STATE PROJECT REFERENCE NO.	SHEET NO.
B-4063	TCP-01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

CHATHAM COUNTY

B-4063

TIP PROJECT:

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
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS - TEMPORARY AND PERMANENT
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS
1264.02	PLACEMENT OF OBJECT MARKERS

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-01	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS AND TEMPORARY PAVEMENT MARKING SCHEDULE
TCP-02	GENERAL NOTES
TCP-03	TRAFFIC CONTROL PHASING
TCP-04	TRAFFIC CONTROL DETAILS
TCP-05	DETOUR ROUTE AND SIGNING
TCP-06	ADVANCE WARNING SIGNS

PAVEMENT MARKING/MARKER SCHEDULE

	DESCRIPTION	QUANTITY BREAKDOWN	TOTAL QUANTITY
	THERMOPLASTIC (4", 90 MILS)		
	WHITE EDGELINE	4000 LF	4000 LF
	THERMOPLASTIC (4", 120 MILS)		
	YELLOW DOUBLE CENTER	4000 LF	4000 LF
	PAINT (4")		
PA	WHITE EDGELINE	10000 LF	
PI	YELLOW DOUBLE CENTER	10000 LF	20000 LF
	PAINT (24")		
P4	WHITE STOPBAR	180 LF	180 LF
	PERMANENT RAISED PAVEMENT MARKERS		
	YELLOW & YELLOW	30 EA	30 EA
	TEMPORARY RAISED PAVEMENT MARKERS		
	YELLOW & YELLOW	30 EA	30 EA

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

APPROVED: John S. Kite Jr.
DATE: December 19, 2007

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

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

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

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PROJ. REFERENCE NO.	SHEET NO.
B-4063	TCP-02
CHATHAM	

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.

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 WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

F) 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.

G) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

I) 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.

J) PROVIDE PERMANENT SIGNING.

K) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.

L) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

N) 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.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
NC 902	THERMOPLASTIC	RAISED
OTHER ROADS	PAINT	NONE

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

ROAD NAME	MARKING	MARKER
NC 902	PAINT	TEMP. RAISED
OTHER ROADS	PAINT	NONE

R) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

S) 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.

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

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

APPROVED: _____ DATE: 12/9/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE JR.

GENERAL NOTES

SCALE:	NONE
DATE:	10/07
DWG. BY:	AKP
DESIGN BY:	AKP
REVIEWED BY:	DAP

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

REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
B-4063	TCP-03
CHATHAM	

PROJECT PHASING

PHASE I

STEP 1 -- INSTALL ADVANCE WARNING SIGNS (SEE TCP-5).

NOTE: STEPS 2 THROUGH 4 MAY BE WORKED CONCURRENTLY.

STEP 2 -- USING FLAGGERS, BEGIN CONSTRUCTION OF THE APPROACHES AND PROPOSED STRUCTURE ON NC 902 AND ROSCOE RD., UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE TCP-4 AND RSD 1101.02, SHEET 1)

COMPLETE THE WORK OF STEP 3 IN ACCORDANCE WITH INTERMEDIATE CONTRACT TIME NO. 1

STEP 3 -- INSTALL THE 72" DIA. RCP AT -L- STA. 19+31 +/- IN THE FOLLOWING SEQUENCE:

A.) NOTIFY THE RESIDENT ENGINEER IN ACCORDANCE WITH GENERAL NOTE "H".

B.) CLOSE NC 902 IN ACCORDANCE WITH RSD 1101.03, SHEET 1 AND TCP-05.

C.) AWAY FROM TRAFFIC, INSTALL THE PIPE, BACKFILL, AND PAVE. (SEE CONSTRUCTION PLANS.)

D.) RE-OPEN NC 902 TO TRAFFIC.

E.) COVER OR REMOVE DETOUR SIGNING.

COMPLETE THE WORK OF STEP 4 IN ACCORDANCE WITH INTERMEDIATE CONTRACT TIME NO. 2

STEP 4 -- INSTALL THE 36" DIA. RCP AT -L- STA. 28+37 +/- IN THE FOLLOWING SEQUENCE:

A.) NOTIFY THE RESIDENT ENGINEER IN ACCORDANCE WITH GENERAL NOTE "H".

B.) CLOSE NC 902 IN ACCORDANCE WITH RSD 1101.03, SHEET 1 AND TCP-05.

C.) AWAY FROM TRAFFIC, INSTALL THE PIPE, BACKFILL, AND PAVE. (SEE CONSTRUCTION PLANS.)

D.) RE-OPEN NC 902 TO TRAFFIC.

E.) COVER OR REMOVE DETOUR SIGNING.

STEP 5 -- COMPLETE THE APPROACHES AND PROPOSED STRUCTURE ON NC 902 AND ROSCOE RD., UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE TO THE EDGE AND ELEVATION OF EXISTING NC 902 AS BEGUN IN STEP 2. (SEE TCP-4 AND RSD 1101.02, SHEET 1)

PHASE II

STEP 1 -- USING FLAGGERS, CONSTRUCT THE TIE INS BETWEEN PROPOSED AND EXISTING ALIGNMENTS, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN AND OPEN THE PROPOSED ALIGNMENT TO TRAFFIC. (SEE RSD 1101.02, SHEET 1)

-- USE DRUMS AND BARRICADES TO CLOSE ACCESS FROM DRIVEWAYS TO EXISTING BRIDGE

-- USE TYPE III BARRICADES TO CLOSE BARKER RD. (-Y1-) AT NC 902. (SEE PHASE II DETAIL, TCP-4)

STEP 2 -- AWAY FROM TRAFFIC, CONSTRUCT BARKER RD. (-Y1-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN.

-- USING FLAGGERS, COMPLETE -DRIVE 1 AND -DRIVE 2-, SEE RSD 1101.02, SHEET 1.

STEP 3 -- RE-OPEN BARKER RD. (-Y1-) TO THE FINAL TRAFFIC PATTERN.

STEP 4 -- REMOVE THE EXISTING STRUCTURE AND APPROACHES. (SEE RSD 1101.02, SHEET 1)

STEP 5 -- USING FLAGGERS, PLACE FINAL LAYER OF SURFACE COURSE AND PAVEMENT MARKINGS/MARKERS. (SEE RSD 1101.02, SHEET 1)

STEP 6 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: [signature] DATE: 12/31/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

TRAFFIC CONTROL PHASING

SCALE:	NONE
DATE:	10/07
DWG. BY:	AKP
DESIGN BY:	AKP
REVIEWED BY:	DAP

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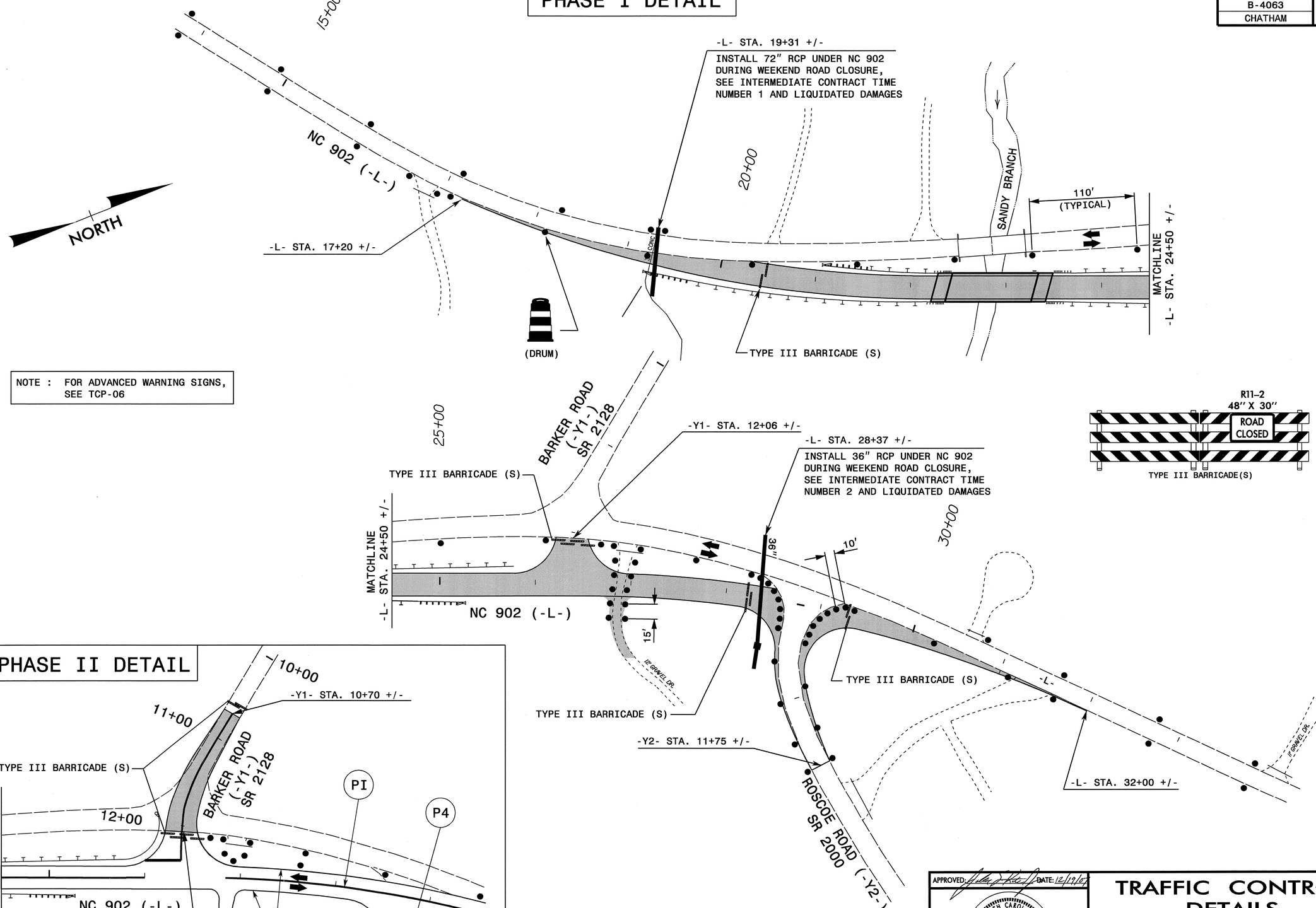
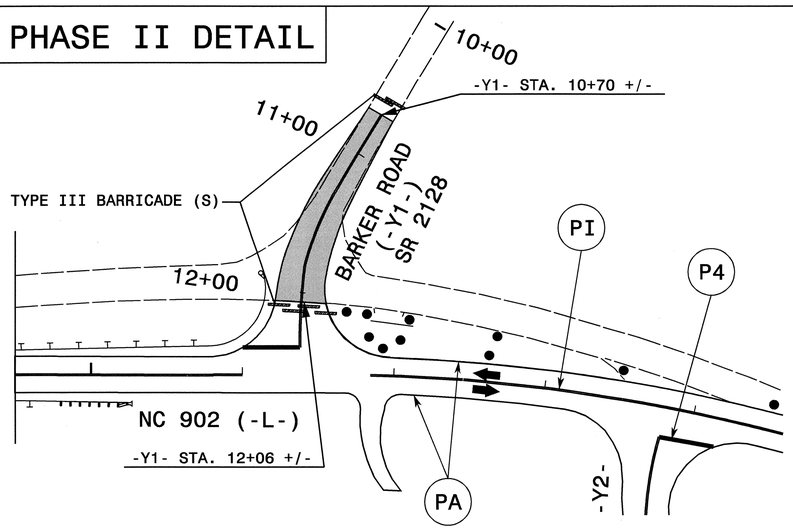
PROJ. REFERENCE NO.	SHEET NO.
B-4063	TCP-04
CHATHAM	

PHASE I DETAIL



NOTE : FOR ADVANCED WARNING SIGNS, SEE TCP-06

PHASE II DETAIL



APPROVED: [signature] DATE: 12/19/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

TRAFFIC CONTROL DETAILS

SCALE:	NONE
DATE:	10/07
DWG. BY:	AKP
DESIGN BY:	AKP
REVIEWED BY:	DAP

REVISIONS

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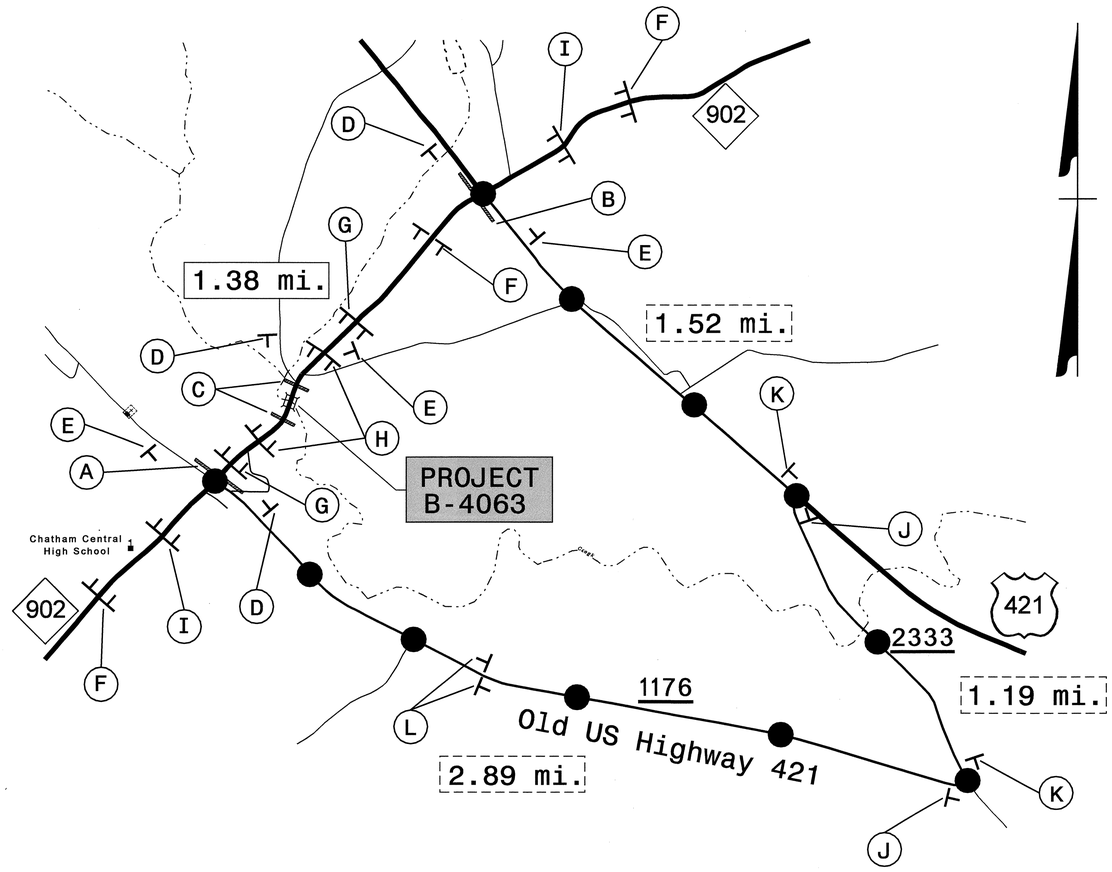
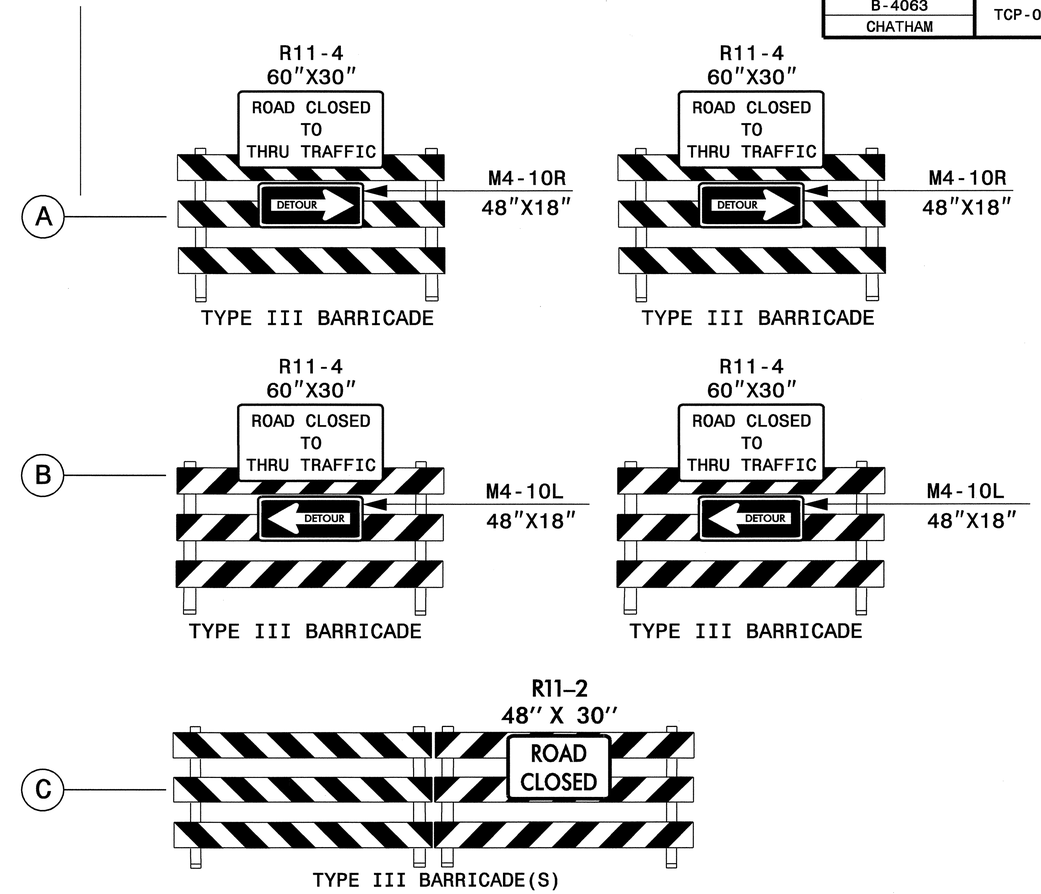
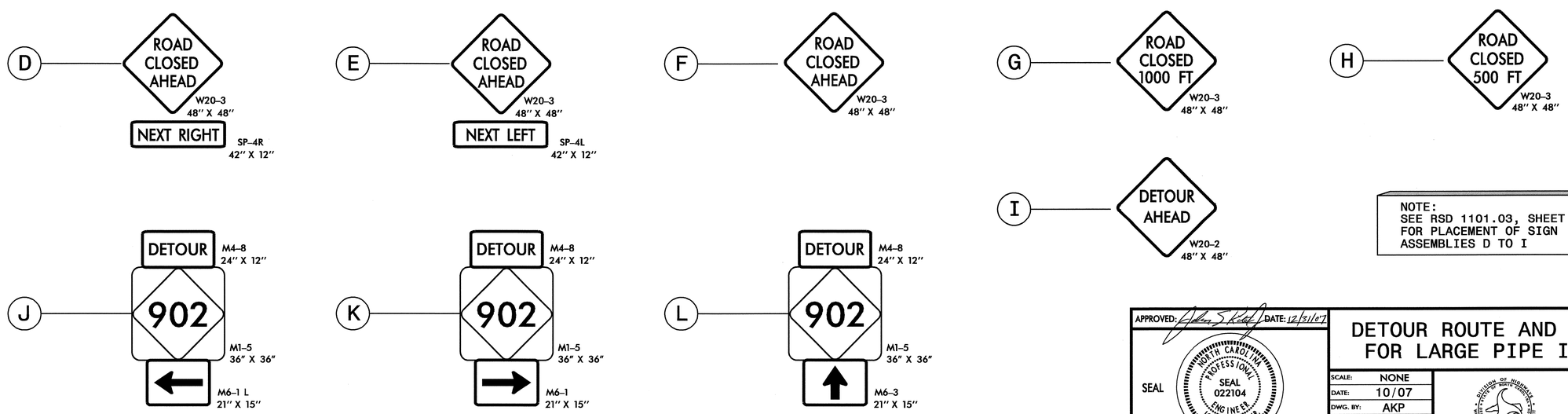
PROJ. REFERENCE NO.	SHEET NO.
B-4063	TCP-05
CHATHAM	





DETOUR ROUTE



NOTE:
SEE RSD 1101.03, SHEET 1 OF 9
FOR PLACEMENT OF SIGN
ASSEMBLIES D TO I

APPROVED: [signature] DATE: 12/31/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE JR.

DETOUR ROUTE AND SIGNING FOR LARGE PIPE INSTALL

SCALE:	NONE
DATE:	10/07
DWG. BY:	AKP
DESIGN BY:	AKP
REVIEWED BY:	DAP

REVISIONS

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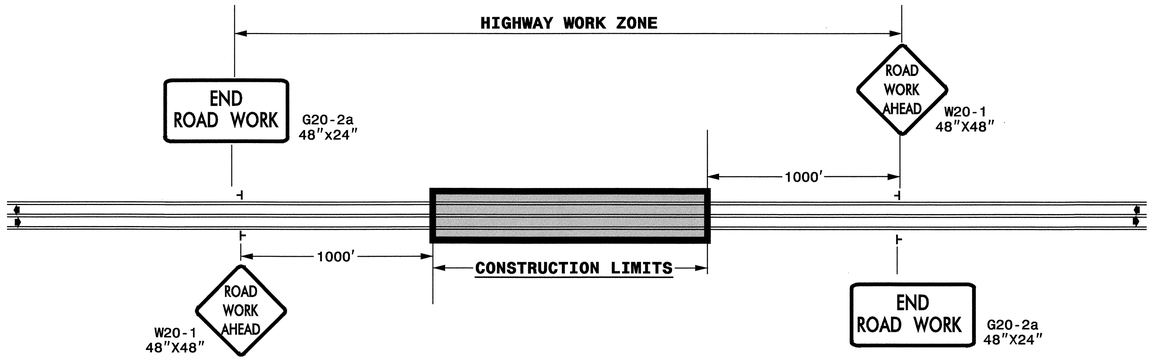
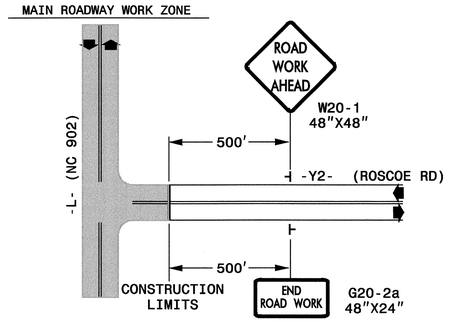
PROJ. REFERENCE NO.	SHEET NO.
B-4063	TCP-06
CHATHAM	

TWO-WAY UNDIVIDED ** (L-LINES)



ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (-Y2- ROSCOE ROAD)



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

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

DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED: Helen S. Kotecki DATE: 12/31/07

SEAL — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022104 JOHN S. KITE

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

SCALE:	NONE
DATE:	10/07
DWG. BY:	AKP
DESIGN BY:	AKP
REVIEWED BY:	DAP

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