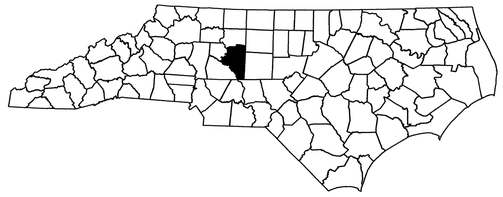
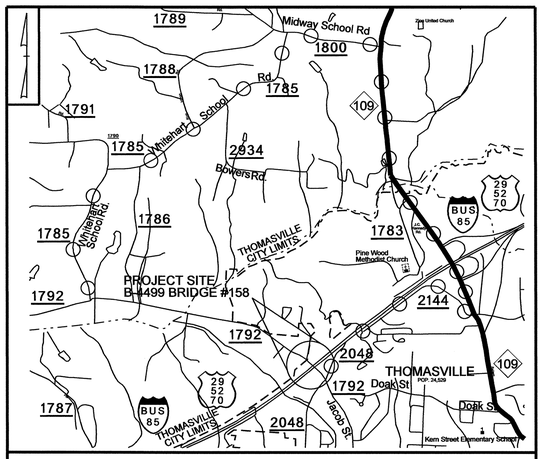
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

DAVIDSON COUNTY





VICINITY MAP

DETOUR

LOCATION: BRIDGE NO 158 OVER US. 29/70/I–85 BUSINESS ON SR 1792

INDEX OF SHEETS

SHEET NO.
TMP-1

B-4499

TIP PROJECT:

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1580 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1580
1020 BIRCH RIDGE DRIVE, RALEIGH, NC 27610 (DELIVERY)
PHONE: (919) 250-4094 FAX: (919) 250-4098

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
G. L. GETTIER, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
J. W. WOOLARD, P.E. — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
M. S. ISHAK — *TRAFFIC CONTROL DESIGN ENGINEER*

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

APPROVED:
DATE: 4/28/11

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR.

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN 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
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

EXISTING PROPOSED TEMP TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR.

4/28/11

DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

27-APR-2011 15:07
\\dot\dfs\root\proj\TIPProjects-BVB4499\Traffic\TrafficControl\TCP\New TCP\B-4499_TC_TMP_1A.dgn
mslshak AT TE244732

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-1B

GENERAL NOTES

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 UNDESIRED 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.

A) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
I-85BUS/US-29/70	MONDAY THROUGH SUNDAY 5:00AM TO 11:00PM	30 mins (REMOVE BRIDGE & INSTALL GIRDERS)

LANE AND SHOULDER CLOSURE REQUIREMENTS

B) 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.

C) 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.

D) 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.

E) 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.

F) 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.

G) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

J) 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.

K) PROVIDE PERMANENT SIGNING.

L) 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.

M) 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.

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

TRAFFIC BARRIER

O) 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.

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.

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

Q) 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.

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

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

PAVEMENT MARKINGS AND MARKERS

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

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

APPROVED: DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLAND, JR. 6/1/11

DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-2A

1

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

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

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 12+60.00-EY1-, OFFSET 8 FT LEFT OF -EY1-CL-, TO STATION 13+60.00 -EY1-, OFFSET 8 FT LEFT OF -EY1-CL-, USE THE FOLLOWING SOIL PARAMETERS:
UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ = 120 PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ = 60 PCF
FRICTION ANGLE, ϕ =30 DEGREES
COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 12+60.00 -EY1-, OFFSET 8 FT LEFT OF -EY1-CL-, TO STATION 13+60.00 -EY1-, 8 FT LEFT OF -EY1-CL-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

2

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

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

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 12+60.00 -EY1-, OFFSET 8 FT. RIGHT OF -EY1-CL-, TO STATION 13+60.00 -EY1-, OFFSET 8 FT RIGHT OF -EY1-CL-, USE THE FOLLOWING SOIL PARAMETERS:
UNIT WEIGHT OF SOIL ABOVE WATER TABLE, γ = 120 PCF
UNIT WEIGHT OF SOIL BELOW WATER TABLE, γ = 60 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 0 PSF

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 12+60.00 -EY1-, OFFSET 8 FT RIGHT OF -EY1-CL-, TO STATION 13+60.00 -EY1-, OFFSET 8 FT RIGHT OF -EY1-CL-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

NOTE: THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO WZTC ON APRIL 1, 2011 AND SEALED BY A PROFESSIONAL ENGINEER, JOHN FARGHER, P.E. 023480.

APPROVED:_____ DATE:_____

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER JOHN W. WOOLARD, JR.
4/28/11

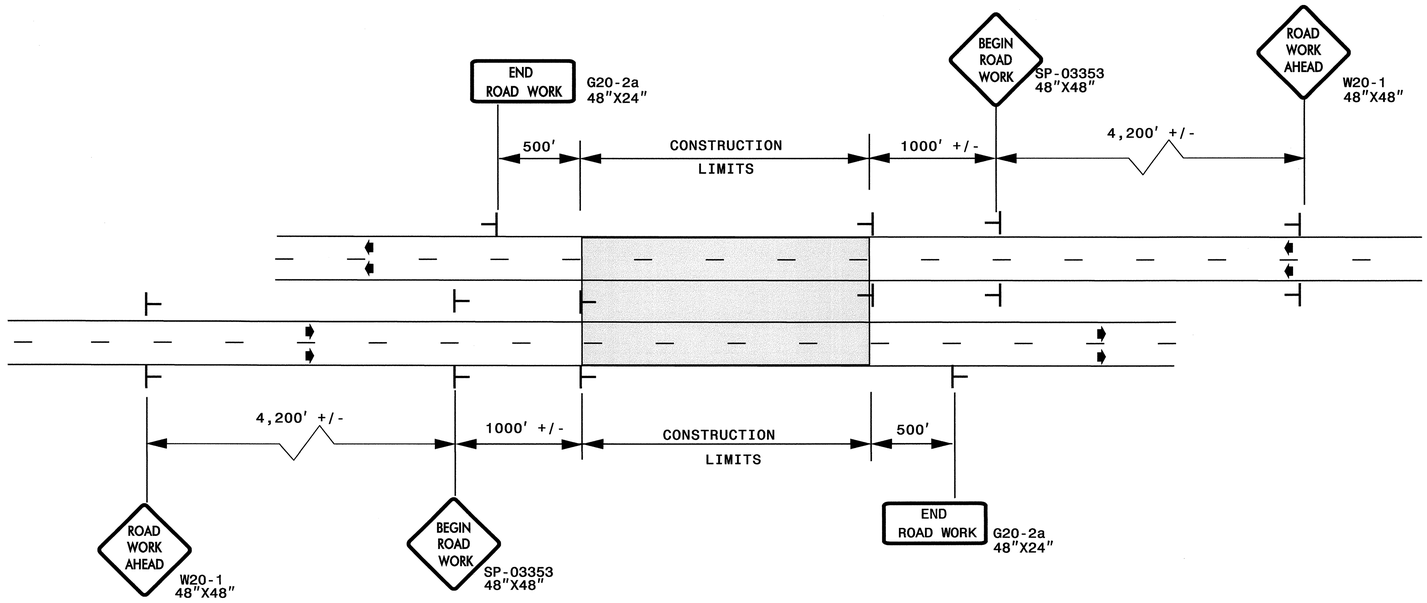
DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

TEMPORARY SHORING DATA

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

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-2B

DETAIL A

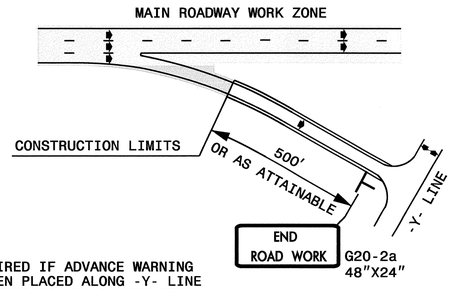


LEGEND
- ⊢ STATIONARY SIGN
- ➧ DIRECTION OF TRAFFIC FLOW

* USE THE "$250 SPEEDING PENALTY" SIGN, SPEED LIMIT SIGN, AND ORANGE PANEL; ONLY WHEN A "$250 SPEEDING PENALTY" ORDINANCE HAS BEEN ISSUED BY THE REGIONAL TRAFFIC ENGINEER.

DETAIL B

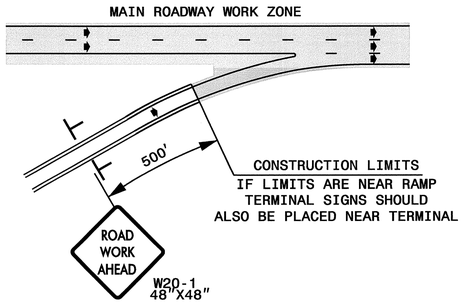
EXIT RAMPS



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.

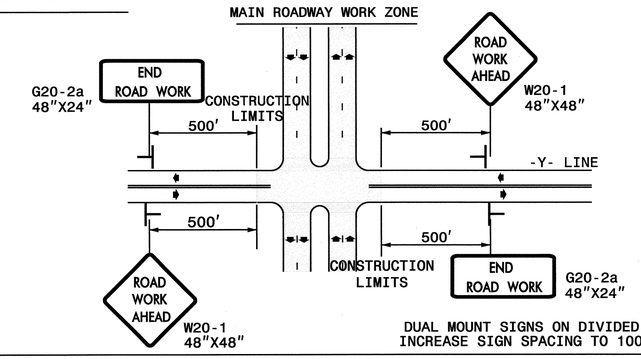
DETAIL C

ENTRANCE RAMPS



DETAIL D

-Y- LINES



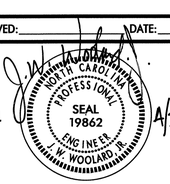
DUAL MOUNT SIGNS ON DIVIDED HIGHWAYS AND INCREASE SIGN SPACING TO 1000'+/-.

GENERAL NOTES

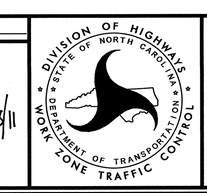
- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, 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: _____ DATE: _____

SEAL



4/28/11



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

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-2C

SP 03353

SIGN NUMBER: SP-03353
TYPE: A
QUANTITY: 1

SIGN WIDTH: 4'-0"
HEIGHT: 4'-0"
TOTAL AREA: 16.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.59"
WIDTH: 0.75"
RADII: 1.38"

NO. Z BARS: N/A
LENGTH: N/A

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L:

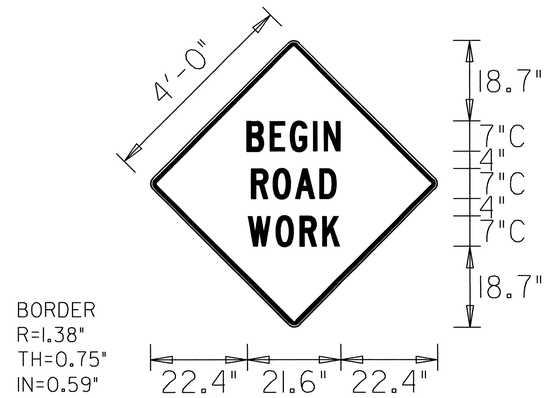
DESIGNED BY: DESIGNER
PROJECT ID: ALL PROJECTS

CHECKED BY: CHECKED
DIV: DIV

STD #: W20-1
DATE: Aug 20,2003

USE NOTES: 2, 4

1. Legend and border shall be direct applied Type VII reflective sheeting.
2. Legend and border shall be direct applied non-reflective sheeting.
3. Shields shall be Type VII reflective sheeting on 0.032" (0.8mm) aluminum and demountable.
4. Background shall be Type VII reflective sheeting.
5. Background shall be Type I reflective sheeting.
6. Center arrow(s) vertically on sign.
7. Bottom panel shall be yellow Type III sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is:



LETTER POSITIONS

Letter spacings are to start of next letter																											Series/Size Text Length
		B	E	G	I	N																					C7
	22.4	5.3	4.6	5.4	2.5	3.8	22.4																				21.6
		R	O	A	D																						C7
	23.4	5	5.2	5.6	3.8	23.4																					19.6
		W	O	R	K																						C7
	22.6	6.4	5.6	5.2	4	22.6																					21.2

Spacing Factor is 1 unless specified otherwise

GENERAL NOTES FOR THE "BEGIN ROAD WORK" SIGN

-SIGN SP-03353 "BEGIN ROAD WORK" ONLY APPLIES TO FULL CONTROL AND PARTIAL CONTROL OF ACCESS ROADWAYS

-WHEN USED, INSTALL SIGN SP-03353 "BEGIN ROAD WORK" ACCORDING TO DETAIL A ON SHEET TMP-2B.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR. 4/28/11

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

DETAIL DRAWING FOR
ADVANCED WORK ZONE WARNING
SIGN DESIGNS

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-3

PHASING

STEP 1: - INSTALL OFF-SITE DETOUR ROUTE SIGN ASSEMBLIES FOR SR 1792 -L- CLOSURE(SEE TMP-4).

- USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, CLOSE SR 1792 -L- TO THRU TRAFFIC AND SHIFT SR 1792 TRAFFIC ONTO OFFSITE DETOUR.

STEP 2: - USING RSD NO. 1101.02, SHEET 3 OF 9, INSTALL PORTABLE CONCRETE BARRIER ON THE OUTSIDE SHOULDERS OF I-85 BUS/US 29-70 AS SHOWN ON TMP-5

STEP 3: - USING RSD NO. 1101.02 SHEET 9 OF 9, STOP TRAFFIC ON I-85BUS/US 29-70 TO REMOVE EXISTING STRUCTURES, SEE GENERAL NOTES(TMP-1B, (A))

- BEHIND PORTABLE CONCRETE BARRIER REMOVE EXISTING END BENTS AND COMPLETE CONSTRUCTION OF PROPOSED END BENTS

- BEGIN CONSTRUCTION OF -L- FROM STA.18+00 TO STA. 20+92 AND FROM STA. 22+82 TO STA. 25+50

- ONCE END BENTS COMPLETE, REMOVE PCB FROM THE SHOULDERS

STEP 4: - USING RSD NO. 1101.02 SHEET 3 AND 8 OF 9, CLOSE BOTH INSIDE LANES ON I-85 BUS/US 29-70 AND INSTALL PCB ON -EY1- AS SHOWN ON TMP-6

- BEHIND BARRIER, INSTALL SHORING AS SHOWN ON TMP-6 AND COMPLETE CONSTRUCTION OF CENTER BENT

STEP 5: - USING RSD NO. 1101.02 SHEET 9 OF 9, TO STOP TRAFFIC ON I-85BUS/US 29-70, INSTALL GIRDERS, COMPLETE CONSTRUCTION OF PROPOSED STRUCTURE

STEP 6: - BEHIND BARRIER REMOVE SHORING AND REPLACE MEDIAN SHOULDER

STEP 7: - REMOVE PORTABLE CONCRETE BARRIER AND TRAFFIC CONTROL DEVICES. PLACE TRAFFIC BACK INTO EXISTING PATTERN ON I-85 BUS/US 29-70(-EY1-).

STEP 8: - COMPLETE CONSTRUCTION OF -L FROM STA.18+00 TO STA.25+50 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE.

STEP 9: - PLACE FINAL LAYER OF SURFACE COURSE & FINAL MARKING ON -L- AND OPEN ALL ROADS TO TRAFFIC

STEP 10: - REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN -L- TO THE FINAL TRAFFIC PATTERN.

APPROVED:_____ DATE:_____

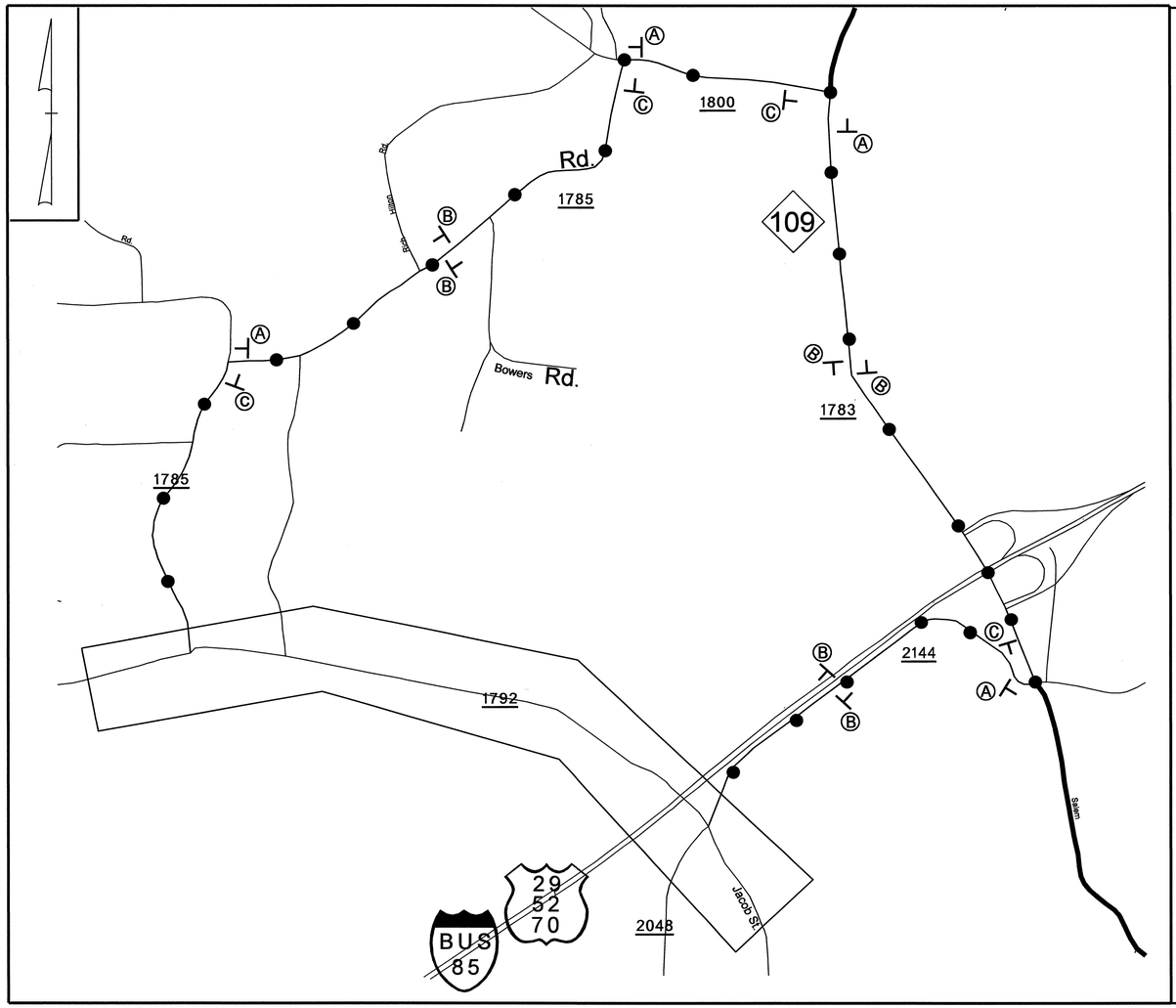
SEAL

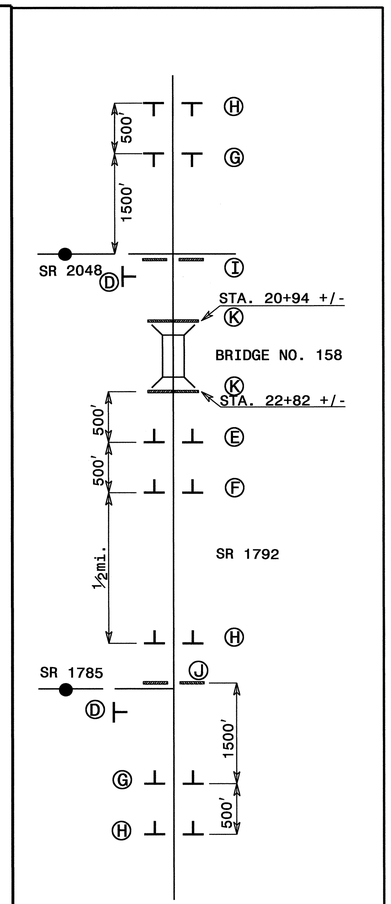
NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD JR. 4/28/11

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

PHASING

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-4





INSET A

42" x 24"
MARTIN LUTHER KING, JR. DR.
DETOUR M4-8 24" X 12"
M6-1L 21" x 15"
A

42" x 24"
MARTIN LUTHER KING, JR. DR.
DETOUR M4-8 24" X 12"
M6-3 21" X 15"
B

42" x 24"
MARTIN LUTHER KING, JR. DR.
DETOUR M4-8 24" X 12"
M6-1R 21" x 15"
C

END DETOUR M4-8 A 24" x 18"
D

ROAD CLOSED 500 FT W20-3 48" X 48"
E

ROAD CLOSED 1000 FT W20-3 48" X 48"
F

DETOUR AHEAD W20-2 48" X 48"
G

ROAD CLOSED AHEAD W20-3 48" X 48"
H

R11-2 48" x 30"
ROAD CLOSED
W1-6R 48" x 24"
TYPE III BARRICADE
I

R11-4 60" x 30"
ROAD CLOSED TO THRU TRAFFIC
DETOUR
M4-10L 48" x 18"
TYPE III BARRICADE
J

R11-2 48" x 30"
ROAD CLOSED
TYPE III BARRICADE
K

OFFSITE DETOUR

NOTES:
1. REFER TO RSD 1101.03, SHEET 1 OF 9 AND 2 OF 9, FOR DISTANCES AND SIGNS PLACEMENT.
2. SEE SHEET SD-1 FOR "MARTIN LUTHER KING, Jr. DRIVE" SIGN DESIGN

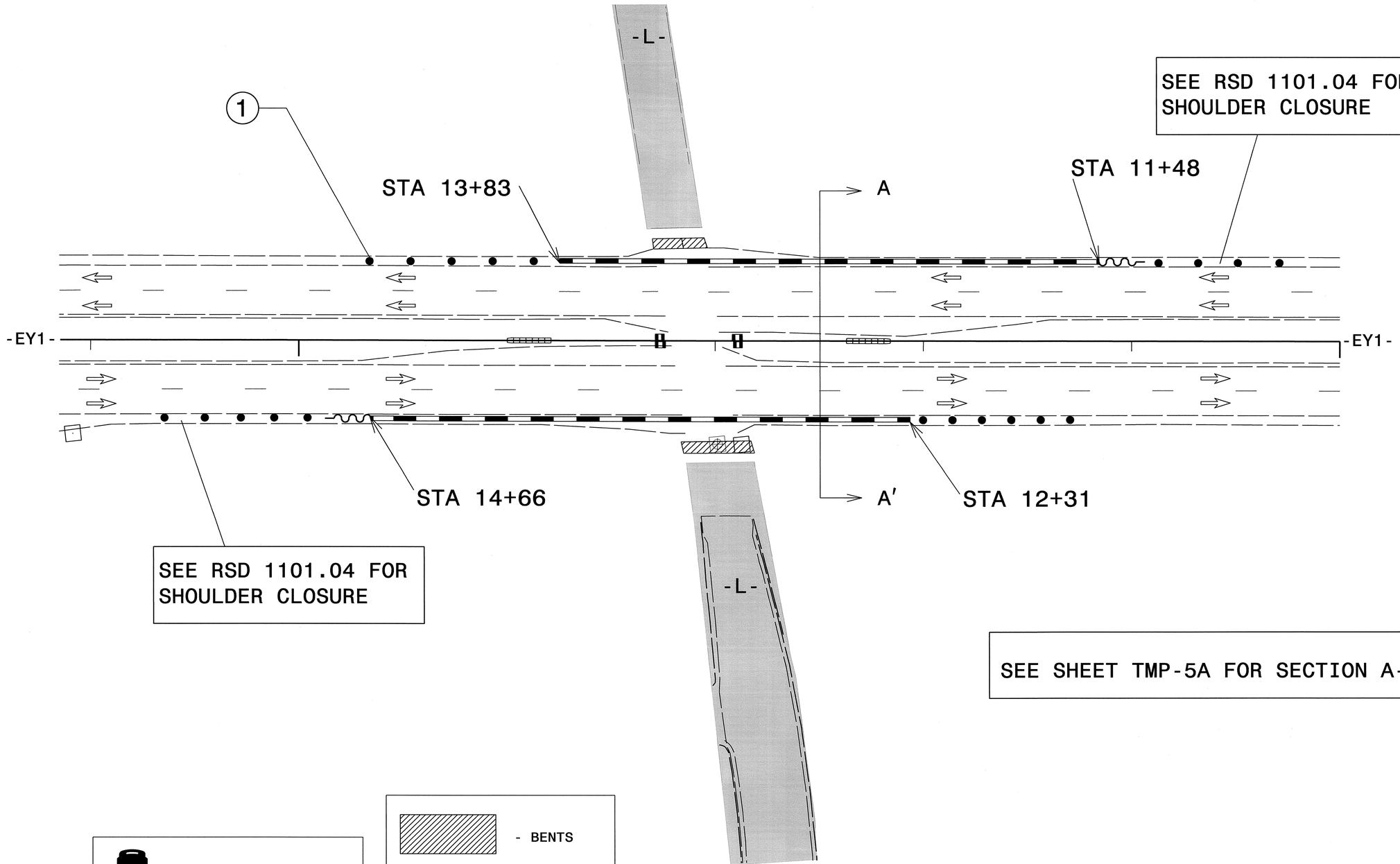
APPROVED: _____ DATE: _____

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD JR. 4/28/11

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

OFFSITE DETOUR ROUTE AND BARRICADE PLACEMENT ON MARTIN LUTHER KING, JR. DR.

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-5



APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR. 4/28/11

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

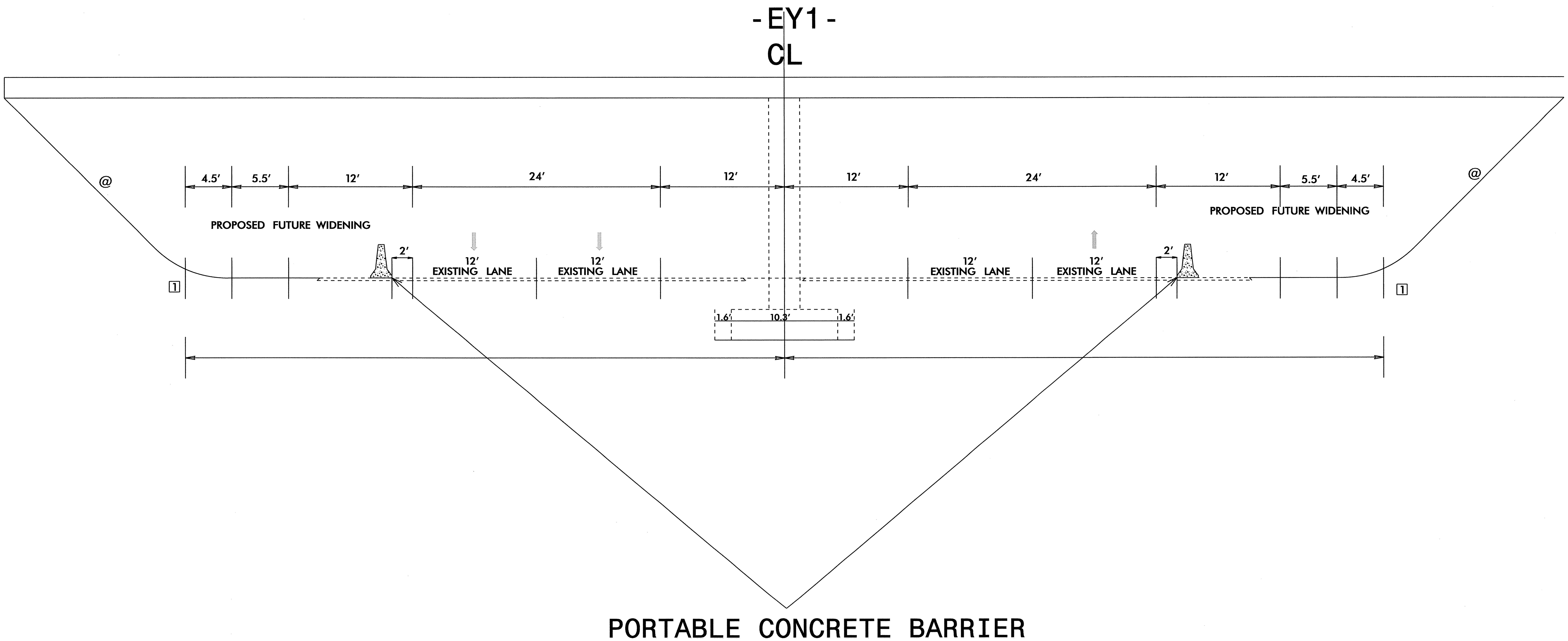
TEMPORARY TRAFFIC CONTROL I

27-APR-2011 15:17
\\dot\dfsroot01\proj\TIPProjects-B\B4499\Traffic\TrafficControl\TCP\New TCP\B-4499_TC_TMP-5.dgn
mslshak AT TE2444732

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-5A

PORTABLE CONCRETE BARRIER

SECTION A–A′



APPROVED: ____ DATE ____

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR. — 4/28/11

PORTABLE CONCRETE BARRIER

SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

REVISIONS

CADD FILE

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-6

TEMPORARY SHORING NO.1
QUANTITY = 550 sq.ft
8′ FEET LEFT OF -EY1- STA. 12+65+/- TO STA.13+60+/-

1

SEE RSD 1101.02
(sheet 3 of 9)
FOR LANE CLOSURE

STA 13+83

CB-E

B

STA 11+48

-EY1-

-EY1-

STA 14+65

CB-E

B′

STA 12+31

TEMPORARY SHORING NO.2
QUANTITY = 550 sq.ft
8′ FEET RIGHT OF -EY1- STA. 12+65+/- TO STA.13+60+/-

2

SEE RSD 1101.02
(sheet 3 of 9)
FOR LANE CLOSURE

SEE SHEET TMP-6B FOR SECTION B-B′

1

- BENTS

- WORK AREA

APPROVED: DATE: 6/2/11

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD JR.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

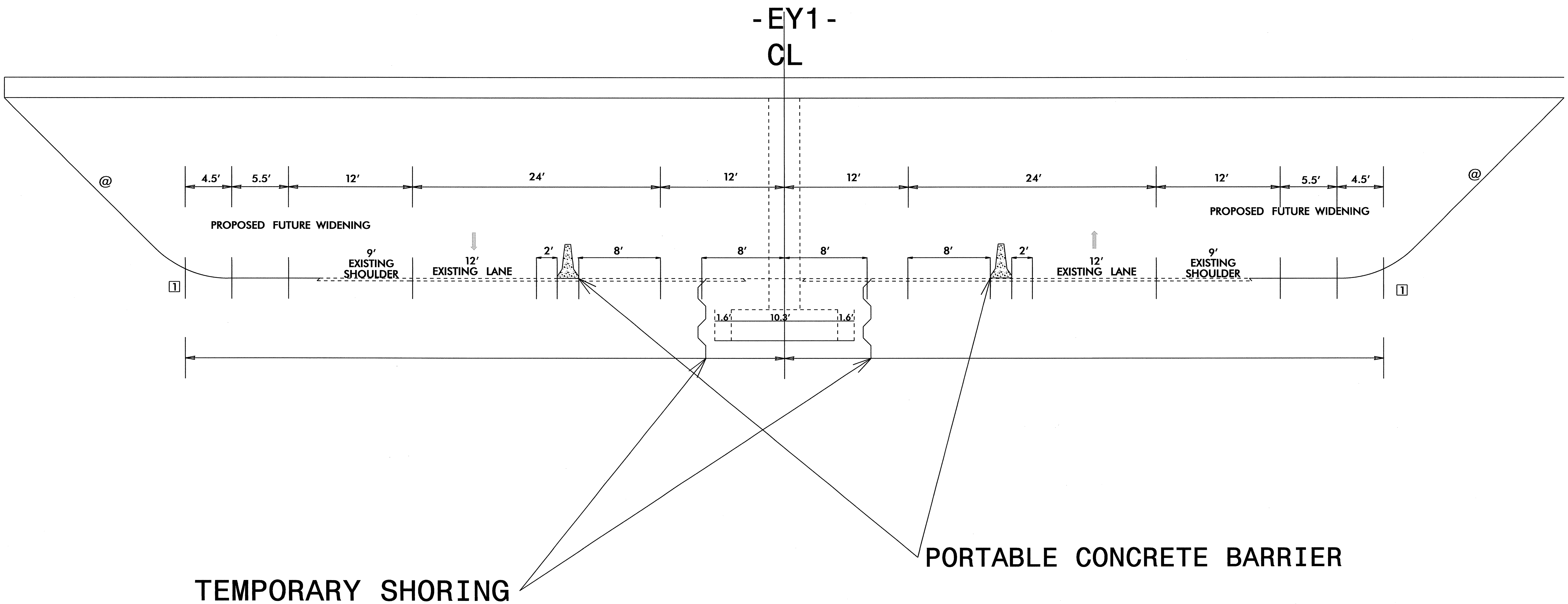
TEMPORARY TRAFFIC CONTROL II

02-JUN-2011 08:16
\\DOT\DFSR00T01\PROJ\TIPProjects-B\B4499\Traffic\TrafficControl\TCP\New TCP\B-4499_TC_TMP-6.dgn
jwoolard AT TE244740

PROJ. REFERENCE NO.	SHEET NO.
B-4499	TMP-6A

PORTABLE CONCRETE BARRIER & TEMPORARY SHORING

SECTION B–B′



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msishak AT TE244732

APPROVED:	DATE:
SEAL	NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR. 4/28/11

PORTABLE CONCRETE BARRIER & TEMPORARY SHORING

SCALE:	NONE
DATE:	
DWG. BY:	
DESIGN BY:	
REVIEWED BY:	

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

REVISIONS	
CADD FILE	