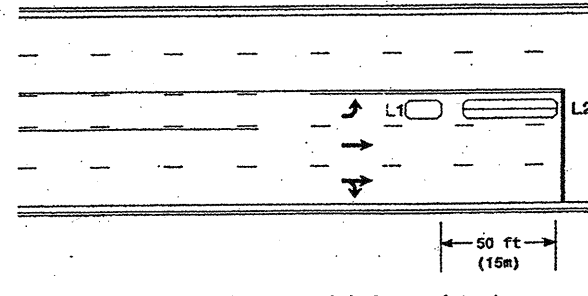
Left Turn Lane Detection



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

Presence Loop Detection

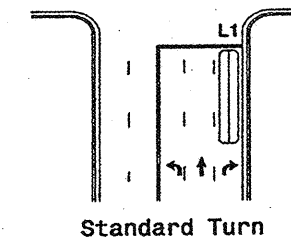
OR



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

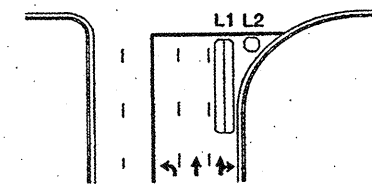
Queue Loop Detection

Right Turn Lane Detection

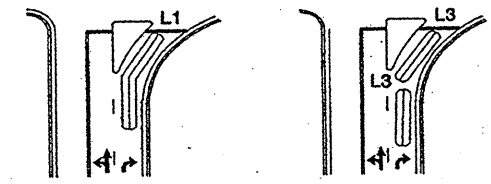


Standard Turn

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

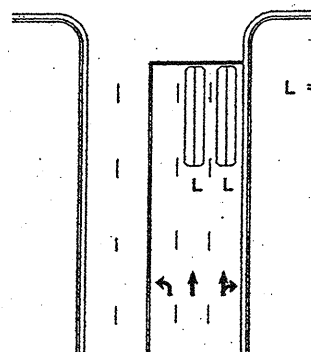


Wide Radius Turn



Channelized Turn

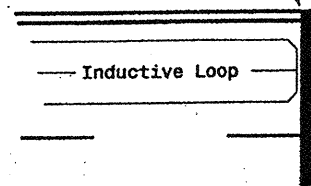
Side Street Detection



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

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:	
SCALE: N/A	SIGNATURE:		DATE:

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

ENGLISH STANDARD DRAWING FOR
DEEP-CUT INDUCTIVE DETECTION LOOPS
(FOR INSTALLATION PRIOR TO MILLING)

SHEET 1 OF 1

NOTES

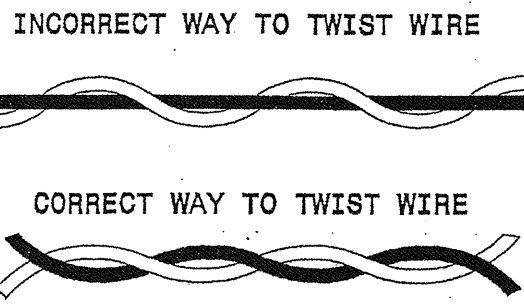
- OVERLAP SAW CUTS AT CORNERS AND INTERSECTION POINTS TO ENSURE UNIFORM SAW SLOT DEPTH.
- PROVIDE $\frac{5}{8}$ " MINIMUM SLOT FROM EDGE OF LOOP TO EDGE OF PAVEMENT FOR TWISTED LOOP WIRE TAIL SECTIONS.
- MAINTAIN 12" SPACING BETWEEN TWISTED LOOP WIRE TAIL SECTIONS.
- WIRE LOOPS CONNECTED TO THE SAME DETECTOR IN SERIES.
- LOCATE LOOPS IN CENTER OF LANES UNLESS OTHERWISE SHOWN ON PLANS.
- USE A SERIES OF ONE INCH PIECES OF BACKER ROD SPACED ONE FOOT APART ALONG THE ENTIRE LENGTH OF THE FEEDER SLOT AND LOOP SAW SLOT.
- CONSULT LOOP SEALANT MANUFACTURER TO DETERMINE CURING TIME REQUIRED PRIOR TO MILLING.

SAW SLOT DEPTH CHART

ASSUMING 2" MILLING DEPTH

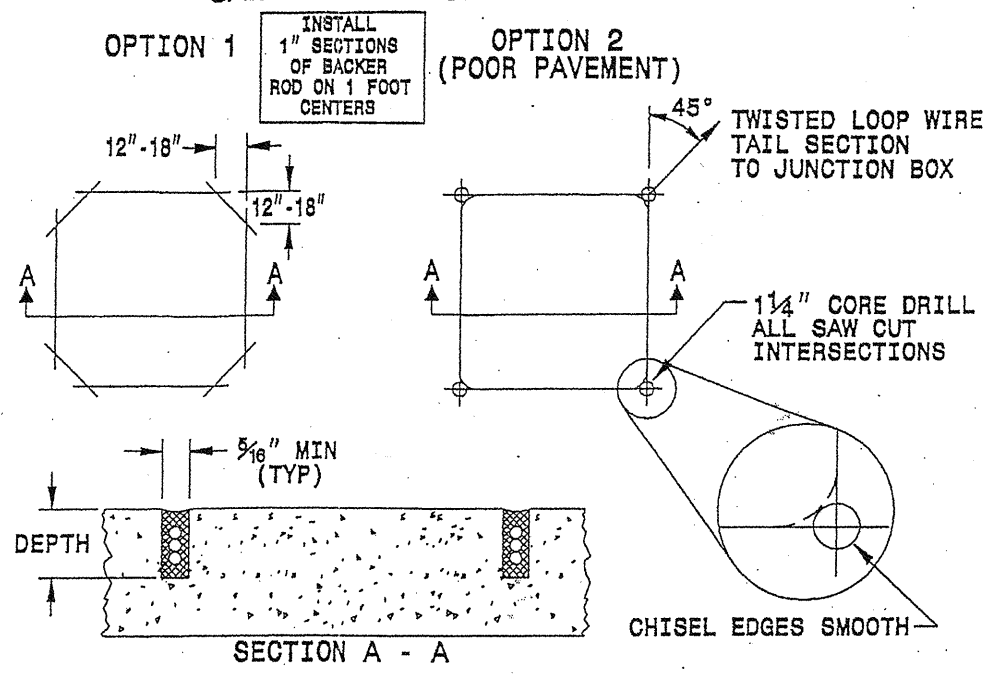
DEPTH (IN)	NO. OF WIRE LAYERS				
	2	3	4	5	6
SAW SLOT DEPTH	4.0	4.5	5.0	5.0	5.0
MINIMUM TOTAL ASPHALT DEPTH REQUIRED	5.0	5.5	6.0	6.0	6.0

LOOP WIRE TWISTING METHOD

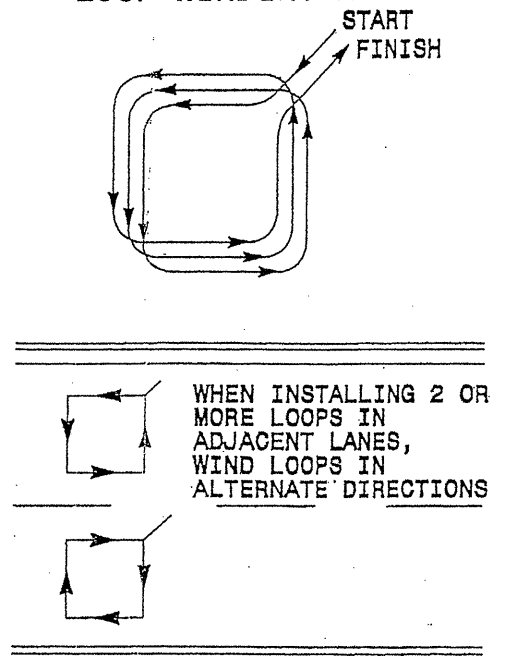


CONVENTIONAL 4-SIDED LOOP

SAW CUT OPTIONS

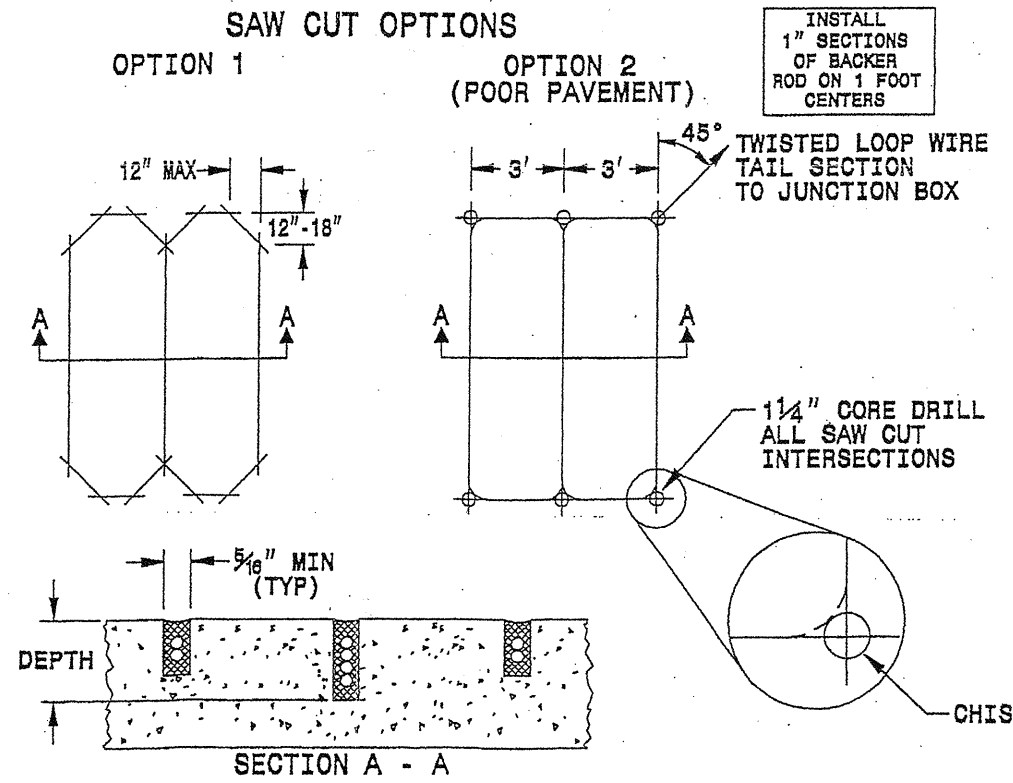


LOOP WINDING METHOD

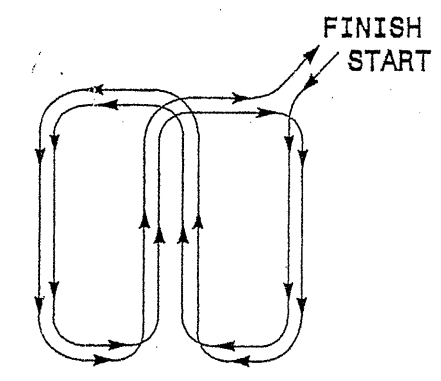


QUADRUPOLE LOOP

SAW CUT OPTIONS



LOOP WINDING METHOD



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

ENGLISH STANDARD DRAWING FOR
DEEP-CUT INDUCTIVE DETECTION LOOPS
(FOR INSTALLATION PRIOR TO MILLING)

SHEET 1 OF 1