STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

YANCEY COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DM00491	1	20

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
DF18313.2100076.PR	N/A	BRIDGE 990123
DF18313.2100609.PR	N/A	BRIDGE 990276
DF18313.2100313.PR	N/A	BRIDGE 990289

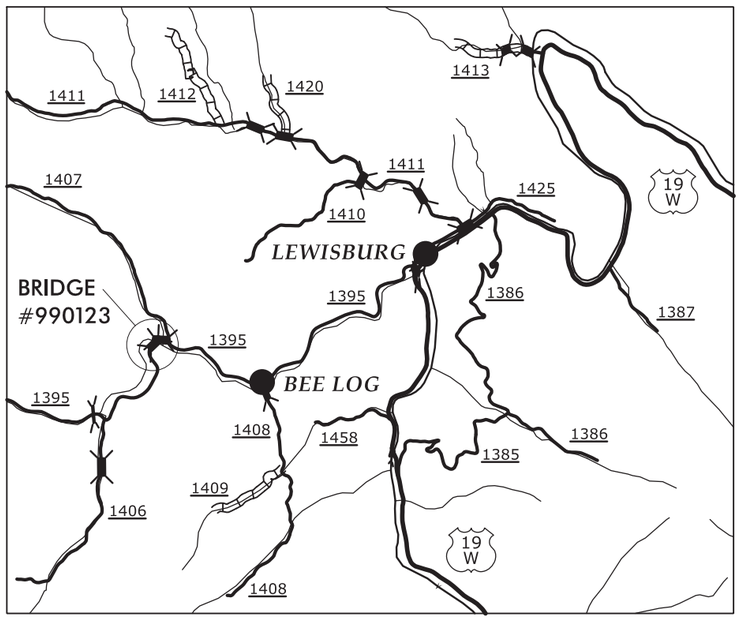
LOCATION:

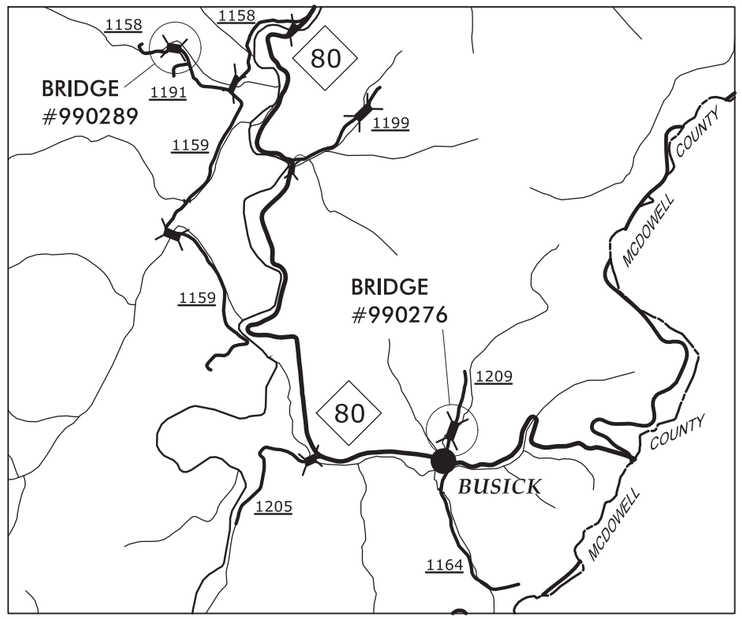
BRIDGE #990123 ON SR 1395 (BALD MOUNTAIN RD) OVER BALD MOUNTAIN CREEK

BRIDGE #990276 ON SR 1164 (STILL FORK CREEK RD) OVER LEFT PRONG STILL FORK CREEK

BRIDGE #990289 ON SR 1158 (COLBERTS CREEK RD) OVER COLBERT CREEK

TYPE OF WORK: BRIDGE REPAIR





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INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
TMP-1 THRU TMP-5	TRAFFIC MANAGEMENT PLANS
EC-2A	ONSITE CONCRETE WASHOUT DETAIL
S1-1 THRU S1-2	STRUCTURE PLANS (#990123)
S2-1 THRU S2-2	STRUCTURE PLANS (#990276)
S3-1 THRU S3-5	STRUCTURE PLANS (#990289)
STRUCTURE STANDARD NOTES	

NCDOT CONTACT: JOEL M. DAVIS

PLANS PREPARED BY:	*PLANS PREPARED FOR:*
TGS ENGINEERS 201 W. MARION ST STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORATION DIVISION 13 20 Old 74 Asheville, NC 28803
LETTING DATE: SEPTEMBER 17, 2025	MARSHALL G. CHEEK, JR., PE *PROJECT ENGINEER*
2024 STANDARD SPECIFICATIONS	

STRUCTURAL ENGINEER

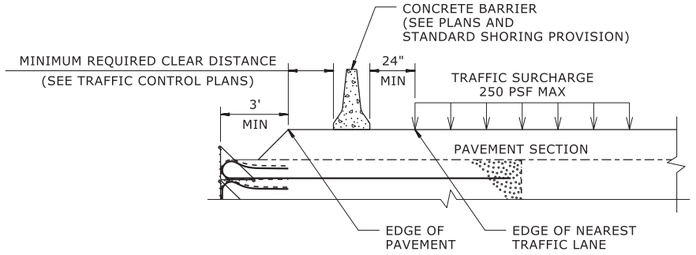
8/4/2025

Signed by: Marshall G. Cheek, Jr. P.E.
SIGNATURE:

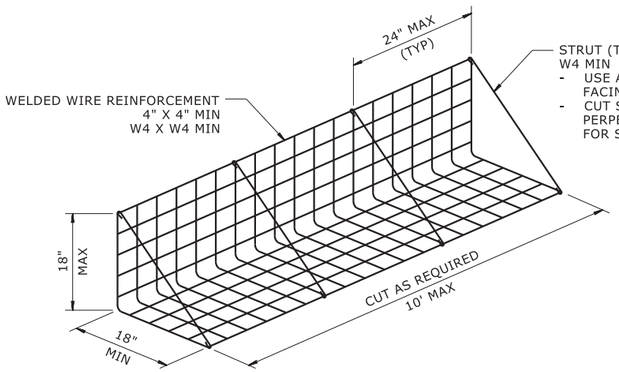
NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL G. CHEEK, JR.

CONTRACT: DM00491

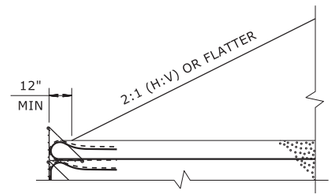
5/26/20



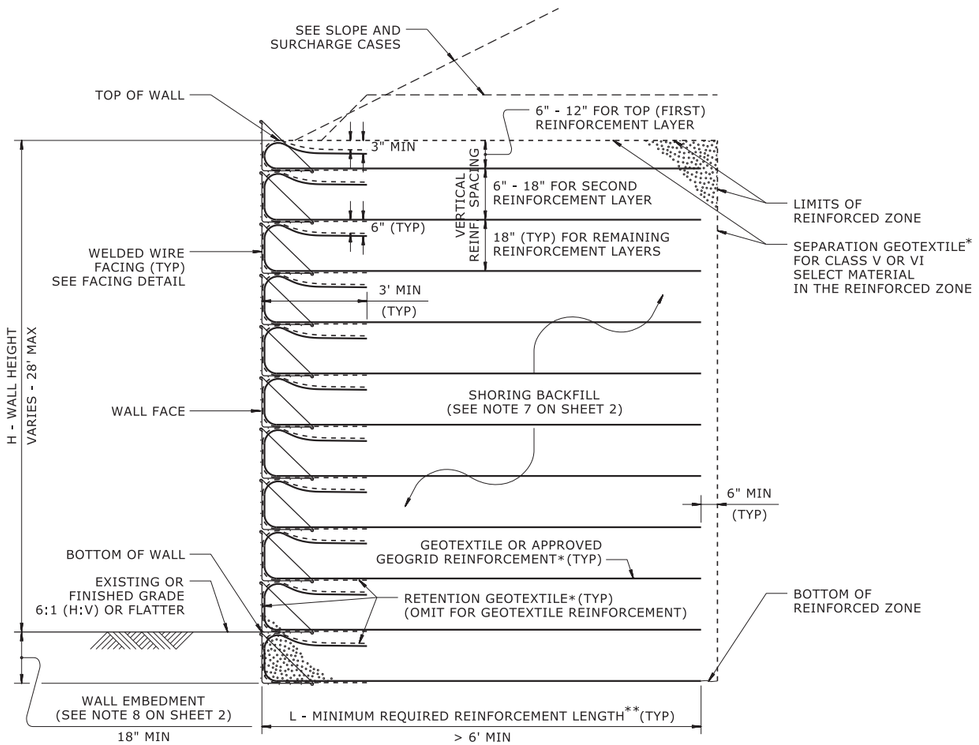
SURCHARGE CASE



FACING DETAIL

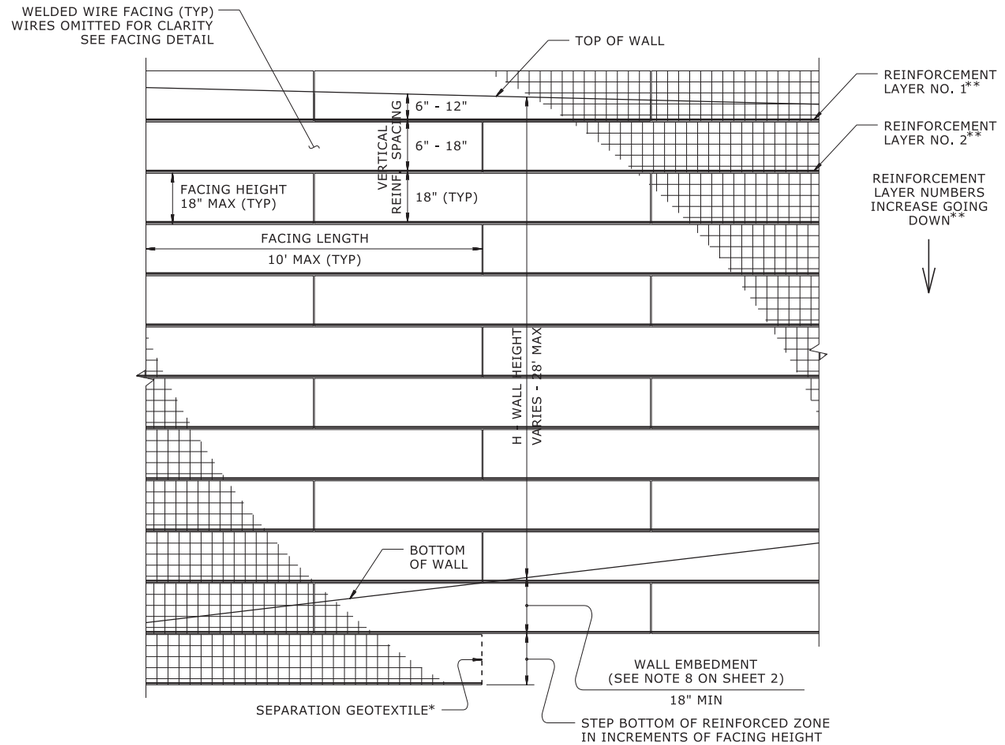


SLOPE CASE



STANDARD TEMPORARY WALL

(FOR STANDARD TEMPORARY WALLS ON STRUCTURES,
SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)
*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.
**SEE REINFORCEMENT TABLES ON SHEET 3.



STANDARD TEMPORARY WALL - PARTIAL ELEVATION

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.
**SEE REINFORCEMENT TABLES ON SHEET 3.

DM00491

2G-1 | -

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION

GEOTECHNICAL
ENGINEERING UNIT

GEOTECHNICAL ENGINEER

DocuSigned by:
Scott A. Hidden
07/08/2025

NORTH CAROLINA PROFESSIONAL SEAL 022246 ENGINEER SCOTT A. HIDDEN

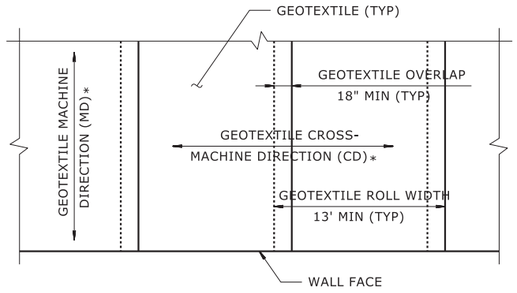
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD
DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR TEMPORARY WALL (SHEET 1 OF 3)

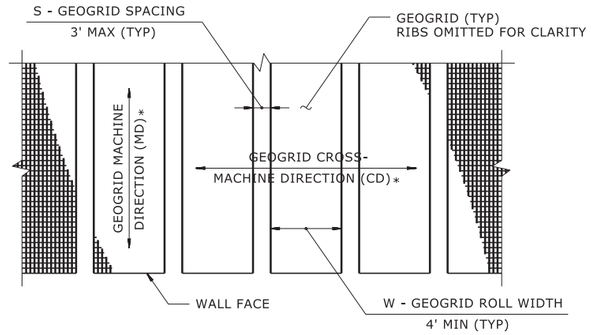
DATE: 02-18-2025

5/26/20



GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR GEOTEXTILE REINFORCEMENT)

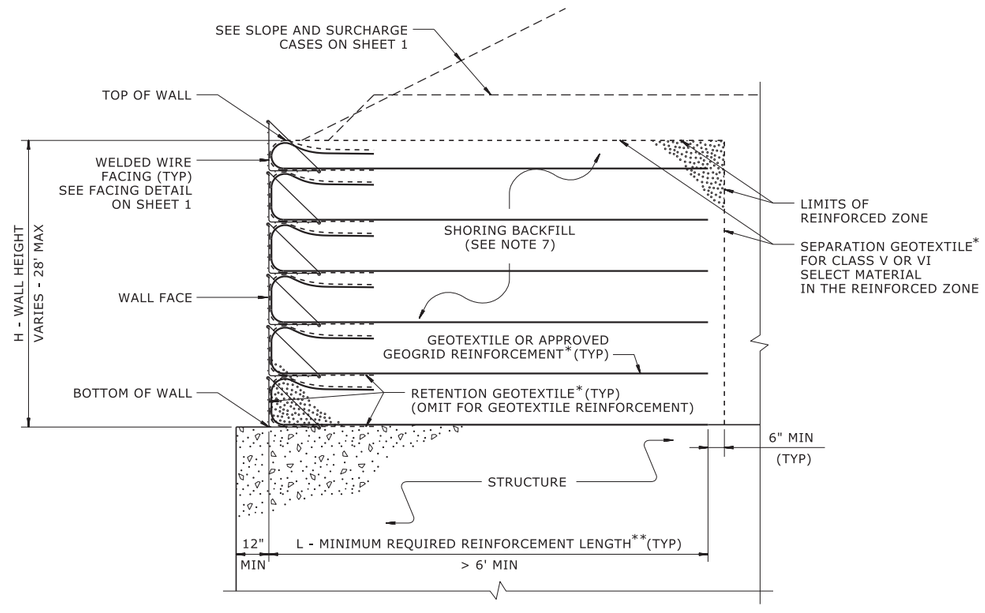


GEOGRID PLACEMENT

(80% COVERAGE MIN FOR GEOGRID REINFORCEMENT - $\frac{W}{W+S} \times 100 \geq 80\%$, SEE NOTE 11)

GEOSYNTHETIC PLACEMENT DETAILS

(PLAN VIEW)
*SEE NOTE 12.



TEMPORARY WALL ON STRUCTURE DETAIL

*SEE GEOSYNTHETIC PLACEMENT DETAILS.
**SEE REINFORCEMENT TABLES ON SHEET 3.

NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
   UNIT WEIGHT, γ = 120 PCF
   FRICTION ANGLE, φ = 30 DEGREES
   COHESION, c = 0 PSF
4. DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER OR FLOOD ELEVATION IS ABOVE BOTTOM OF REINFORCED ZONE.
7. DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
8. WALL EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
9. DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
10. GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Products.aspx
    DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

MATERIAL TYPE	SHORING BACKFILL
BORROW	A-2-4 SOIL
FINE AGGREGATE	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL
COARSE AGGREGATE	CLASS V OR VI SELECT MATERIAL

11. FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
12. AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
    - W (REINFORCEMENT ROLL WIDTH) > (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
    - REINFORCEMENT STRENGTH IN CD > MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
13. SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
14. DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
15. FOR STANDARD TEMPORARY WALLS WITH PILE FOUNDATIONS IN THE REINFORCED ZONE, DRIVE PILES THROUGH REINFORCEMENT AFTER CONSTRUCTING TEMPORARY WALLS.
16. DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
17. CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
18. FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
19. FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.

DM00491
2G-2 | -

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER
DocuSigned by: Scott A. Hidden 8/08/2025
NORTH CAROLINA PROFESSIONAL SEAL 022246 ENGINEER SCOTT A. HIDDEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR
TEMPORARY WALL (SHEET 2 OF 3)

DATE: 02-18-2025

5/26/20

SLOPE OR SURCHARGE CASE	GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT)	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)	H - WALL HEIGHT (FT)																								
			< 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
SLOPE CASE	> 0	CLASS II, TYPE 1, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	8	9	11	12	13	13	14	15	16	17	18	19	20	21	22	23	24	24	25	26	27	27
SURCHARGE CASE	> 0 TO 7 FOR H < 20' > 0 TO 10 FOR H > 20'	ALL SHORING BACKFILL TYPES	6	7	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	17	17	18	19	19	20	21	22
	> 7 FOR H < 20' > 10 FOR H > 20'	A-2-4 SOIL	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17	18	18	19	20	20	21
		CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	15	15	16	16	17	17	18	18	19	20
		CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	7	7	8	8	9	9	10	10	11	12	13	13	14	14	15	15	16	17	17	18	19	19

L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)

(FOR ALL REINFORCEMENT TYPES)

WALL HEIGHT (H) + WALL EMBEDMENT (FT)	NUMBER OF REINFORCEMENT LAYERS*
2.5 - 4	3
4 - 5.5	4
5.5 - 7	5
7 - 8.5	6
8.5 - 10	7
10 - 11.5	8
11.5 - 13	9
13 - 14.5	10
14.5 - 16	11
16 - 17.5	12
17.5 - 19	13
19 - 20.5	14
20.5 - 22	15
22 - 23.5	16
23.5 - 25	17
25 - 26.5	18
26.5 - 28	19
28 - 29.5	20

*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.

REINFORCEMENT LAYER NUMBER *	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL
1	2400	2400	2400	2400	2400
2	2400	2400	2400	2400	2400
3	2400	2400	2400	2400	2400
4	2400	2400	2500	2400	2400
5	2500	2400	3000	2400	2400
6	3000	2400	3500	2800	2400
7	3500	2700	4000	3200	2600
8	4000	3100	4500	3600	2900
9	4500	3500	5000	4000	3200
10	5000	3900	5500	4400	3500
11	5500	4300	6000	4800	3800
12	6000	4700	6500	5200	4100
13	6500	5100	7000	5600	4400
14	7000	5400	7500	6000	4700
15	7500	5800	8000	6400	5000
16	8000	6200	8500	6800	5300
17	8500	6600	9000	7200	5600
18	9000	7000	9500	7600	5900
19	9500	7400	10000	8000	6200
20	10000	7800	10500	8400	6500

GEOTEXTILE REINFORCEMENT ULTIMATE TENSILE STRENGTH (LB/FT)

REINFORCEMENT LAYER NUMBER*	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL
1	240	200	340	290	240
2	380	310	520	430	350
3	530	420	700	570	460
4	690	550	870	720	570
5	860	690	1050	860	680
6	1030	830	1220	1000	790
7	1200	970	1400	1150	900
8	1370	1110	1580	1290	1010
9	1550	1240	1750	1430	1120
10	1720	1380	1930	1580	1230
11	1890	1520	2100	1720	1340
12	2060	1660	2280	1860	1450
13	2240	1800	2450	2010	1560
14	2410	1940	2630	2150	1670
15	2580	2080	2800	2290	1780
16	2750	2220	2980	2440	1890
17	2930	2360	3160	2580	2000
18	3100	2500	3330	2720	2110
19	3270	2640	3510	2860	2220
20	3440	2780	3690	3000	2330

GEOGRID REINFORCEMENT SHORT-TERM DESIGN STRENGTH (LB/FT)

(SEE NOTE 10 ON SHEET 2.)

MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD

(SEE NOTE 9 ON SHEET 2.)
*SEE PARTIAL ELEVATION ON SHEET 1
FOR REINFORCEMENT LAYER NUMBERING.

DM00491
2G-3 | -

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER
DocuSigned by:
Scott A. Hidden 07/08/2025
REGISTERED PROFESSIONAL ENGINEER SEAL 022246 SCOTT A. HIDDEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL (SHEET 3 OF 3)

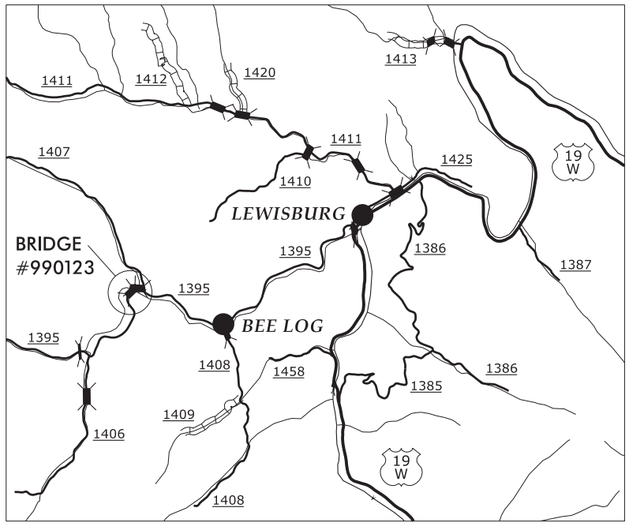
DATE: 02-18-2025

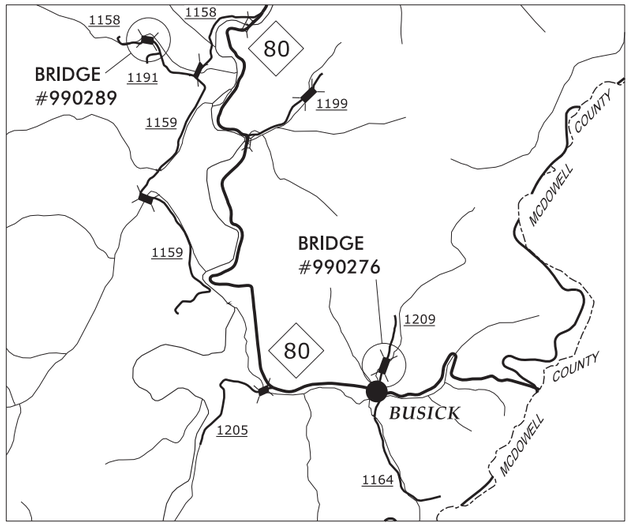
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

YANCEY COUNTY

LOCATION:
BRIDGE #990123 ON SR 1395 (BALD MOUNTAIN RD.) OVER BALD MOUNTAIN CREEK
BRIDGE #990276 ON SR 1164 (STILL FORK CREEK RD.) OVER LEFT PRONG STILL FORK CREEK
BRIDGE #990289 ON SR 1158 (COLBERTS CREEK RD.) OVER COLBERT CREEK
TYPE OF WORK: BRIDGE REPAIR





VICINITY MAP

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-2	PCB AT SHORING DETAIL
TMP-2A	SHORING NOTES
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE I (BRIDGE #990289)
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE II (BRIDGE #990289)

SHEET NO.
TMP-1

CONTRACT: DM00491

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: Signed by: Don A. Parker

DATE: 8/4/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

8/4/2025
X:\NCDOT\Div 13 Bridge Repairs - Helene\Mitchell and Yancey - 2nd Round\Yancey 990289\WZTC\Yancey 289_TC_TMP_01.dgn
User:cbrannan

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
1101.11	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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.02	GUARDRAIL & BARRIER DELINEATORS
1262.01	GUARDRAIL END DELINEATION

PROJ. REFERENCE NO.	SHEET NO.
DM00491	TMP-1A

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

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
- WEDGING

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
C1	WHITE EDGELINE (4") COLD APPLIED PLASTIC (TYPE 4)

APPROVED: Signed by: Don A. Parker
DATE: 8/4/2025

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

ROADWAY STANDARD DRAWINGS & LEGEND

PROJ. REFERENCE NO.	SHEET NO.
DM00491	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 CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 1395 (BALD MOUNTAIN RD.) SR 1164 (STILL FORK CREEK RD.)	MONDAY THRU FRIDAY 6:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM

B) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
SR 1158 (COLBERTS CREEK RD)	MONDAY THRU FRIDAY 6:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM	20 MINUTES FOR TRAFFIC SHIFTS,PCB INSTALLATION/REMOVAL, AND TEMPORARY SHORING INSTALLATION

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 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.

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.

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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

J) 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.

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

TRAFFIC BARRIER

L) 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.

M) 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

N) 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.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
SR 1158 (ASPHALT AND CONCRETE)	COLD APPLIED PLASTIC (TYPE 4)	NONE

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

R) INSTALL PERMANENT PAVEMENT MARKINGS ON FINAL LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1158 (ASPHALT AND CONCRETE)	COLD APPLIED PLASTIC (TYPE 3)	NONE

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

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
- ON-SITE DETOURS
- ONE LANE-2 WAY OPERATION (FLAGGING)
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADS)
- INTERMEDIATE CONTRACT TIMES (LIQUIDATED DAMAGES)

APPROVED: Signed by: Don A. Parker /S:/8B9L9OALJEr-t40...

DATE: 8/4/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER

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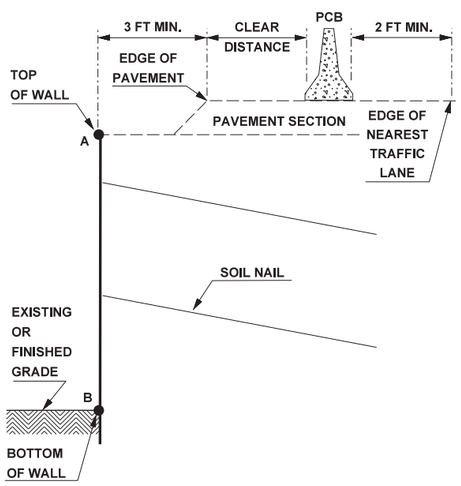
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

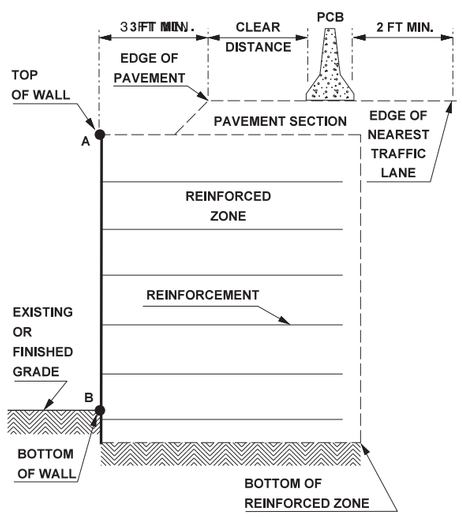
8/4/2025
X:\NCDOT\Div 13 Bridge Repairs - Helene\Mitchell and Yancey - 2nd Round\Yancey 990289\WZTC\Yancey 289_TC_TMP_0IB.dgn
User:cbrannan

PROJ. REFERENCE NO.	SHEET NO.
DM00491	TMP-2

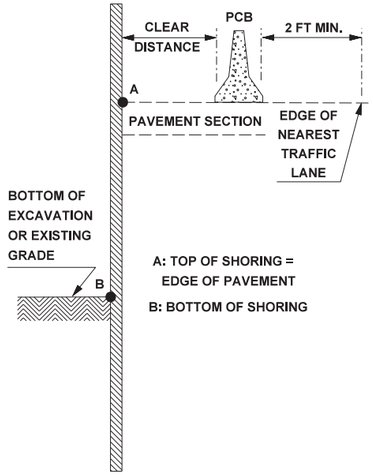
TEMPORARY SOIL NAIL WALL



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

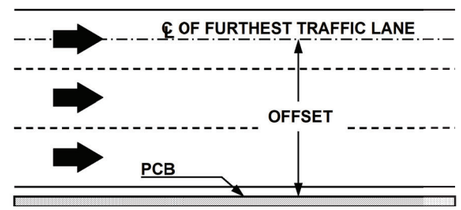


FIGURE B

APPROVED: Signed by: Don A. Parker /5J689L90AJtcH40... DATE: 8/4/2025

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

PORTABLE CONCRETE BARRIER
AT
TEMPORARY SHORING LOCATIONS

PROJ. REFERENCE NO.	SHEET NO.
DM00491	TMP-2A

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

SHORING NOTES

Shoring Location No. 1

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

TEMPORARY SHORING IS REQUIRED FOR THE BRIDGE END BENT CONSTRUCTION FROM FILL FACE AT END BENT NO. 2, 0.5′ LT, TO 5′ BEYOND APPROACH SLAB, 0.5′ 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 FILL FACE AT END BENT NO. 2, 0.5′ LT, TO 5′ BEYOND APPROACH SLAB, 0.5′ LT FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 LB/CF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 3 FT BELOW ROAD SURFACE

TEMPORARY SHORING FROM FILL FACE AT END BENT NO. 2, 0.5′ LT, TO 5′ BEYOND APPROACH SLAB, 0.5′ LT SHALL BE DESIGNED BY A PROFESSIONAL DESIGNER USING THE SOIL PARAMETERS PROVIDED. SUBMIT SHORING DESIGN FOR REVIEW.

Shoring Location No. 2

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

TEMPORARY SHORING IS REQUIRED FOR THE END BENT CONSTRUCTION FROM FILL FACE AT END BENT NO. 2, 0.3′ RT, TO 5′ BEYOND APPROACH SLAB, 0.3′ 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 FILL FACE AT END BENT NO. 2, 0.3′ RT, TO 5′ BEYOND APPROACH SLAB, 0.3′ RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 LB/CF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 3 FT BELOW ROAD SURFACE

AT THE CONTRACTOR*S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM FILL FACE AT END BENT NO. 2, 0.3′ RT, TO 5′ BEYOND APPROACH SLAB, 0.3′ RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REIN*FORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO TGS ENGINEERS ON 07/02/2025 AND SEALED BY A PROFESSIONAL ENGINEER, SHIPING YANG, LICENSE #031361.

APPROVED: Signed by: Don A. Parker

DATE: 8/4/2025

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

SHORING NOTES

8/4/2025
X:\NCDOT\Div 13 Bridge Repairs - Helene\Mitchell and Yancey - 2nd Round\Yancey 990289\WZTC\Yancey 289_TC_TMP_02A.dgn
User:cbrannan

PROJ. REFERENCE NO.	SHEET NO.
DM00491	TMP-3

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

PHASING

NOTE: FOR ALL FLAGGING OPERATIONS, REFER TO RSD 1101.02, SHEET 1.

NOTE: FOR STOPPING TRAFFIC FOR UP TO 20 MINUTES, SEE RSD 1101.03, SHEET 1

NOTE: CONTRACTOR MAY WORK THE THREE BRIDGES IN ANY ORDER OR CONCURRENTLY.

BRIDGE #990289

PHASE I

STEP 1 -- INSTALL ADVANCE WARNING SIGNS (SEE RSD 1101.01, SHEET 3 AND TMP-4)

-- BEFORE REMOVAL OF EXISTING MARKINGS, CONTRACTOR SHALL RECORD THE LOCATION OF EXISTING MARKINGS.

STEP 2 -- USE FLAGGERS TO PERFORM THE FOLLOWING (SEE TMP-4):

-- REMOVE EXISTING EDGE LINE AND DOUBLE YELLOW CENTERLINE BETWEEN PHASE I TRAFFIC TAPERS AND INSTALL TEMPORARY EDGE LINES AND SHIFT TRAFFIC TO 1L-2W PHASE I PATTERN (SEE TMP-4)

-- STOP TRAFFIC AS NECESSARY TO INSTALL ANCHORED PCB AND CRASH CUSHIONS (SEE TMP-4)

STEP 3 -- PERFORM THE FOLLOWING BEHIND PCB:

-- REMOVE EXISTING APPROACH SLAB.

-- STOP TRAFFIC AS NECESSARY TO INSTALL TEMPORARY SHORING NO. 1 (SEE TMP-2 AND 2A).

-- PERFORM END BENT REPAIR AND CONSTRUCT STAGE 1 APPROACH SLAB, INCLUDING TEMPORARY SHORING NO. 2 (SEE STRUCTURE PLANS, TMP-2 AND TMP-2A)

STEP 4 -- REMOVE AND RESET EXISTING GUARDRAIL AND PLACE INCEDENTAL STONE AS DIRECTED BY THE ENGINEER TO MAINTAIN 1 LANE - 2 WAY TRAFFIC IN UPCOMING PHASE II PATTERN. (SEE TMP-5)

PHASE II

STEP 1 -- USE FLAGGERS TO STOP TRAFFIC AS NECESSARY TO PERFORM THE FOLLOWING (SEE TMP-5):

-- RESET ANCHORED PCB AND CRASH CUSHIONS FOR PHASE II PATTERN.

-- INSTALL TEMPORARY EDGE LINES AND SHIFT TRAFFIC TO 1L-2W PHASE II PATTERN.

STEP 2 -- PERFORM THE FOLLOWING BEHIND PCB:

-- REMOVE EXISTING APPROACH SLAB AND TEMPORARY SHORING NO.1.

-- PERFORM END BENT REPAIR AND CONSTRUCT STAGE 2 APPROACH SLAB (SEE STRUCTURE PLANS)

PHASE III

STEP 1 -- USE FLAGGERS TO STOP TRAFFIC AS NECESSARY TO PERFORM THE FOLLOWING:

-- REMOVE ANCHORED PCB AND CRASH CUSHIONS.

STEP 2 -- COVER OR REMOVE WARNING SIGNS PERTAINING TO 1 LANE - 2 WAY TRAFFIC PATTERN AND RE-OPEN ROAD TO 2 LANE - 2 WAY TRAFFIC.

-- USING FLAGGERS, REMOVE TEMPORARY PAVEMENT MARKING LINES.

-- USING FLAGGERS, RESET GUARDRAIL AND REMOVE INCIDENTAL STONE

STEP 3 -- USING FLAGGERS, COMPLETE JOINT REPLACEMENT.

STEP 4 -- USING FLAGGERS INSTALL PERMANENT PAVEMENT MARKINGS (SEE RSD 1205.01, 1205.02, AND 1205.12)

STEP 5 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

BRIDGE #990123

PHASE I

STEP 1 -- INSTALL ADVANCE WARNING SIGNS (SEE RSD 1101.01, SHEET 3)

STEP 2 -- USING FLAGGERS, PERFORM REPAIR TO END BENT NO. 2 AND STREAM BANK RESTORATION.

STEP 3 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

BRIDGE #990276

PHASE I

STEP 1 -- INSTALL ADVANCE WARNING SIGNS (SEE RSD 1101.01, SHEET 3)

STEP 2 -- USING FLAGGERS, PERFORM REPAIR TO END BENT NO. 1, APPROACH SLAB, AND RIP RAP PLACEMENT.

STEP 3 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: Signed by: Don A. Parker

DATE: 8/4/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

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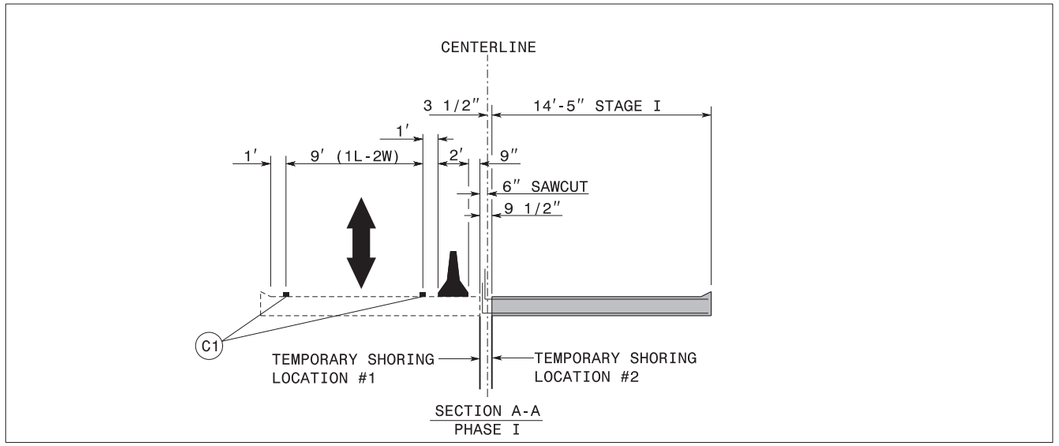
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASING

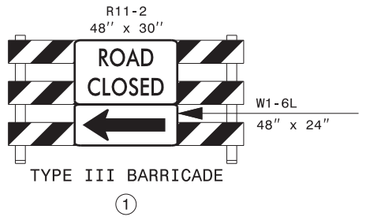
8/4/2025
X:\NCDOT\Div 13 Bridge Repairs - Helene\Mitchell and Yancey - 2nd Round\Yancey 990289\WZTC\Yancey 289_TC_TMP_03.dgn
User:cbrannan

PROJ. REFERENCE NO.	SHEET NO.
DM00491	TMP-4

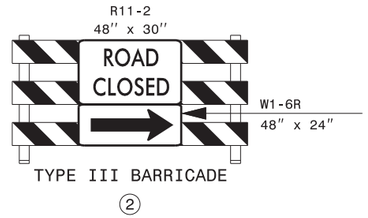
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



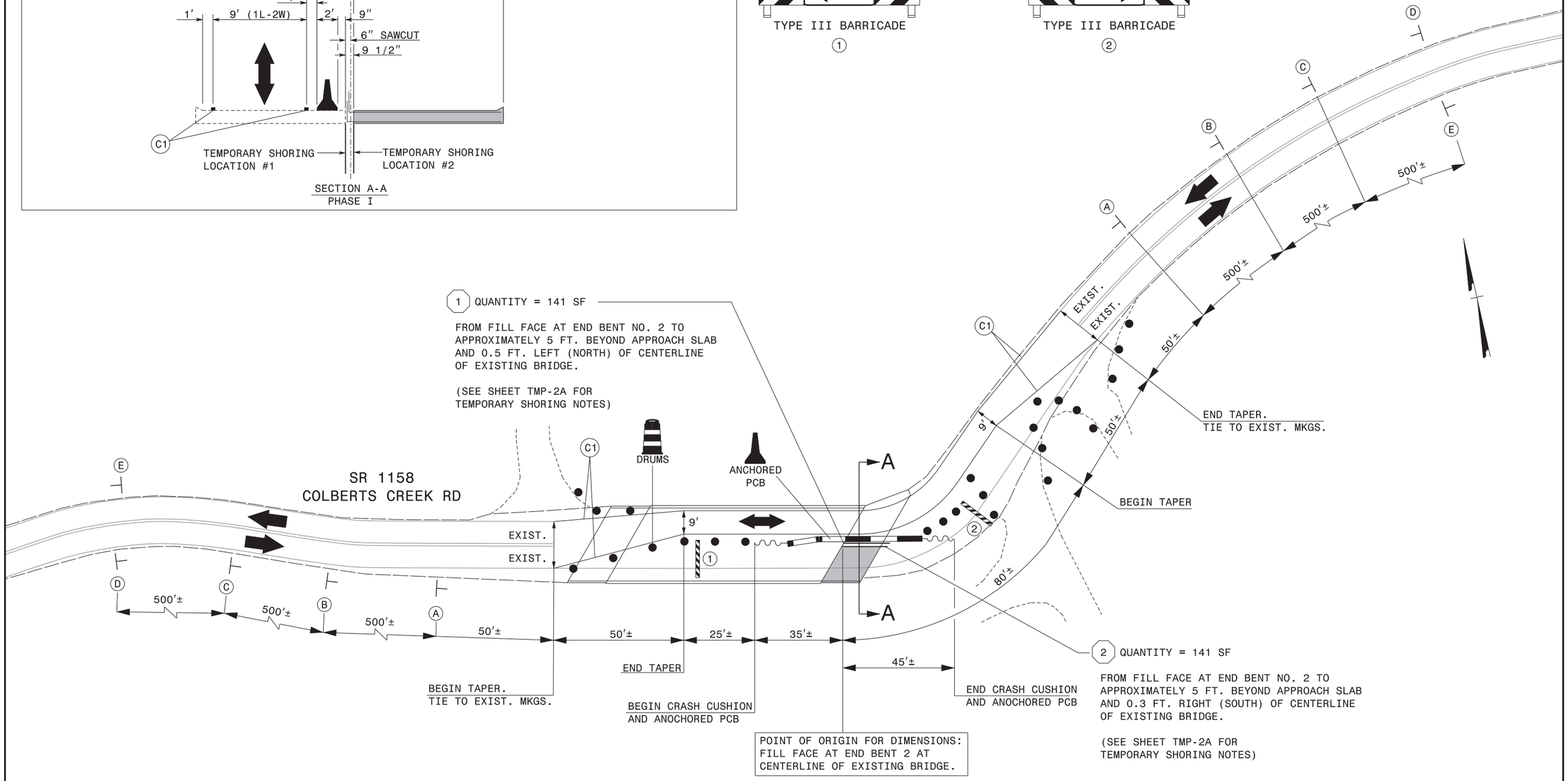
SECTION A-A
PHASE I



TYPE III BARRICADE
(1)



TYPE III BARRICADE
(2)



(1) QUANTITY = 141 SF

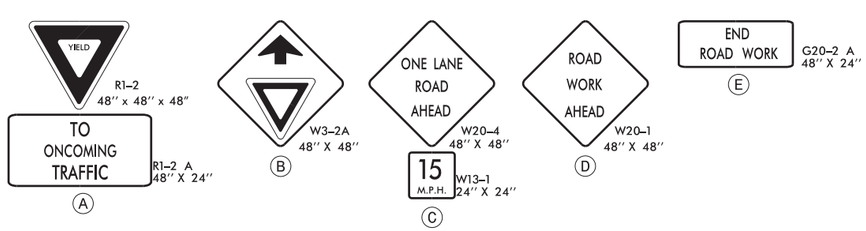
FROM FILL FACE AT END BENT NO. 2 TO APPROXIMATELY 5 FT. BEYOND APPROACH SLAB AND 0.5 FT. LEFT (NORTH) OF CENTERLINE OF EXISTING BRIDGE.

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

(2) QUANTITY = 141 SF

FROM FILL FACE AT END BENT NO. 2 TO APPROXIMATELY 5 FT. BEYOND APPROACH SLAB AND 0.3 FT. RIGHT (SOUTH) OF CENTERLINE OF EXISTING BRIDGE.

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



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DATE: 8/4/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

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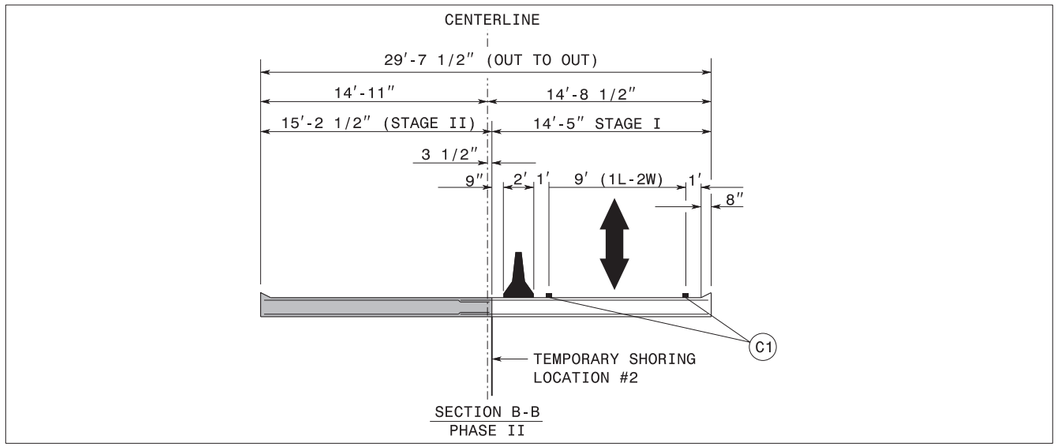
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PHASE I (BRIDGE #990289)

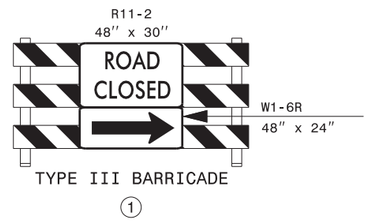
8/4/2025
X:\NCDOT\Div 13 Bridge Repairs - Helene\Mitchell and Yancey - 2nd Round\Yancey 990289\WZTC\Yancey 289 Stage I.dgn
User:cbrannan

PROJ. REFERENCE NO.	SHEET NO.
DM00491	TMP-5

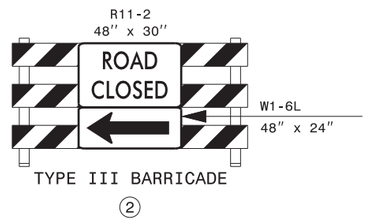
TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



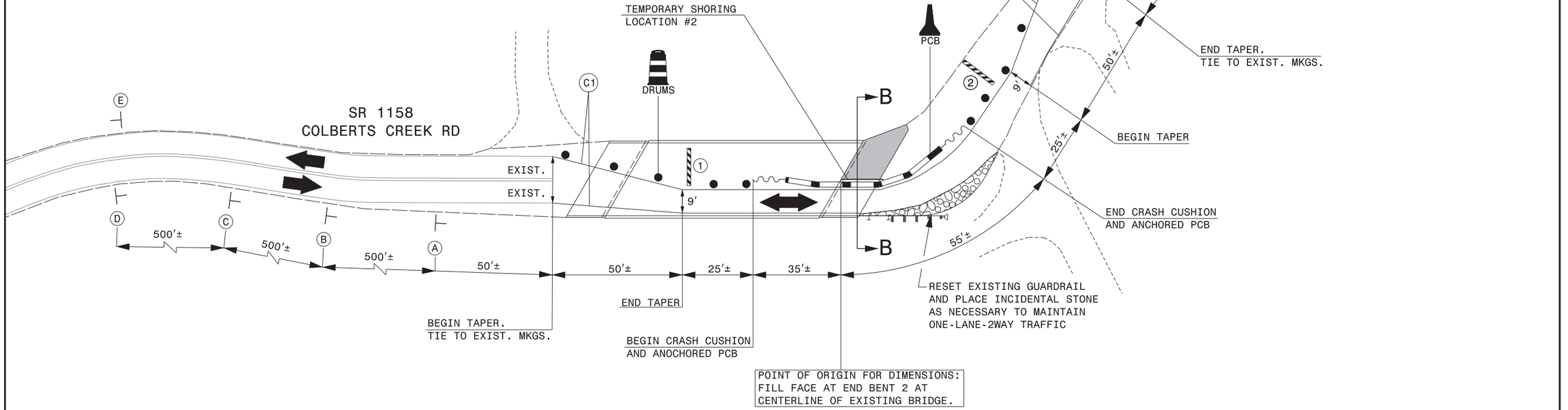
SECTION B-B
PHASE II



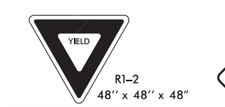
TYPE III BARRICADE
(1)



TYPE III BARRICADE
(2)



NOTE: SIGN LOCATIONS UNCHANGED FROM PHASE I

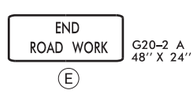


(A)

(B)

(C)

(D)



(E)

APPROVED: Signed by: Don A. Parker
DATE: 8/4/2025

NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A PARKER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

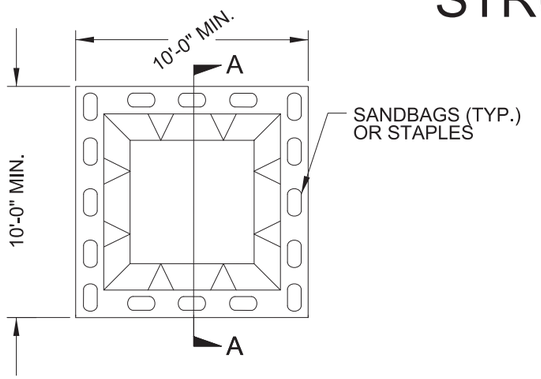
DIVISION OF HIGHWAYS • STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION • WORK ZONE TRAFFIC CONTROL

PHASE II
(BRIDGE #990289)

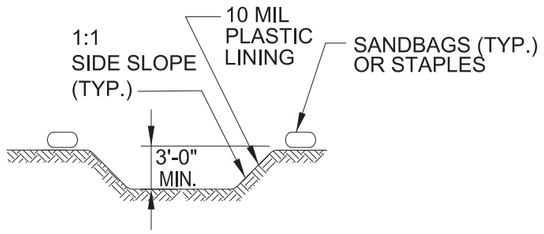
8/4/2025
X:\NCDOT\Div 13 Bridge Repairs - Helene\Mitchell and Yancey - 2nd Round\Yancey 990289\WZTC\Yancey 289 Stage 2.dgn
User:cbrannan

PROJECT REFERENCE NO.	SHEET NO.
DM00491	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A

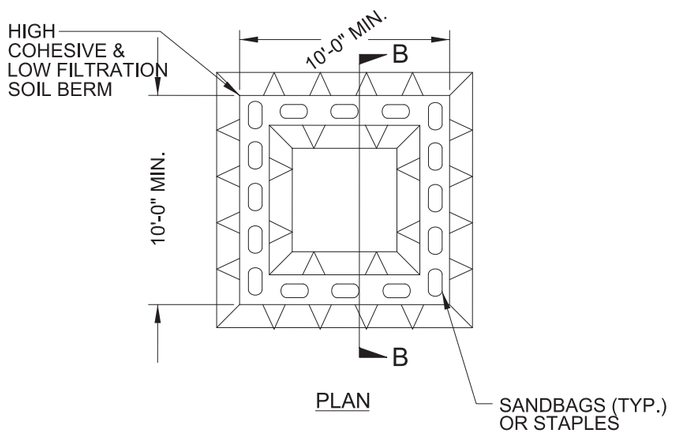
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

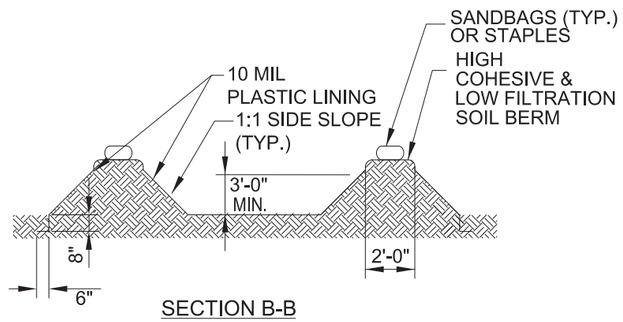
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE



PLAN



SECTION B-B

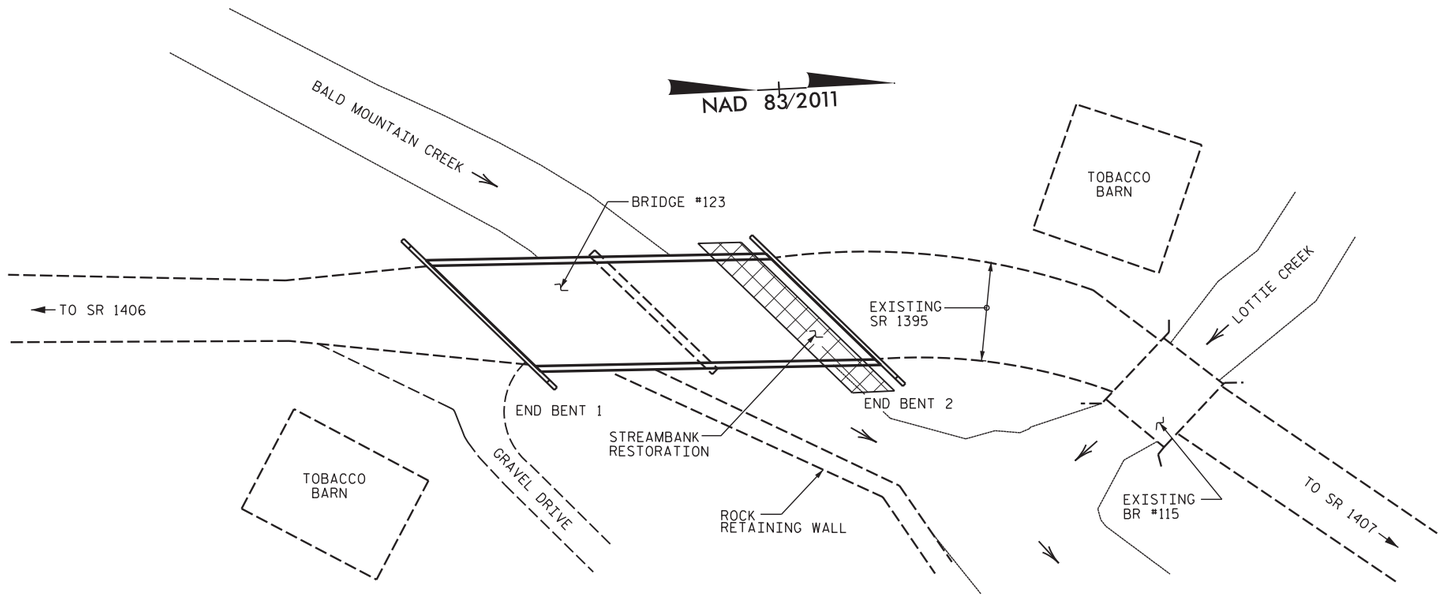
NOTES;
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

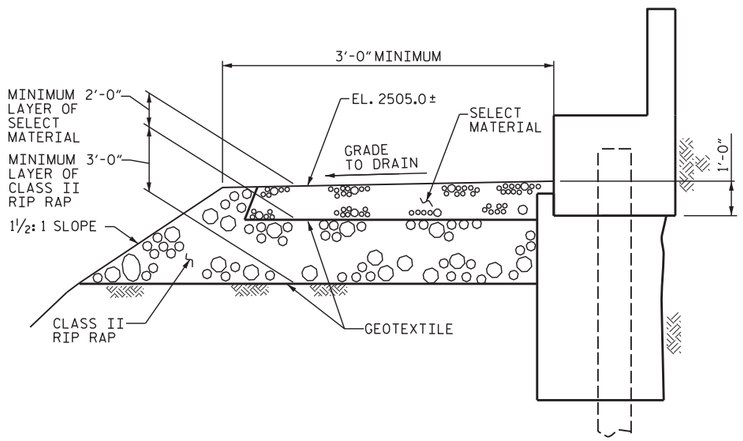
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE



LOCATION SKETCH



STREAMBANK RESTORATION @ END BENT 2

CLASS II RIP RAP AT THE PROJECT SITE SHALL BE STOCKPILED FOR USE FOLLOWING THE SCOUR REPAIR. THE EXISTING RIP RAP SHALL BE SUPPLEMENTED WITH ADDITIONAL CLASS II RIP RAP AS NECESSARY. THE ENTIRE COST OF THE WORK TO PLACE GEOTEXTILE FOR DRAINAGE AND TO STOCKPILE AND REPLACE THE EXISTING RIP RAP SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR FOUNDATION EXCAVATION. RIP RAP / SELECT MATERIAL SHALL BE PLACED TO A LEVEL OF 1 FOOT ABOVE THE BOTTOM OF THE END BENT CAP OR AS DIRECTED BY THE ENGINEER.

NOTES

EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

UNLESS OTHERWISE NOTED, ALL WORK SHOWN SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, JANUARY 2024.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.

FOR STREAMBANK RESTORATION, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

SEAL

TOTAL BILL OF MATERIAL

ITEM	MOBILIZATION	FLOWABLE FILL	FOUNDATION EXCAVATION AT END BENT 2	STREAMBANK RESTORATION
	LUMP SUM	C.Y.	LUMP SUM	LUMP SUM
ESTIMATED TOTALS	LUMP SUM	25	LUMP SUM	LUMP SUM

NOTE: QUANTITIES SHOWN ARE ESTIMATED FROM THE BEST INFORMATION AVAILABLE.

PROJECT NO. DF18313.2100076.PR

YANCEY COUNTY

BRIDGE NO. 123

SHEET 1 OF 2

NORTH CAROLINA
Signed by: Marshall G. Cheek, Jr.
DocuSigned by: 3A4DC413...
20125
ENGINEER
MARSHALL G. CHEEK, JR.
8/4/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #123 ON SR 1395 OVER BALD MOUNTAIN CREEK BETWEEN SR 1406 AND SR 1407

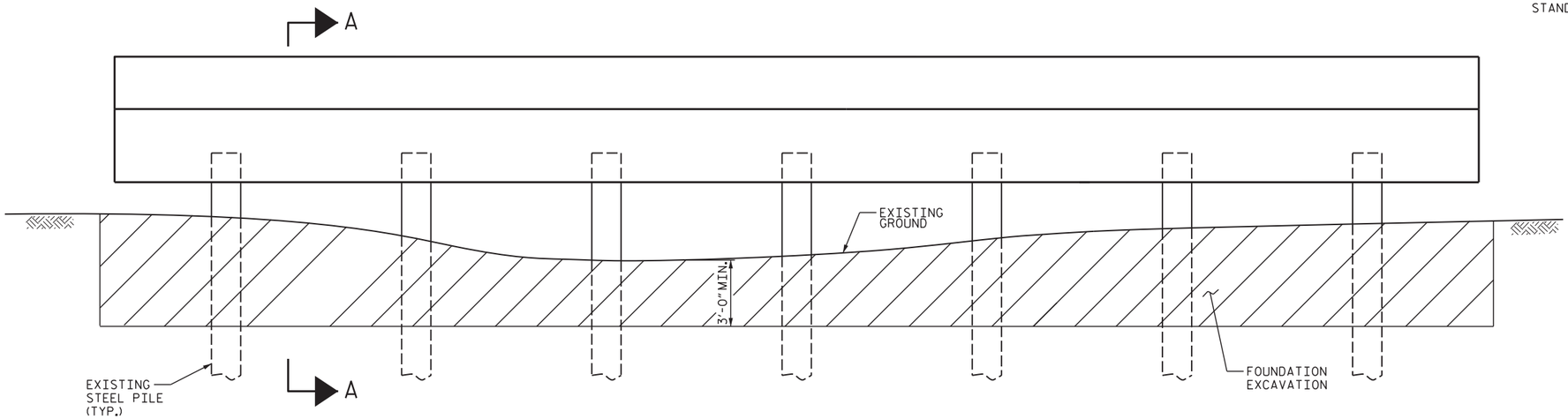
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-1
1			3			TOTAL SHEETS
2			4			2

DRAWN BY :	NMW	DATE :	4/25
CHECKED BY :	MGC	DATE :	5/25

NOTES

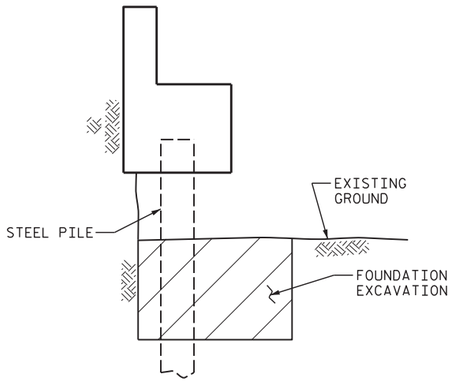
TEMPORARILY DEWATER AS NECESSARY TO PROVIDE ACCESS TO END BENT SCOUR AREAS.

THE MINIMUM EXCAVATION FOR PLACEMENT OF THE FLOWABLE FILL IS INDICATED. SHOULD ADDITIONAL EXCAVATION BE REQUIRED, DETERMINATION OF PAYMENT WILL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR FOUNDATION EXCAVATION.



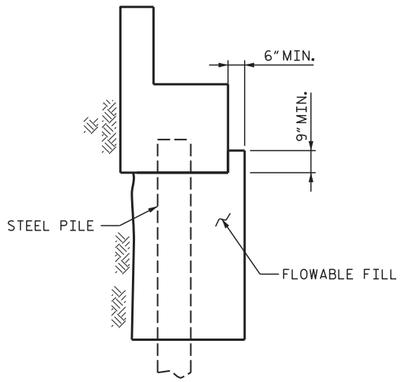
END BENT 2 ELEVATION

WINGS NOT SHOWN IN ELEVATION FOR CLARITY.



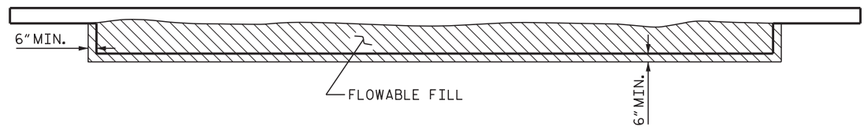
SECTION A-A

SHOWING LIMITS OF FOUNDATION EXCAVATION



SECTION A-A

SHOWING LIMITS OF FLOWABLE FILL



END BENT 2 PLAN VIEW

SHOWING LIMITS OF FLOWABLE FILL

PROJECT NO. DF18313.2100076.PR

YANCEY COUNTY

BRIDGE NO. 123

SHEET 2 OF 2

NORTH CAROLINA Signed by: Marshall G. Cheek, Jr. 20125 ENGINEER MARSHALL G. CHEEK, JR.

8/4/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

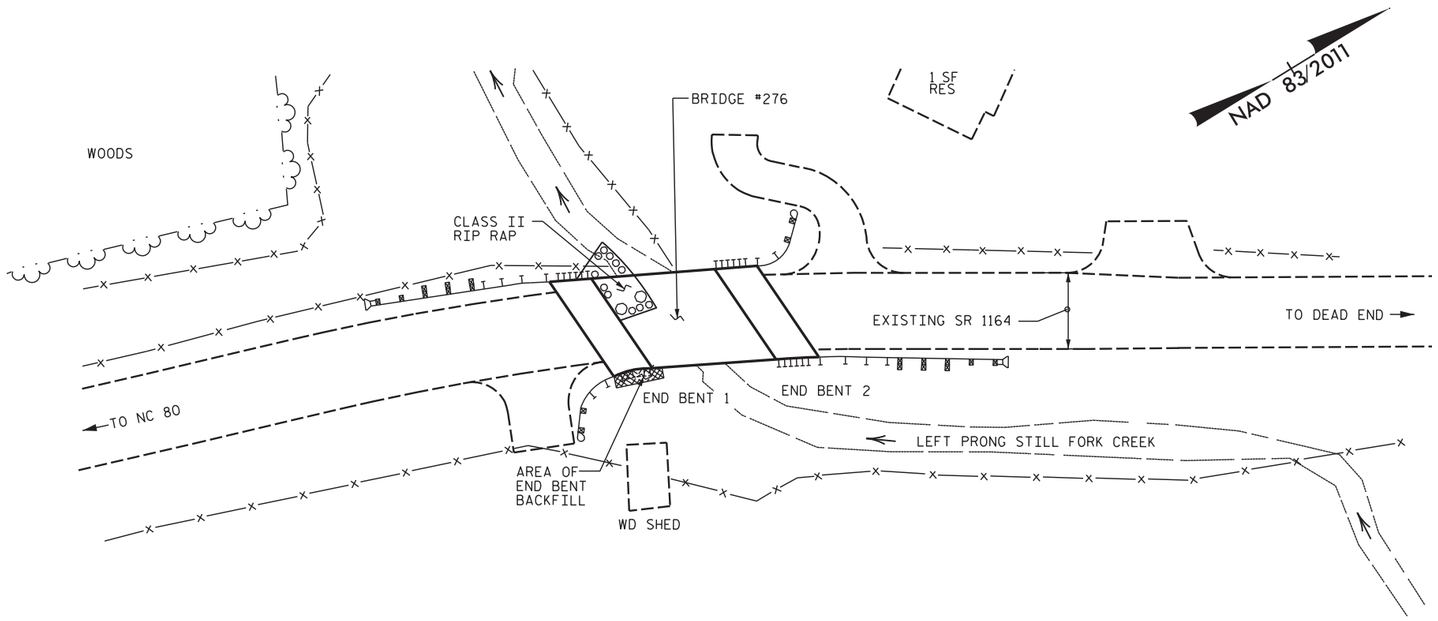
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #123 ON SR 1395 OVER BALD MOUNTAIN CREEK BETWEEN SR 1406 AND SR 1407

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-2
1			3			TOTAL SHEETS
2			4			2

DRAWN BY :	STM	DATE : 5/25
CHECKED BY :	MGC	DATE : 5/25



LOCATION SKETCH

NOTES:

EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

UNLESS OTHERWISE NOTED, ALL WORK SHOWN SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, JANUARY 2024.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.

FOR END BENT BACKFILL, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

ITEM	MOBILIZATION	FLOWABLE FILL	RIP RAP CLASS II	GEOTEXTILE FOR DRAINAGE	END BENT BACKFILL
	LUMP SUM	C.Y.	TONS	SQ. YDS.	LUMP SUM
ESTIMATED TOTALS	LUMP SUM	30	10	12	LUMP SUM

QUANTITIES SHOWN ARE ESTIMATED FROM THE BEST INFORMATION AVAILABLE.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

SEAL

PROJECT NO. DF18313.2100609.PR

YANCEY COUNTY

BRIDGE NO. 276

SHEET 1 OF 2

NORTH CAROLINA ENGINEER SEAL — Signed by: Marshall G. Cheek, Jr. 29129 — MARSHALL G. CHEEK, JR.

8/4/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

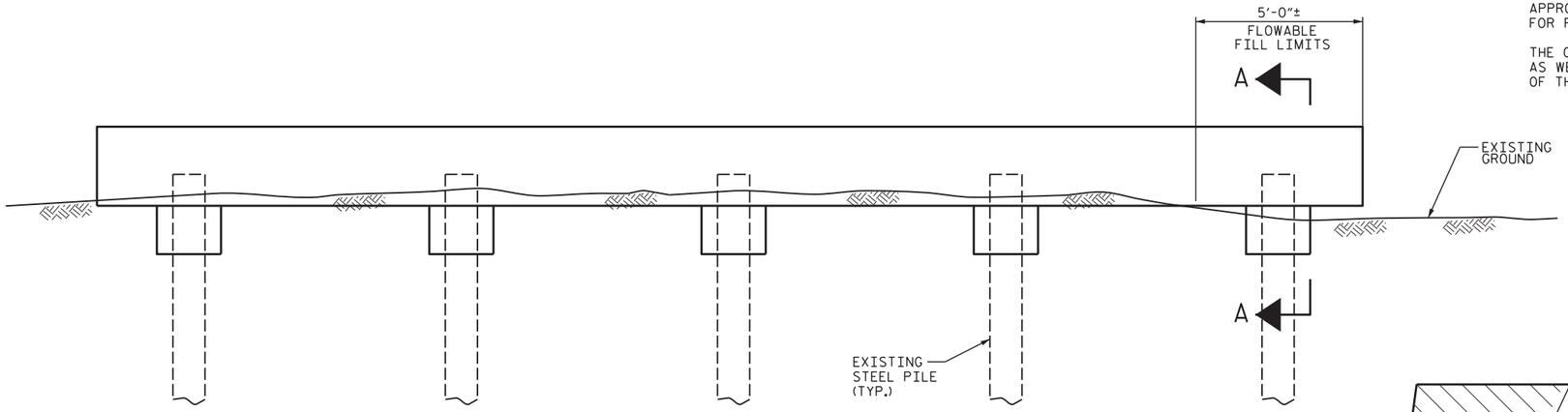
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #276 ON SR 1164 OVER LEFT PRONG STILL FORK CREEK BETWEEN NC 80 AND DEAD END

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-1
1			3			TOTAL SHEETS
2			4			2

DRAWN BY :	NMW	DATE :	6/25
CHECKED BY :	MGC	DATE :	6/25



END BENT 1 ELEVATION

WINGS NOT SHOWN IN ELEVATION FOR CLARITY.

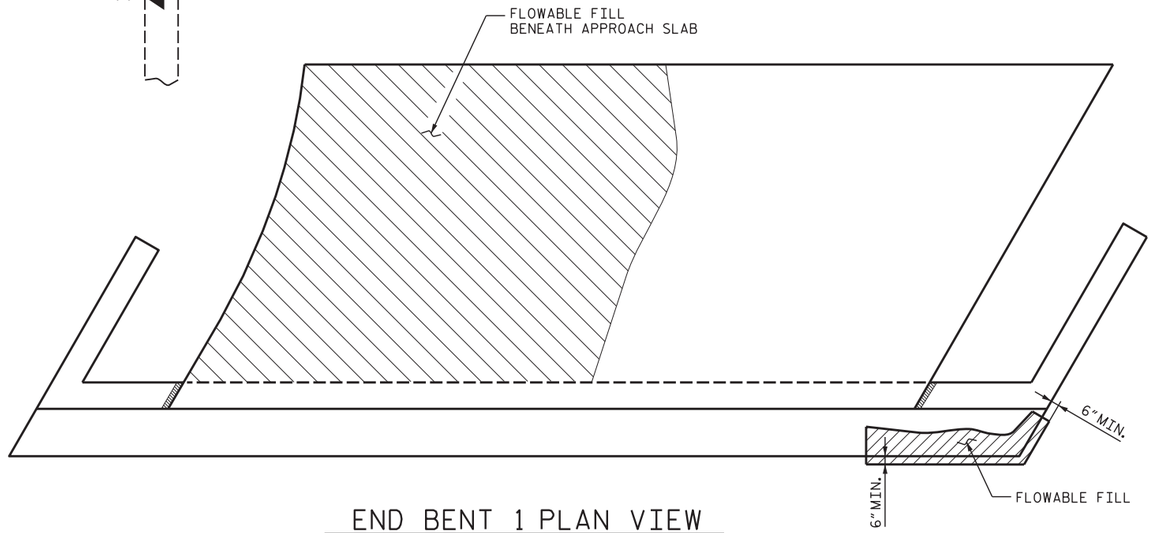
NOTES

TEMPORARILY DEWATER AS NECESSARY TO PROVIDE ACCESS TO END BENT SCOUR AREAS.

ANY LOOSE SOIL OR MATERIAL UNDERNEATH THE THE END BENT CAP IN THE SCOURED AREA SHALL BE REMOVED. THE CONTRACTOR SHALL PLACE FLOWABLE FILL IN THESE AREAS AS DIRECTED BY THE ENGINEER.

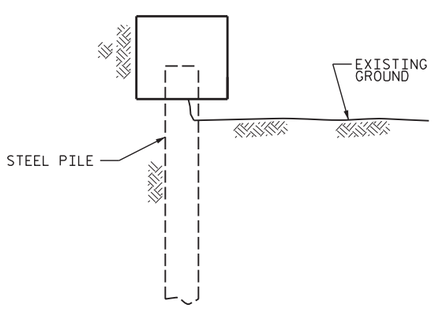
THE CONTRACTOR SHALL FILL THE VOID BEANEATH THE APPROACH SLAB AT END BENT 1 THROUGH A HOLE DRILLED THROUGH THE APPROACH SLAB. AFTER COMPLETION OF THIS WORK, THE APPROACH SLAB SHALL BE REPAIRED. THE METHOD OF REPAIR SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER. THE WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR FLOWABLE FILL.

THE CONTRACTOR SHALL PLACE RIP RAP IN FRONT OF THE SCOURED AREA ALONG END BENT 1 AS WELL AS ALONG THE LEFT WING. RIPRAP SHALL BE PLACED TO 1 FOOT ABOVE THE BOTTOM OF THE CAP OR AS DIRECTED BY THE ENGINEER.

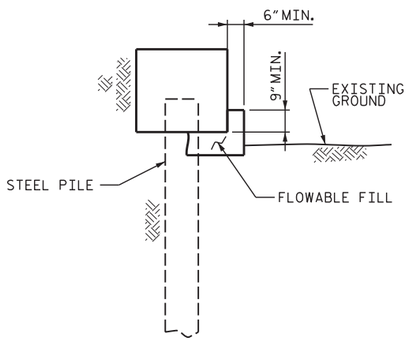


END BENT 1 PLAN VIEW

SHOWING LIMITS OF FLOWABLE FILL BEANEATH END BENT CAP & APPROACH SLAB. SCOURED AREA UNDERNEATH APPROACH SLAB ARE ESTIMATED FROM THE BEST INFORMATION AVAILABLE.



SECTION A-A



SECTION A-A

SHOWING LIMITS OF FLOWABLE FILL

PROJECT NO. DF18313.2100609.PR

YANCEY COUNTY

BRIDGE NO. 276

SHEET 2 OF 2

NORTH CAROLINA
Marshall G. Check, Jr.
SEAL 20125
ENGINEER
MARSHALL G. CHECK, JR.
8/4/2025

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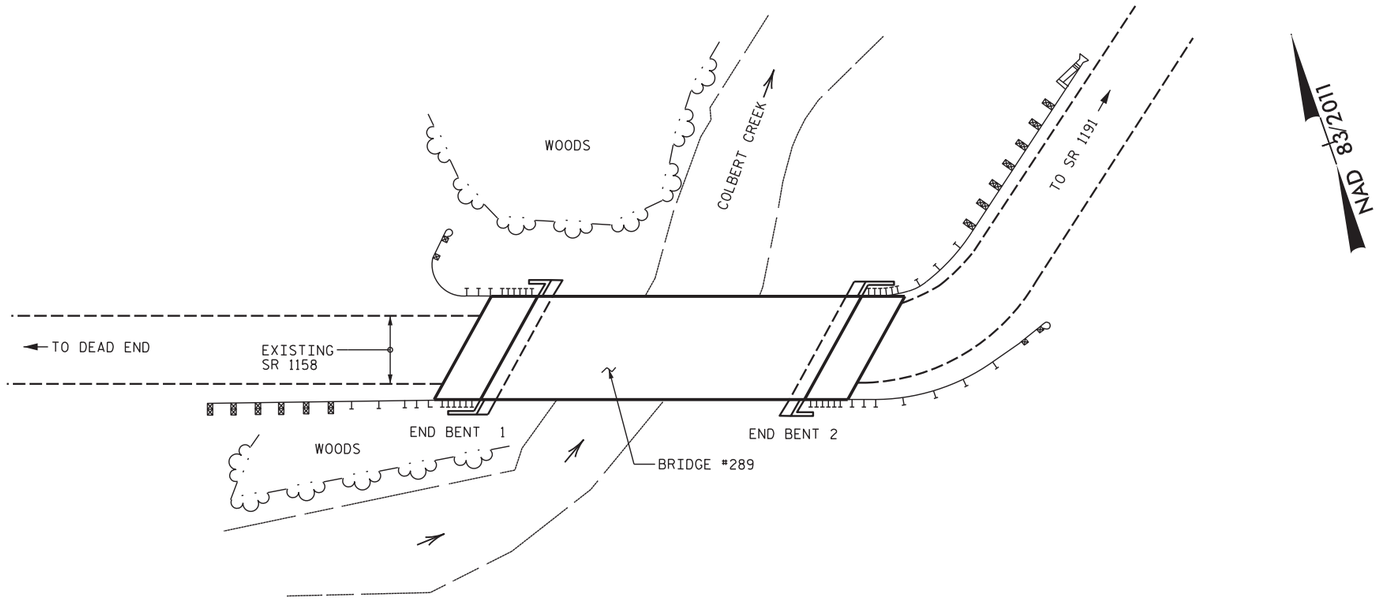
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #276 ON SR 1164 OVER LEFT PRONG STILL FORK CREEK BETWEEN NC 80 AND DEAD END

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-2
1			3			TOTAL SHEETS
2			4			2

DRAWN BY :	NMW	DATE :	6/25
CHECKED BY :	MGC	DATE :	6/25



LOCATION SKETCH

NOTES

EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

UNLESS OTHERWISE NOTED, ALL WORK SHOWN SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, JANUARY 2024.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.

FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLAN.

FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

SEAL

TOTAL BILL OF MATERIAL

ITEM	MOBILIZATION	FLOWABLE FILL	FOUNDATION EXCAVATION AT END BENT 2	GROOVING BRIDGE FLOORS	BRIDGE APPROACH SLABS	FOAM JOINT SEALS	RIP RAP CLASS II	GEOTEXTILE FOR DRAINAGE	PARTIAL REMOVAL OF EXISTING STRUCTURE
	LUMP SUM	C.Y.	LUMP SUM	SQ. FT.	LUMP SUM	LUMP SUM	TONS	SQ. YDS.	LUMP SUM
ESTIMATED TOTALS	LUMP SUM	35	LUMP SUM	380	LUMP SUM	LUMP SUM	120	130	LUMP SUM

NOTE: QUANTITIES SHOWN ARE ESTIMATED FROM THE BEST INFORMATION AVAILABLE.

PROJECT NO. DF18313.2100313.PR

YANCEY COUNTY

BRIDGE NO. 289

SHEET 1 OF 5

NORTH CAROLINA PE SEAL 29123 Signed by: Marshall G. Cheek, Jr. ENGINEER MARSHALL G. CHEEK, JR.

8/4/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

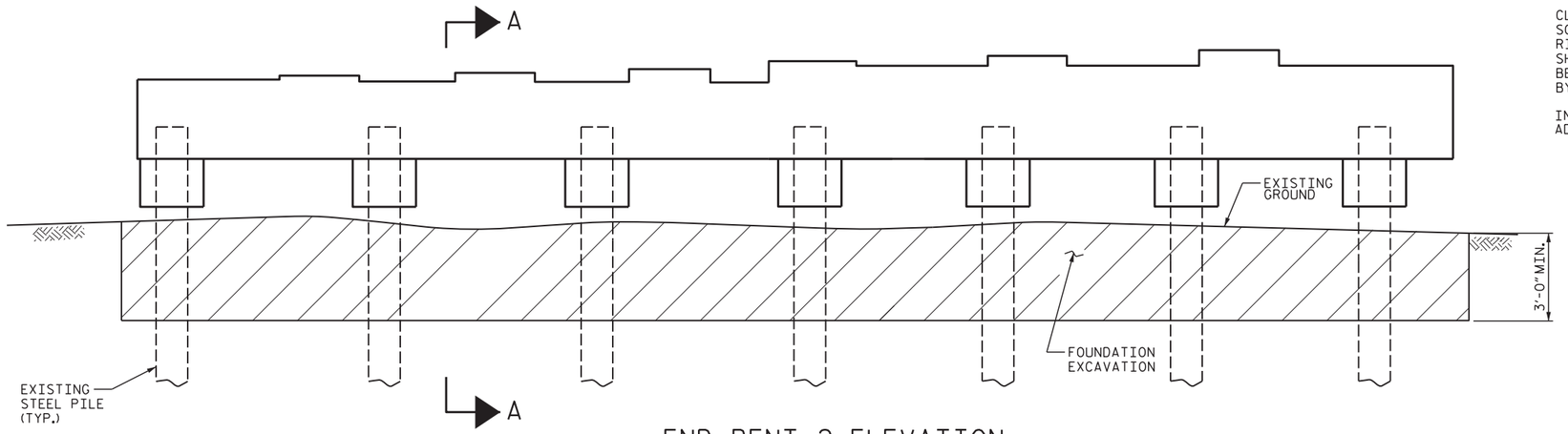
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #289 ON SR 1158
OVER COLBERT CREEK BETWEEN
DEAD END AND SR 1191

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-1
1			3			TOTAL SHEETS
2			4			5

DRAWN BY : NMW DATE : 4/25
CHECKED BY : MGC DATE : 5/25



END BENT 2 ELEVATION

WINGS NOT SHOWN IN ELEVATION FOR CLARITY.

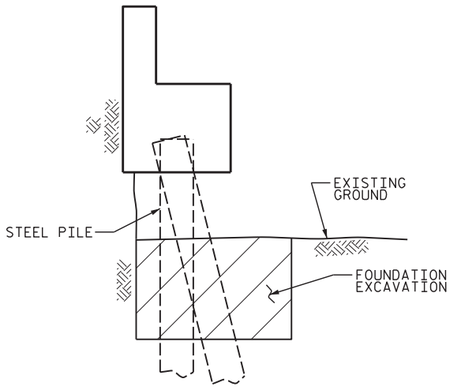
NOTES

TEMPORARILY DEWATER AS NECESSARY TO PROVIDE ACCESS TO END BENT SCOUR AREAS.

THE MINIMUM EXCAVATION FOR PLACEMENT OF THE FLOWABLE FILL IS INDICATED. SHOULD ADDITIONAL EXCAVATION BE REQUIRED, DETERMINATION OF PAYMENT WILL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR FOUNDATION EXCAVATION.

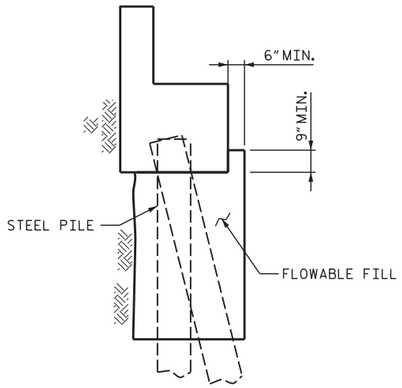
CLASS II RIP RAP AT THE PROJECT SITE SHALL BE STOCKPILED FOR USE FOLLOWING THE SCOUR REPAIR. THE EXISTING RIP RAP SHALL BE SUPPLEMENTED WITH ADDITIONAL CLASS II RIP RAP AS NECESSARY. THE ENTIRE WORK TO STOCKPILE AND REPLACE THE EXISTING RIP RAP SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR FOUNDATION EXCAVATION. RIP RAP SHALL BE PLACED TO A LEVEL OF 1 FOOT ABOVE THE BOTTOM OF THE END BENT CAP OR AS DIRECTED BY THE ENGINEER.

IN ADDITION, RIP RAP SHALL BE PLACED ALONG END BENT 2 WING AND THE BANK SLOPES ADJACENT TO THE END BENT AS DIRECTED BY THE ENGINEER.



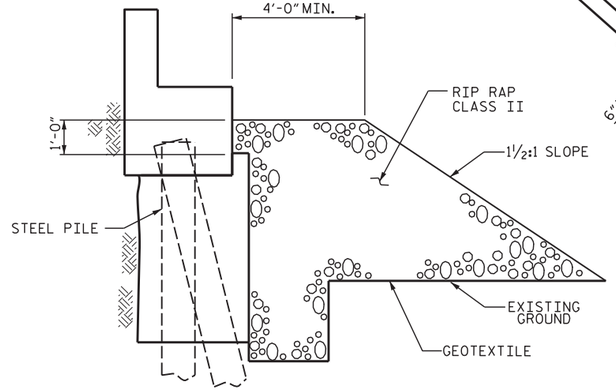
SECTION A-A

SHOWING LIMITS OF FOUNDATION EXCAVATION

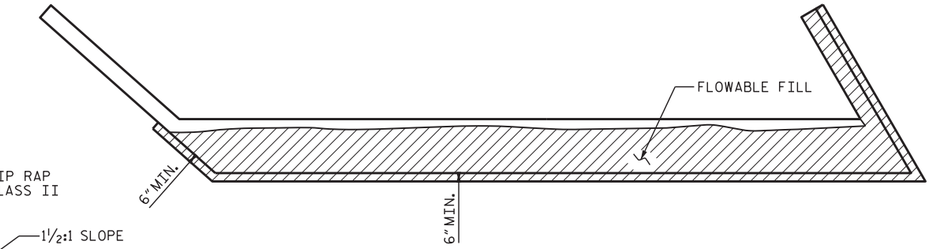


SECTION A-A

SHOWING LIMITS OF FLOWABLE FILL



RIP RAP PLACEMENT



END BENT 2 PLAN VIEW

SHOWING LIMITS OF FLOWABLE FILL

PROJECT NO. DF18313.2100313.PR

YANCEY COUNTY

BRIDGE NO. 289

SHEET 2 OF 5

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20126 — Signed by: Marshall G. Cheek, Jr. — MARSHALL G. CHEEK, JR. — 8/4/2025

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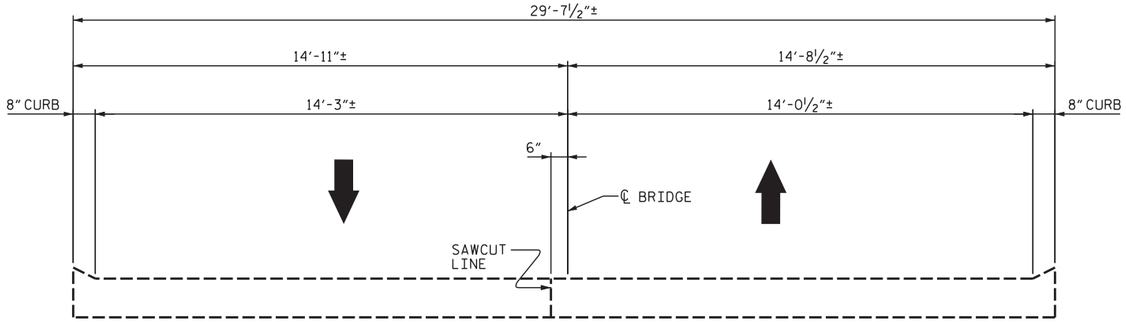
TGS ENGINEERS
201 W. MARION ST STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

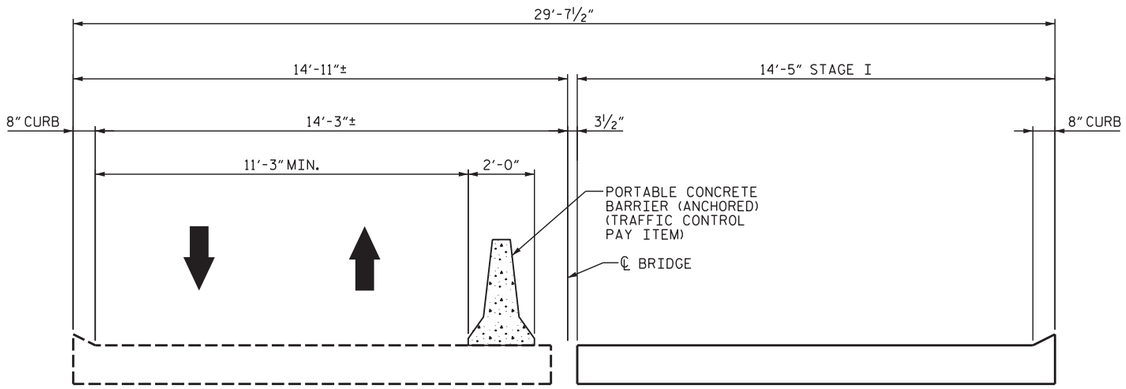
BRIDGE #289 ON SR 1158 OVER COLBERT CREEK BETWEEN DEAD END AND SR 1191

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-2
1			3			TOTAL SHEETS
2			4			5

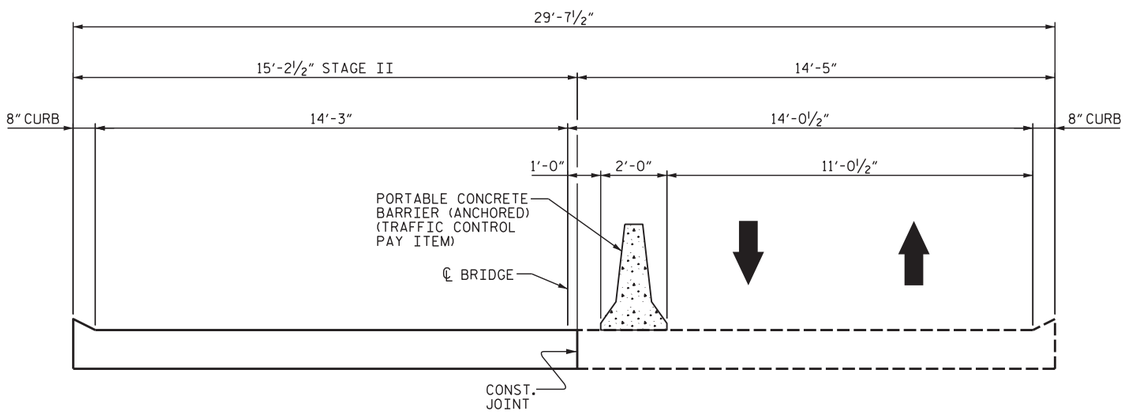
DRAWN BY :	NMW	DATE :	5/25
CHECKED BY :	MGC	DATE :	5/25



EXISTING
APPROACH SLAB @ END BENT 2



STAGE I
APPROACH SLAB @ END BENT 2



STAGE II
APPROACH SLAB @ END BENT 2

NOTES

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

SEE TRAFFIC CONTROL PLANS FOR LOCATION AND PAY LIMITS OF ANCHORED PORTABLE CONCRETE BARRIER.

PROJECT NO. DF18313.2100313.PR

YANCEY COUNTY

BRIDGE NO. 289

SHEET 3 OF 5

NORTH CAROLINA ENGINEER SEAL — Signed by: Marshall G. Cheek, Jr. — 20102 — MARSHALL G. CHEEK, JR. — 8/4/2025

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DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #289 ON SR 1158
OVER COLBERT CREEK BETWEEN
DEAD END AND SR 1191

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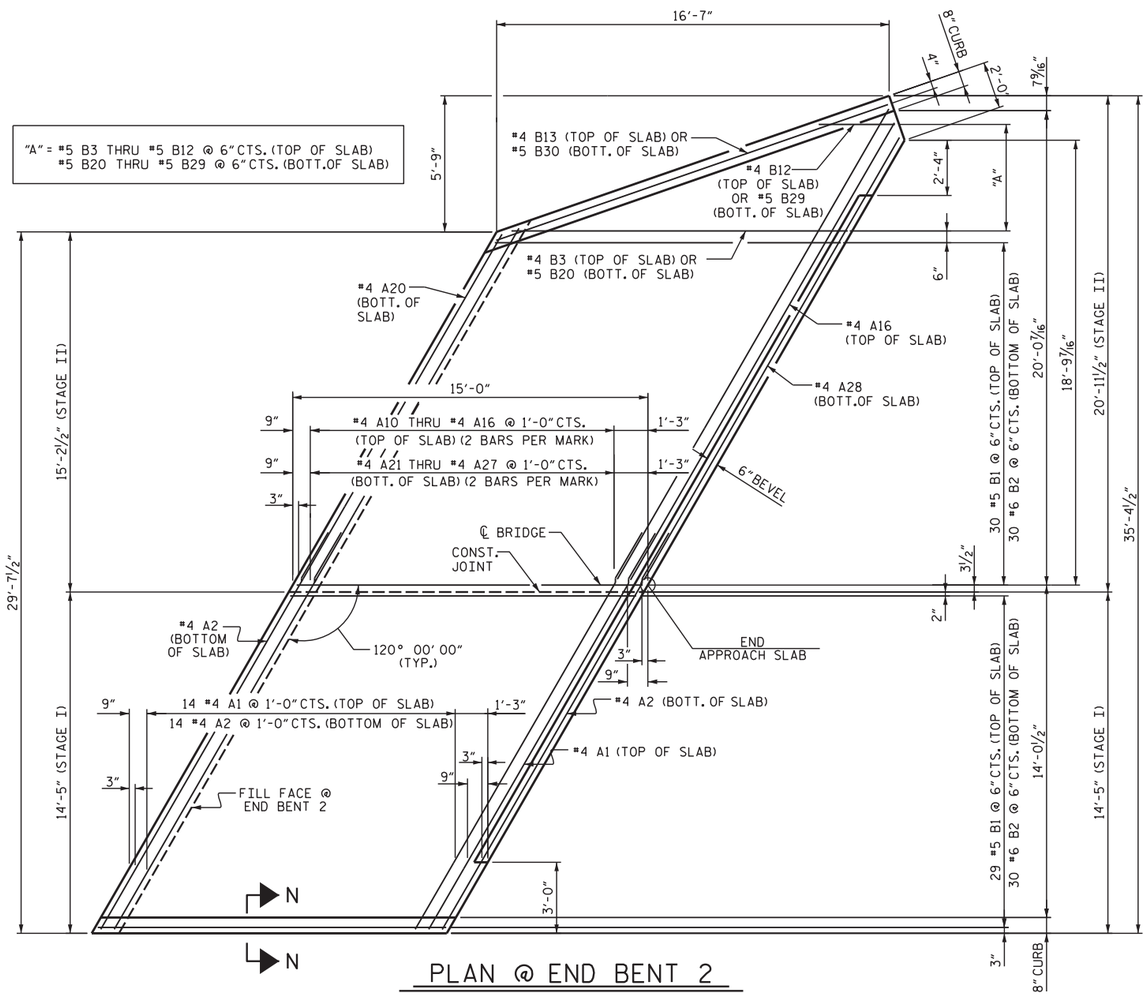


PLAN @ END BENT 2

NOTES

THE CONTRACTOR SHALL REMOVE THE EXISTING APPROACH SLAB AS DIRECTED ON THE PLANS. ALL WORK, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR THE REMOVAL AND DISPOSAL OF THE EXISTING APPROACH SLAB AS DESIGNATED ON THE PLANS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "PARTIAL REMOVAL OF EXISTING STRUCTURE." FOR PARTIAL REMOVAL OF EXISTING EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

CARE SHALL BE TAKEN DURING THE REMOVAL OF THE EXISTING APPROACH SLAB. ANY DAMAGE TO THE EXISTING STRUCTURE SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT. THE METHOD OF REPAIR SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

THE APPROACH SLAB SHALL BE GROOVED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

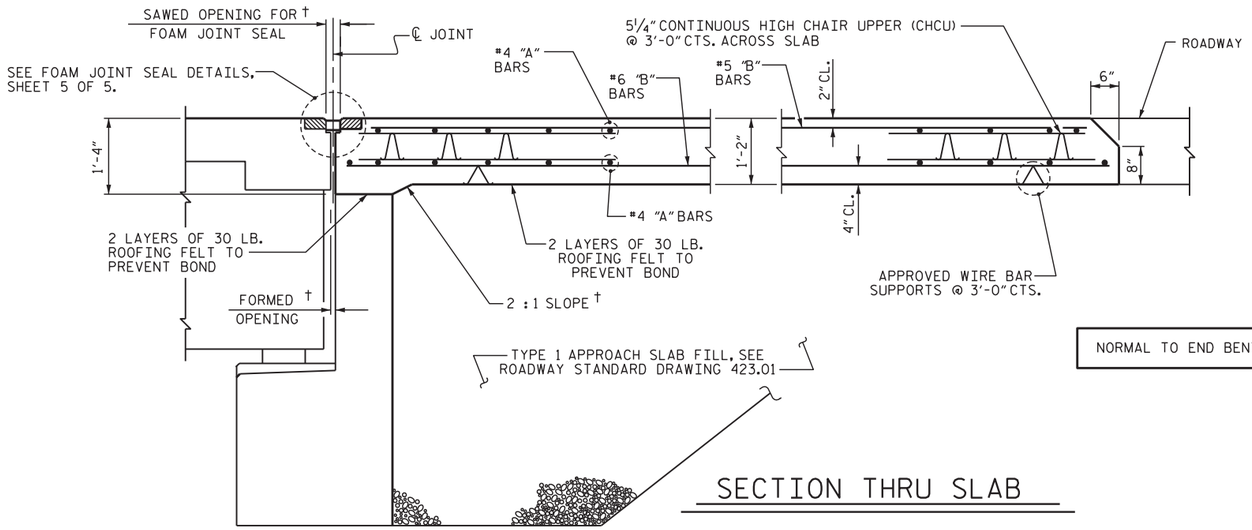
THE CONTRACTOR SHALL REPAIR ANY DAMAGED APPROACH ROADWAY TO MATCH THE EXISTING PAVEMENT OR AS DIRECTED BY THE ENGINEER TO RESTORE A PROPER TIE IN TO THE APPROACH SLAB. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE APPROACH SLAB.

APPROACH SLAB AT EB 2 STAGE I

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
✱ A1	15	#4	STR	18'-7"	186
A2	16	#4	STR	18'-3"	195
✱ B1	29	#5	STR	14'-0"	423
B2	29	#6	STR	14'-8"	639
REINFORCING STEEL				LBS.	834
✱ EPOXY COATED REINFORCING STEEL				LBS.	609
CLASS AA CONCRETE				C. Y.	9.4

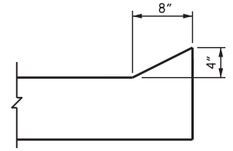
APPROACH SLAB AT EB 2 STAGE II

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
✱ A10	2	#4	STR	17'-8"	24
✱ A11	2	#4	STR	18'-8"	25
✱ A12	2	#4	STR	19'-8"	26
✱ A13	2	#4	STR	20'-8"	28
✱ A14	2	#4	STR	21'-8"	29
✱ A15	2	#4	STR	22'-8"	30
✱ A16	3	#4	STR	22'-10"	46
A20	1	#4	STR	17'-5"	12
A21	2	#4	STR	17'-8"	24
A22	2	#4	STR	18'-8"	25
A23	2	#4	STR	19'-8"	26
A24	2	#4	STR	20'-8"	28
A25	2	#4	STR	21'-8"	29
A26	2	#4	STR	22'-8"	30
A27	2	#4	STR	22'-10"	31
A28	1	#4	STR	22'-2"	15
✱ B1	30	#5	STR	14'-0"	438
B2	30	#6	STR	14'-8"	661
✱ B3	1	#5	STR	13'-6"	14
✱ B4	1	#5	STR	12'-4"	13
✱ B5	1	#5	STR	11'-2"	12
✱ B6	1	#5	STR	10'-1"	11
✱ B7	1	#5	STR	9'-7"	10
✱ B8	1	#5	STR	8'-5"	9
✱ B9	1	#5	STR	7'-3"	8
✱ B10	1	#5	STR	6'-1"	6
✱ B11	1	#5	STR	4'-10"	5
✱ B12	1	#5	STR	3'-2"	3
✱ B13	1	#5	STR	17'-6"	18
B20	1	#6	STR	14'-2"	21
B21	1	#6	STR	13'-0"	20
B22	1	#6	STR	11'-10"	18
B23	1	#6	STR	10'-9"	16
B24	1	#6	STR	9'-7"	14
B25	1	#6	STR	8'-5"	13
B26	1	#6	STR	7'-3"	11
B27	1	#6	STR	6'-1"	9
B28	1	#6	STR	4'-10"	7
B29	1	#6	STR	3'-2"	5
B30	1	#6	STR	17'-6"	26
REINFORCING STEEL				LBS.	1041
✱ EPOXY COATED REINFORCING STEEL				LBS.	755
CLASS AA CONCRETE				C. Y.	11.9



SECTION THRU SLAB

NORMAL TO END BENT †



SECTION N-N

CURB DETAILS

SPLICE LENGTHS

BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

PROJECT NO. DF18313.2100313.PR

YANCEY COUNTY

BRIDGE NO. 289

SHEET 4 OF 5

NORTH CAROLINA — Signed by: Marshall G. Cheek, Jr. — 20123 — ENGINEER — MARSHALL G. CHEEK, JR.

8/4/2025

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DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE #289 ON SR 1158
OVER COLBERT CREEK BETWEEN
DEAD END AND SR 1191

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-4
1			3			TOTAL SHEETS
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DRAWN BY :	NMW	DATE :	5/25
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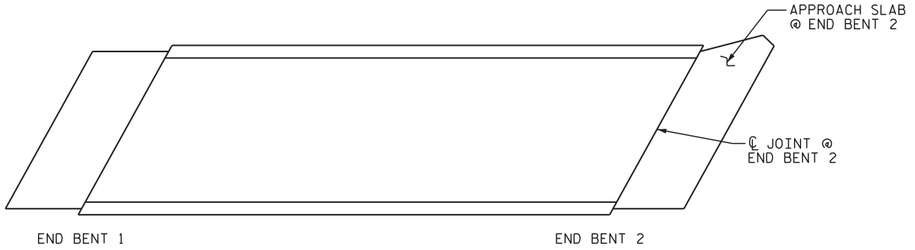


PLAN VIEW OF JOINT LAYOUT

NOTES

FOR FOAM JOINT SEALS, SEE FOAM JOINT SEAL REPLACEMENT SPECIAL PROVISION.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SHALL BE 2".

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE FOAM JOINT SEAL IN LIEU OF SAWING THE JOINT.

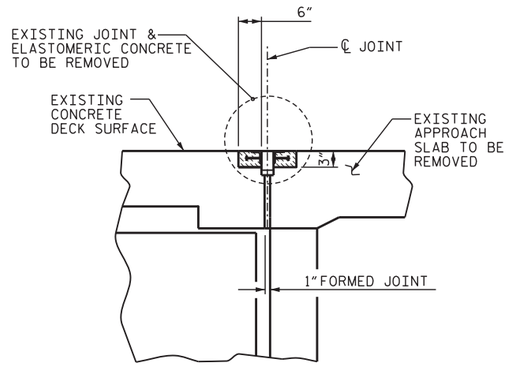
THE REMOVAL OF THE EXISTING ARMORED EVAZOTE JOINT SEAL AND EXISTING ELASTOMERIC CONCRETE HEADERS, PLACEMENT OF ELASTOMERIC CONCRETE AND INSTALLATION OF THE FOAM JOINT SEAL SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR FOAM JOINT SEALS.

FOR SAWING THE ELASTOMERIC CONCRETE BLOCKOUT IN THE EXISTING DECK AND APPROACH SLAB, SEE FOAM JOINT SEAL REPLACEMENT SPECIAL PROVISION.

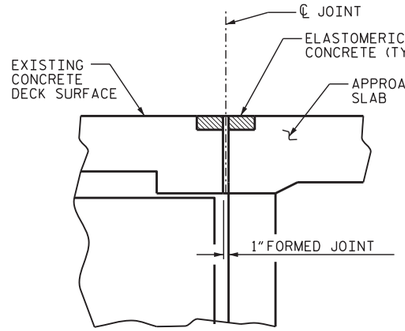
FOR REMOVAL OF CONCRETE IN THE EXISTING DECK, SEE BRIDGE JOINT DEMOLITION SPECIAL PROVISION.

BILL OF MATERIAL

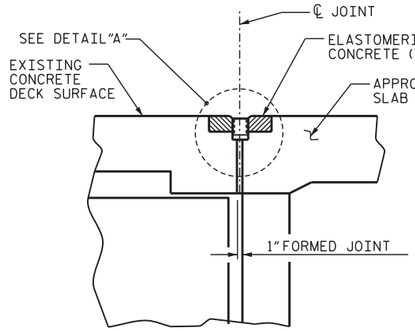
LOCATION	ELASTOMERIC CONCRETE (CY.YD.)	TOTAL LENGTH OF FOAM JOINT (FT.)
END BENT 2	0.6	33'-6"



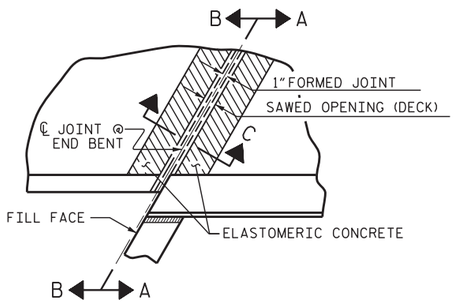
MINIMUM EXISTING JOINT DEMOLITION
AT END BENT 2



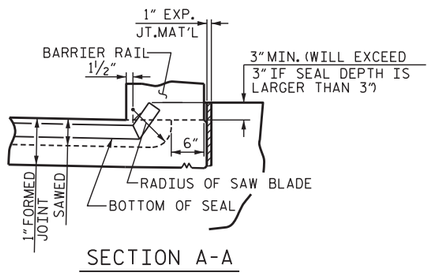
PROPOSED JOINT PRE-SAWED
AT END BENT 2



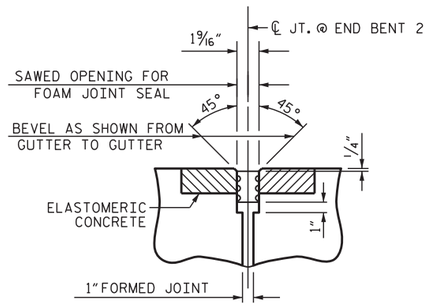
PROPOSED FOAM JOINT
AT END BENT 2



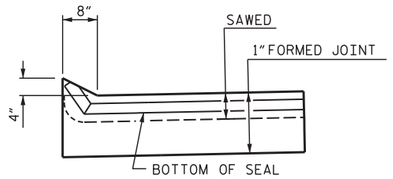
PLAN
SHOWING PROPOSED FOAM JOINT



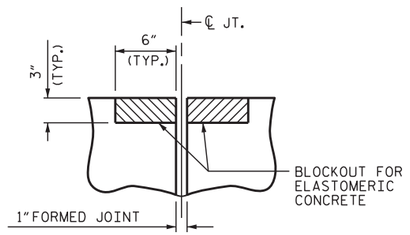
SECTION A-A



DETAIL "A"
FOAM JOINT SEAL
@ END BENT 2
(FIXED)



SECTION B-B



SECTION C-C
FOAM JOINT SEAL
(PRE-SAWED ELASTOMERIC
CONCRETE DIMENSIONS)

FOAM JOINT SEAL DETAILS @ END BENT 2

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE CURB.

DRAWN BY :	NMW	DATE :	5/25
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PROJECT NO. DF18313.2100313.PR
YANCEY COUNTY
BRIDGE NO. 289
SHEET 5 OF 5

NORTH CAROLINA — Electronically Signed by: Marshall G. Cheek, Jr. — NOTARY SEAL 2011 — ENGINEER — MARSHALL G. CHEEK, JR.
8/4/2025

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8/26/21

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	AASHTO (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	SEE AASHTO
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO ½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞"Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST $\frac{5}{16}$" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY $\frac{1}{16}$" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.