B-3853

TIP PROJECT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-3853	TCP-1

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

HALIFAX 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 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
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES-TYPE III
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)

INDEX OF SHEETS

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	TEMPORARY PAVEMENT MARKINGS	PAY ITEM QUANITY BREAKDOWN		TOTAL QUANTITY
		PAINT (4")			
PA	WHITE EDGELINE (2X)		6,932	L.F.	
PF	10 FT.YELLOW SKIP (2X)		500	L.F.	
PH	YELLOW SINGLE CENTER (2X)		2,000	L.F.	
PI	YELLOW DOUBLE CENTER (2X)		14,932	L.F.	
				TOTAL	24,364 L.F.
		MARKERS			
		TEMPORARY RAISED PAVEMENT MARKERS			
MH	YELLOW & YELLOW		143	EA.	
				TOTAL	143 EA.

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

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS	PAY ITEM QUANITY BREAKDOWN		TOTAL QUANTITY
		THERMOPLASTIC (4", 90 MILS)			
TA	WHITE EDGELINE		1,758	L.F.	
				TOTAL	1,758 L.F.
		THERMOPLASTIC (4", 120 MILS)			
TF	10 FT. YELLOW SKIP		964	L.F.	
TH	YELLOW SINGLE CENTER		1,331	L.F.	
				TOTAL	2,295 L.F.
		MARKERS			
		PERMANENT RAISED PAVEMENT MARKERS			
MA	YELLOW & YELLOW		48	EA.	
				TOTAL	48 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: Chad L. Lanford
DATE: January 3, 2007

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 030528 ENGINEER CHAD L LANFORD

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

J. S. BOURNE, P.E. — TRAFFIC CONTROL ENGINEER
M. M. McDIARMID, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
C. L. LANFORD, P.E. — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
S. B. COATS — TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

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PROJ. REFERENCE NO.	SHEET NO.
B-3853	TCP-2

PROJECT NOTES

GENERAL NOTES

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.

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.

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 WITHIN 40 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101D04 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 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.

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 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 1.5 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC.

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.

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) PROVIDE PERMANENT SIGNING.

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

TRAFFIC CONTROL DEVICES

M) WHEN USING ROADWAY STANDARD NO. 1101.02, CONES MAY BE USED IN LIEU OF DRUMS ON NC 561.

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.

O) 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

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

ROAD NAME	MARKING	MARKER
-L- (NC 561)	THERMO	PERMANENT RAISED

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

ROAD NAME	MARKING	MARKER
-DET- (NC 561)	PAINT	TEMPORARY RAISED
-L- (NC 561)	PAINT	TEMPORARY RAISED

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

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

T) 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.

PHASING

PHASE I

STEP 1. INSTALL ALL WORK ZONE ADVANCE WARNING SIGNS ON NC 561. IF WORK IS NOT PURSUED WITHIN THREE DAYS OF SIGN INSTALLATION, THE SIGNS SHALL BE COVERED OR REMOVED IN A METHOD APPROVED BY THE ENGINEER ACCORDING TO STANDARD SPECS SECTION 1110. ADVANCE WARNING SIGNS SHALL BE INSTALLED WHEN CONSTRUCTION IS WITHIN 100 FEET OF EXISTING TRAVEL LANE, (SEE TCP-6).

STEP 2. USING RSD 1101.02 (SHEET 1 OF 9), CONSTRUCT -DET- LINE UP TO EXISTING EDGE OF PAVEMENT, INCLUDING DETOUR BRIDGE AND TEMPORARY GUARDRAIL AS FOLLOWS (SEE TCP-3):

STA. 13+74+/- -DET- TO STA. 21+09+/- -DET-

DRIVEWAY AT STA. 12+00+/- -L-

INSTALL ALL BARRICADES AND DRUMS AS SHOWN ON TCP-3. MAINTAIN TRAFFIC IN EXISTING TWO-WAY, 2-LANE PATTERN ON NC 561. MAINTAIN ACCESS TO ALL DRIVEWAYS WITHIN PROJECT LIMITS.

PHASE II

STEP 1. USING FLAGGERS, PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS ON -DET- LINE AND -L- LINE AS SHOWN ON TCP-4.

SHIFT TRAFFIC TO A TWO-WAY, 2-LANE TRAFFIC PATTERN ON THE -DET- LINE.

COMPLETE TEMPORARY GUARDRAIL INSTALLATION ON NORTH SIDE OF -DET- LINE. IF THIS WORK CANNOT BE COMPLETED AT THE END OF THE WORK DAY, INSTALL A TMIA AT THE EXPOSED END OF THE GUARDRAIL.

INSTALL ALL BARRICADES AND DRUMS AS SHOWN ON TCP-4.

STEP 2. USING RSD 1101.03 (SHEET 3 OF 9) AND FLAGGERS, CONSTRUCT -L- LINE UP TO EXISTING EDGE OF PAVEMENT, AS FOLLOWS (SEE TCP-4):

STA. 13+37+/- -L- TO STA. 15+75+/- -L-

STA. 19+00+/- -L- TO STA. 21+38+/- -L-

CONSTRUCT -L- LINE, INCLUDING NEW BRIDGE, APPROACHES, AND PARTIAL DRAINAGE, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE TCP-4):

STA. 15+75+/- -L- TO STA. 19+00+/- -L-

PHASE III

STEP 1. USING FLAGGERS, PAVE/WEDGE -L- LINE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE TCP-5):

STA. 13+10+/- -L- TO STA. 15+75+/- -L-

STA. 19+00+/- -L- TO STA. 21+89+/- -L-

USING FLAGGERS, PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS AS FOLLOWS (SEE TCP-5):

STA. 13+10+/- -L- TO STA. 21+89+/- -L-

SHIFT TRAFFIC TO A TWO-WAY, 2-LANE TRAFFIC PATTERN ON NC 561 (-L-).

STEP 2. USING RSD 1101.02 (SHEET 1 OF 9), CONSTRUCT AS FOLLOWS (SEE TCP-5):

COMPLETE SHOULDER WORK AND PERMANENT DRAINAGE, REMOVE DETOUR BRIDGE, REMOVE TEMPORARY PAVEMENT ON SOUTH SIDE OF NC 561 (-L-).

INSTALL PERMANENT GUARDRAIL ON SOUTH SIDE OF NC 561 (-L-). IF THIS WORK CANNOT BE COMPLETED AT THE END OF THE WORK DAY, INSTALL A TMIA AT THE EXPOSED END OF THE GUARDRAIL.

STEP 3. USING FLAGGERS, PAVE THE FINAL LAYER OF SURFACE COURSE -L- (NC 561) AS FOLLOWS (SEE TCP-5):

STA. 13+10+/- -L- TO STA. 21+89+/- -L-

USING FLAGGERS, PLACE FINAL PAVEMENT MARKINGS AND PERMANENT MARKERS (SEE TCP-5). REFER TO RSD NOS. 1205.01, 1205.02, 1205.12, 1250.01, AND 1251.01.

STEP 4. REMOVE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE FROM PROJECT.

APPROVED: Chad L. Lanford DATE: 1/3/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 030528 ENGINEER CHAD L. LANFORD

PROJECT NOTES AND PHASING

SCALE:	NONE
DATE:	12-01-06
DWG. BY:	SBC
DESIGN BY:	SBC
REVIEWED BY:	CLL

REVISIONS

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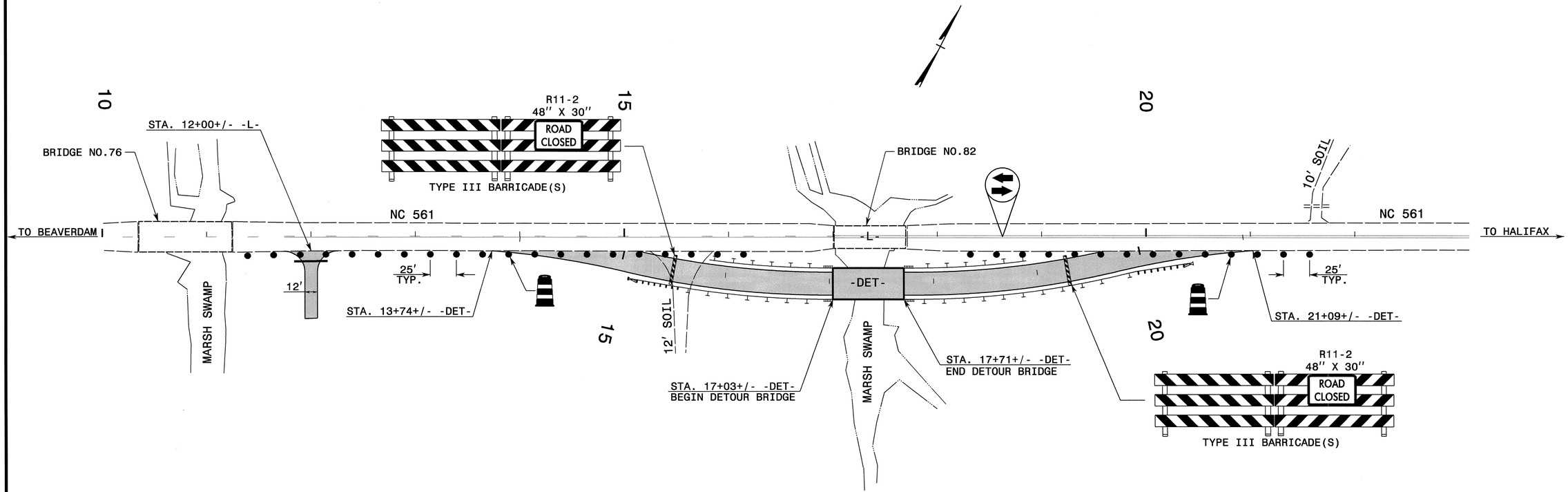
PROJ. REFERENCE NO.	SHEET NO.
B-3853	TCP-3



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AT WZTC22469

APPROVED: Chad L. Lankford DATE: 1/3/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 030528 ENGINEER CHAD L LANKFORD

PHASE I DETAILS

SCALE:	1"=50'
DATE:	12-01-06
DWG. BY:	SBC
DESIGN BY:	SBC
REVIEWED BY:	CLL

DIVISION OF HIGHWAYS NORTH CAROLINA DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL

REVISIONS	
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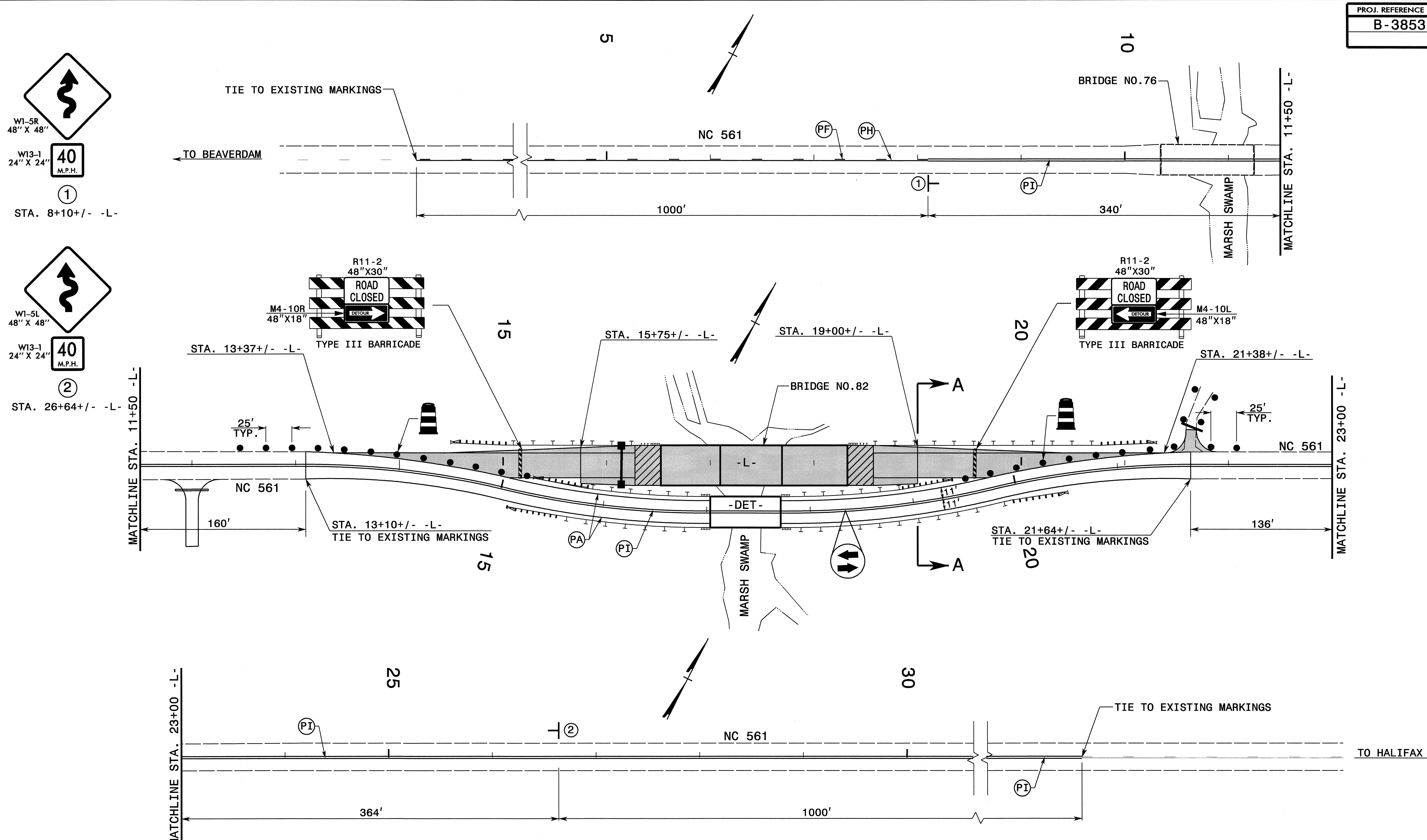
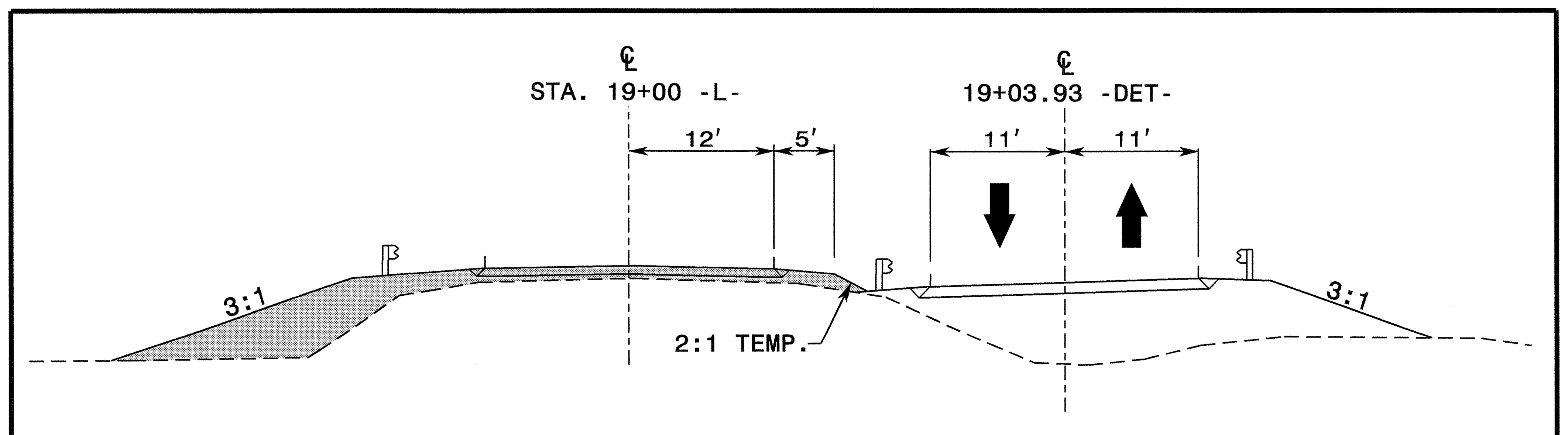
PROJ. REFERENCE NO.	SHEET NO.
B-3853	TCP-4





SECTION A-A

SEE TEMPORARY PAVEMENT MARKING SCHEDULE ON TCP-1.

APPROVED: Chad L. Lanford DATE: 1/3/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 030528 ENGINEER CHAD L. LANFORD

PHASE II DETAILS

SCALE: 1"=50'
DATE: 12-01-06
DWG. BY: SBC
DESIGN BY: SBC
REVIEWED BY: CLL

REVISIONS

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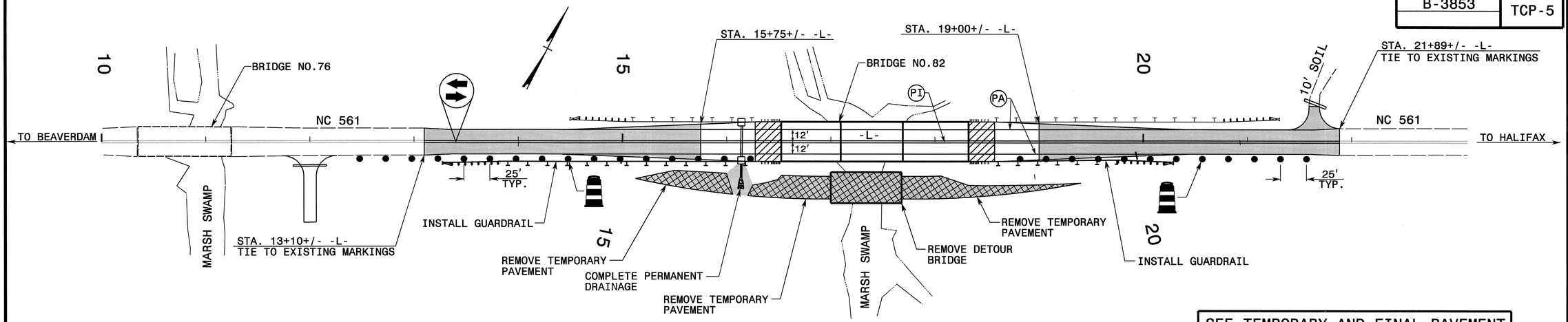
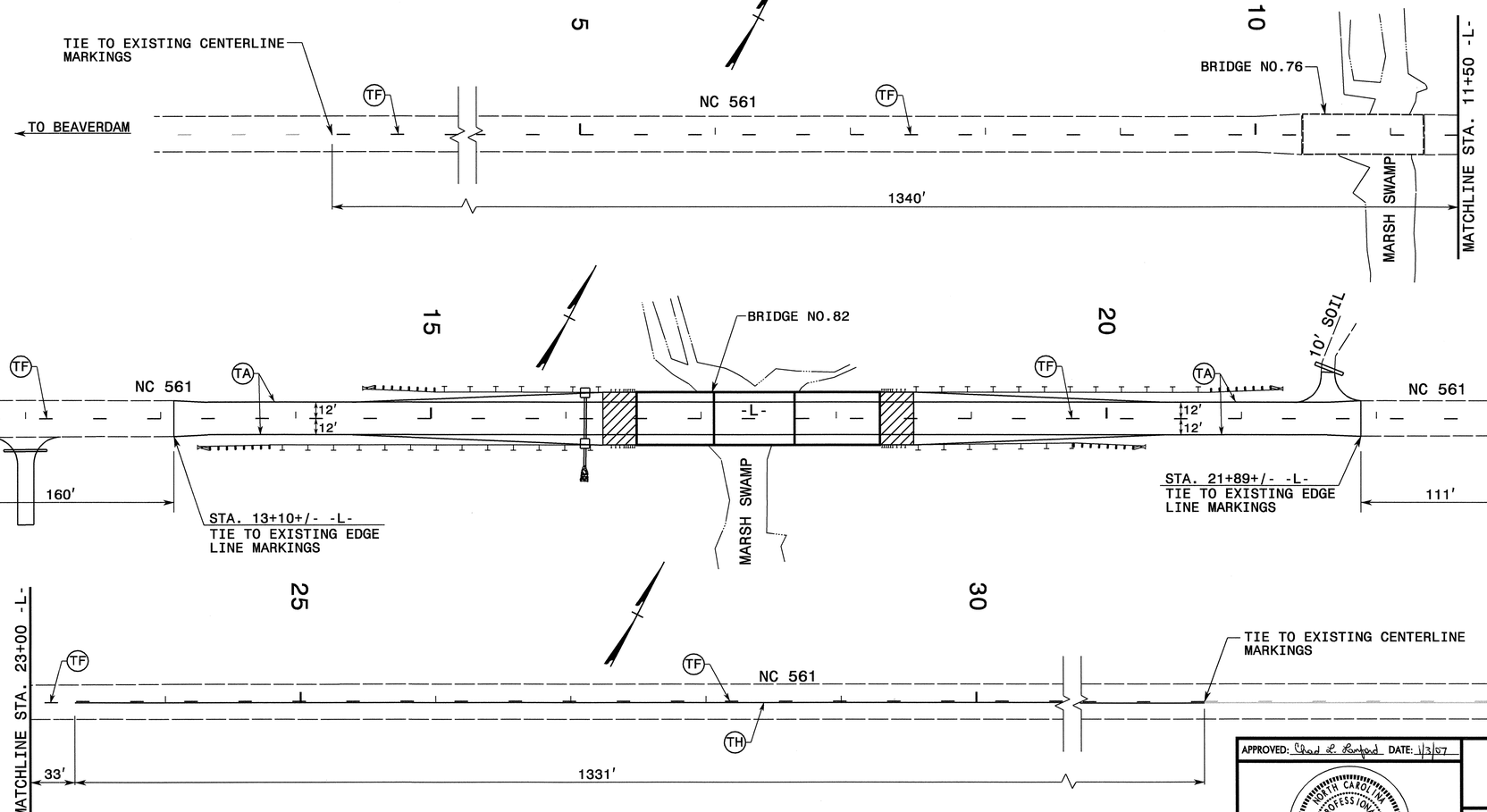
PROJ. REFERENCE NO.	SHEET NO.
B-3853	TCP-5



PHASE III - STEPS 1 AND 2

SEE TEMPORARY AND FINAL PAVEMENT MARKING SCHEDULES ON TCP-1.



PHASE III - STEP 3

APPROVED: Chad L. Lanford DATE: 1/3/07

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 030528 ENGINEER CHAD L LANFORD

PHASE III DETAILS

SCALE:	1"=50'
DATE:	12-01-06
DWG. BY:	SBC
DESIGN BY:	SBC
REVIEWED BY:	CLL

DIVISION OF HIGHWAYS NORTH CAROLINA DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL

REVISIONS

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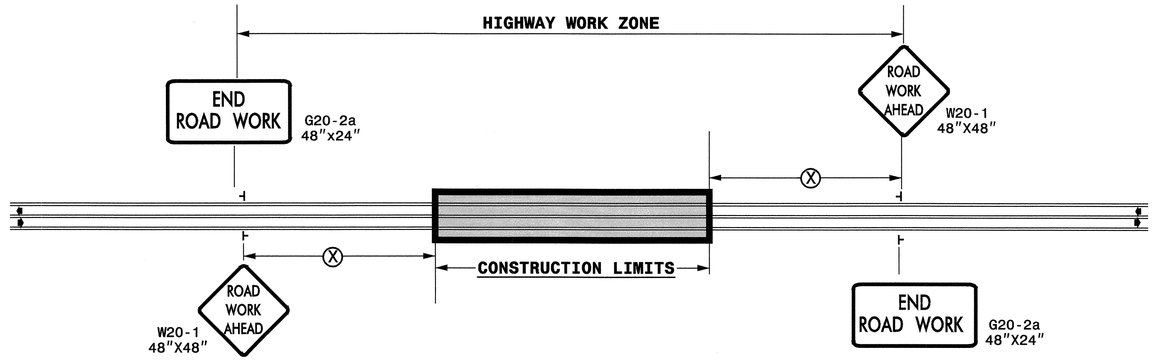
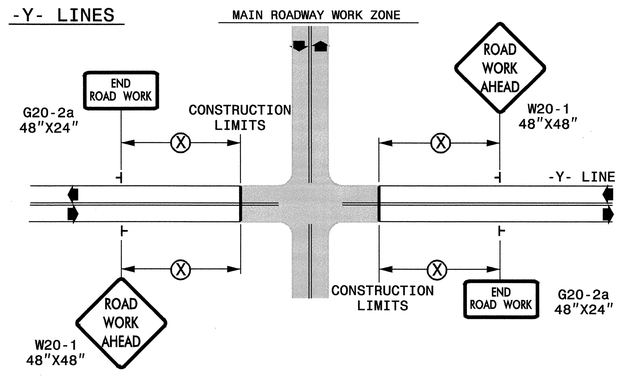
PROJ. REFERENCE NO.	SHEET NO.
B-3853	TCP-6

TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING (X)
≤ 50	500′
≥ 55	1000′

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



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: Chad L. Lanford DATE: 1/3/07

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 030528 ENGINEER CHAD L LANFORD

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

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

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