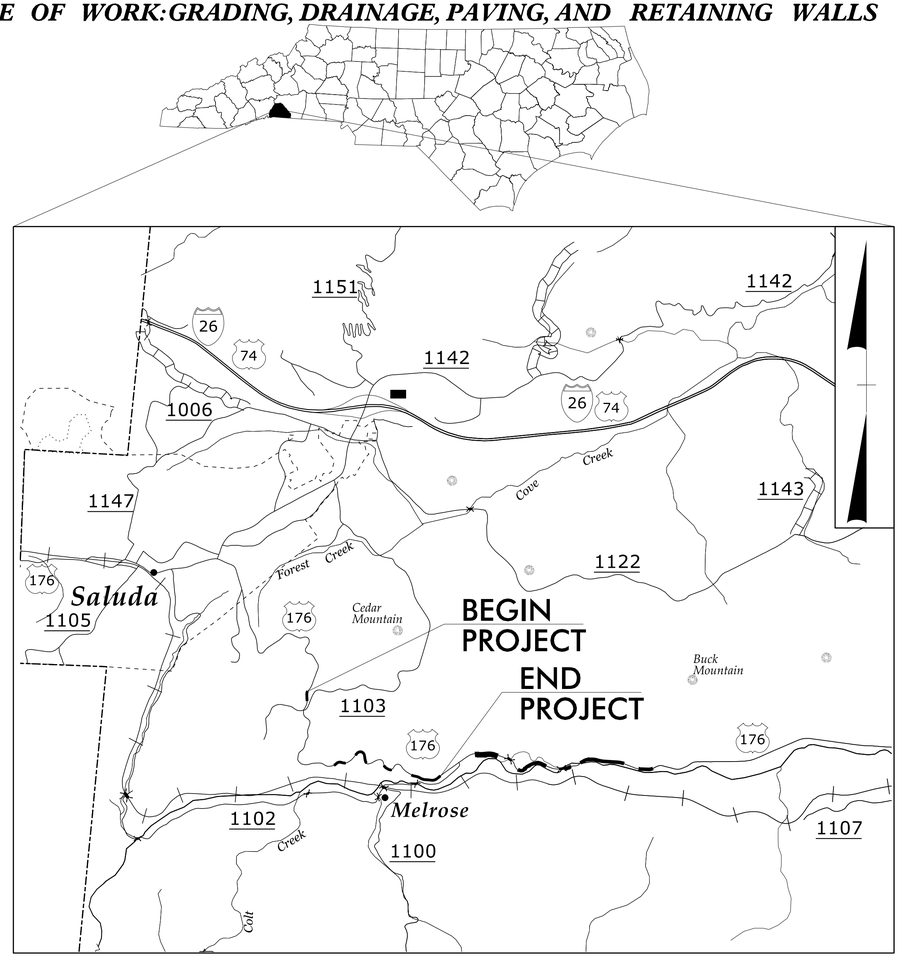
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

POLK COUNTY

LOCATION: US 176

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND RETAINING WALLS



VICINITY MAP

INDEX OF SHEETS

SHEET NO.	TITLE
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TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, LOCAL NOTES, AND GENERAL NOTES)
TMP-1C	SITE OVERVIEW
TMP-2	PCB AT SHORING DETAIL
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SHEET NO.
TMP-1

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APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

DATE: 12/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

PROJECT: W03293

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED FOR N.C.D.O.T. BY: TGS ENGINEERS

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.
PROJECT ENGINEER

CODA BRANNAN, E.I.
DESIGN ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-1A

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER 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
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
PAINT PAVEMENT MARKINGS	
P1	WHITE EDGELINE (4")
P3	10 FT. WHITE SKIP (4")
P13	YELLOW DOUBLE CENTER (4")
P61	WHITE STOPBAR (24")
COLD APPLIED PLASTIC PAVEMENT MARKINGS	
C1	WHITE EDGELINE (4" TYPE IV)

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NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-1B

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

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.

A) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
US 176	MONDAY THRU FRIDAY FROM 6:00 AM TO 9:00 AM AND 4:00 PM TO 7:00 PM	20 MINUTES FOR PCB INSTALLATION/REMOVAL

LANE AND SHOULDER CLOSURE REQUIREMENTS

B) 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.

C) 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.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, 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 WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

E) 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.

F) 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.

G) NOTIFY THE NCDOT STATEWIDE TRANSPORTATION OPERATIONS CENTER (STOC) AT 877-627-7862 APPROXIMATELY 30 MINUTES PRIOR TO INSTALLING AND WITHIN 15 MINUTES AFTER REMOVING LANE CLOSURES ON INTERSTATES, FREEWAYS, CONTROLLED ACCESS FACILITIES, AND US ROUTES.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) 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.

I) 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) 200 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) 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.

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

M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

N) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT 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 TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE 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 TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

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.

O) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

P) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
US 176	PAINT	NONE

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.

LOCAL NOTES

1) FOR TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEMS, EACH SYSTEM SHALL BE ACTUATED, NOT PRE-TIMED. THE SIGNALS SHALL REST IN ALL RED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)

WORK ZONE SAFETY & MOBILITY STRATEGIES:
- TEMPORARY TRAFFIC SIGNALS

CORRIDOR / NETWORK MANAGEMENT STRATEGIES:
- COORDINATION WITH ADJACENT CONSTRUCTION SITE(S)

APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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

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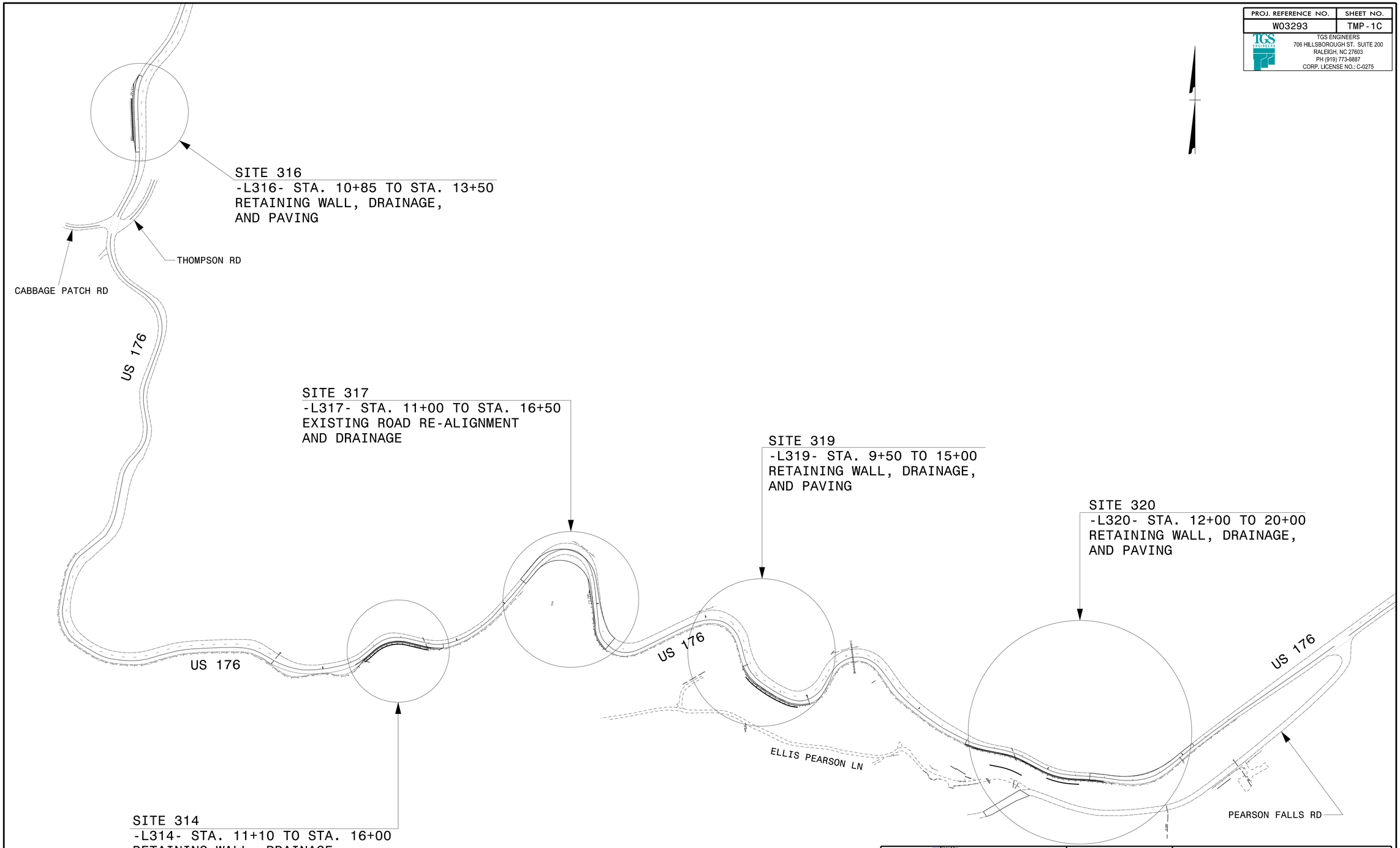
TRANSPORTATION OPERATIONS PLAN

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-1C

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



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NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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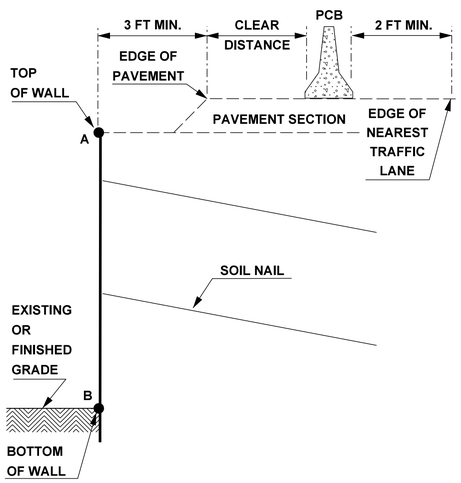
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SITE OVERVIEW

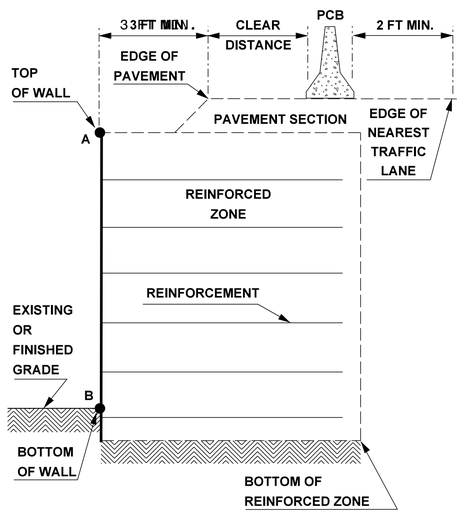
10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\US 176_TC_TMP_01c.dgn
User:cbrannan

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-2

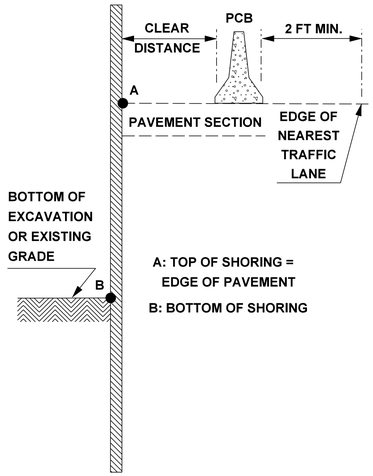
TEMPORARY SOIL NAIL WALL



TEMPORARY MSE WALL



TEMPORARY SHORING



NOTE: WALL OR SHORING HEIGHT = A-B

FIGURE A

NOTES

1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.

2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).

3- PCB IS REQUIRED IF TEMPORARY SHORING/WALL IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT FOR APPLICABLE PAVEMENT DESIGN).

4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.

5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.

6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.

7- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER.

8- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.

9- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * 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	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

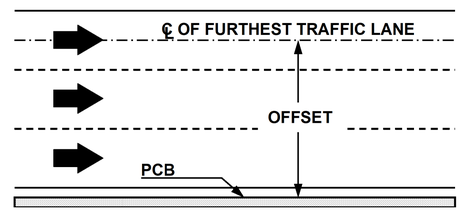


FIGURE B

APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

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NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-2A

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

Shoring Location No. 1 (CUT SHORING):

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM -L317- STATION 12+80±, 23.0′ LT TO -L317- STATION 13+48±, 18.0′ LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM -L317- STATION 12+80±, 23.0′ LT TO -L317- STATION 13+48±, 18.0′ LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:

FROM GROUND SURFACE TO DEPTH OF APPROXIMATELY 8.0 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF

FROM DEPTH OF APPROXIMATELY 8.0 FT TO 29.2 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF

BELOW DEPTH OF APPROXIMATELY 29.2 FT
UNIT WEIGHT (γ) = 135 LB/CF
FRICTION ANGLE (ϕ) = 34 DEGREES
COHESION (c) = 500 LB/SF
GROUNDWATER DEPTH = 41.0 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L317- STATION 12+80±, 23.0′ LT TO -L317- STATION 13+48±, 18.0′ LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L317- STATION 12+80±, 23.0′ LT TO -L317- STATION 13+48±, 18.0′ LT MAY NOT PENETRATE BELOW A DEPTH OF APPROXIMATELY 7.0 FT DUE TO OBSTRUCTION, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

DO NOT USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM -L317- STATION 12+80±, 23.0′ LT TO -L317- STATION 13+48±, 18.0′ LT. CONTRACTOR DESIGNED SHORING IS REQUIRED. SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM -L317- STATION 12+80±, 23.0′ LT TO -L317- STATION 13+48±, 18.0′ LT.

Shoring Location No. 2 (FILL SHORING):

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM -L317- STATION 12+75±, 10.0′ LT TO -L317- STATION 13+53±, 11.0′ LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM -L317- STATION 12+75±, 10.0′ LT TO -L317- STATION 13+53±, 11.0′ LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:

FROM GROUND SURFACE TO DEPTH OF APPROXIMATELY 8.0 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF

FROM DEPTH OF APPROXIMATELY 8.0 FT TO 29.2 FT
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FRICTION ANGLE (ϕ) = 34 DEGREES
COHESION (c) = 500 LB/SF
GROUNDWATER DEPTH = 41.0 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L317- STATION 12+75±, 10.0′ LT TO -L317- STATION 13+53±, 11.0′ LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L317- STATION 12+75±, 10.0′ LT TO -L317- STATION 13+53±, 11.0′ LT MAY NOT PENETRATE BELOW A DEPTH OF APPROXIMATELY 7.0 FT DUE TO OBSTRUCTION, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

DO NOT USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM -L317- STATION 12+75±, 10.0′ LT TO -L317- STATION 13+53±, 11.0′ LT. CONTRACTOR DESIGNED SHORING IS REQUIRED. SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM -L317- STATION 12+75±, 10.0′ LT TO -L317- STATION 13+53±, 11.0′ LT.

Shoring Location	Begin Station & Offset	End Station & Offset	Estimated Average Height	Estimated Maximum Height	Shoring Location Type
No. 1	12+80±, 23.0′ LT (-L317-)	13+48±, 18.0′ LT (-L317-)	5.9 FT	13.8 FT	Roadway
No. 2	12+75±, 10.0′ LT (-L317-)	13+53±, 11.0′ LT (-L317-)	6.0 FT	13.8 FT	Roadway

APPROVED: Docusigned by: Kelly de Montbrun BAB66070E9D747C...
DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045542 KELLY DE MONTBRUN

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SHORING NOTES
SITE 317

SHORING NOTES

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-2B

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

Shoring Location No. 3 (CUT SHORING):

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM -L319- STATION 9+47±, 0.5′ RT TO -L319- STATION 10+43±, 2.0′ RT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM -L319- STATION 9+47±, 0.5′ RT TO -L319- STATION 10+43±, 2.0′ RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:

FROM GROUND SURFACE TO DEPTH OF APPROXIMATELY 4.0 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF

FROM DEPTH OF APPROXIMATELY 4.0 FT TO 30.0 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF

BELOW DEPTH OF APPROXIMATELY 30.0 FT
UNIT WEIGHT (γ) = 135 LB/CF
FRICTION ANGLE (ϕ) = 34 DEGREES
COHESION (c) = 500 LB/SF

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L319- STATION 9+47±, 0.5′ RT TO -L319- STATION 10+43±, 2.0′ RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L319- STATION 9+47±, 0.5′ RT TO -L319- STATION 10+43±, 2.0′ RT MAY NOT PENETRATE BELOW DEPTH OF APPROXIMATELY 20.0 FT DUE TO OBSTRUCTION, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

DO NOT USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM -L319- STATION 9+47±, 0.5′ RT TO -L319- STATION 10+43±, 2.0′ RT. CONTRACTOR DESIGNED SHORING IS REQUIRED. SEE TEMPORARY SHORING SPECIAL PROVISION.

IF GROUNDWATER OR THE FLOOD ELEVATION IS ABOVE THE BOTTOM OF THE REINFORCED ZONE, DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM -L319- STATION 9+47±, 0.5′ RT TO -L319- STATION 10+43±, 2.0′ RT.

Shoring Location No. 4 (FILL SHORING):

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM -L319- STATION 9+47±, 6.0′ RT TO -L319- STATION 10+43±, 5.5′ RT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM -L319- STATION 9+47±, 6.0′ RT TO -L319- STATION 10+43±, 5.5′ RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS:

FROM GROUND SURFACE TO DEPTH OF APPROXIMATELY 4.0 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF

FROM DEPTH OF APPROXIMATELY 4.0 FT TO 30.0 FT
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF

BELOW DEPTH OF APPROXIMATELY 30.0 FT
UNIT WEIGHT (γ) = 135 LB/CF
FRICTION ANGLE (ϕ) = 34 DEGREES
COHESION (c) = 500 LB/SF

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L319- STATION 9+47±, 6.0′ RT TO -L319- STATION 10+43±, 5.5′ RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L319- STATION 9+47±, 6.0′ RT TO -L319- STATION 10+43±, 5.5′ RT MAY NOT PENETRATE BELOW DEPTH OF APPROXIMATELY 20.0 FT DUE TO OBSTRUCTION, VERY DENSE OR HARD SOIL, BOULDERS, OR WEATHERED OR HARD ROCK.

DO NOT USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM -L319- STATION 9+47±, 6.0′ RT TO -L319- STATION 10+43±, 5.5′ RT. CONTRACTOR DESIGNED SHORING IS REQUIRED. SEE TEMPORARY SHORING SPECIAL PROVISION.

IF GROUNDWATER OR THE FLOOD ELEVATION IS ABOVE THE BOTTOM OF THE REINFORCED ZONE, DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM -L319- STATION 9+47±, 6.0′ RT TO -L319- STATION 10+43±, 5.5′ RT.

Shoring Location	Begin Station & Offset	End Station & Offset	Estimated Average Height	Estimated Maximum Height	Shoring Location Type
No. 3	9+47±, 0.5′ RT (-L319-)	10+43±, 2.0′ RT (-L319-)	11.3 FT	22.2 FT	Roadway
No. 4	9+47±, 6.0′ RT (-L319-)	10+43±, 5.5′ RT (-L319-)	11.9 FT	22.2 FT	Roadway

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NORTH CAROLINA PROFESSIONAL SEAL 045542 ENGINEER KELLY DE MONTBRUN

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SHORING NOTES
SITE 319

PHASING

THE TRANSPORTATION MANAGEMENT PHASING FOR THIS PROJECT IS DIVIDED INTO FIVE INDEPENDENT SITES (SEE TMP-1C). THE CONTRACTOR MAY CHOOSE THE ORDER IN WHICH THE SITES ARE WORKED.

FOR CERTAIN OPERATIONS, IT MAY BE ADVANTANGEOUS TO COMBINE THE TRAFFIC CONTROL SETUP AND WORK ADJACENT SITES CONCURRENTLY. COMBINING TRAFFIC CONTROL SETUPS BETWEEN ADJACENT SITES SHALL REQUIRE APPROVAL BY THE ENGINEER.

PRIOR TO BEGINNING CONSTRUCTION AT ANY SITE, INSTALL WORK ZONE ADVANCE WARNING SIGNS IN ACCORDANCE WITH RSD 1101.01.

MAINTAIN ACCESS TO RESIDENCES AND BUSINESSES AT ALL TIMES.

CONDUCT GRADING AND PAVING OPERATIONS IN A MANNER THAT DOES NOT POND WATER.

SITE 316

PHASE I

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK OF STEP 1 IN A SINGLE WORK PERIOD.

NOTE: RECORD THE LOCATION OF EXISTING PAVEMENT MARKINGS PRIOR TO REMOVAL.

STEP 1 -- USING FLAGGERS, REMOVE AND REPLACE EXISTING PAVEMENT MARKINGS, INSTALL WARNING SIGNEAGE, AND SHIFT TRAFFIC TO TEMPORARY PHASE I PATTERN (SEE TMP-4).

STEP 2 -- USING FLAGGERS, INSTALL PORTABLE CONCRETE BARRIER AND CRASH CUSHIONS FROM -L316- STA. 10+75 +/- TO -L316- STA. 13+60 +/- (SEE TMP-4).

STEP 3 -- BEHIND PCB CONSTRUCT PROPOSED RETAINING WALL, SLOPE, AND ASPHALT WIDENING UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT FROM -L316- STA. 10+85 +/- TO -L316- STA. 13+50 +/-.

STEP 4 -- USING FLAGGERS, REMOVE PCB AND REPLACE WITH DRUMS AT 40′ CENTERS.

STEP 5 -- USING FLAGGERS, MILL AND RESURFACE US 176 INCLUDING THE FINAL LAYER OF SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKINGS IN THE FINAL TRAFFIC PATTERN.

NOTE: MILL AND RE-PAVE A LANE OF TRAVEL BY THE END OF THE WORK PERIOD. IF LANE IS NOT PAVED BACK BY THE END OF THE WORK PERIOD, INSTALL W8-15 (GROOVED PAVEMENT) SIGN WITH W8-15P (MOTORCYCLE PLAQUE).

STEP 6 -- USING FLAGGERS, INSTALL PROPOSED GUARDRAIL.

STEP 7 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

SITE 314

PHASE I

STEP 1 -- USING FLAGGERS INSTALL PROPOSED DRAINAGE SYSTEM (STRUCTURES 500-506) (SEE TMP-5).

STEP 2 -- INSTALL SIGNAL WARNING SIGNS AND TEMPORARY SIGNAL FOR 1LANE-2WAY TRAFFIC PATTERN (SEE TMP-5, LOCAL NOTE 1, AND SPECIAL PROVISION).

STEP 3 -- USING INTERMITTANT STOPPAGES OF TRAFFIC, INSTALL ANCHORED PCB FROM -L314- STA. 10+60 +/- TO -L314- STA. 14+80 +/- (SEE TMP-5).

STEP 4 -- BEHIND PCB, CONSTRUCT PROPOSED RETAINING WALL, SHOULDER BERM GUTTER, ASPHALT WIDENING TO EGDE AND ELEVATION OF EXISTING PAVEMENT AND PROPOSED GUARDRAIL FROM -L314- STA. 11+40 +/- TO -L314- STA. 14+10 +/- (SEE TMP-5)

STEP 5 -- USING INTERMITTANT STOPPAGES OF TRAFFIC, REMOVE PCB AND REPLACE WITH DRUMS AT 40′ CENTERS.

STEP 6 -- USING SIGNAL CONTROL OR FLAGGERS AS NEEDED, CONSTRUCT FULL DEPTH PAVING OF RIGHT LANE UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L314- STA. 11+10 +/- TO -L314- STA. 14+50 +/-. AS FOLLOWS:

A. SAWCUT EXISTING PAVEMENT AT CENTERLINE AND REMOVE EXISTING PAVEMENT. AS EXISTING PAVEMENT IS REMOVED AND PRIOR TO PLACEMENT OF BASE COURSE, CONTRACTOR SHALL BACKFILL WITH SUITABLE COMPACTED MATERIAL AT A RATE OF 6:1 TO ELIMINATE DROP-OFF PRIOR TO THE END OF A DAILY WORK PERIOD.

B. PLACE 5″ BASE COURSE AND FIRST LAYER OF SURFACE COURSE.

STEP 7 -- REMOVE SIGNAL, COVER OR REMOVE WARNING SIGNS, AND RESTORE 2 LANE-2 WAY TRAFFIC.

STEP 8 -- USING FLAGGERS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.

STEP 9 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

SITE 317

PHASE I

STEP 1 -- INSTALL SIGNAL WARNING SIGNS AND TEMPORARY SIGNAL FOR 1 LANE-2 WAY TRAFFIC PATTERN (SEE TMP-6, LOCAL NOTE 1, AND SPECIAL PROVISION).

STEP 2 -- SHIFT TRAFFIC INTO 1 LANE-2 WAY PATTERN IN THE EXISTING LEFT LANE (SEE TMP-6).

-- USING INTERMITTANT STOPPAGES OF TRAFFIC, INSTALL PCB (ANCHORED) FROM -L317- STA. 12+10 +/- TO -L317- STA. 14+20 +/-

STEP 3 -- BEHIND ANCHORED PCB, INSTALL TEMPORARY SHORING NO. 1 AND PLACE 175′ +/- OF 42″ CSP. (SEE TMP-2, TMP-2A, AND TMP-6).

STEP 4 -- BEHIND ANCHORED PCB, PERFORM THE FOLLOWING:

-- BACKFILL AND INSTALL TEMPORARY SHORING NO.2 (SEE TMP-2, TMP-2A, AND TMP-6).

-- CONSTRUCT FULL DEPTH PAVING OF RIGHT LANE FROM -L317- STA. 12+44 +/- TO -L317- STA. 13+94 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 5 -- USING SIGNAL CONTROL OR FLAGGERS AS NECESSARY, CONSTRUCT FULL DEPTH PAVING OF RIGHT LANE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L317- STA. 11+00 +/- TO -L317- STA. 12+44 +/- AND FROM -L317- STA. 13+94 +/- TO -L317- STA. 16+50 +/- AS FOLLOWS:

A. SAWCUT EXISTING PAVEMENT AT CENTERLINE AND REMOVE EXISTING PAVEMENT. AS EXISTING PAVEMENT IS REMOVED AND PRIOR TO PLACEMENT OF BASE COURSE, CONTRACTOR SHALL BACKFILL WITH SUITABLE COMPACTED MATERIAL AT A RATE OF 6:1 TO ELIMINATE DROP-OFF PRIOR TO THE END OF A DAILY WORK PERIOD.

B. PLACE BASE COURSE AND FIRST LAYER OF SURFACE COURSE.

STEP 6 -- INSTALL PROPOSED GUARDRAIL ADJACENT TO RIGHT LANE.

PHASE II

STEP 1 -- WITHIN A SINGLE WORK PERIOD AND USING INTERMITTANT STOPPAGES OF TRAFFIC, REMOVE AND RESET ANCHORED PCB, ADJUST TRAFFIC CONTROL DEVICES AND SHIFT TRAFFIC TO THE PHASE II PATTERN (SEE TMP-7) .

STEP 2 -- BEHIND ANCHORED PCB, PERFORM THE FOLLOWING (SEE TMP-7):

-- REMOVE TEMPORARY SHORING NO. 1 AND INSTALL REMAINDER OF 42″ CSP AND BACKFILL.

-- CONSTRUCT FULL DEPTH PAVING OF LEFT LANES FROM -L317- STA. 12+44 +/- TO -L317- STA. 13+94 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 3 -- USING INTERMITTANT STOPPAGES OF TRAFFIC, REMOVE PCB AND REPLACE WITH DRUMS AT 40′ CENTERS.

STEP 4 -- USING SIGNAL CONTROL OR FLAGGERS AS NECESSARY, CONSTRUCT FULL DEPTH PAVING OF LEFT LANES UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L317- STA. 11+00 +/- TO -L317- STA. 12+44 +/- AND FROM -L317- STA. 13+94 +/- TO -L317- STA. 16+50 +/-AS FOLLOWS:

A. SAWCUT EXISTING PAVEMENT AT CENTERLINE AND REMOVE EXISTING PAVEMENT. AS EXISTING PAVEMENT IS REMOVED AND PRIOR TO PLACEMENT OF BASE COURSE, CONTRACTOR SHALL BACKFILL WITH SUITABLE COMPACTED MATERIAL AT A RATE OF 6:1 TO ELIMINATE DROP-OFF PRIOR TO THE END OF A DAILY WORK PERIOD.

B. PLACE BASE COURSE AND FIRST LAYER OF SURFACE COURSE.

STEP 5 -- USING SIGNAL CONTROL OR FLAGGERS AS NEEDED, INSTALL TEMPORARY PAINT PAVEMENT MARKINGS IN THE FINAL PATTERN.

STEP 6 -- REMOVE TEMPORARY SIGNAL, COVER OR REMOVE WARNING SIGNS AND OPEN SITE 317 TO FINAL PATTERN

PHASE III

STEP 1 -- USING FLAGGERS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS FROM -L317- STA. 11+00 +/- TO -L317- STA. 16+50 +/-.

STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

SITE 319

PHASE I

STEP 1 -- INSTALL SIGNAL WARNING SIGNS AND TEMPORARY SIGNAL FOR 1 LANE-2 WAY TRAFFIC PATTERN (SEE TMP-8 LOCAL NOTE 1, AND SPECIAL PROVISION).

STEP 2 -- SHIFT TRAFFIC INTO 1 LANE-2 WAY PATTERN IN THE EXISTING LEFT LANE (SEE TMP-8).

-- USING INTERMITTANT STOPPAGES OF TRAFFIC, INSTALL PCB IN THE FOLLOWING LOCATIONS (SEE TMP-10):

-- -L319- STA. 8+72 +/- TO -L319- STA. 11+18 +/-
-- -L319- STA. 12+05 +/- TO -L319- STA. 15+43 +/-

STEP 3 -- BEHIND PCB, CONSTRUCT THE FOLLOWING (SEE TMP-8):

-- RETAINING WALL, PROPOSED GUARDRAIL, AND FULL DEPTH PAVING OF RIGHT LANE FROM -L319- STA. 12+50 +/- TO -L319- STA. 15+00 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

-- INSTALL TEMPORARY SHORING NO. 3 AND PLACE 74′ +/- OF 24″ CSP AT -319- STA. 10+00+/- (SEE TMP-2, TMP-2A, AND TMP-8).

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-3

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

APPROVED: Signed by: Don A. Parker 76DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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PHASING

PHASING

STEP 4 -- BACKFILL, INSTALL TEMPORARY SHORING NO. 4 AND RE-PAVE UP TO BUT INCLUDING FINAL LAYER OF SURFACE COURSE.

-- PLACE TEMPORARY PAINT MARKINGS FOR THE PHASE II PATTERN (SEE TMP-9).

PHASE II

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE STEP 1 IN A SINGLE WORK PERIOD

STEP 1 -- USE INTERMITTANT STOPPAGES OF TRAFFIC TO PERFORM THE FOLLOWING (SEE TMP-9):

-- REMOVE PCB FROM -L319- STA. 12+05 +/- TO -L319- STA. 15+43 +/- AND REPLACE WITH DRUMS AT 40 FT. CENTERS.

-- RESET PCB FROM -L319- STA. 8+72 +/- TO -L319- STA. 11+18 +/- TO THE PHASE II PATTERN.

-- SHIFT TRAFFIC TO THE PHASE II PATTERN.

STEP 2 -- BEHIND PCB, REMOVE TEMPORARY SHORING NO. 3 AND INSTALL REMAINDER OF 24″ CSP, BACKFILL AND REPAVE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE TMP-9).

STEP 3 -- USE INTERMITTANT STOPPAGES OF TRAFFIC TO REMOVE PCB AND REPLACE WITH DRUMS AT 40 FT. CENTERS.

STEP 4 -- PLACE TEMPORARY PAINT MARKINGS FOR THE FINAL PATTERN AND REMOVE TEMPORAY SIGNAL. RESTORE TRAFFIC TO FINAL PATTERN AND COVER OR REMOVE SIGNAL WARNING SIGNS.

PHASE III

STEP 1 -- USING FLAGGERS, INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS THROUGHOUT SITE 319.

STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

SITE 320

PHASE I

STEP 1 -- USING FLAGGERS INSTALL PROPOSED DRAINAGE SYSTEM (STRUCTURES 700-706) (SEE TMP-10).

STEP 2 -- INSTALL SIGNAL WARNING SIGNS AND TEMPORARY SIGNAL FOR 1 LANE-2 WAY TRAFFIC PATTERN (SEE TMP-10, LOCAL NOTE 1, AND SPECIAL PROVISION).

STEP 3 -- USING INTERMITTANT STOPPAGES OF TRAFFIC, INSTALL PCB FROM -L320- STA. 16+60 +/- TO -L320- STA. 21+00 +/- (SEE TMP-10).

STEP 4 -- BEHIND PCB, CONSTRUCT SLOPE REPAIR FROM -L320- STA.17+50 +/- (LT) TO -320- STA. 21+00 +/-.

PHASE II

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE STEP 1 IN A SINGLE WORK PERIOD.

STEP 1 -- USE INTERMITTENT STOPPAGES OF TRAFFIC TO PERFORM THE FOLLOWING:

-- REMOVE PCB AND CRASH CUSHIONS FROM -L320- STA. 16+60 +/- TO -L320- STA. 21+00 +/- AND RE-PAVE WITH DRUMS AT 40′ CENTERS.

-- INSTALL PCB AND CRASH CUSHIONS FROM -L320- STA. 11+10 +/- TO -L320- STA. 18+30 +/-.

STEP 2 -- BEHIND PCB, CONSTRUCT PROPOSED RETAINING WALL, SHOULDER BERM GUTTER, AND PROPOSED GUARDRAIL FROM -L320- STA. 12+00 +/- TO -L320- STA. 17+40 +/- (SEE TMP-11).

STEP 3 -- USING INTERMITTANT STOPPAGES OF TRAFFIC, REMOVE PCB AND REPLACE WITH DRUMS AT 40′ CENTERS.

STEP 4 -- USING SIGNAL CONTROL OR FLAGGERS AS NECESSARY, CONSTRUCT FULL DEPTH PAVING OF RIGHT LANE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L320- STA. 12+00 +/- TO -L320- STA. 17+00 +/- AS FOLLOWS:

A. SAWCUT EXISTING PAVEMENT AT CENTERLINE AND REMOVE EXISTING PAVEMENT. AS EXISTING PAVEMENT IS REMOVED AND PRIOR TO PLACEMENT OF BASE COURSE, CONTRACTOR SHALL BACKFILL WITH SUITABLE COMPACTED MATERIAL AT A RATE OF 6:1 TO ELIMINATE DROP-OFF PRIOR TO THE END OF A DAILY WORK PERIOD.

B. PLACE BASE COURSE AND FIRST LAYER OF SURFACE COURSE AND TEMPORARY PAINT WHITE EDGELINE AND DOUBLE YELLOW CENTERLINE IN THE FINAL PATTERN.

PHASE III

STEP 1 -- USING INTERMITTANT STOPPAGES OF TRAFFIC, REVERSE TAPERS AND INSTALL THE PHASE III TRAFFIC PATTERN (SEE TMP-12).

STEP 4 -- USING SIGNAL CONTROL OR FLAGGERS AS NECESSARY, CONSTRUCT FULL DEPTH PAVING OF LEFT LANE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L320- STA. 17+00 +/- TO -L320- STA. 20+50 +/- AS FOLLOWS:

A. SAWCUT EXISTING PAVEMENT AT CENTERLINE AND REMOVE EXISTING PAVEMENT. AS EXISTING PAVEMENT IS REMOVED AND PRIOR TO PLACEMENT OF BASE COURSE, CONTRACTOR SHALL BACKFILL WITH SUITABLE COMPACTED MATERIAL AT A RATE OF 6:1 TO ELIMINATE DROP-OFF PRIOR TO THE

B. PLACE BASE COURSE AND FIRST LAYER OF SURFACE COURSE AND TEMPORARY PAINT WHITE EDGELINE AND DOUBLE YELLOW CENTERLINE IN THE FINAL PATTERN.

STEP 3 -- REMOVE TEMPORARY PORTABLE SIGNAL SYSTEM AND RESTORE 2 LANE-2 WAY TRAFFIC. COVER OR REMOVE SIGNAL WARNING SIGNS.

PHASE IV

STEP 1 -- USING FLAGGERS, PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS FROM -L320- STA. 12+00 +/- TO -L320- STA. 20+50 +/-.

STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-3A

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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PHASING

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-4

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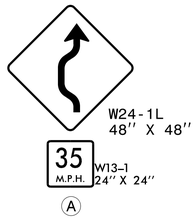
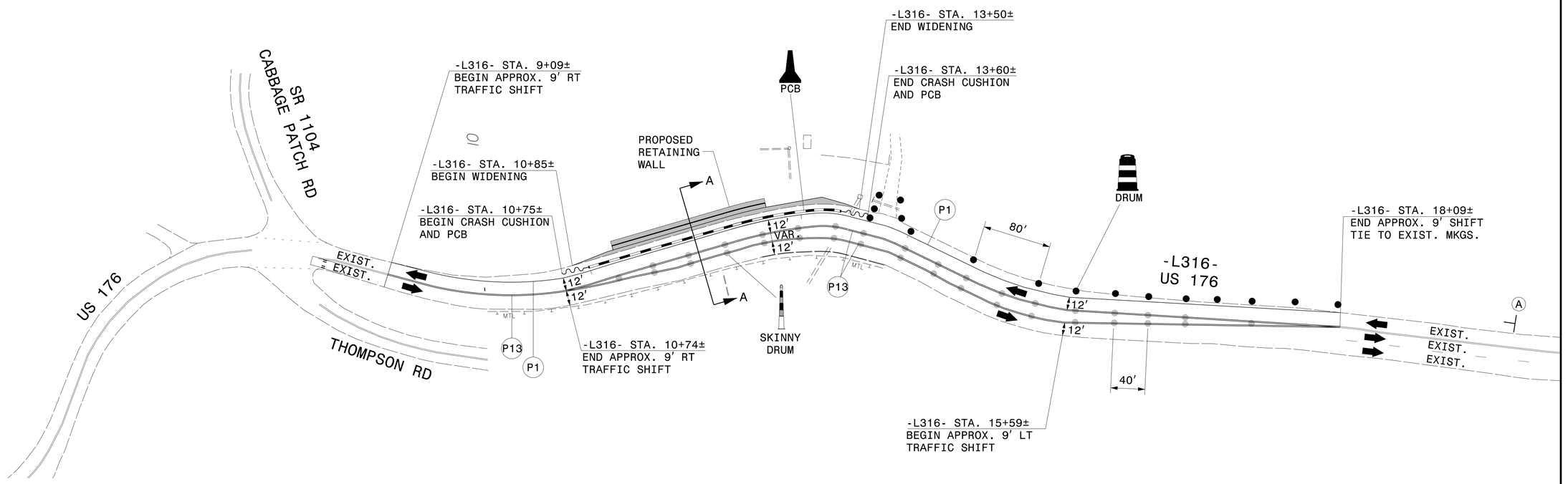
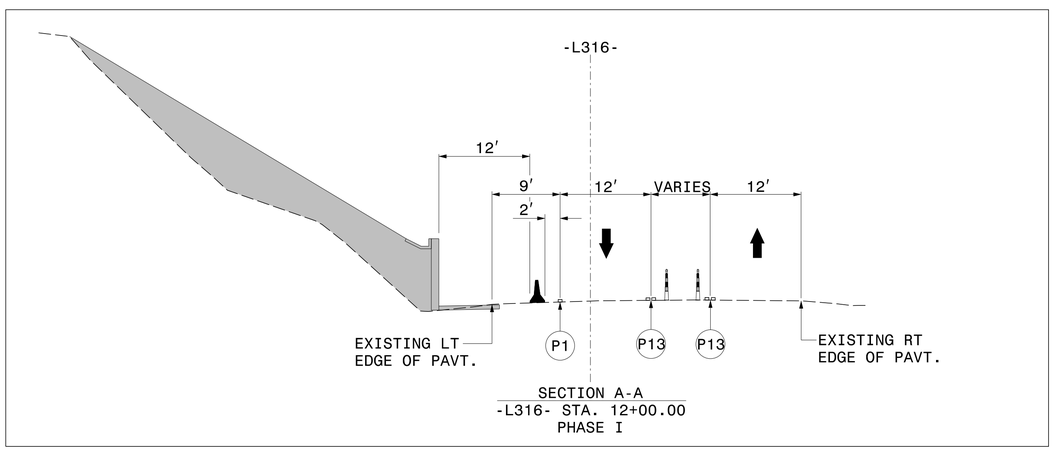
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275







SECTION A-A
-L316- STA. 12+00.00
PHASE I

APPROVED: Don A. Parker
75DB9E90ADEF440...

DATE: 12/30/2025

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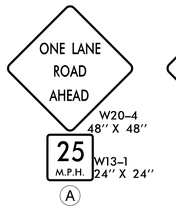
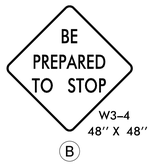
SITE 316
PHASE I

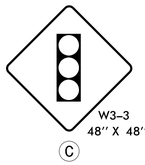
10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 316\US176_TC_TMP_PSHL.dgn
User:rcbrannon

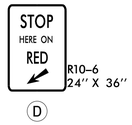
PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-5

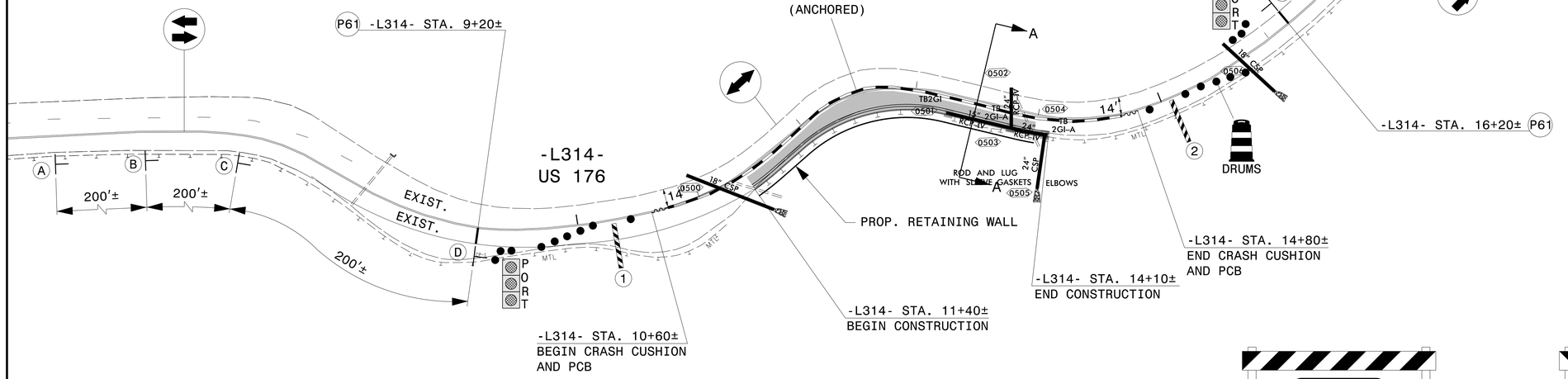
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

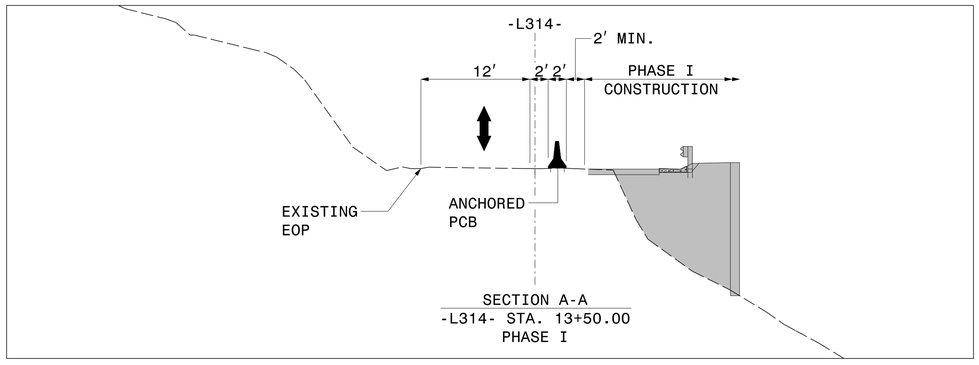


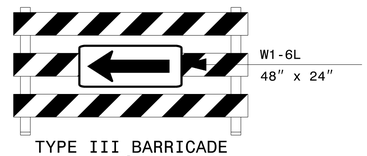




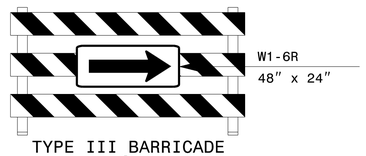








TYPE III BARRICADE
(1)



TYPE III BARRICADE
(2)

APPROVED: Don A. Parker
DocuSigned by: 75DB9E90ADEF440...
DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

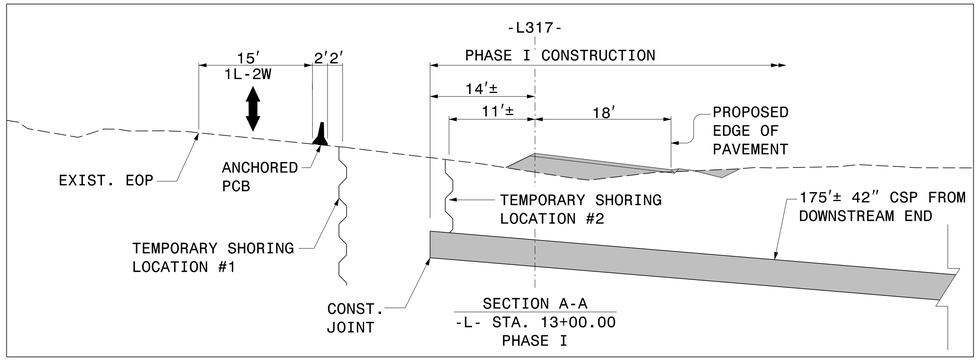
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

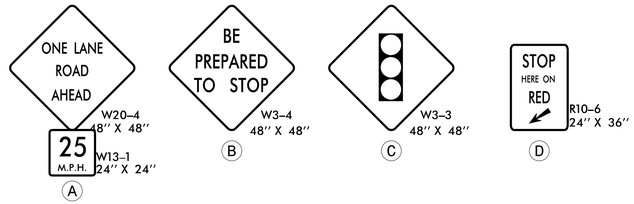
SITE 314
PHASE I

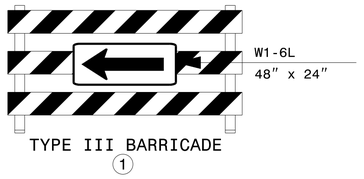
10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 314\US176_TC_TMP_PSH.dgn
User:rcdorman

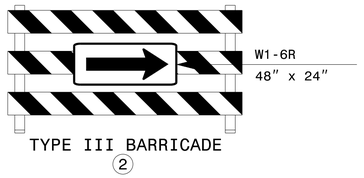
PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-6

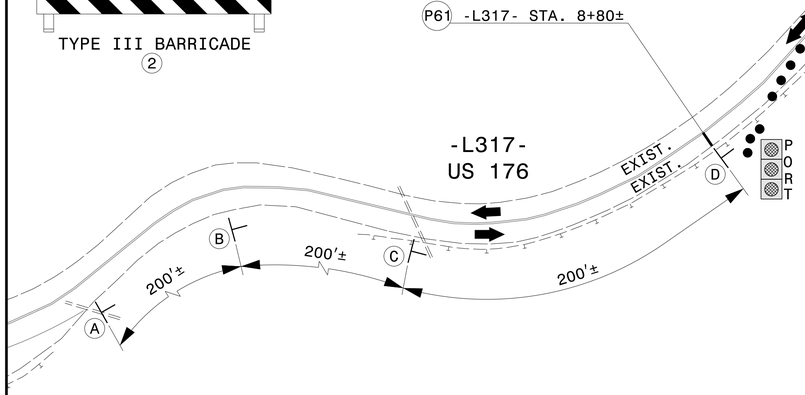
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

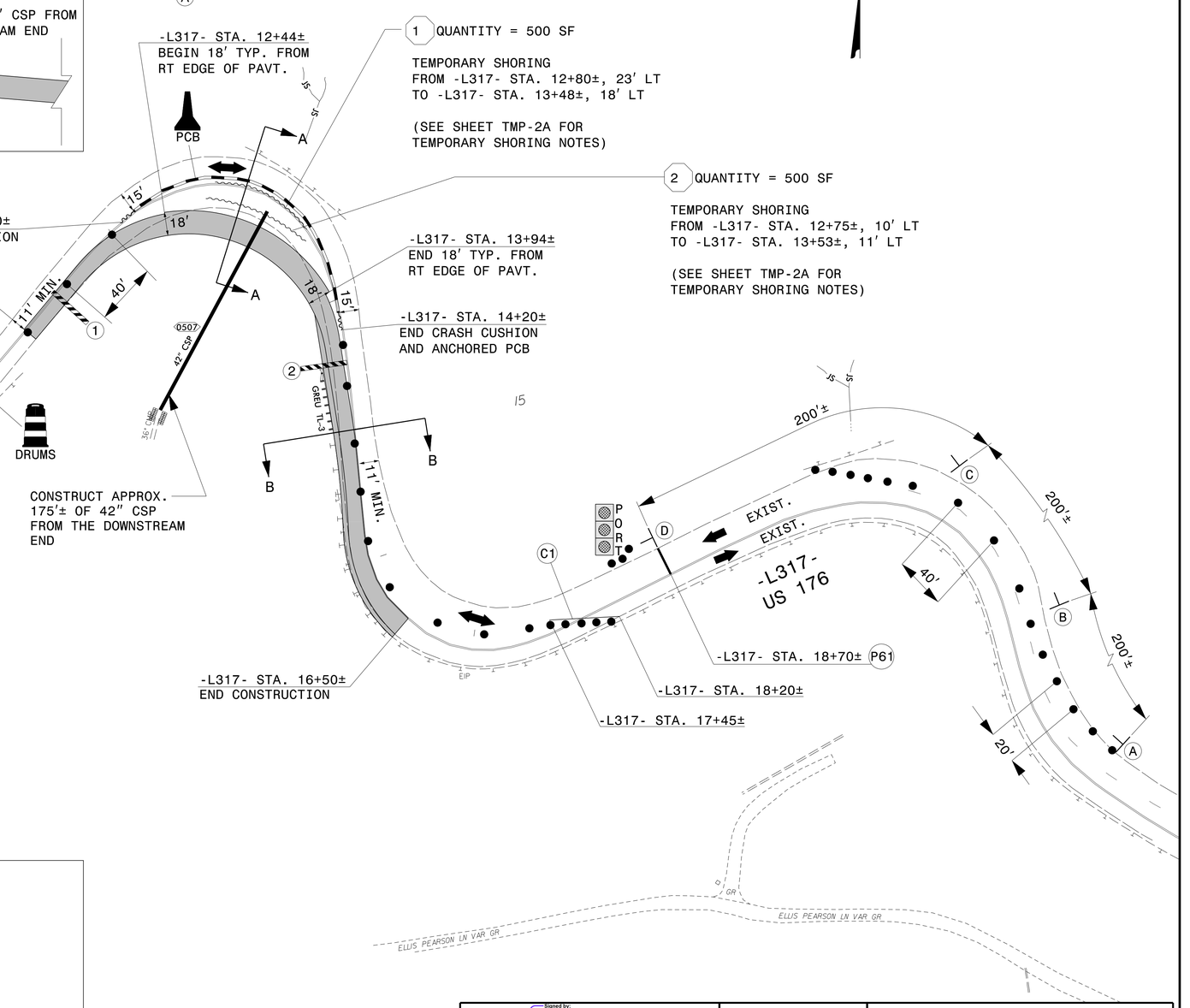


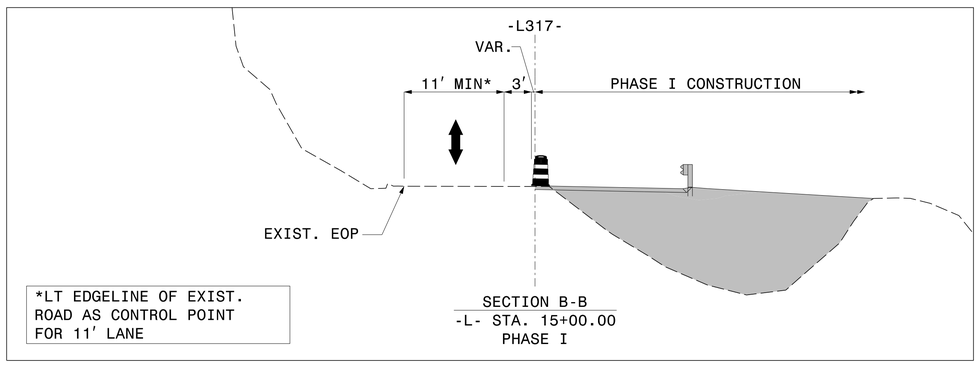












APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

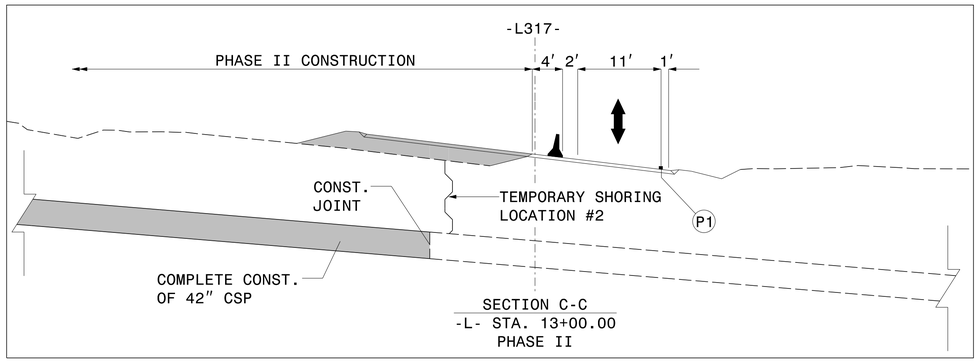
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SITE 317
PHASE I

10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 317\US176_TC_TMP_PSHI.dgn
User:cdcrumpton

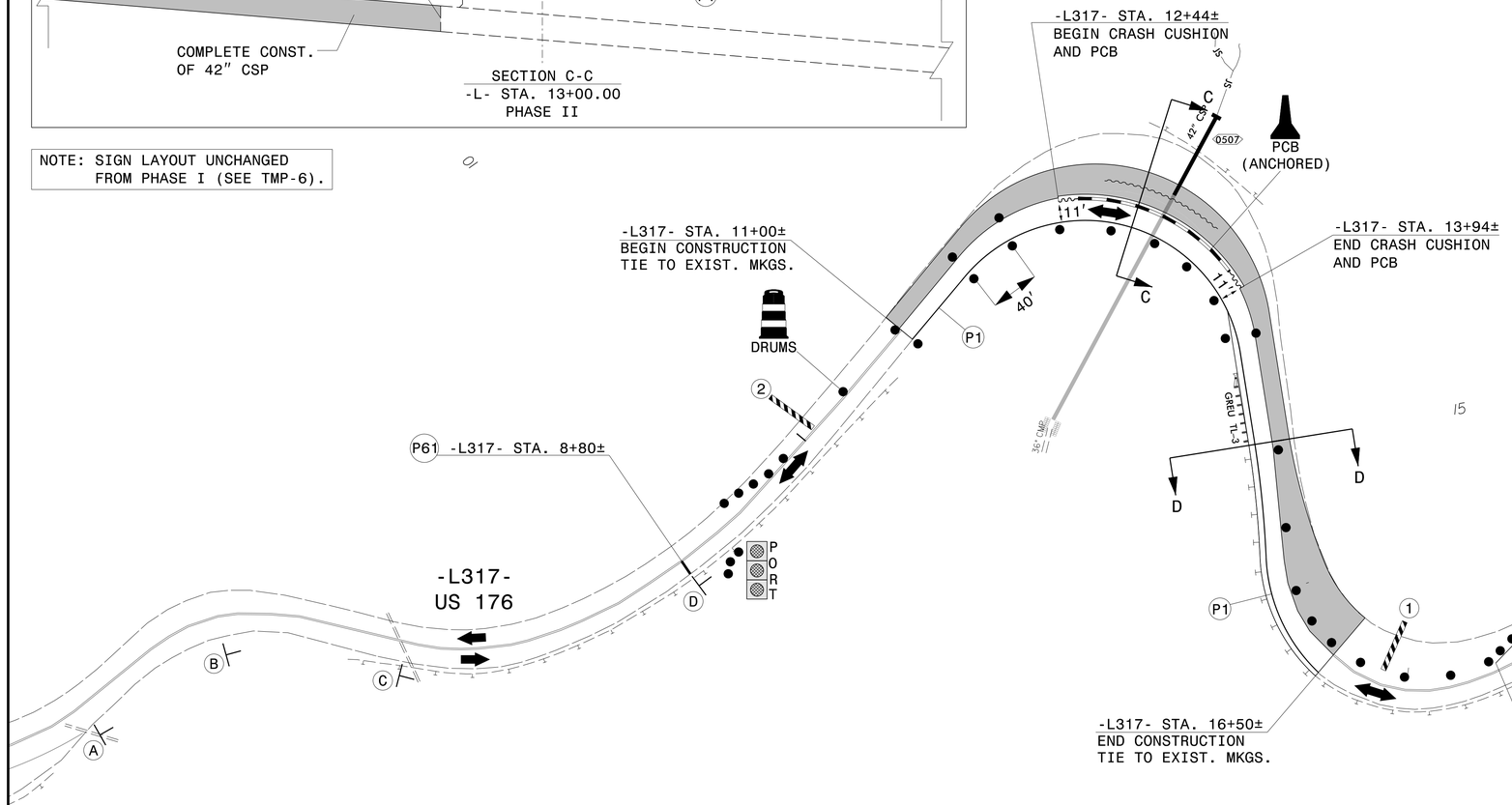
PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-7

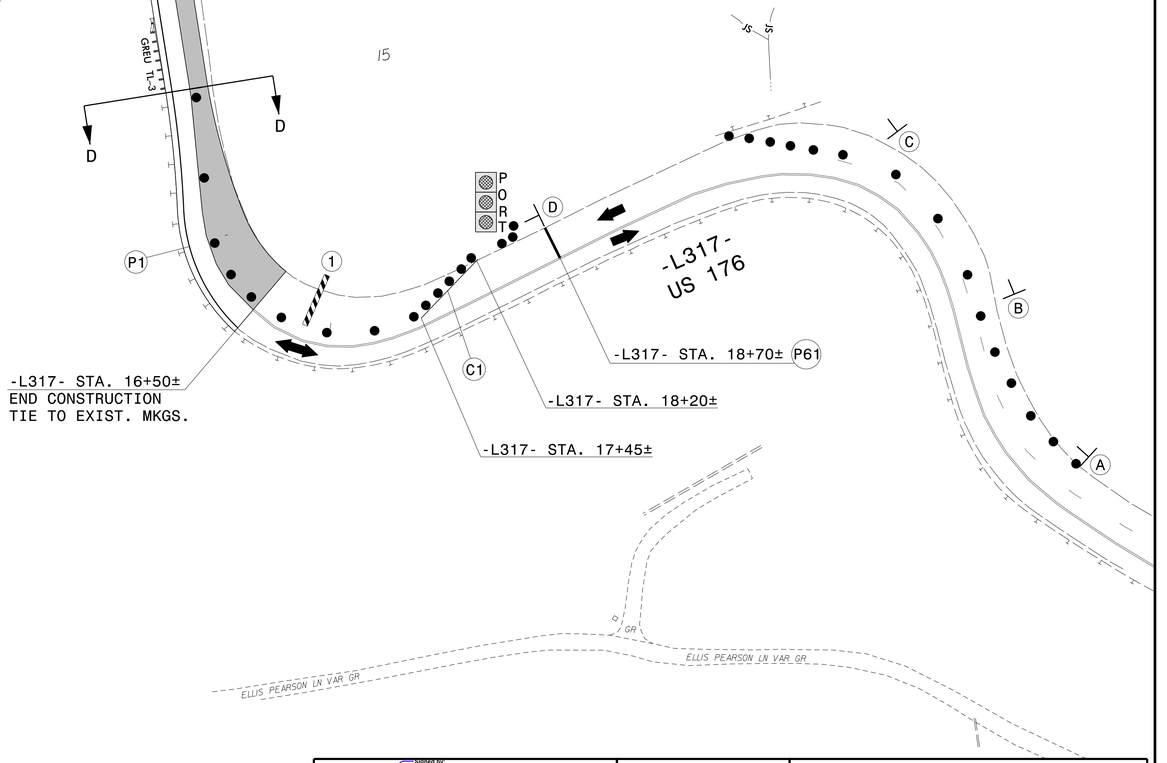
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

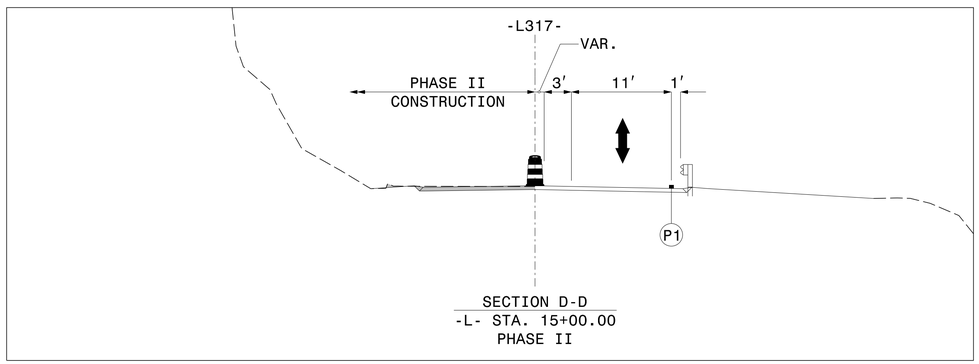


SECTION C-C
-L- STA. 13+00.00
PHASE II

NOTE: SIGN LAYOUT UNCHANGED FROM PHASE I (SEE TMP-6).







SECTION D-D
-L- STA. 15+00.00
PHASE II

APPROVED: Signed by: Don A. Parker 750B9E90ADEF440...
DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

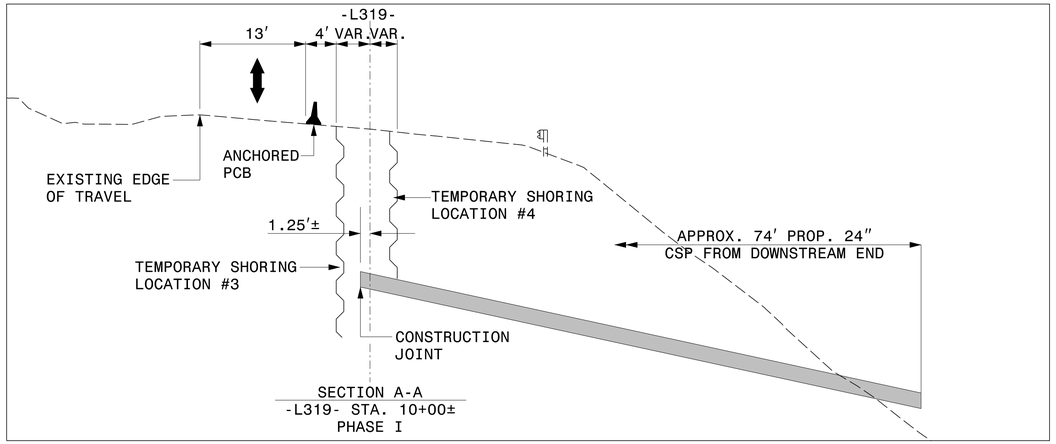
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SITE 317
PHASE II

10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 317\US176_TC_TMP_PSH2.dgn
User:rdrriman

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-8

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

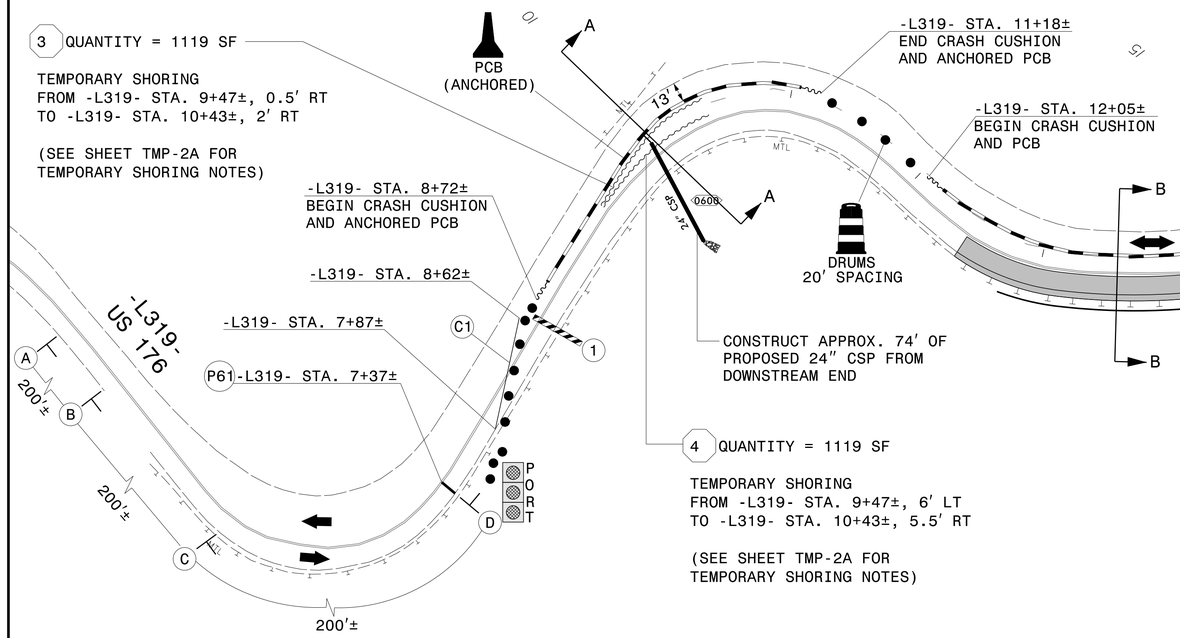


SECTION A-A
-L319- STA. 10+00±
PHASE I

3 QUANTITY = 1119 SF

TEMPORARY SHORING
FROM -L319- STA. 9+47±, 0.5′ RT
TO -L319- STA. 10+43±, 2′ RT

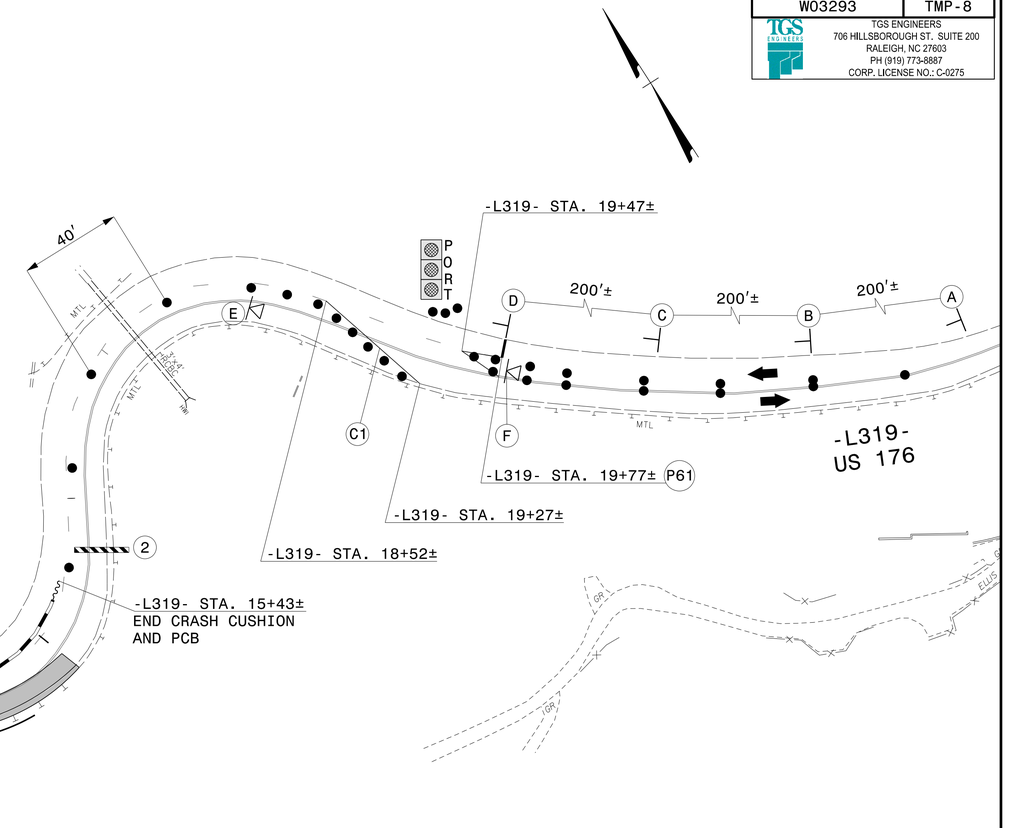
(SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

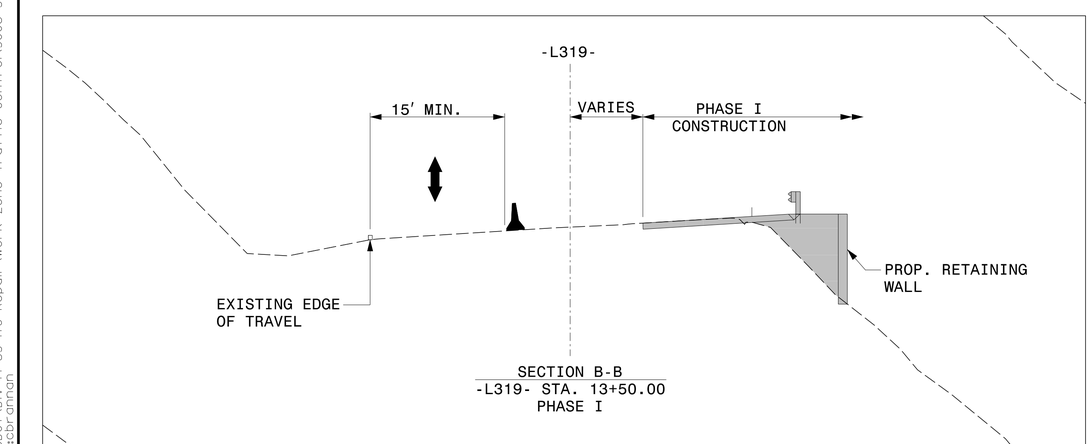


4 QUANTITY = 1119 SF

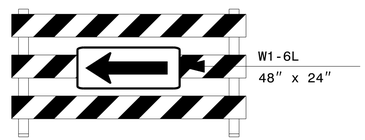
TEMPORARY SHORING
FROM -L319- STA. 9+47±, 6′ LT
TO -L319- STA. 10+43±, 5.5′ RT

(SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

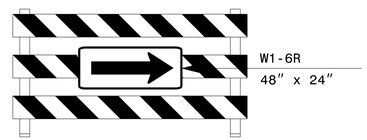




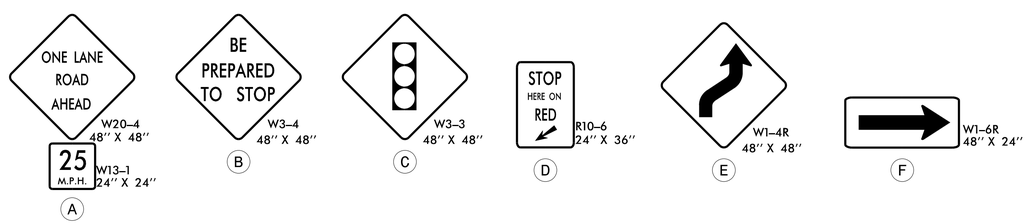
SECTION B-B
-L319- STA. 13+50.00
PHASE I



TYPE III BARRICADE
1



TYPE III BARRICADE
2



APPROVED: Dan A. Parker
DocuSigned by: 75DB9E90ADEF440...
DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

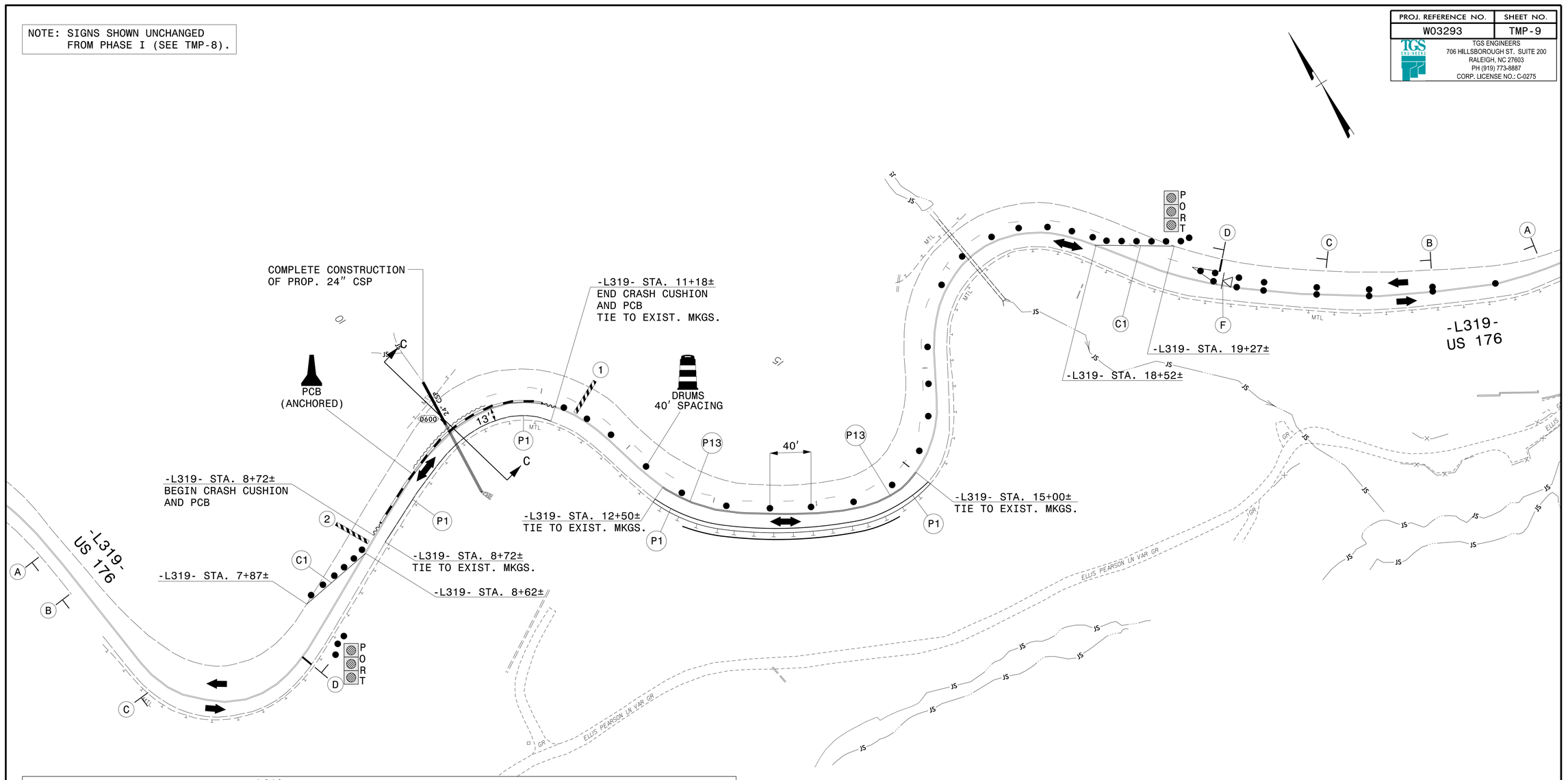
SITE 319
PHASE I

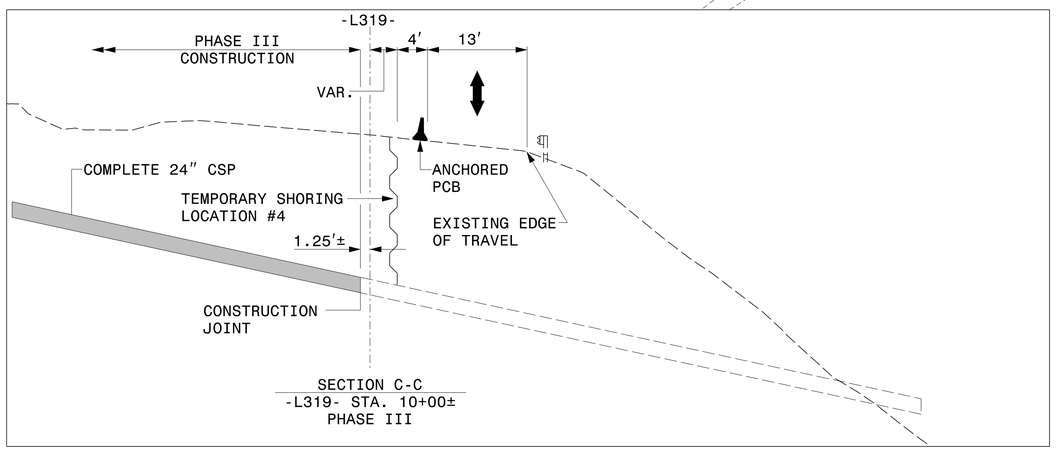
10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 319\US176_TC_TMP_PSH2.dgn
User:cdrcrman

NOTE: SIGNS SHOWN UNCHANGED
FROM PHASE I (SEE TMP-8).

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-9

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275





APPROVED: Don A. Parker (Signed by) 75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

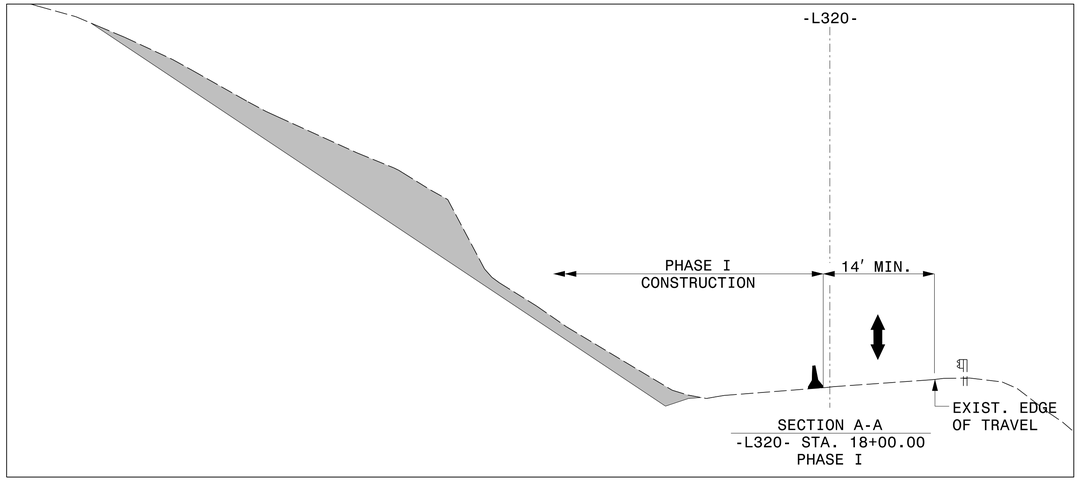
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

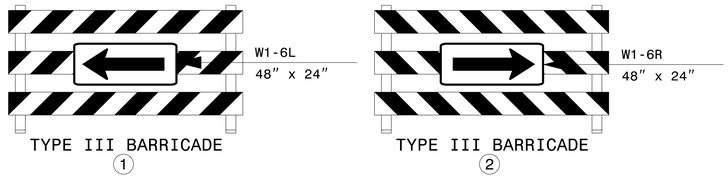
SITE 319
PHASE II

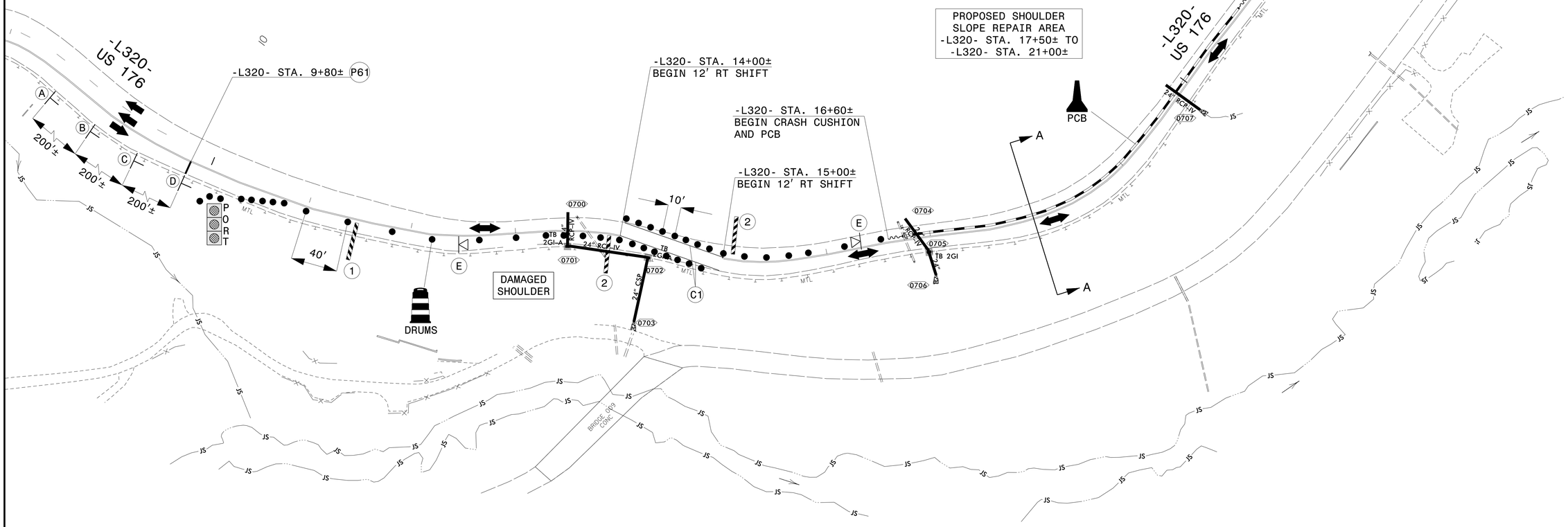
10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 319\US176_TC_TMP_PSH3.dgn
User:adrroman

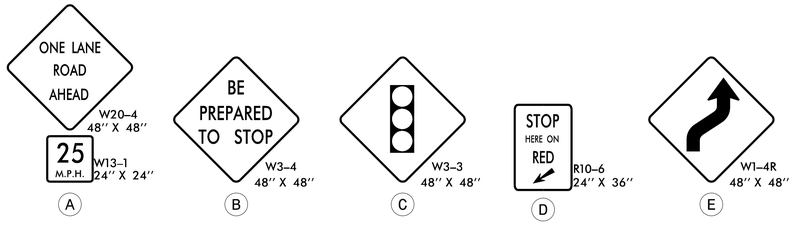
PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-10

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275









APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

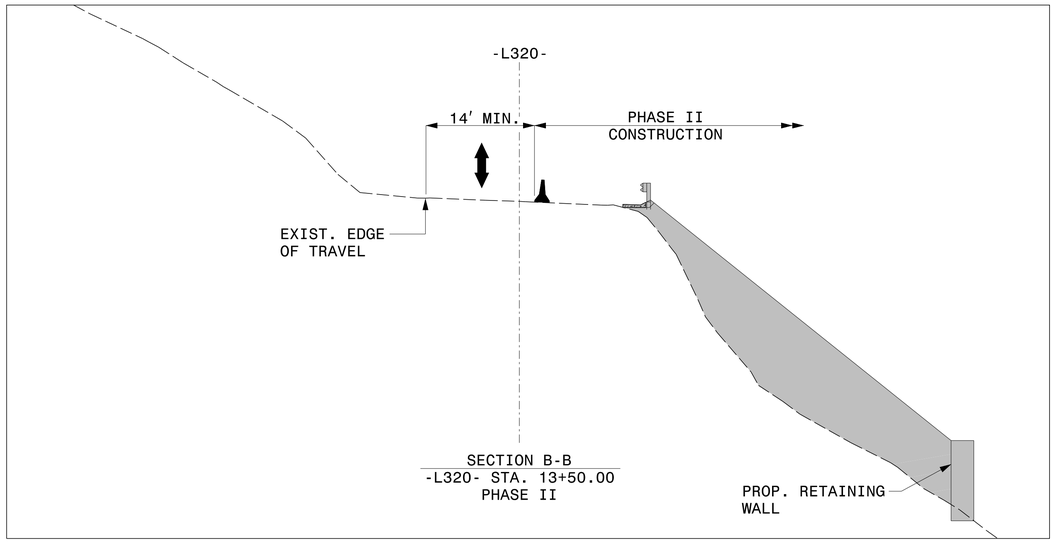
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

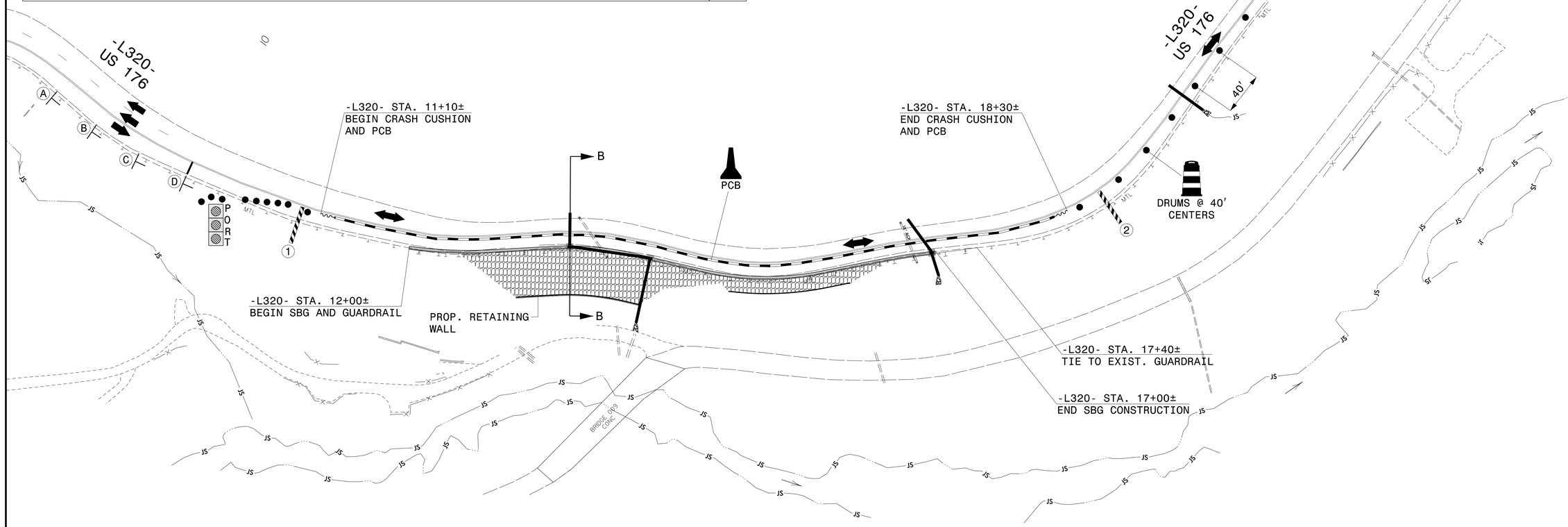
SITE 320
PHASE I

10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 320\US176_TC_TMP_PSH.dgn
User:rdcrumpton

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-11

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275





NOTE: SIGN LAYOUT UNCHANGED
FROM PHASE I (SEE TMP-10).

APPROVED: Signed by: Don A. Parker 75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

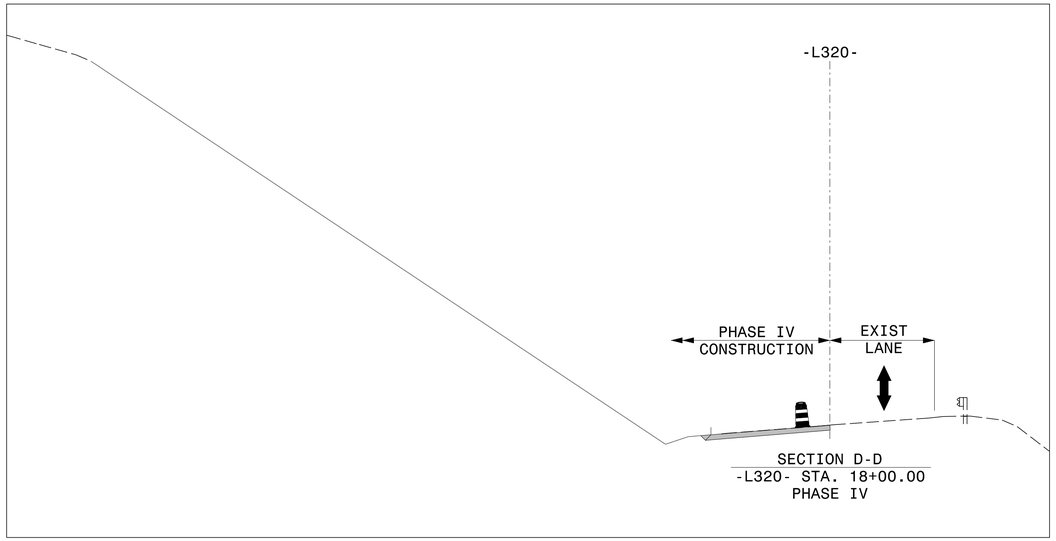
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

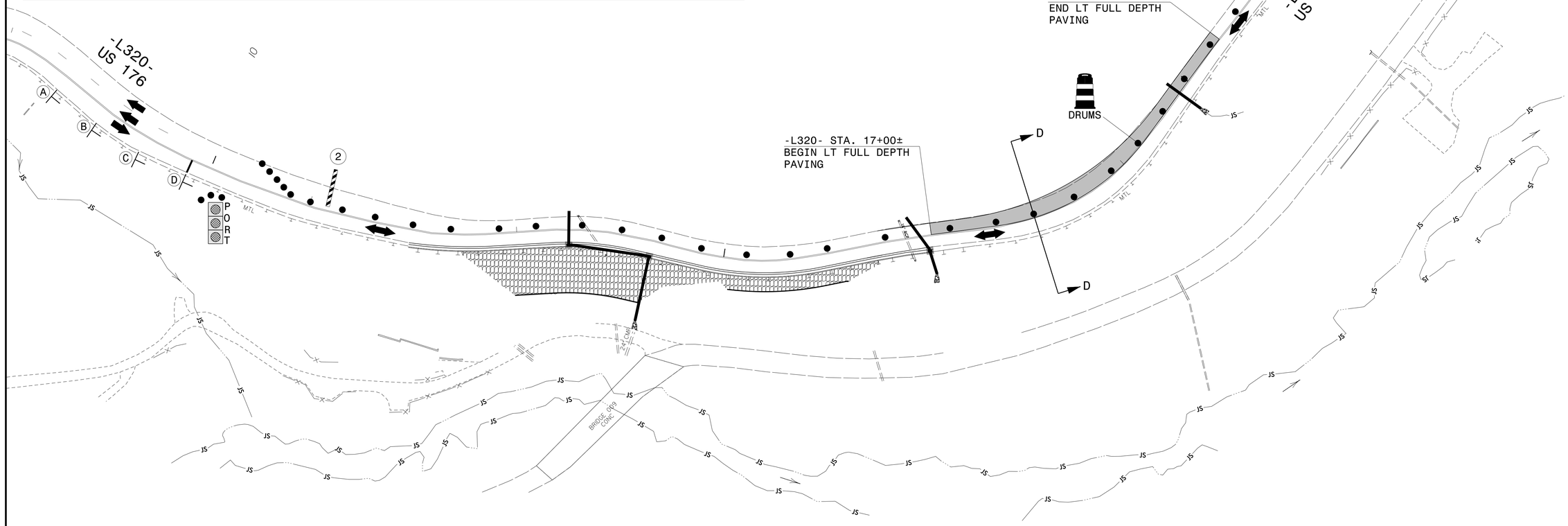
SITE 320
PHASE II

10/2/2025
X:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 320\US176_TC_TMP_PSH2.dgn
User:rcbrannon

PROJ. REFERENCE NO.	SHEET NO.
W03293	TMP-12

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275





NOTE: SIGN LAYOUT UNCHANGED FROM PHASE I (SEE TMP-10).

APPROVED: Don A. Parker
75DB9E90ADEF440...

DATE: 12/30/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SITE 320
PHASE III

10/2/2025
K:\NCDOT\Div 14 US 176 Repair\Work Zone Traffic Control\300s Sites\Site 320\US176_TC_TMP_PSH3.dgn
User:rcarmon