

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-3926	TCP-1

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

B-3926

**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 2002 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
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL PLAN DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1135.01	CONES
1150.01	FLAGGERS
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
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

**INDEX OF SHEETS**

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TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, TEMPORARY PAVEMENT MARKING SCHEDULE, AND INDEX OF SHEETS
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TCP-6	REPLACEMENT DETAIL FOR ROADWAY STANDARD DRAWING NO. 1130.01
TCP-7	REPLACEMENT DETAIL FOR ROADWAY STANDARD DRAWING NO. 1145.01
TCP-8	DETAIL DRAWING FOR TEMPORARY SHOULDER CLOSURES
PM-1	FINAL PAVEMENT MARKING PLAN AND SCHEDULE

**TEMPORARY PAVEMENT MARKING SCHEDULE**

SYMBOL	DESCRIPTION	PAY ITEM/ QUANTITY BREAKDOWN	TOTAL QUANTITY
PA	WHITE EDGELINE 2X	PAINT (4") 2800 LF TOTAL	2800 LF
P4	WHITE STOP BAR 2X	PAINT (24") 40 LF TOTAL	40 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**
- TYPE I BARRICADE
  - TYPE II BARRICADE
  - TYPE III BARRICADE
  - CONE
  - 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

TIP PROJECT:

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FOR  
DIVISION OF HIGHWAYS

SEAL

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# GENERAL NOTES

# PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-3926	TCP-2

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

ADAPT THE TRAFFIC CONTROL PLANS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRE OVERLAPPING OF DEVICES. MODIFICATIONS MAY INCLUDE; MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES.

### LANE & 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 40 FT (12 m) OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5' (1.5m) 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, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.
- F) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15' (5m) OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) 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 A DROP-OFF AS FOLLOWS:
  - BACKFILL DROP-OFFS THAT EXCEED 2" (50 mm) ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
  - BACKFILL DROP-OFFS THAT EXCEED 3" (75mm) ON ROADWAYS WITH POSTED SPEED LIMITS OF LESS THAN 45 MPH.
  - BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- H) DO NOT EXCEED A DIFFERENCE OF 1.5 INCHES (40mm) IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT (150m) IN ADVANCE AND A MINIMUM OF ONCE EVERY MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

- I) NOTIFY THE ENGINEER 21 CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

- J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 100 FT (31m) FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

WHEN NO WORK IS BEING CONDUCTED FOR A PERIOD LONGER THAN ONE WEEK, REMOVE OR COVER ALL ADVANCE WORK ZONE WARNING SIGNS, AS DIRECTED BY THE ENGINEER, AT NO COST TO THE DEPARTMENT.

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

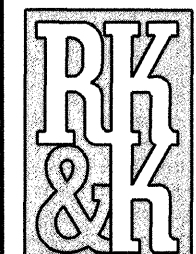
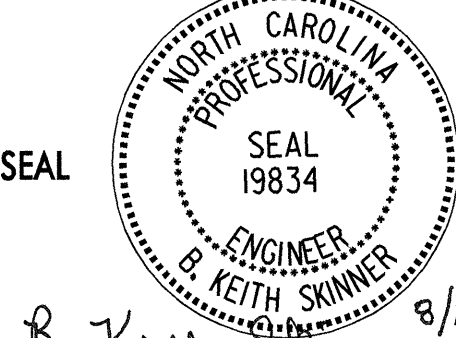
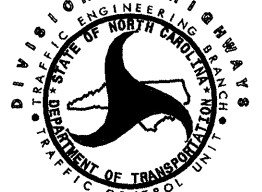
### TRAFFIC BARRIER

- O) INSTALL MOVABLE/PORTABLE CONCRETE BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE MOVABLE/PORTABLE CONCRETE 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.
- ONCE MOVABLE/PORTABLE CONCRETE BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE MOVABLE/PORTABLE CONCRETE BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET MOVABLE/PORTABLE CONCRETE BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.
- P) 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.
- OFFSET THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER A MINIMUM OF 40 FT (12 m) FROM ONCOMING TRAFFIC OR PROTECT AT ALL TIMES BY A TEMPORARY CRASH CUSHION.
- INSTALL MOVABLE/PORTABLE CONCRETE BARRIER WITH THE TRAFFIC FLOW, BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE MOVABLE/PORTABLE CONCRETE 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 CLOSED THE SECTION OF THE ROADWAY UNTIL THE BARRIER CAN BE PLACED OR AFTER BARRIER IS REMOVED.

### TRAFFIC CONTROL DEVICES

- Q) WHEN USING ROADWAY STANDARD DRAWING NO. 1101.02, DRUMS MAY BE USED IN LIEU OF CONES ON SR 1340.
- R) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT (3m) ON-CENTER IN RADII, AND 3 FT (1m) OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT.
- S) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY. STAGGER OR OVERLAP BARRICADES TO ALLOW FOR INGRESS OR EGRESS.

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 <p><b>PLANS PREPARED BY :</b>  <b>RUMMEL KLEPPER &amp; KAHL, LLP</b>  <i>consulting engineers</i>                  5800 FARINGDON PLACE SUITE 105                  RALEIGH, NORTH CAROLINA 27609-3960  <b>FOR</b>  <b>DIVISION OF HIGHWAYS</b></p>	SEAL  B. Keith Skinner 8/11/04	<h2>PROJECT NOTES</h2>							
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# PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-3926	TCP-2A

## GENERAL NOTES

### PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
1. ALL ROADS	EPOXY	N/A

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

ROAD NAME	MARKING	MARKER
1. ALL ROADS	PAINT	N/A

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

W) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN OBLITERATED BY THE END OF EACH DAY'S OPERATION.

X) PLACE AT LEAST TWO APPLICATIONS OF PAINT ON NEW ASPHALT WITH TEMPORARY TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE OVER THREE (3) MONTHS. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

Y) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 500 FT (150m) AND 1000 FT (300m) RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

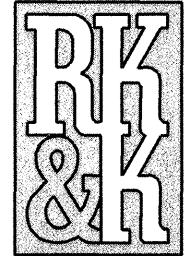
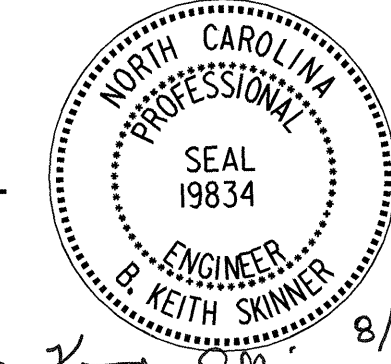
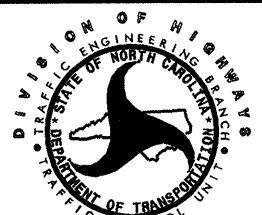
## LOCAL NOTES

### TIME RESTRICTIONS

1) DO NOT STOP TRAFFIC FOR MORE THAN 15 MINUTES AS FOLLOWS:

OPERATION	ROAD NAME
A. SHIFTING TRAFFIC AND ANY OPERATION THAT REQUIRES TRAFFIC TO BE STOPPED	SR 1340

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 <p style="font-size: 8px; margin: 0;"> <b>PLANS PREPARED BY :</b>  <b>RUMMEL KLEPPER &amp; KAHL, LLP</b>  <i>consulting engineers</i>                  5800 FARINGDON PLACE SUITE 105                  RALEIGH, NORTH CAROLINA 27609-3960  <b>FOR</b>  <b>DIVISION OF HIGHWAYS</b> </p>	SEAL  <p style="font-size: 8px; margin: 0;">                 B. Keith Skinner                  8/11/04             </p>	<h2 style="margin: 0;">PROJECT NOTES CONTINUED</h2> <table style="width: 100%; font-size: 8px; border-collapse: collapse;"> <tr> <td style="width: 30%;">SCALE: NONE</td> <td style="width: 70%;"></td> </tr> <tr> <td>DATE: 07 /04</td> <td></td> </tr> <tr> <td>DWG. BY: MAC</td> <td></td> </tr> <tr> <td>DESIGN BY: MAC</td> <td></td> </tr> <tr> <td>REVIEWED BY: BKS</td> <td></td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">  <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <th style="text-align: left;">REVISIONS</th> </tr> <tr> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> </tr> </table> </div> <div style="text-align: right; font-size: 8px; margin-top: 5px;">                 CADD FILE: TCP02A.DGN             </div>	SCALE: NONE		DATE: 07 /04		DWG. BY: MAC		DESIGN BY: MAC		REVIEWED BY: BKS		REVISIONS		
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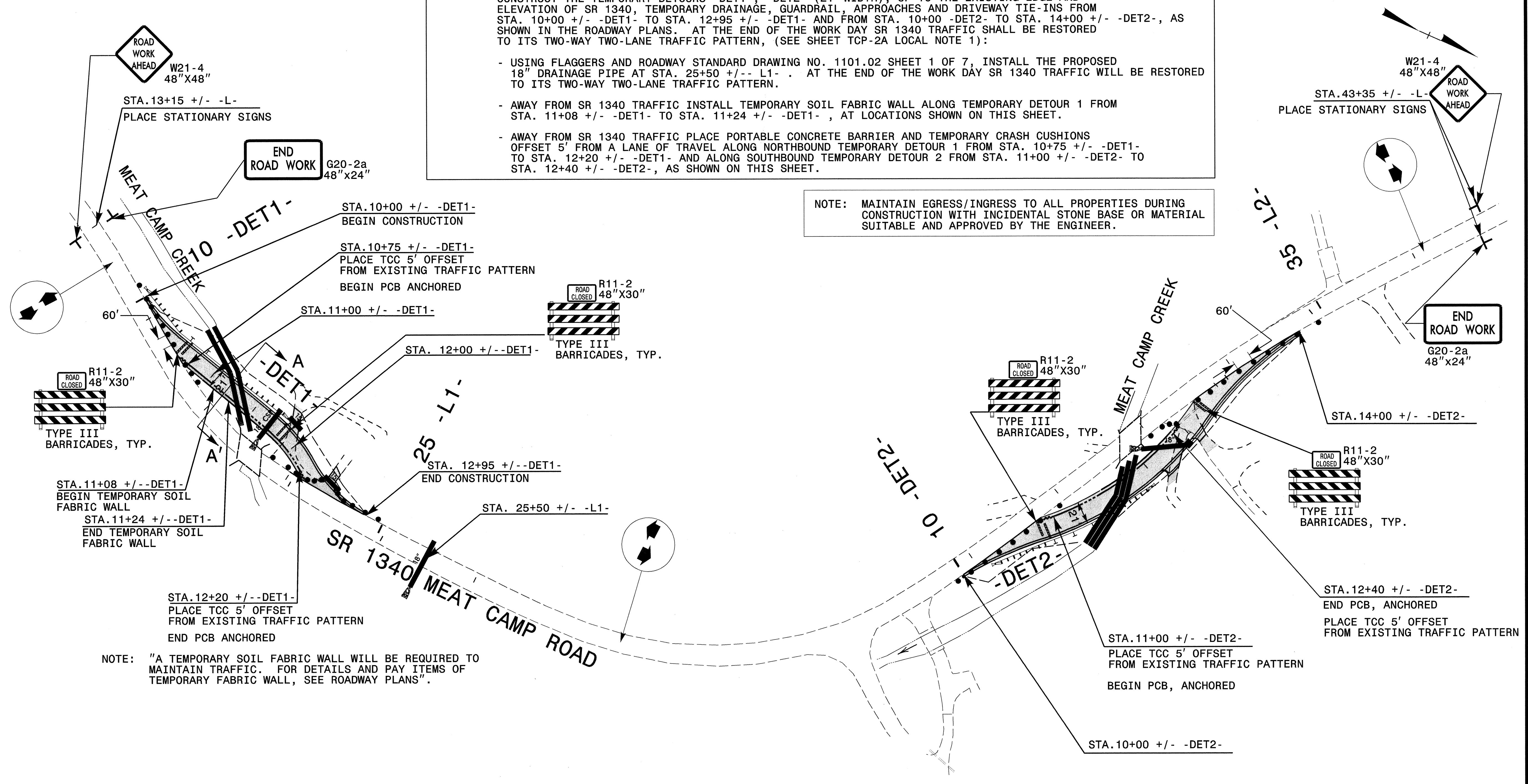
### PHASE I

PLACE WORK ZONE ADVANCE WARNING SIGNS ON ALL APPROACHES TO THE PROJECT, (SEE THIS SHEET).

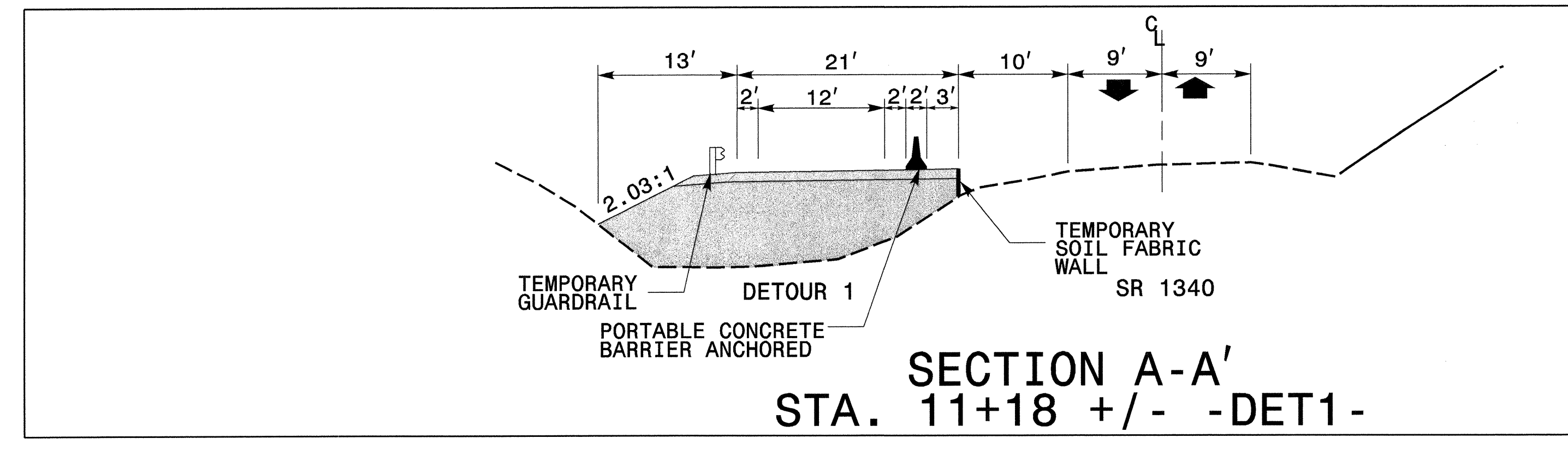
STEP 1: AWAY FROM TRAFFIC AND USING ROADWAY STANDARD DRAWING NOS. 1101.02 SHEET 1 OF 7 AND 1101.05, CONSTRUCT THE TEMPORARY DETOURS -DET1-, -DET2- (21' WIDTH), UP TO THE EXISTING EDGE AND ELEVATION OF SR 1340, TEMPORARY DRAINAGE, GUARDRAIL, APPROACHES AND DRIVEWAY TIE-INS FROM STA. 10+00 +/- -DET1- TO STA. 12+95 +/- -DET1- AND FROM STA. 10+00 -DET2- TO STA. 14+00 +/- -DET2-, AS SHOWN IN THE ROADWAY PLANS. AT THE END OF THE WORK DAY SR 1340 TRAFFIC SHALL BE RESTORED TO ITS TWO-WAY TWO-LANE TRAFFIC PATTERN, (SEE SHEET TCP-2A LOCAL NOTE 1):

- USING FLAGGERS AND ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 7, INSTALL THE PROPOSED 18" DRAINAGE PIPE AT STA. 25+50 +/- -L1-. AT THE END OF THE WORK DAY SR 1340 TRAFFIC WILL BE RESTORED TO ITS TWO-WAY TWO-LANE TRAFFIC PATTERN.
- AWAY FROM SR 1340 TRAFFIC INSTALL TEMPORARY SOIL FABRIC WALL ALONG TEMPORARY DETOUR 1 FROM STA. 11+08 +/- -DET1- TO STA. 11+24 +/- -DET1-, AT LOCATIONS SHOWN ON THIS SHEET.
- AWAY FROM SR 1340 TRAFFIC PLACE PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS OFFSET 5' FROM A LANE OF TRAVEL ALONG NORTHBOUND TEMPORARY DETOUR 1 FROM STA. 10+75 +/- -DET1- TO STA. 12+20 +/- -DET1- AND ALONG SOUTHBOUND TEMPORARY DETOUR 2 FROM STA. 11+00 +/- -DET2- TO STA. 12+40 +/- -DET2-, AS SHOWN ON THIS SHEET.

NOTE: MAINTAIN EGRESS/INGRESS TO ALL PROPERTIES DURING CONSTRUCTION WITH INCIDENTAL STONE BASE OR MATERIAL SUITABLE AND APPROVED BY THE ENGINEER.



NOTE: "A TEMPORARY SOIL FABRIC WALL WILL BE REQUIRED TO MAINTAIN TRAFFIC. FOR DETAILS AND PAY ITEMS OF TEMPORARY FABRIC WALL, SEE ROADWAY PLANS".



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**PHASE I**

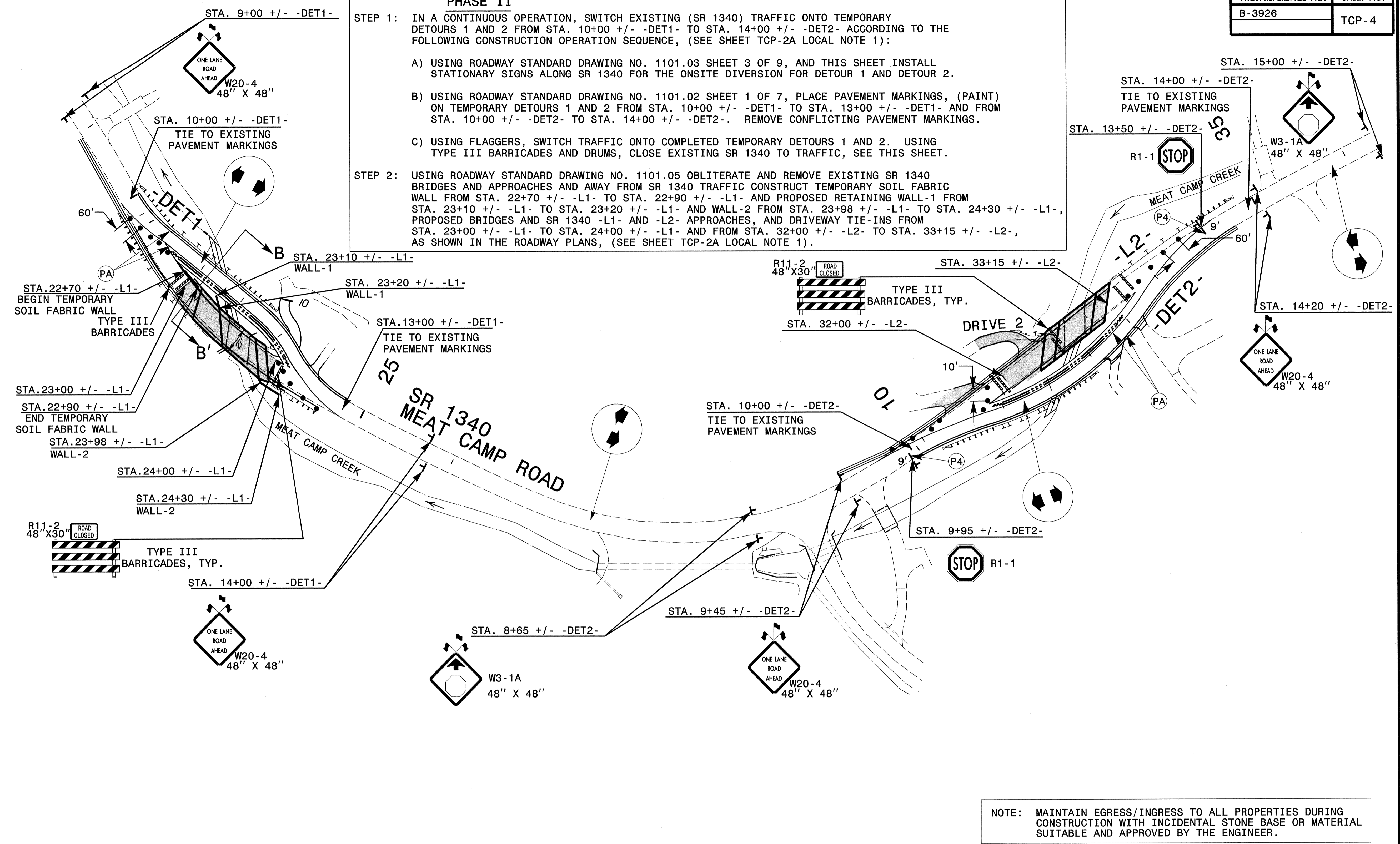
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**PHASE II**

STEP 1: IN A CONTINUOUS OPERATION, SWITCH EXISTING (SR 1340) TRAFFIC ONTO TEMPORARY DETOURS 1 AND 2 FROM STA. 10+00 +/- -DET1- TO STA. 14+00 +/- -DET2- ACCORDING TO THE FOLLOWING CONSTRUCTION OPERATION SEQUENCE, (SEE SHEET TCP-2A LOCAL NOTE 1):

- USING ROADWAY STANDARD DRAWING NO. 1101.03 SHEET 3 OF 9, AND THIS SHEET INSTALL STATIONARY SIGNS ALONG SR 1340 FOR THE ONSITE DIVERSION FOR DETOUR 1 AND DETOUR 2.
- USING ROADWAY STANDARD DRAWING NO. 1101.02 SHEET 1 OF 7, PLACE PAVEMENT MARKINGS, (PAINT) ON TEMPORARY DETOURS 1 AND 2 FROM STA. 10+00 +/- -DET1- TO STA. 13+00 +/- -DET1- AND FROM STA. 10+00 +/- -DET2- TO STA. 14+00 +/- -DET2-. REMOVE CONFLICTING PAVEMENT MARKINGS.
- USING FLAGGERS, SWITCH TRAFFIC ONTO COMPLETED TEMPORARY DETOURS 1 AND 2. USING TYPE III BARRICADES AND DRUMS, CLOSE EXISTING SR 1340 TO TRAFFIC, SEE THIS SHEET.

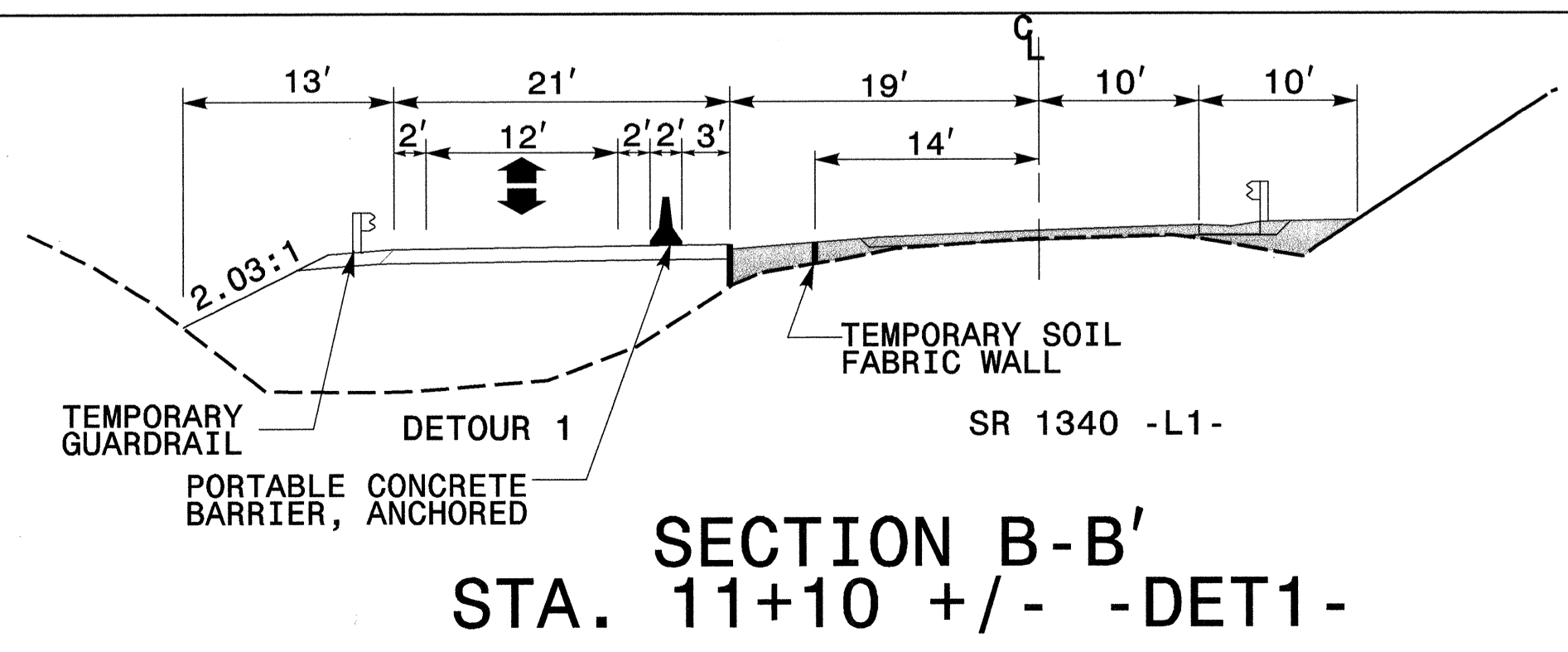
STEP 2: USING ROADWAY STANDARD DRAWING NO. 1101.05 OBLITERATE AND REMOVE EXISTING SR 1340 BRIDGES AND APPROACHES AND AWAY FROM SR 1340 TRAFFIC CONSTRUCT TEMPORARY SOIL FABRIC WALL FROM STA. 22+70 +/- -L1- TO STA. 22+90 +/- -L1- AND PROPOSED RETAINING WALL-1 FROM STA. 23+10 +/- -L1- TO STA. 23+20 +/- -L1- AND WALL-2 FROM STA. 23+98 +/- -L1- TO STA. 24+30 +/- -L1-, PROPOSED BRIDGES AND SR 1340 -L1- AND -L2- APPROACHES, AND DRIVEWAY TIE-INS FROM STA. 23+00 +/- -L1- TO STA. 24+00 +/- -L1- AND FROM STA. 32+00 +/- -L2- TO STA. 33+15 +/- -L2-, AS SHOWN IN THE ROADWAY PLANS, (SEE SHEET TCP-2A LOCAL NOTE 1).



NOTE: MAINTAIN EGRESS/INGRESS TO ALL PROPERTIES DURING CONSTRUCTION WITH INCIDENTAL STONE BASE OR MATERIAL SUITABLE AND APPROVED BY THE ENGINEER.

REFER TO SHEET TCP-1 FOR TEMPORARY PAVEMENT MARKING SCHEDULE.

REFER TO APPROPRIATE ROADWAY STANDARD DRAWINGS LISTED ON SHEET TCP-1 FOR PLACEMENT OF PAVEMENT MARKING LINES.



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**FOR**  
**DIVISION OF HIGHWAYS**

SEAL

B. Keith Skinner 8/11/04

<b>PHASE II</b>		REVISIONS
SCALE: NONE		
DATE: 07-04		
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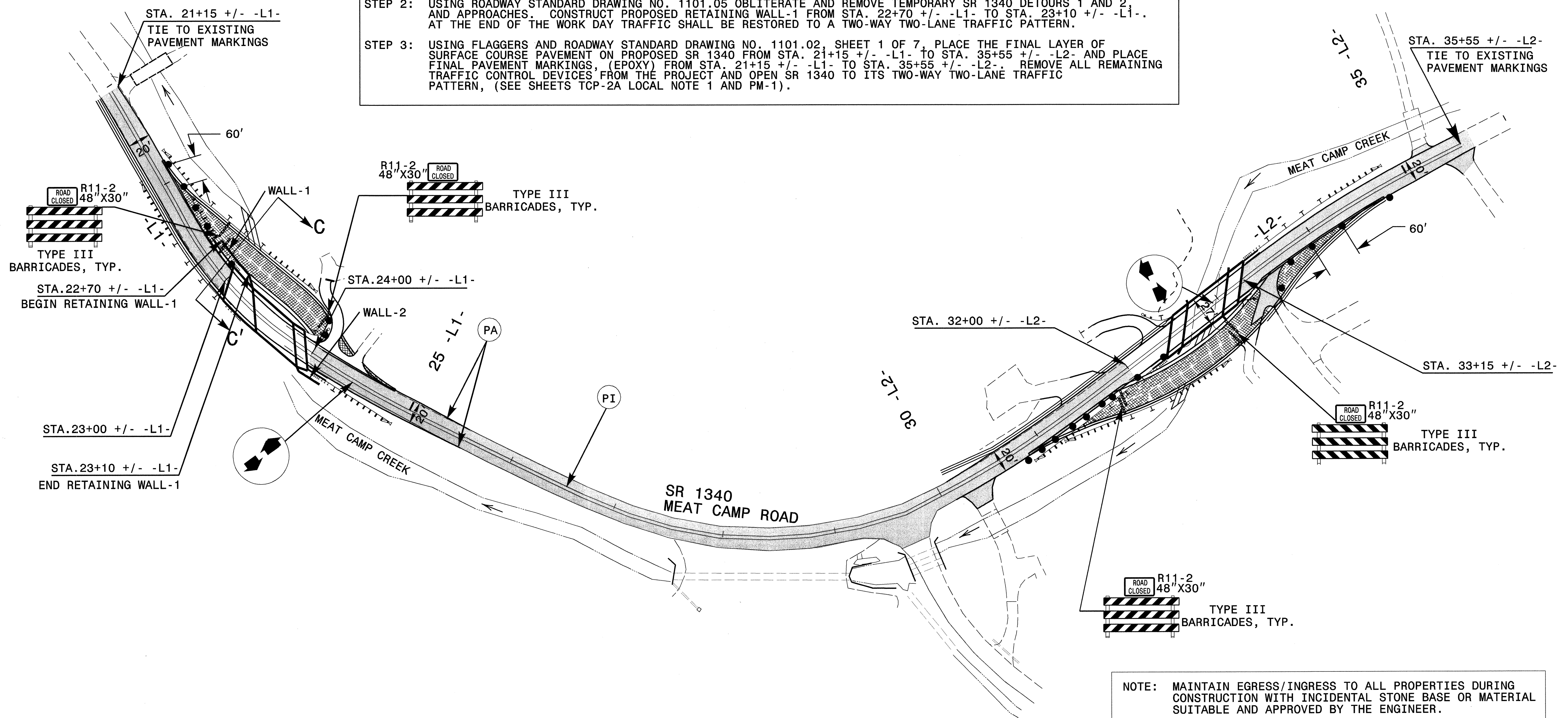
**PHASE III**

STEP 1: IN A CONTINUOUS OPERATION, SHIFT DETOUR SR 1340 TRAFFIC ONTO PROPOSED SR 1340 -L1- AND -L2- FROM STA. 21+15 +/- -L1- TO STA. 35+55 +/- -L2- ACCORDING TO THE FOLLOWING CONSTRUCTION OPERATION SEQUENCE, (SEE SHEET TCP-2A LOCAL NOTE 1):

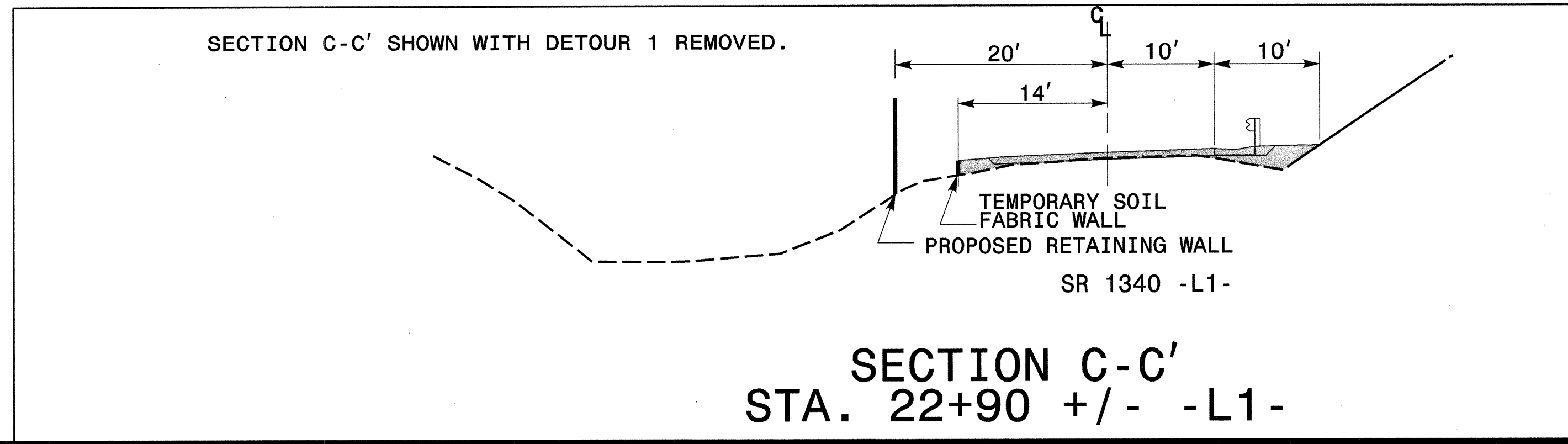
- USING ROADWAY STANDARD DRAWING NO 1101.02, SHEET 1 OF 7, WEDGE/PAVE PROPOSED SR 1340 AND CONSTRUCT DRIVEWAY TIE-INS FROM STA. 21+15 +/- -L1- TO STA. 23+00 +/- -L1- AND FROM STA. 24+00 +/- -L1- TO STA. 25+40 +/- -L1- AND FROM STA. 30+30 +/- -L2- TO STA. 32+00 +/- -L2- TO STA. 33+15 +/- -L2- TO 35+55 +/- -L2- UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. PLACE TEMPORARY PAVEMENT MARKINGS, (PAINT) ON PROPOSED SR 1340 FROM STA. 21+15 +/- -L1- TO STA. 35+55 +/- -L2-.
- USING FLAGGERS, SHIFT TRAFFIC TO PROPOSED SR 1340 IN A TWO-WAY TWO-LANE TRAFFIC PATTERN. USING TYPE III BARRICADES AND DRUMS, CLOSE TEMPORARY SR 1340 DETOUR 1 AND DETOUR 2 TO TRAFFIC. AT THE END OF THE WORK DAY TRAFFIC SHALL BE PLACED ON PROPOSED SR 1340.
- AWAY FROM SR 1340 TRAFFIC INSTALL TEMPORARY SOIL WALL ALONG PROPOSED SOUTHBOUND SR 1340 FROM STA. 22+70 +/- -L1- TO STA. 22+90 +/- -L1-.

STEP 2: USING ROADWAY STANDARD DRAWING NO. 1101.05 OBLITERATE AND REMOVE TEMPORARY SR 1340 DETOURS 1 AND 2, AND APPROACHES. CONSTRUCT PROPOSED RETAINING WALL-1 FROM STA. 22+70 +/- -L1- TO STA. 23+10 +/- -L1-. AT THE END OF THE WORK DAY TRAFFIC SHALL BE RESTORED TO A TWO-WAY TWO-LANE TRAFFIC PATTERN.

STEP 3: USING FLAGGERS AND ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 7, PLACE THE FINAL LAYER OF SURFACE COURSE PAVEMENT ON PROPOSED SR 1340 FROM STA. 21+15 +/- -L1- TO STA. 35+55 +/- -L2- AND PLACE FINAL PAVEMENT MARKINGS, (EPOXY) FROM STA. 21+15 +/- -L1- TO STA. 35+55 +/- -L2-. REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES FROM THE PROJECT AND OPEN SR 1340 TO ITS TWO-WAY TWO-LANE TRAFFIC PATTERN, (SEE SHEETS TCP-2A LOCAL NOTE 1 AND PM-1).



NOTE: MAINTAIN EGRESS/INGRESS TO ALL PROPERTIES DURING CONSTRUCTION WITH INCIDENTAL STONE BASE OR MATERIAL SUITABLE AND APPROVED BY THE ENGINEER.



REFER TO SHEET TCP-1 FOR TEMPORARY PAVEMENT MARKING SCHEDULE.

REFER TO APPROPRIATE ROADWAY STANDARD DRAWINGS LISTED ON SHEET TCP-1 FOR PLACEMENT OF PAVEMENT MARKING LINES.

**PLANS PREPARED BY :**  
**RUMMEL KLEPPER & KAHL, LLP**  
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 5800 FARINGDON PLACE SUITE 105  
 RALEIGH, NORTH CAROLINA 27609-3960  
**FOR**  
**DIVISION OF HIGHWAYS**

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 19834  
 B. Keith Skinner 8/11/04

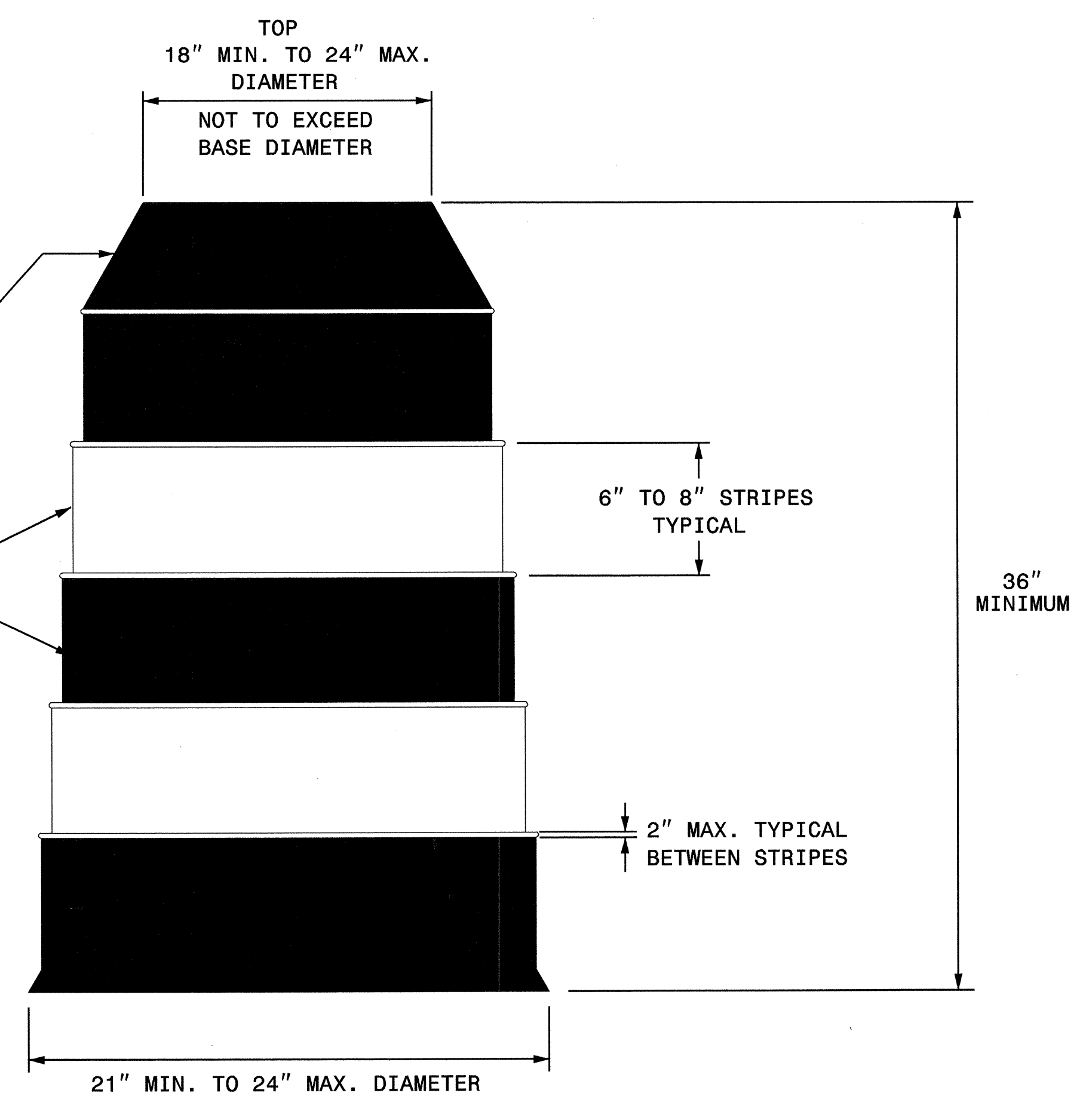
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ENGLISH STANDARD DRAWING FOR  
**DRUMS**

SHEET 1 OF 1  
**1130D01**



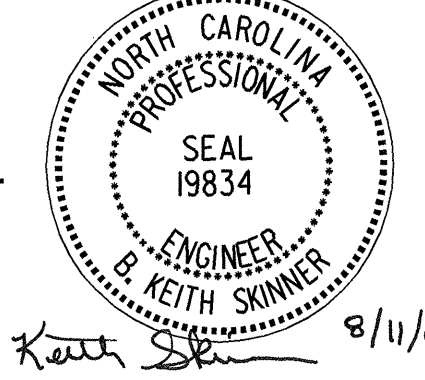
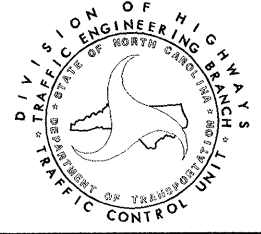
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ENGLISH STANDARD DRAWING FOR  
**DRUMS**

SHEET 1 OF 1  
**1130D01**

**GENERAL NOTES**

- BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE-SIDEWALL BALLAST, OR PREFORMED WEIGHTED BASE BALLASTING METHODS. DO NOT PLACE BALLAST ON TOP OF THE DRUM, NOR AS TO PRESENT A HAZARD WHEN STRUCK.
- IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.

SEAL  B. Keith Skinner 8/11/04	<b>REPLACEMENT DETAIL FOR RSD DRAWING 1130.01</b>							
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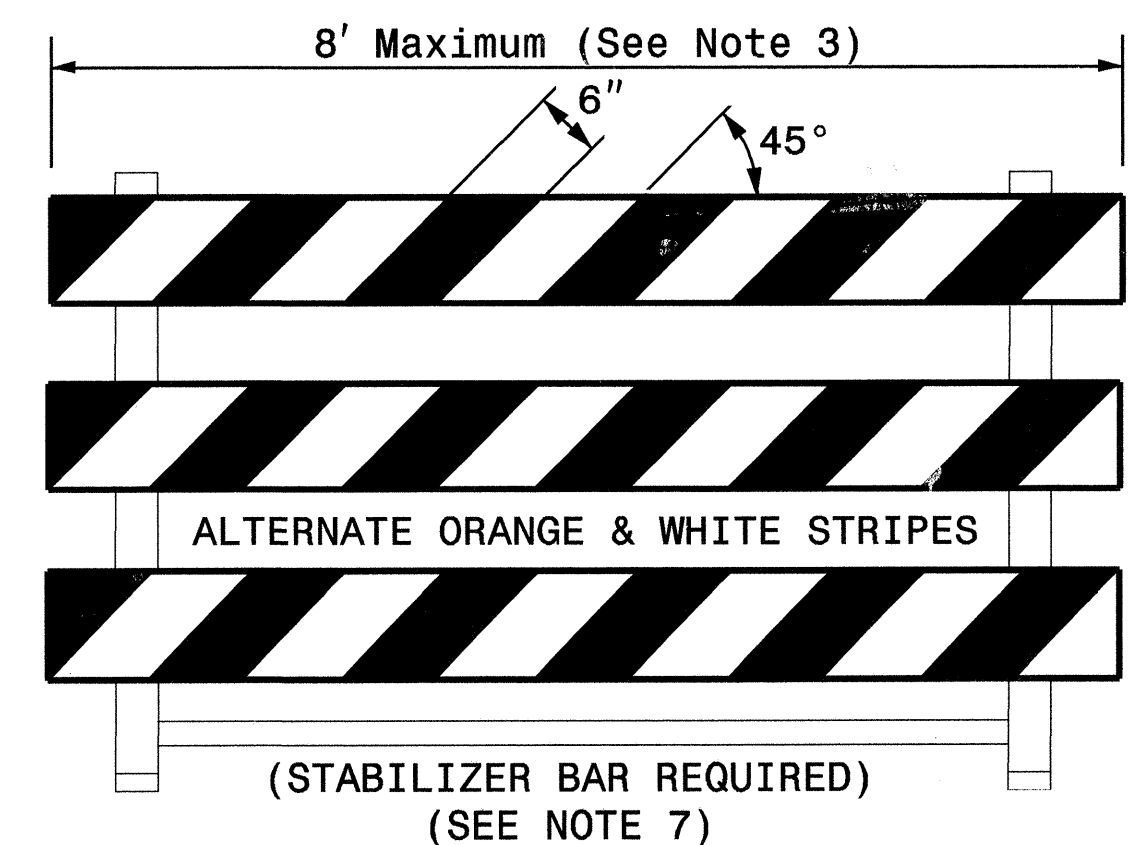
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1-05

ENGLISH STANDARD DRAWING FOR  
**BARRICADES**  
 TYPE-III

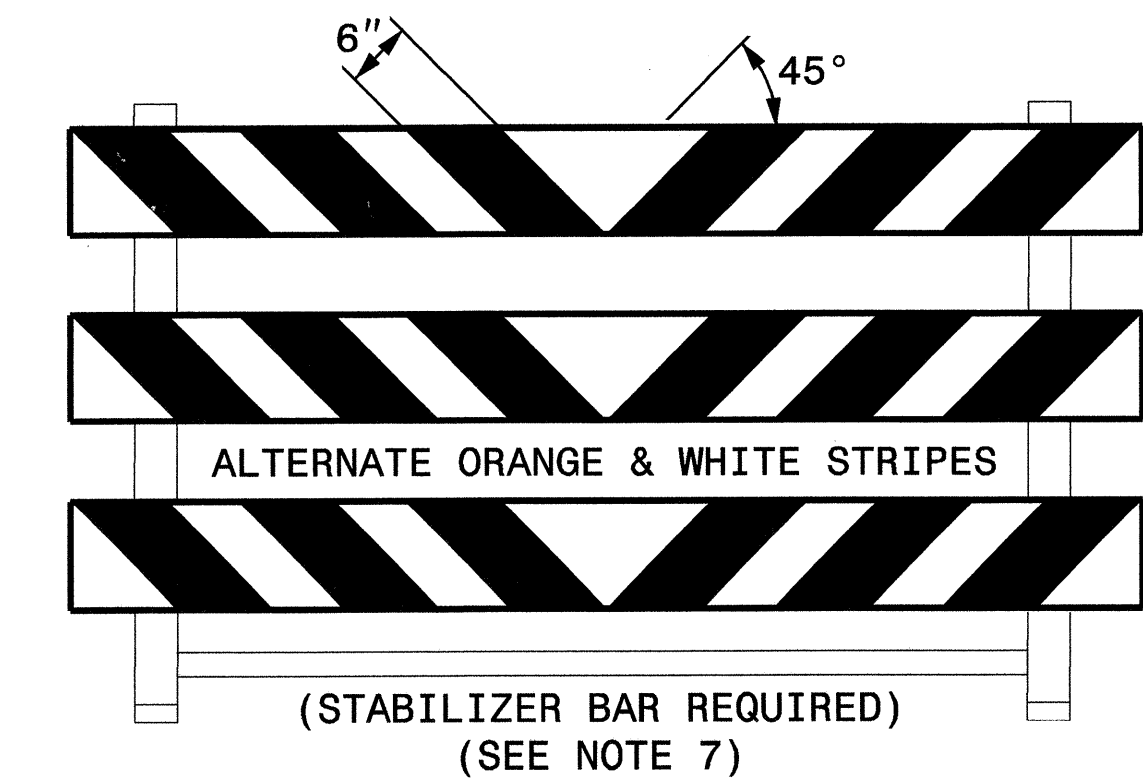
SHEET 1 OF 1  
**1145D01**

**TYPE III BARRICADE**



**TYPE III BARRICADE**

END-OF-ROADWAY APPLICATIONS



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1-05

ENGLISH STANDARD DRAWING FOR  
**BARRICADES**  
 TYPE-III

SHEET 1 OF 1  
**1145D01**

**GENERAL NOTES**

- 1) HORIZONTAL RAILS FOR TYPE-III BARRICADES MAY BE HOLLOW/CORRUGATED EXTRUDED RIGID POLYOLEFIN, HIGH DENSITY POLYETHYLENE, OR OTHER NCDOT APPROVED RAILS. BARRICADE RAILS OF FRANGIBLE PLASTICS SUCH AS PVC MAY NOT BE USED. IF APPROVED PLASTIC TYPE RAILS ARE USED, THEY MUST BE FLAME TREATED BY THE MANUFACTURER SO THAT REFLECTIVE SHEETING MAY ADHERE PROPERLY.
- 2) BARRICADES AND BARRICADE RAILS ARE APPROVED AS A SINGLE UNIT.
- 3) BARRICADE SHALL BE LIMITED TO A MAXIMUM LENGTH OF 8 FT UNLESS NCHRP 350 CRASH TESTED AND NCDOT APPROVED.
- 4) ONLY NCDOT APPROVED COMPOSITE AND ROLL-UP SIGNS MAY BE MOUNTED ON THE BARRICADE.
- 5) SIGNS MOUNTED ON BARRICADES SHOULD NOT COVER MORE THAN 50 PERCENT OF THE TOP TWO RAILS OR 33 PERCENT OF THE TOTAL AREA OF THE THREE RAILS.
- 6) USE TYPE VII, VIII OR IX SHEETING ON BOTH SIDES OF THE RAILS.
- 7) BARRICADE MUST BE NCHRP 350 AND NCDOT APPROVED WITH STABILIZER BAR OR ADEQUATE LATERAL BRACING.
- 8) ASSEMBLY OF THE GENERIC BARRICADES MUST BE SELF CERTIFIED BY THE ASSEMBLER.
- 9) BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED PATTERN.
- 10) STRIPES ON WORK ZONE BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE RETROREFLECTIVE STRIPES, SLOPED DOWNWARD TOWARDS THE SIDE WHICH TRAFFIC IS TO PASS OR TURN IN DETOURING. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES. USE RED AND WHITE STRIPES FOR PERMANENT BARRICADES.
- 11) SEE APPROVED PRODUCTS LIST FOR MANUFACTURERS OF APPROVED BARRICADES.
- 12) PLACE MANUFACTURER'S NAME AND FEDERAL HIGHWAY ADMINISTRATION'S NCHRP 350 APPROVAL LETTER NUMBER ON BARRICADE.
- 13) USE SANDBAGS PLACED ON THE LOWER PART OF THE FRAME FOR BALLASTING. DO NOT PLACE SANDBAGS ON TOP OF A STRIPED RAIL. DO NOT BALLAST BARRICADES BY HEAVY OBJECTS SUCH AS ROCKS, CHUNKS OF CONCRETE OR OTHER ITEMS THAT WOULD CAUSE DAMAGE IF THE BARRICADE IS STRUCK BY A VEHICLE.

	<b>REPLACEMENT DETAIL FOR</b>	
	<b>RSD 1145.01</b>	
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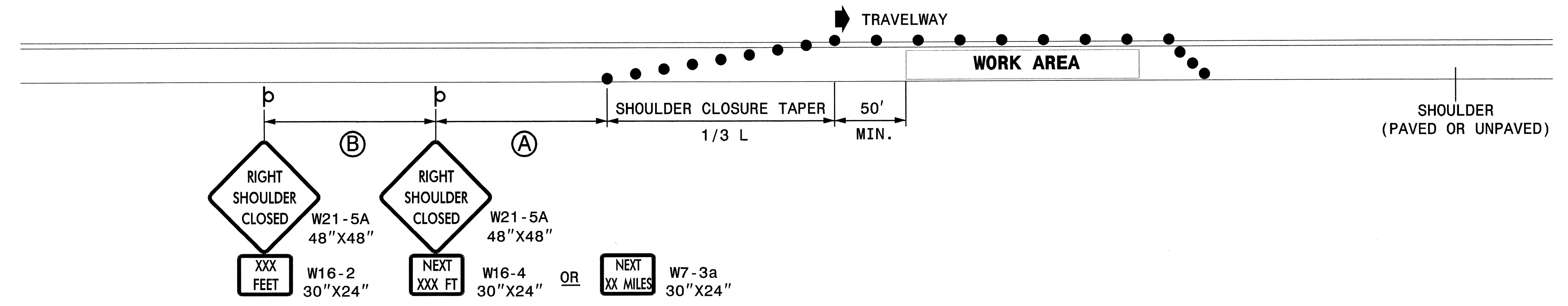
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ENGLISH STANDARD DRAWING FOR  
**TEMPORARY SHOULDER CLOSURES**

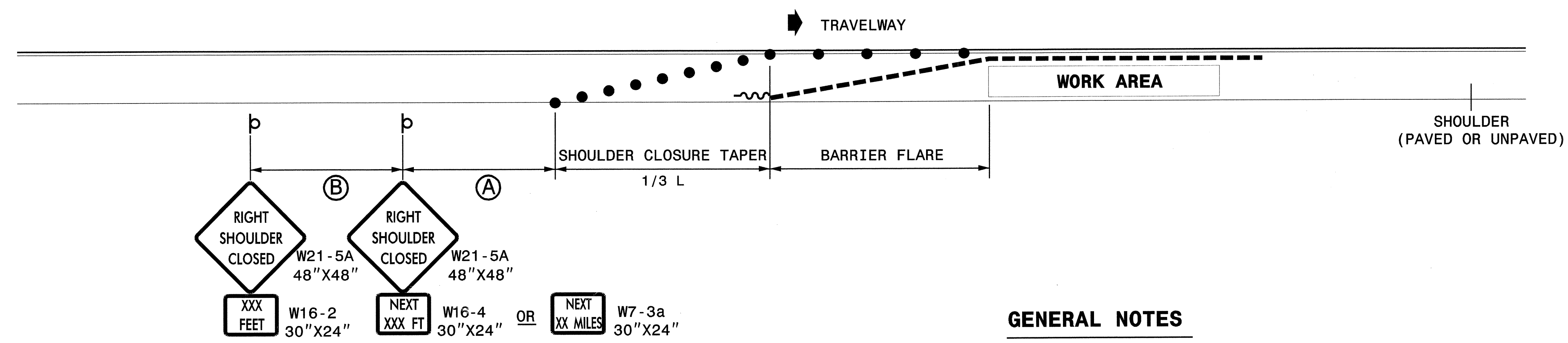
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ENGLISH STANDARD DRAWING FOR  
**TEMPORARY SHOULDER CLOSURES**

**SHOULDER CLOSURES UTILIZING DRUMS**



**SHOULDER CLOSURES UTILIZING TEMPORARY BARRIER**



**GENERAL NOTES**

- PLACE SHOULDER CLOSURE SIGNS ON THE SAME SIDE AS THE SHOULDER THAT IS CLOSED.
- PLACE DRUMS IN THE SHOULDER TAPER AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF DRUMS ALONG THE WORK AREA AND BARRIER FLARE IS EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
- FLARE THE APPROACH END OF PORTABLE CONCRETE BARRIER BEYOND THE SHOULDER AND USE A CRASH CUSHION FOR PROTECTION IF THE EXPOSED END OF THE BARRIER IS WITHIN THE "CLEAR ZONE".
- USE STATIONARY SIGNS FOR LONG TERM OPERATIONS (LONGER THAN 3 DAYS).
- REFER TO STD. 1101.11 SHEETS 1, 3, & 4, FOR "L" DISTANCE, BARRIER FLARE RATES, AND SIGN SPACING.

**LEGEND**

- ~ TEMPORARY CRASH CUSHION
- - - PORTABLE CONCRETE BARRIER
- DRUM
- ⊥ STATIONARY OR PORTABLE SIGN
- ➔ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1  
**1101D04**

SHEET 1 OF 1  
**1101D04**

	<b>REPLACEMENT DETAIL FOR RSD 1101.04</b>							
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