

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-4032	TCP-01

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

B-4032

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
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS DEVICES
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS - TEMPORARY AND PERMANENT
1253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-01	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS AND PAVEMENT MARKING/MARKER SCHEDULE
TCP-02	GENERAL NOTES
TCP-03	TRAFFIC CONTROL PHASING
TCP-04	TRAFFIC CONTROL DETAILS
TCP-05	ADVANCE 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
- 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

PAVEMENT MARKING/MARKER SCHEDULE

DESCRIPTION	QUANTITY BREAKDOWN	TOTAL QUANTITY
	<u>PAINT (4")</u>	
PA WHITE EDGELINE	7600 LF	15200 LF
PI YELLOW DOUBLE CENTER	7600 LF	
	<u>THERMOPLASTIC (4", 90 MILS)</u>	
TA WHITE EDGELINE	1800 LF	1800 LF
	<u>THERMOPLASTIC (4", 120 MILS)</u>	
TI YELLOW DOUBLE CENTER	1800 LF	1800 LF
	<u>TEMPORARY RAISED PAVEMENT MARKERS</u>	
YELLOW & YELLOW	100 EA	100 EA
	<u>SNOWPLOWABLE PAVEMENT MARKERS</u>	
YELLOW & YELLOW	25 EA	25 EA

APPROVED: DATE: <u>Aug 2, 2008</u>	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
 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 TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

01-MAY-2008 14:05 N:\dot\pfs\097101_P-06\TIPProjects-b\4032\traffic\control\tcp\4032_tcp01_tsh.dgn

TIP PROJECT:

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 UNDESIRE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING 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.
- C) 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.
- D) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.
- E) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.
- F) 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.

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 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.
- H) 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) 100 FT. IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

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 100 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 DETOUR SIGNING WITHIN THE PROJECT LIMITS.
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- N) WHEN USING ROADWAY STANDARD NO. 1101.02, DRUMS MAY BE USED IN LIEU OF CONES ON NC 9
- O) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- P) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

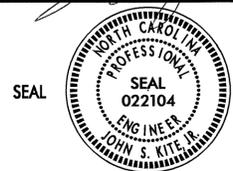
PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
NC 9	THERMOPLASTIC	SNOWPLOWABLE
- R) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON DETOUR AND INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
DETOUR	PAINT	RAISED
NC 9	PAINT	RAISED
- S) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST, AS DETERMINED BY THE ENGINEER.
- T) 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.
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- V) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

29-FEB-2008 11:30 AM C:\Users\jpk\Documents\Projects\B4032\TrafficControl\top\B4032_top02.gnotes.dgn

APPROVED:  DATE: 2/29/08 	<h2 style="margin: 0;">GENERAL NOTES</h2> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">SCALE: NONE</td> <td rowspan="4" style="width: 30%; text-align: center;">  </td> <td style="width: 40%;">REVISIONS</td> </tr> <tr> <td>DATE: 10/07</td> <td></td> </tr> <tr> <td>DWG. BY: AKP</td> <td></td> </tr> <tr> <td>DESIGN BY: AKP</td> <td></td> </tr> <tr> <td>REVIEWED BY: DAP</td> <td></td> <td></td> </tr> </table>	SCALE: NONE		REVISIONS	DATE: 10/07		DWG. BY: AKP		DESIGN BY: AKP		REVIEWED BY: DAP		
SCALE: NONE		REVISIONS											
DATE: 10/07													
DWG. BY: AKP													
DESIGN BY: AKP													
REVIEWED BY: DAP													

PROJ. REFERENCE NO.	SHEET NO.
B-4032	TCP-03
BUNCOMBE	

PROJECT PHASING

PHASE I

- STEP 1 -- INSTALL ADVANCED WORK ZONE WARNING SIGNS (SEE TCP-05)
- STEP 2 -- USING FLAGGERS, CONSTRUCT TEMP. DETOUR UP TO THE EDGE AND ELEVATION OF EXISTING ALIGNMENT FROM
-DET- STA. 14+25 +/- TO 23+93 +/-
(SEE TCP-04 AND RSD 1101.02, SHEET 1)

WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK OF STEP 3 AND 4 IN A SINGLE WORK PERIOD

- STEP 3 -- PLACE TRAFFIC IN A ONE LANE, TWO WAY PATTERN IN THE EXISTING NORTHBOUND LANE AND TIE IN THE SOUTHBOUND LANE OF THE DETOUR. PLACE TEMPORARY EDGELINE, DOUBLE YELLOW CENTERLINE, AND TEMP. RAISED MARKERS. (SEE RSD 1101.02, SHEET 1 AND RSD 1101.03, SHEET 3)
- INSTALL ONSITE DETOUR SIGNING AS SHOWN ON RSD 1101.03, SHEET 3)
- STEP 4 -- PLACE TRAFFIC IN A ONE LANE, TWO WAY PATTERN IN THE DETOUR SOUTHBOUND LANE AND TIE IN THE DETOUR NORTHBOUND LANE AND PLACE TEMP. EDGELINE.
(SEE RSD 1101.02, SHEET 1 AND RSD 1101.03, SHEET 3)
- STEP 5 -- OPEN THE DETOUR TO A TWO LANE, TWO WAY PATTERN AND CLOSE THE EXISTING ALIGNMENT (SEE RSD 1101.03, SHEET 3)

PHASE II

- STEP 1 -- CONSTRUCT PROPOSED NC 9 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, OMITTING THE TIE IN AREA (SEE TCP-04 AND RSD 1101.02, SHEET 1).

WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK OF STEP 2 AND 3 IN A SINGLE WORK PERIOD

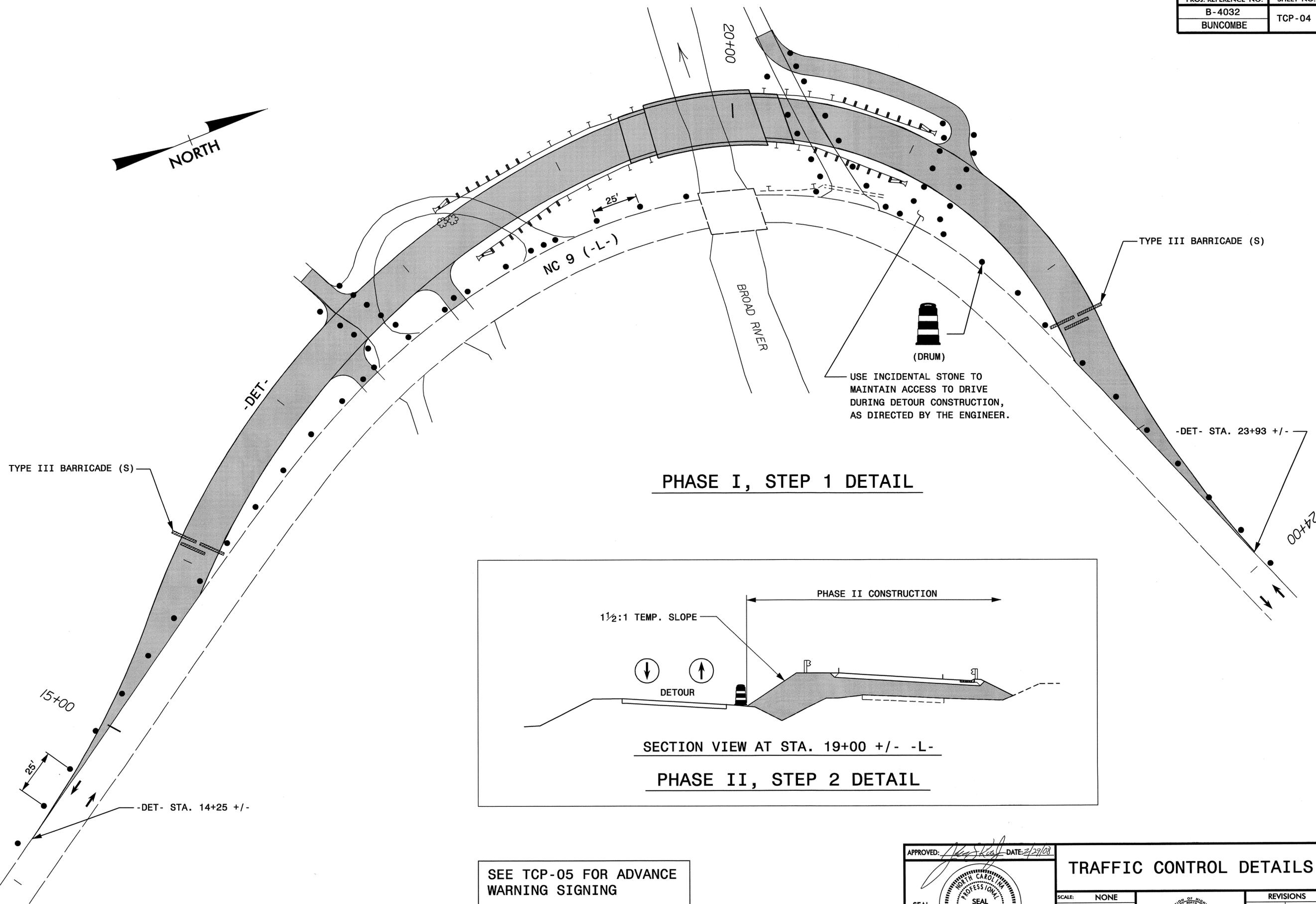
- STEP 2 -- PLACE TRAFFIC IN A ONE LANE, TWO WAY PATTERN IN THE DETOUR SOUTHBOUND LANE AND CONSTRUCT THE TIE IN WITH THE PROPOSED NC 9 NORTHBOUND LANE. PLACE TEMPORARY EDGE LINE AND DOUBLE YELLOW CENTERLINE ON THE PROPOSED NORTHBOUND LANE OF NC 9 (SEE RSD 1101.02, SHEET 1)
- STEP 3 -- PLACE TRAFFIC IN A ONE LANE, TWO WAY PATTERN IN THE PROPOSED NORTHBOUND LANE OF NC 9 AND CONSTRUCT THE TIE IN WITH THE PROPOSED NC 9 SOUTHBOUND LANE. PLACE TEMPORARY EDGELINE ON THE PROPOSED SOUTHBOUND LANE OF NC 9 (SEE RSD 1101.02, SHEET 1)
- STEP 4 -- OPEN NC 9 TO A TWO LANE, TWO WAY PATTERN AND CLOSE THE DETOUR (SEE RSD 1101.03, SHEET 3)

PHASE III

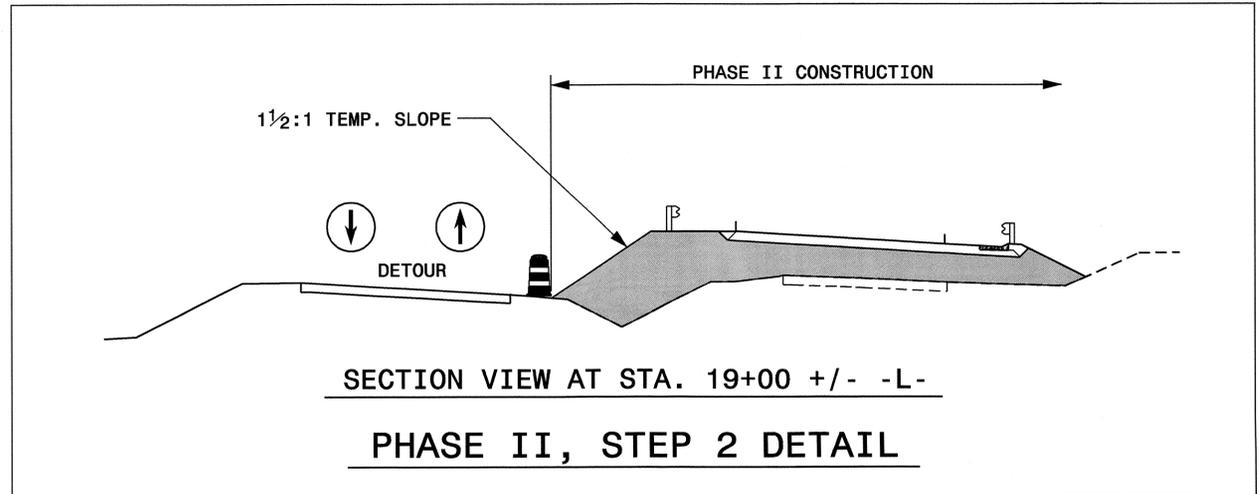
- STEP 1 -- USING FLAGGERS, REMOVE DETOUR, COMPLETE FILL SLOPES, AND DRIVEWAYS. (SEE RSD 1101.02, SHEET 1)
- STEP 2 -- USING FLAGGERS, PLACE FINAL LAYER OF SURFACE COURSE AND FINAL MARKINGS (SEE RSD 1101.02, SHEET 1)
- STEP 3 -- REMOVE ALL TRAFFIC CONTROL DEVICES

29-FEB-2008 11:30
\\dot\ad\sr\021012\p\c\TIPProjects-b\4032\tr\affic\tr\fficoontr\top\4032-tcp03-phasing.dgn
ORP\TBI AT MZ1C224091

APPROVED:  DATE: 10/07 	<h2 style="margin: 0;">TRAFFIC CONTROL PHASING</h2>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">REVISIONS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	REVISIONS									
REVISIONS												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>SCALE: NONE</td> <td rowspan="5" style="text-align: center;">  </td> </tr> <tr> <td>DATE: 10/07</td> </tr> <tr> <td>DWG. BY: AKP</td> </tr> <tr> <td>DESIGN BY: AKP</td> </tr> <tr> <td>REVIEWED BY: DAP</td> </tr> </table>	SCALE: NONE		DATE: 10/07	DWG. BY: AKP	DESIGN BY: AKP	REVIEWED BY: DAP	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">  </td> <td style="width: 50%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">CARD FILE</td> </tr> </table> </td> </tr> </table>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">CARD FILE</td> </tr> </table>	CARD FILE		
SCALE: NONE												
DATE: 10/07												
DWG. BY: AKP												
DESIGN BY: AKP												
REVIEWED BY: DAP												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">CARD FILE</td> </tr> </table>	CARD FILE										
CARD FILE												



PHASE I, STEP 1 DETAIL



SEE TCP-05 FOR ADVANCE WARNING SIGNING

APPROVED: *[Signature]* DATE: 2/29/08

SEAL

TRAFFIC CONTROL DETAILS

SCALE:	NONE		<table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISIONS							
REVISIONS											
DATE:	10/07										
DWG. BY:	AKP										
DESIGN BY:	AKP										
REVIEWED BY:	DAP	CADD FILE									

29 FEB 2008 11:51 \\D:\Projects\B-4032\Traffic\TrafficControl\Top\4032_top04_det.dgn
 c:\p1\at\1224097

