

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
R-4900	TCP-01

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

R-4900

**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
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - INTERCHANGES
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS - (TEMPORARY & PERMANENT)
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

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TCP-02	GENERAL NOTES
TCP-02A	PHASING AND TEMPORARY PAVEMENT MARKING/MARKER SCHEDULE
TCP-03	TEMPORARY SHORING NOTES
TCP-04	PHASE I OVERVIEW
TCP-05	TEMPORARY PAVEMENT
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TCP-12	PHASE II OVERVIEW
TCP-13	DETOUR ROUTE AND SIGNING - NC 242
TCP-14	ADVANCED WORK ZONE WARNING SIGNS

**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
  - 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

TIP PROJECT:

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APPROVED:	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
DATE: April 9, 2010	
SEAL	STUART BOURNE, P.E. TRAFFIC CONTROL ENGINEER
	STEVE KITE, JR., P.E. TRAFFIC CONTROL PROJECT ENGINEER
	DON PARKER TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	ASHVIN PATEL, P.E. TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

# GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
R-4900	TCP-02
COLUMBUS	

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.

**TIME RESTRICTIONS**

A) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME  
US-74

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st AND TO 11:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 11:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 11:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 11:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 11:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY, THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 11:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 11:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY AND 11:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 11:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

B) DO NOT STOP TRAFFIC AS FOLLOWS:

<u>ROAD NAME</u>	<u>DAY AND TIME RESTRICTIONS</u>	<u>DURATION AND OPERATION</u>
US-74	FRIDAY 6:00AM THRU MONDAY 11:00PM AND TUESDAY THRU THURSDAY, 6:00AM TO 11:00PM	30 MINUTES, GIRDER INSTALLATION

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

**LANE AND SHOULDER CLOSURE REQUIREMENTS**

- D) 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.
- E) 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.
- F) 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.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 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.

- G) 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.
- H) 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.
- I) DO NOT INSTALL MORE THAN 0.5 MILE OF LANE CLOSURE ON US-74 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- J) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US-74.

**PAVEMENT EDGE DROP OFF REQUIREMENTS**

K) 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.

L) 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) 500 FT. IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

**TRAFFIC PATTERN ALTERATIONS**

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

**SIGNING**

N) 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.

O) PROVIDE PERMANENT SIGNING.

P) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

Q) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

R) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

S) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT. IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

**TRAFFIC BARRIER**

T) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

U) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

**TRAFFIC CONTROL DEVICES**

V) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET 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.

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

X) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

**PAVEMENT MARKINGS AND MARKERS**

Y) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS SHOWN IN THE PAVEMENT MARKING PLAN.

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

<u>ROAD NAME</u>	<u>MARKING</u>	<u>MARKER</u>
US-74	PAINT	TEMP. RAISED
NC-242	PAINT	TEMP. RAISED

AA) 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.

BB) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

CC) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

**MISCELLANEOUS**

DD) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

APPROVED: DATE: 4/9/09	<h2 style="margin: 0;">GENERAL NOTES</h2>	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>								
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# PHASING

PROJ. REFERENCE NO.	SHEET NO.
R-4900	TCP-02A
COLUMBUS	

## PHASE I

- STEP 1: -- INSTALL ADVANCE WARNING SIGNS (SEE TCP-14)
- STEP 2: -- AWAY FROM TRAFFIC BEGIN CLEARING/GRADING AND CONSTRUCTION OF PROPOSED APPROACHES, RAMPS AND LOOPS. MAINTAIN ACCESS TO EXISTING DRIVEWAY. (SEE TCP-04)
- STEP 3: -- INSTALL TEMPORARY SHORING NO. 1 AND CONSTRUCT -SR-. TIE IN WITH NC-242 UPTO EXISTING EDGE AND ELEVATION (SEE TCP-03, 09 AND RSD 1101.02, SHEET 1 OF 9).
- CONSTRUCT TEMPORARY MEDIAN PAVEMENT AS SHOWN IN TCP-05 AND ROADWAY PLANS (SEE RSD 1101.02, SHEET 3 OF 9).
- INSTALL TEMPORARY PAINT PAVEMENT MARKING/MARKERS AND SIGNING FOR PHASE I TEMPORARY PATTERN (COVER SIGNING) AS SHOWN ON TCP-06 THRU TCP-10 (SEE RSD 1101.02, SHEET 3 OF 9).
- PAVE TEMPORARY ASPHALT PADS FOR USE WITH PCB (SEE TCP-07, 09, 10, AND RSD 1101.02, SHEET 1 & 3 OF 9)
- STEP 4: -- UNCOVER PHASE I SIGNING AND OPEN MEDIAN U-TURNS TO TRAFFIC. ACTIVATE CMS BOARDS ON NC 242 AND PLACE TYPE III BARRICADES TO CLOSE THE EXISTING MEDIAN OPENING AT US 74/NC 242.
- STEP 5: -- USE FLAGGERS AND LANE CLOSURES TO INSTALL PHASE I PCB AND CRASH CUSHIONS ALONG NC 242 AND US 74 (SEE TCP-07, 09,10 AND RSD 1101.02, SHEET 1 & 3 OF 9)
- STEP 6: -- BEHIND PCB, CONSTRUCT THE PROPOSED BRIDGE OVER US 74
- WHEN INSTALLING BRIDGE GIRDERS, USE A ROLLING ROAD BLOCK. NOTE: TRAFFIC WILL BE PACED TO A STOPPED CONDITION USING LAW ENFORCEMENT PERSONNEL. (SEE RSD 1101.03, SHEET 9 OF 9 AND INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES)
- STEP 7: -- AWAY FROM TRAFFIC AND/OR BEHIND PCB, COMPLETE THE WORK BEGUN IN STEP 2, INCLUDING THE PROPOSED BRIDGE (AS MUCH AS POSSIBLE WITHOUT INTERFERING WITH EXISTING TRAFFIC PATTERNS) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. INSTALL PROPOSED PIER PROTECTION (SEE TCP-06 THRU 10)
- STEP 8: -- INSTALL OFFSITE DETOUR SIGNING FOR NC-242 AND COVER UNTIL NEEDED (SEE TCP-13)
- RE-STRIPE THE PROPOSED DETOUR ROUTE WITH SINGLE PAINT APPLICATION IN THE EXISTING TRAFFIC PATTERN (SEE TCP-11)
- USING RSD 1101.02, REMOVE PCB FROM US 74

## PHASE II

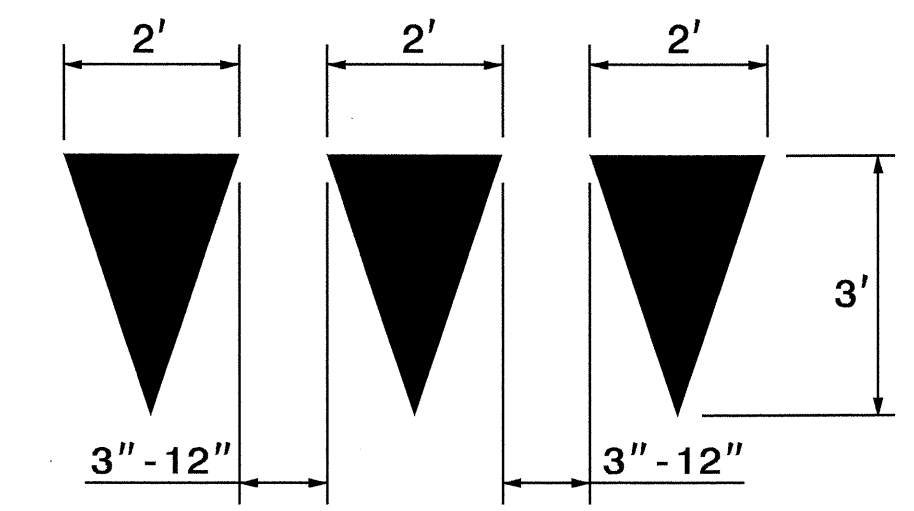
COMPLETE THE WORK OF PHASE II, STEP 1 THRU STEP 6 IN 60 DAYS AS PER INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

- STEP 1: -- UNCOVER DETOUR SIGNING. USING RSD 1101.03, SHEET 1 OF 9, CLOSE NC 242 AND PLACE TRAFFIC ON DETOUR ROUTE (SEE TCP-13).
- STEP 2: -- REMOVE ALL PCB AND CRASH CUSHIONS FROM NC 242.
- STEP 3: -- AWAY FROM TRAFFIC, COMPLETE TIE IN WORK ON NC 242 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
- STEP 4: -- USING RSD 1101.02, ALONG US 74 COMPLETE THE INSIDE SHOULDER, ACCEL, DECEL LANES AND OUTSIDE SHOULDER UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. (NOTE: USE CMS BOARD SHORT TERM DURING PHASE II, STEP 4 FOR LANE CLOSURE OPERATIONS ON US 74)
- INSTALL PROPOSED SIGNING (COVER UNTIL READY FOR USE, SEE SIGNING PLANS)

- STEP 5: -- PLACE TEMPORARY PAINT PAVEMENT MARKINGS IN THE FINAL PATTERN THROUGHOUT THE PROJECT LIMITS EXCEPT COLD APPLIED PLASTIC MARKINGS ON THE BRIDGE AS SHOWN ON FINAL PAVEMENT MARKING PLANS.
- STEP 6: -- COVER/REMOVE DETOUR SIGNING AND TRAFFIC CONTROL DEVICES AND REOPEN NC 242 & US 74 TO THE FINAL TRAFFIC PATTERN.

## PHASE III

- STEP 1: -- USING RSD 1101.02, SHEET 3 OF 9, OBLITERATE AND REMOVE EXISTING PAVEMENT, INCLUDING TEMPORARY MEDIAN PAVEMENT AND DRAINAGE.
- RE-GRADE MEDIAN AT THE LOCATIONS OF THE TEMPORARY MEDIAN PAVEMENT
- STEP 2: -- USING RSD 1101.02, SHEET 1 & 3 OF 9, PLACE THE FINAL LAYER OF SURFACE COURSE AND FINAL MARKINGS AND MARKERS THROUGHOUT THE PROJECT LIMITS.
- STEP 3: -- REMOVE ALL TRAFFIC CONTROL DEVICES.



**SPECIAL DETAIL FOR  
YIELD LINE SHARK TEETH - QN**  
PAYMENT FOR YIELD LINE SHARK TEETH WILL BE BASED ON PAINT SYMBOL

## TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM QUANTITY BREAKDOWN		TOTAL QUANTITY
<u>TEMPORARY PAVEMENT MARKINGS</u>				
<u>PAINT (4")</u>				
PA	WHITE EDGELINE	102000	FT	
PB	YELLOW EDGELINE	21000	FT	
PC	10 FT WHITE SKIPLINE	2500	FT	
PD	2 FT WHITE MINISKIP	670	FT	
PE	WHITE SOLID LANE LINE	1400	FT	
PI	YELLOW DOUBLE CENTER	70000	FT	
			TOTAL	197570 FT
<u>PAINT (8")</u>				
PR	WHITE GORELINE	5100	FT	
PS	WHITE DIAGONAL	930	FT	
PV	YELLOW DIAGONAL	530	FT	
			TOTAL	6560 FT
<u>PAINT (24")</u>				
P4	WHITE STOPBAR	100	FT	
			TOTAL	100 FT
<u>PAINT MARKING SYMBOLS</u>				
QA	LEFT TURN ARROW	5	EA	
QB	RIGHT TURN ARROW	4	EA	
QC	STRAIGHT ARROW	11	EA	
QY	U-TURN ARROW	12	EA	
QN	YIELD LINE SHARK TEETH	12	EA	
			TOTAL	44 EA
<u>TEMPORARY RAISED PAVEMENT MARKERS</u>				
MH	YELLOW & YELLOW	30	EA	
MI	CRYSTAL & RED	88	EA	
			TOTAL	118 EA

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 User: jduffy At: 12/24/09  
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APPROVED: DATE: 11/9/10	<h3>PHASING AND TEMPORARY PAVEMENT MARKING SCHEDULE</h3>							
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PROJ. REFERENCE NO.	SHEET NO.
R-4900	TCP-03
COLUMBUS	

## TEMPORARY SHORING NOTES

### Temporary Shoring No.1

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING PROVISION.

DO NOT USE A TEMPORARY MSE WALL FROM STA. 20+00+/- -Y- 25.0 FT +/- LEFT TO STA. 21+75+/- -Y-, 33.0 FT +/- LEFT.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STA. 20+00+/- -Y- 25.0 FT +/- LEFT TO STA. 21+75+/- -Y-, 33.0 FT +/- LEFT, DESIGN SHORING FOR THE FOLLOWING IN-SITU ASSUMED

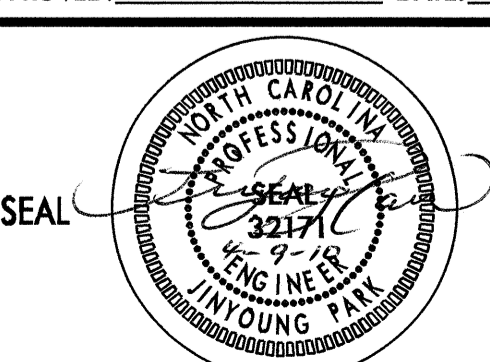

SOIL PARAMETERS:

UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma = 120$  PCF  
 UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma = 60$  PCF  
 FRICTION ANGLE,  $\phi = 30$   
 COHESION,  $c = 0$  PSF

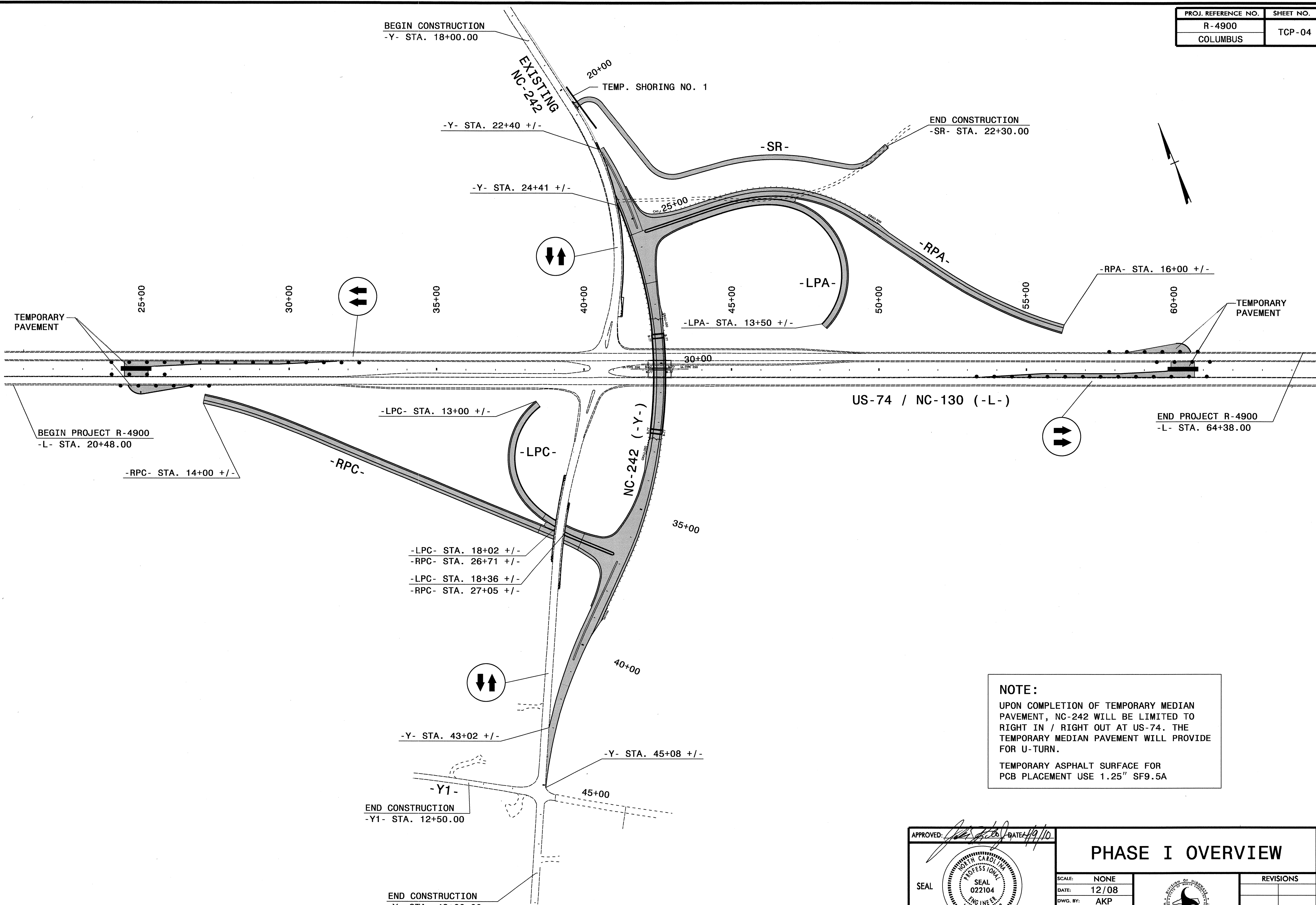
FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

QUANTITY = 1050 SF

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APPROVED: _____	DATE: _____	<b>TEMPORARY SHORING NOTES</b>		
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	DESIGN BY: JYP			
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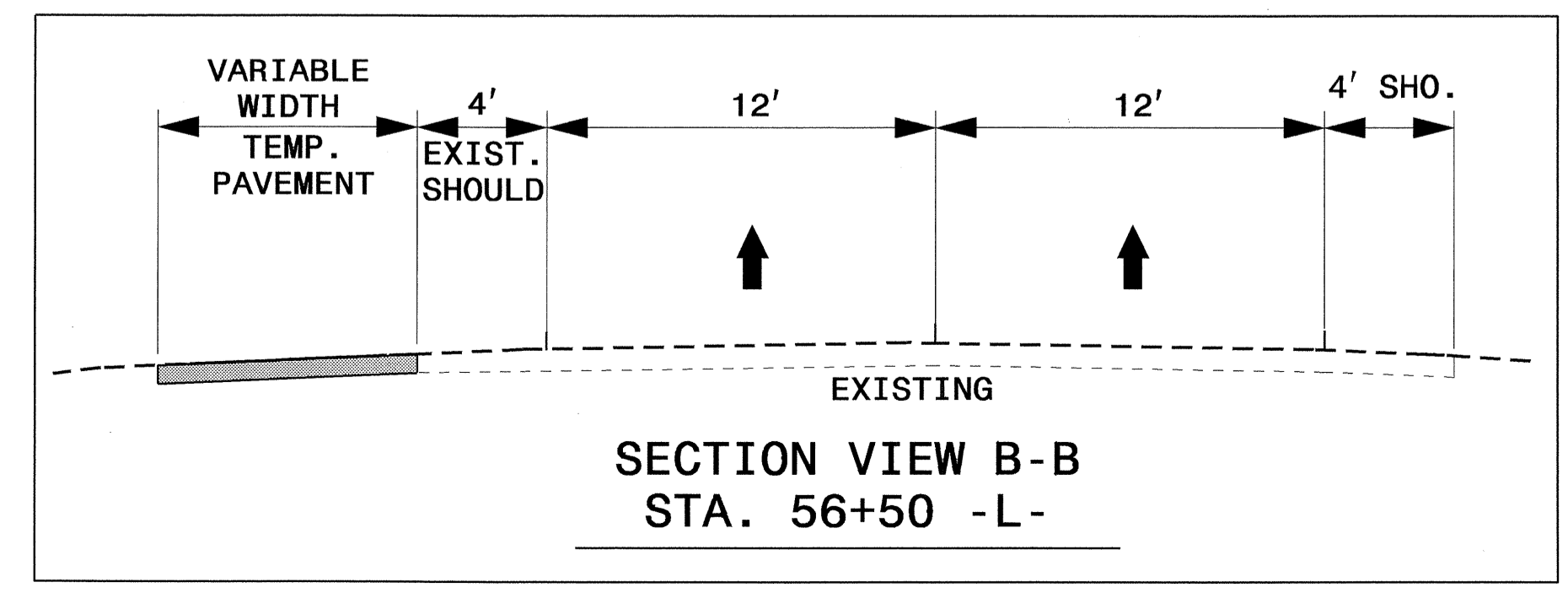
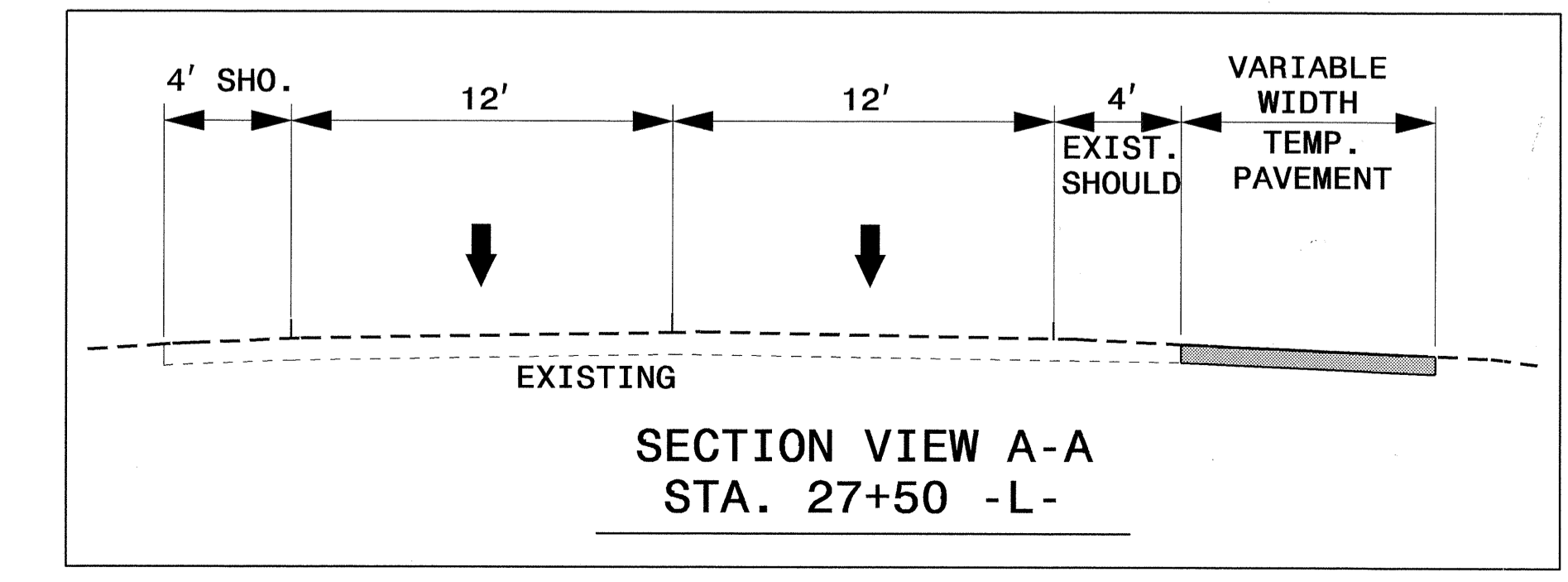
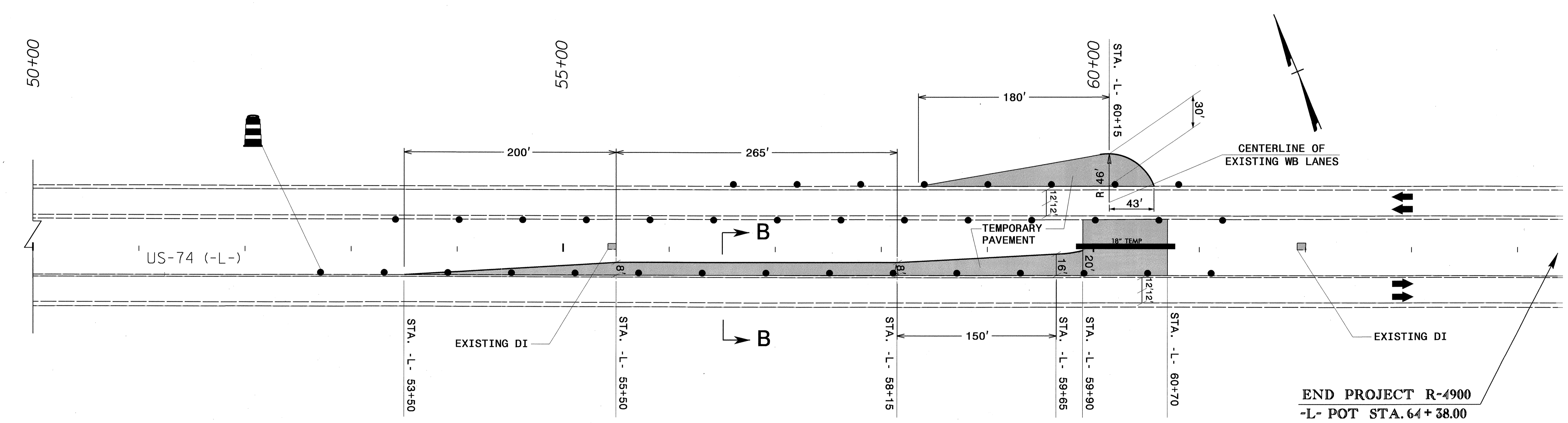
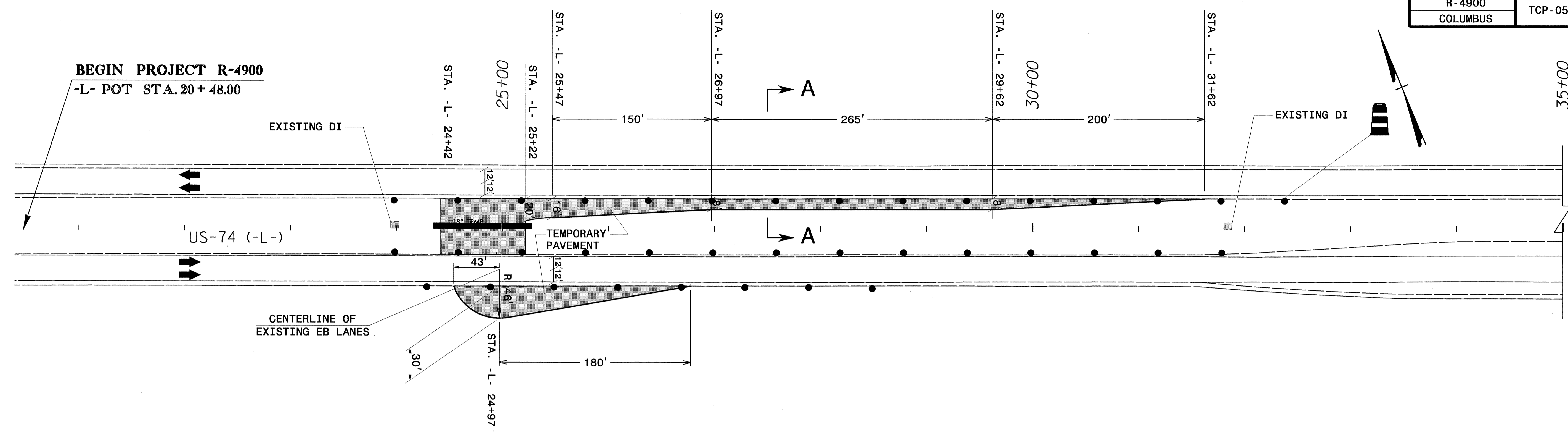
PROJ. REFERENCE NO.	SHEET NO.
R-4900	TCP-04
COLUMBUS	



**NOTE:**  
UPON COMPLETION OF TEMPORARY MEDIAN PAVEMENT, NC-242 WILL BE LIMITED TO RIGHT IN / RIGHT OUT AT US-74. THE TEMPORARY MEDIAN PAVEMENT WILL PROVIDE FOR U-TURN.  
TEMPORARY ASPHALT SURFACE FOR PCB PLACEMENT USE 1.25" SF9.5A

APPROVED:	DATE: 12/10/08	<b>PHASE I OVERVIEW</b>	
SEAL:			
SCALE: NONE	DATE: 12/08		
DWG. BY: AKP			
DESIGN BY: AKP			
REVIEWED BY: DAP		REVISIONS	
		CADD FILE	

08-APR-2010 11:25  
C:\Users\jupat\Documents\Projects\R-4900\TrafficControl\TCP\R-4900\_TCP-04.dgn  
akp\el AT 0212244718

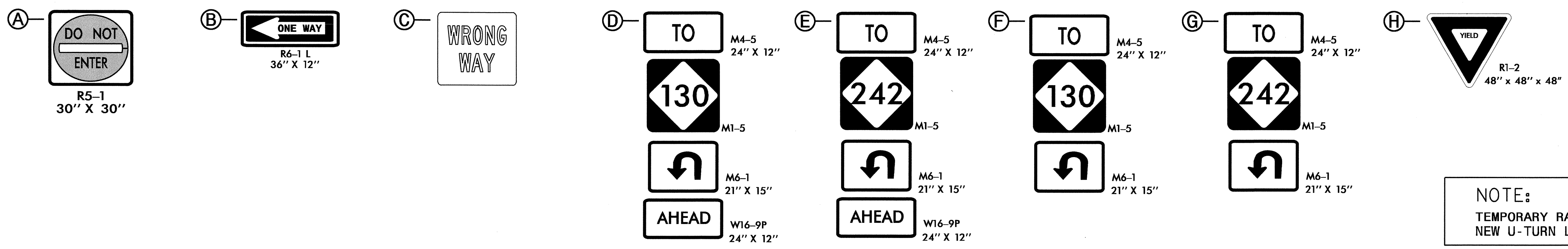
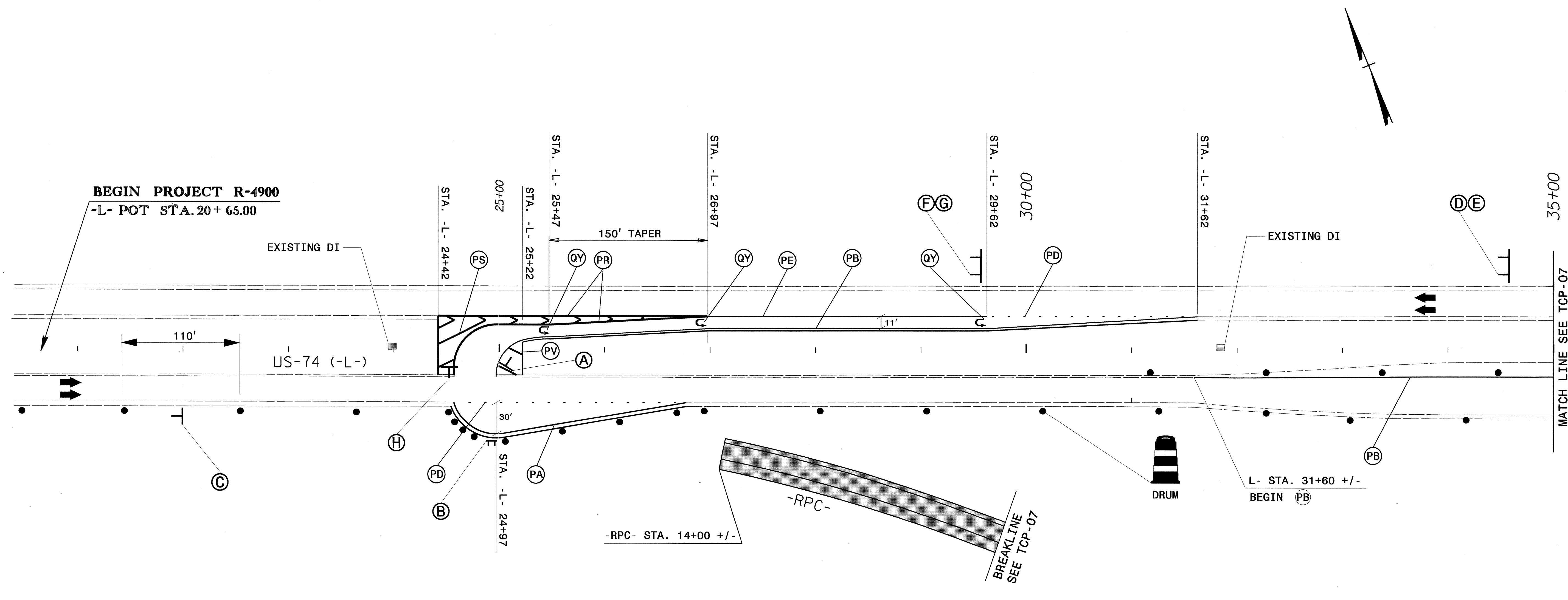


NOTE: FOR TEMPORARY PAVEMENT USE  
3.0" S9.5C, PRIME COAT, AND 8.0" ABC

APPROVED: *[Signature]* DATE: 2/9/10  
SEAL  
PROFESSIONAL ENGINEER  
JOHN S. KITE, JR.  
STATE OF NORTH CAROLINA

<b>TEMPORARY PAVEMENT FOR MEDIAN U-TURNS</b>			REVISIONS
SCALE:	NONE		
DATE:	02/10		
DWG. BY:	AKP		
DESIGN BY:	AKP		
REVIEWED BY:	DAP		

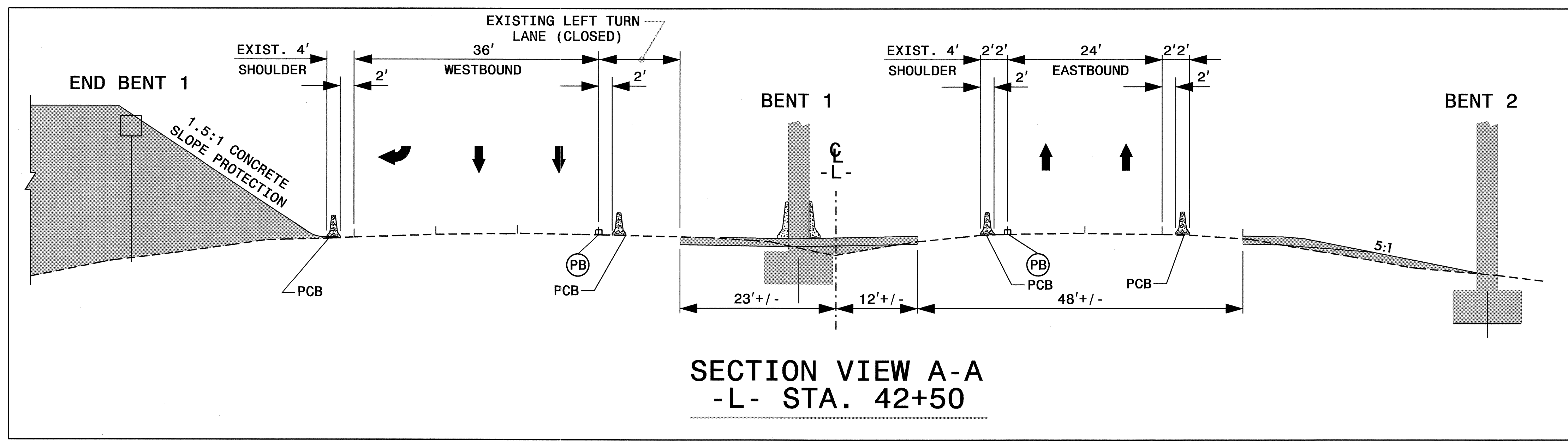
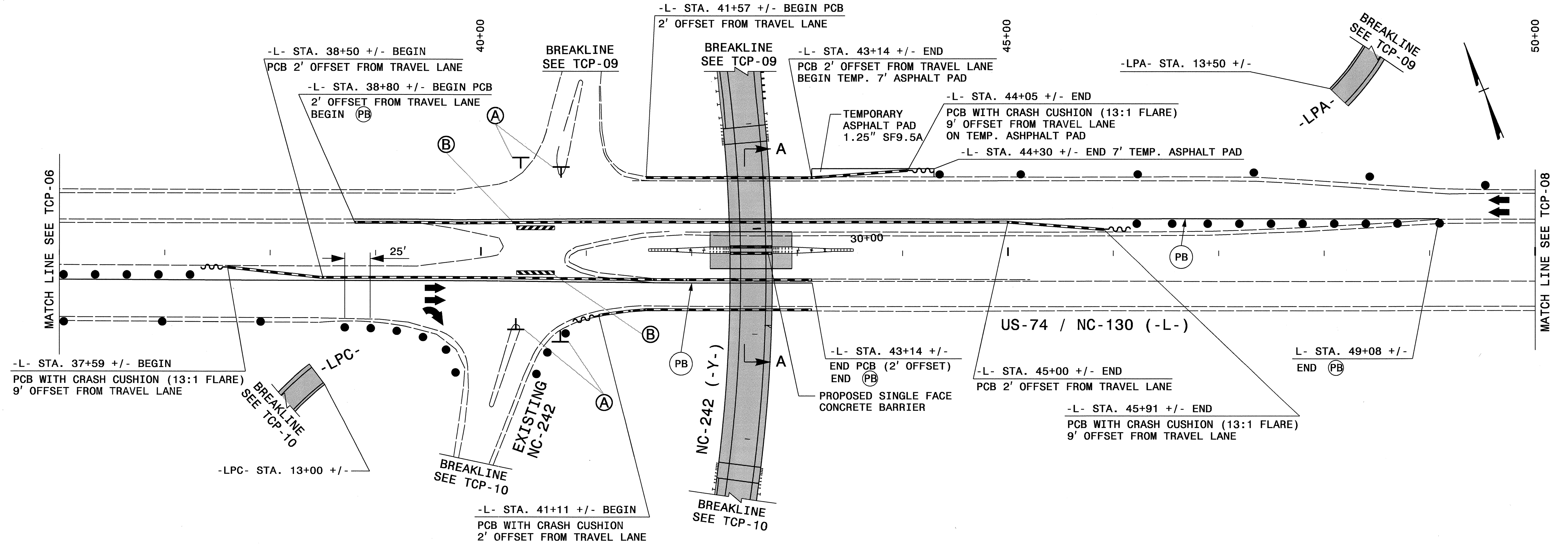
08-APR-2010 13:57  
D:\DVA\Projects\4900\TrafficControl\TCP\05-TCP-05-TP.dgn  
akp\atel AL WZTC244748



NOTE:  
TEMPORARY RAISED PAVEMENT MARKERS FOR  
NEW U-TURN LANE, SEE RSD 1250.01.

APPROVED: <i>[Signature]</i> DATE: 4/9/10	<b>PHASE I DETAILS US-74</b>	
SEAL		
	SCALE: NONE	
	DATE: 03/10	
	DWG. BY: AKP	
	DESIGN BY: AKP	
REVIEWED BY: DAP	REVISIONS	

08-APR-2010 13:58 D:\D\Projects\4900\TrafficControl\TCP\R-4900.TC.TCP\_06.dgn akp\at AT WZTC244748



**NOTE:**  
 POSITION THE TYPE III BARRICADE AT LOCATION B BEHIND THE PCB AND INCREASE THE HEIGHT OF THE BARRICADE SO THAT THE BARRICADE MOUNTED SIGN IS CLEARLY VISIBLE TO MOTORISTS ON NC 242

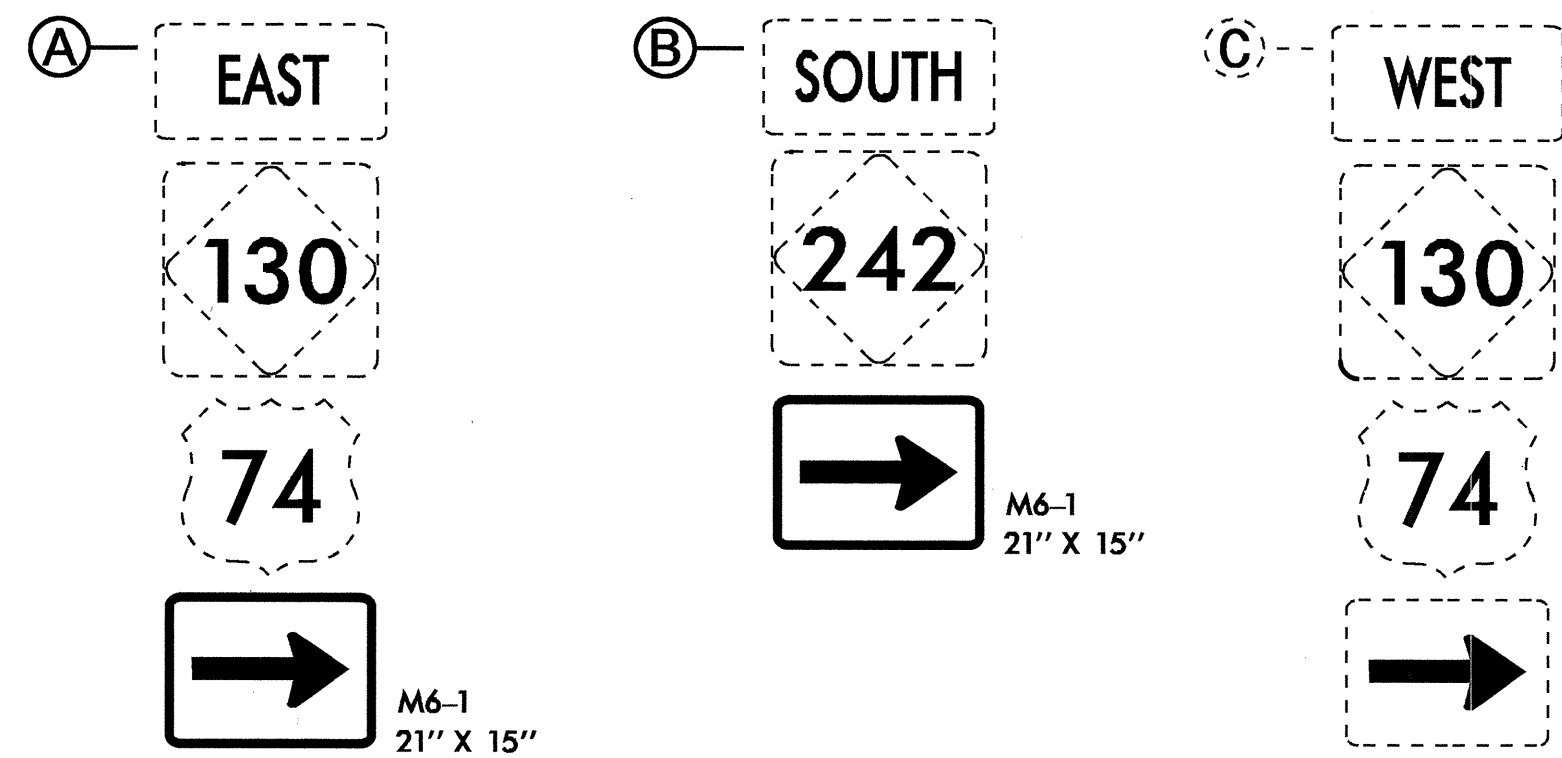
APPROVED: *[Signature]* DATE: 11/9/10  
 SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 022104  
 JOHN S. KITE JR.

PHASE I DETAILS		US-74	
SCALE:	NONE	REVISIONS	
DATE:	12/09		
DWG. BY:	AKP		
DESIGN BY:	AKP		
REVIEWED BY:	DAP		

08-APR-2010 13:53 I:\Projects\4900\TrafficControl\TCP\4900-TC-TCP-07.dgn  
 OKS:tel AT ME TC4478



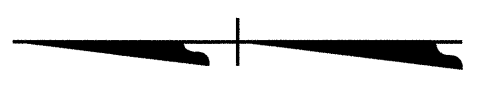




NOTE: USE EXISTING SIGNS AT THIS LOCATION AND MODIFY/REPLACE AS SHOWN ABOVE

NOTE: COMPLETE -SR- PRIOR TO PLACING PCB AND CLOSING ACCESS TO EXISTING DRIVE

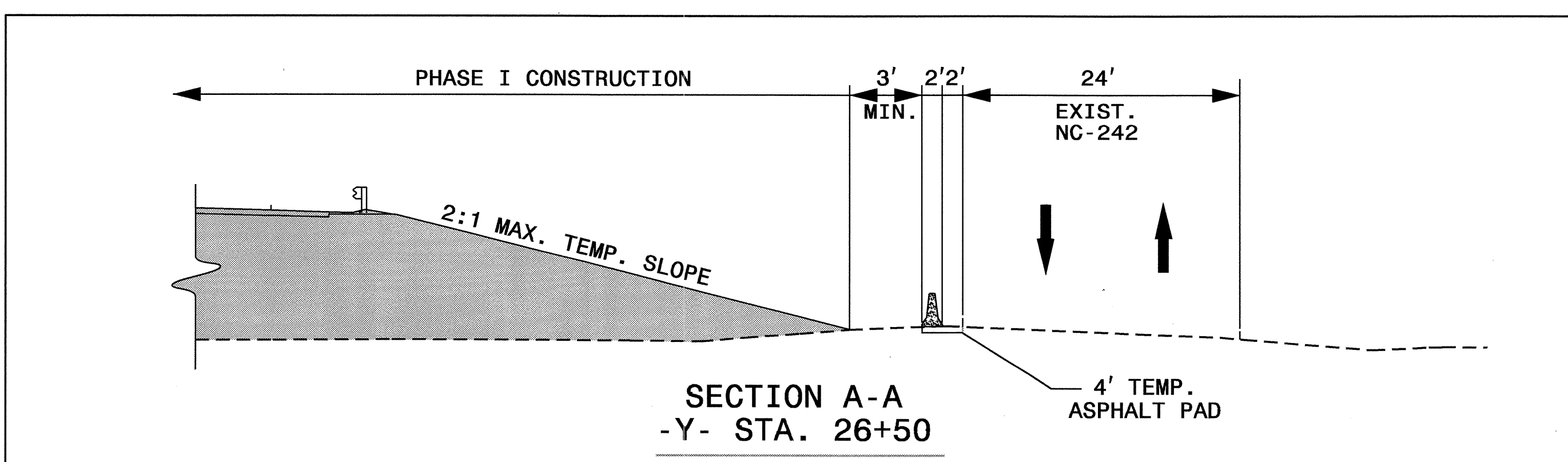
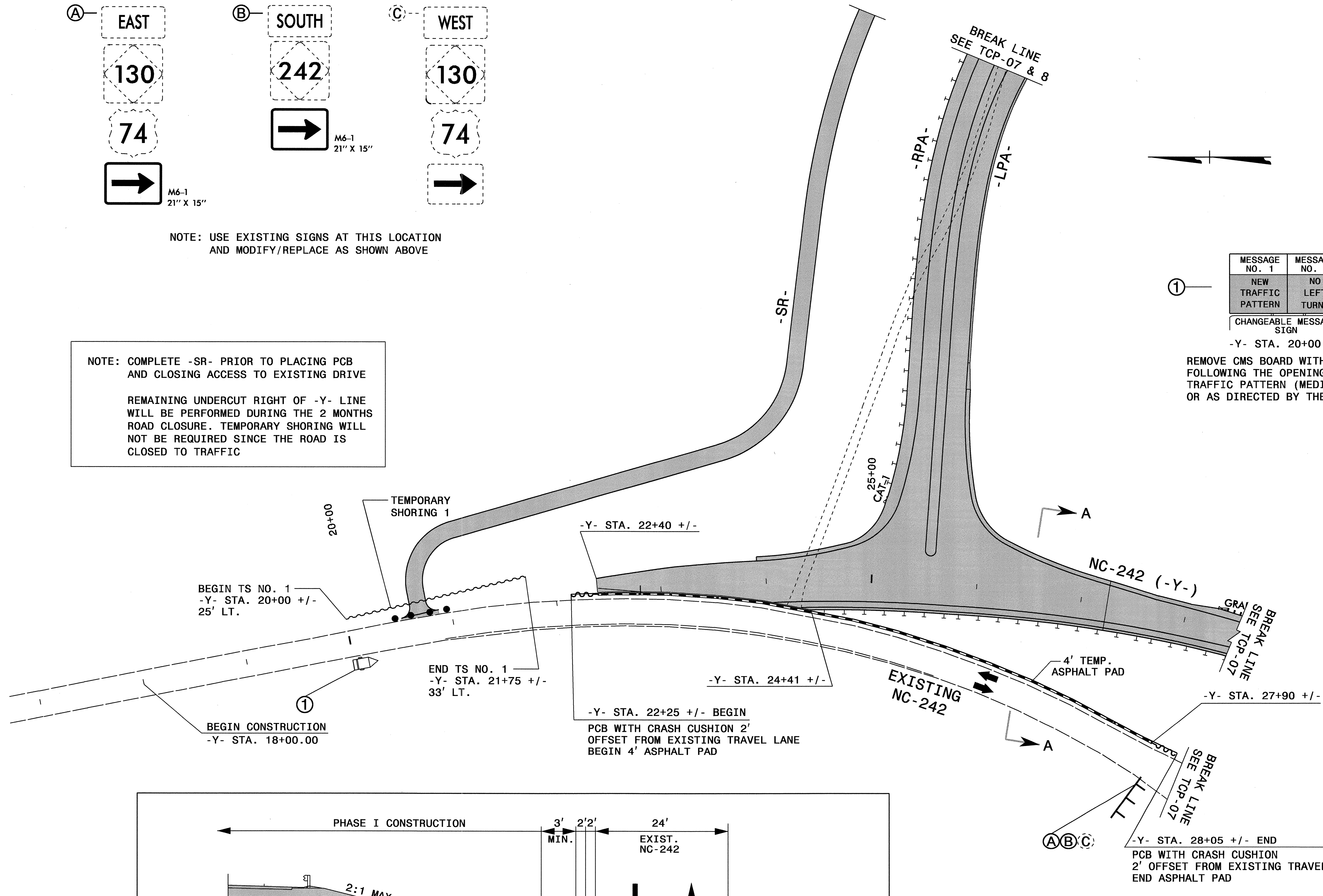
REMAINING UNDERCUT RIGHT OF -Y- LINE WILL BE PERFORMED DURING THE 2 MONTHS ROAD CLOSURE. TEMPORARY SHORING WILL NOT BE REQUIRED SINCE THE ROAD IS CLOSED TO TRAFFIC



MESSAGE NO. 1	MESSAGE NO. 2
NEW TRAFFIC PATTERN	NO LEFT TURNS
CHANGEABLE MESSAGE SIGN	

①

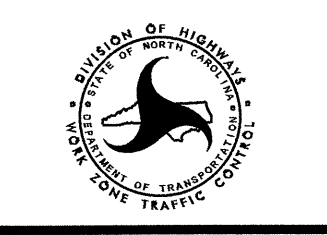
-Y- STA. 20+00 +/-  
REMOVE CMS BOARD WITHIN 21 DAYS FOLLOWING THE OPENING OF THE NEW TRAFFIC PATTERN (MEDIAN U-TURN) OR AS DIRECTED BY THE ENGINEER



APPROVED: *[Signature]* DATE: 4/9/10  
  
 SEAL

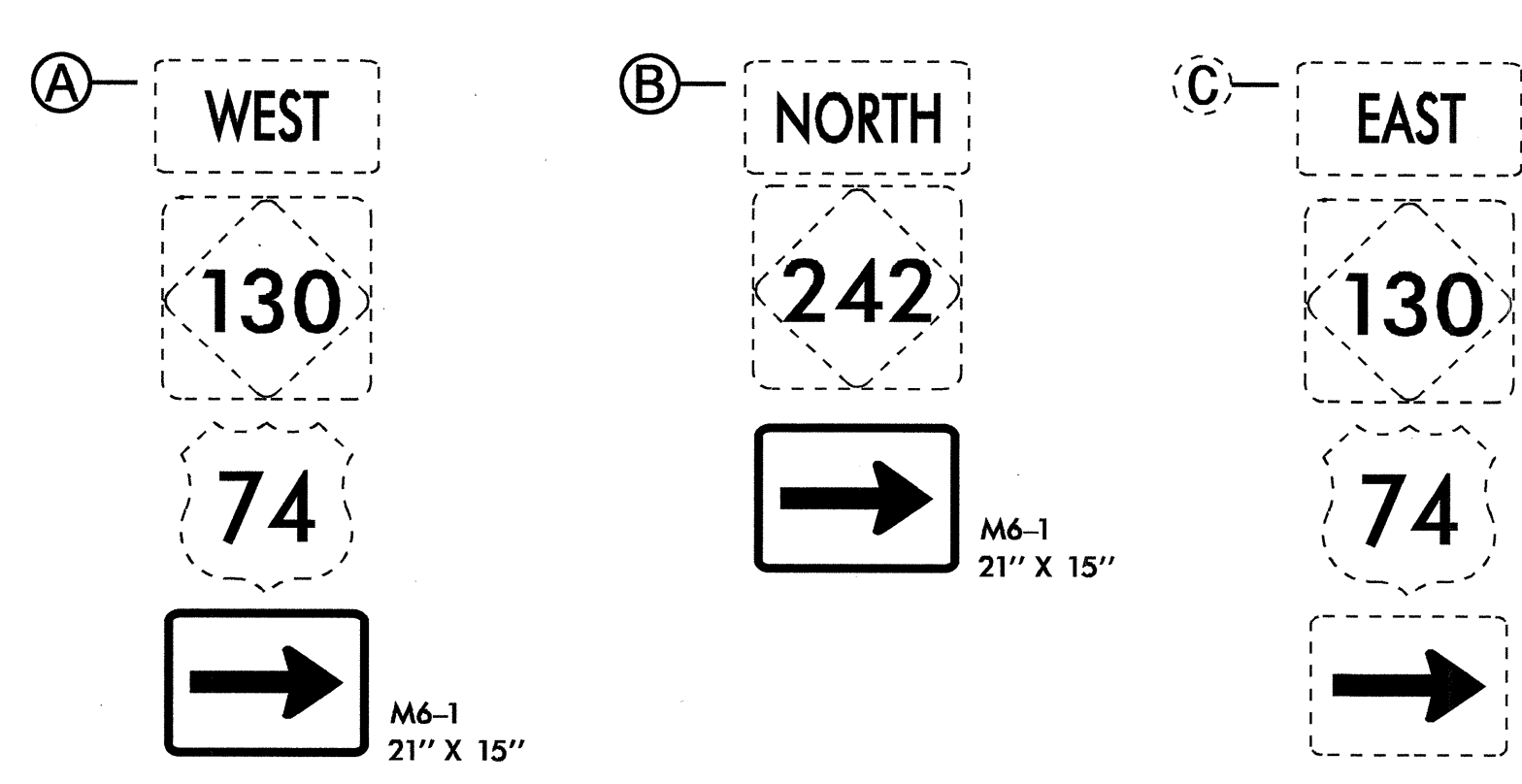
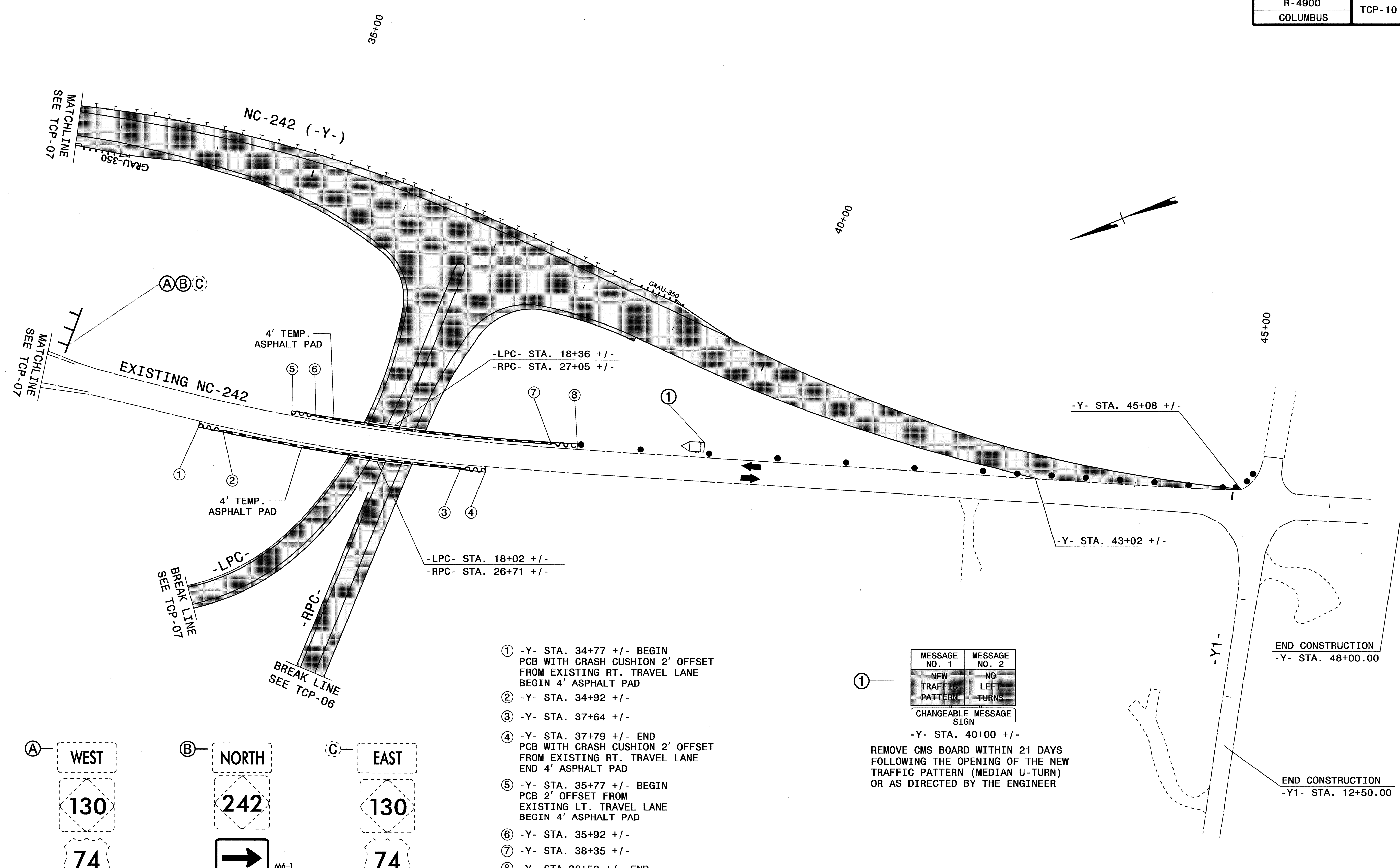
### PHASE I DETAILS NC-242

SCALE: NONE  
 DATE: 03/10  
 DWG. BY: AKP  
 DESIGN BY: AKP  
 REVIEWED BY: DAP



REVISIONS	

08-APR-2010 12:37 C:\DOT\DOT\Projects\Traffic\TrafficControl\TCP\R-4900\TC-TCP-09.dgn



- ① -Y- STA. 34+77 +/- BEGIN PCB WITH CRASH CUSHION 2' OFFSET FROM EXISTING RT. TRAVEL LANE BEGIN 4' ASPHALT PAD
- ② -Y- STA. 34+92 +/-
- ③ -Y- STA. 37+64 +/-
- ④ -Y- STA. 37+79 +/- END PCB WITH CRASH CUSHION 2' OFFSET FROM EXISTING RT. TRAVEL LANE END 4' ASPHALT PAD
- ⑤ -Y- STA. 35+77 +/- BEGIN PCB 2' OFFSET FROM EXISTING LT. TRAVEL LANE BEGIN 4' ASPHALT PAD
- ⑥ -Y- STA. 35+92 +/-
- ⑦ -Y- STA. 38+35 +/-
- ⑧ -Y- STA. 38+50 +/- END PCB WITH CRASH CUSHION 2' OFFSET FROM EXISTING LT. TRAVEL LANE END 4' ASPHALT PAD

①

MESSAGE NO. 1	MESSAGE NO. 2
NEW TRAFFIC PATTERN	NO LEFT TURNS

CHANGEABLE MESSAGE SIGN

-Y- STA. 40+00 +/-

REMOVE CMS BOARD WITHIN 21 DAYS FOLLOWING THE OPENING OF THE NEW TRAFFIC PATTERN (MEDIAN U-TURN) OR AS DIRECTED BY THE ENGINEER

NOTE: USE EXISTING SIGNS AT THIS LOCATION AND MODIFY/REPLACE AS SHOWN ABOVE

APPROVED: *[Signature]* DATE: 4/9/10

SEAL

PHASE I DETAILS  
NC-242

SCALE: NONE	REVISIONS
DATE: 03/10	
DWG. BY: AKP	
DESIGN BY: AKP	
REVIEWED BY: DAP	



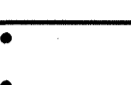
CADD FILE

08-APR-2010 15:44 C:\D:\DTP\Projects\4900\TrafficControl\TCP-10.dgn

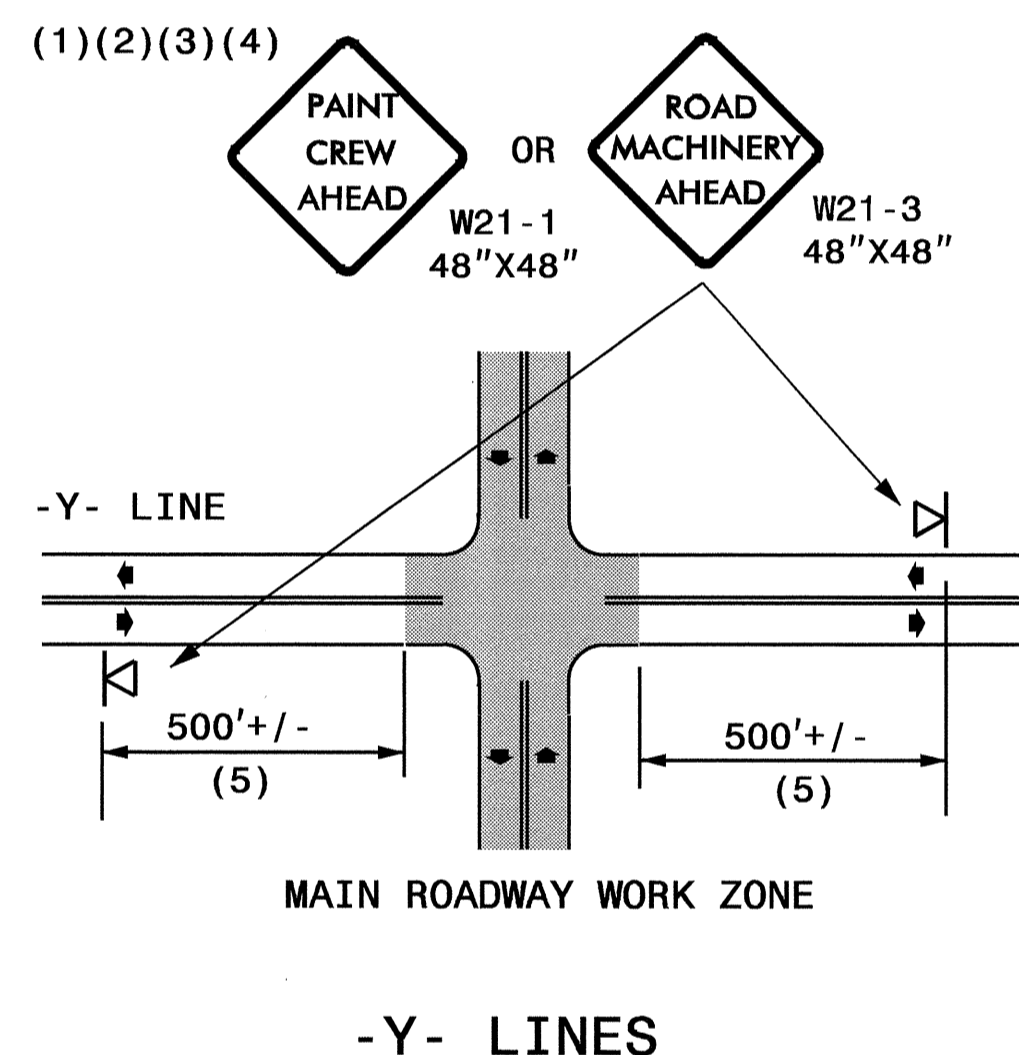
### GENERAL NOTES

- (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.

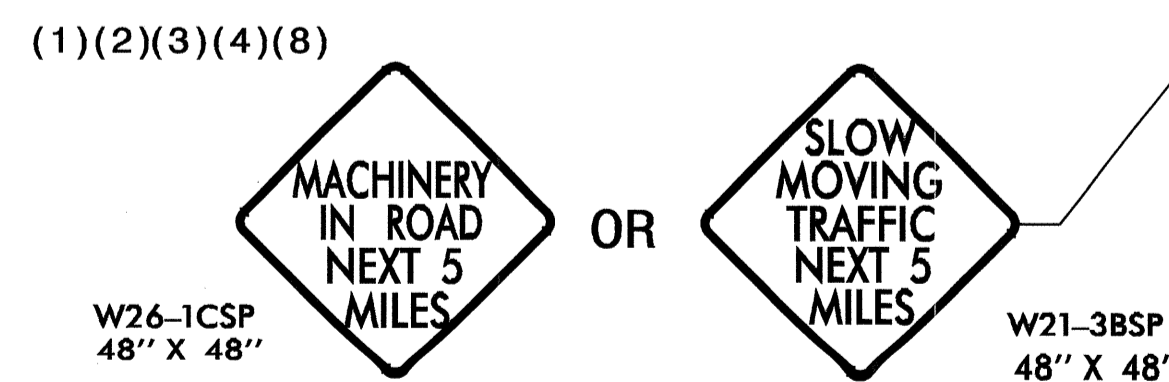
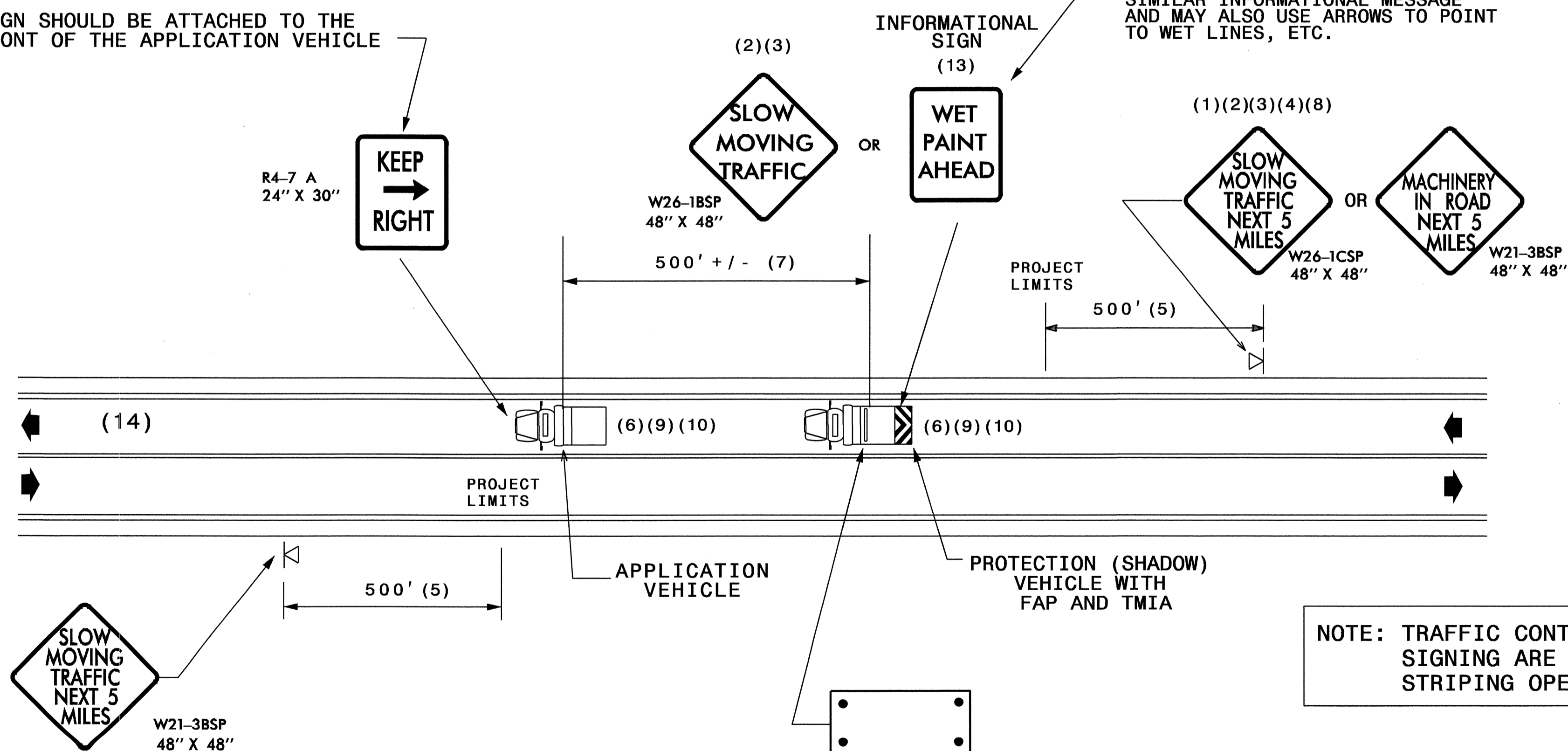
### LEGEND

- |   |   |
|---|---|
| ◀   | 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"   |

PROJ. REFERENCE NO. R-4900	SHEET NO. TCP-11
COLUMBUS	



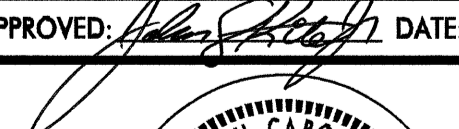
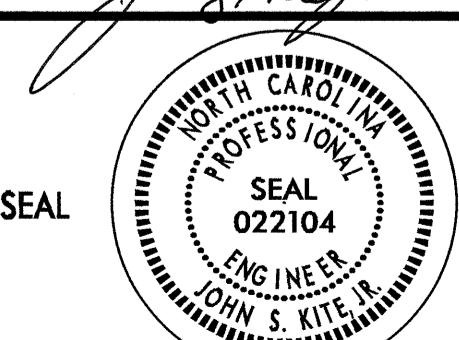

SIGN SHOULD BE ATTACHED TO THE FRONT OF THE APPLICATION VEHICLE



## MOVING OPERATION CARAVAN

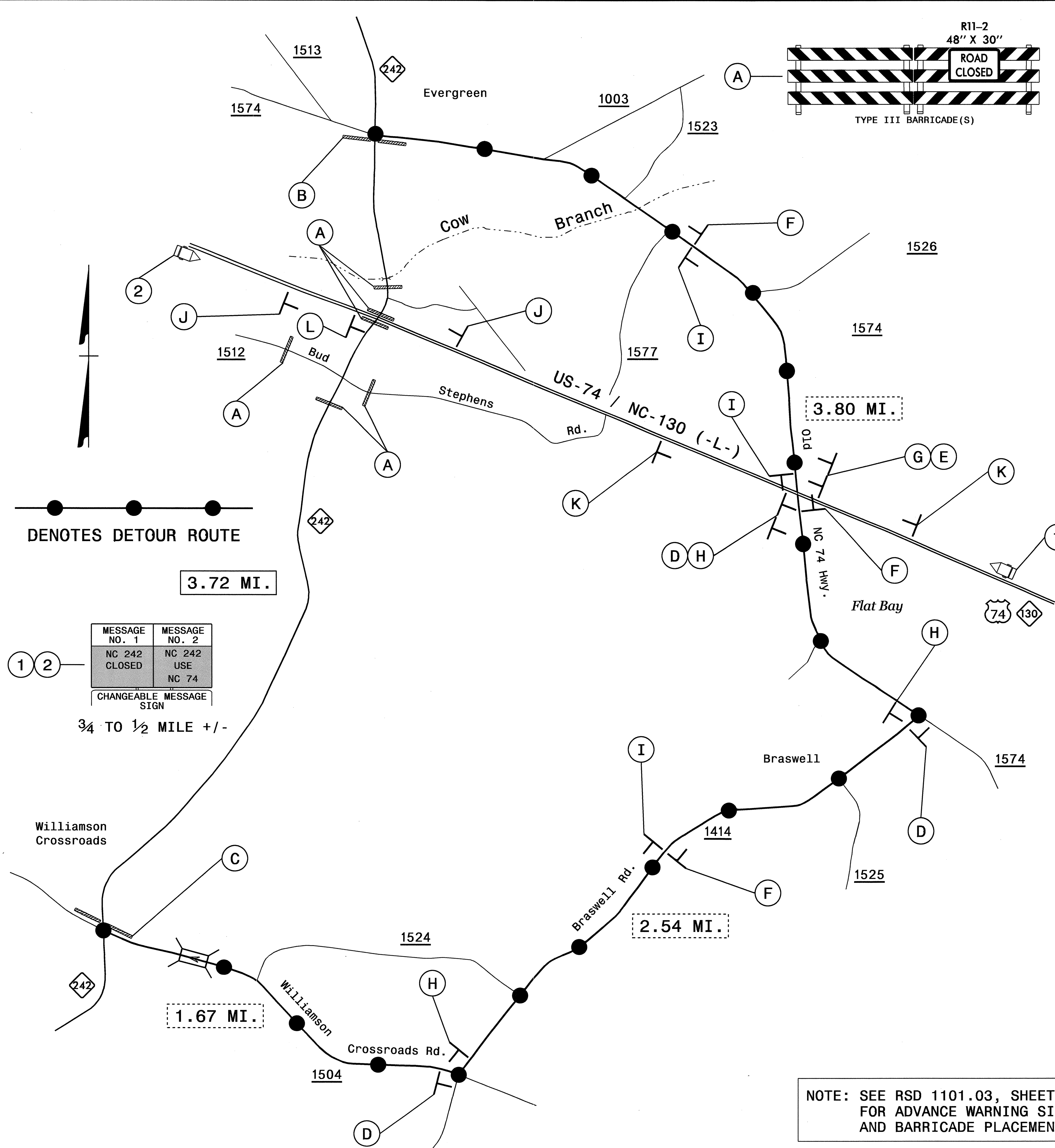
(OPERATIONS TRAVELING 3 MPH OR FASTER)  
PLACING PAVEMENT MARKING OR MARKERS  
ON TWO-LANE TWO-WAY ROADWAYS

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

APPROVED: 	DATE: 4/9/10	TRAFFIC CONTROL FOR RESTRIPE DETOUR ROUTE ROADS	
	SCALE: NONE		REVISIONS
	DATE: 03/10		
	DWG. BY: AKP		
	DESIGN BY: AKP		
	REVIEWED BY: DAP		

08-APR-2010 14:06 C:\DOT\Projects\TrafficControl\TrafficControl\TCP-11-Caravan.dgn



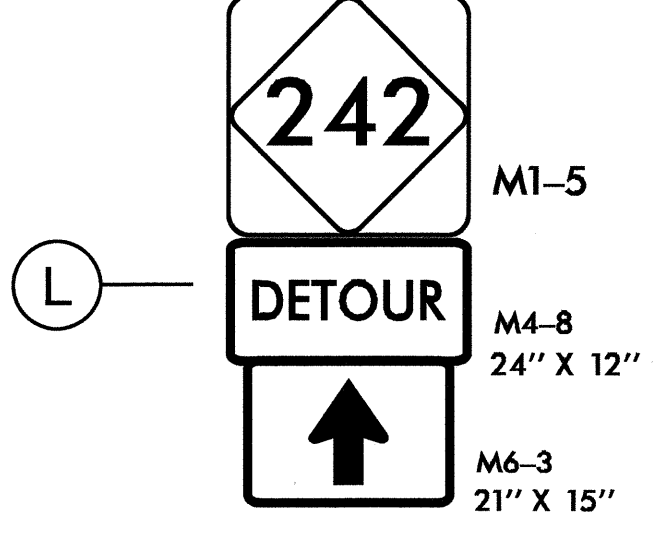
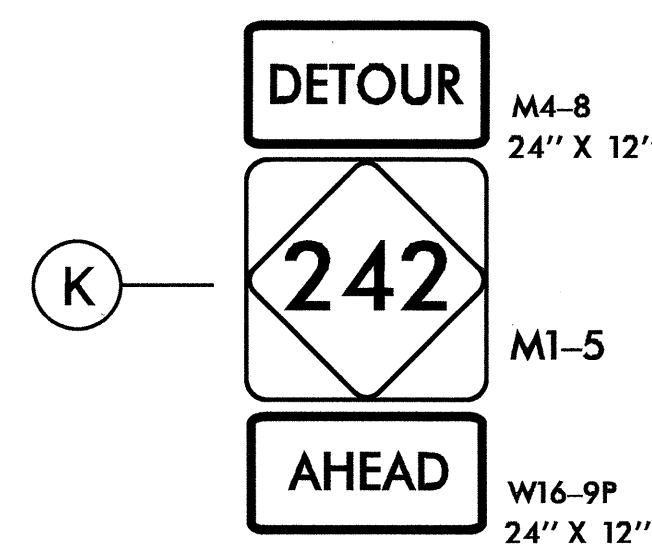
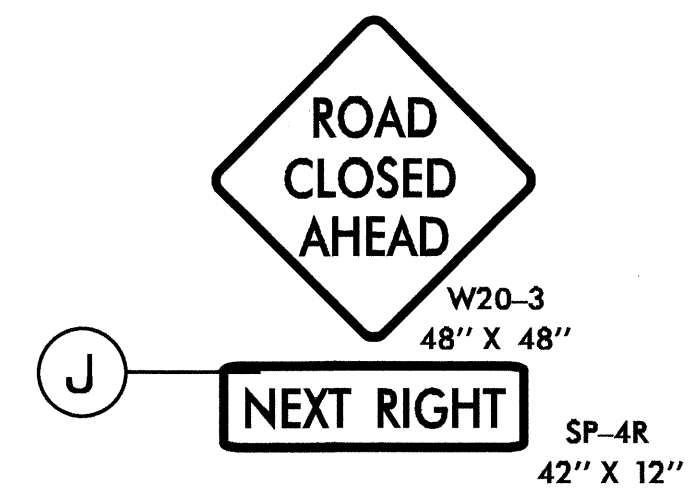
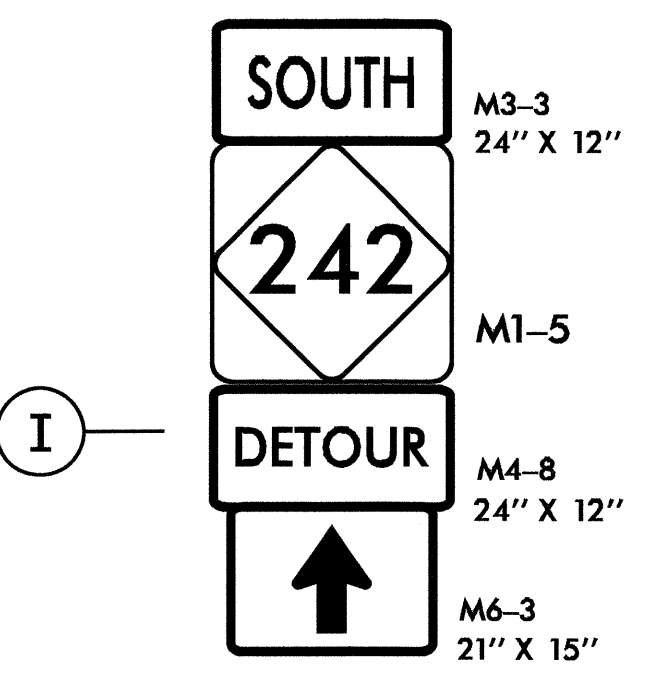
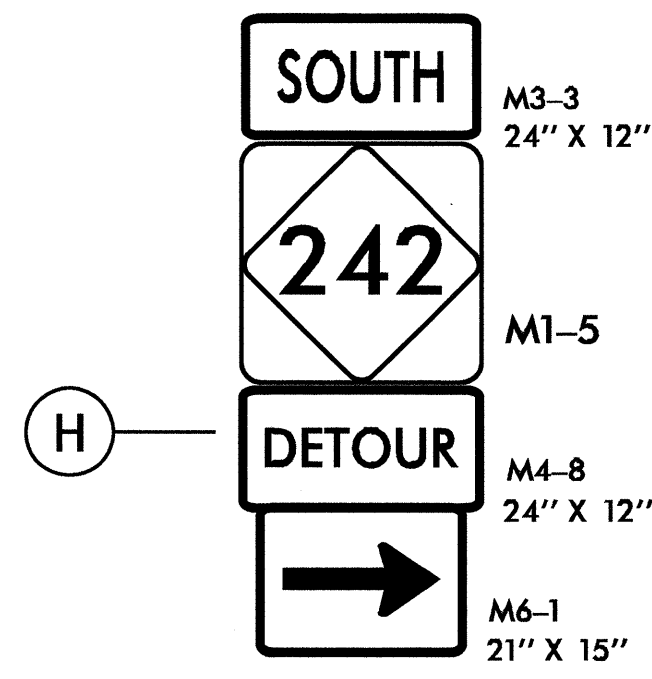
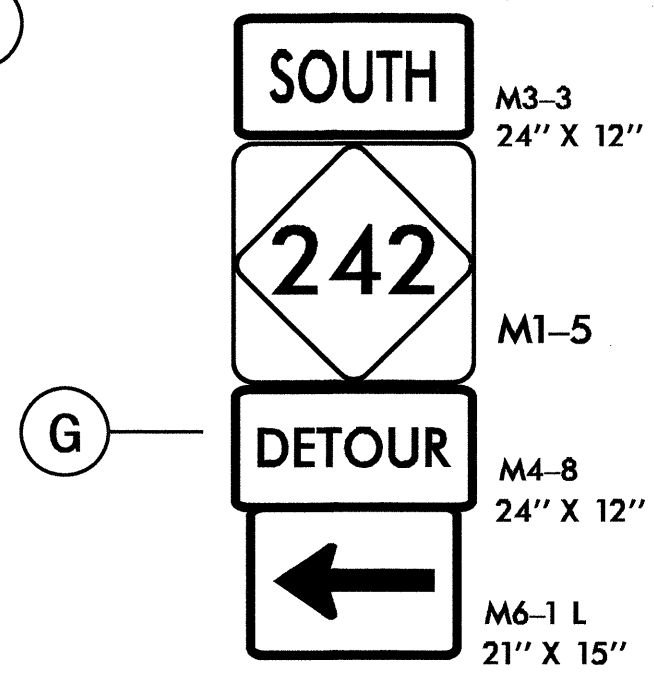
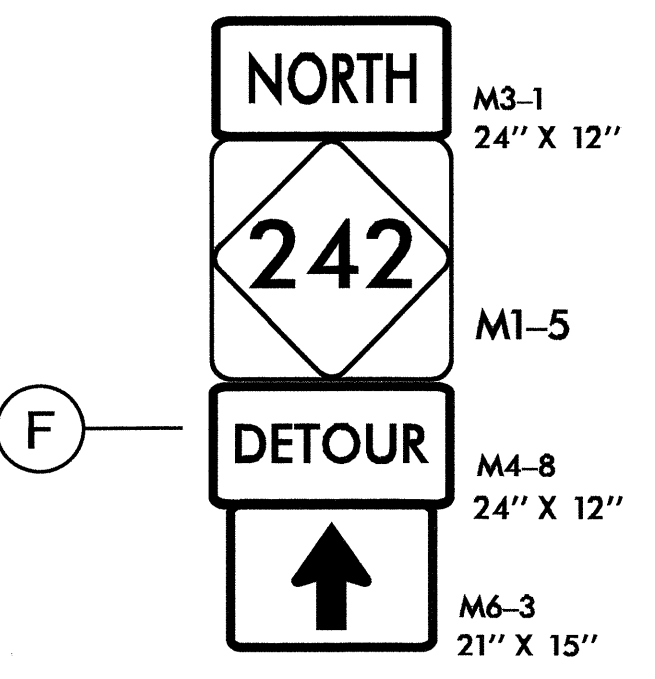
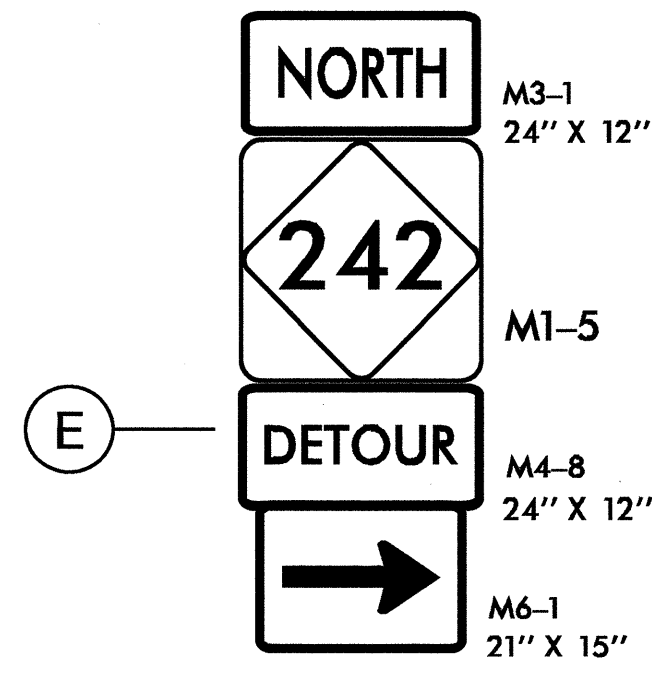
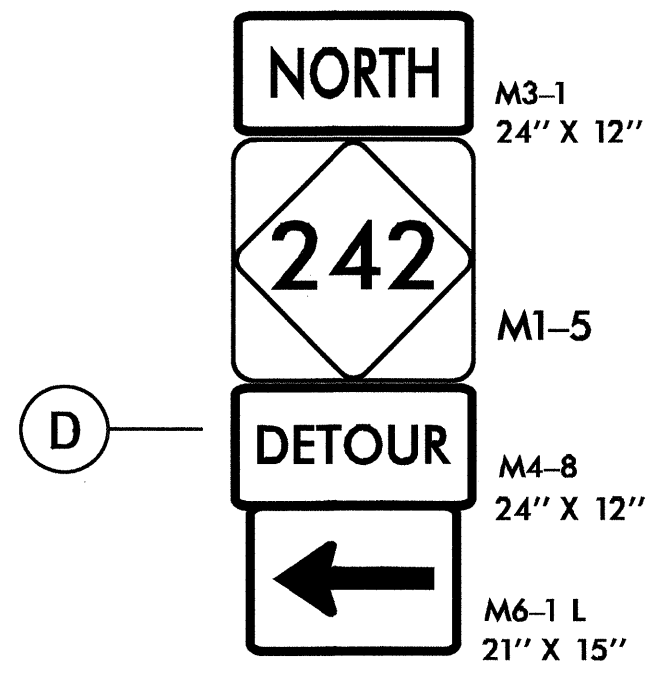
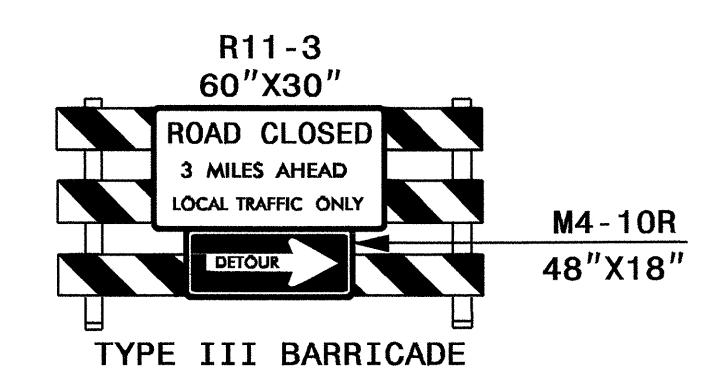
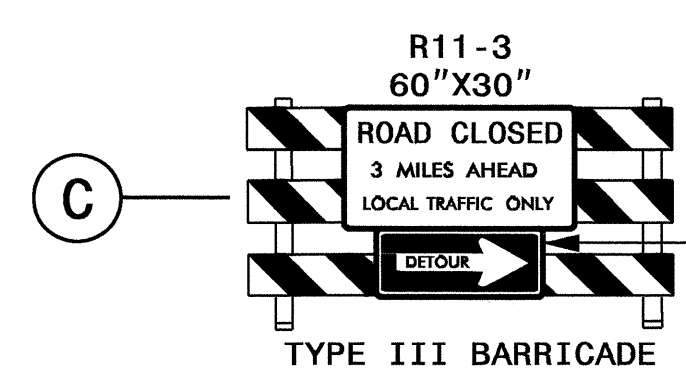
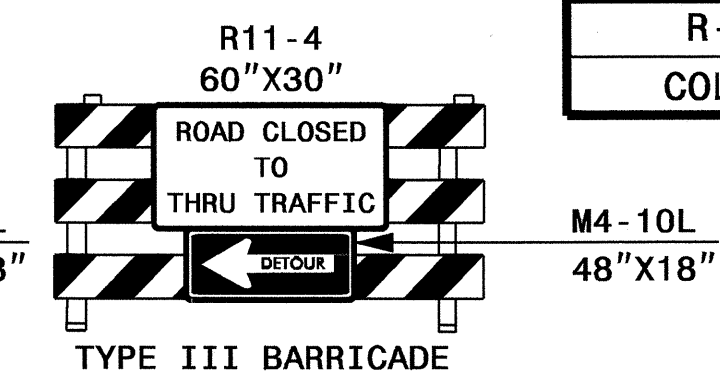
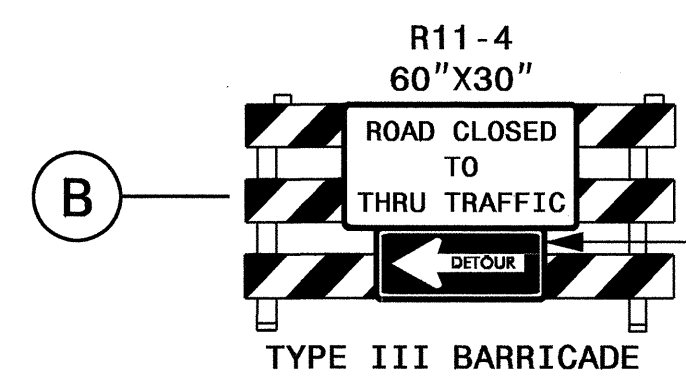
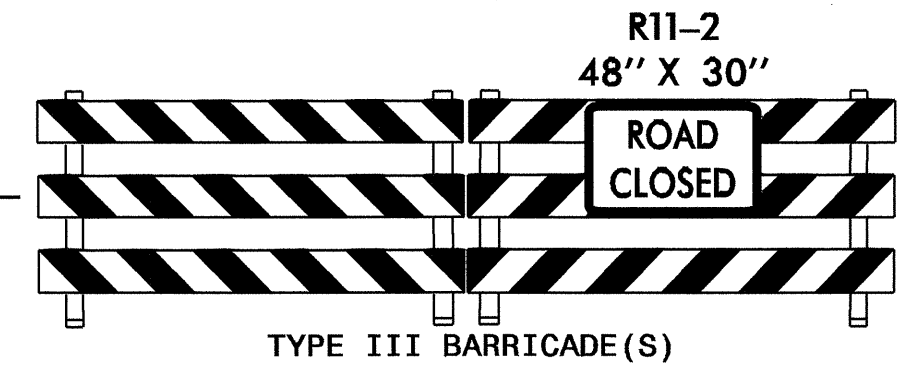


● ——— ● ——— ●  
DENOTES DETOUR ROUTE

3.72 MI.

MESSAGE NO. 1	MESSAGE NO. 2
NC 242 CLOSED	NC 242 USE NC 74

CHANGEABLE MESSAGE SIGN  
3/4 TO 1/2 MILE +/-



NOTE: SEE RSD 1101.03, SHEET 1 OF 9 FOR ADVANCE WARNING SIGNAGE AND BARRICADE PLACEMENT.

APPROVED: [Signature] DATE: 4/9/10

SEAL  
PROFESSIONAL ENGINEER  
SEAL 022104  
JOHN S. KITE, P.E.

DETOUR ROUTE AND SIGNING - NC 242

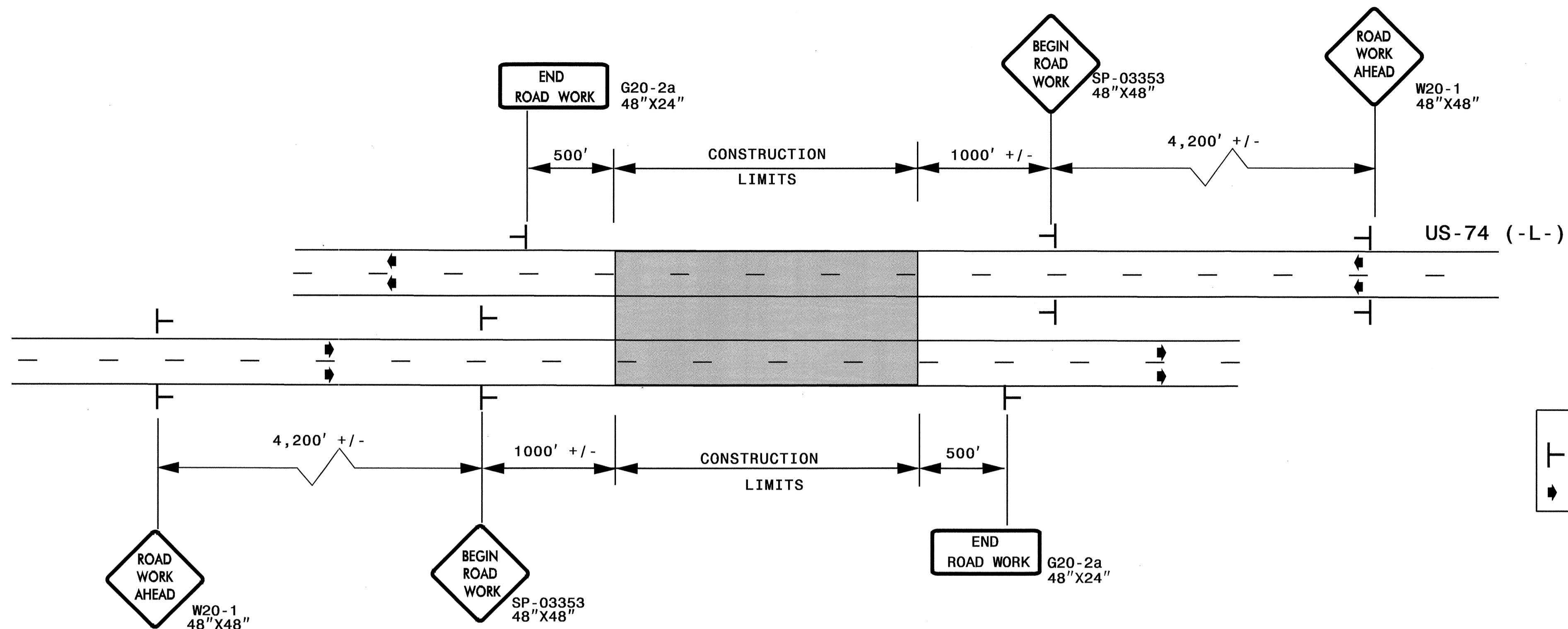
SCALE: NONE		REVISIONS
DATE: 12/09		
DWG. BY: AKP		
DESIGN BY: AKP		
REVIEWED BY: DAP		

08-APR-2010 14:02 C:\Users\jup\Documents\Projects\4900\TrafficControl\TCP\R-4900\_TCP-13\_DET.dgn

# ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

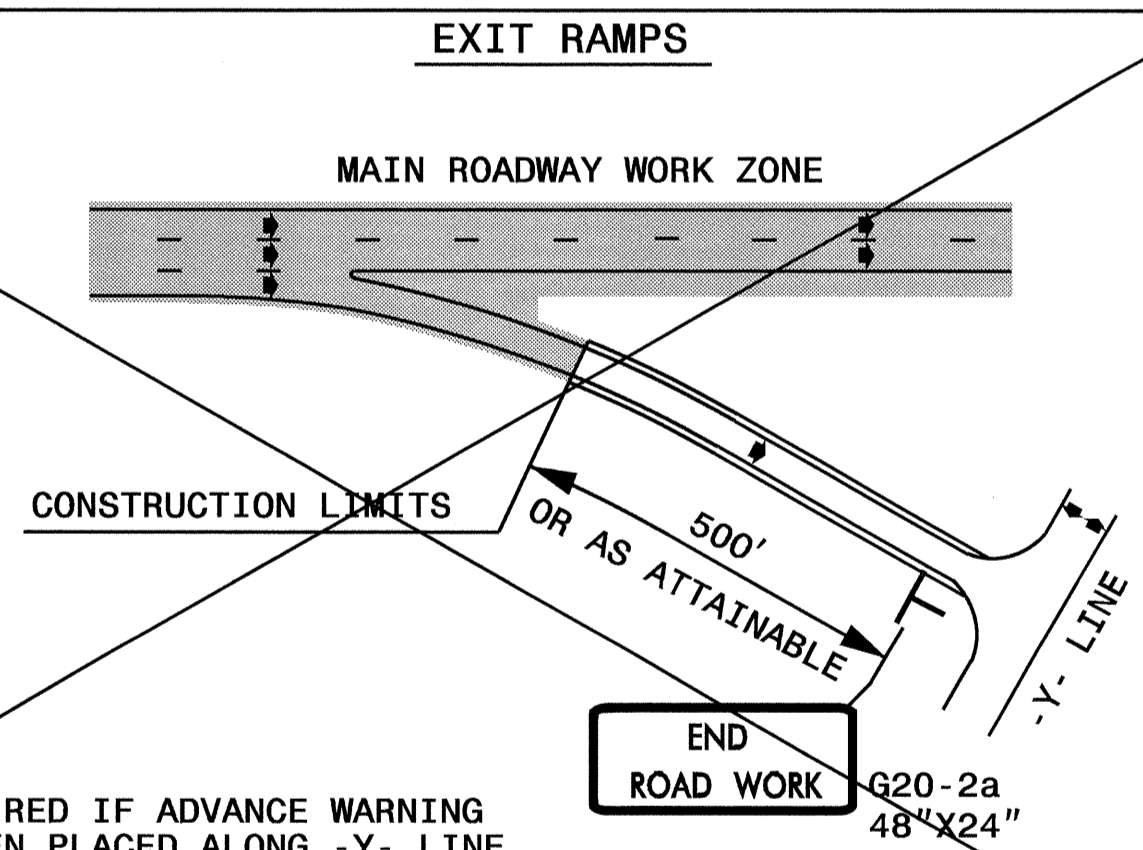
PROJ. REFERENCE NO.	SHEET NO.
R-4900	TCP-14
COLUMBUS	

## DETAIL A



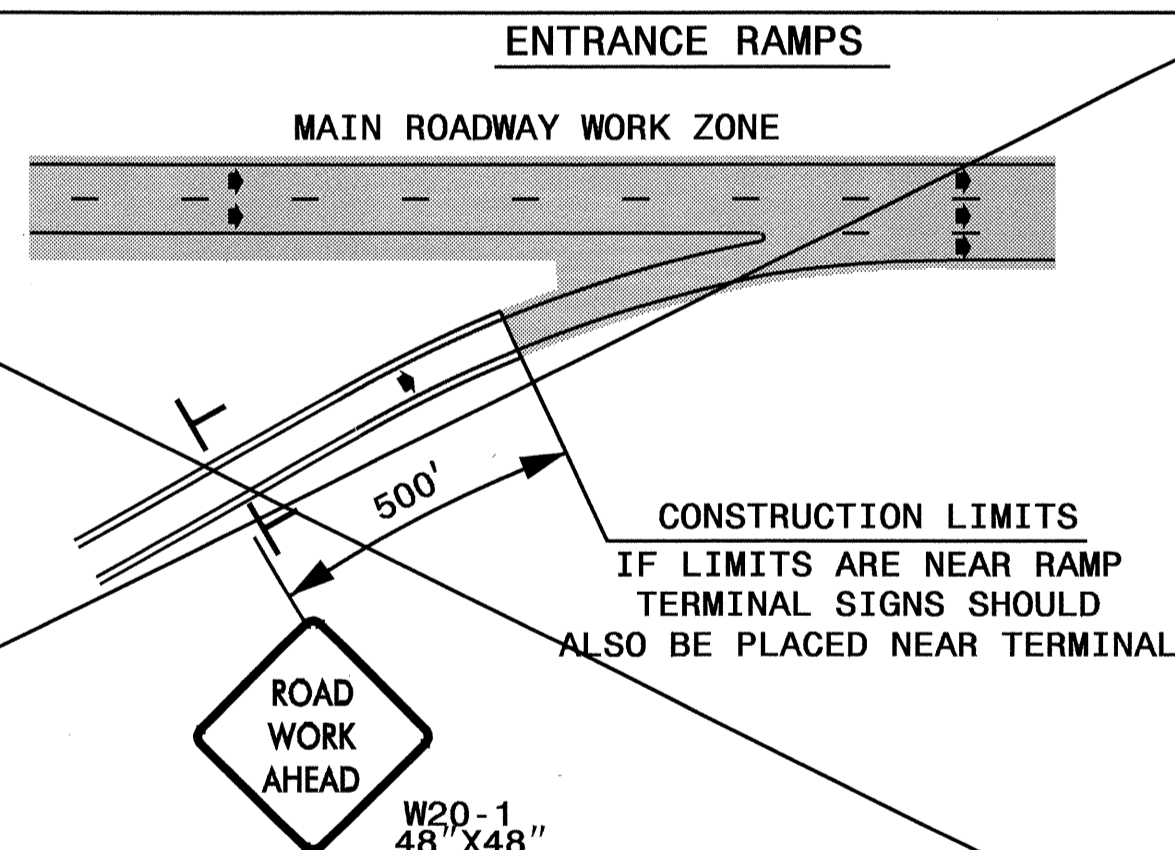
LEGEND	
	STATIONARY SIGN
▶	DIRECTION OF TRAFFIC FLOW

## DETAIL B



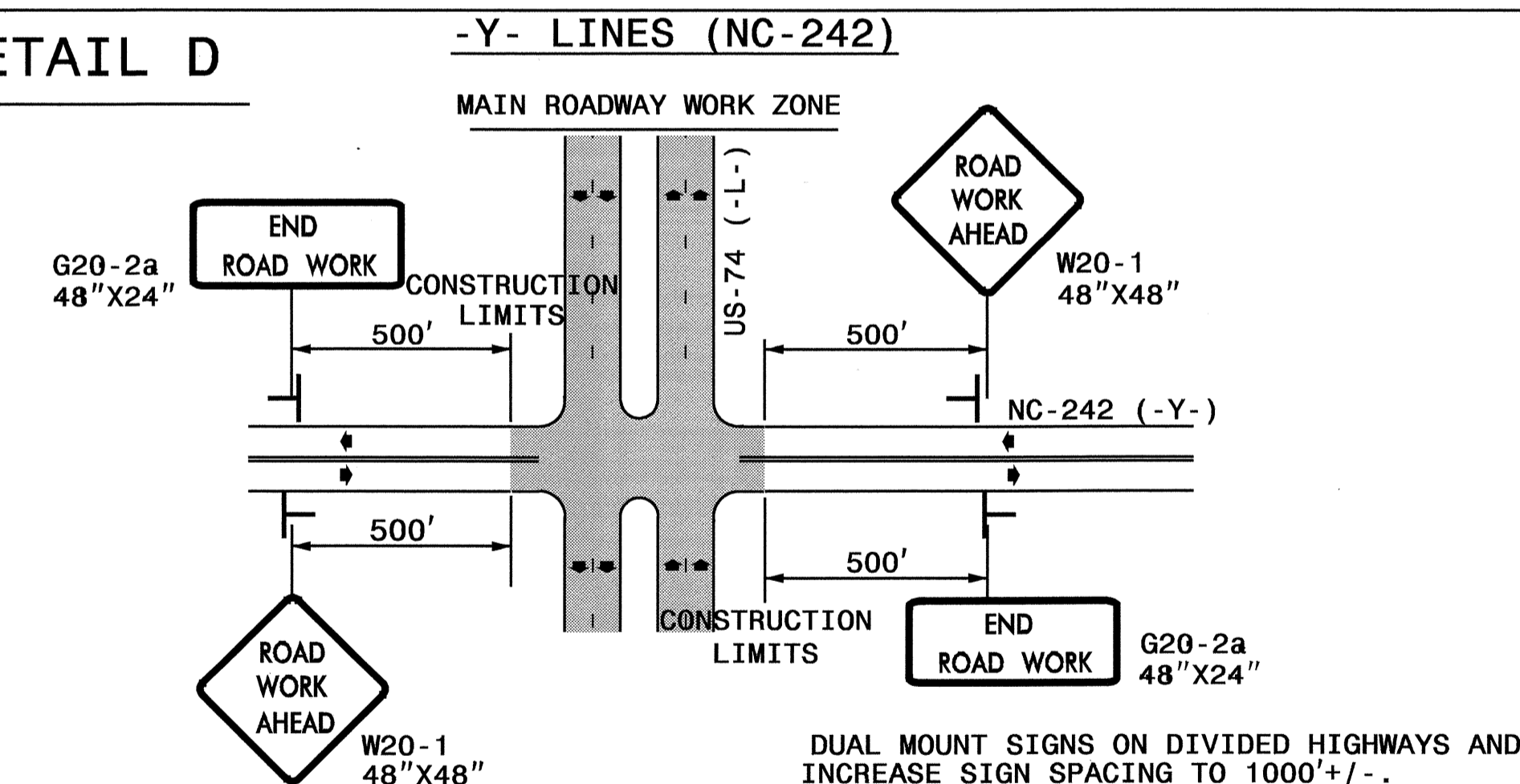
NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

## DETAIL C



CONSTRUCTION LIMITS IF LIMITS ARE NEAR RAMP TERMINAL SIGNS SHOULD ALSO BE PLACED NEAR TERMINAL

## DETAIL D



## 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.

APPROVED: *[Signature]* DATE: 12/9/09

ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER)	
SCALE: NONE	REVISIONS
DATE: 12/09	03/04
DWG. BY: AKP	
DESIGN BY: AKP	
REVIEWED BY: DAP	

08-APR-2010 14:01 C:\Users\Project\IP\Projects\R-4900\TrafficControl\TCP-14\owzs.dgn