

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
U-3401	TCP-1

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

U-3401

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
1101.04	TEMPORARY SHOULDER CLOSURES
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	DRUM
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
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - THRU LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES

INDEX OF SHEETS

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TCP-15	ADVANCED WORK ZONE WARNING SIGNS
TCP-16	PCB AT TEMPORARY SHORING LOCATIONS
PM-1	FINAL PAVEMENT MARKING SCHEDULE
PM-2 & PM-3	FINAL PAVEMENT MARKING PLANS

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 SKINNY DRUM
 - FLASHING ARROW PANEL (TYPE C)
 - 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

TIP PROJECT:

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APPROVED: DATE:	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
	J. STUART BOURNE, P.E. TRAFFIC CONTROL ENGINEER
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	ALLA LYUDMIRSKAYA TRAFFIC CONTROL DESIGN ENGINEER

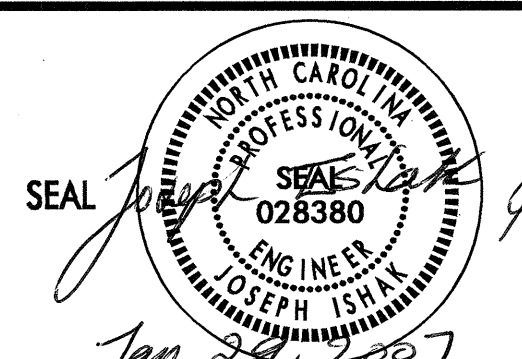
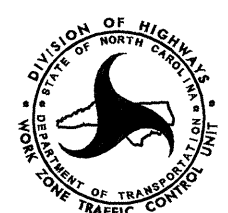
TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAVEMENT MARKINGS	PAY ITEM QUANTITY BREAKDOWN	TOTAL QUANTITY
<u>PAINT (4")</u>				
PA	WHITE EDGELINE (2X)		9000 LF	
PC	10 FT WHITE SKIP (2X)		2000 LF	
PD	2 FT WHITE MINISKIP (2X)		1200 LF	
PE	WHITE SOLID LANE LINE (2X)		7400 LF	
PI	YELLOW DOUBLE CENTER (2X)		44000 LF	
			TOTAL	63600 LF
<u>PAINT (8")</u>				
PS	WHITE DIAGONAL (2X)		400 LF	
PV	YELLOW DIAGONAL (2X)		6000 LF	
PR	WHITE GORELINE (2X)		400 LF	
			TOTAL	6800 LF
<u>PAINT (24")</u>				
P4	WHITE STOPBAR (2X)		800 LF	
			TOTAL	800 LF
<u>PAVEMENT MARKING SYMBOLS</u>				
QA	LEFT TURN ARROW (2X)		52 EA	
QB	RIGHT TURN ARROW (2X)		30 EA	
QC	STRAIGHT TURN ARROW (2X)		38 EA	
QF	COMBO LEFT/RIGHT ARROW (2X)		2 EA	
			TOTAL	122 EA
<u>PAINT ALPHANUMERIC CHARACTER</u>				
QI	ALPHANUMERIC CHARACTER		4 EA	
			TOTAL	4 EA
<u>TEMPORARY RAISED PAVEMENT MARKERS</u>				
MH	YELLOW & YELLOW		270 EA	
MI	CRYSTAL & RED		360 EA	
			TOTAL	630 EA

NOTES:

- AS DIRECTED BY THE ENGINEER, TEMPORARY PAVEMENT MARKING (PAINT) MAY BE USED TO STRIPE THE FINAL TRAFFIC PATTERN ON -L-, -Y-, -Y1-, -Y2- & -Y3-. THE TEMPORARY PAVEMENT MARKING SCHEDULE INCLUDES QUANTITIES FOR PLACING TWO APPLICATIONS OF PAINT ON THE FINAL SURFACE OF NEW ASPHALT WITH PERMANENT TRAFFIC PATTERN WHICH WILL REMAIN IN PLACE UNTIL THE PROPOSED FINAL PAVEMENT MARKING (THERMOPLASTIC) IS APPLIED.
- FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

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APPROVED: _____	DATE: _____	TEMPORARY PAVEMENT MARKING SCHEDULE	
		SCALE: NONE	REVISIONS
		DATE: 12/06/06	
		DESIGN BY: AYL	
		REVIEWED BY: JLP	
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PROJECT 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 UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES.

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:

ROAD NAME	DAY AND TIME RESTRICTIONS
1.-L- (US 64/NC 49)	- MONDAY THROUGH SATURDAY: FROM 7:00 A.M. TO 8:00 P.M. - SUNDAY: FROM 12:00 P.M. TO 8:00 P.M.
2.-Y- (NC 42)	- MONDAY THROUGH SATURDAY: FROM 7:00 A.M. TO 8:00 P.M. - SUNDAY: FROM 12:00 P.M. TO 8:00 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	HOLIDAY
1.-L- (US 64/NC 49)	1. FOR ANY EVENT THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2.-Y- (NC 42)	2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31ST TO 8:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A SATURDAY OR A SUNDAY, THEN UNTIL 7:00 A.M. THE FOLLOWING TUESDAY.
	3. FOR EASTER, BETWEEN THE HOURS OF 8:00 P.M. THURSDAY AND 7:00 A.M. MONDAY.
	4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 8:00 P.M. FRIDAY TO 7:00 A.M. TUESDAY.
	5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 8:00 P.M. THE FRIDAY BEFORE THE WEEK OF INDEPENDENCE DAY AND 7:00 A.M. THE FOLLOWING MONDAY AFTER THE WEEK OF INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A SATURDAY OR SUNDAY, THEN BETWEEN THE HOURS OF 8:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.
	6. FOR LABOR DAY, BETWEEN THE HOURS OF 8:00 P.M. FRIDAY TO 7:00 A.M. TUESDAY.
	7. FOR THANKSGIVING, BETWEEN THE HOURS OF 8:00 P.M. TUESDAY TO 7:00 A.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 8:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 A.M. THE FOLLOWING MONDAY AFTER THE WEEK OF CHRISTMAS.

9. FOR THE HIGH POINT FURNITURE MARKETS, BETWEEN THE HOURS OF 8:00 P.M. THE THURSDAY BEFORE THE WEEK OF THE FURNITURE MARKET AND 7:00 A.M. THE FOLLOWING MONDAY AFTER THE WEEK OF FURNITURE MARKET.

C) DO NOT STOP TRAFFIC OR CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1.-L- (US 64/NC 49)	- MONDAY THROUGH SATURDAY: FROM 6:00 A.M. TO 11:00 P.M. - SUNDAY: FROM 9:00 A.M. TO 10:00 P.M.
2.-Y- (NC 42)	- MONDAY THROUGH SATURDAY: FROM 6:00 A.M. TO 11:00 P.M. - SUNDAY: FROM 9:00 A.M. TO 10:00 P.M.

D) DO NOT STOP TRAFFIC FOR MORE THAN 15 MINUTES AS FOLLOWS:

ROAD NAME	OPERATION
1.-L- (US 64/NC 49)	ANY OPERATION THAT REQUIRES STOPPING TRAFFIC
2.-Y- (NC 42)	STOPPING TRAFFIC

E) 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

- F) 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.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING RSD 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- H) 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.
- I) 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.

J) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

K) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15 FT (5m) OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

L) DO NOT INSTALL MORE THAN ONE LANE CLOSURE, IN ANY ONE DIRECTION, ON US 64/NC 49 AND NC 42.

PAVEMENT EDGE DROP OFF REQUIREMENTS

M) 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 (50mm) ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES (75mm) 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.

N) 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 (150m) IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

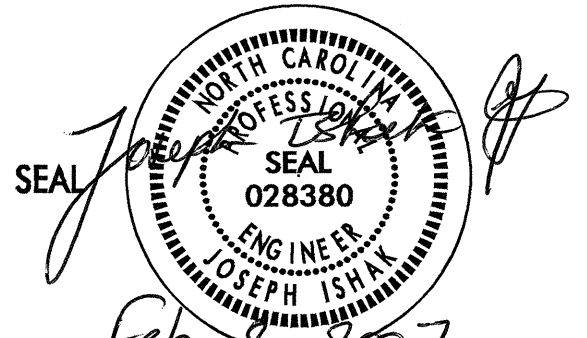
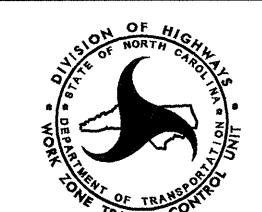
TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- P) 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.
- 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.
- Q) PROVIDE PERMANENT SIGNING WITHIN THE PROJECT LIMITS.
- R) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- S) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) 500 FT (150m) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.
- T) INSTALL BLACK ON ORANGE "BUMP" SIGNS (W8-1) 500 FT (150m) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER..

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	SCALE: NONE		
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	DWG. BY: AYL		
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PROJECT NOTES

TRAFFIC BARRIER

U) 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 OR 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.

V) PROTECT THE APPROACH END OF 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 PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF 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

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.

TRAFFIC CONTROL DEVICES

W) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT (3m) ON-CENTER IN RADII, AND 3 FT (1m) 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.

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

Y) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES (DRUMS, CONES OR SKINNY DRUMS) PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT (150m) CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	SNOWPLOWABLE

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

ROAD NAME	MARKING	MARKER
1. ALL ROADS	PAINT	TEMPORARY RAISED

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

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

DD) TRACE THE EDGE OF PROPOSED MONOLITHIC ISLANDS WITH THE PROPER COLOR PAVEMENT MARKING PRIOR TO INSTALLATION OF A PROPOSED MONOLITHIC ISLAND.

EE) 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.

TEMPORARY/FINAL SIGNALS

FF) NOTIFY THE ENGINEER TWO (2) MONTHS BEFORE A TRAFFIC SIGNAL INSTALLATION IS REQUIRED.

GG) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

MISCELLANEOUS

HH) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH INTERSECTIONS.

II) IN THE EVENT A DRIVEWAY TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 500 FT (150m) AND 1000 FT (300m) RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

JJ) PLACE DRUMS OR CONES TO DELINEATE EXISTING AND PROPOSED ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

LOCAL NOTES

THE FOLLOWING LOCAL NOTES APPLY ONLY AT TIMES THEY ARE REFERENCED IN THE PLAN:

- 1) MAINTAIN A MINIMUM OF ONE LANE ACCESS TO A HOTEL DURING CONSTRUCTION OF LAKECREST RD. (-Y1).
- 2) MAINTAIN VEHICULAR ACCESS TO -Y2- (SKYLINE DR.) DURING THE LIFE OF THE CONTRACT.

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	DATE: 08/03/06		
	DWG. BY: AYL		
	DESIGN BY: AYL		
REVIEWED BY: JLP	REVISIONS		

PHASING

PROJ. REFERENCE NO.	SHEET NO.
U-3401	TCP-5

NOTES: 1. MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT.
2. USE POLICE SUPERVISION AT THE DIRECTION OF THE ENGINEER.

PHASE I

STEP 1: INSTALL ADVANCE WORK ZONE WARNING SIGNS. SEE SHEET TCP-15.

USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING IN STEPS 2 THROUGH 7:
AT THE END OF EACH WORK DAY RETURN TRAFFIC TO THE EXISTING TRAFFIC PATTERN UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.
SEE SHEETS TCP-6, TCP-7 AND ROADWAY PLANS.

STEP 2. INSTALL AND ACTIVATE TEMPORARY SIGNAL FOR US 64/NC 49 AT NC 42 ACCORDING TO SIGNAL PLANS.

STEP 3. -BEGIN WIDENING WORK UP TO THE EDGE AND ELEVATION OF THE EXISTING PAVEMENT ON BOTH SIDES AT THE FOLLOWING LOCATIONS:
FROM -Y- STA. 10+00+/- TO -Y- STA. 34+00+/
FROM -L- STA. 10+00+/- TO -L- STA. 24+21+/-
FROM -Y2- STA. 10+00+/- TO -Y2- STA. 11+93+/-
FROM -Y3- STA. 11+60+/- TO -Y3- STA. 12+26+/-.

-BEGIN CONSTRUCTION OF TEMPORARY PAVEMENT UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT AT THE FOLLOWING LOCATIONS:
FROM -Y- STA. 28+00+/- TO -Y- STA. 33+67+/- AND
FROM -Y2- STA. 10+80+/- TO -Y2- STA. 11+60+/- 20' LT.
SEE SHEET TCP-6.

- COMPLETE THE WORK REQUIRED OF PHASE I, STEP 4 IN SEVENTY-TWO (72) CONSECUTIVE HOURS. SEE INTERMEDIATE CONTRACT TIME FOR LIQUIDATED DAMAGES.
- LANE CLOSURE TIME RESTRICTIONS DO NOT APPLY FOR STEP 4.
- MAINTAIN A ONE LANE TO THE HOTEL LOCATED ON LAKECREST RD. AT ALL TIMES.

STEP 4. WORKING IN CONTINUOUS MANNER DURING THE HOTEL'S OFF-PEAK HOURS, PERFORM THE FOLLOWING:
1) INSTALL THE CROSS PIPES AND CONSTRUCT PROPOSED -Y1- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -Y1- STA. 10+00+/- TO -Y1- STA. 12+22+/-.
2) PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY PAVEMENT MARKERS (TEMPORARY RAISED) ON -Y1- FROM STA. 10+00+/- TO STA. 12+22+/-.

STEP 5. BEGIN INSTALLATION OF FINAL SIGNAL AT INTERSECTION OF -L- (US 64/NC 49) AND -Y- (NC 42) ACCORDING TO SIGNAL PLANS. BAG SIGNAL HEADS UNTIL FINAL SIGNAL IS ACTIVATED.

STEP 6. 1) COMPLETE CONSTRUCTION OF TEMPORARY PAVEMENT ON -Y- FROM STA. 28+00+/- TO STA. 33+67+/-, AND TIE-IN WITH EXISTING NC 42.
2) PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY PAVEMENT MARKERS (TEMPORARY RAISED) ON -YDET- FROM STA. 28+00+/- TO 33+00+/- . SEE SHEET TCP-7.
3) PLACE NC 42 TRAFFIC IN TWO-LANE, TWO-WAY TEMPORARY TRAFFIC PATTERN ONTO -YDET- AS SHOWN ON SHEET TCP-7.

STEP 7. INSTALL PORTABLE CONCRETE BARRIER (PCB) AND TEMPORARY CRASH CUSHIONS FROM -Y- STA. 27+62+/- TO -Y- STA. 31+80+/- AS SHOWN ON SHEET TCP-7.

AWAY FROM TRAFFIC, PERFORM THE FOLLOWING IN STEPS 8 THROUGH 9:
SEE SHEETS TCP-7 AND ROADWAY PLANS.

STEP 8. INSTALL TEMPORARY SHORING No.1 BEHIND PCB FROM -Y- STA. 29+89+/- 12' LT TO -Y- STA. 30+43+/- 12' LT AS SHOWN ON SHEET TCP-7.

STEP 9. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:
SEE SHEET TCP-7.
1) CONSTRUCT STAGE 1 OF THE CULVERT AT -Y- STA. 30+24+/- .
2) INSTALL TEMPORARY SHORING No.2 FROM -Y- STA. 29+89+/- 6' LT TO -Y- STA. 30+43+/- 6' LT AS SHOWN ON SHEET TCP-7.
3) CONSTRUCT PROPOSED -Y- ON THE RIGHT SIDE OF TEMPORARY SHORING No.2 FROM STA. 27+00+/- TO STA. 32+25+/-, UP TO BUT NOT INCLUDING A FINAL LAYER OF SURFACE COURSE.

USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING IN STEP 10:
SEE SHEETS TCP-8, TCP-9 AND ROADWAY PLANS.

STEP 10. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:
1) COMPLETE CONSTRUCTION OF TEMPORARY PAVEMENT ON -Y2- FROM STA. 10+80+/- TO STA. 11+60+/- 20' LT AND TIE-IN WITH EXISTING SKYLINE DR.
2) PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY MARKERS (TEMPORARY RAISED) ON -Y2- FROM STA. 10+70+/- TO STA. 11+85+/- . SEE SHEET TCP-9.

AWAY FROM TRAFFIC, PERFORM THE FOLLOWING IN STEP 11:
SEE SHEETS TCP-8.

STEP 11. BEGIN INSTALLATION OF PCB BEHIND THE TEMPORARY SHORING No.1 FROM -Y- STA. 28+90+/- TO -Y- STA. 30+50+/- 20' LT AS SHOWN ON SHEET TCP-8, DETAIL 2A.

- COMPLETE THE WORK REQUIRED OF PHASE I, STEPS 12 THROUGH 17 IN FIFTY-NINE (59) CONSECUTIVE HOURS BETWEEN 8 :00 P.M. FRIDAY AND 7:00 A.M. THE FOLLOWING MONDAY. SEE INTERMEDIATE CONTRACT TIME FOR LIQUIDATED DAMAGES.
- LANE CLOSURE TIME RESTRICTIONS DO NOT APPLY FOR THE STEPS 12 THROUGH 17.

USING RSD 1101.02, SHEET 1 OF 9, PERFORM THE FOLLOWING IN STEPS 12 THROUGH 18:
SEE SHEETS TCP-8, TCP-9, TCP-10 AND ROADWAY PLANS.

STEP 12. PLACE NC 42 TRAFFIC IN ONE-LANE, TWO-WAY TEMPORARY PATTERN ONTO WB OF -YDET- FROM -YDET- STA. 28+00+/- TO -YDET- STA. 32+40+/- . SEE SHEET TCP-8, DETAIL 2B.

STEP 13. CONSTRUCT TIE-IN AREAS OF EXISTING NC 42 WITH EB OF -Y- AT -Y- STA. 27+00+/- AND -Y- STA. 32+70+/- .

STEP 14. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:
1) PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY MARKERS (TEMPORARY RAISED) ON EB OF -Y- FROM -Y- STA. 27+00+/- TO -Y- STA. 32+40+/- . SEE SHEET TCP-9.

2) REMOVE PCB AND CRASH CUSHIONS INSTALLED IN PHASE I, STEP 7 FROM -Y- STA. 27+62+/- TO -Y- STA. 31+80+/- .

3) COMPLETE INSTALLATION OF PCB BEHIND THE TEMPORARY SHORING No.1 FROM -Y- STA. 28+70+/- TO -Y- STA. 30+50+/- 20' LT. SEE SHEET TCP-8, DETAIL 2B.

4) INSTALL CRASH CUSHION AT -Y- STA. 28+70+/- . SEE SHEET TCP-8, DETAIL 2B.

STEP 15. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:
1) SHIFT TRAFFIC IN ONE-LANE, TWO-WAY TEMPORARY PATTERN ON EB OF -Y- FROM -Y- STA. 27+00+/- TO -Y- STA. 34+00+/- . SEE SHEET TCP-9.

2) PLACE THE SKYLINE DR. TRAFFIC IN TWO-LANE, TWO-WAY TEMPORARY TRAFFIC PATTERN ONTO -Y2- FROM -Y2- STA. 10+00+/- TO -Y2- STA. 11+85+/- . SEE SHEET TCP-9.

STEP 16. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:

1) RESET THE REMAINING PCB FROM -Y2- STA. 10+15+/- TO -Y2- STA. 11+70+/- AS SHOWN ON SHEET TCP-9.

2) INSTALL TEMPORARY CONCRETE BARRIER DELINEATOR (SEE SPECIAL PROVISION FOR PAY ITEM) ALONG PCB FROM -Y- STA. 28+70+/- TO -Y- STA. 30+50+/- 20' LT AND FROM -Y2- STA. 10+15+/- TO -Y2- STA. 11+70+/- .

3) INSTALL CRASH CUSHION AT -Y2- STA. 11+70+/- . SEE SHEET TCP-9.

STEP 17. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:
1) CONSTRUCT TIE-IN AREAS OF EXISTING NC 42 WITH WB OF -Y- AT -Y- STA. 27+00+/- AND -Y- STA. 32+40+/- . SEE SHEET TCP-9.

2) PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY MARKERS (TEMPORARY RAISED) ON WB OF -Y- FROM -Y- STA. 27+00+/- TO -Y- STA. 32+40+/- . SEE SHEET TCP-10.

3) PLACE NC 42 TRAFFIC IN TWO-LANE, TWO-WAY TEMPORARY PATTERN ON -Y- FROM -Y- STA. 27+00+/- TO -Y- STA. 32+40+/- AS SHOWN ON SHEET TCP-10.

AWAY FROM TRAFFIC, PERFORM THE FOLLOWING IN STEPS 19 THROUGH 21:
SEE SHEETS TCP-9, TCP-10 AND ROADWAY PLANS.

STEP 18. INSTALL TEMPORARY SHORING No.3 BEHIND PCB FROM -Y2- STA. 11+45+/- 10' RT TO -Y2- STA. 11+85+/- 10' RT. SEE SHEET TCP-9.

STEP 19. WORKING IN CONTINUOUS MANNER, PERFORM THE FOLLOWING:
SEE SHEET TCP-10.

1) -CONSTRUCT STAGE 2 OF THE CULVERT AT -Y- STA. 30+24+/-
2) -REMOVE TEMPORARY SHORING No.1 & No.3
3) -CONSTRUCT PROPOSED WB OF -Y- FROM STA. 27+00+/- TO STA. 32+40+/- .

STEP 20. REMOVE PCB AND CRASH CUSHIONS AT THE FOLLOWING LOCATIONS:
FROM -Y- STA. 28+70+/- TO -Y- STA. 30+50+/- 20' LT AND
FROM -Y2- STA. 10+15+/- TO -Y2- STA. 11+70+/- .

PHASE II

USING RSD 1101.02, SHEETS 1 OF 9 & 2 OF 9, PERFORM THE FOLLOWING IN STEPS 1 THROUGH 5:
AT THE END OF EACH WORK DAY RETURN TRAFFIC TO THE EXISTING TRAFFIC PATTERN UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.
SEE SHEETS TCP-11 THROUGH TCP-14, PM-2, PM-3 AND ROADWAY PLANS.

STEP 1: COMPLETE WIDENING WORK UP TO THE EDGE AND ELEVATION OF THE EXISTING PAVEMENT AT THE FOLLOWING LOCATIONS:
FROM -Y- STA. 10+00+/- TO -Y- STA. 34+00+/-
FROM -L- STA. 10+00+/- TO -L- STA. 24+21+/-
FROM -Y2- STA. 10+00+/- TO -Y2- STA. 11+93+/-
FROM -Y3- STA. 11+60+/- TO -Y3- STA. 12+26+/- .

NOTES: 1. COMPLETE THE WORK, REQUIRED IN PHASE II, STEP 2, IN CONTINUOUS MANNER.
2. PERFORM WEDGING CONCURRENTLY AT INTERSECTION OF -L- (US 64/NC 49) AND -Y- (NC 42).

STEP 2: USING POLICE TO CONTROL TRAFFIC THROUGH INTERSECTION OF -L- (US 64/NC 49) AND -Y- (NC 42), PERFORM THE FOLLOWING:
AT THE END OF EACH WORK DAY RETURN TRAFFIC TO EXISTING PATTERN UNTIL ALL WEDGING IS COMPLETED.

1) CONSTRUCT WEDGING ON -L- (US 64/NC 49) AND -Y- (NC 42), UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE GENERAL NOTE DD PERTAINING TO MARKING REPLACEMENT).

2) PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY PAVEMENT MARKERS (TEMPORARY RAISED) IN THE FINAL TRAFFIC PATTERN AS SHOWN ON SHEETS TCP-11 & TCP-12.

3) COMPLETE INSTALLATION AND ACTIVATE FINAL SIGNAL AT INTERSECTION OF -L- (US 64/NC 49) AND -Y- (NC 42).

4) PLACE TRAFFIC IN THE FINAL PATTERN ON -L- & -Y- AS SHOWN ON SHEETS TCP-11 & TCP-12.

STEP 3: - CONSTRUCT PROPOSED CONCRETE ISLANDS AT THE FOLLOWING LOCATIONS:
SEE SHEETS TCP-15 & TCP-16 FOR A TEMPORARY TRAFFIC PATTERN.

FROM -Y- STA. 12+10+/- TO -Y- STA. 12+90+/-
FROM -Y- STA. 13+40+/- TO -Y- STA. 16+60+/-
FROM -Y- STA. 17+20+/- TO -Y- STA. 18+60+/-
FROM -Y- STA. 19+00+/- TO -Y- STA. 21+10+/-
FROM -Y- STA. 22+45+/- TO -Y- STA. 26+15+/-
FROM -Y- STA. 27+00+/- TO -Y- STA. 30+15+/- .

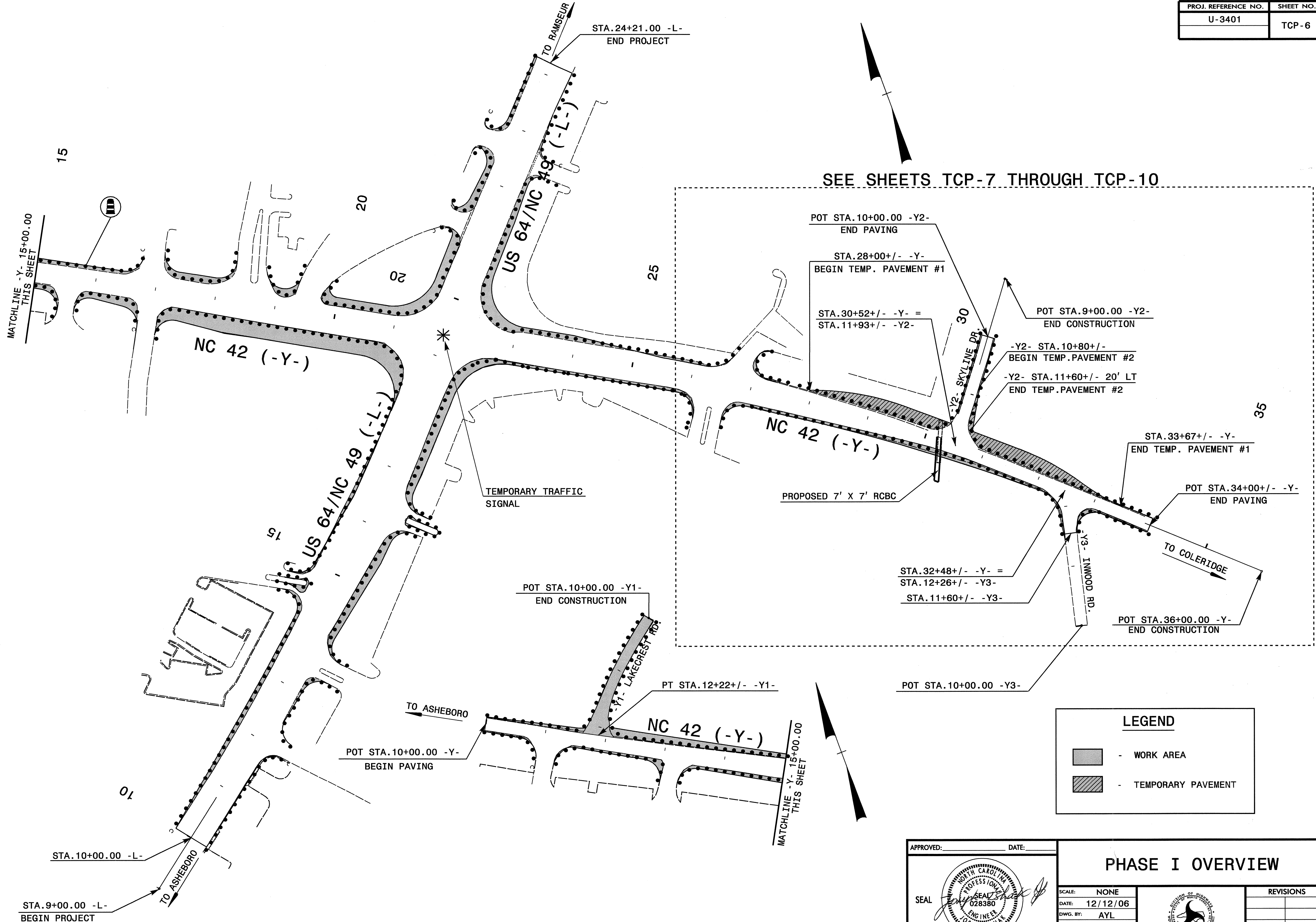
- REMOVE TEMPORARY PAVEMENT FROM Y- STA. 28+00+/- TO -Y- STA. 33+67+/- AND FROM -Y2- STA. 10+80+/- TO -Y2- STA. 11+60+/- .
RESTORE AREA TO PROPER CONDITION ACCORDING TO PLANS AND SPECIFICATIONS.

STEP 4. PLACE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS (THERMOPLASTIC) & FINAL PAVEMENT MARKERS (SNOWPLOWABLE) ON PROPOSED -Y-, -L-, -Y1-, -Y2-, -Y3- AS SHOWN ON PM SHEETS.

STEP 5. REMOVE TRAFFIC CONTROL DEVICES AND OPEN ALL ROADWAYS TO PROPOSED TRAFFIC PATTERN.

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	DESIGN BY: AYL			
	REVIEWED BY: JLP			

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LEGEND

- [Solid Grey Box] - WORK AREA
- [Hatched Box] - TEMPORARY PAVEMENT

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PHASE I OVERVIEW

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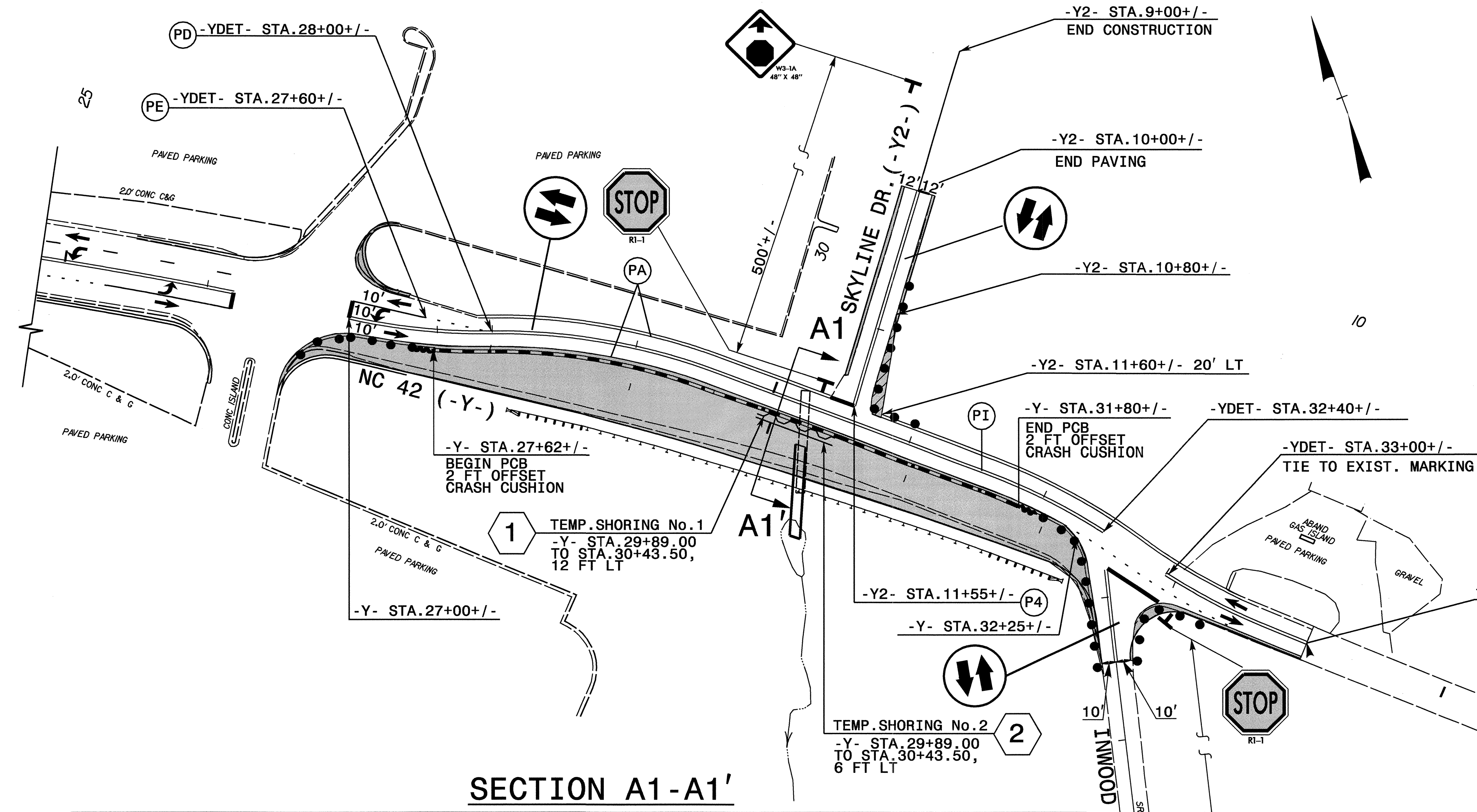
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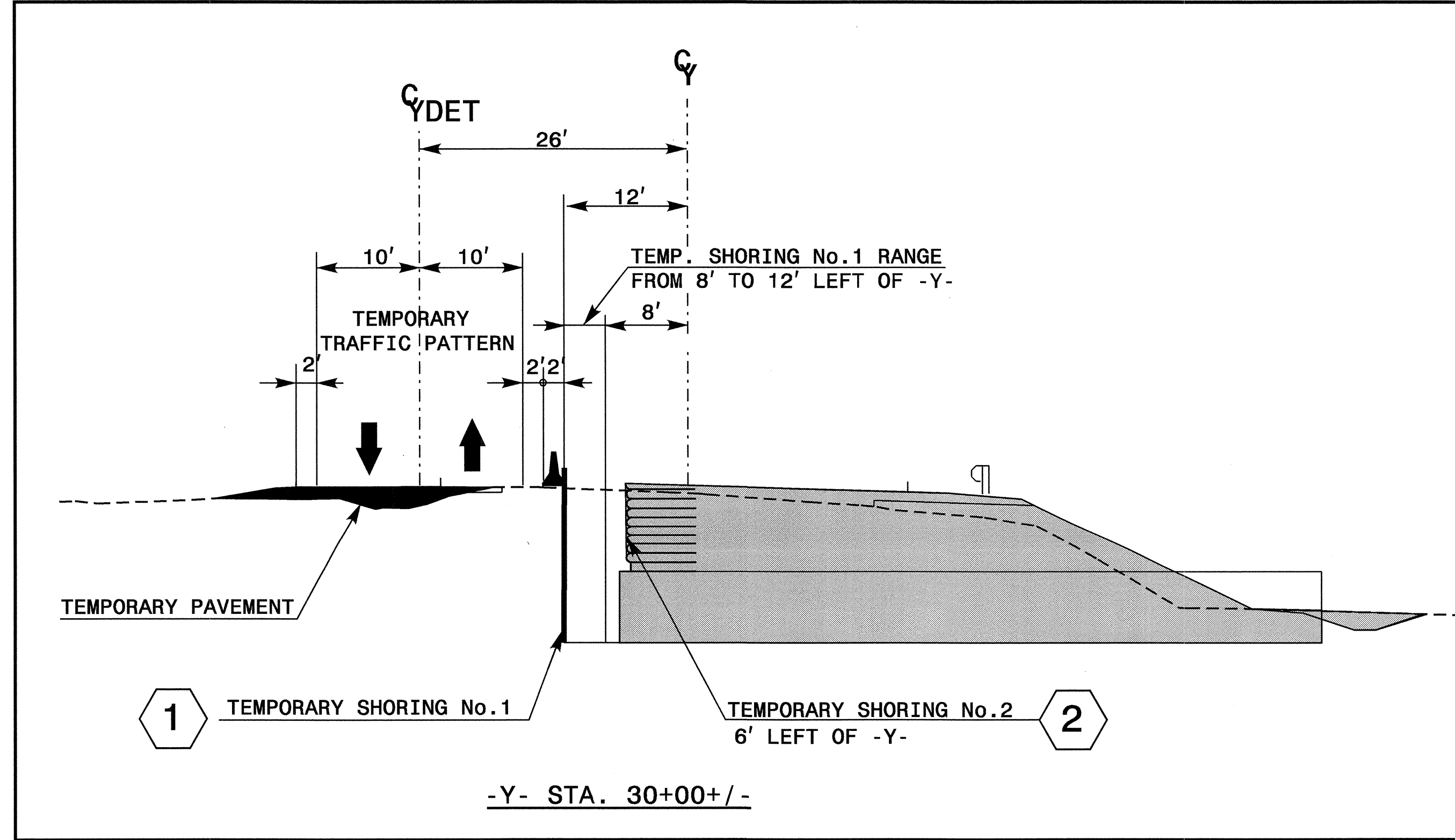
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NOTES FOR TEMP. SHORING No.1
 FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.
 DO NOT USE STANDARD SHORING FROM STA.29+89.00+/- -Y-, 8-12 FT LEFT, TO STA.30+43.50+/- -Y-, 8-12 FT LEFT.
 IT MAY BE PREFERRED OR NECESSARY TO ANCHOR THE TEMPORARY SHORING FROM 29+89.00+/- -Y-, 8-12 FT LEFT, TO STA.30+43.50+/- -Y-, 8-12 FT LEFT. THE TEMPORARY SHORING SPECIAL PROVISION DOES NOT APPLY TO ANCHORED TEMPORARY SHORING. IF ANCHORED TEMPORARY SHORING IS PROPOSED, THE ENGINEER WILL PROVIDE AN APPLICABLE SPECIAL PROVISION.
 NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
 FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.
 WHEN USING CONTRACTOR DESIGNED SHORING, USE THE FOLLOWING SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PCF
 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.

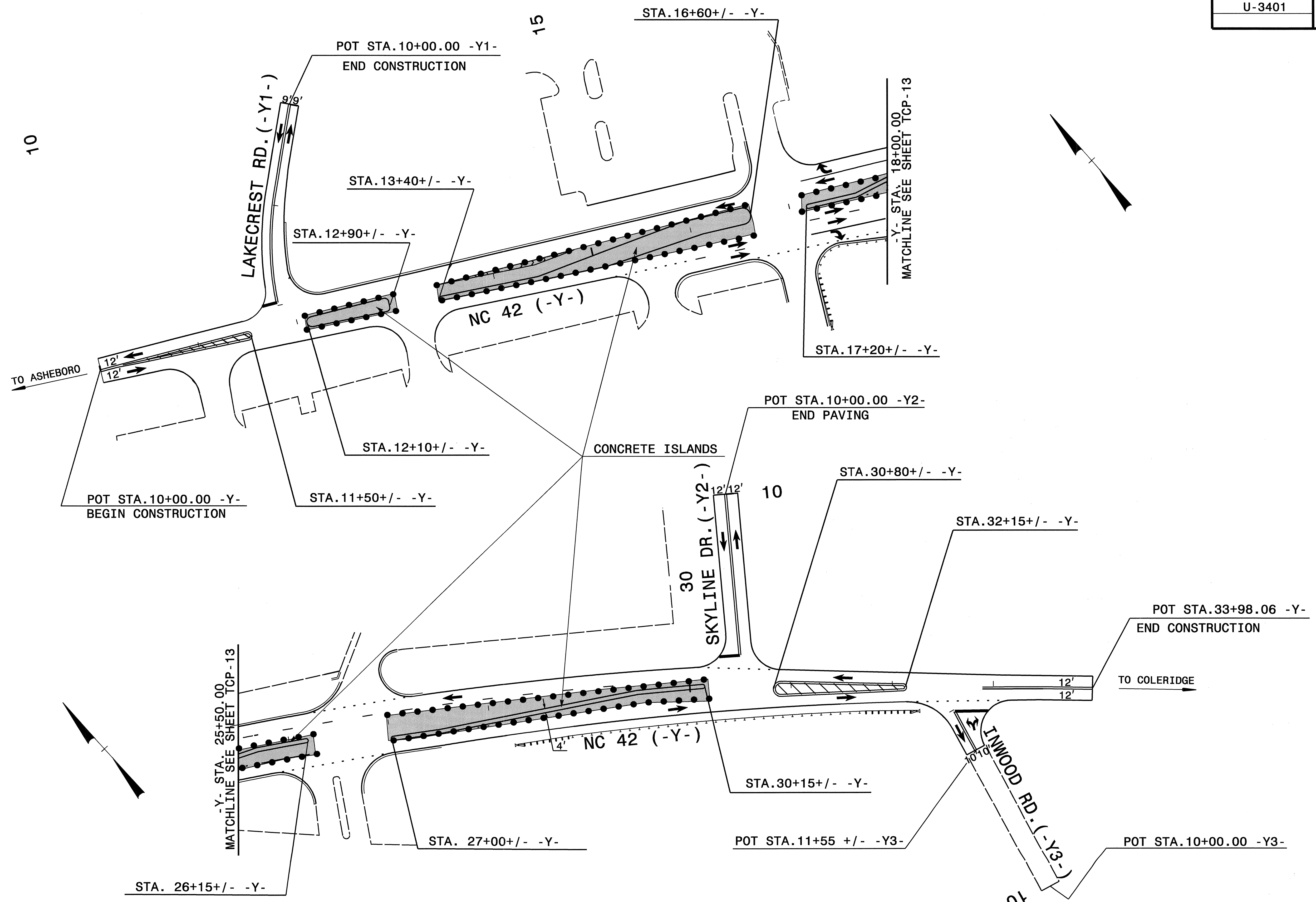
SECTION A1-A1'



NOTES FOR TEMP. SHORING No.2
 FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.
 DO NOT USE STANDARD SHORING FROM STA.29+89.00+/- -Y-, 6 FT LEFT, TO STA.30+43.50+/- -Y-, 6 FT LEFT.
 NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
 FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.
 WHEN USING CONTRACTOR DESIGNED SHORING, USE THE FOLLOWING SOIL PARAMETERS:
 UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
 UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma' = 60$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PCF
 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.

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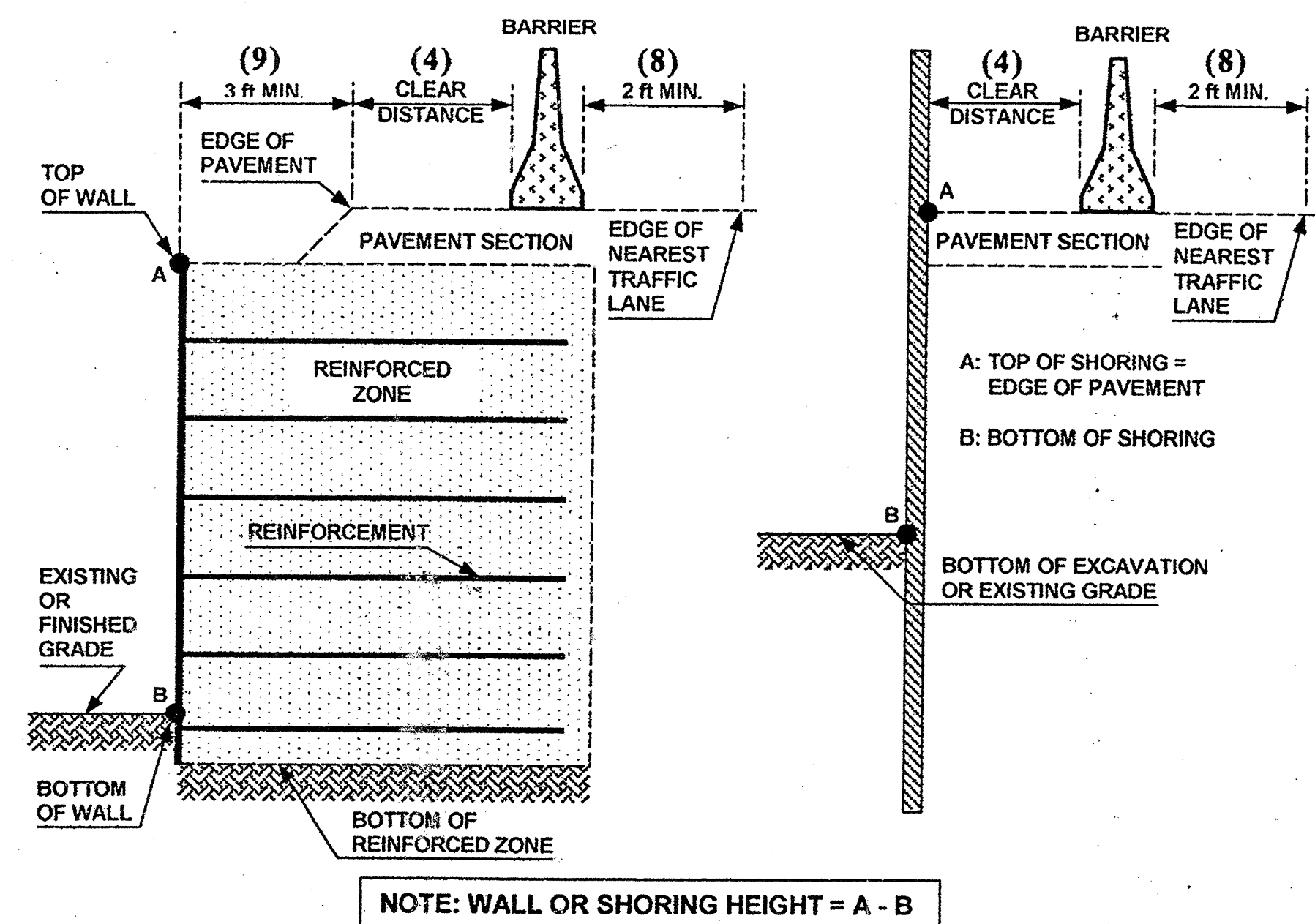


FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR SHORING LOCATIONS AND SOIL PARAMETERS.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR MORE INFORMATION ABOUT TEMPORARY SHORING, MEASUREMENT AND PAYMENT.
- 3- PROVIDE PORTABLE CONCRETE BARRIER TO PROTECT TEMPORARY SHORING IF SHORING IS LOCATED WITHIN THE CLEAR ZONE AS DEFINED IN THE AASHTO ROADSIDE DESIGN GUIDE.
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED PCB, ANCHORED PCB OR AN OREGON BARRIER FROM THE TABLE SHOWN IN FIGURE B. FOR TRAFFIC LANES AND PORTABLE CONCRETE BARRIER LOCATED ABOVE AND BEHIND TEMPORARY SHORING, THE FOLLOWING ARE DEFINED AS:

CLEAR DISTANCE - HORIZONTAL DISTANCE FROM THE BACK FACE OF THE BARRIER TO THE EDGE OF PAVEMENT FOR TEMPORARY MSE WALL OR TO THE FACE OF NON-ANCHORED TEMPORARY SHORING AS SHOWN IN FIGURE A.

OFFSET - HORIZONTAL DISTANCE FROM THE FRONT FACE OF THE BARRIER TO CENTERLINE OF THE FURTHEST TRAFFIC LANE AS SHOWN IN FIGURE B FOR 3 TRAFFIC LANES.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET AN UNANCHORED PCB AGAINST THE TRAFFIC SIDE OF THE SHORING AND DESIGN SHORING FOR TRAFFIC IMPACT OR USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT" FOR THE STANDARD TEMPORARY SHORING.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- USE OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH DETAIL DRAWING AND SPECIAL PROVISION OBTAINED FROM: [HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESENG.HTML](http://www.ncdot.org/doh/preconstruct/wztc/desres/english/desreseng.html)
- 8- UNLESS NOTED OTHERWISE ON THE PLANS, SET PORTABLE CONCRETE BARRIER WITH A MINIMUM DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A.
- 9- FOR PORTABLE CONCRETE BARRIER ABOVE AND BEHIND TEMPORARY MSE WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- 10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES AND WET OR DRY PAVEMENT.

Barrier Type	Pavement Type	Offset (4) ft	Design Speed, mph						
			<30	31-40	41-50	51-60	61-70	71-80	
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40	
		8-14	26	28	31	35	38	42	
		14-20	27	29	34	36	39	43	
		20-26	28	31	35	38	40	44	
		26-32	29	32	36	39	42	45	
		32-38	30	34	38	41	43	46	
		38-44	31	34	41	43	45	48	
		44-50	31	35	41	43	46	49	
		50-56	32	36	42	44	47	50	
	>56	32	36	42	45	47	51		
	Concrete	<8	17	18	21	22	25	26	
		8-14	19	20	23	25	26	29	
		14-20	22	22	24	26	28	31	
		20-26	23	24	26	27	30	34	
		26-32	24	25	27	28	32	35	
		32-38	24	26	27	30	33	36	
		38-44	25	26	28	30	34	37	
		44-50	26	26	28	32	35	37	
50-56		26	26	28	32	35	38		
>56	26	27	29	32	36	38			
Anchored PCB or Oregon Barrier	Asphalt	All Offsets (4)	24 for All Design Speeds						
Anchored PCB or Oregon Barrier	Concrete (including bridge approach slabs)	All Offsets (4)	12 for All Design Speeds						

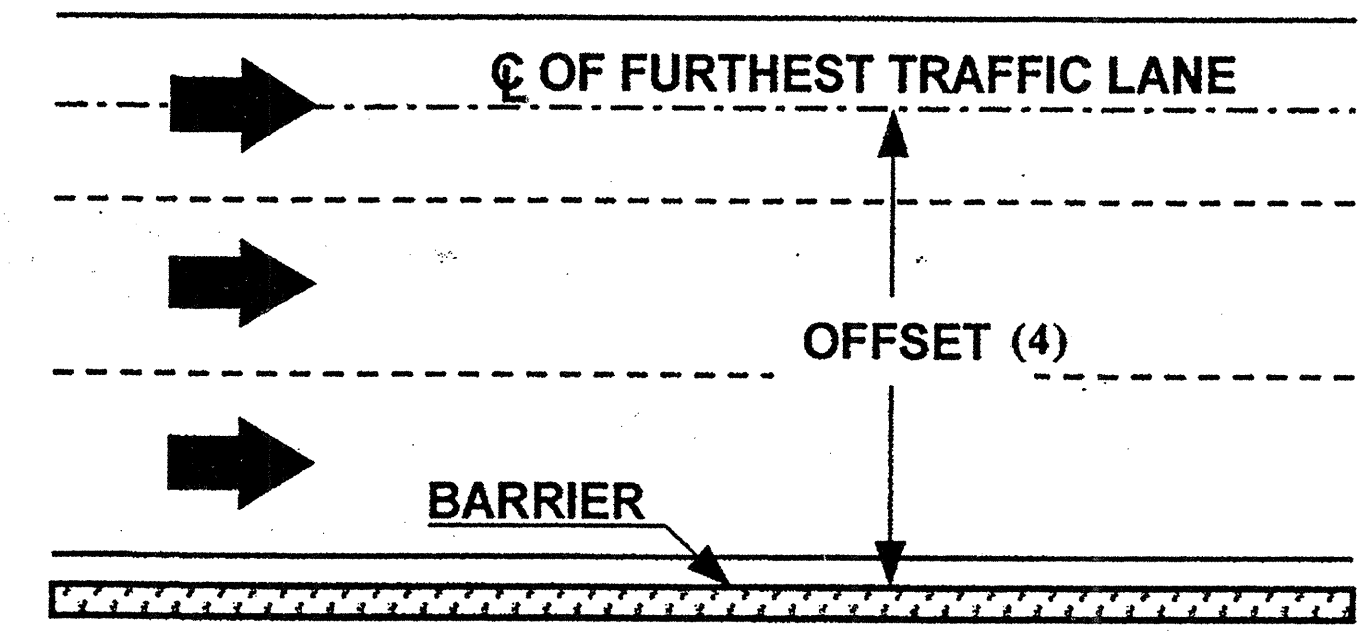


FIGURE B

APPROVED: <i>[Signature]</i>	DATE: <i>[Date]</i>	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS	
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	REVIEWED BY: JI		

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