

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-3697	TCP-01

**PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION**

RUTHERFORD COUNTY

B-3697

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JANUARY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-01	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS
TCP-02	GENERAL NOTES AND PHASING
TCP-03	PHASE I
TCP-04	DETOUR ROUTE AND SIGNING
TCP-05	SIGN DESIGN
TCP-06	ADVANCE WORK ZONE SIGNING

LEGEND

- GENERAL**
- DIRECTION OF TRAFFIC FLOW
 - NORTH ARROW
 - PROPOSED PVMT. EXIST. PVMT.
 - WORK AREA
 - REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- TYPE I BARRICADE
 - TYPE II BARRICADE
 - TYPE III BARRICADE
 - CONE
 - DRUM SKINNY DRUM
 - FLASHING ARROW PANEL (TYPE C)
 - STATIONARY SIGN
 - PORTABLE SIGN
 - STATIONARY OR PORTABLE SIGN
 - WARNING FLAGS
 - CRASH CUSHION
 - CHANGEABLE MESSAGE SIGN
 - TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
 - POLICE
 - FLAGGER
- PAVEMENT MARKINGS**
- CRYSTAL/CRYSTAL PAVEMENT MARKER
 - YELLOW/YELLOW PAVEMENT MARKER
 - CRYSTAL/RED PAVEMENT MARKER
 - PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SCHEDULE

DESCRIPTION	QUANTITY BREAKDOWN	TOTAL QUANTITY
WHITE EDGELINE	PAINT (4")	
YELLOW DOUBLE CENTER	7050 LF	
	7050 LF	
		TOTAL 14100 LF

NOTE: ONE APPLICATION FOR TEMP. PATTERN ON INTERMEDIATE ASPHALT LAYER
TWO APPLICATIONS FOR FINAL PATTERN ON FINAL ASPHALT LAYER

APPROVED: DATE: <i>September 10, 2007</i>	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
SEAL	STUART BOURNE, P.E. TRAFFIC CONTROL ENGINEER
	J. STEVE KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
	DON PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	STEPHEN SYKES TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

TIP PROJECT:

GENERAL NOTES

PROJ. REFERENCE NO. B-3697	SHEET NO. TCP-02
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CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- D) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- E) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- F) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

TRAFFIC PATTERN ALTERATIONS

- G) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- H) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- I) PROVIDE PERMANENT SIGNING.
- J) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- K) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- M) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

- N) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- O) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING
SR 1155	PAINT

- P) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING
SR 1155	PAINT

- Q) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- R) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PHASING

PHASE I

- STEP 1 -- INSTALL ADVANCE WARNING SIGNS (SEE TCP-06.)
- STEP 2 -- CONSTRUCT PROPOSED BRIDGE AND APPROACHES, UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE (SEE RSD 1101.02, SHEET 1 AND TCP-03)

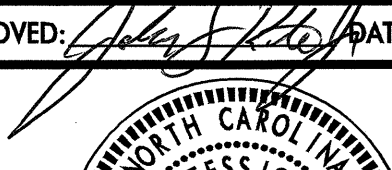
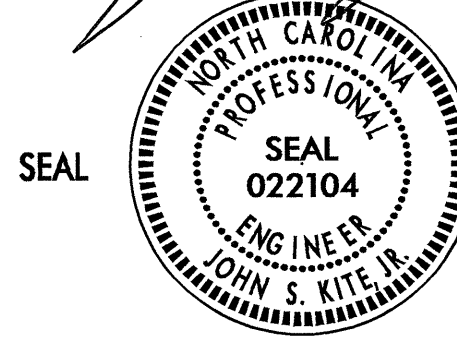

PHASE II

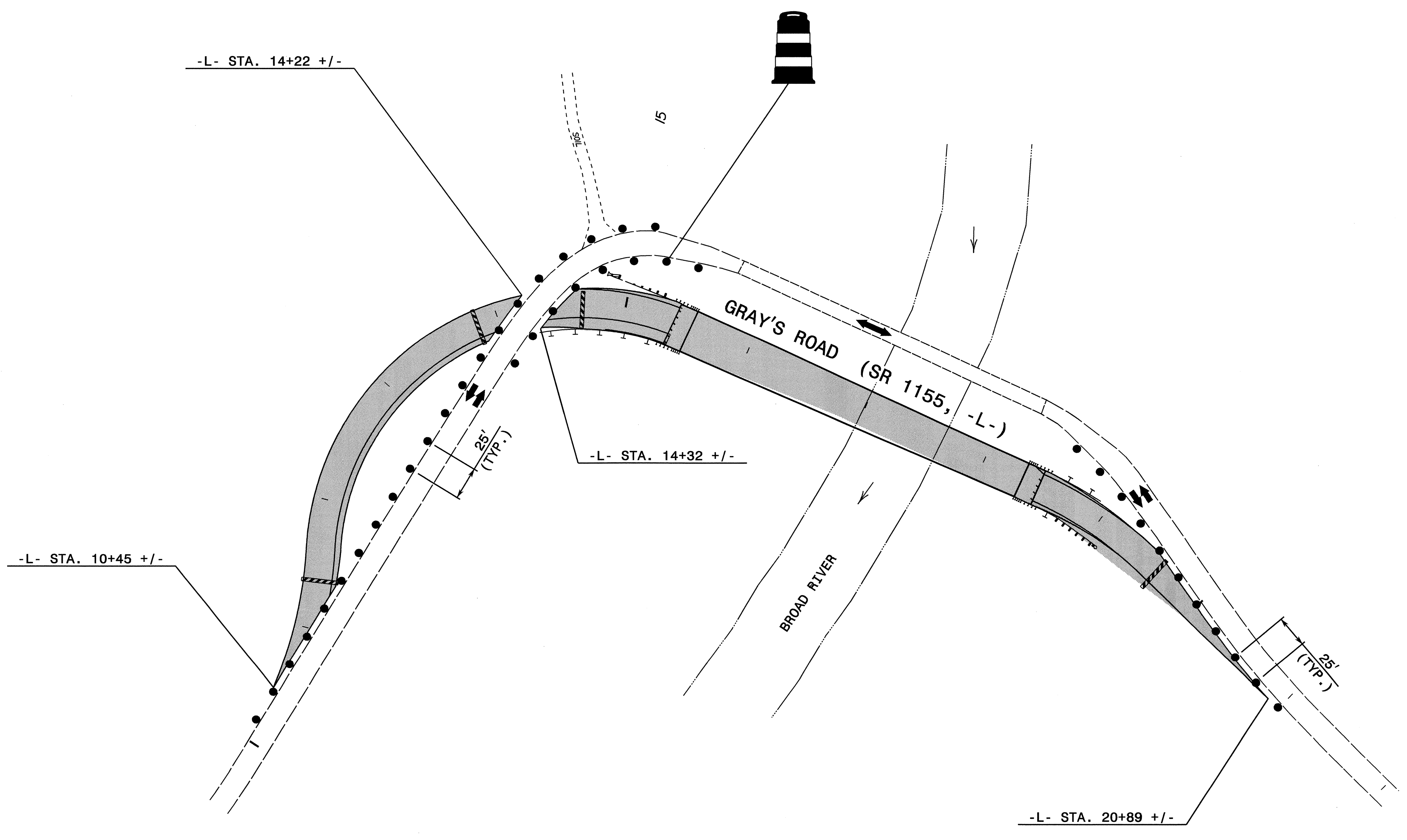
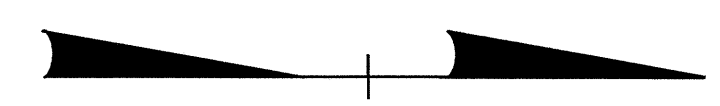
- STEP 1 -- INSTALL DETOUR SIGNING (SEE TCP-04, RSD 1101.03, AND GENERAL NOTE K, THIS SHEET)

COMPLETE THE WORK OF STEP 2 THROUGH STEP 4 IN 30 CALENDAR DAYS. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

- STEP 2 -- CLOSE GRAYS RD. TO TRAFFIC (SEE GENERAL NOTES G AND L, THIS SHEET)
- STEP 3 -- TIE IN THE APPROACHES, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND PLACE
- STEP 4 -- RE-OPEN GRAYS RD. TO NEW ALIGNMENT (SEE GENERAL NOTE K, THIS SHEET)
- STEP 5 -- REMOVE EXISTING BRIDGE (SEE RSD 1101.02, SHEET 1)
- STEP 6 -- USE FLAGGERS TO PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.
- STEP 7 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

07-SEP-2007 10:53
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CAPATER AT WZTC224100

APPROVED: 	DATE: 9/16/07	GENERAL NOTES AND PHASING	
	SCALE: NONE		REVISIONS
	DATE: 03/06		
	DWG. BY: SJS		
	DESIGN BY: SJS		
REVIEWED BY: DAP			

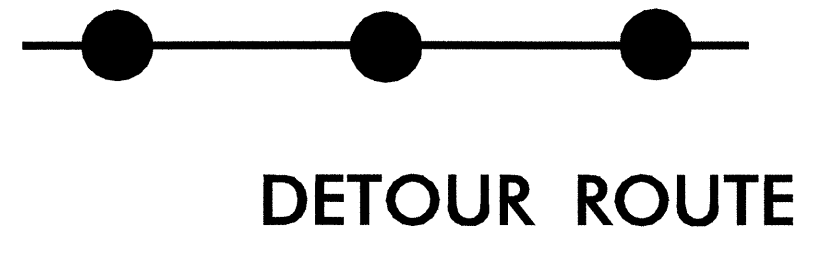
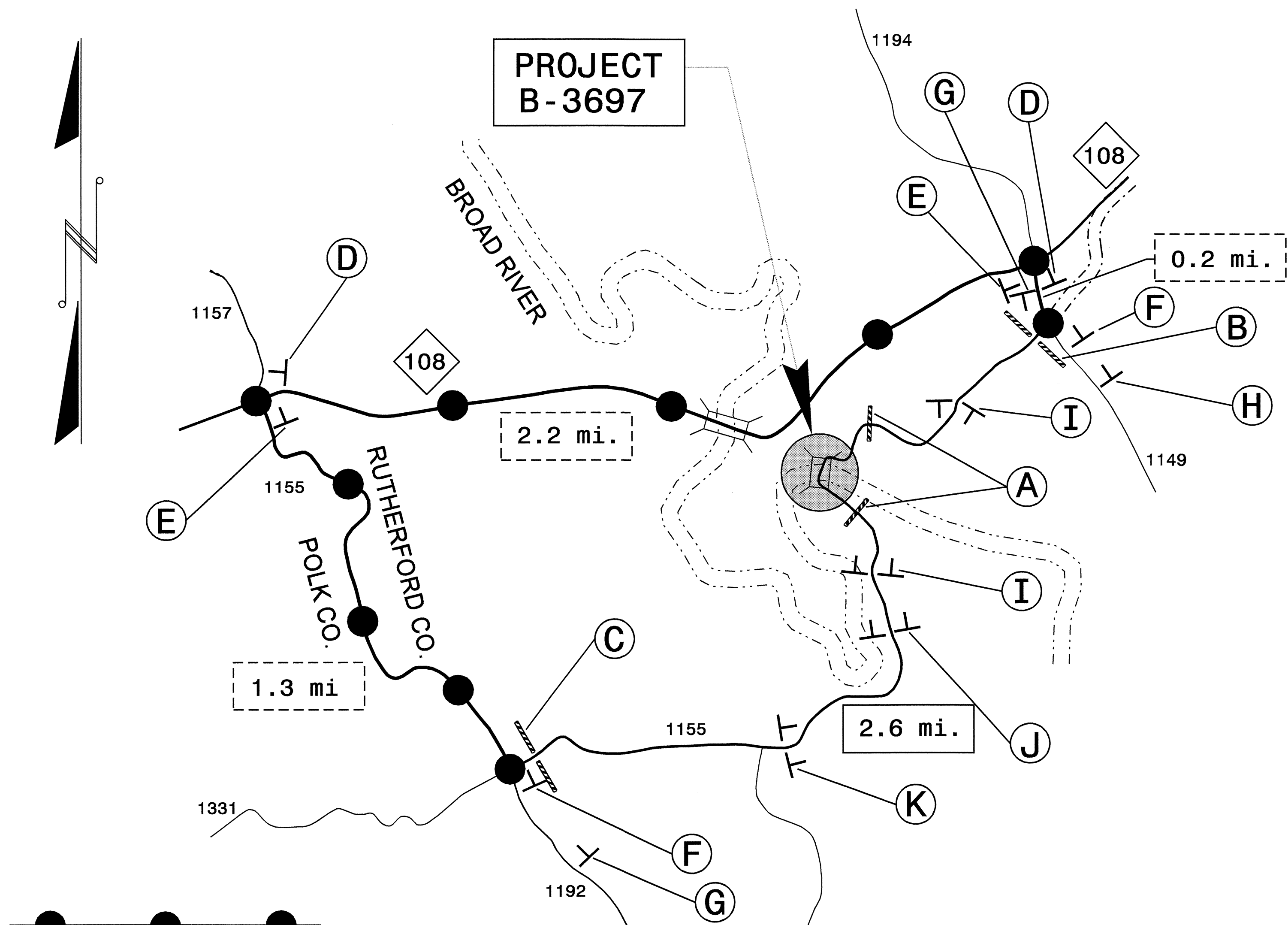


PHASE I DETAIL

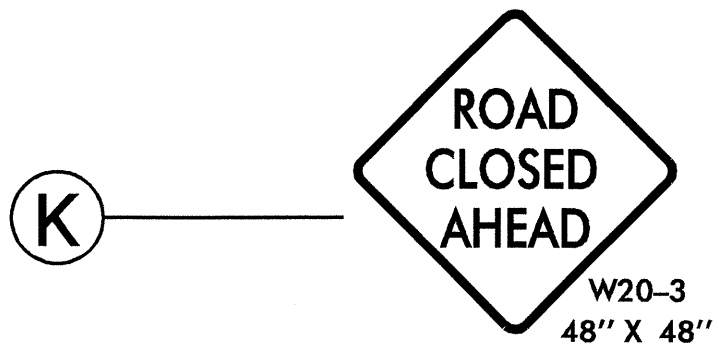
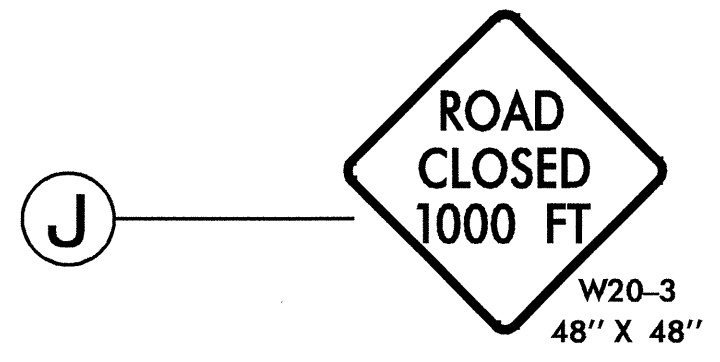
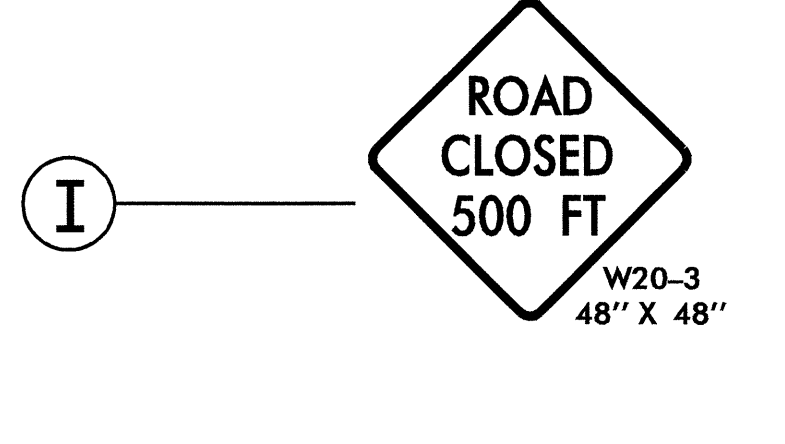
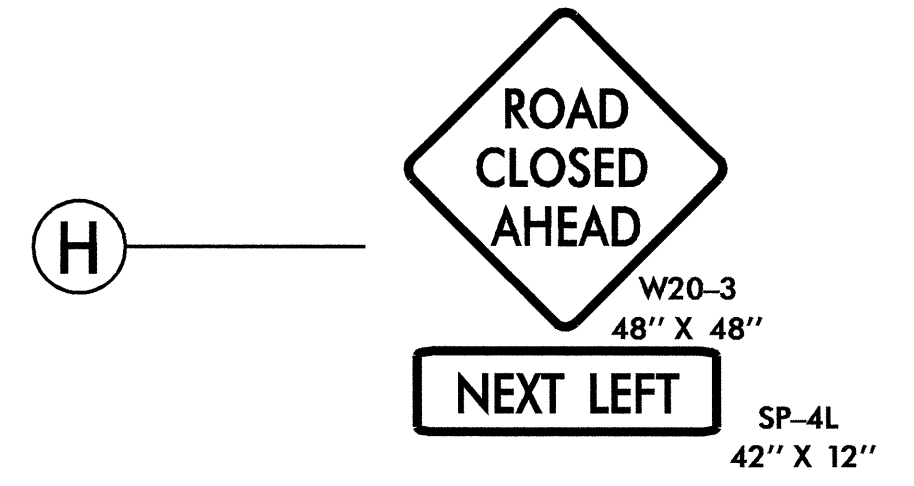
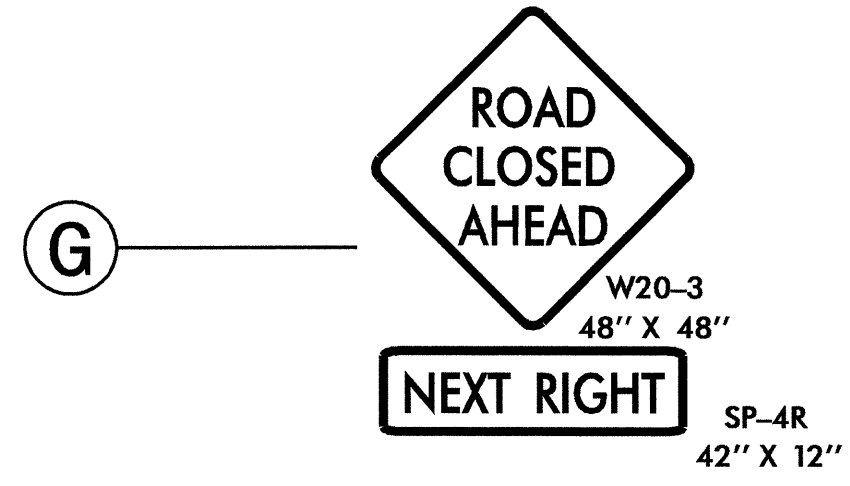
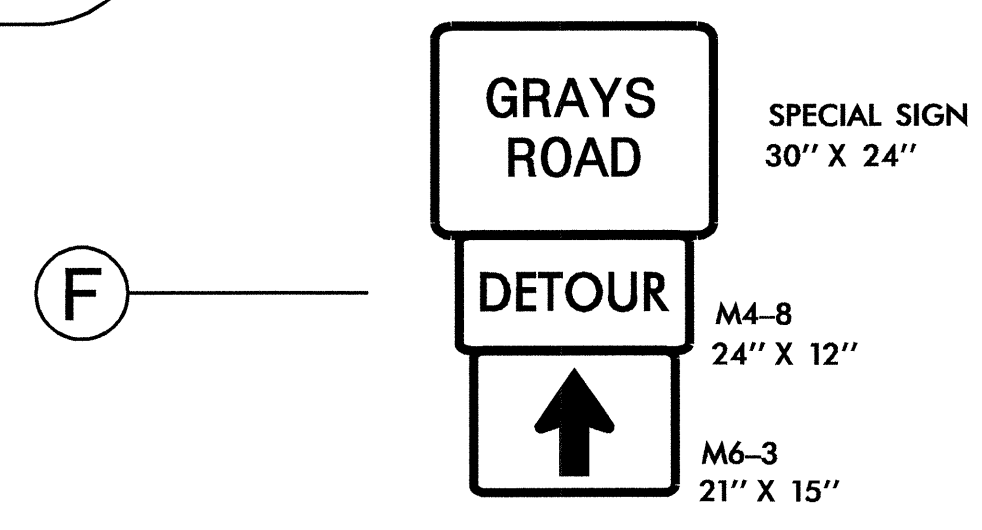
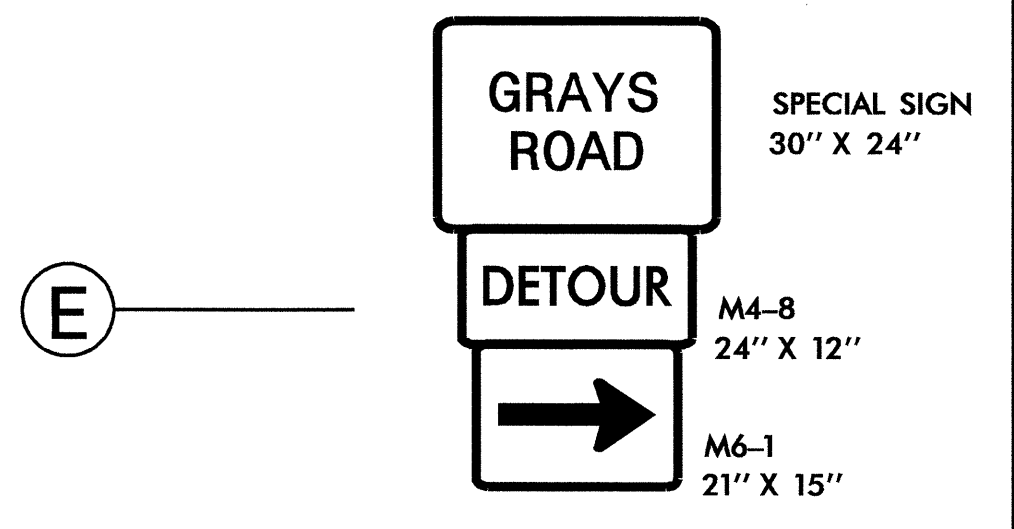
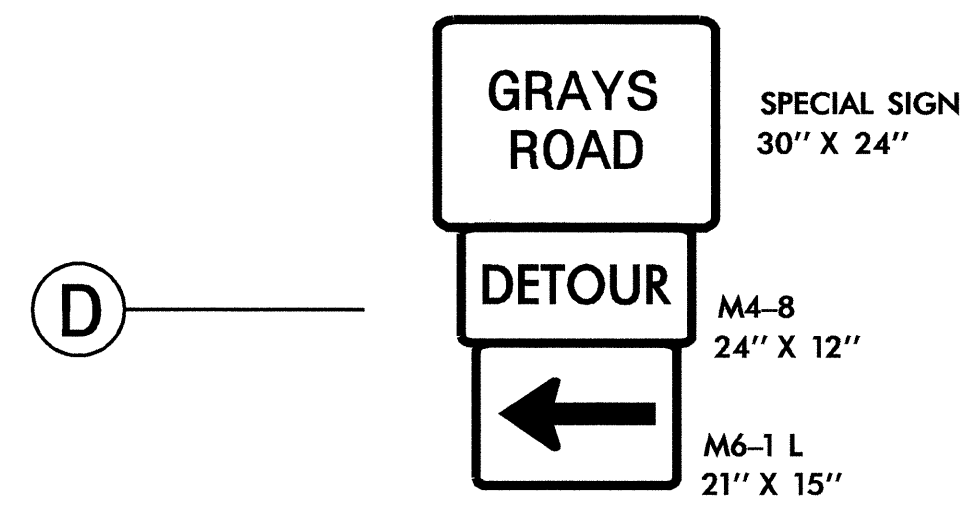
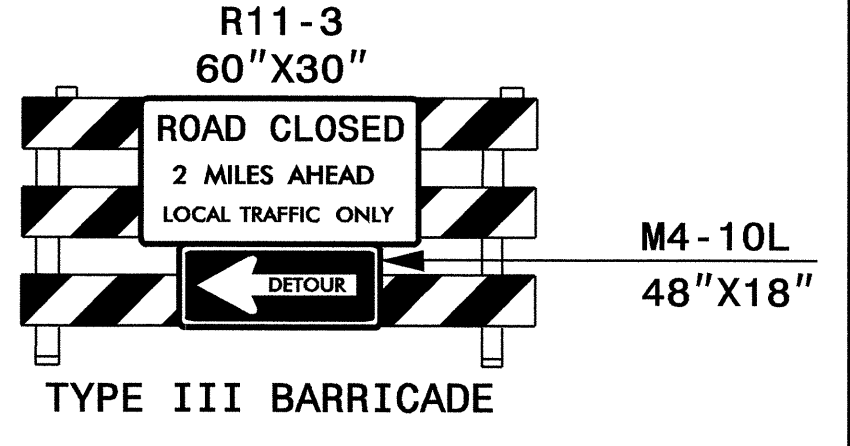
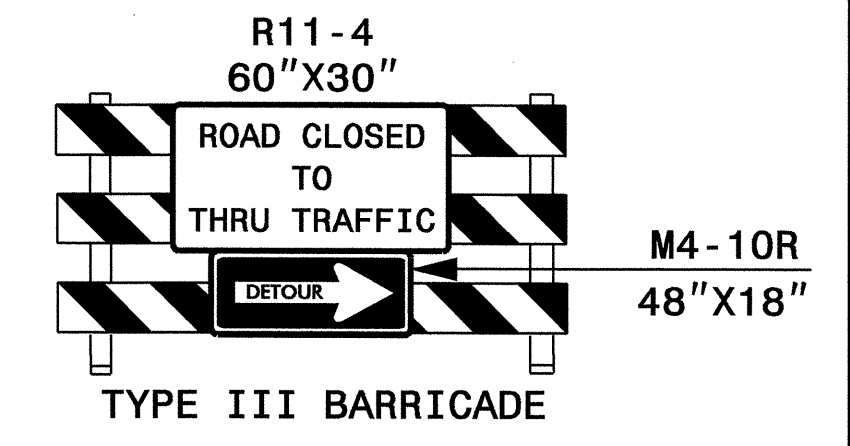
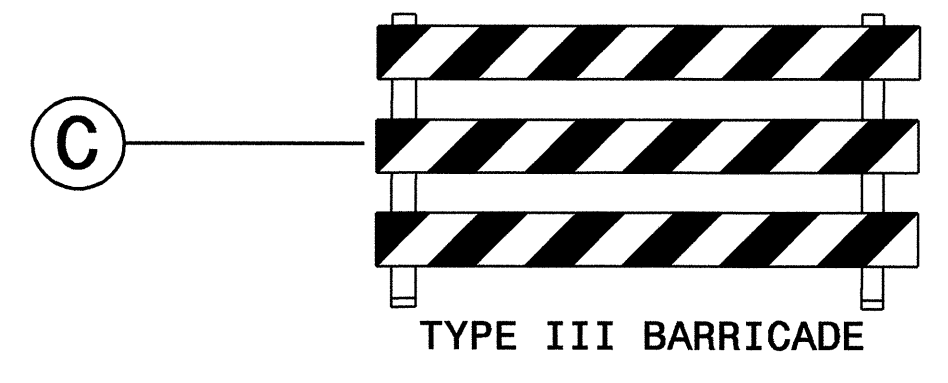
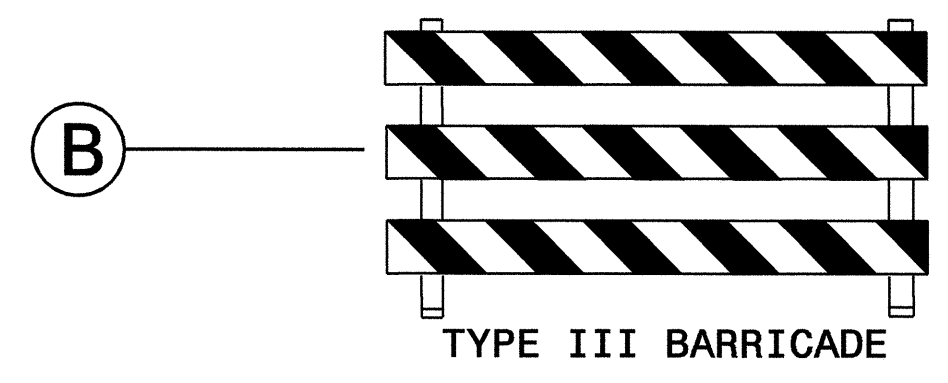
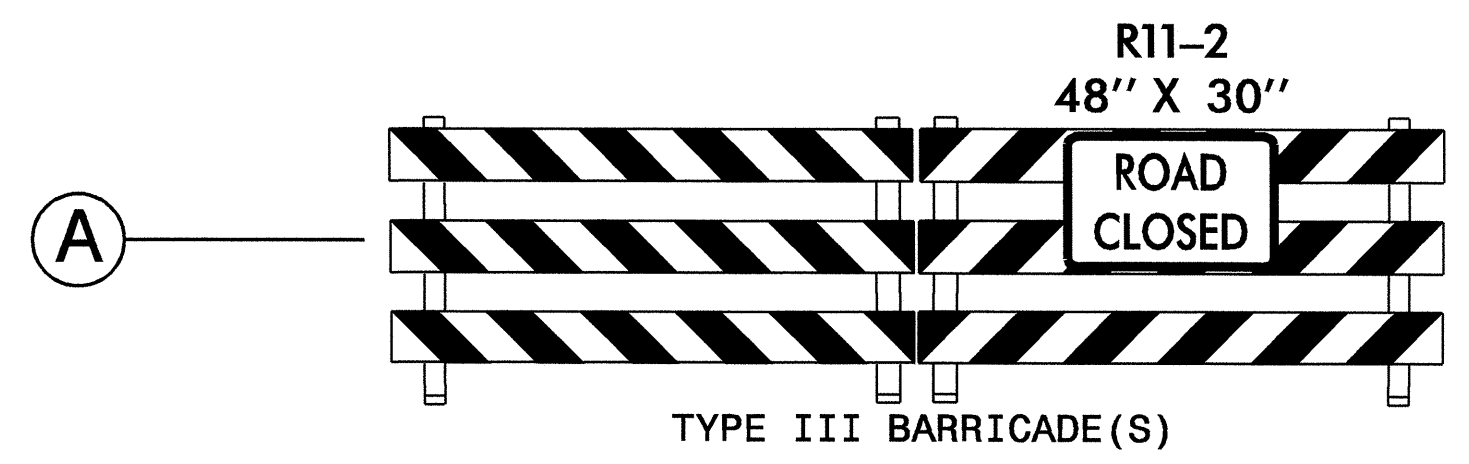
NOTE: SEE TCP-6 FOR ADVANCE WARNING SIGNAGE.

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 AT W7TC222410
 douglover

APPROVED: <i>John S. Kite</i> DATE: 9/14/07	PHASE I DETAIL	
	SCALE: NONE	
	DATE: 03/06	
	DWG. BY: SJS	
	DESIGN BY: SJS	
REVIEWED BY: DAP	REVISIONS	



NOTE: SEE ROADWAY STANDARD DRAWING 1101.03, SHEET 1 FOR PLACEMENT OF BARRICADES AND SIGN ASSEMBLIES G, H, I, J, AND K

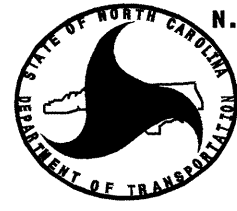


APPROVED: *[Signature]* DATE: 3/6/07

 SEAL

DETOUR AND SIGNING		REVISIONS
SCALE: NONE	DATE: 03/06	
DWG. BY: SJS	DESIGN BY: SJS	
REVIEWED BY: DAP		

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N. C. DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 TRAFFIC ENGINEERING BRANCH
 SIGNING DEPARTMENT

SIGN NUMBER: SP06410
 TYPE: D
 QUANTITY: 1
 SIGN WIDTH: 2'-6"
 HEIGHT: 2'-0"
 TOTAL AREA: 5.0 Sq.Ft.
 BORDER TYPE: FLUSH
 RECESS: 0.47"
 WIDTH: 0.63"
 RADII: 1.5"
 NO. Z BARS:
 LENGTH:

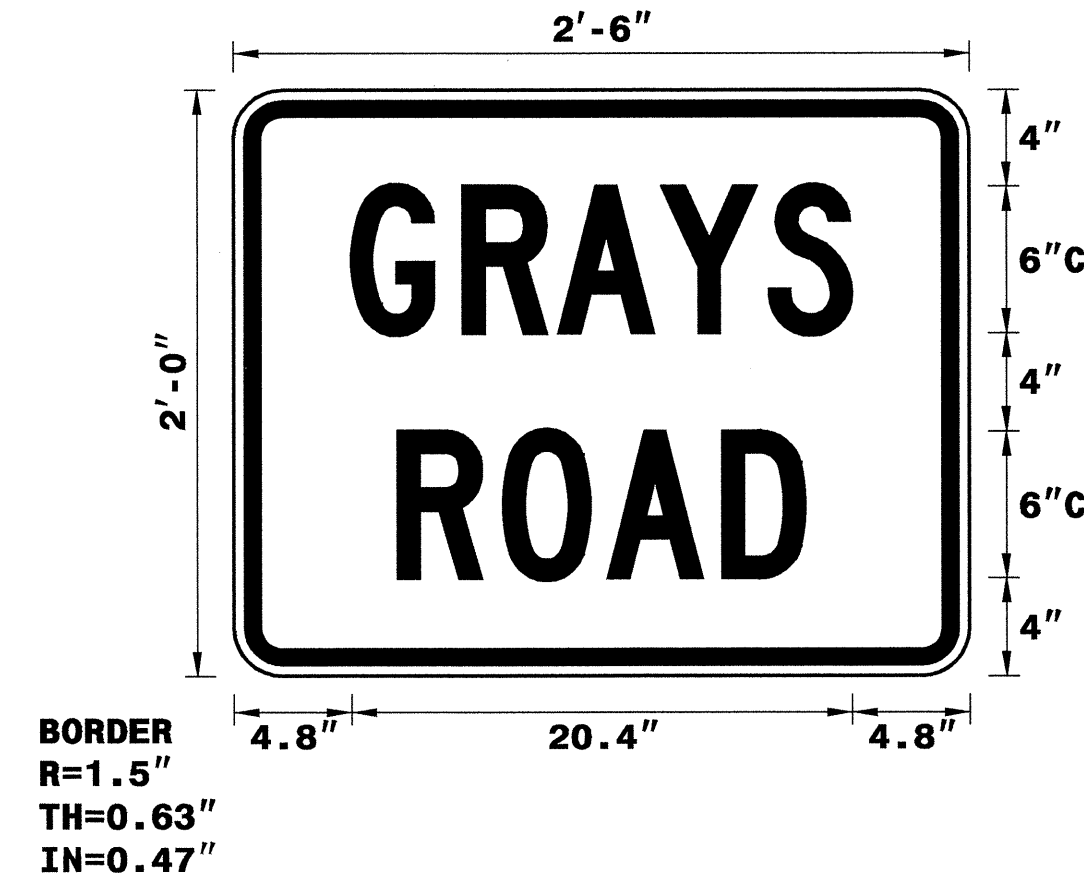
BACKG COLOR: Fluorescent Orange
 COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" ALUMINUM
 0.079" COMPOSITE

USE NOTES:
 1. Legend and border shall be direct applied non-reflective sheeting.
 2. Background shall be Type VII, VIII, or IX (prismatic) retroreflective sheeting.

DESIGN BY: MJH CHECKED BY: JGM STD #: N/A
 PROJECT ID: B-3697 DIV: 13 DATE: Sep 19, 2006



LETTER POSITIONS

Letter spacings are to start of next letter														Series/Size	
														Text Length	
	G	R	A	Y	S										C 2000
4.8	4.6	3.9	4.2	4.4	3.4	4.8									20.4
	R	O	A	D											C 2000
6.7	4.3	4.3	4.7	3.4	6.7										16.6

Spacing Factor is 1 unless specified otherwise

FILENAME: grays_road_wztc

NORTH CAROLINA D.O.T. SIGN DETAIL

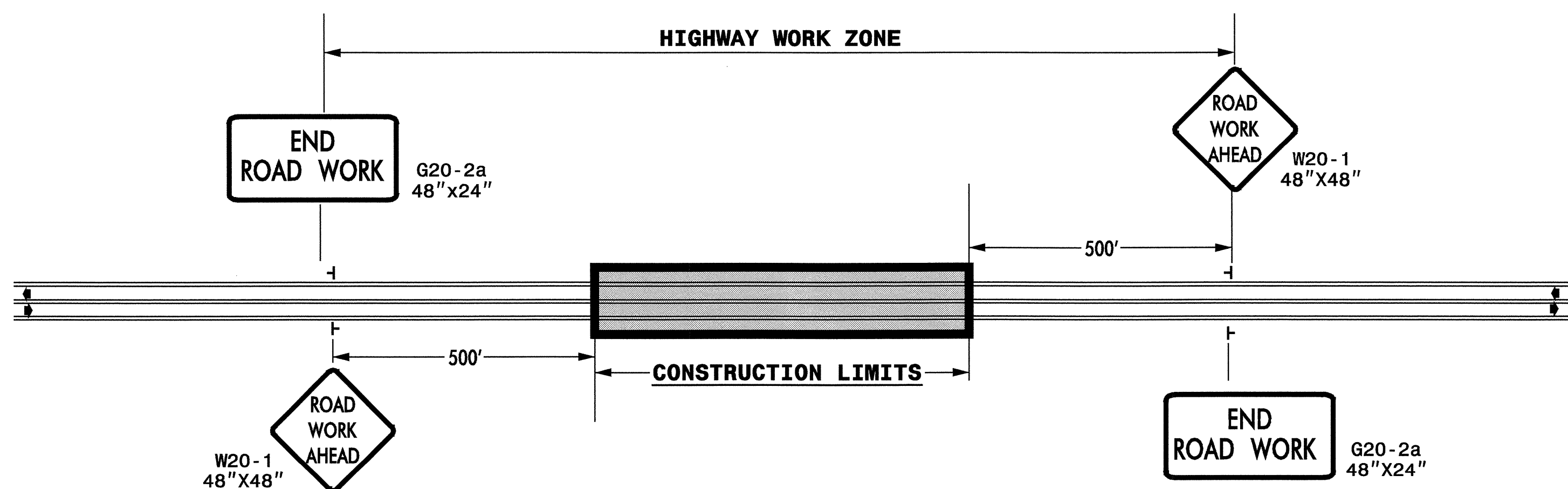
08-AUG-2007 14:47
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 dougjoynes AT WZTC222410

APPROVED: DATE: 9/19/07

SIGN DESIGN

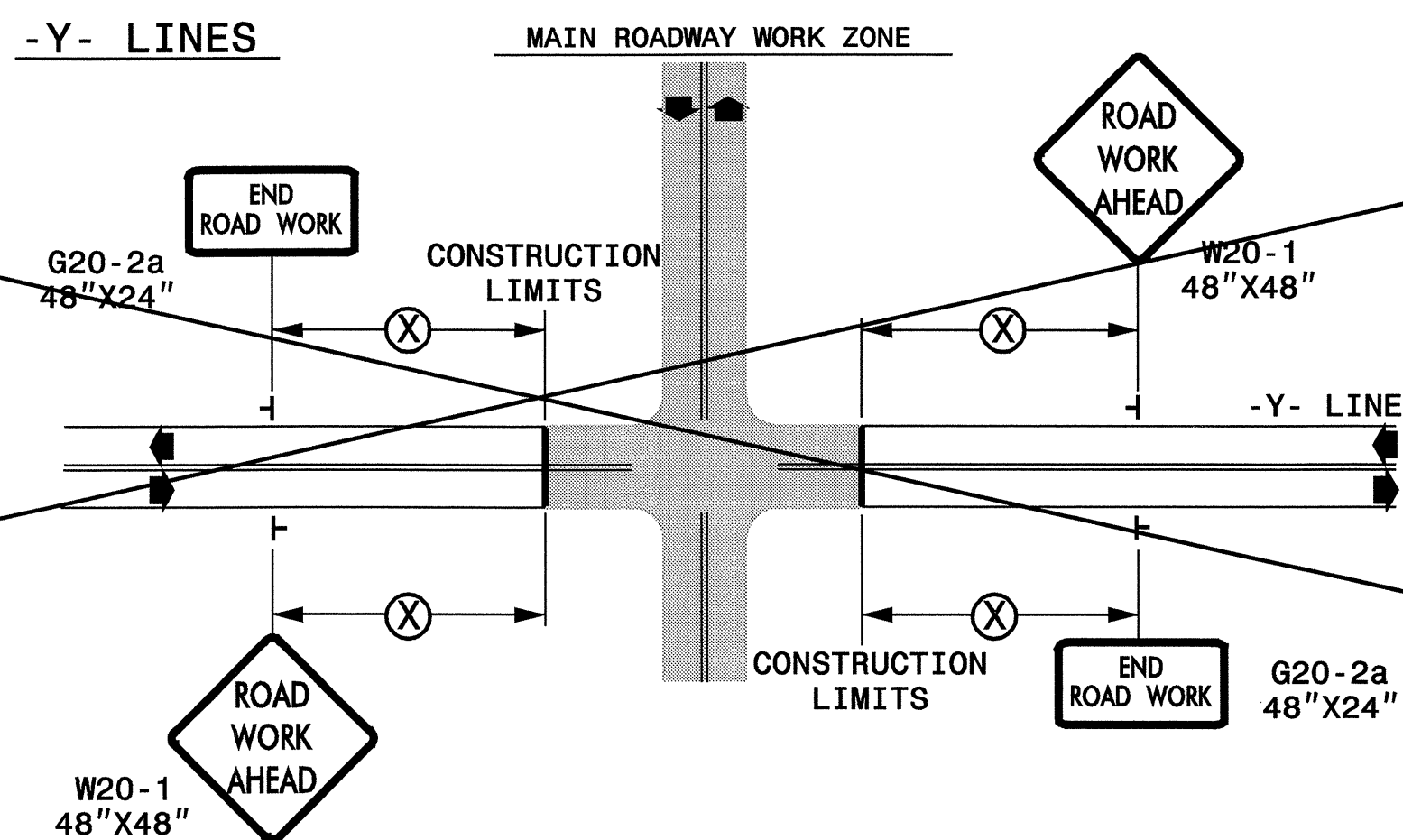
SCALE: NONE		REVISIONS
DATE: 9/06		
DWG. BY: SJS		
DESIGN BY: SJS		
REVIEWED BY: DAP		

TWO-WAY UNDIVIDED ** (L-LINES)



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

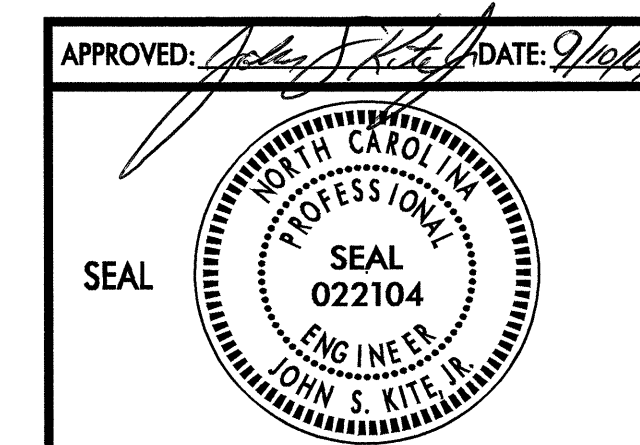
GENERAL NOTES

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

- ┆ STATIONARY SIGN
- ◀ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1



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

SCALE: NONE	REVISIONS
DATE: 09/06	7-98 10/01
DWG. BY: SJS	10-98 03/04
DESIGN BY: SJS	01/01 11/04
REVIEWED BY: DAP	CADD FILE

08-AUG-2007 10:48 \\dot\dfsroot\proj\TIP\Projects-b\3697\Traffic\TrafficControl\top\3697_top06_advance_warning.dgn doug.dwyer