STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
B-3881	TCP-1

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

NEW HANOVER COUNTY

PAY ITEM QUANTITY

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:

RED A PART OF	THESE PLANS:
STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESS
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
1150.01	FLAGGING DEVICES
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
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

SHEET NO.	<u>TITLE</u>
TCP - 1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS, AND FINAL PAVEMENT MARKING SCHEDULE
TCP-2	PROJECT NOTES
TCP-3	PHASING AND TEMPORARY PAVEMENT MARKING SCHEDULE
TCP-4	DETAIL 1
TCP-5	DETAIL 2
TCP-6	DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW

NORTH ARROW

--- PROPOSED PVMT. ----- EXIST. PVMT.

WORK AREA

REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

T TYPE I BARRICADE

TYPE III BARRICADE

DRUM SKINNY-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

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION		BREAKDOWN TO		TOTAL	OTAL QUANTITY		
		FINAL PAVEMENT MARKINGS						
P4	WHITE STOPBAR (2X)	PAINT(24")	80	LF				
				TOTAL		80	LF	
		PAINT(4")						
PA	WHITE EDGELINE (2X)		8280	LF				
ΡI	YELLOW DOUBLE CENTER (2X)		8280	LF				
				TOTAL	165	60	LF	
		MARKERS PERMANENT RAISED PAVEMENT MARKERS						
MD	YELLOW		25	EA TOTAL		25	EA	
	NOTE: FOR EACH PAINT PAVEMENT APPLICATIONS, AND 3X IMPLIES T	MARKING ITEM, 1X IMPLIES A SINGLE APPL HREE APPLICATIONS.	ICATION	, 2X IMPLI	ES TWO			

PPROVED:	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
THE CAROLINATION OF ESSION	J. S. BOURNE, PE TRAFFIC CONTROL ENGINEER
Invitor to tena	J. ISHAK, PE TRAFFIC CONTROL PROJECT ENGINEER
OZ/856	J.L. PORTANOVA, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER
PORTALISMENT 208	J.L. FUTRELL TRAFFIC CONTROL DESIGN ENGINEER

OJ. REFERENCE NO.	SHEET NO.
B-3881	TCP-2
	101-2

MARKER

PROJECT 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.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

FOR CHRISTMAS TREE LIGHTING OCCURRING AT CORNELIUS HARNETT STREET 2 HOURS BEFORE THE START AND 2 HOURS AFTER THE END OF THE CHRISTMAS TREE LIGHTING.

B) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS 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 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.
- 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 WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- H) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) 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.

J) DO NOT EXEED 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) (200 FT) IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- L) 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.
- M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- 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.
- Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS, CONES OR SKINNY DRUMS) PERPENDICULAR TO THE EDGE OF TRAVELWAY ON (500 FT) CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME MARKING

1) CORNELIUS HARNETT ST. PAINT PERMANENT RAISED
2) 6 TH STREET PAINT N/A

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

ROAD NAME MARKING MARKER

1) CORNELIUS HARNETT ST. PAINT TEMPORARY RAISED
2) 6 TH STREET PAINT N/A

T) 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.

U) 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.

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

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

MISCELLANEOUS

X) COORDINATE WITH "CSX TRANSPORTATION" PRIOR TO REMOVING/INSTALLING BRIDGE GIRDERS ON EXISTING/PROPOSED SRUCTURE.

APPROVED: ______ DATE: _____

OFESSION AND COMMENT OF ESSION AND C

PROJECT NOTES

NONE

05/08

JLF

BY: JLF

REVISIONS

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PROJ. REFERENCE NO. SHEET NO.

B-3881
TCP-3

PHASING

NOTES: RETURN TRAFFIC TO THE EXISTING TWO-LANE TWO-WAY TRAFFIC PATTERN AT THE END OF EACH WORK DAY ON ALL ROADS UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

STEP1: - USING RSD 1101.02, SHEET 1 OF 9 AND TCP-6, INSTALL ADVANCED WORK ZONE SIGNS ON ALL ROADS.

STEP 2: - USING RSD 1101.02, SHEET 1 OF 9, AS NEEDED, PERFORM THE FOLLOWING. SEE TCP-4
AND ROADWAY PLANS:

- CONSTRUCT PROPOSED STRUCTURE AND PROPOSED -L- (CORNELIUS HARNETT ST.)
UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE
FROM -L- STA. 22+10 +/- TO -L- STA. 36+23+/-.

- CONSTRUCT PROPOSED -Y1- (6 TH STREET)UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -Y1- STA. 12+50 +/- TO -Y1- STA. 12+82 +/-.

COMPLETE THE WORK REQUIRED IN STEP 3 IN ONE WEEKEND FROM 6:00 P.M. FRIDAY TO 7:00 A.M. THE FOLLOWING MONDAY. SEE ICT FOR LIQUIDATED DAMAGES.

STEP 3: - USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING IN A CONTINUOUS MANNER: SEE TCP-5 AND ROADWAY PLANS.

AT THE END OF THE WEEKEND, SHIFT TRAFFIC TO THE TWO LANE, TWO WAY FINAL TRAFFIC PATTERN ON THE PROPOSED ALIGNMENT.

1) PLACE TRAFFIC IN THE EXISTING WESTBOUND LANE IN A ONE-LANE, TWO-WAY TRAFFIC PATTERN AND CONSTRUCT THE PROPOSED EASTBOUND TIE IN WORK UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM:

-L- STA. 20+00 +/- TO -L- STA. 22+10 +/- AND -L- STA. 36+23 +/- TO -L- STA. 38+00 +/- AND -Y1- STA. 12+40 +/- TO -Y1- STA. 12+50 +/-.

- PLACE TEMPORARY PAVEMENT MARKING (PAINT) ON PROPOSED EASTBOUND LANE FROM:
-L- STA. 20+00 +/- TO -L- STA. 38+00 +/-.

2) SHIFT TRAFFIC TO PROPOSED EASTBOUND LANE IN A ONE-LANE, TWO-WAY TRAFFIC PATTERN TO CONSTRUCT THE PROPOSED WESTBOUND TIE IN WORK UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE FROM:
-I - STA - 20+00 +/- TO -I - STA - 22+10 +/- AND

-L- STA. 20+00 +/- TO -L- STA. 22+10 +/- AND -L- STA. 36+23 +/- TO -L- STA. 38+00 +/-, AND -Y1- STA. 11+82 +/- TO -Y1- STA. 12+50 +/-.

- PLACE TEMPORARY PAVEMENT MARKING (PAINT) ON PROPOSED WESTBOUND LANE FROM:

-L- STA. 20+00 +/- TO -L- STA. 38+00 +/- AND -Y1- STA. 11+82 +/- TO -Y1- STA. 12+50 +/- (BOTH LANES).

- RELOCATE EXISTING STOP SIGN AT THE INTERSECTION OF -L-(CORNELIUS HARNETT ST.) AND -Y1-(6 TH STREET).

- OPEN PROPOSED -L- AND -Y- TO THE TWO-LANE, TWO-WAY FINAL TRAFFIC PATTERN.

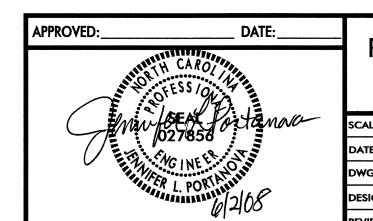
STEP 4: AWAY FROM TRAFFIC, REMOVE EXISTING STRUCTURE AND APPROACHES. SEE TCP-5 AND ROADWAY PLANS.

STEP 5: USING RSD 1101.02, SHEET 1 OF 9 AND TCP-5, PLACE FINAL LAYER OF SURFACE COURSE ON ALL ROADS. PLACE FINAL PAVEMENT MARKING (PAINT) AND MARKERS (PERMANENT RAISED) ON -L- (CORNELIUS HARNETT ST.) AND PLACE FINAL PAVEMENT MARKINGS (PAINT) ON -Y1- (6 TH STREET).

STEP 6: REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES.

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAVEMENT MARKING		ITEM QU BREAKDO	JANTITY DWN	TOTAL QUA	NTITY	
P4	WHITE STOPBAR (2X)	PAINT(24")		80	LF			
					TOTAL	80	LF	
		PAINT(4")						
PA	WHITE EDGELINE (2X)			8280	LF			
PI	YELLOW DOUBLE CENTER (2X)			8280	LF			
					TOTAL	16560	LF	
	MARKERS TEMPORARY RAISED PAVEMENT MARKERS							
MK	YELLOW			25	EA			
					TOTAL	25	EA	
NOTE:	FOR EACH PAINT PAVEMENT MAR AND 3X IMPLIES THREE APPLIC	KING ITEM, 1X IMPLIES A SINGLE APPLI CATIONS.	CATIO	ON, 2X 1	MPLIES TW	O APPLICAT	TIONS	



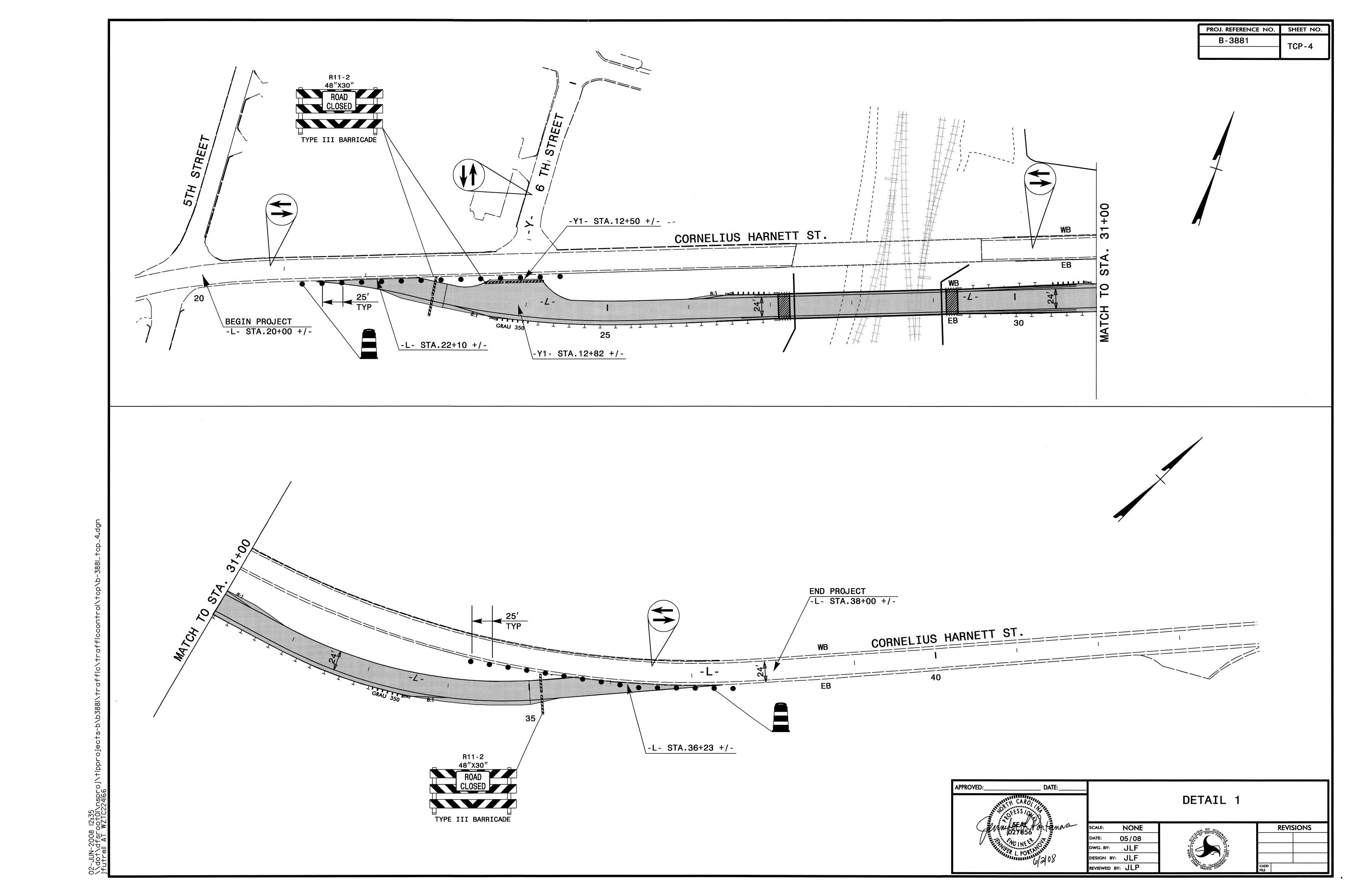
PHASING AND TEMPORARY PAVEMENT MARKING SCHEDULE

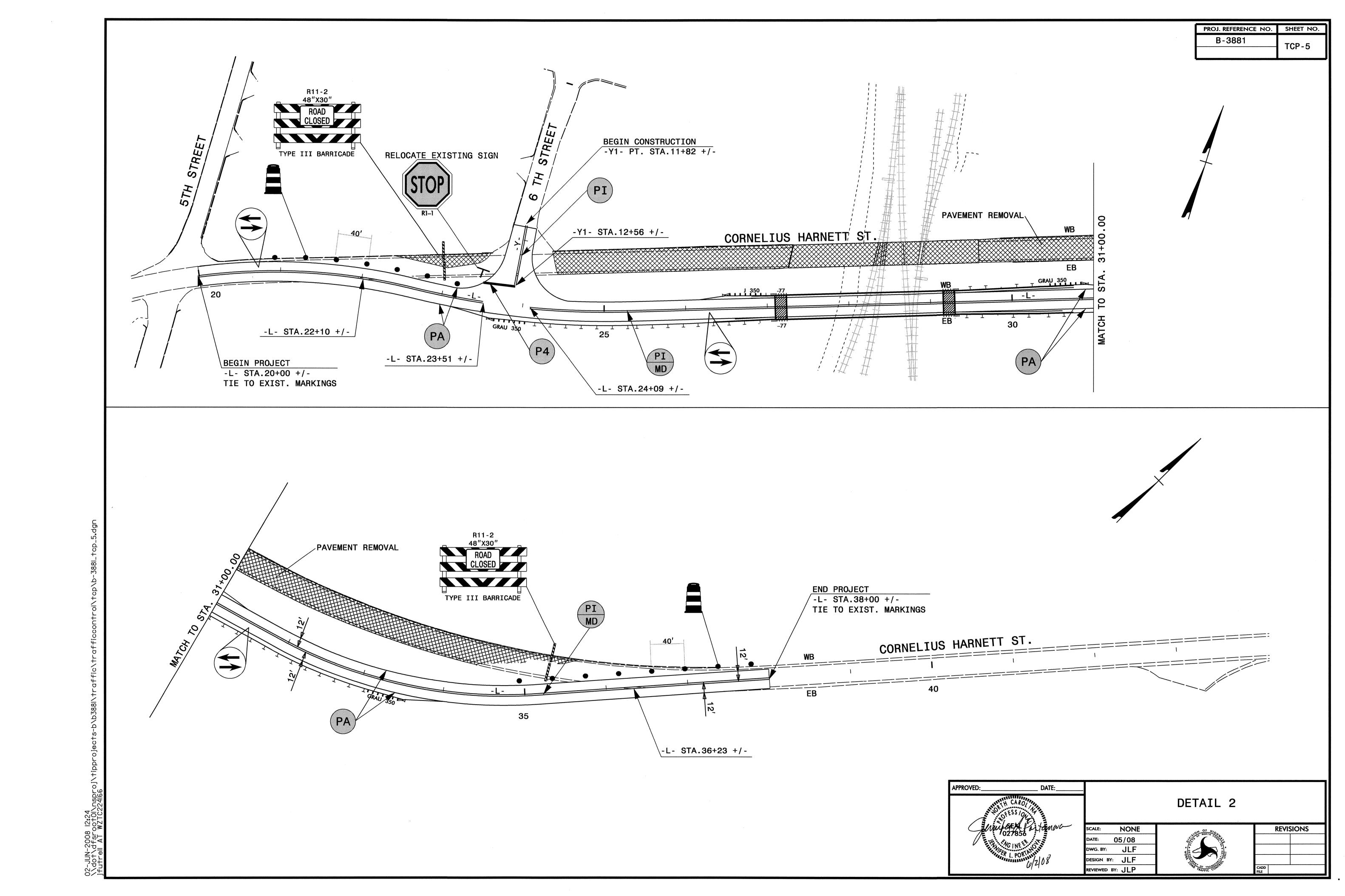
DATE: 05/08
DWG, BY: JLF
DESIGN BY: JLF
REVIEWED BY: JLP

REVISIONS

REVISIONS

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PROJ. REFERENCE NO. SHEET NO. B-3881 TCP-6

HIGHWAYS

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DIVISION

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RALEIGH

RANSPORTATION CAROLINA 0F

NORTH **0**F STATE DEPT

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

TWO-WAY UNDIVIDED ** (L-LINES)

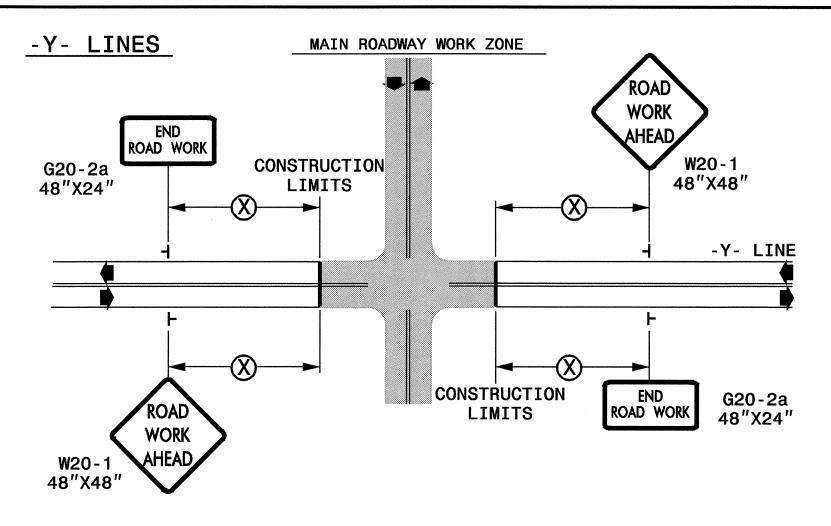
WORK

END

ROAD WORK

W20-1 48"X48"

G20-2a 48"X24"



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.

END

ROAD WORK G20-2a 48"x24"

- 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.

HIGHWAY WORK ZONE

-CONSTRUCTION LIMITS ---

- 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

RECOMMENDED MINIMUM

SIGN SPACING

500'

1000'

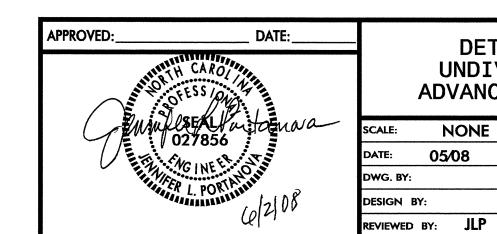
POSTED SPEED LIMIT

(M.P.H.)

≤ 50

≥ 55

SHEET 1 OF 1



ADVANCED	WORK	ZONE	WARNING	SIGN	18
: NONE		OHOINEER	10	REVI	SION
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DETAIL DRAWING FOR TWO-WAY

UNDIVIDED AND URBAN FREEWAYS

REVISIONS 7_98 | 10/01 10–98 03/04 01/01 | 11/04