

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4008	TCP-1

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

ALLEGHANY COUNTY

B-4008

TIP PROJECT:

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"- PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 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
1101.04	TEMPORARY SHOULDER 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
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-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, PAVEMENT MARKING SCHEDULE AND INDEX OF SHEETS
TCP-2	GENERAL NOTES AND PHASING
TCP-3	DETOUR ROUTE AND BARRICADE PLACEMENT
TCP-4	DETAIL
TCP-5	ADVANCED WORK ZONE WARNING SIGNS
SD-1	SPECIAL SIGN DESIGN

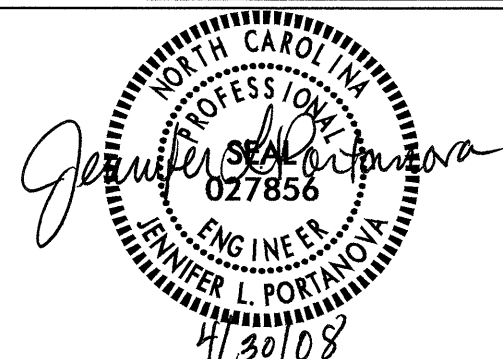
Final Pavement Marking Schedule

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS	PAY ITEM QUANTITY	
			BREAKDOWN	TOTAL QUANTITY
PA	WHITE EDGELINE (2X)	PAINT(4")	3200 LF	
PI	YELLOW DOUBLE CENTER (2X)		3200 LF	
			TOTAL	6400 LF

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

LEGEND

- GENERAL**
- ← DIRECTION OF TRAFFIC FLOW
 - ↑ NORTH ARROW
 - PROPOSED PVMT. - - - - - EXIST. PVMT.
 - WORK AREA
 - ▨ REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- I TYPE I BARRICADE
 - II TYPE II BARRICADE
 - ▨ TYPE III BARRICADE
 - ▲ CONE
 - DRUM ⊙ SKINNY DRUM
 - ⊙ FLASHING ARROW PANEL (TYPE C)
 - ⊥ STATIONARY SIGN
 - ⊏ PORTABLE SIGN
 - STATIONARY OR PORTABLE SIGN
 - ~ 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

APPROVED: DATE:	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
	S. BOURNE, P.E. _____ TRAFFIC CONTROL ENGINEER
	J. ISHAK, P.E. _____ TRAFFIC CONTROL PROJECT ENGINEER
	J. PORTANOVA, P.E. _____ TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	J. FUTRELL _____ TRAFFIC CONTROL DESIGN ENGINEER

GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-4008	TCP-2

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 UNDESIRE 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 WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) 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.
- D) 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.
- E) 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.
- F) DO NOT INSTALL MORE THAN 1 MILE OF LANE CLOSURE ON SR 1133 (PINE SWAMP RD) MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- G) DO NOT INSTALL MORE THAN ONE LANE CLOSURE, IN ANY ONE DIRECTION, ON SR 1133 (PINE SWAMP RD).
- H) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- I) 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.
- J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- L) 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.
- M) PROVIDE PERMANENT SIGNING.
- N) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- O) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- Q) 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.

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

PAVEMENT MARKINGS AND MARKERS

- S) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L- SR 1133 PINE SWAMP RD.	PAINT	N/A
-Y- SR 1193 CLEARY RD.	PAINT	N/A

- T) 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.
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- V) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PHASING

STEP 1: USING SHEETS TCP-3, TCP-4 AND TCP-5, INSTALL DETOUR SIGNS AND PLACE TYPE III BARRICADES TO CLOSE SR 1193 (PINE SWAMP ROAD) TO THRU TRAFFIC AND DETOUR TRAFFIC ONTO PROPOSED DETOUR.

STEP 2: AWAY FROM TRAFFIC, BEGIN THE FOLLOWING:

- REMOVAL OF EXISTING STRUCTURE NO. 39 AND THE CONSTRUCTION OF PROPOSED STRUCTURE FROM -L- STA. 15+34 +/- TO -L- STA. 16+64 +/-.
- CONSTRUCTION OF PROPOSED ROADWAY FROM -L- STA. 12+75 +/- TO -L- STA. 17+50 +/- UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER.
- DRAINAGE WORK WITHIN THE PROJECT LIMITS.

STEP 3: - USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING:

- 1) INSTALL ADVANCE WORK ZONE WARNING SIGNS ON -Y- (SR 1193). (SEE TCP-4 AND TCP-5)
- 2) CONSTRUCT PROPOSED UP TO BUT NOT INCLUDING FINAL SURFACE LAYER AT FOLLOWING LOCATIONS:

 AT THE END OF EACH WORKDAY RETURN TRAFFIC TO EXISTING PATTERN.

 -L- STA. 17+50 +/- TO -L- STA. 19+50 +/-
 -Y- STA. 10+00 +/- TO -Y- STA. 10+40 +/-

 - AWAY FROM TRAFFIC COMPLETE THE WORK BEGUN IN STEP 2.

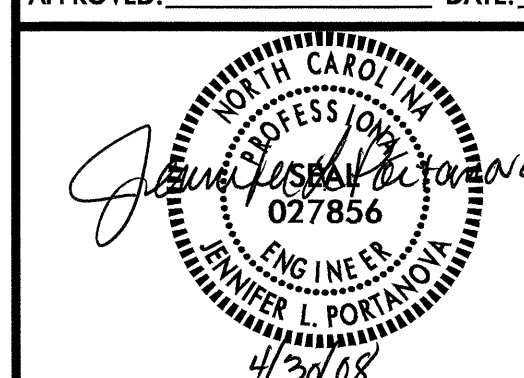



STEP 4: REMOVE DETOUR SIGNS AND TYPE III BARRICADES. OPEN SR 1133 (PINE SWAMP RD.) TO PROPOSED TRAFFIC PATTERN.

STEP 5: USING RSD 1102.02 SHEET 1 OF 9, PLACE FINAL SURFACE LAYER AND FINAL PAVEMENT MARKINGS (PAINT) AT THE FOLLOWING LOCATIONS:

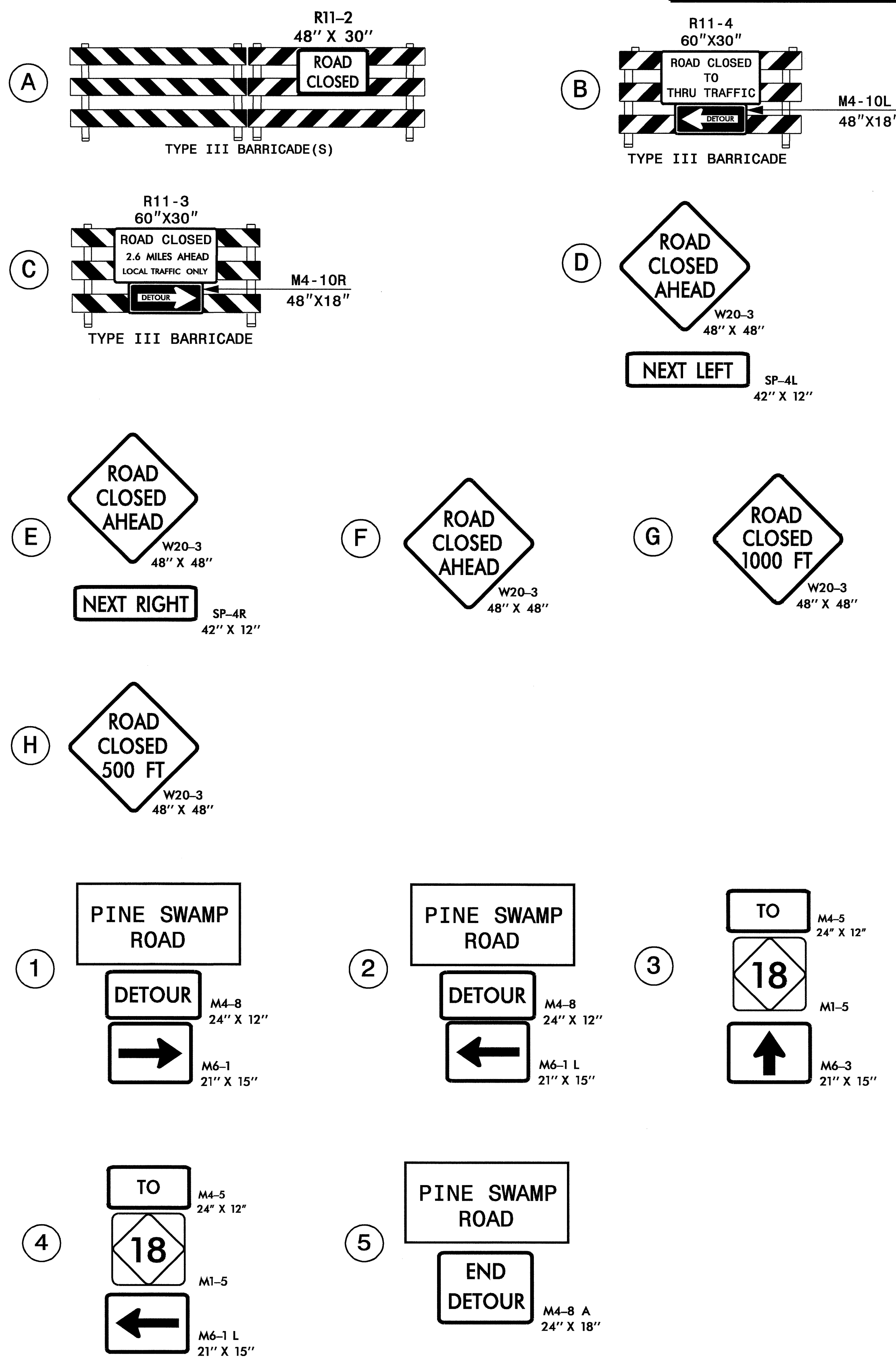
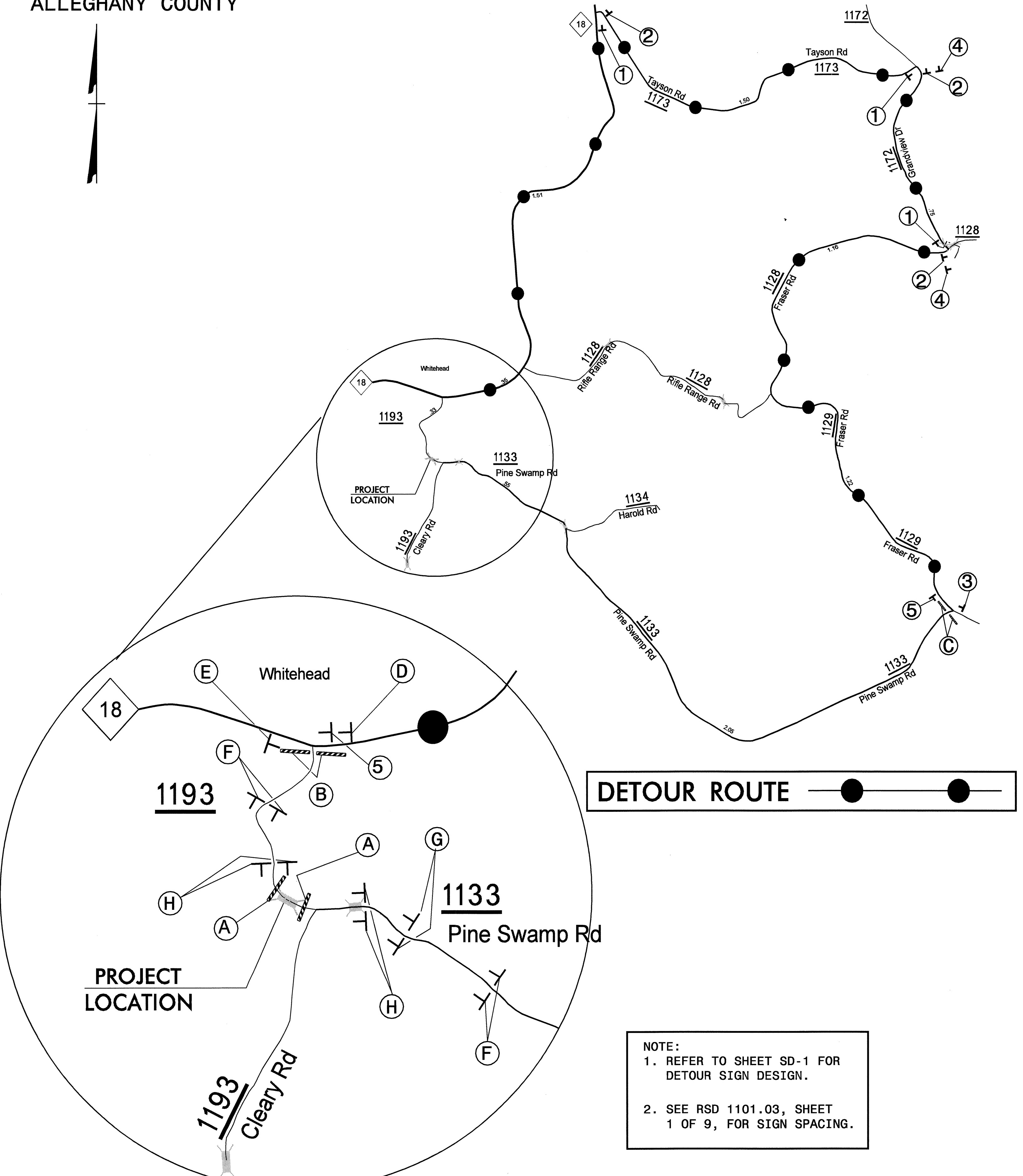
- L- STA. 12+75 +/- TO -L- STA. 19+50 +/-
- Y- STA. 10+00 +/- TO -Y- STA. 10+40 +/-

STEP 6: REMOVE ALL TRAFFIC CONTROL DEVICES AND SIGNS.

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APPROVED: _____ DATE: _____ 	<h3>GENERAL NOTES AND PHASING</h3>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">SCALE: NONE</td> <td rowspan="4" style="text-align: center;">  </td> <td style="font-size: small;">REVISIONS</td> </tr> <tr> <td style="font-size: small;">DATE: APRIL 08</td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="font-size: small;">DWG. BY: JLF</td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="font-size: small;">DESIGN BY: JLF</td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="font-size: small;">REVIEWED BY: JLP</td> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> </table>	SCALE: NONE		REVISIONS	DATE: APRIL 08		DWG. BY: JLF		DESIGN BY: JLF		REVIEWED BY: JLP		
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ALLEGHANY COUNTY

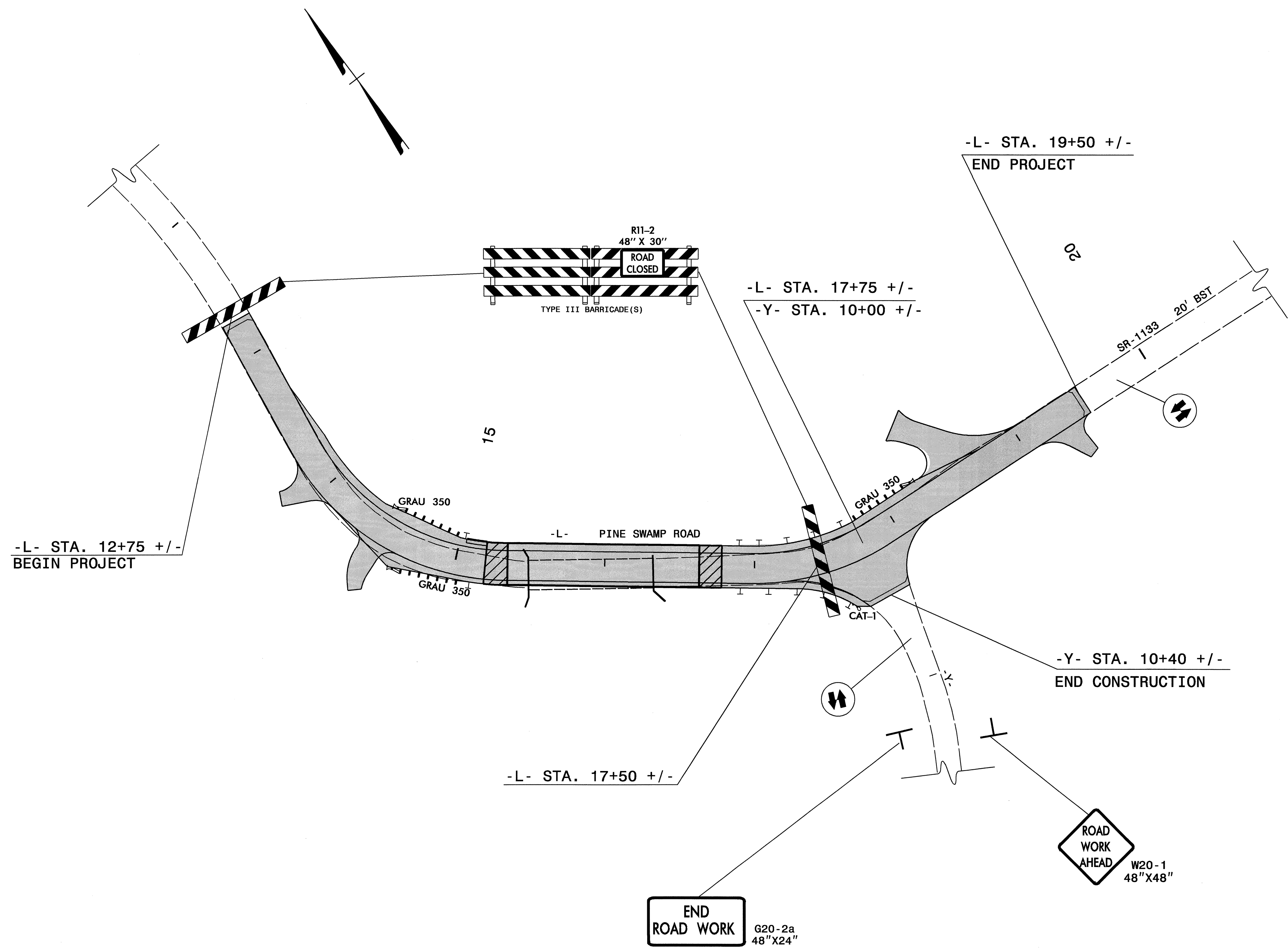


NOTE:
 1. REFER TO SHEET SD-1 FOR
 DETOUR SIGN DESIGN.
 2. SEE RSD 1101.03, SHEET
 1 OF 9, FOR SIGN SPACING.

APPROVED: _____ DATE: _____		DETOUR ROUTE AND BARRICADE PLACEMENT	
SCALE: NONE	DATE: APRIL 08		
DWG. BY: JLF	DESIGN BY: JLF		
REVIEWED BY: JLP			

REVISIONS	

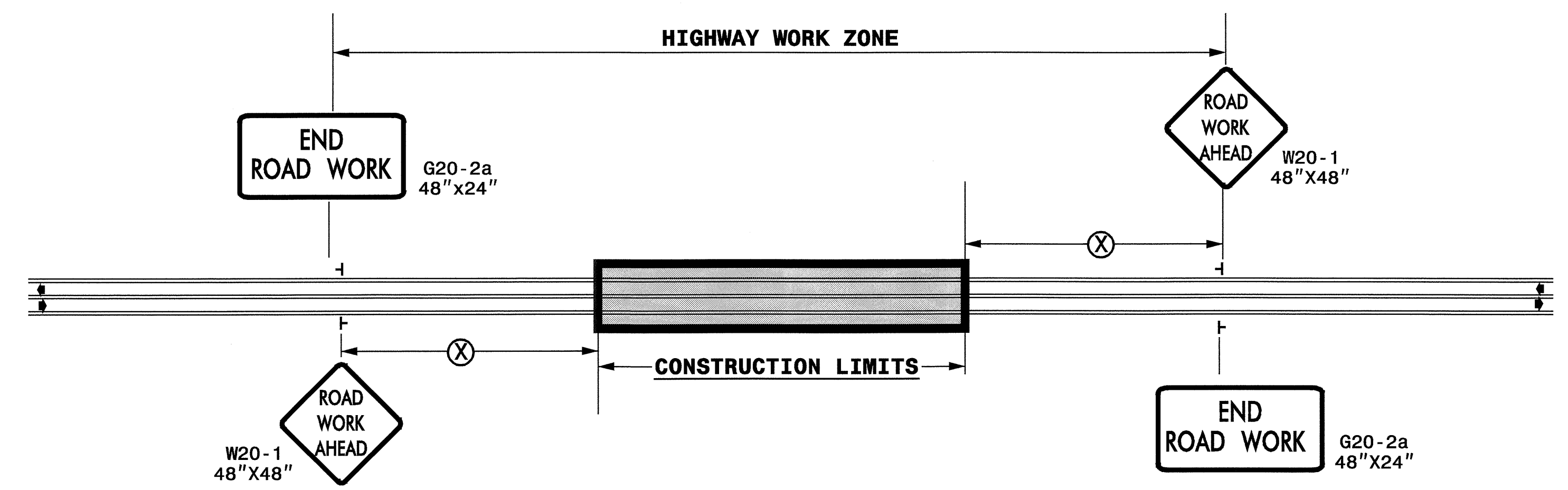
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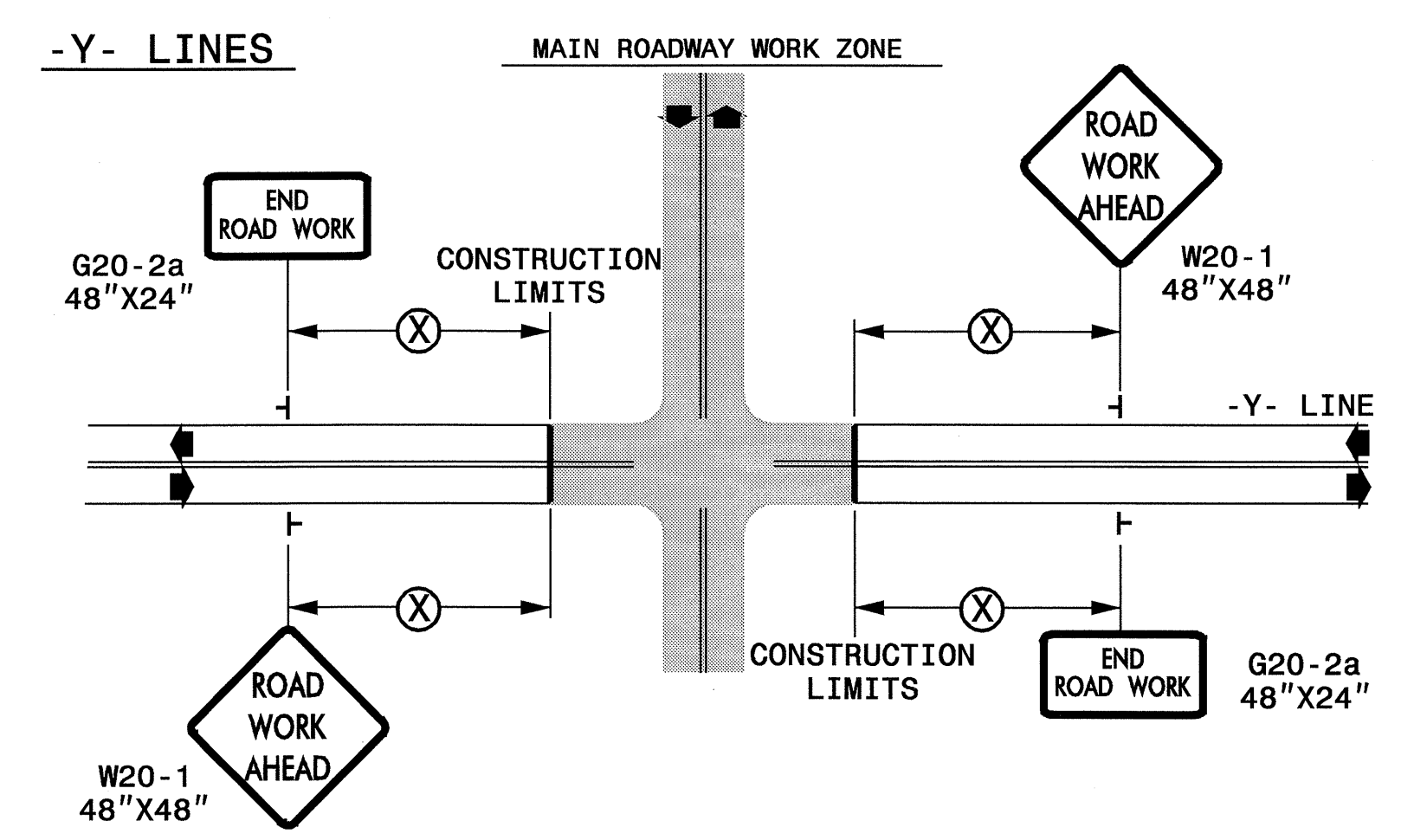
TWO-WAY UNDIVIDED ** (L-LINES)



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 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

APPROVED: _____ DATE: _____	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
	SCALE: NONE	REVISIONS
	DATE: APRIL 08	7-98 10/01
	DWG. BY: JLF	10-98 03/04
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