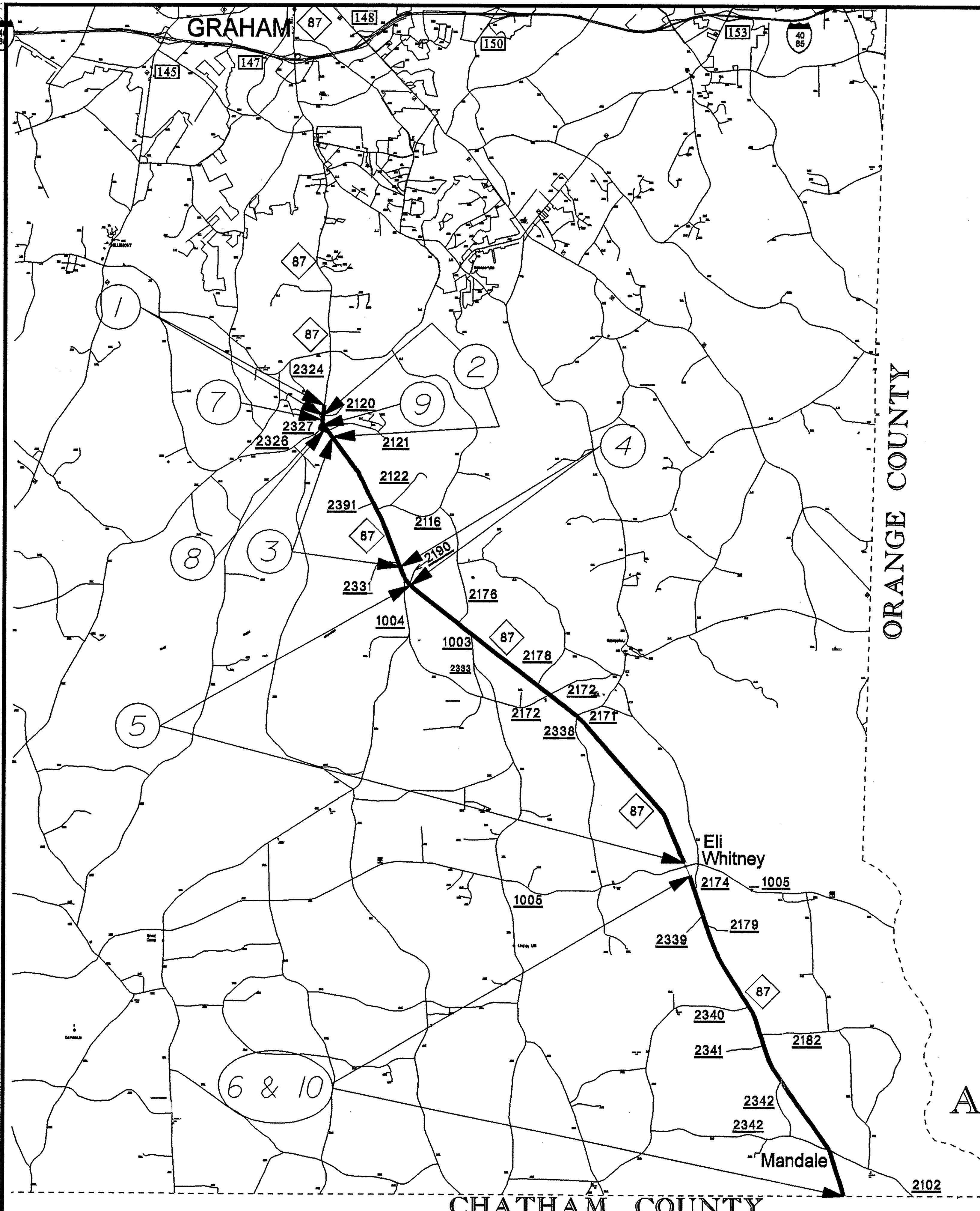
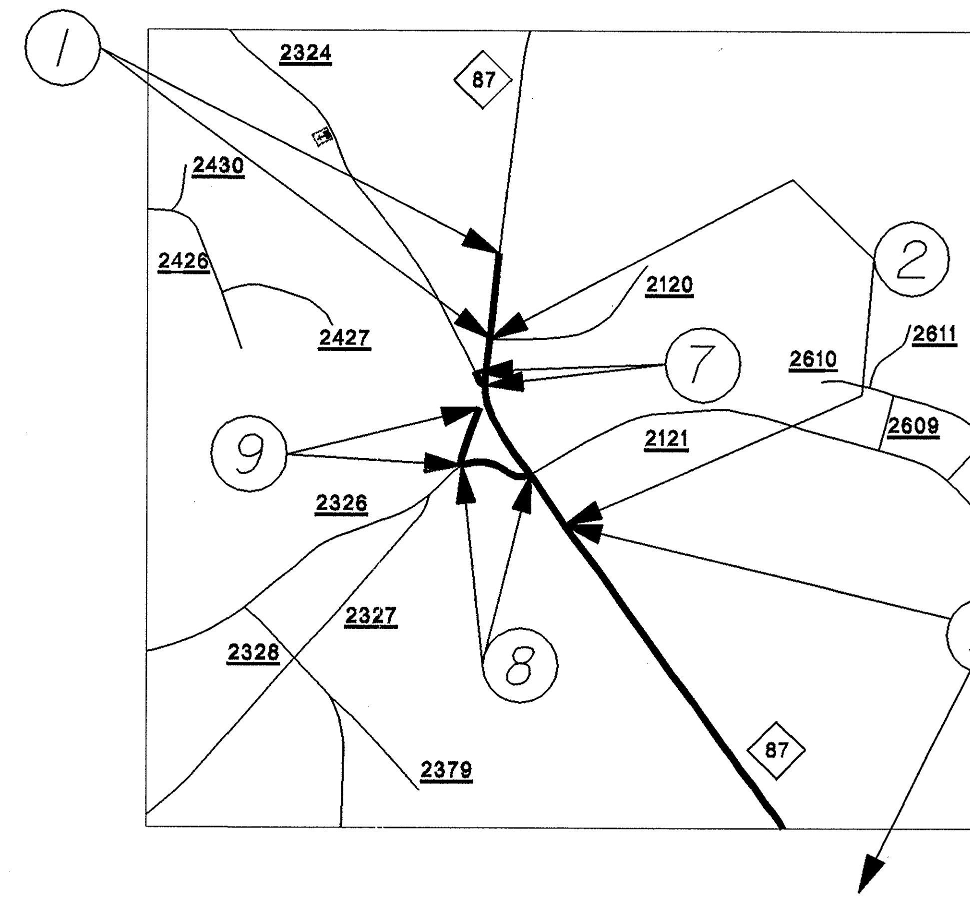
PROJECT REFERENCE NO.	SHEET NO.
37303, 7.CR10011.8	1 OF 4

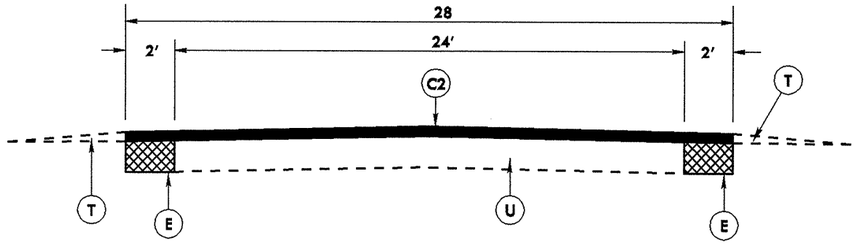
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER





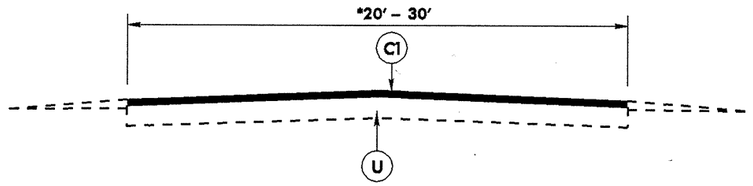
ALAMANCE COUNTY VICINITY MAP

6/2/99



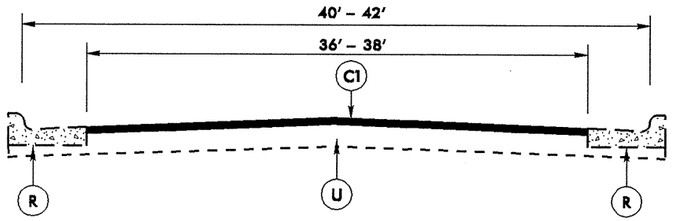
TYPICAL SECTION NO. 1

Map #'s 3 and 5



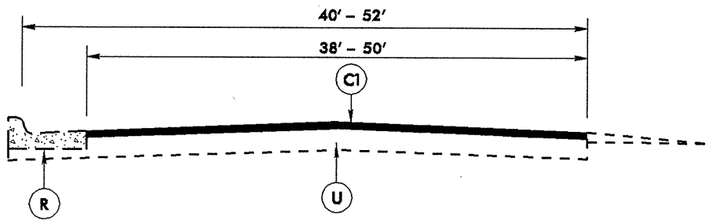
TYPICAL SECTION NO. 2

* Map #'s 4 and 8 are 28' – 30', Map # 7 is 20', Map # 9 is 21.5', Map #'s 2 and 10 are 28'



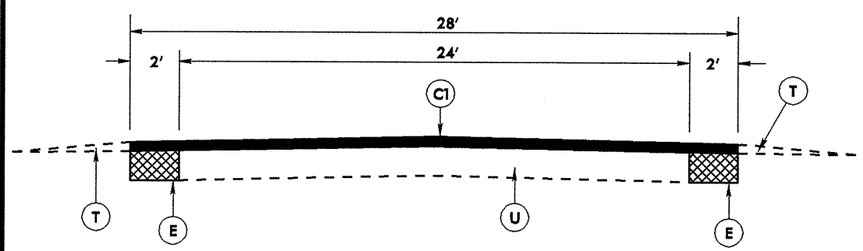
TYPICAL SECTION NO. 3

Map # 2



TYPICAL SECTION NO. 4

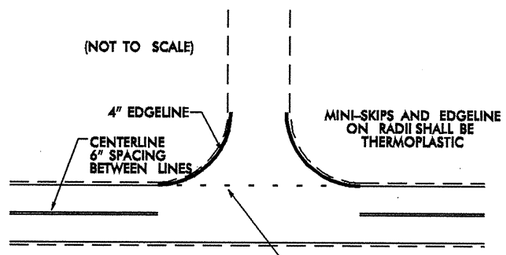
Map # 2



TYPICAL SECTION NO. 5

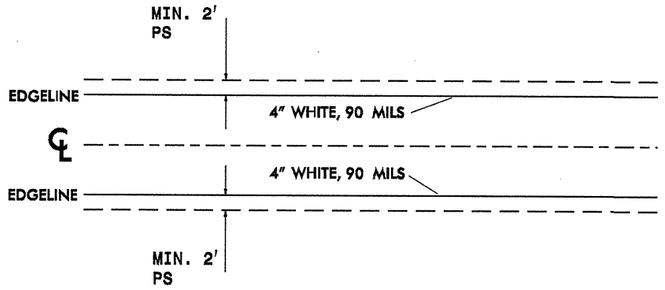
Map #'s 1 and 6

STRIPING DETAIL 1
NON-SIGNALIZED/NON-CURB & GUTTER INTERSECTIONS

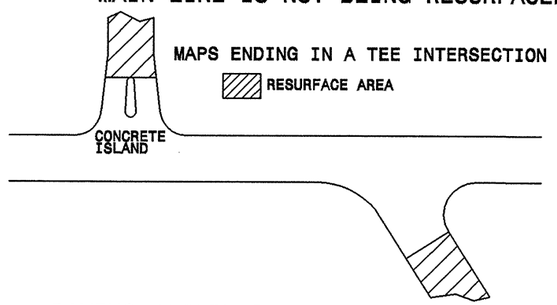


NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' SPACE AND 2' SKIP. THE WIDTH OF THE SKIP SHALL BE 6".

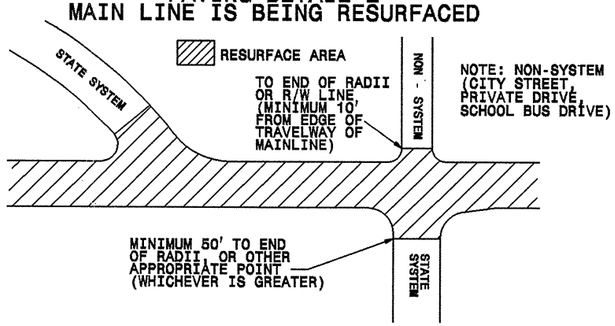
STRIPING DETAIL 2
GENERAL STRIPING DETAIL FOR PROJECT MAINLINE



PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED

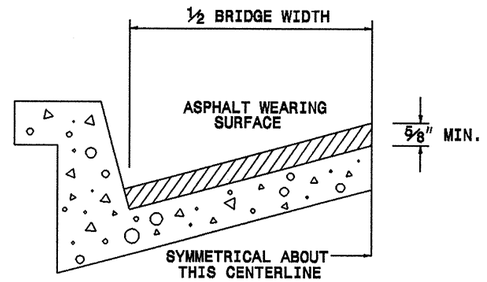


PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED



PROJECT REFERENCE NO.	SHEET NO.
37303.7CRJ0011.8	2 OF 4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

ROADWAY ℄



BRIDGE HALF TYPICAL SECTION

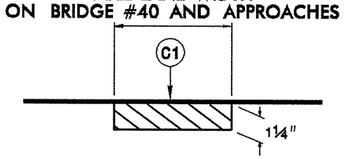
FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN. THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

ALL UNPAVED S.R. ROUTES TO BE SURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT.
ALL PAVED S.R. ROUTES TO BE RESURFACED TO END OF RADII, OR AS DIRECTED BY THE ENGINEER. EDGES, PAVEMENT WIDENING INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES. BRIDGES TO BE RESURFACED AT LOCATIONS AND DEPTH AS DIRECTED BY THE ENGINEER.

MILLING DETAIL 1

FULL LANE WIDTH
ON BRIDGE #40 AND APPROACHES



MILL EXISTING ASPHALT PAVEMENT 1¼" IN DEPTH TO BE USED ON MAP 1 IN CONJUNCTION WITH TS. 5

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E	PROP. APPROX. 9 " ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
R	EXISTING 2' - 6" CONCRETE CURB AND GUTTER
T	SHOULDER RECONSTRUCTION

12-DEC-2006 09:43
S:\Contracts\contracts\resurfacing projects\division 7\37303.7cr.10011.8\resurf_spring_to_chatham\revised\nc87_ddc_typ.dgn
mmitchell

PROJECT NO.	SHEET NO.	TOTAL NO.
37303	3	4
7CR.10011.8		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTR SMI	1.25" MILLING SY	BASE COURSE, B25.0B TONS	SURFACE COURSE, S9.5B TONS	PG 64-22 PLANT MIX TONS	STEEL BEAM GUARDRAIL LF	GUARDRAIL ANCHOR UNIT, TYPE 350 EA	SEED & MULCHING AC	RESIDENTIAL SEEDING AC
37303	Alamance	1	NC 87	SINGLE LIFT FROM END OF 2' WIDENING1530 FT NORTH OF SR 2120 (SPRING LANE) TO 114 FT NORTH OF SR 2120 (SPRING LANE)	5	0.29	28	24	0.58	400	545.57	383.58	46	550.00	4.00		0.15
		2	NC 87	SINGLE LIFT FROM 114 FT NORTH OF SR 2120 (SPRING LANE) TO 624' SOUTH OF SR 2121 (JUDGE SHARPE RD)	2, 3, 4	0.35	36-38					518.94	31				
		3	NC 87	FROM JOINT APPROX. 624 FT SOUTH OF SR 2121 (JUDGE SHARPE RD) TO JOINT 484 FT NORTH OF SR 1004 (SNOW CAMP RD)	1	2.035	28	270	4.07		2909.15	4,969.60	423			0.50	0.35
		4	NC 87	SINGLE LIFT FROM JOINT484 FT NORTH OF SR 1004 (SNOW CAMP RD) TO JOINT 163 FT SOUTH OF SR 1004 (SNOW CAMP RD)	2	0.126	28-30	21				295.77	18			0.10	
		5	NC 87	FROM JOINT 163 FT SOUTH (SNOW CAMP RD) OF SR 1004 TO 240' NORTH OF SR 1005 (GREENSBORO-CHAPEL HILL RD)	1	5.28	28	468	10.56		7548.08	12,903.28	1099			2.28	1.35
		6	NC 87	SINGLE LIFT FROM 740' SOUTH OF THE CL OF SR 1005 (GREENSBORO-CHAPEL HILL RD) TO THE CHATHAM COUNTY LINE	5	4.708	28	270	9.42		6730.37	5,453.85	617			2.11	1.00
		7	SR 2324	WOODS CHAPEL RD - SINGLE LIFT FROM NC 87 191' NORTH TO PAVEMENT JOINT	2	0.039	20					52.20	3				
		8	SR 2326	MT HERMON-ROCK CREEK RD - SINGLE LIFT FROM NC 87 TO JOINT 160 SOUTH OF SR TBA (OLD MT HERMAN-ROCK CREEK RD)	2	0.137	28-30					189.37	11				
		9	SR TBA	OLD MT HERMON-ROCK CREEK RD -SINGLE LIFT FROM SR 2326 (MT HERMON - ROCK CREEK RD) TO END	2	0.093	21.5					122.51	7				
TOTAL FOR PROJ NO. 37303						**13.058**		**1053**	**24.63**	**400**	**17733.17**	**24,889.10**	**2256**	**550.00**	**4.00**	**4.99**	**2.85**
7CR.10011.8	Alamance	10	NC 87	RESURFACE ONLY FROM 740' SOUTH OF THE CL OF SR 1005 (GREENSBORO-CHAPEL HILL RD) TO THE CHATHAM COUNTY LINE	2	4.708	28					6,193.71	372				
TOTAL FOR PROJ NO. 7CR.10011.8						**4.708**						**6194**	**372**				
GRAND TOTAL						**13.058**		**1,053.00**	**24.63**	**400.00**	**17733**	**31083**	**2628**	**550.00**	**4.00**	**4.99**	**2.85**

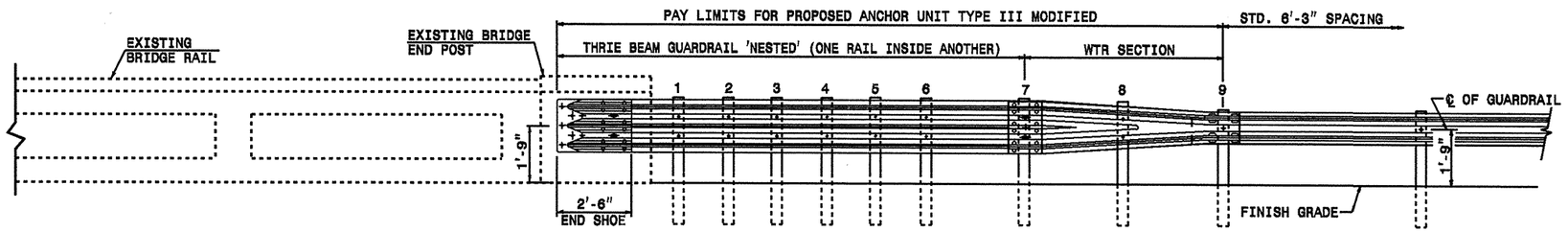
PROJECT NO.	SHEET NO.	TOTAL NO.
37303	4	4
7CR.10011.8		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E 4" X 90 M WHITE THERMO LF	4686000000-E 4" X 120 M YELLOW THERMO LF	4690000000-E 6" X 120 M WHITE THERMO LF	4695000000-E 8" X 90 M YELLOW 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	4810000000-E 4" WHITE PAINT LF	4810000000-E 4" YELLOW PAINT LF	4820000000-E 8" YELLOW PAINT LF	4845000000-N PAINT LT ARROW EA	4845000000-N PAINT RT ARROW EA	4905000000-N SNOW PLOWABLE MARKERS EA
37303	Alamance	1	NC 87	SINGLE LIFT FROM END OF 2' WIDENING1530 FT NORTH OF SR 2120 (SPRING LANE) TO 114 FT NORTH OF SR 2120 (SPRING LANE)	3,062	2,682	8					3,062	2,682				80
		2	NC 87	SINGLE LIFT FROM 114 FT NORTH OF SR 2120 (SPRING LANE) TO 624' SOUTH OF SR 2121 (JUDGE SHARPE RD)	3,500	6,500	48	100		10		3,500	6,500	100	10		46
		3	NC 87	FROM JOINT APPROX. 624 FT SOUTH OF SR 2121 (JUDGE SHARPE RD) TO JOINT 484 FT NORTH OF SR 1004 (SNOW CAMP RD)	21,490	18,803	68					42,979	37,607				134
		4	NC 87	SINGLE LIFT FROM JOINT484 FT NORTH OF SR 1004 (SNOW CAMP RD) TO JOINT 163 FT SOUTH OF SR 1004 (SNOW CAMP RD)	1,331	1,331	52				2	1,331	1,331			2	17
		5	NC 87	FROM JOINT 163 FT SOUTH OF SR 1004 TO 240' NORTH OF SR 1005 (GREENSBORO-CHAPEL HILL RD)	55,757	48,787	194					111,514	97,574				348
		6	NC 87	SINGLE LIFT FROM 740' SOUTH OF THE CL OF SR 1005 (GREENSBORO-CHAPEL HILL RD) TO THE CHATHAM COUNTY LINE	49,716	43,502						49,716	43,502				311
		7	SR 2324	WOODS CHAPEL RD - SINGLE LIFT FROM NC 87 191' NORTH TO PAVEMENT JOINT	412	257						412	257				
		8	SR 2326	MT HERMON-ROCK CREEK RD - SINGLE LIFT FROM NC 87 TO JOINT 160 SOUTH OF SR TBA (OLD MT HERMAN-ROCK CREEK RD)	1,447	1,266						1,447	1,266				
		9	SR TBA	OLD MT HERMON-ROCK CREEK RD -SINGLE LIFT FROM SR 2326 (MT HERMON - ROCK CREEK RD) TO END	982	859						982	859				
TOTAL FOR PROJ NO. 37303					**137,697**	**123,987**	**370**	**100**		**10**	**2**	**214,943**	**191,578**	**100**	**10**	**2**	**936**
										12		**406,521**			**12**		
7CR.10011.8	Alamance	10	NC 87	FROM 740' SOUTH OF THE CL OF SR 1005 (GREENSBORO-CHAPEL HILL RD) TO THE CHATHAM COUNTY LINE	49,716	43,502	216		88			49,716	43,503				
TOTAL FOR PROJ NO. 7CR.10011.8					**49,716**	**43,502**	**216**		**88**			**93,219**					
GRAND TOTAL					**187,413**	**167,489**	**586**	**100**	**88**	**10**	**2**	**264,659**	**235,081**	**100**	**10**	**2**	**936**
										12		**499,740**			**12**		

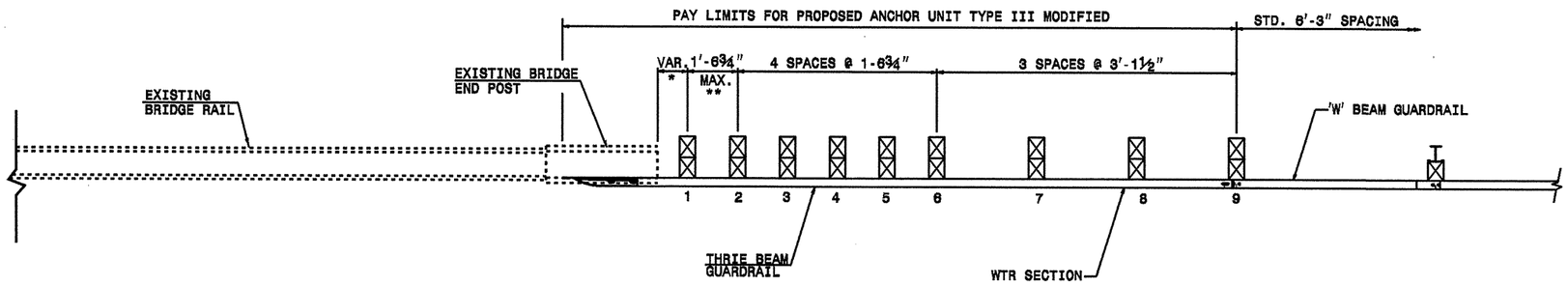
PROJECT REFERENCE NO.	SHEET NO.
37303	

Sheet 5



ELEVATION VIEW

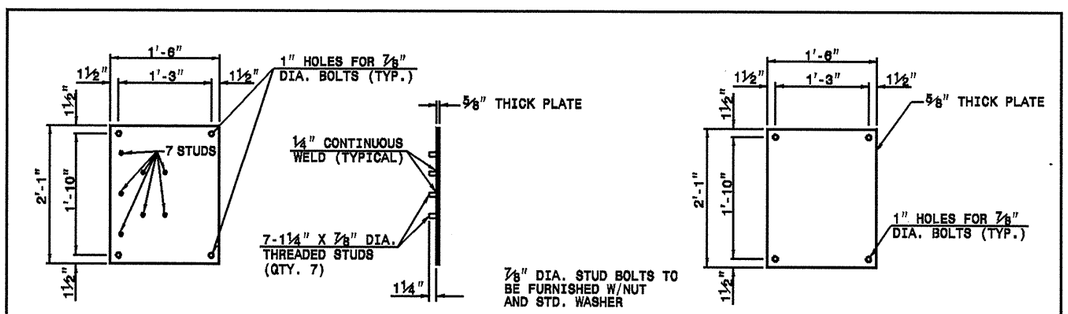
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

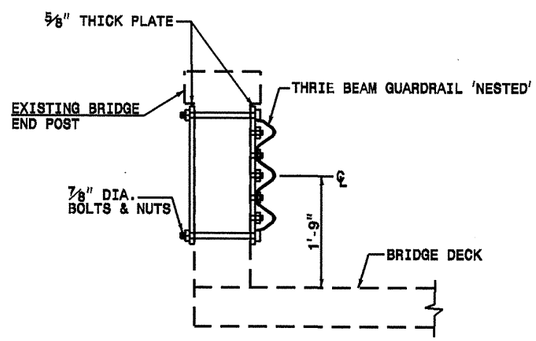


PLAN VIEW

NOTES FOR ANCHORING END OF GUARDRAIL WITH BRIDGE PLATES:
1. USE NUTS, BOLTS, AND WASHERS CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-307 AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
2. TAP NUTS FOR THE ⅞" DIA. STUDS AND BOLTS AFTER GALVANIZING SEE A.S.T.M. A-563.
3. USE PLATES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
4. ADDITIONAL FIELD HOLES MAY BE DRILLED IN STEEL RAIL AS DIRECTED BY THE ENGINEER.
5. ATTACH THREADED STUDS TO PLATE WITH ¼" WELDS ALL AROUND.
6. AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.
7. THE 1" DIA. HOLES SHALL BE DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

GENERAL NOTES:
1. SEE ROADWAY STANDARD 862.03 SHEET 4 FOR ADDITIONAL INFORMATION ON THE TYPE III ANCHOR UNIT
2. MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
3. USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
4. LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
5. REFEER TO STANDARD SPECIFICATION SECTION 862 FOR GUARDRAIL.
6. ALL WORK AND MATERIALS USED SHALL MEET THE APPROVAL OF THE ENGINEER.





PROJECT SERVICES UNIT STANDARDS AND SPECIAL DESIGN Office 919-250-4128 FAX 919-250-4119	
GUARDRAIL ANCHOR UNIT TYPE III MODIFIED FOR CLASSIC BRIDGE RAIL	
ORIGINAL BY: E.E. WARD	DATE: 2-24-09
MODIFIED BY: E.E. WARD	DATE: 2-17-04
CHECKED BY:	DATE:
FILE SPEC.: \usr\details\stand\bp iii original.dgn	

18-JAN-2007 09:15
s:\contracts\contracts\special details\enlowerd\usr\details\stand\bp iii original.dgn
jhowerton AT PS212268

TWO LANE, TWO WAY WORK ZONE (L-LINES)

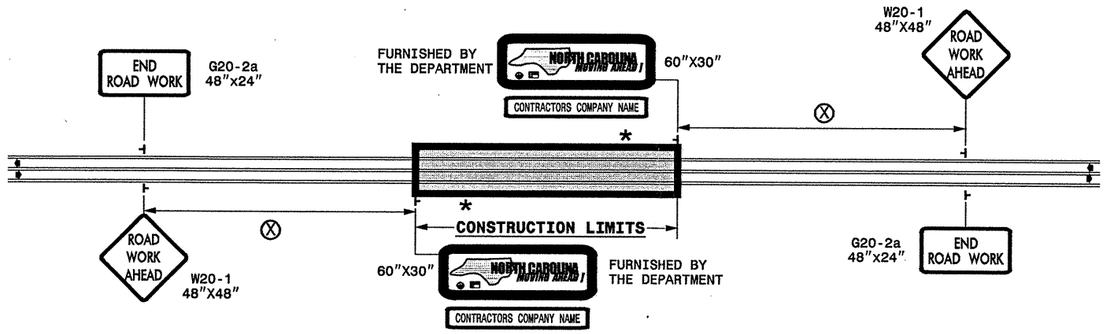
FURNISHED BY THE DEPARTMENT

NORTH CAROLINA MOVING AHEAD!

60"X30"

CONTRACTORS COMPANY NAME

60" Max. X 12"



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING (X)
P.S.L. ≤ 50	350'
P.S.L. ≥ 55	500'

* ROAD WORK NEXT XX MILES G20-1A 60"X24"

THIS SIGN TO BE USED ON PROJECTS LONGER THAN 2 MILES

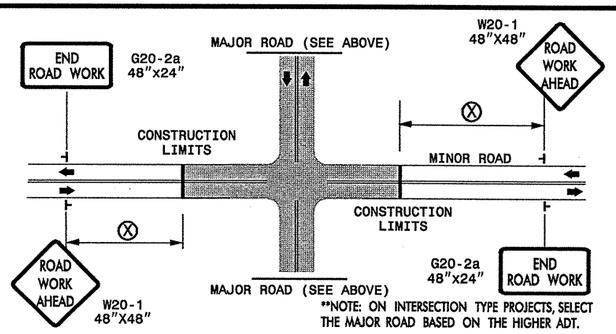
THE NUMBER DISPLAYED ON THE SIGN IS TO BE A WHOLE NUMBER ROUNDED UP TO THE NEXT MILE

IT'S TO BE LOCATED 1,500 FEET INSIDE OF THE CONSTRUCTION LIMITS

PROJ. REFERENCE NO.	SHEET NO.
37303 & 7CR.10011.8	NCMA-1

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

INTERSECTIONS (-Y- LINES)

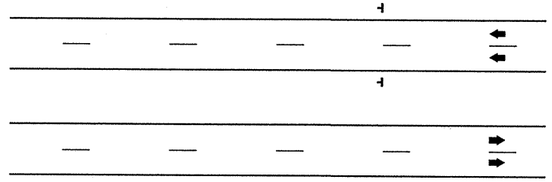


**NOTE: ON INTERSECTION TYPE PROJECTS, SELECT THE MAJOR ROAD BASED ON THE HIGHER ADT.

FREEWAYS/INTERSTATES

DUAL MOUNT "ROAD WORK AHEAD" SIGNS 1,000' IN ADVANCE OF PROJECT LIMITS

DUAL MOUNT "MOVING AHEAD" SIGNS 500' IN ADVANCE OF PROJECT LIMITS



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED. 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.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND

⊢ STATIONARY SIGN

DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING FOR ADVANCE WARNING WORK ZONE SIGNS

SHEET 1 OF 1

APPROVED:_____ DATE:_____

SEAL

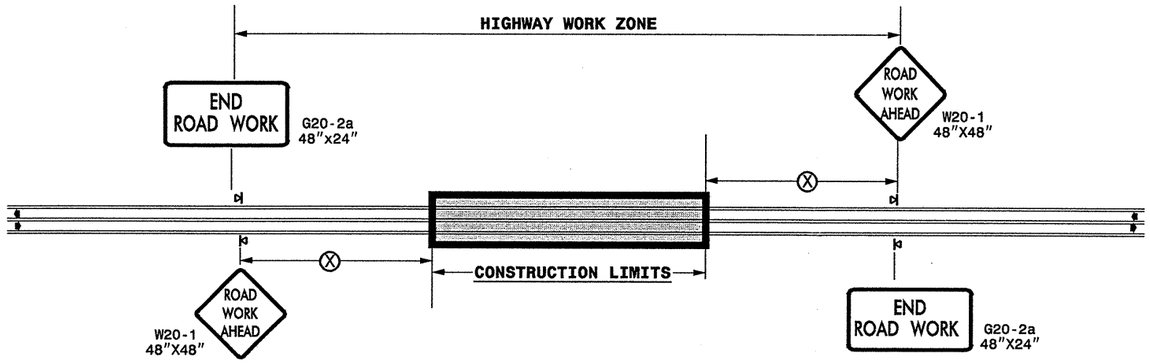
ADVANCE WARNING WORK ZONE SIGNS FOR "MOVING AHEAD"

SCALE:	NONE
DATE:	07/03
DWG. BY:	JSK
DESIGN BY:	JSK
REVIEWED BY:	SK

REVISIONS	
11/04	
12/04	
CADD FILE	

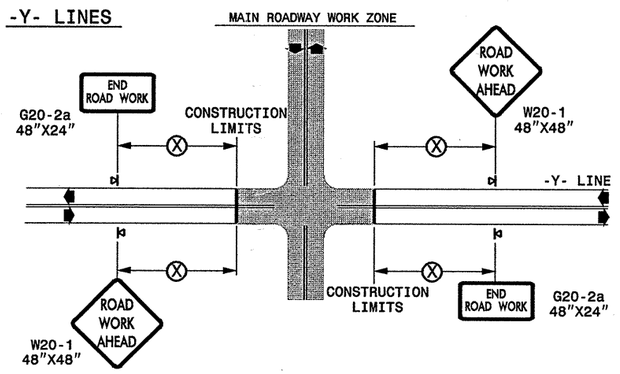
PROJ. REFERENCE NO.	SHEET NO.
37303 & 7CR.10011.8	TCP-1

TWO-WAY UNDIVIDED ** (L-LINES)



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

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



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED 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

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

DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED:_____ DATE:_____

SEAL

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
ADVANCED WORK ZONE WARNING SIGNS

SCALE: NONE	REVISIONS	
DATE:	7-98	10/01
DWG. BY:	10-98	03/04
DESIGN BY:	01/01	11/04
REVIEWED BY:	CADD FILE	

11-DEC-2006 17:28
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