

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4199	TCP-1

PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION
MCDOWELL COUNTY

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
1101.05	WORK ZONE VEHICLE ACCESSSES
1101.11	TRAFFIC CONTROL 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
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

TEMPORARY PAVEMENT
MARKING SCHEDULE

<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>PAY ITEM</u>	<u>QUANTITY BREAKDOWN</u>	<u>TOTAL QUANTITY</u>
<u>PAVEMENT MARKING LINES</u>				
PAINT (4")				5200 FT
PA	WHITE EDGELINE (2X)		2600 FT	
PI	YELLOW DOUBLE CENTERLINE (2X)		2600 FT	
PAINT (24")				50 FT
P4	WHITE STOP BAR (2X)		50 FT	
NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.				

FINAL PAVEMENT
MARKING SCHEDULE

<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>PAY ITEM</u>	<u>QUANTITY BREAKDOWN</u>	<u>TOTAL QUANTITY</u>
<u>PAVEMENT MARKING LINES</u>				
PAINT (4")				5200 FT
PA	WHITE EDGELINE (2X)		2600 FT	
PI	YELLOW DOUBLE CENTERLINE (2X)		2600 FT	
PAINT (24")				50 FT
P4	WHITE STOP BAR (2X)		50 FT	
NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.				

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS, TEMPORARY AND FINAL PAVEMENT MARKING SCHEDULES
TCP-2	PROJECT NOTES
TCP-3	PHASING
TCP-4	PHASE I OVERVIEW
TCP-5	PHASE II OVERVIEW
TCP-6	DETAIL DRAWING FOR ADVANCED WORK ZONE WARNING SIGNS
TCP-7	REPLACEMENT DETAIL FOR RSD 1130.01
TCP-8	REPLACEMENT DETAIL FOR RSD 1145.01
TCP-9	REPLACEMENT DETAIL FOR RSD 1101.04

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW
- PROPOSED PVMT. ----- EXIST. PVMT.
- PORTABLE CONCRETE BARRIER (PCB)
- WORK AREA
- REMOVAL OF EXISTING PAVEMENT/STRUCTURE

TRAFFIC CONTROL DEVICES

- TYPE I BARRICADE
- TYPE II BARRICADE
- TYPE III BARRICADE
- CONE
- DRUM
- FLASHING ARROW PANEL (TYPE C)
- TYPE 'B' WARNING LIGHT
- STATIONARY SIGN
- PORTABLE SIGN
- STATIONARY OR PORTABLE SIGN
- WARNING FLAGS
- CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- POLICE
- FLAGGER

PAVEMENT MARKINGS

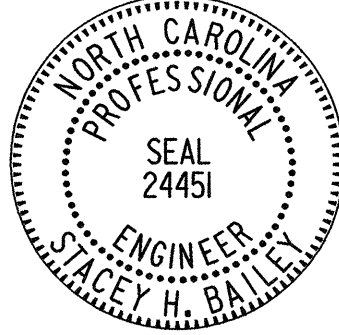
- CRYSTAL/CRYSTAL PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- CRYSTAL/RED PAVEMENT MARKER
- PAVEMENT MARKING SYMBOLS

PLAN REVIEWED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT

J. STUART BOURNE, P.E. STATE WORK ZONE TRAFFIC ENGINEER
JOSEPH ISHAK, P.E. TRAFFIC CONTROL PROJECT ENGINEER
BETSY L. WATSON, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
ALLA LYUDMIRSKAYA TRAFFIC CONTROL DESIGN ENGINEER

APPROVED: 
DATE: 12/17/05

SEAL



PLAN PREPARED FOR N.C.D.O.T. BY: GREENHORNE & O'MARA, INC.
5565 CENTERVIEW DRIVE, SUITE 107
RALEIGH, NORTH CAROLINA 27606
(919) 851-1919

STACEY H. BAILEY, P.E. PROJECT ENGINEER
STACEY H. BAILEY, P.E. DESIGN ENGINEER
STACEY H. BAILEY, P.E. DESIGN TECHNICIAN

B-4199

TIP PROJECT:

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNA\$\$\$\$\$

PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-4199	TCP-2

GREENHORNE & O'MARA, INC.
5565 CENTERVIEW DRIVE, SUITE 107
RALEIGH, NORTH CAROLINA 27606
(919) 851-1919

GENERAL NOTES

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 UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

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 STOP TRAFFIC FOR MORE THAN 15 MINUTES AS FOLLOWS:

ROAD NAME	OPERATION
1. -L- (SR 1782)	TRAFFIC SHIFTS
B) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR OTHERWISE DIRECTED BY THE ENGINEER.	

LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) 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.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 40 FT (12m) OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING REPLACEMENT DETAIL FOR RSD 1101.04, SHEET TCP-9, UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- E) 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.
- F) 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.
- G) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.
- H) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.
- I) DO NOT INSTALL MORE THAN 1 MILE OF LANE CLOSURE ON SR 1782, 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 SR 1782.

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 A 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 1.5 inches 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

- 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 100 FT 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.
- O) PROVIDE PERMANENT SIGNING.
- P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC BARRIER

- Q) 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.
- R) 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 (12m) 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

- S) WHEN USING ROADWAY STANDARD NO. 1101.02, SHEET 1 OF 7, DRUMS MAY BE USED IN LIEU OF CONES ON SR 1782.
- T) 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.
- U) 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.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
1. -L- (SR 1782)	PAINT	NONE


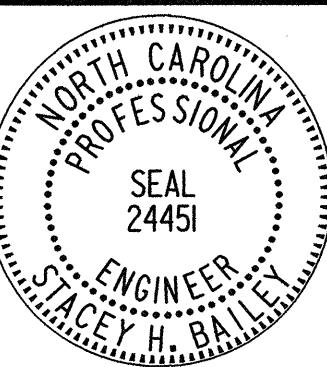
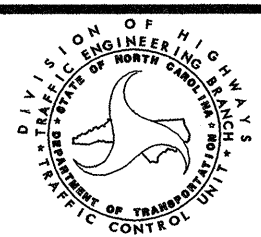
- W) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. -L- (SR 1782)	PAINT	NONE

- X) PLACE AT LEAST TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.
- Y) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- Z) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.
- AA) 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.

MISCELLANEOUS

- BB) 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.

APPROVED:  DATE: 12/1/05		PROJECT NOTES	
SEAL 	SCALE: NONE		REVISIONS
	DATE: 12/05		
	DWG. BY: SHB		
	DESIGN BY: SHB		
	REVIEWED BY: PMW		
	CADD FILE		GENNOTES.DGN

\$\$\$\$\$SYSTIME\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$
\$\$\$\$\$DON\$\$\$\$\$

PHASING

PROJ. REFERENCE NO.	SHEET NO.
B-4199	TCP-3

GREENHORNE & O'MARA, INC.
5565 CENTERVIEW DRIVE, SUITE 107
RALEIGH, NORTH CAROLINA 27606
(919) 851-1919

NOTES:

RETURN TRAFFIC TO THE EXISTING PATTERN AT THE END OF EACH WORK DAY
UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

USING INCIDENTAL STONE AS NECESSARY, MAINTAIN VEHICULAR ACCESS TO ALL
RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT UNLESS
OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER
WILL NOT OCCUR IN THE TRAVEL LANE.

PHASE I (SEE PHASE I OVERVIEW, SHEET TCP-4)

STEP 1:
INSTALL WORK ZONE SIGNS ACCORDING TO RSD 1110.01 AND SHEET TCP-6.

STEP 2:
AWAY FROM TRAFFIC, CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING FINAL
LAYER OF SURFACE COURSE:

STA 12+25 +/- -L- TO STA 15+00 +/- -L- (INCLUDING STRUCTURE)

STEP 3:
COMPLETE THE FOLLOWING SEQUENCE OF EVENTS IN A CONTINUOUS MANNER:

1. USING RSD 1101.02 SHEET 1 OF 7, CONSTRUCT THE FOLLOWING UP TO BUT
NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:

STA 10+09.47 -L- TO STA 12+25 +/- -L-
(MINIMUM OF 22' INCLUDING LEFT SHOULDER, SEE SECTION A-A',
SHEET TCP-4)
STA 15+00 +/- -L- TO STA 16+50.00 -L-

2. PLACE PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHION AT THE
FOLLOWING LOCATION: (SEE PHASE II OVERVIEW, SHEET TCP-5)

STA 12+00 +/- -L- TO STA 12+68 +/- -L-

3. INSTALL TEMPORARY MARKINGS (PAINT) ON -L- (SEE PHASE II OVERVIEW,
SHEET TCP-5)

4. SHIFT -L- TO NEW TRAFFIC PATTERN. (SEE PHASE II OVERVIEW, SHEET
TCP-5)

PHASE II (SEE PHASE II OVERVIEW, SHEET TCP-5)

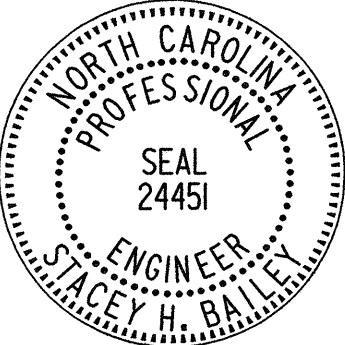
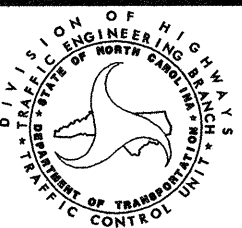
STEP 1:
USING RSD 1101.02 SHEET 1 OF 7, COMPLETE CONSTRUCTION OF THE SHOULDERS,
DITCH WORK, GUARDRAIL, AND ANY OTHER WORK NOT COMPLETED IN PHASE I,
STEP 3 FOR THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF
SURFACE COURSE:

STA 10+09.47 -L- TO STA 12+25 +/- -L-
STA 15+00 +/- -L- TO STA 16+50.00 -L-

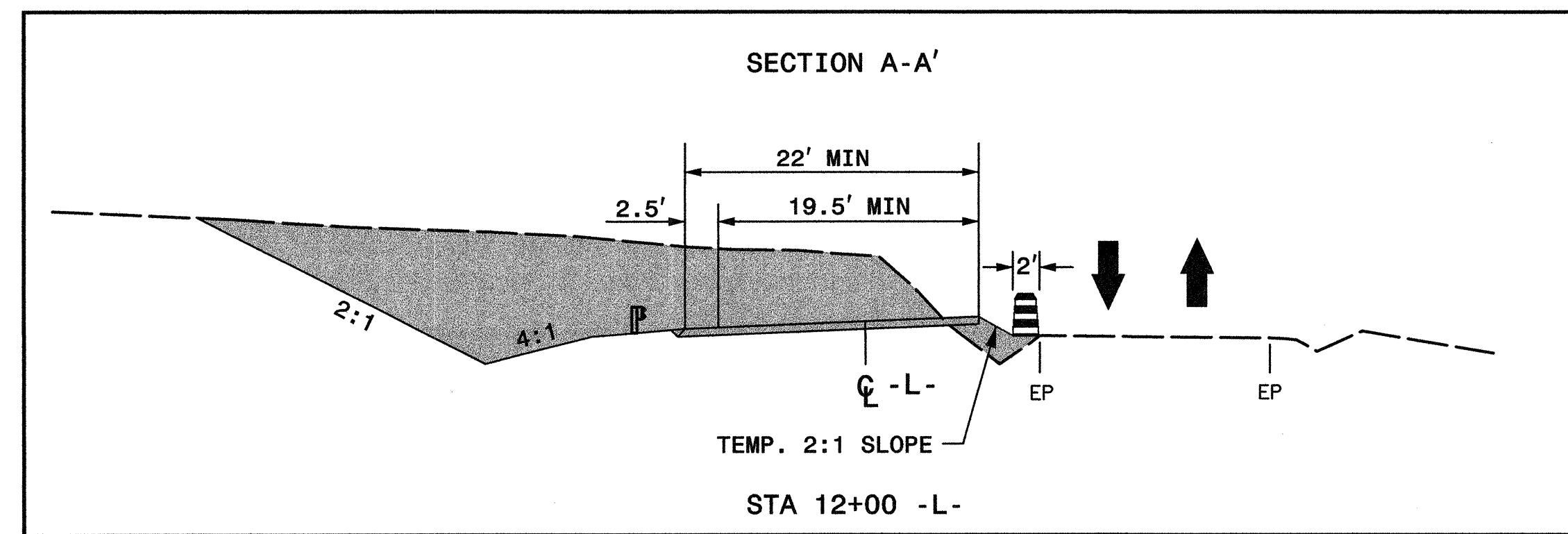
REMOVE PCB AND TEMPORARY CRASH CUSHION FROM STA 12+00 +/- -L- TO
STA 12+68 +/- -L- AFTER GUARDRAIL HAS BEEN INSTALLED FROM STA 11+56 +/-
-L- (RT) TO STA 12+59 +/- -L- (RT).

AWAY FROM TRAFFIC, REMOVE EXISTING BRIDGE AND OLD SR 1782 AND COMPLETE
GRADING AND DRAINAGE WORK.

STEP 2:
USING RSD 1101.02 SHEET 1 OF 7, PLACE THE FINAL LAYER OF SURFACE COURSE
AND FINAL PAVEMENT MARKINGS (PAINT), REMOVE ALL REMAINING TEMPORARY
TRAFFIC CONTROL DEVICES, AND OPEN -L- (SR 1782) TO THE FINAL PATTERN.
(SEE RSD 1205.02, SHEET 1 OF 3 AND 1205.12 FOR PAVEMENT MARKING ON
2-LANE ROADS AND BRIDGES - USE DOUBLE YELLOW CENTERLINE FOR CENTERLINE
MARKING.)

APPROVED: <i>[Signature]</i> DATE: 12/7/05		PHASING	
SEAL 	SCALE: NONE		REVISIONS
	DATE: 12/05		
	DWG. BY: SHB		
	DESIGN BY: SHB		
	REVIEWED BY: PMW		
CADD FILE		PHASING.DGN	

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$



BEGIN PROJECT
STA 10+09.47 -L-

STA 12+25 +/- -L-

END PROJECT
STA 16+50.00 -L-

ROAD
CLOSED R11-2
48" X 30"

TYPE III BARRICADE(S)

STA 15+00 +/- -L-

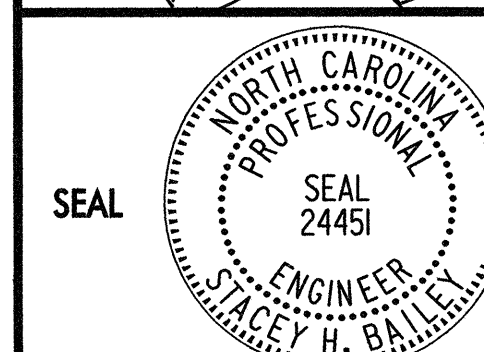
ROAD
CLOSED R11-2
48" X 30"

TYPE III BARRICADE(S)

LEGEND

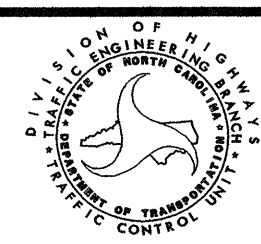
= PROPOSED CONSTRUCTION

APPROVED: DATE: 12/1/05



PHASE I OVERVIEW

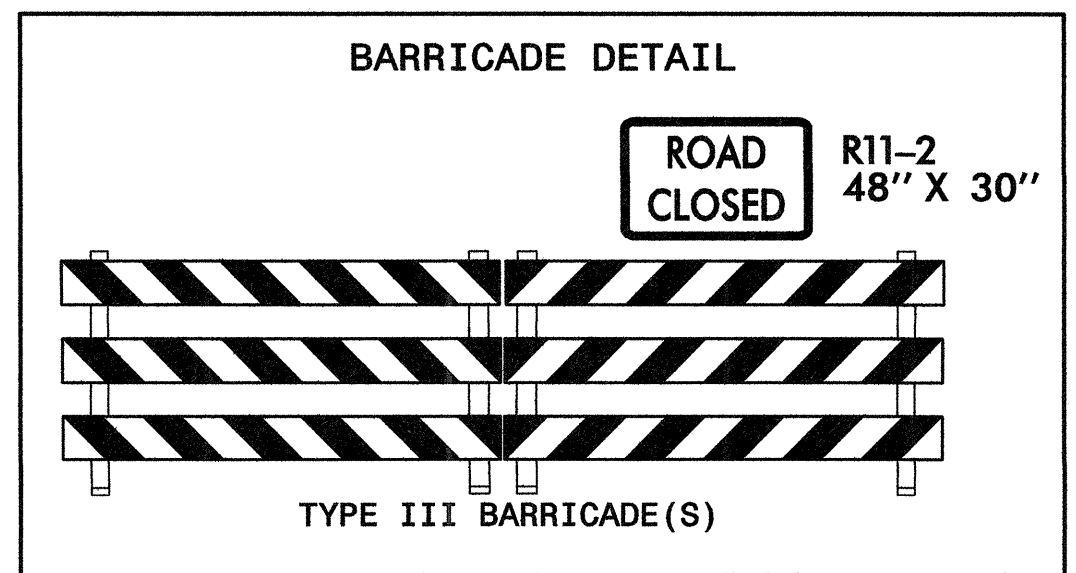
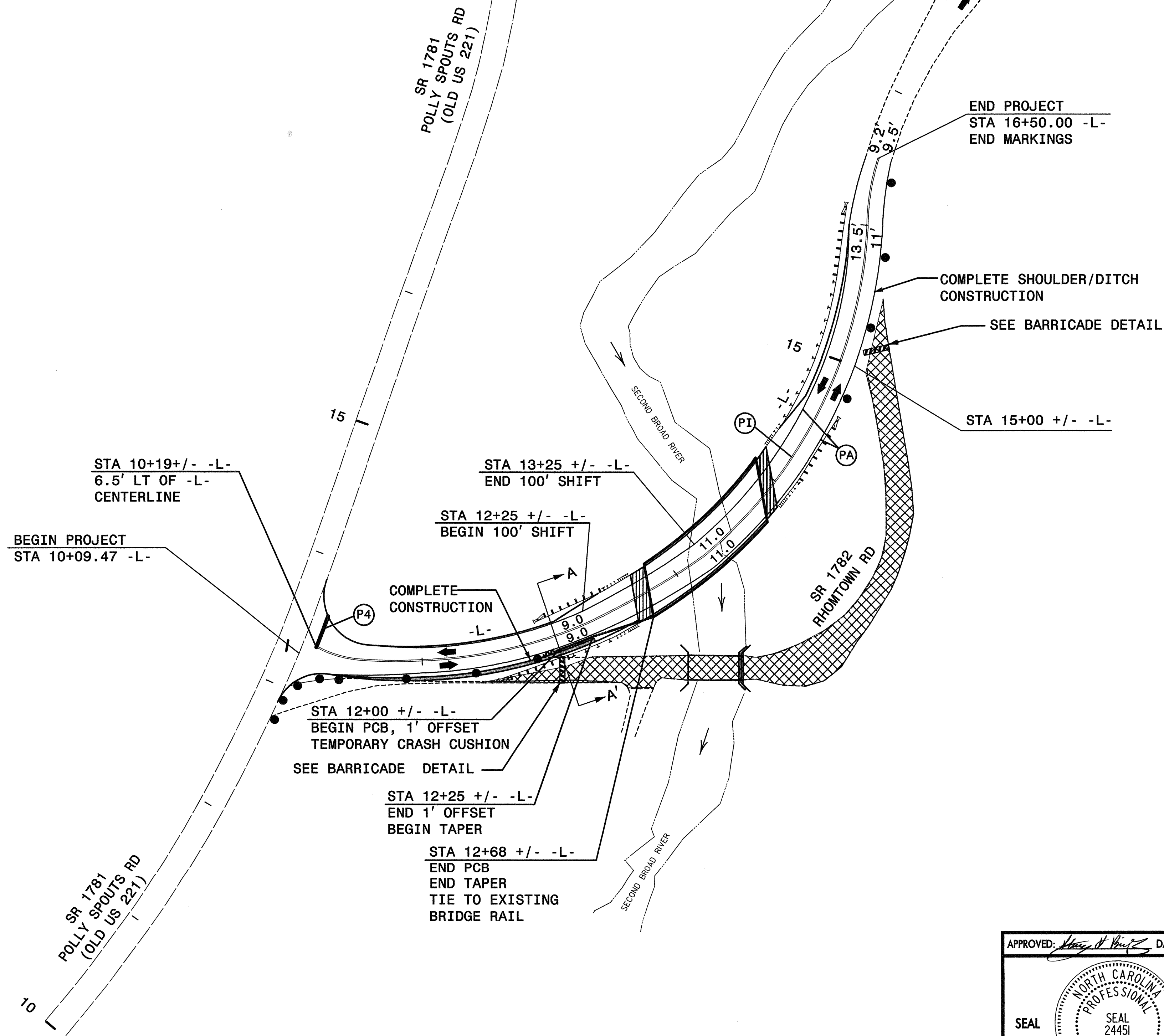
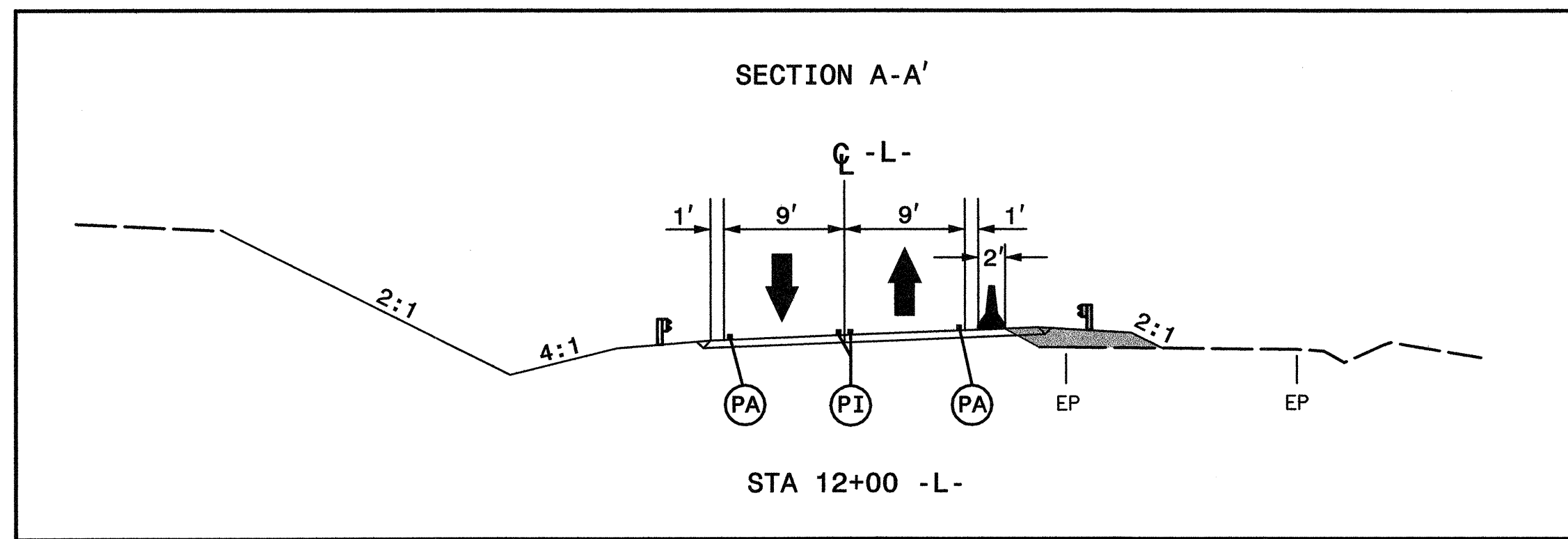
SCALE: NONE
DATE: 12/05
DWG. BY: SHB
DESIGN BY: SHB
REVIEWED BY: PMW



REVISIONS	

CADD
FILE B4199PH10V.DGN

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



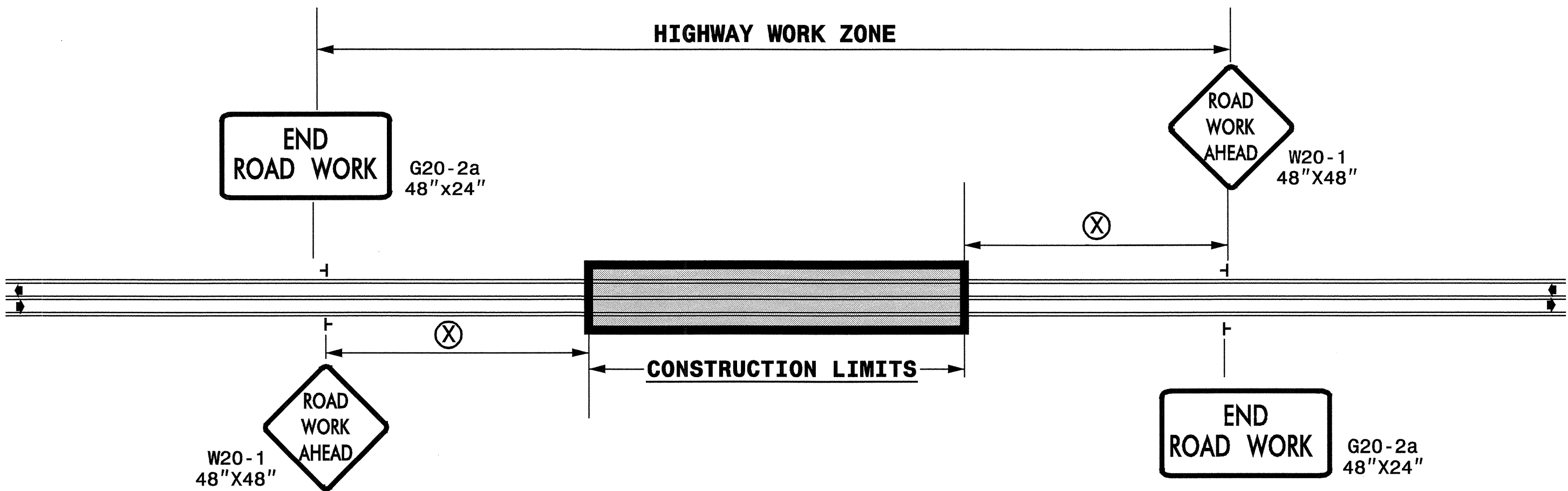
LEGEND

- = PROPOSED CONSTRUCTION
- = PAVEMENT / BRIDGE REMOVAL

APPROVED: <i>[Signature]</i> DATE: 12/7/05		PHASE II OVERVIEW	
SEAL 	SCALE: NONE		REVISIONS
	DATE: 12/05		
	DWG. BY: SHB		
	DESIGN BY: SHB		
	REVIEWED BY: DCK		CADD FILE: B4199PHIIOV.DGN

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAWES\$\$\$\$\$

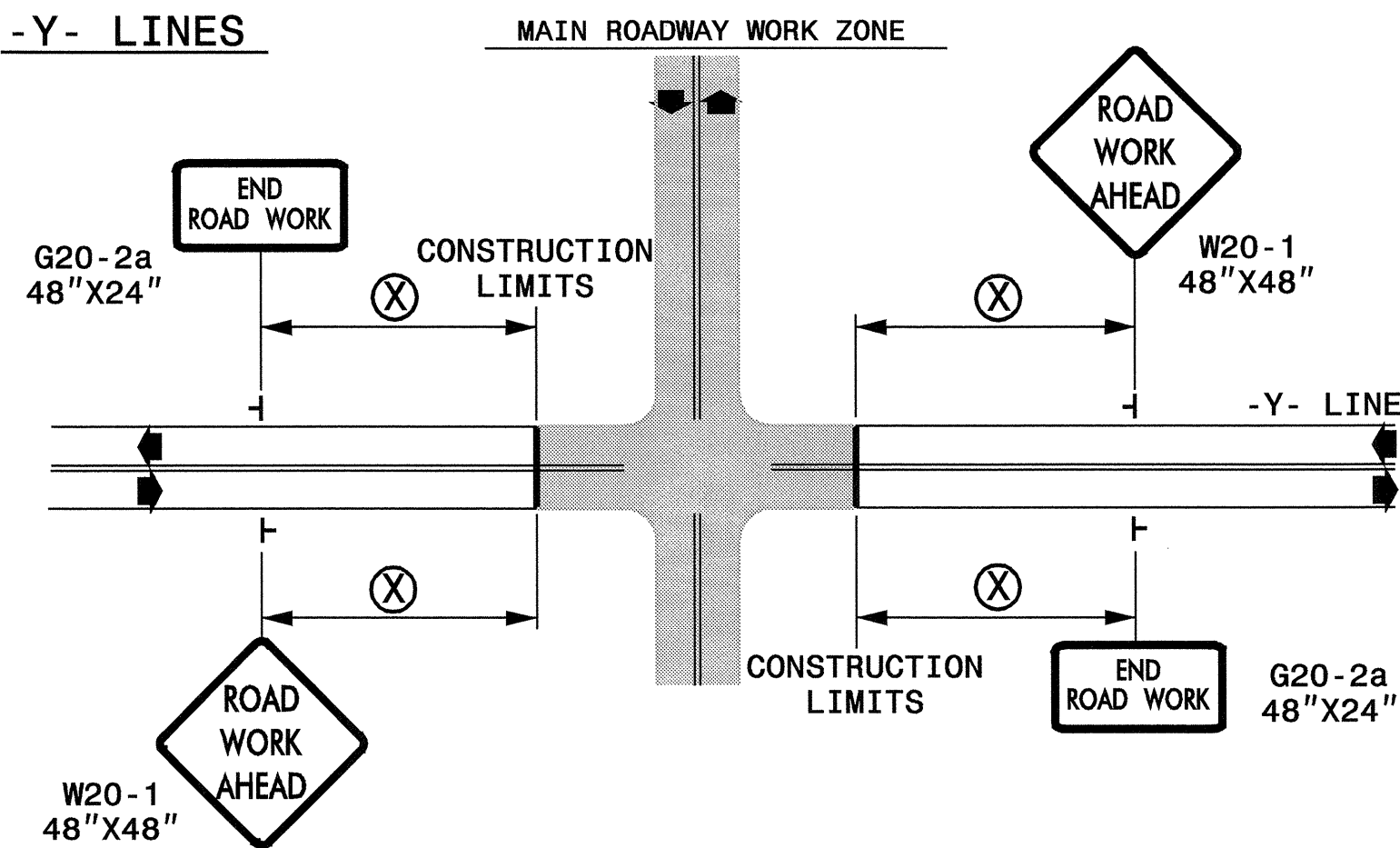
TWO-WAY UNDIVIDED ** (L-LINES)



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: *M. McDermid* DATE: 12/19/05

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
025895
MCDERMID

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

SCALE: NONE

DATE: 10/01

DWG. BY: 10-98

DESIGN BY: 01/01

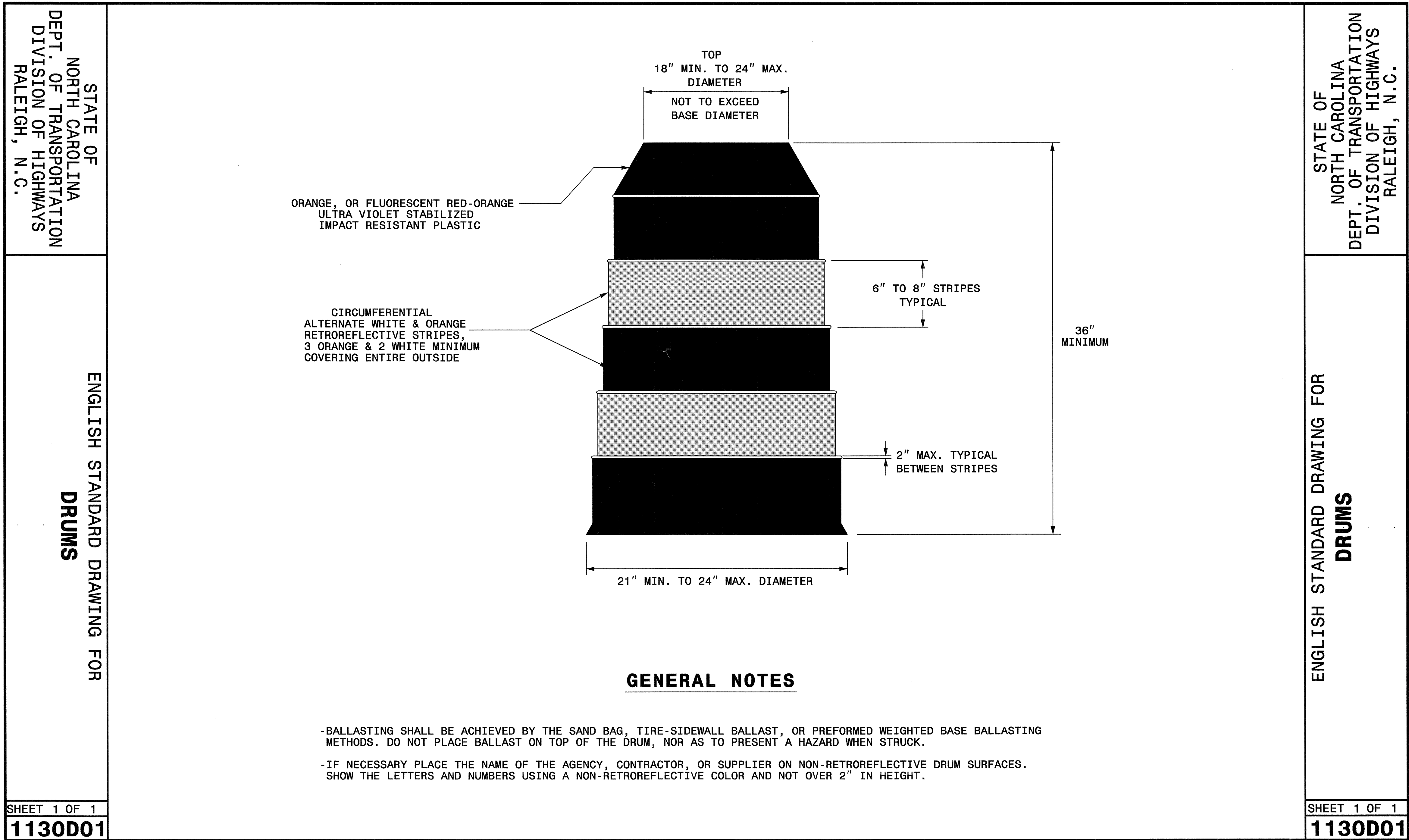
REVIEWED BY:

REVISIONS

7-98	10/01
10-98	03/04
01/01	11/04

CADD FILE

B4199WZSIGNS.DGN



19-DEC-2005 09:30
\\sers-c01\503\p\1998\Traffic\TrafficControl\top\TCP
c1yudml AT W210224239
File from Michelle Ward\Drums.english.dgn

APPROVED: <i>[Signature]</i> DATE: 12/19/05	REPLACEMENT DETAIL FOR RSD 1130.01		
	SCALE: NONE		REVISIONS
	DATE: 8/02		
	DWG. BY: MMM		
	DESIGN BY: MMM		
	REVIEWED BY: MMM		CADD FILE DRUMS_ENG.DGN

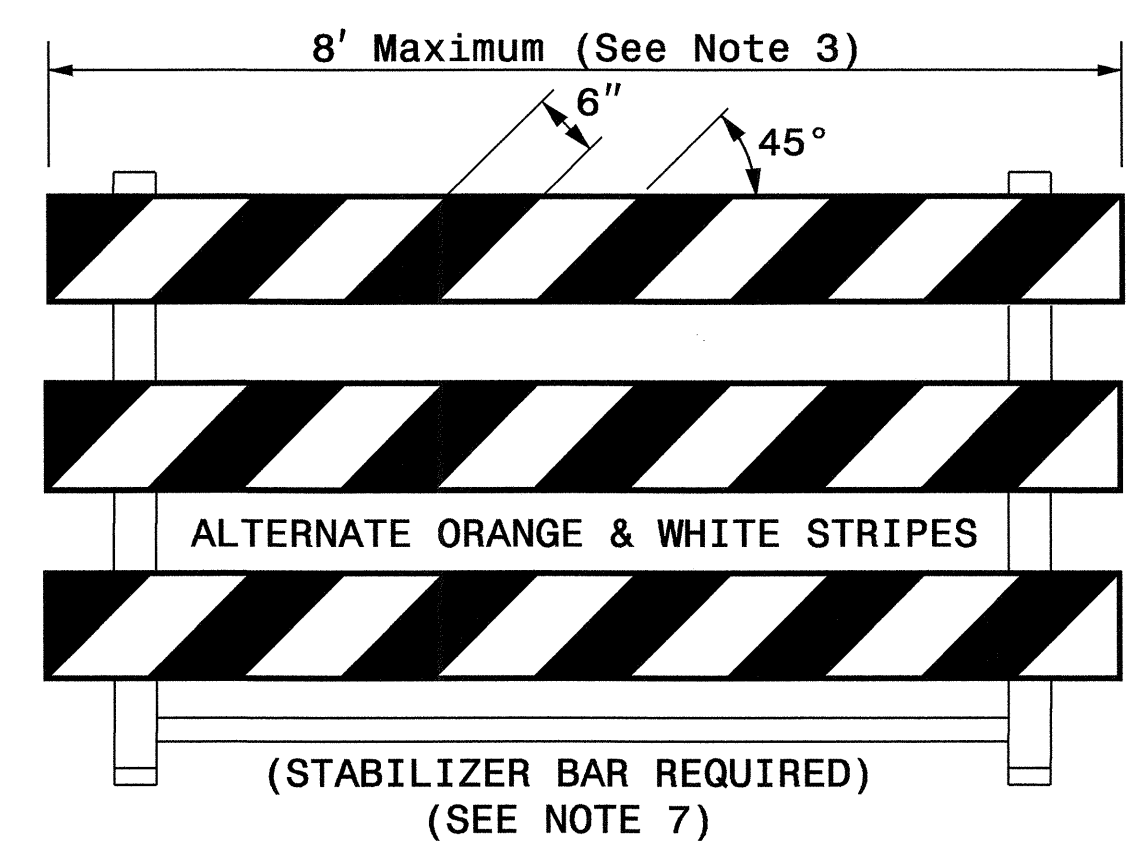
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-05

ENGLISH STANDARD DRAWING FOR
BARRICADES
TYPE-III

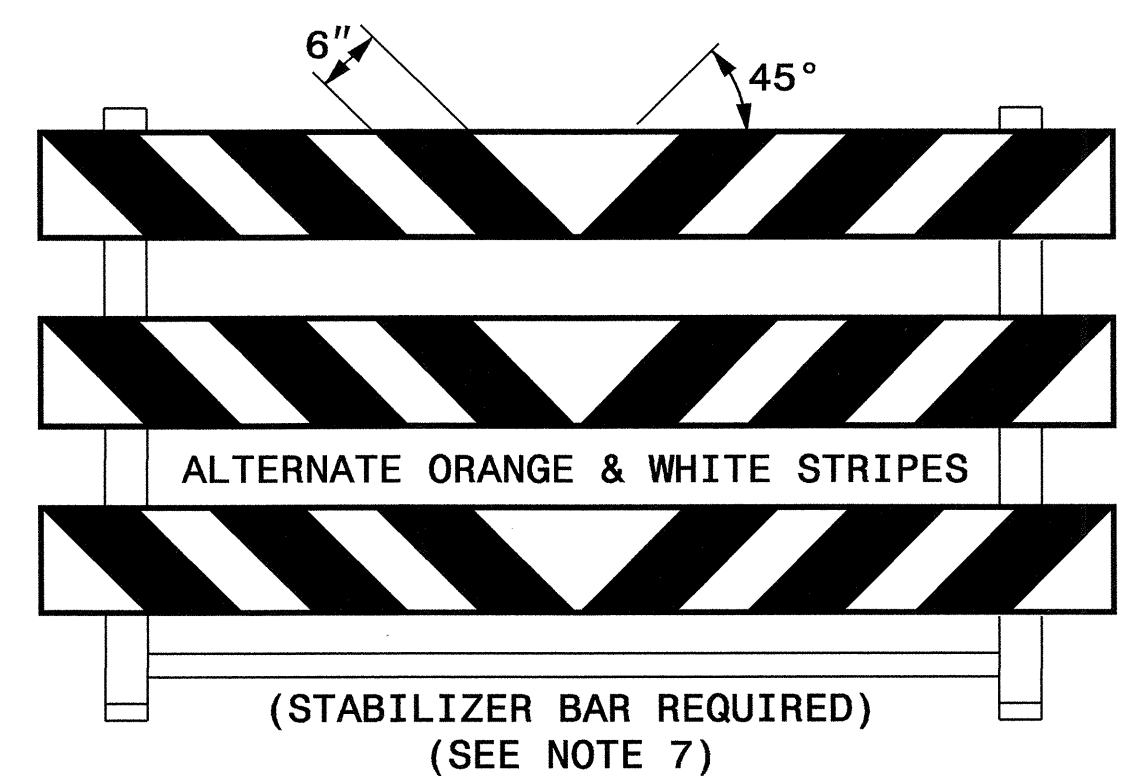
SHEET 1 OF 1
1145D01

TYPE III BARRICADE



TYPE III BARRICADE

END-OF-ROADWAY APPLICATIONS



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.

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

1-05

ENGLISH STANDARD DRAWING FOR
BARRICADES
TYPE-III

SHEET 1 OF 1
1145D01

APPROVED: <i>[Signature]</i> DATE: 12/19/05		REPLACEMENT DETAIL FOR RSD 1145.01	
	SCALE: NONE		REVISIONS
	DATE: 11/04		
	DWG. BY: MMM		
	DESIGN BY: MMM		
	REVIEWED BY: MMM		CADD FILE: BARRICADETYPEIII

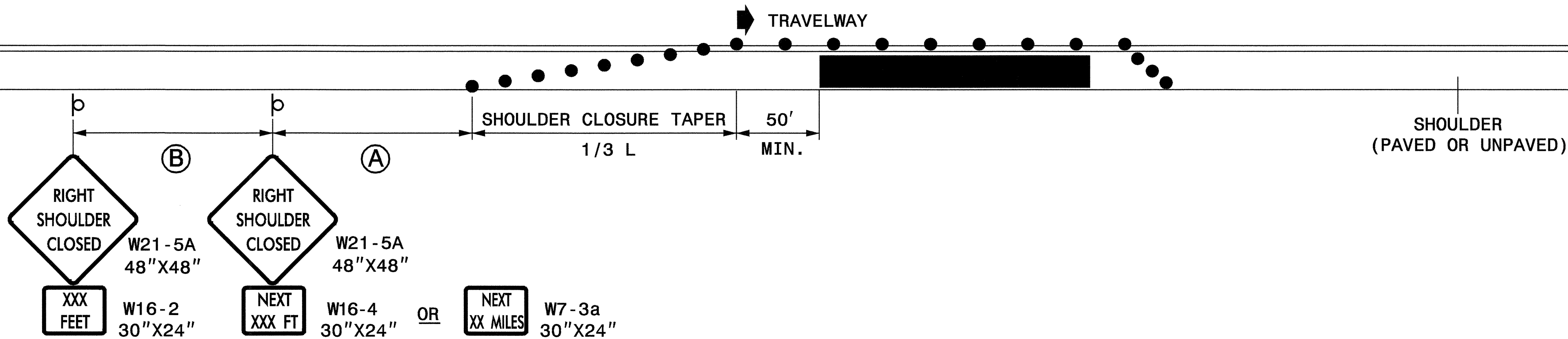
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-05

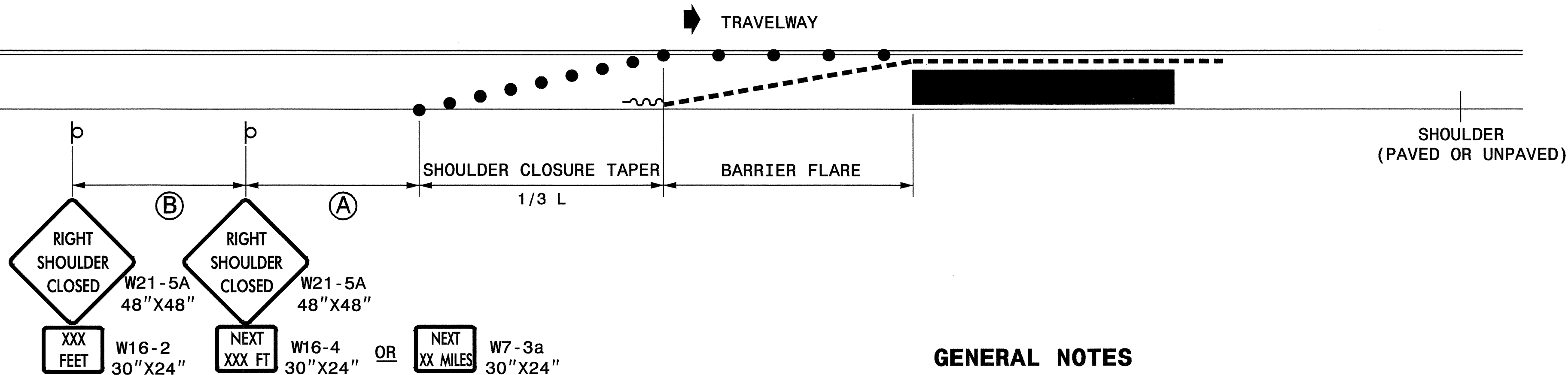
ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101D04

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

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

1-05

ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101D04

APPROVED: <i>[Signature]</i> DATE: 12/19/05	REPLACEMENT DETAIL FOR RSD 1101.04		
	SCALE: NONE		REVISIONS
	DATE: 11/04		
	DWG. BY: MMM		
	DESIGN BY: MMM		
	REVIEWED BY: MMM		CADD FILE: SHOULDERCLOSURES