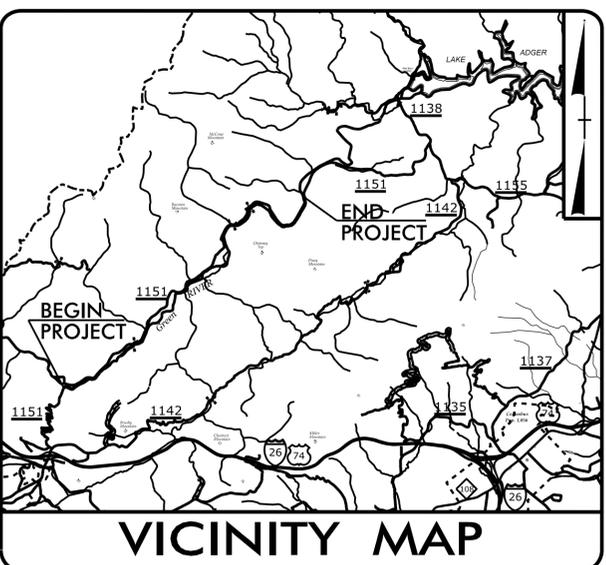


09, 08, / 95

**PROJECT: W03291**

**CONTRACT: C205178**

**STRUCTURES**



**BEGIN PROJECT W03291**  
-L1- STA. 10 + 40.00

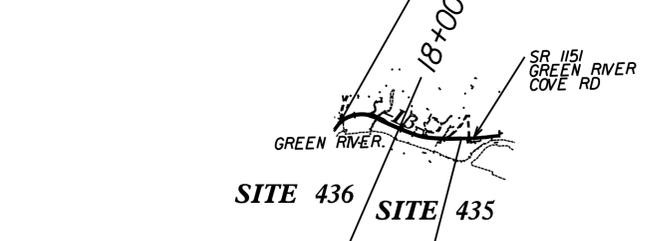
**END CONSTRUCTION AREA 1 (SITES 441 & 440)**  
-L1- STA. 44 + 50.00

**BEGIN CONSTRUCTION AREA 2 (SITES 439, 338, & 437)**  
-L2- STA. 10 + 75.00



**END CONSTRUCTION AREA 2 (SITES 439, 338, & 437)**  
-L2- STA. 47 + 75.00

**BEGIN CONSTRUCTION AREA 3 (SITE 435)**  
-L3- STA. 10 + 80.00



**END CONSTRUCTION AREA 3 (SITE 435)**  
-L3- STA. 25 + 00.00

**-L2- STA. 24 + 49.00**  
**END EXIST. BRIDGE**

**-L2- STA. 22 + 79.00**  
**BEGIN EXIST. BRIDGE**

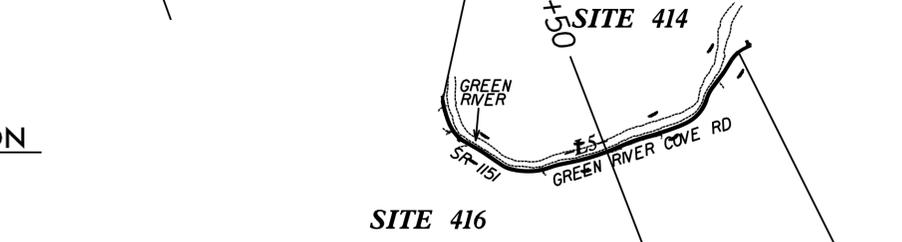
**END CONSTRUCTION AREA 4 (SITES 434, 433, & 415)**  
-L4- STA. 62 + 30.00

**-L4- STA. 55 + 91.40**  
**END EXIST. BRIDGE**

**-L4- STA. 54 + 06.16**  
**BEGIN EXIST. BRIDGE**



**BEGIN CONSTRUCTION AREA 5 (SITES 416 & 414)**  
-L5- STA. 10 + 50.00



**END PROJECT W03291**  
-L5- STA. 51 + 50.00



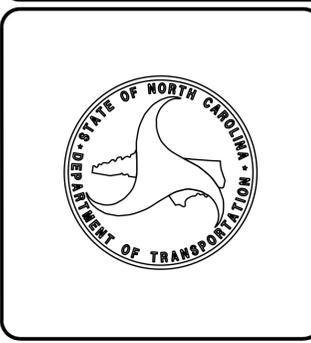
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**POLK COUNTY**

**LOCATION: SR 1151 (GREEN RIVER COVE ROAD)**  
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES**

**PART II**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W03291		
STATE PROJ. NO.	DESCRIPTION		
DF18314.2075080		441	
DF18314.2075079		440	
DF18314.2075077		439	
DF18314.2075095		338	
DF18314.2075076		437	
DF18314.2075074		435	
DF18314.2075073		434	
DF18314.2075072		433	
DF18314.2075033		415	
DF18314.2075032		416	
DF18314.2075031		414	

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$  
\$\$\$\$\$ DGN \$\$\$\$\$\$  
\$\$\$\$\$ USERNAME \$\$\$\$\$\$



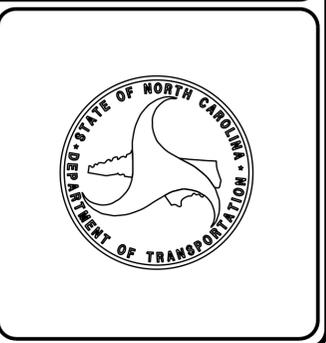
**DESIGN DATA**  
ADT 2025 = 310  
ADT 2050 = 400  
V = 40 MPH  
  
FUNC CLASS =  
LOCAL RURAL  
SUBREGIONAL

PROJECT LENGTH	
LENGTH ROADWAY SITE 441 = 0.381 MILES	LENGTH ROADWAY SITE 434 = 0.157 MILES
LENGTH ROADWAY SITE 440 = 0.265 MILES	LENGTH ROADWAY SITE 433 = 0.511 MILES
TOTAL LENGTH AREA 1 = 0.646 MILES	LENGTH ROADWAY SITE 415 = 0.179 MILES
LENGTH ROADWAY SITE 439 = 0.203 MILES	LENGTH STRUCTURE SITE 415 = 0.035 MILES
LENGTH ROADWAY SITE 338 = 0.044 MILES	TOTAL LENGTH AREA 4 = 0.882 MILES
LENGTH ROADWAY SITE 437 = 0.422 MILES	LENGTH ROADWAY SITE 416 = 0.417 MILES
LENGTH STRUCTURE SITE 338 = 0.032 MILES	LENGTH ROADWAY SITE 414 = 0.360 MILES
TOTAL LENGTH AREA 2 = 0.701 MILES	TOTAL LENGTH AREA 5 = 0.777 MILES
LENGTH ROADWAY SITE 436 = 0.136 MILES	TOTAL LENGTH PROJECT
LENGTH ROADWAY SITE 435 = 0.133 MILES	DF18314.2075031 W03291
TOTAL LENGTH AREA 3 = 0.269 MILES	= 3.275 MILES

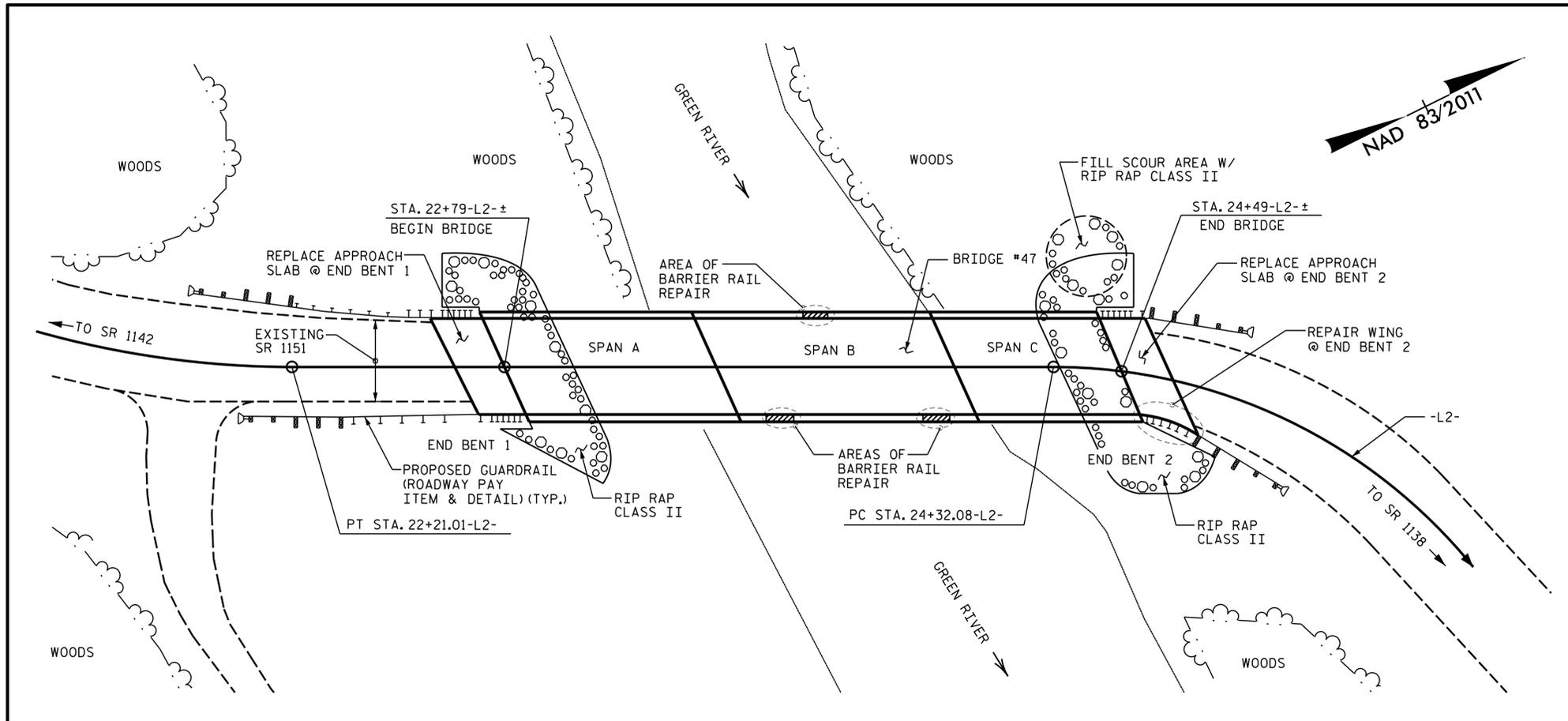
NCDOT CONTACT: JEANETTE L. WHITE, PE	
PLANS PREPARED BY:	PLANS PREPARED FOR:
TGS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 14 252 Webster Rd Sylva, NC 28779
RIGHT OF WAY DATE: JULY 31, 2025	MARC CHEEK, PE STRUCTURES DESIGN ENGINEER
LETTING DATE: APRIL 21, 2026	
2024 STANDARD SPECIFICATIONS	

**STRUCTURES DESIGN ENGINEER**

SEAL 20125  
MARSHALL G. CHEEK, JR.  
ENGINEER  
SIGNATURE  
2/4/2026



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

BRIDGE COORIDINATES

LATITUDE	LONGITUDE
35°-16'-26.7"	82°-18'-21.5"

TOTAL BILL OF MATERIAL

ITEM	FLOWABLE FILL (STRUCTURES)	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	REINFORCING STEEL	RIP RAP CLASS II	GEOTEXTILE FOR DRAINAGE	SHOTCRETE REPAIRS	FOAM JOINT SEALS FOR PRESERVATION	PARTIAL REMOVAL OF EXISTING STRUCTURE	PRECAST APPROACH SLABS	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION
	CU. YDS.	SO. FT.	CU. YDS.	LBS.	TONS	SO. YDS.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	CU. FT.	SO. FT.
TOTALS	10	510	7.6	1071	135	150	6.5	60.2	LUMP SUM	LUMP SUM	14.6	29.1

SCOPE OF WORK

- REPAIR WING AT END BENT 2.
- REPAIR BARRIER RAIL.
- INSTALL PRECAST APPROACH SLABS @ END BENT 1 & 2.
- INSTALL NEW FOAM JOINT SEALS.
- PLACE RIP RAP.

DRAWN BY : NMW DATE : 3/25  
 CHECKED BY : MGC DATE : 8/25

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.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

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

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

FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.

FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLANS.

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.

FOR PRECAST APPROACH SLABS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

CLASS II RIP RAP WITH GEOTEXTILE FOR DRAINAGE SHALL BE PLACED TO A LEVEL OF APPROXIMATELY 1'-6" ABOVE THE BOTTOM OF THE END BENT CAPS OR AS DIRECTED BY THE ENGINEER. CLASS II RIP RAP AT THE PROJECT SITE MAY BE STOCKPILED FOR USE. THIS RIP RAP SHALL BE SUPPLEMENTED WITH ADDITIONAL CLASS II RIP RAP AS NECESSARY.

FOR FLOWABLE FILL (STRUCTURES), SEE SPECIAL PROVISIONS.

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740047

SHEET 1 OF 10 AREA 2 SITE 338



3/17/2026

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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 #47 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN SR 1142 AND SR 1138

REVISIONS

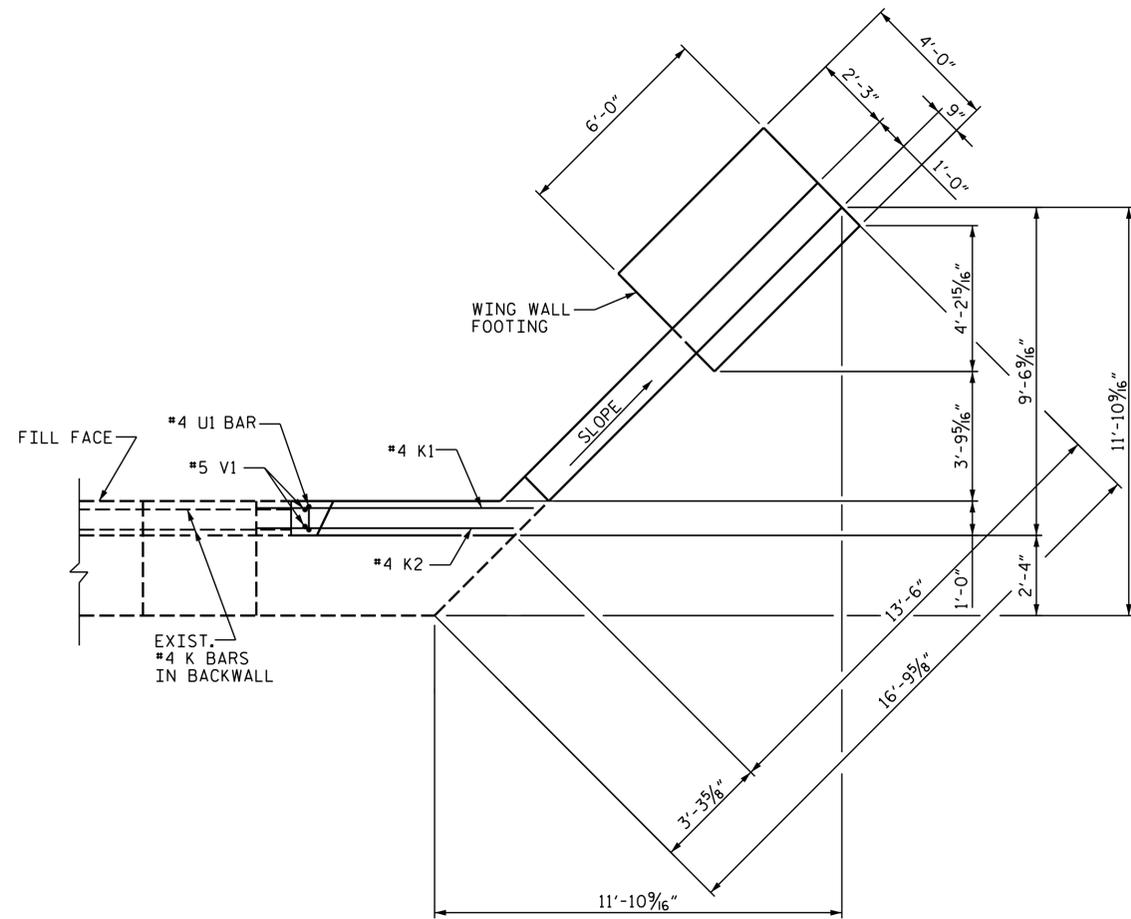
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S1-1

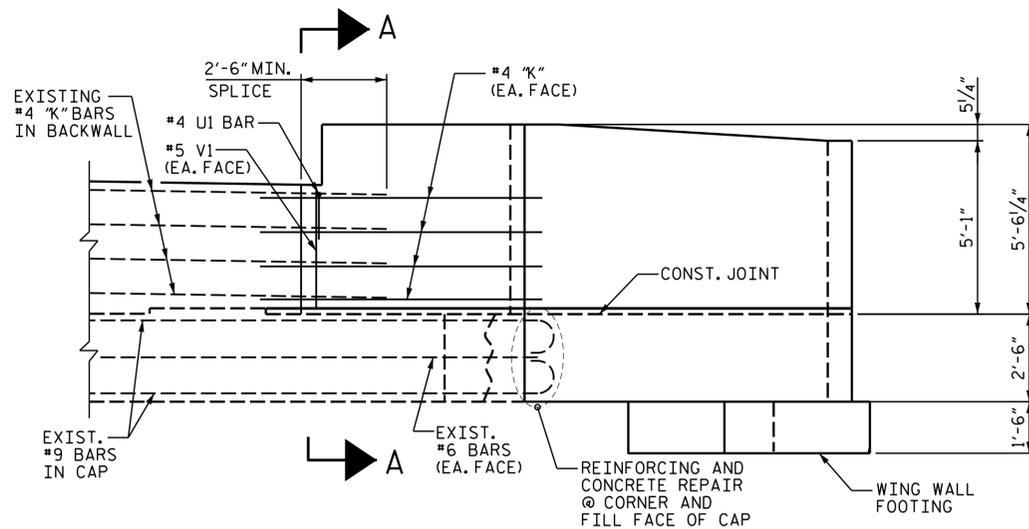
TOTAL SHEETS

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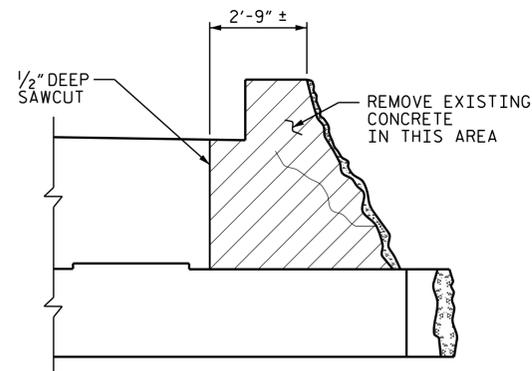
**PLAN OF RIGHT WING - END BENT 2**

FOR WING & FOOTING REINFORCING, SEE SHEET 3 OF 10.



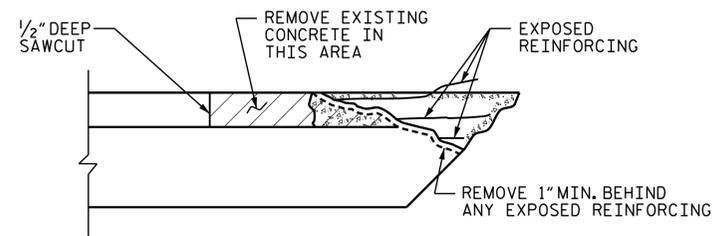
**ELEVATION OF RIGHT WING - END BENT 2**

FOR WING & FOOTING REINFORCING, SEE SHEET 3 OF 10.



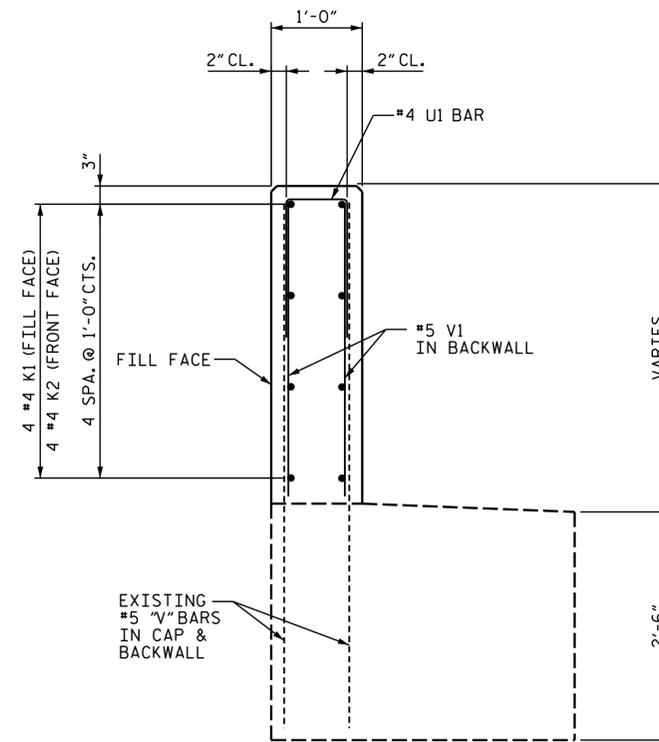
**ELEVATION**

SHOWING EXISTING CONDITION



**PLAN**

SHOWING EXISTING CONDITION



**SECTION A-A**

**NOTES**

THE PROPOSED REPAIRS AND QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE ON THE EXISTING CONDITIONS. REPAIR LIMITS MAY BE ADJUSTED AS NECESSARY TO REPAIR THE CAP AND BACKWALL AND REPLACE THE WING AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

THE EXISTING WING/BACKWALL SHALL BE REMOVED AS SHOWN AND IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. THE EXISTING HORIZONTAL AND VERTICAL BARS IN THE BACKWALL SHALL BE RETAINED, CLEANED AND SPLICED WITH THE PROPOSED REINFORCING AS DETAILED IN THE PLANS.

CARE SHALL BE TAKEN DURING THE PARTIAL REMOVAL OF THE EXISTING BACKWALL AND CAP. DAMAGE TO THE REMAINING 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.

ALL WORK, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR THE PARTIAL REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR PARTIAL REMOVAL OF EXISTING STRUCTURE.

FOR BONDING OF NEW CONCRETE TO OLD, THE OLD CONCRETE SHALL BE THOROUGHLY ROUGHENED, CLEANED OF LOOSE MATERIAL AND WETTED FOR A MINIMUM OF 2 HOURS PRIOR TO PLACING NEW CONCRETE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR CLASS A CONCRETE.

**CONCRETE REPAIR SEQUENCE**

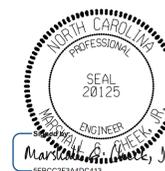
1. SOUND CONCRETE TO BE DETERMINE EXTENT OF REPAIR.
2. REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND REPAIR AREA TO A NOMINAL DEPTH OF 1/2\".
3. REMOVE CONCRETE WITHIN SAW CUT AREA TO A MINIMUM 1/2\" DEPTH. IF CONCRETE IS DAMAGED BEYOND THE ORIGINAL SAW CUT, A NEW SAW CUT IS REQUIRED.
4. IF MORE THAN HALF THE CIRCUMFERENCE OF A REINFORCING BAR IS EXPOSED DURING THE PROCESS, REMOVE ADDITIONAL CONCRETE TO 1\" BEHIND THE BAR.
5. USE A WIRE BRUSH TO CLEAN ALL EXPOSED REINFORCING BARS. REINFORCING SHALL BE BENT BACK INTO PLACE AS NEEDED.
6. REMOVE ALL LOOSE MATERIAL, THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL AND FOREIGN MATTER.
7. PREPARE SURFACE AND NEW CONCRETE PER THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740047

SHEET 2 OF 10



2/4/2026

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE #47 ON SR 1151  
OVER GREEN RIVER  
BETWEEN SR 1142 AND SR 1138

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

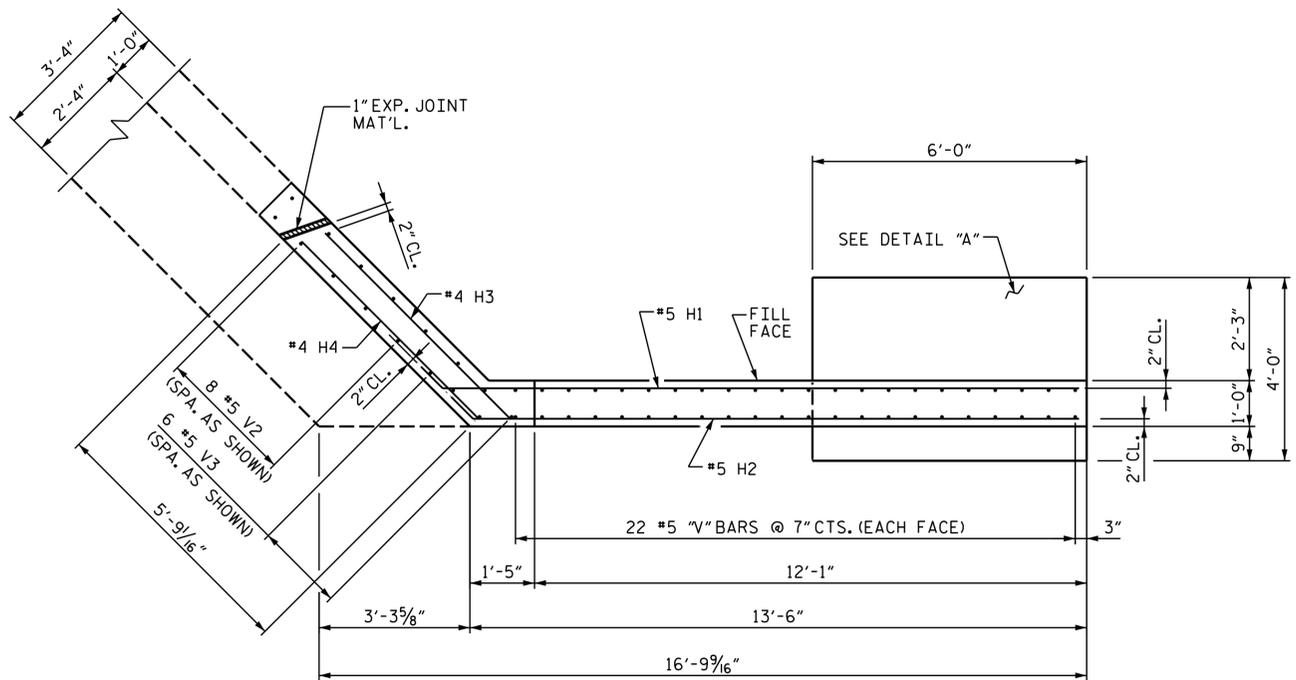
REVISIONS

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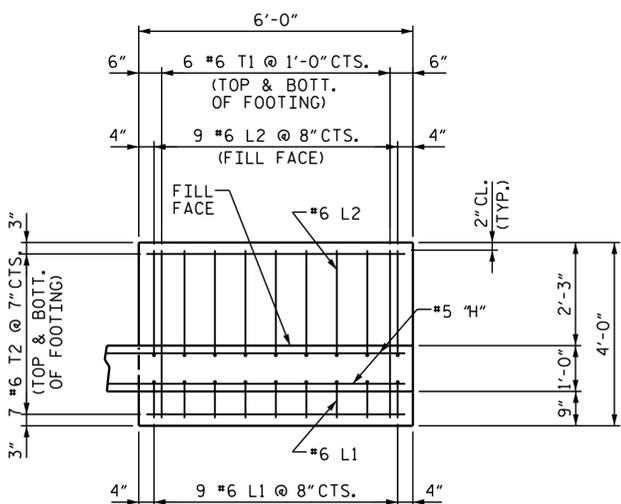
SHEET NO.

S1-2  
TOTAL SHEETS  
10

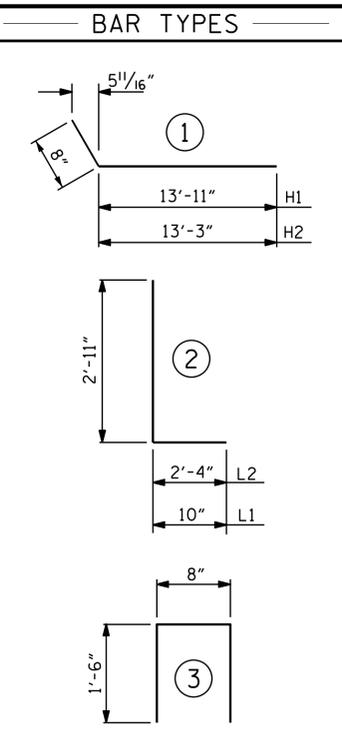
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CHECKED BY : MCC DATE : 8/25



PLAN OF RIGHT WING - END BENT 2

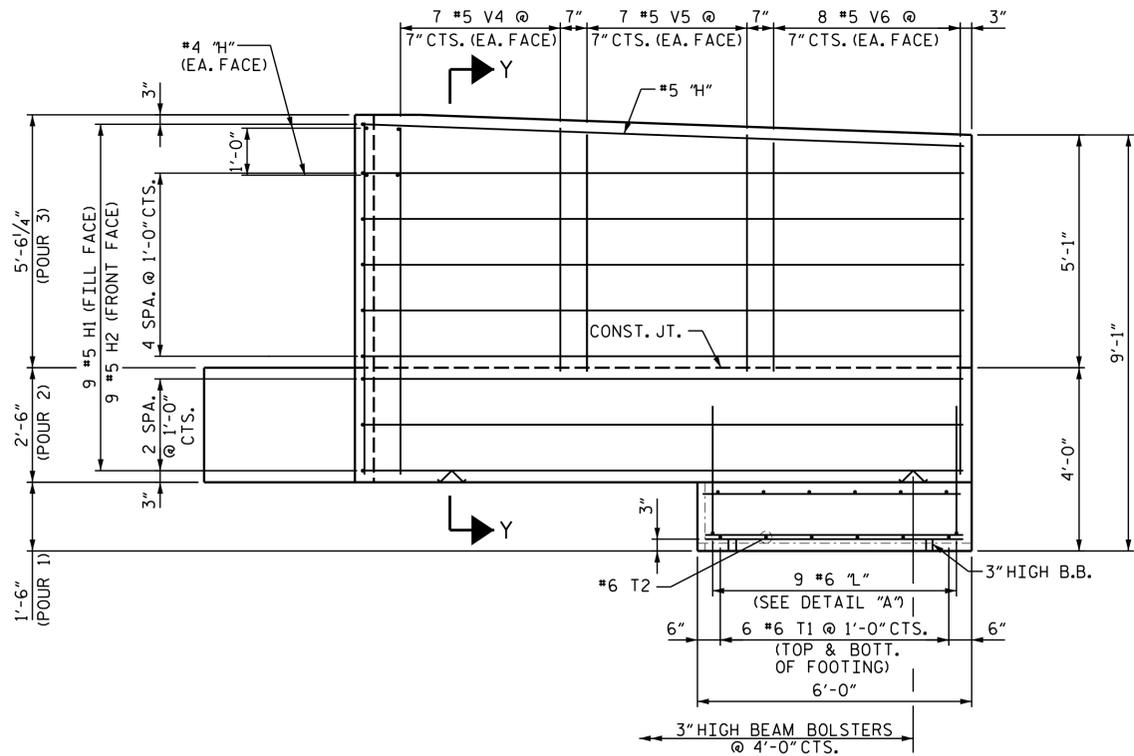


DETAIL "A"

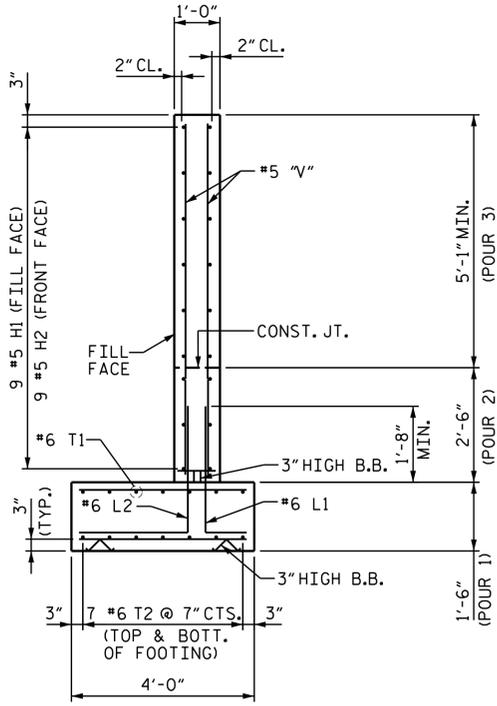


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
RIGHT WING - END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	9	#5	1	14'-7"	137
H2	9	#5	1	13'-11"	131
H3	2	#4	STR	5'-9"	8
H4	2	#4	STR	5'-5"	7
K1	4	#4	STR	8'-1"	22
K2	4	#4	STR	7'-3"	19
L1	9	#6	2	3'-9"	51
L2	9	#6	2	5'-3"	71
T1	12	#6	STR.	3'-8"	66
T2	14	#6	STR.	5'-8"	119
U1	1	#4	3	3'-8"	2
V1	2	#5	STR	3'-5"	7
V2	8	#5	STR	5'-2"	43
V3	6	#5	STR	7'-8"	48
V4	14	#5	STR	7'-7"	111
V5	14	#5	STR	7'-5"	108
V6	16	#5	STR	7'-3"	121
REINFORCING STEEL					1071 LBS.
CLASS A CONCRETE BREAKDOWN					
POUR #1 WING FOOTING					1.3 C.Y.
POUR #2 CAP AND WING					1.8 C.Y.
POUR #3 BACKWALL & UPPER PART OF WING					4.5 C.Y.
TOTAL CLASS A CONCRETE					7.6 C.Y.



ELEVATION OF RIGHT WING - END BENT 2



SECTION Y-Y

PROJECT NO. W03291  
       POLK        COUNTY  
 BRIDGE NO. 740047

SHEET 3 OF 10



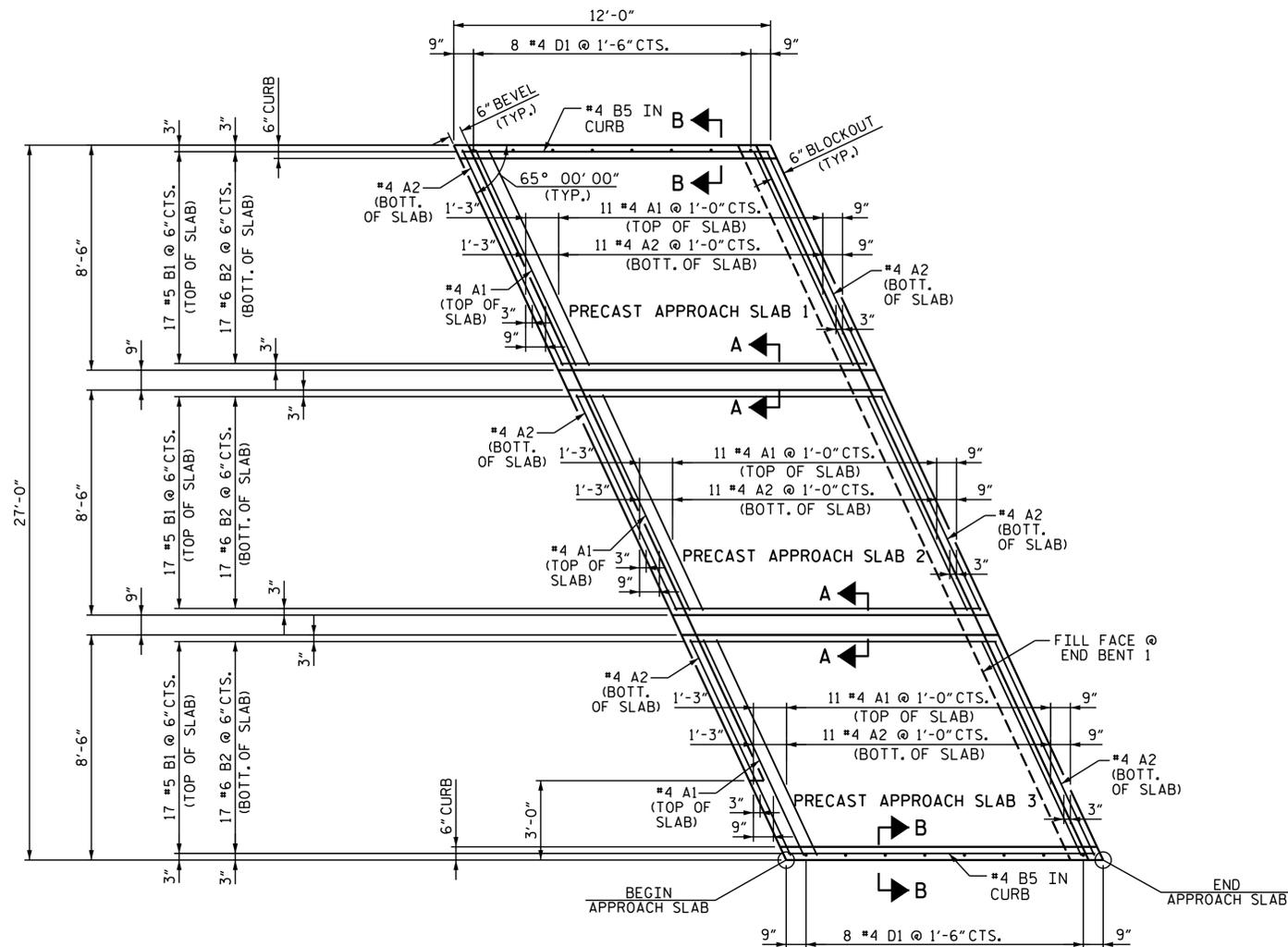
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 BRIDGE #47 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN SR 1142 AND SR 1138

DRAWN BY : NMW DATE : 7/25  
 CHECKED BY : MCC DATE : 8/25

DOCUMENT NOT CONSIDERED FINAL  
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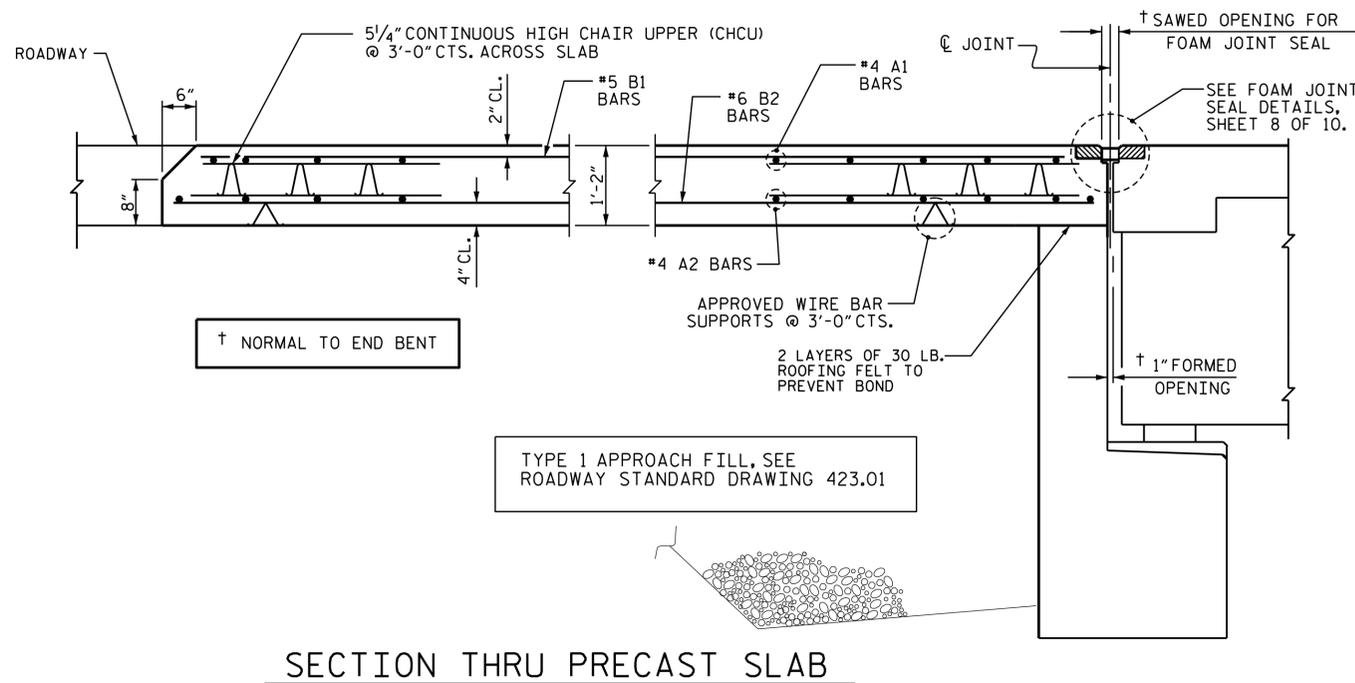
TGS ENGINEERS  
 201 W. MARION ST STE 200  
 SHELBY, NC 28150  
 PH (704) 476-0003  
 CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			TOTAL SHEETS 10

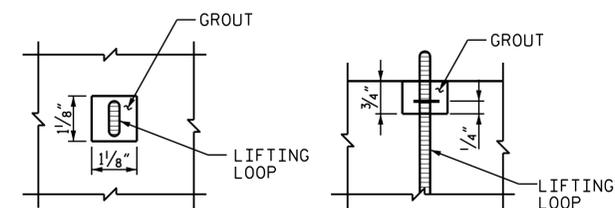


**PLAN AT END BENT 1**

FOR U1 BARS & LOCATION OF 2" Ø GROUT PORT HOLES, SEE SHEET 5 OF 10



**SECTION THRU PRECAST SLAB**



**PLAN ELEVATION  
GROUTED RECESS FOR LIFTING LOOPS**

LIFTING LOOPS TO BE CUT 1/4" ABOVE BOTTOM OF RECESS.

**NOTES**

CLASS AA CONCRETE SHALL BE USED IN THE PRECAST APPROACH SLABS.

A MINIMUM OF FOUR LIFTING LOOPS SHALL BE REQUIRED IN EACH PRECAST APPROACH SLAB IN ACCORDANCE WITH ARTICLE 1077-10 OF THE STANDARD SPECIFICATIONS. THE LIFTING LOOPS IN THE PRECAST APPROACH SLABS SHALL BE BURNED OFF AND THE RECESSES FILLED WITH GROUT PRIOR TO PLACEMENT OF TRAFFIC ON THE APPROACH SLAB (SEE DETAIL FOR "GROUTED RECESS FOR LIFTING LOOPS"). GROUT SHALL BE NON-METALLIC AND NON-SHRINK IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PROPOSED DEVICES FOR LIFTING LOOPS AND THEIR LOCATION ON THE PRECAST APPROACH SLABS SHALL BE DETAILED IN THE SHOP DRAWINGS.

TWO INCH DIAMETER GROUT PIPES SHALL BE PROVIDED FOR PLACEMENT OF FLOWABLE FILL (STRUCTURES). THE TWO INCH DIAMETER GROUT PIPES SHALL BE CUT FROM STANDARD 40 PVC PIPE.

FOR PRECAST APPROACH SLABS AND LONGITUDINAL CLOSURE POURS, SEE PRECAST APPROACH SLABS SPECIAL PROVISIONS.

FOR SECTION A-A, SECTION B-B AND LONGITUDINAL CLOSURE POUR REINFORCEMENT, SEE SHEET 5 OF 10.

THE CONCRETE CURB SHALL NOT BE POURED UNTIL PRECAST APPROACH SLAB UNITS ARE IN PLACE.

THE CONTRACTOR SHALL REMOVE THE EXISTING APPROACH SLAB REPAIRS AS REQUIRED FOR CONSTRUCTION OF THE APPROACH SLAB AS DETAILED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

CARE SHALL BE TAKEN DURING THE REMOVAL OF THE APPROACH SLAB REPAIRS AND BACKFILL MATERIALS. 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 APPROVAL OF THE ENGINEER. THE PRECAST APPROACH SLABS SHALL BE GROOVED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE COST OF THE REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, AND CLASS AA CONCRETE IN THE PRECAST APPROACH SLABS, AND CLOSURE POURS SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR PRECAST APPROACH SLABS.

FOLLOWING PLACEMENT OF THE PRECAST APPROACH SLAB UNITS AND LONGITUDINAL CLOSURE POURS, THE CONTRACTOR SHALL PLACE FLOWABLE FILL (STRUCTURES) THROUGH THE 2" Ø GROUT PORTS TO FILL ANY VOIDS BETWEEN THE APPROACH SLABS AND APPROACH FILL. FOR FLOWABLE FILL (STRUCTURES), SEE SPECIAL PROVISIONS.

PROJECT NO. W03291  
POLK COUNTY  
 BRIDGE NO. 740047

SHEET 4 OF 10



3/17/2026

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #47 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN SR 1142 AND SR 1138

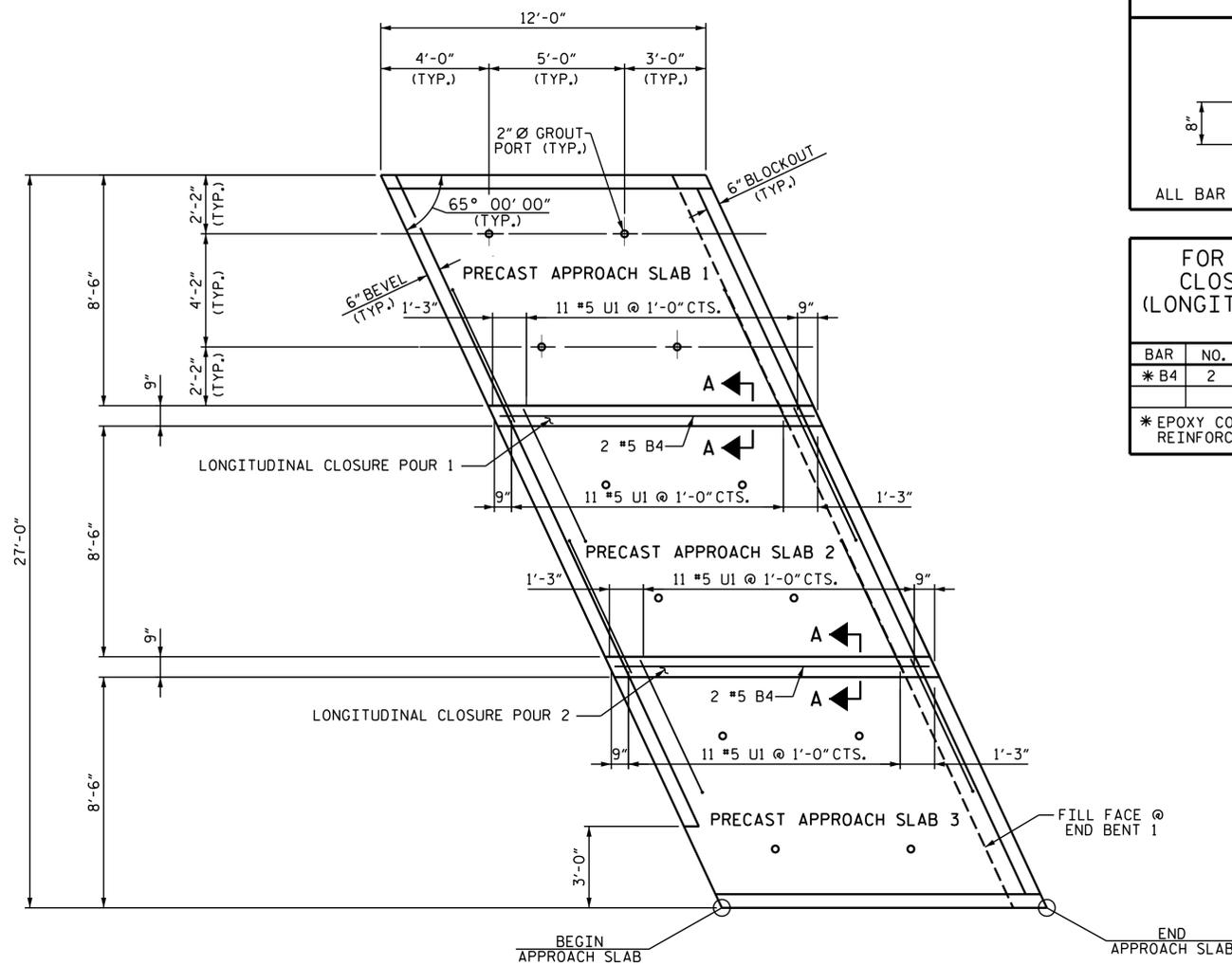
DOCUMENT NOT CONSIDERED FINAL  
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TGS ENGINEERS  
 201 W. MARION ST STE 200  
 SHELBY, NC 28150  
 PH (704) 476-0003  
 CORP. LICENSE NO.: C-0275

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
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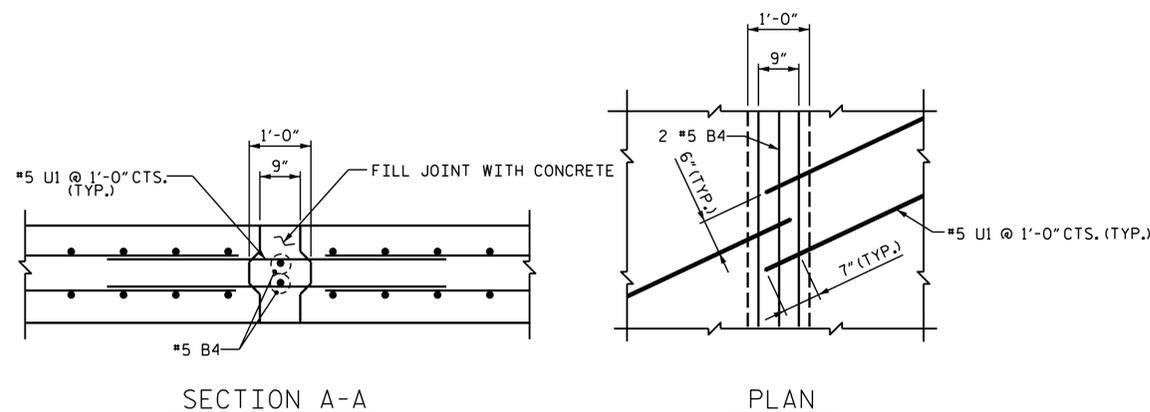
SHEET NO.  
 S1-4  
 TOTAL SHEETS  
 10

DRAWN BY : NMW DATE : 7/25  
 CHECKED BY : MCC DATE : 7/25



**PLAN AT END BENT 1**

SHOWING PLACEMENT OF #5 U1 BARS AND 2" Ø GROUT PORTS



**SECTION A-A**

**LONGITUDINAL CLOSURE POUR**

**PLAN**

**LONGITUDINAL JOINT DETAIL**

**BAR TYPES**

ALL BAR DIMENSIONS ARE OUT TO OUT

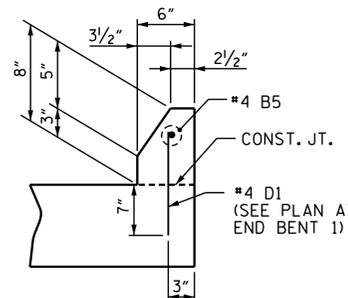
**FOR ONE LONGITUDINAL CLOSURE POUR (2 REQ'D) (LONGITUDINAL CLOSURE POUR 1 & 2)**

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B4	2	#5	STR	10'-10"	23
* EPOXY COATED REINFORCING STEEL LBS. 23					

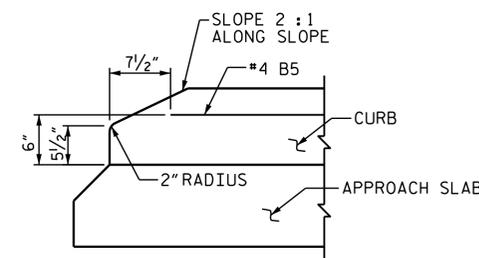
PRECAST APPROACH SLAB 1						PRECAST APPROACH SLAB 2						PRECAST APPROACH SLAB 3					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	12	#4	STR	9'-0"	72	* A1	12	#4	STR	9'-0"	72	* A1	12	#4	STR	9'-0"	72
A2	13	#4	STR	9'-0"	78	A2	13	#4	STR	9'-0"	78	A2	13	#4	STR	9'-0"	78
* B1	17	#5	STR	10'-10"	192	* B1	17	#5	STR	10'-10"	192	* B1	17	#5	STR	10'-10"	192
B2	17	#6	STR	11'-7"	296	B2	17	#6	STR	11'-7"	296	B2	17	#6	STR	11'-7"	296
* B5	1	#4	STR	10'-8"	7	* B5	1	#4	STR	10'-8"	7	* B5	1	#4	STR	10'-8"	7
* D1	8	#4	STR	1'-0"	5	* U1	22	#5	1	9'-7"	220	* D1	8	#4	STR	1'-0"	5
* U1	11	#5	1	9'-7"	110							* U1	11	#5	1	9'-7"	110
REINFORCING STEEL LBS. 374						REINFORCING STEEL LBS. 374						REINFORCING STEEL LBS. 374					
* EPOXY COATED REINFORCING STEEL LBS. 386						* EPOXY COATED REINFORCING STEEL LBS. 484						* EPOXY COATED REINFORCING STEEL LBS. 386					

**TOTAL BILL OF MATERIAL**

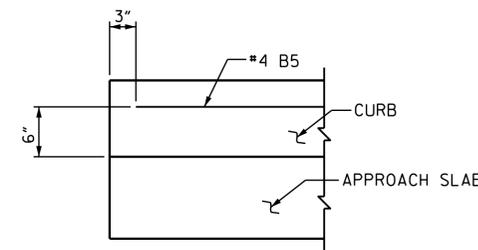
	CLASS AA CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
PRECAST APPROACH SLAB 1	4.5	374	386
LONGITUDINAL CLOSURE POUR 1	0.5	--	23
PRECAST APPROACH SLAB 2	4.4	374	484
LONGITUDINAL CLOSURE POUR 2	0.5	--	23
PRECAST APPROACH SLAB 3	4.5	374	386



**SECTION B-B**



DETAIL AT END OF CURB WITHOUT SPECIAL DRAINAGE



DETAIL AT END OF CURB WITH SPECIAL DRAINAGE

**CURB DETAILS**

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740047

SHEET 5 OF 10



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE #47 ON SR 1151  
OVER GREEN RIVER  
BETWEEN SR 1142 AND SR 1138

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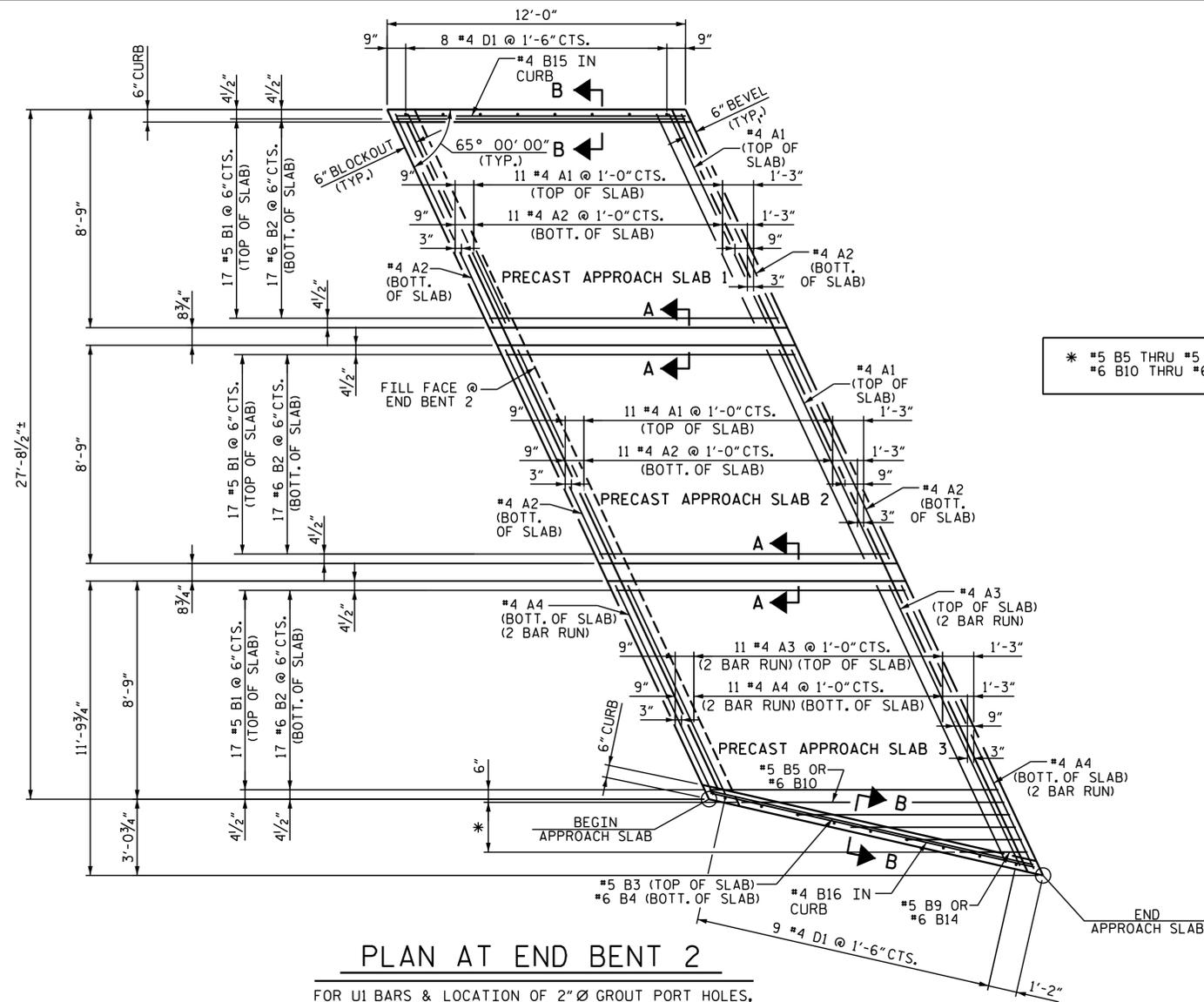
TGS ENGINEERS  
201 W. MARION ST STE 200  
SHELBY, NC 28150  
PH (704) 476-0003  
CORP. LICENSE NO.: C-0275

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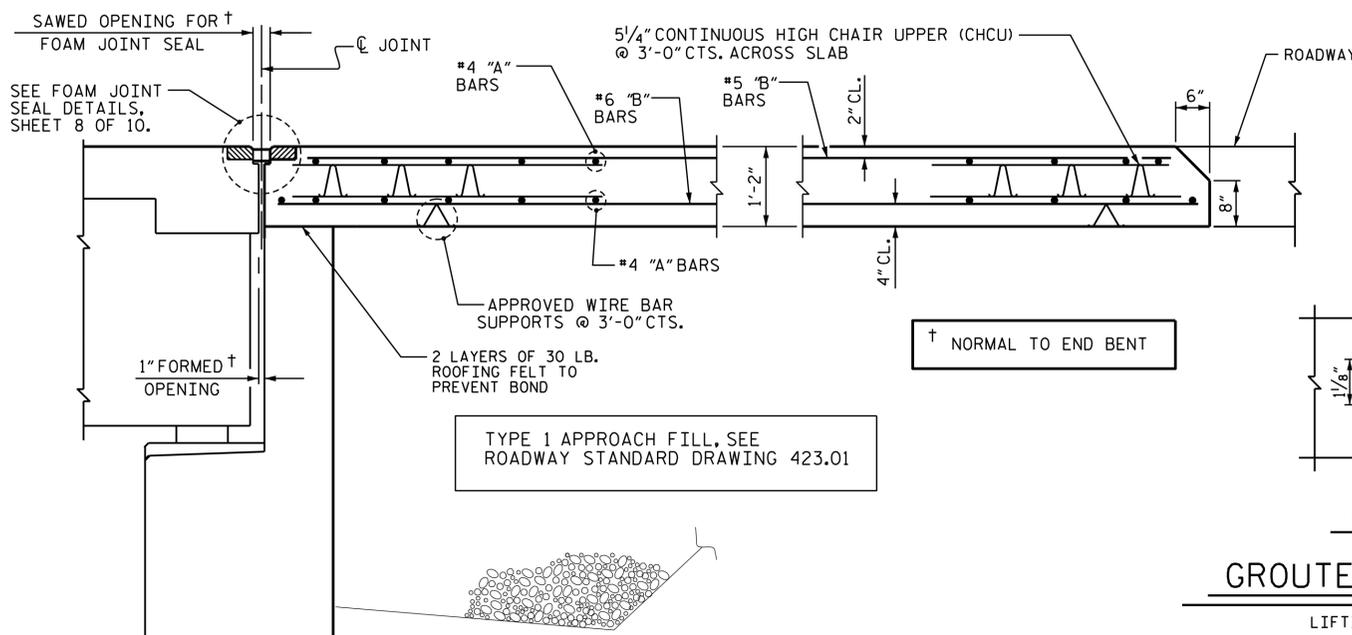
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S1-5  
TOTAL SHEETS  
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CHECKED BY : MCC DATE : 7/25

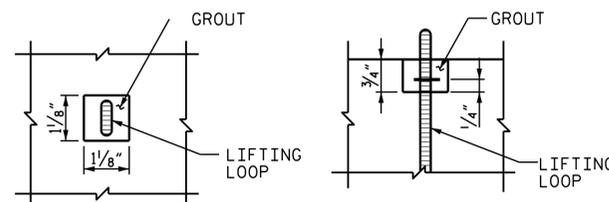


**PLAN AT END BENT 2**

FOR U1 BARS & LOCATION OF 2" Ø GROUT PORT HOLES, SEE SHEET 7 OF 10



**SECTION THRU PRECAST SLAB**



**GROUTED RECESS FOR LIFTING LOOPS**

LIFTING LOOPS TO BE CUT 1/4" ABOVE BOTTOM OF RECESS.

**NOTES**

CLASS AA CONCRETE SHALL BE USED IN THE PRECAST APPROACH SLABS.

A MINIMUM OF FOUR LIFTING LOOPS SHALL BE REQUIRED IN EACH PRECAST APPROACH SLAB IN ACCORDANCE WITH ARTICLE 1077-10 OF THE STANDARD SPECIFICATIONS. THE LIFTING LOOPS IN THE PRECAST APPROACH SLABS SHALL BE BURNED OFF AND THE RECESSES FILLED WITH GROUT PRIOR TO PLACEMENT OF TRAFFIC ON THE APPROACH SLAB (SEE DETAIL FOR "GROUTED RECESS FOR LIFTING LOOPS"). GROUT SHALL BE NON-METALLIC AND NON-SHRINK IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PROPOSED DEVICES FOR LIFTING LOOPS AND THEIR LOCATION ON THE PRECAST APPROACH SLABS SHALL BE DETAILED IN THE SHOP DRAWINGS.

TWO INCH DIAMETER GROUT PIPES SHALL BE PROVIDED FOR PLACEMENT OF FLOWABLE FILL (STRUCTURES). THE TWO INCH DIAMETER GROUT PIPES SHALL BE CUT FROM STANDARD 40 PVC PIPE.

FOR PRECAST APPROACH SLABS AND LONGITUDINAL CLOSURE POURS, SEE PRECAST APPROACH SLABS SPECIAL PROVISIONS.

FOR SECTION A-A, SECTION B-B AND LONGITUDINAL CLOSURE POUR REINFORCEMENT, SEE SHEET 7 OF 10.

THE CONCRETE CURB SHALL NOT BE POURED UNTIL PRECAST APPROACH SLAB UNITS ARE IN PLACE.

THE CONTRACTOR SHALL REMOVE THE EXISTING APPROACH SLAB REPAIRS AS REQUIRED FOR CONSTRUCTION OF THE APPROACH SLAB AS DETAILED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

CARE SHALL BE TAKEN DURING THE REMOVAL OF THE APPROACH SLAB REPAIRS AND BACKFILL MATERIALS. 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 APPROVAL OF THE ENGINEER. THE PRECAST APPROACH SLABS SHALL BE GROOVED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE COST OF THE REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, AND CLASS AA CONCRETE IN THE PRECAST APPROACH SLABS, AND CLOSURE POURS SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR PRECAST APPROACH SLABS.

FOLLOWING PLACEMENT OF THE PRECAST APPROACH SLAB UNITS AND LONGITUDINAL CLOSURE POURS, THE CONTRACTOR SHALL PLACE FLOWABLE FILL (STRUCTURES) THROUGH THE 2" Ø GROUT PORTS TO FILL ANY VOIDS BETWEEN THE APPROACH SLABS AND APPROACH FILL. FOR FLOWABLE FILL (STRUCTURES), SEE SPECIAL PROVISIONS.

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740047

SHEET 6 OF 10

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE #47 ON SR 1151  
OVER GREEN RIVER  
BETWEEN SR 1142 AND SR 1138



3/17/2026

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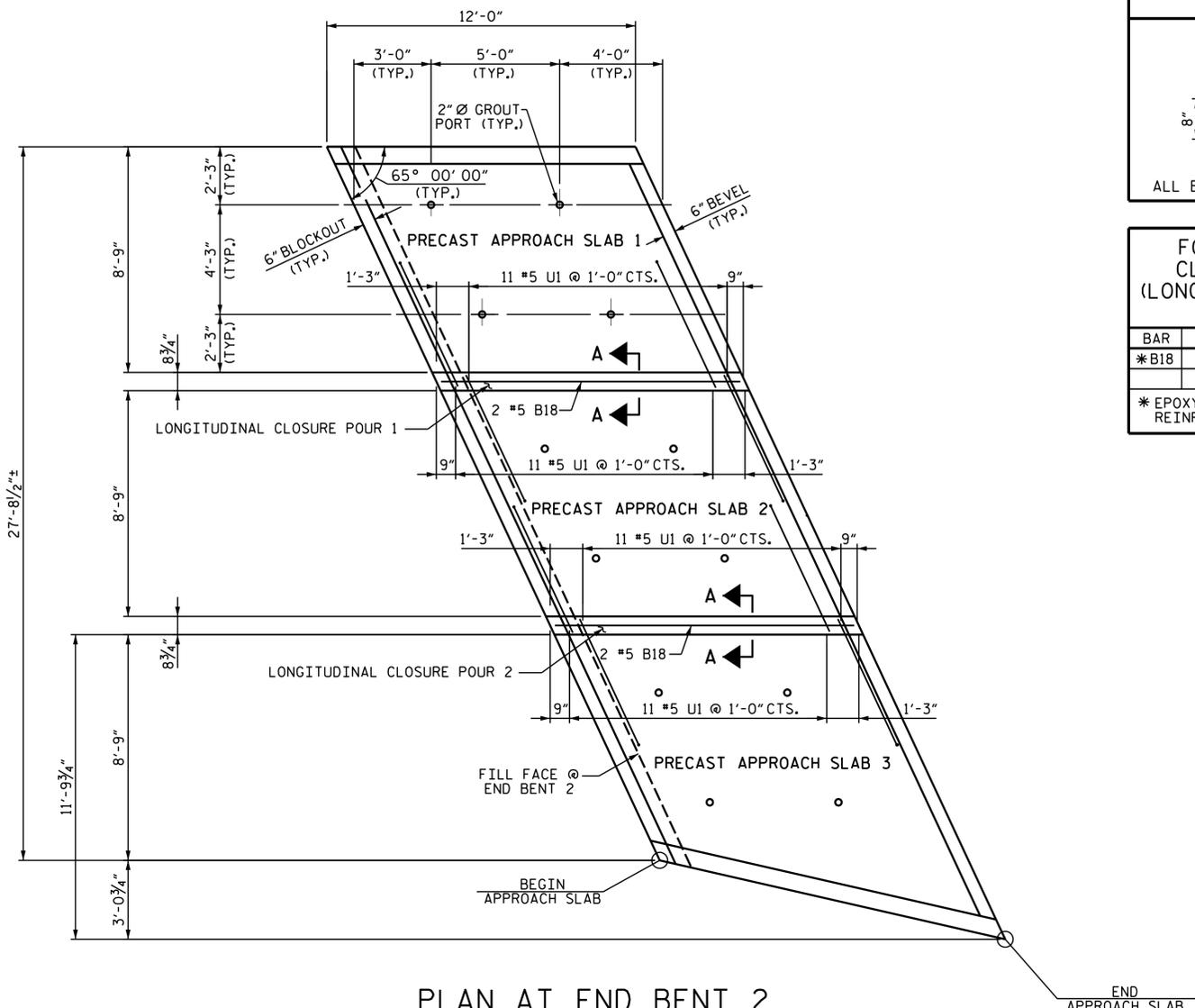
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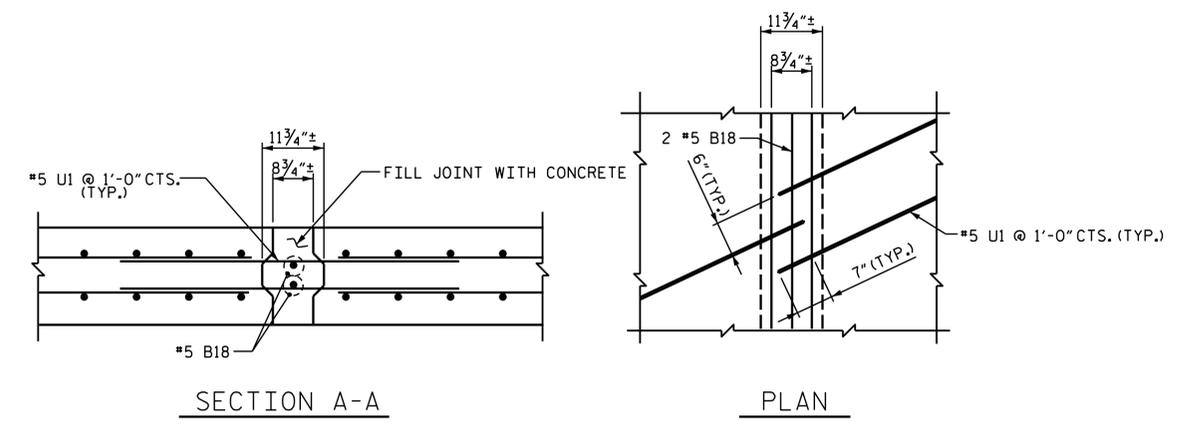
S1-6  
TOTAL SHEETS  
10

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PLAN AT END BENT 2

SHOWING PLACEMENT OF #5 U1 BARS AND 2" Ø GROUT PORTS

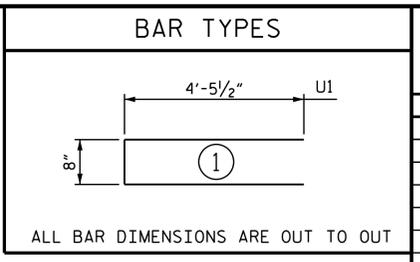


SECTION A-A

LONGITUDINAL CLOSURE POUR

PLAN

LONGITUDINAL JOINT DETAIL



ALL BAR DIMENSIONS ARE OUT TO OUT

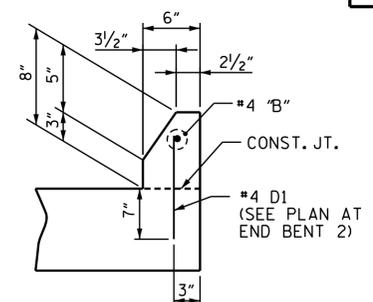
FOR ONE LONGITUDINAL CLOSURE POUR (2 REQ'D) (LONGITUDINAL CLOSURE POUR 1 & 2)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*B18	2	#5	STR	10'-10"	23
* EPOXY COATED REINFORCING STEEL					LBS. 23

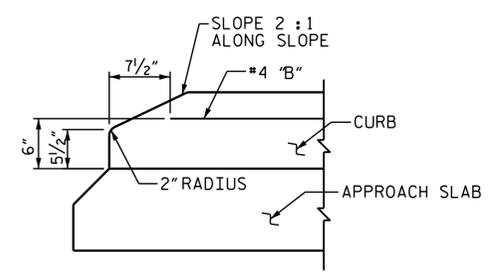
PRECAST APPROACH SLAB 1						PRECAST APPROACH SLAB 2						PRECAST APPROACH SLAB 3					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	12	#4	STR	9'-3"	74	*A1	12	#4	STR	9'-3"	74	*A3	24	#4	STR	7'-4"	118
A2	13	#4	STR	9'-3"	80	A2	13	#4	STR	9'-3"	80	A4	26	#4	STR	7'-2"	124
*B1	17	#5	STR	10'-10"	192	*B1	17	#5	STR	10'-10"	192	*B1	17	#5	STR	10'-10"	192
B2	17	#6	STR	11'-7"	296	B2	17	#6	STR	11'-7"	296	B2	17	#6	STR	11'-7"	296
*B15	1	#4	STR	10'-8"	7							*B3	1	#5	STR	13'-4"	14
*D1	8	#4	STR	1'-0"	5	*U1	22	#5	1	9'-7"	220	B4	1	#6	STR	13'-4"	20
*U1	11	#5	1	9'-7"	110							*B5	1	#5	STR	9'-9"	10
REINFORCING STEEL					LBS. 376	REINFORCING STEEL					LBS. 376	REINFORCING STEEL					LBS. 490
* EPOXY COATED REINFORCING STEEL					LBS. 388	* EPOXY COATED REINFORCING STEEL					LBS. 486	* EPOXY COATED REINFORCING STEEL					LBS. 479

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

TOTAL BILL OF MATERIAL			
	CLASS AA CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
PRECAST APPROACH SLAB 1	4.6	376	388
LONGITUDINAL CLOSURE POUR 1	0.5	--	23
PRECAST APPROACH SLAB 2	4.4	376	486
LONGITUDINAL CLOSURE POUR 2	0.5	--	23
PRECAST APPROACH SLAB 3	5.5	490	479



SECTION B-B



DETAIL AT END OF CURB WITHOUT SPECIAL DRAINAGE

CURB DETAILS

PROJECT NO. W03291  
 POLK COUNTY  
 BRIDGE NO. 740047  
 SHEET 7 OF 10

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #47 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN SR 1142 AND SR 1138

2/4/2026

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 SHELBY, NC 28150  
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 CORP. LICENSE NO.: C-0275

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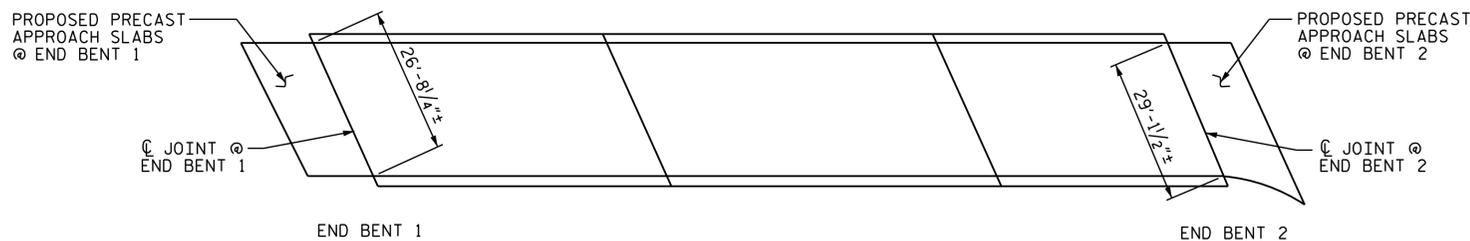
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 TOTAL SHEETS 10

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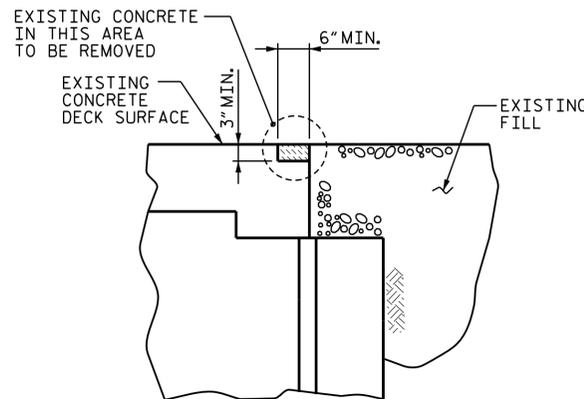
**NOTES**

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.  
 FOR ELASTOMERIC CONCRETE FOR PRESERVATION, 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.  
 FOR SAWING THE ELASTOMERIC CONCRETE BLOCKOUT IN THE EXISTING DECK AND APPROACH SLAB, SEE FOAM JOINT SEALS FOR PRESERVATION SPECIAL PROVISION.  
 FOR REMOVAL OF CONCRETE IN THE EXISTING DECK FOR ELASTOMERIC CONCRETE HEADER, SEE BRIDGE JOINT DEMOLITION SPECIAL PROVISION.

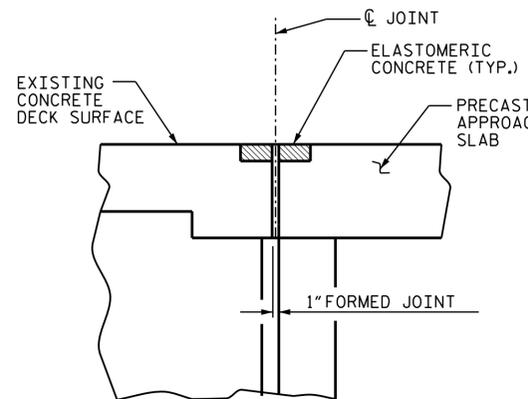


**PLAN VIEW OF JOINT LAYOUT**

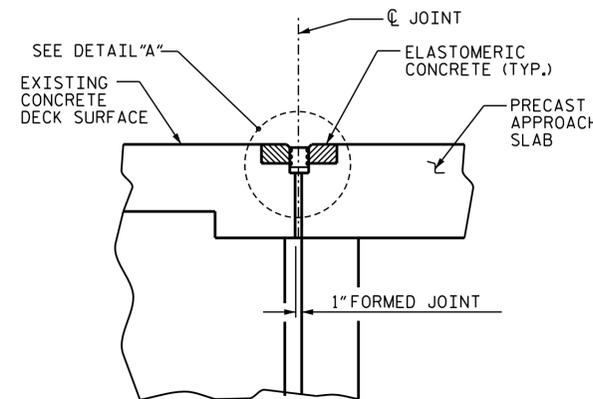
BILL OF MATERIAL			
LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION (CU. FT.)	TOTAL LENGTH OF FOAM JOINT (LIN. FT.)	BRIDGE JOINT DEMOLITION (SQ. FT.)
END BENT 1	6.7	27.8	13.3
END BENT 2	7.3	30.5	14.6
TOTAL	14.0	58.3	27.9



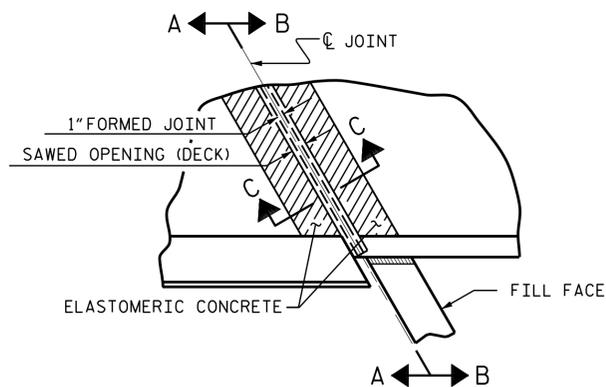
**MINIMUM EXISTING JOINT DEMOLITION**



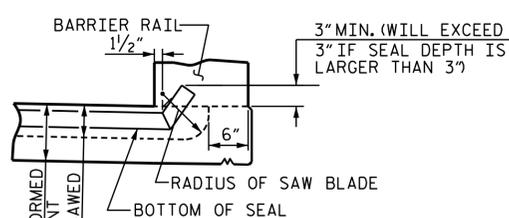
**PROPOSED JOINT PRE-SAWED**



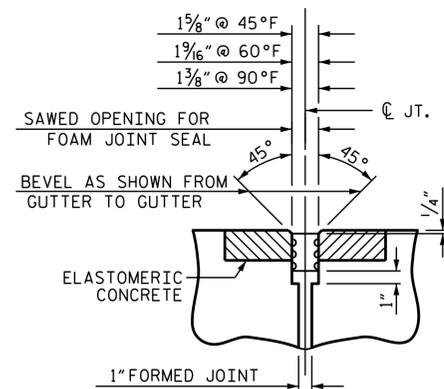
**PROPOSED FOAM JOINT**



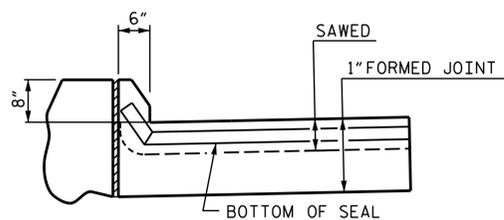
**PLAN**  
SHOWING PROPOSED FOAM JOINT



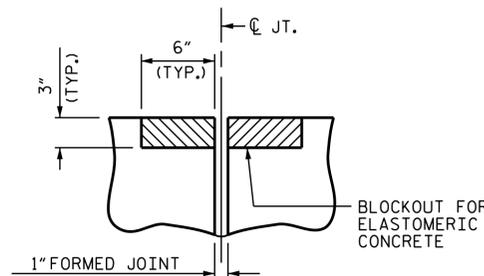
**SECTION A-A**



**DETAIL "A"**  
FOAM JOINT SEAL (EXP.)



**SECTION B-B**



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

**FOAM JOINT SEAL DETAILS**

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

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PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740047

SHEET 8 OF 10

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #47 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN SR 1142 AND SR 1138



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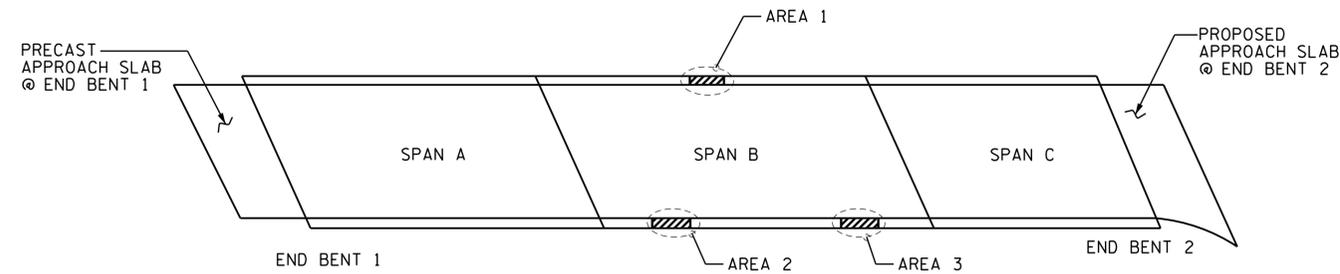
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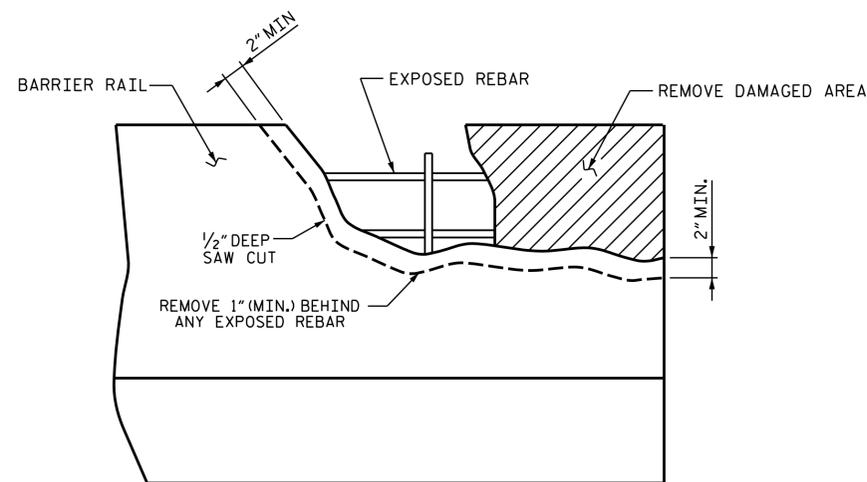
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SHEET NO.

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 TOTAL SHEETS  
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PLAN VIEW OF SHOTCRETE REPAIRS



ELEVATION

TYPICAL SHOTCRETE REPAIRS

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

THE CONTRACTOR SHALL REMOVE ANY DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY A MINIMUM OF 1" BEHIND REBAR AND A MINIMUM OF 2" CLEARANCE TO SAWCUT.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

BARRIER RAIL	QUANTITIES			
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
SHOTCRETE REPAIRS				
AREA 1	2.4	1.5		
AREA 2	3.4	2.8		
AREA 3	2.6	2.2		

PROJECT NO. W03291  
POLK COUNTY  
 BRIDGE NO. 740047

SHEET 9 OF 10



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #47 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN SR 1142 AND SR 1138

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NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD-DOWN PLATE AND 4 - 3/8" Ø BOLTS WITH NUTS AND WASHERS, RUBRAIL, AND ADHESIVELY ANCHORED BOLTS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 3/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

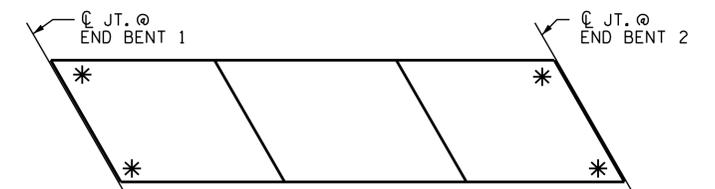
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR GUARDRAIL ANCHOR UNITS TYPE B-77 (ROADWAY PAY ITEM & DETAIL).

THE 1 1/4" Ø HOLES SHALL BE DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

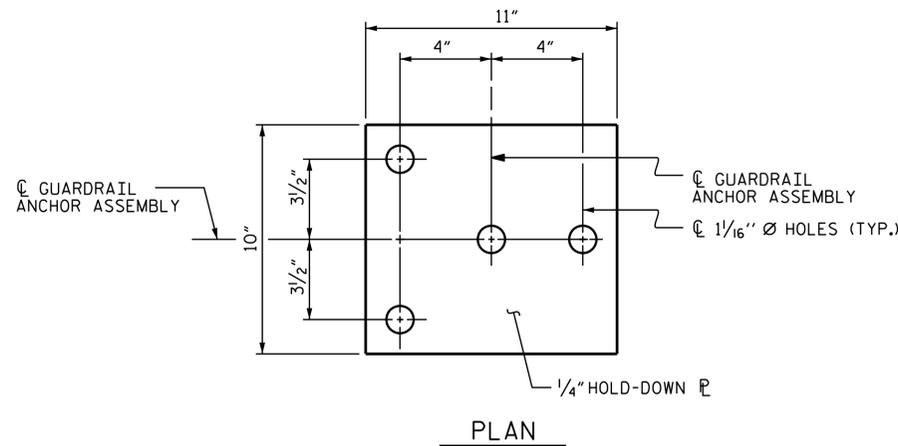
THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4" Ø X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS. SEE ROADWAY PLANS FOR DETAILS AND LOCATION OF THE RUBRAIL.

AFTER REMOVING EXISTING GUARDRAIL, EXISTING ANCHORAGE HOLES SHALL BE FILLED WITH GROUT.

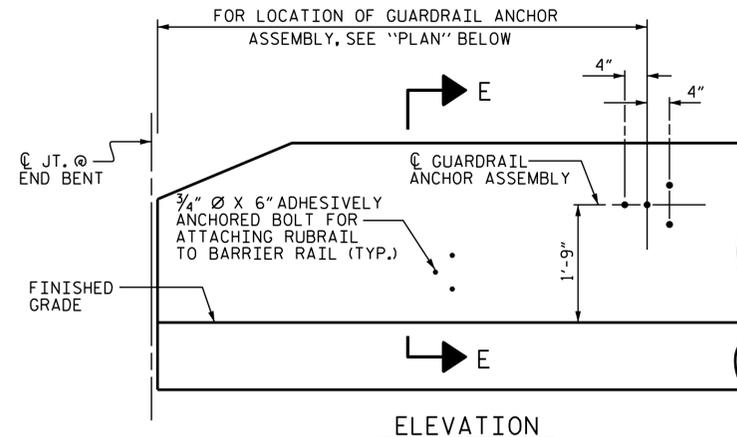


SKETCH SHOWING POINTS OF ATTACHMENTS

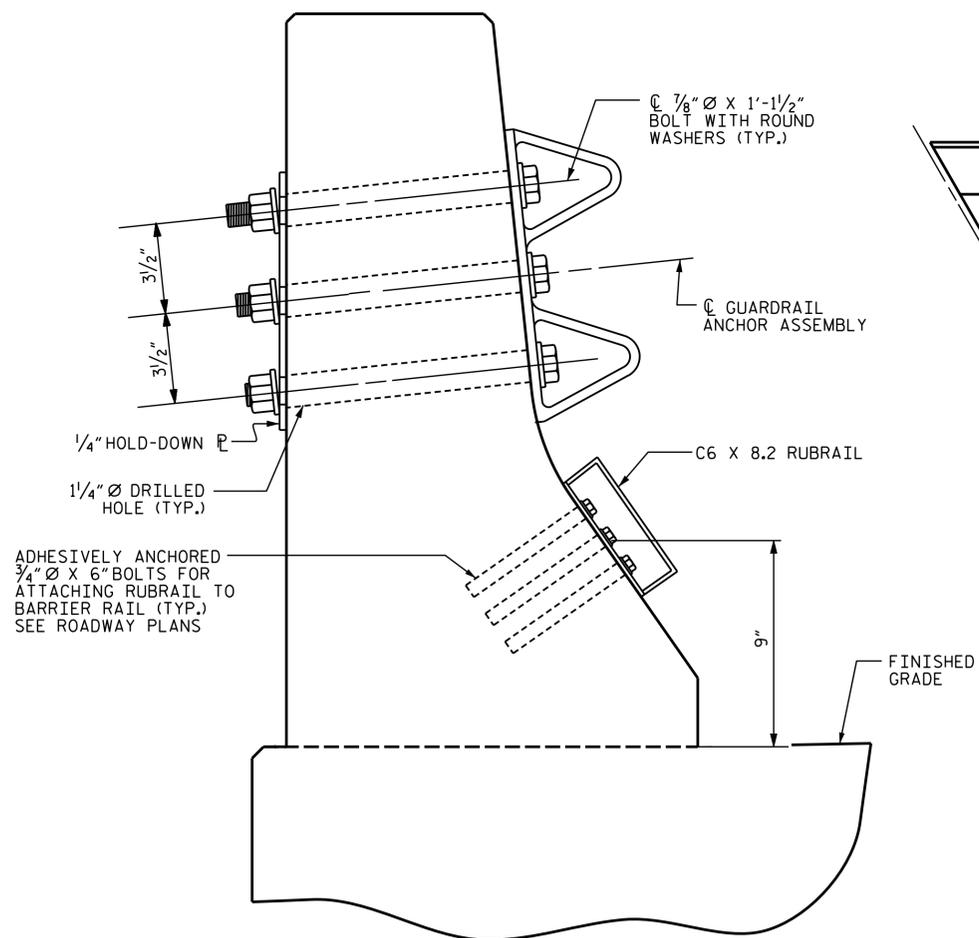
\* DENOTES GUARDRAIL ANCHOR ASSEMBLY



PLAN

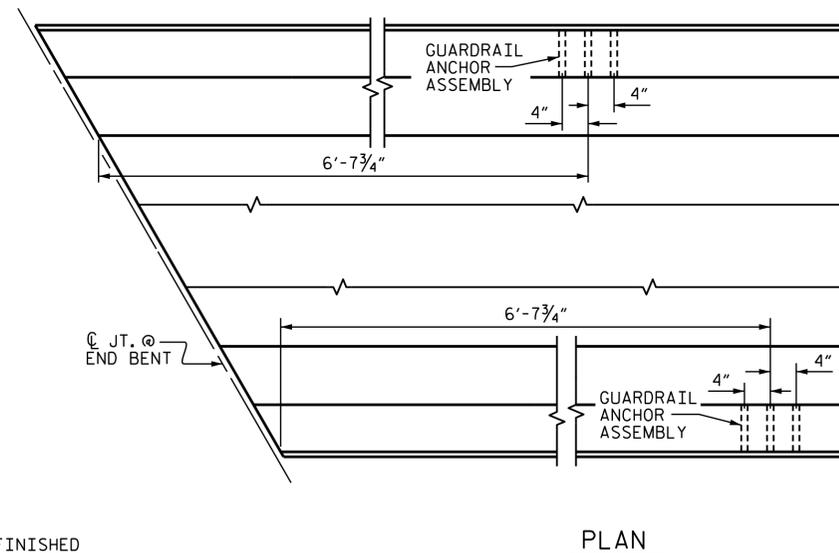


ELEVATION



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740047

SHEET 10 OF 10



2/4/2026

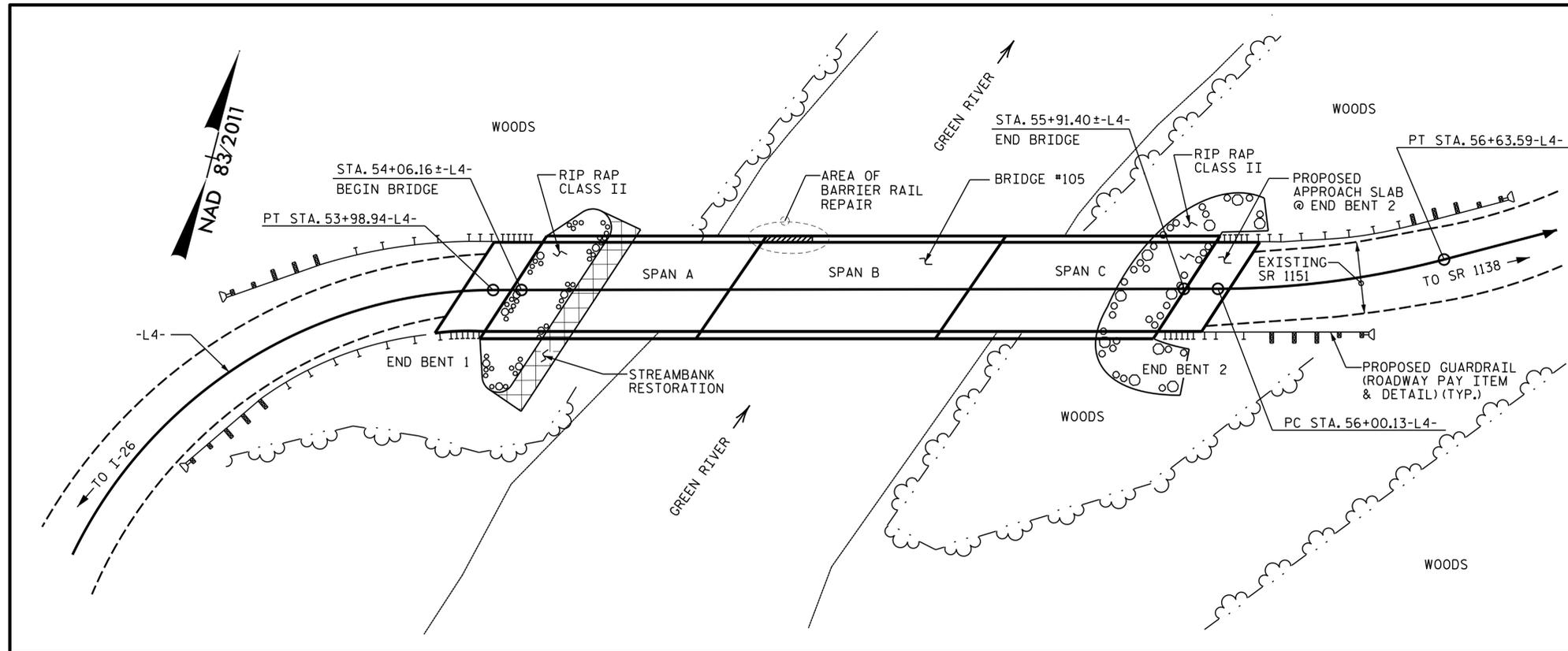
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DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE #47 ON SR 1151  
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2			4					TOTAL SHEETS 10		

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LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

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.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- UNLESS OTHERWISE NOTED, ALL WORK SHOWN SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, JANUARY 2024.
- FOR OTHER DESIGN DATA, SEE STANDARD NOTES SHEET.
- FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLANS.
- 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.
- FOR PRECAST APPROACH SLABS, SEE PRECAST APPROACH SLAB SPECIAL PROVISION.
- FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR STREAMBANK RESTORATION, SEE SPECIAL PROVISIONS.
- FOR FLOWABLE FILL (STRUCTURES), SEE SPECIAL PROVISIONS.

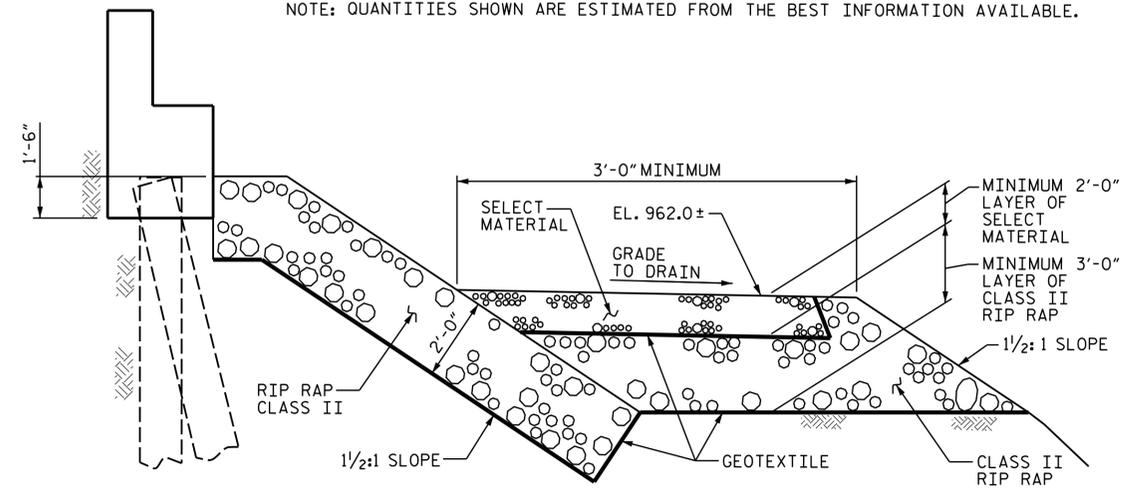
BRIDGE COORIDINATES

LATITUDE	LONGITUDE
35°-18'-20.6"	82°-16'-30.8"

TOTAL BILL OF MATERIAL

ITEM	FLOWABLE FILL (STRUCTURES)	FOUNDATION EXCAVATION AT END BENT 2	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	REINFORCING STEEL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	SHOTCRETE REPAIRS	FOAM JOINT SEALS FOR PRESERVATION	PARTIAL REMOVAL OF EXISTING STRUCTURE	PRECAST APPROACH SLABS	STREAMBANK RESTORATION	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION
	CU. YDS.	LUMP SUM	SQ. FT.	CU. YDS.	LBS.	TONS	SQ. YDS.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	LUMP SUM	CU. FT.	SQ. FT.
TOTALS	10	LUMP SUM	335	40.0	1786	440	500	2.5	29.8	LUMP SUM	LUMP SUM	LUMP SUM	7.2	14.4

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



CLASS II RIP RAP & STREAMBANK RESTORATION DETAIL @ END BENT 1

CLASS II RIP RAP SHALL BE PLACED TO A LEVEL OF APPROXIMATELY 1'-6" ABOVE THE BOTTOM OF END BENT CAP AS DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER THE PRICE BID FOR RIP RAP CLASS II (2'-0" THICK). CLASS II RIP RAP, SELECT MATERIAL AND GEOTEXTILE USED AS STREAMBANK RESTORATION SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR STREAMBANK RESTORATION.

SCOPE OF WORK

- PLACE CLASS A CONCRETE ENCASUREMENT AT END BENT 2.
- REPAIR BARRIER RAIL.
- INSTALL PRECAST APPROACH SLABS AT END BENT 2.
- INSTALL NEW FOAM JOINT SEAL AT END BENT 2.
- PLACE RIP RAP & STREAMBANK RESTORATION.

PROJECT NO. W03291  
POLK COUNTY  
 BRIDGE NO. 740105  
 SHEET 1 OF 7 AREA 4 SITE 415

DRAWN BY : NMW DATE : 3/25  
 CHECKED BY : MGC DATE : 7/25

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

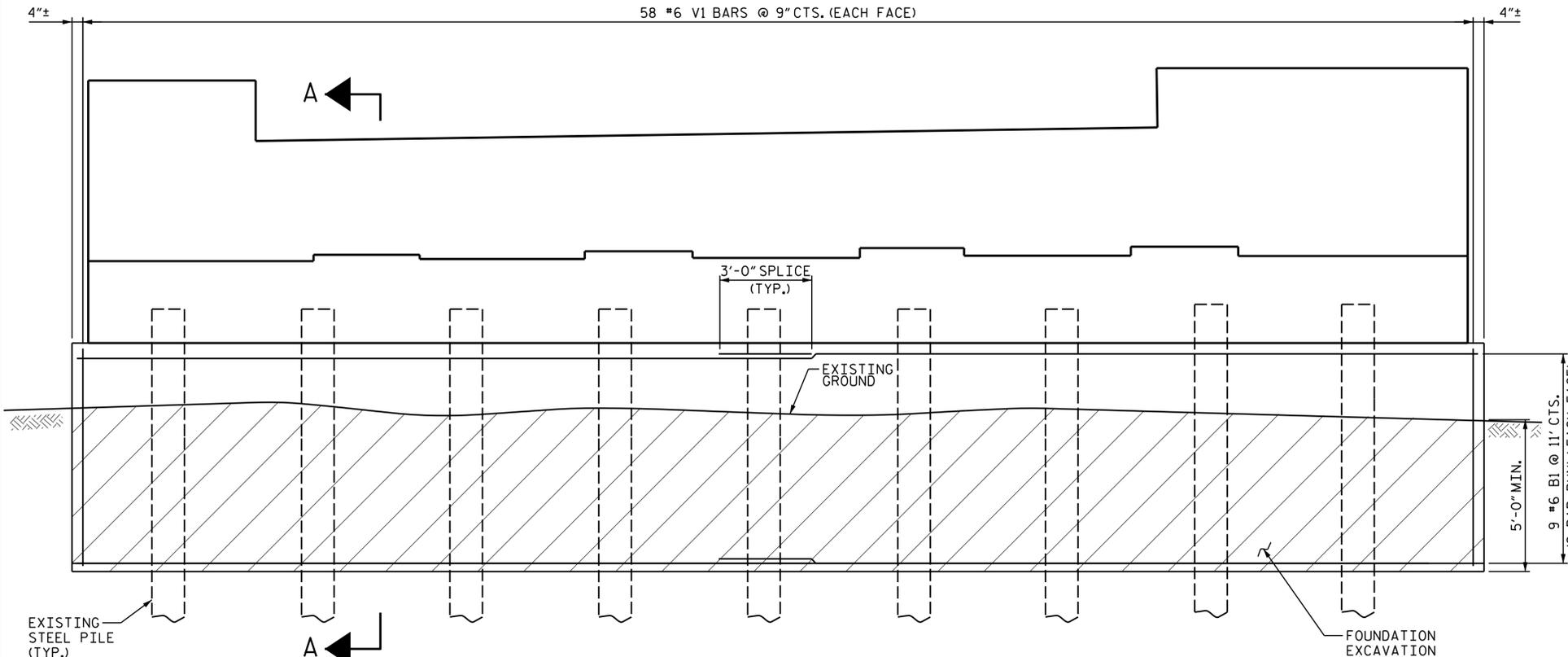
BRIDGE #105 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN I-26 AND SR 1138

3/17/2026

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

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-1
2			4			TOTAL SHEETS 7



**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 CLASS A CONCRETE IS INDICATED. SHOULD ADDITIONAL EXCAVATION BE REQUIRED, DETERMINATION OF PAYMENT WILL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR FOUNDATION EXCAVATION.

MECHANICALLY CLEAN SOIL, RUST, SCALE AND EXISTING PAINT ON EXISTING PILES.

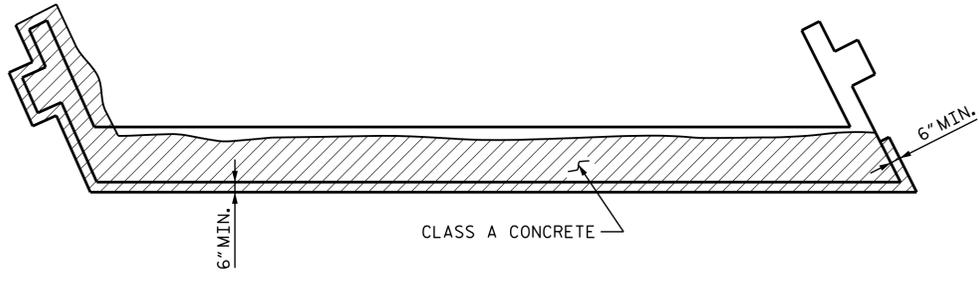
AFTER PILE HAS BEEN CLEANED, THE PILE SHALL BE INSPECTED FOR EXCESSIVE SECTION LOSS. AREAS THAT EXHIBIT AN EXCESS OF 35% SECTION LOSS SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE IF AREA OF SECTION LOSS SHOULD BE REPAIRED.

AS DETERMINED BY THE ENGINEER, AREAS WITH EXCESSIVE SECTION LOSS SHALL BE REPAIRED BY WELDED PLATING AS DIRECTED BY THE ENGINEER. PLATE THICKNESS SHALL BE APPROXIMATELY HALF THE ORIGINAL THICKNESS OF THE COMPONENT BEING REPAIRED, BUT A MINIMUM OF 1/4". CONTRACTOR AND ENGINEER TO DETERMINE ACTUAL DIMENSIONS OF AREA TO BE REPAIRED. PAYMENT FOR THE SECTION REPAIR SHALL BE BASED ON THAT AMOUNT OF REPAIR ACTUALLY PERFORMED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

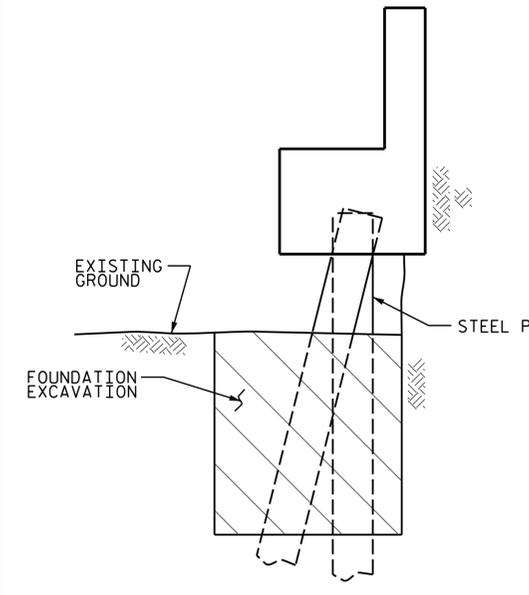
PAINT PILES WITH BLACK MAX OR EQUIVALENT COATING APPROVED BY THE ENGINEER.

AFTER ALL PILES HAVE BEEN CLEANED AND PAINTED, CLEAN EXISTING SURFACES, AND PLACE REINFORCEMENT, CONCRETE, AND OTHER ITEMS NECESSARY FOR ENCASEMENT AS DETAILED.

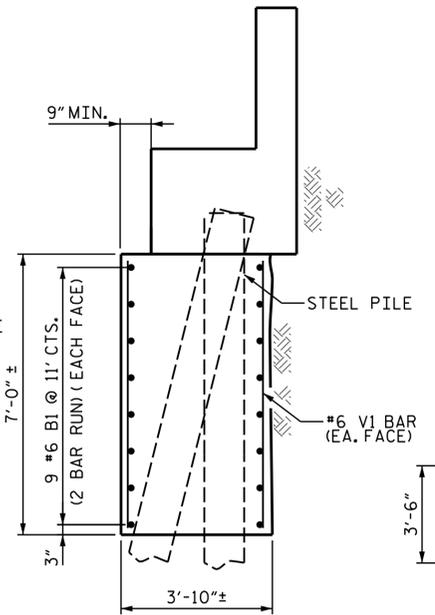
BILL OF MATERIAL END BENT 2 ENCASEMENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	18	#6	STR	23'-1"	624
V1	116	#6	STR	6'-8"	1162
REINFORCING STEEL				LBS.	1786
CLASS A CONCRETE				CU. YDS.	40.0



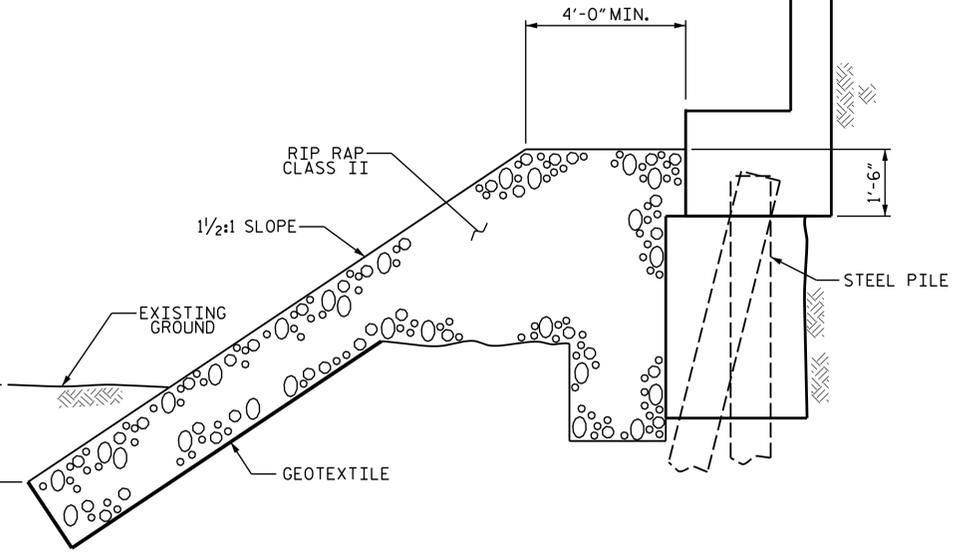
**END BENT 2 PLAN VIEW**  
SHOWING LIMITS OF ENCASEMENT



**SECTION A-A**  
SHOWING LIMITS OF FOUNDATION EXCAVATION



**SECTION A-A**  
SHOWING LIMITS OF ENCASEMENT



**RIP RAP PLACEMENT @ 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 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 THE LEFT WING AND THE BANK SLOPES ADJACENT TO END BENT 2 AS DIRECTED BY THE ENGINEER.

PROJECT NO. W03291  
POLK COUNTY  
BRIDGE NO. 740105  
SHEET 2 OF 7

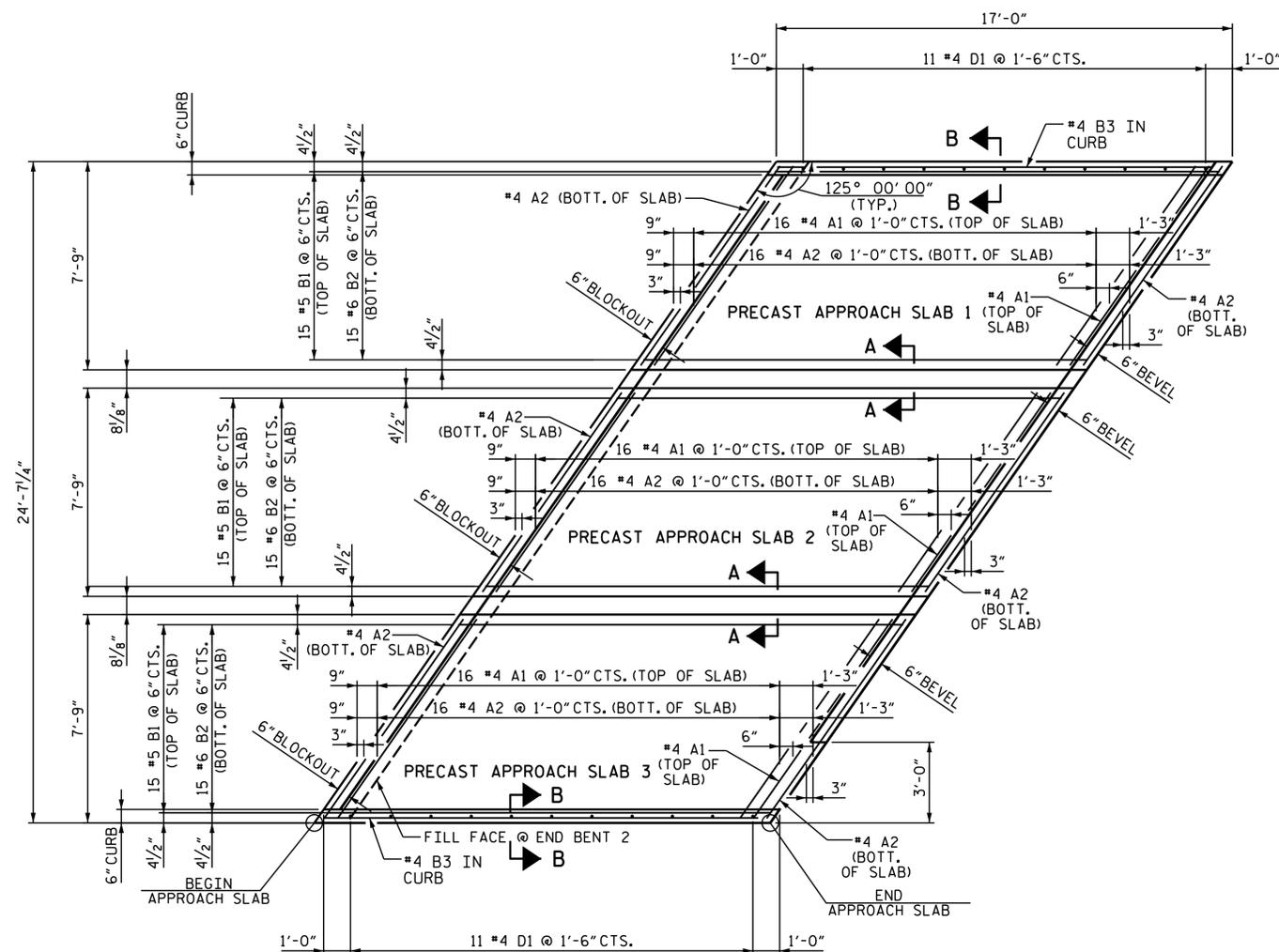


STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
  
BRIDGE #105 ON SR 1151  
OVER GREEN RIVER  
BETWEEN I-26 AND SR 1138

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

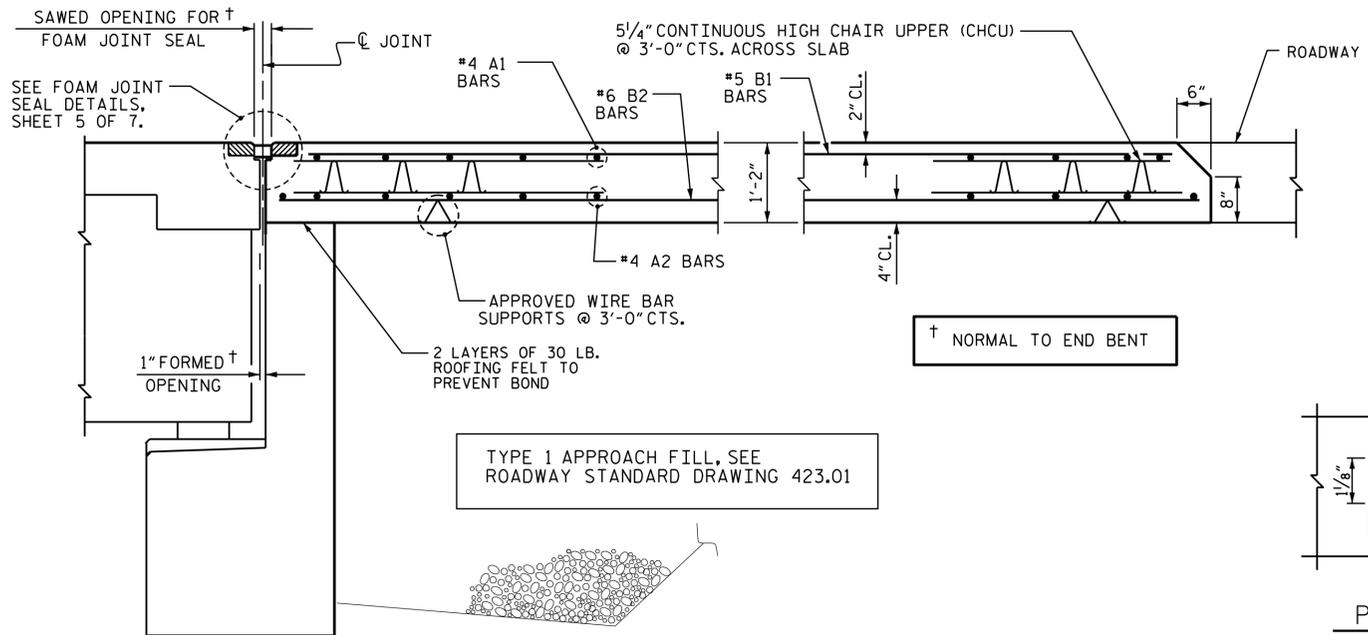
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SHEET NO. S2-2
TOTAL SHEETS 7

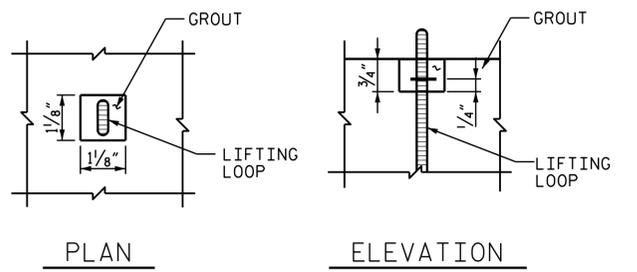


**PLAN AT END BENT 2**

FOR U1 BARS & LOCATION OF 2" Ø GROUT PORT HOLES, SEE SHEET 4 OF 7



**SECTION THRU PRECAST SLAB**



**GROUTED RECESS FOR LIFTING LOOPS**

LIFTING LOOPS TO BE CUT 1/4" ABOVE BOTTOM OF RECESS.

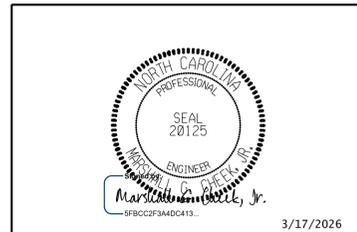
**NOTES**

- CLASS AA CONCRETE SHALL BE USED IN THE PRECAST APPROACH SLABS.
- A MINIMUM OF FOUR LIFTING LOOPS SHALL BE REQUIRED IN EACH PRECAST APPROACH SLAB IN ACCORDANCE WITH ARTICLE 1077-10 OF THE STANDARD SPECIFICATIONS. THE LIFTING LOOPS IN THE PRECAST APPROACH SLABS SHALL BE BURNED OFF AND THE RECESSES FILLED WITH GROUT PRIOR TO PLACEMENT OF TRAFFIC ON THE APPROACH SLAB (SEE DETAIL FOR "GROUTED RECESS FOR LIFTING LOOPS"). GROUT SHALL BE NON-METALLIC AND NON-SHRINK IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PROPOSED DEVICES FOR LIFTING LOOPS AND THEIR LOCATION ON THE PRECAST APPROACH SLABS SHALL BE DETAILED IN THE SHOP DRAWINGS.
- TWO INCH DIAMETER GROUT PIPES SHALL BE PROVIDED FOR PLACEMENT OF FLOWABLE FILL (STRUCTURES). THE TWO INCH DIAMETER GROUT PIPES SHALL BE CUT FROM STANDARD 40 PVC PIPE.
- FOR PRECAST APPROACH SLABS AND LONGITUDINAL CLOSURE POURS, SEE PRECAST APPROACH SLABS SPECIAL PROVISION.
- FOR SECTION A-A AND LONGITUDINAL CLOSURE POUR REINFORCEMENT, SEE SHEET 4 OF 7.
- THE CONTRACTOR SHALL REMOVE THE EXISTING APPROACH SLAB REPAIRS AS REQUIRED FOR CONSTRUCTION OF THE APPROACH SLAB AS DETAILED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- ALL WORK, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR THE REMOVAL AND DISPOSAL OF THE APPROACH SLAB REPAIRS AND BACKFILL MATERIALS AS DESIGNATED ON THE PLANS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "PARTIAL REMOVAL OF EXISTING STRUCTURE".
- CARE SHALL BE TAKEN DURING THE REMOVAL OF THE APPROACH SLAB REPAIRS AND BACKFILL MATERIALS. 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 APPROVAL OF THE ENGINEER.
- THE PRECAST APPROACH SLABS SHALL BE GROOVED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE COST OF THE REINFORCING STEEL, EPOXY COATED REINFORCING STEEL, AND CLASS AA CONCRETE IN THE PRECAST APPROACH SLABS SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR PRECAST BRIDGE APPROACH SLABS.
- THE CONCRETE CURBS SHALL NOT BE POURED UNTIL PRECAST APPROACH SLAB UNITS ARE IN PLACE. FOLLOWING PLACEMENT OF THE PRECAST APPROACH SLAB UNITS AND LONGITUDINAL CLOSURE POURS, THE CONTRACTOR SHALL PLACE FLOWABLE FILL (STRUCTURES) THROUGH THE 2" Ø GROUT PORTS TO FILL ANY VOIDS BETWEEN THE APPROACH SLABS AND APPROACH FILL. FOR FLOWABLE FILL (STRUCTURES), SEE SPECIAL PROVISIONS.

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 CHECKED BY : MCC DATE : 6/25

PROJECT NO. W03291  
POLK COUNTY  
 BRIDGE NO. 740105

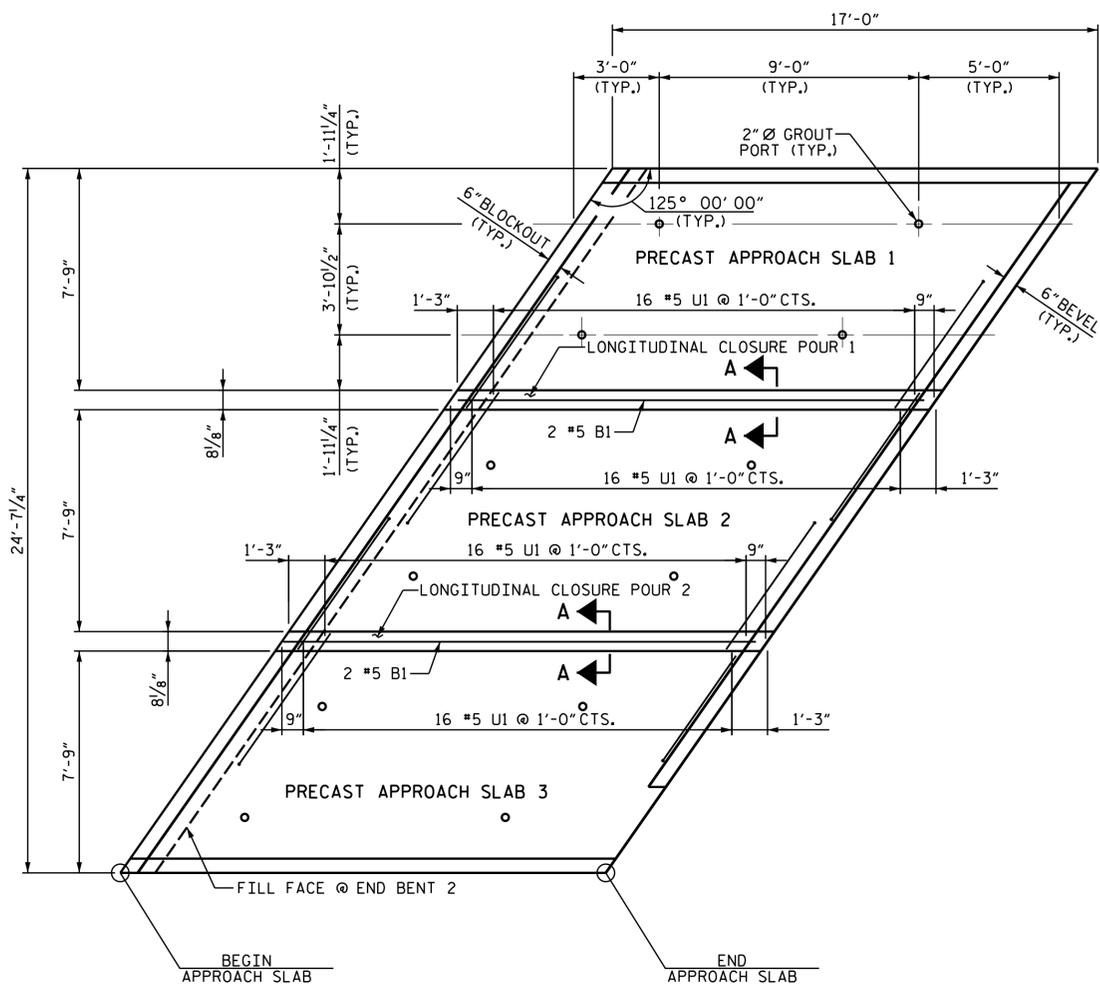
SHEET 3 OF 7



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 BRIDGE #105 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN I-26 AND SR 1138

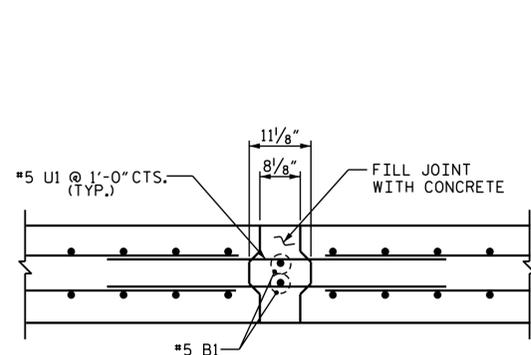
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 SHELBY, NC 28150  
 PH (704) 476-0003  
 CORP. LICENSE NO.: C-0275

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2			4			7	



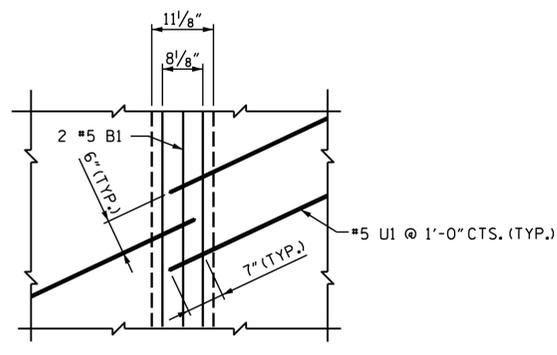
**PLAN AT END BENT 2**

SHOWING PLACEMENT OF #5 U1 BARS AND 2" Ø GROUT PORTS



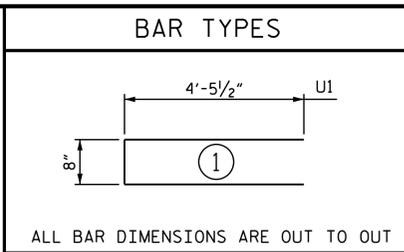
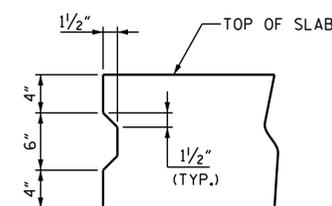
SECTION A-A

**LONGITUDINAL CLOSURE POUR**



PLAN

**LONGITUDINAL JOINT DETAIL**



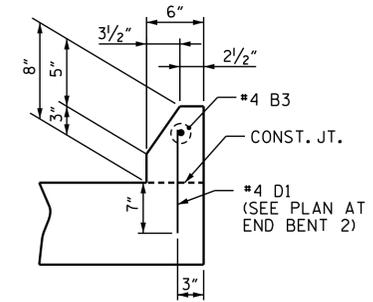
**FOR ONE LONGITUDINAL CLOSURE POUR (2 REQ'D) (LONGITUDINAL CLOSURE POUR 1 & 2)**

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	2	#5	STR	16'-0"	33
* EPOXY COATED REINFORCING STEEL					LBS. 33

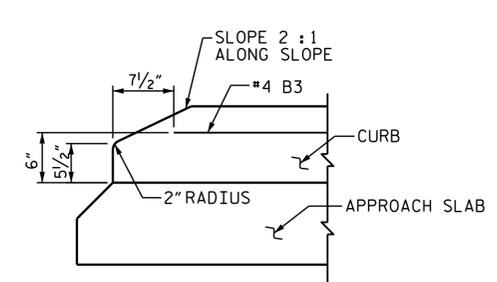
PRECAST APPROACH SLAB 1						PRECAST APPROACH SLAB 2						PRECAST APPROACH SLAB 3					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	17	#4	STR	9'-0"	102	* A1	17	#4	STR	9'-0"	102	* A1	17	#4	STR	9'-0"	102
A2	18	#4	STR	9'-0"	108	A2	18	#4	STR	9'-0"	108	A2	18	#4	STR	9'-0"	108
* B1	15	#5	STR	15'-4"	240	* B1	15	#5	STR	15'-4"	240	* B1	15	#5	STR	15'-4"	240
B2	15	#6	STR	16'-7"	374	B2	15	#6	STR	16'-7"	374	B2	15	#6	STR	16'-7"	374
* B3	1	#4	STR	16'-2"	11	* B3	1	#4	STR	16'-2"	11	* B3	1	#4	STR	16'-2"	11
* D1	11	#4	STR	1'-0"	7	* U1	32	#5	1	9'-7"	320	* D1	11	#4	STR	1'-0"	7
* U1	16	#5	1	9'-7"	160							* U1	16	#5	1	9'-7"	160
REINFORCING STEEL					LBS. 482	REINFORCING STEEL					LBS. 482	REINFORCING STEEL					LBS. 482
* EPOXY COATED REINFORCING STEEL					LBS. 520	* EPOXY COATED REINFORCING STEEL					LBS. 662	* EPOXY COATED REINFORCING STEEL					LBS. 520

**TOTAL BILL OF MATERIAL**

	CLASS AA CONCRETE (CU. YDS.)	LONGITUDINAL CLOSURE POUR (CU. YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
PRECAST APPROACH SLAB 1	5.6	--	482	520
LONGITUDINAL CLOSURE POUR 1	--	0.5	--	33
PRECAST APPROACH SLAB 2	5.6	--	482	662
LONGITUDINAL CLOSURE POUR 2	--	0.5	--	33
PRECAST APPROACH SLAB 3	5.6	--	482	520



SECTION B-B



DETAIL AT END OF CURB WITHOUT SPECIAL DRAINAGE

**CURB DETAILS**

PROJECT NO. W03291  
 POLK COUNTY  
 BRIDGE NO. 740105  
 SHEET 4 OF 7

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #105 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN I-26 AND SR 1138

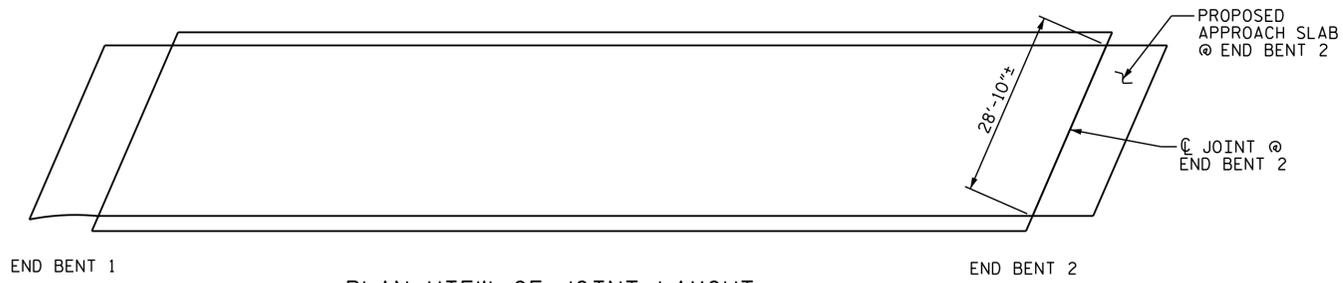
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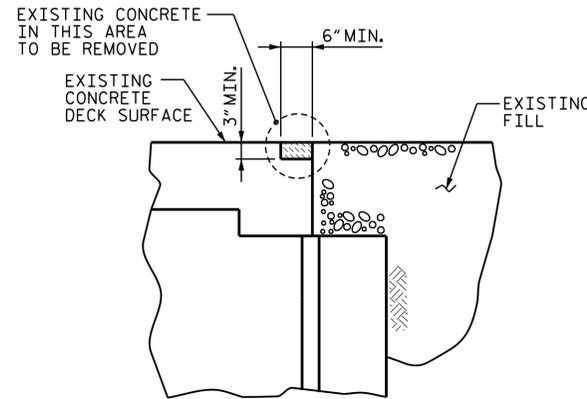


PLAN VIEW OF JOINT LAYOUT

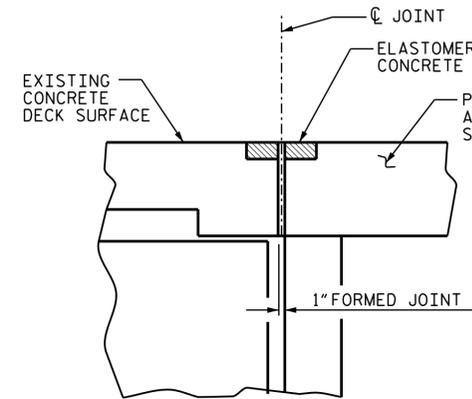
NOTES

- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, 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.
- FOR SAWING THE ELASTOMERIC CONCRETE BLOCKOUT IN THE EXISTING DECK AND APPROACH SLAB, SEE FOAM JOINT SEALS FOR PRESERVATION SPECIAL PROVISION.
- FOR REMOVAL OF CONCRETE IN THE EXISTING DECK, SEE BRIDGE JOINT DEMOLITION SPECIAL PROVISION.

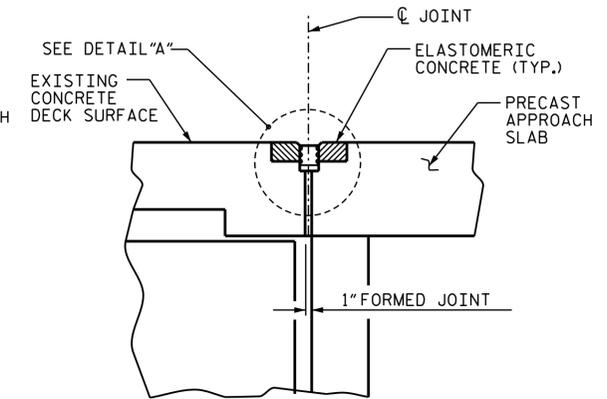
BILL OF MATERIAL			
LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION (CU. FT.)	TOTAL LENGTH OF FOAM JOINT (LIN. FT.)	BRIDGE JOINT DEMOLITION (SQ. FT.)
END BENT 2	7.2	29.8	14.4



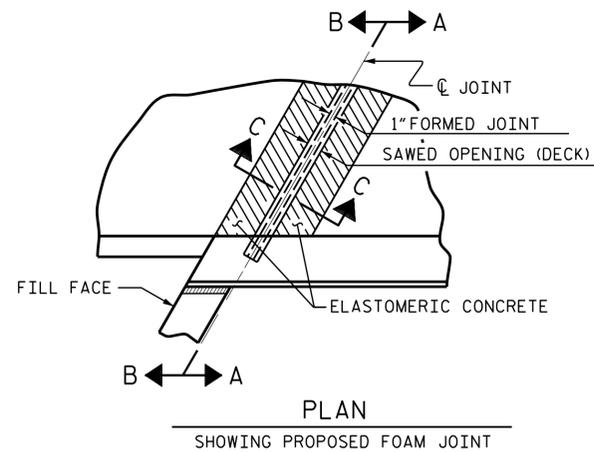
MINIMUM EXISTING JOINT DEMOLITION AT END BENT 2



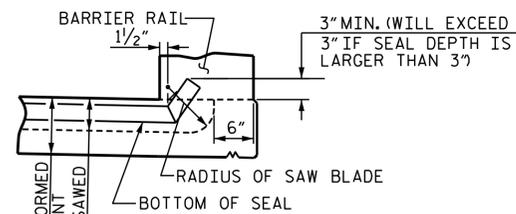
PROPOSED JOINT PRE-SAWED



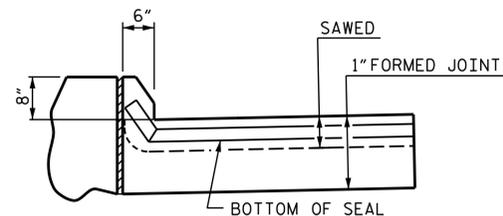
PROPOSED FOAM JOINT AT END BENT 2



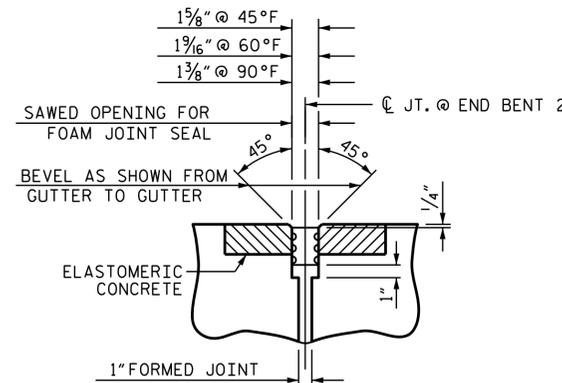
PLAN SHOWING PROPOSED FOAM JOINT



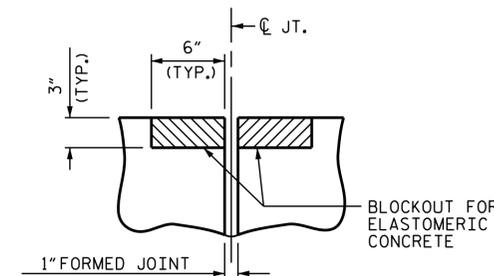
SECTION A-A



SECTION B-B



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



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

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740105

SHEET 5 OF 7

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

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

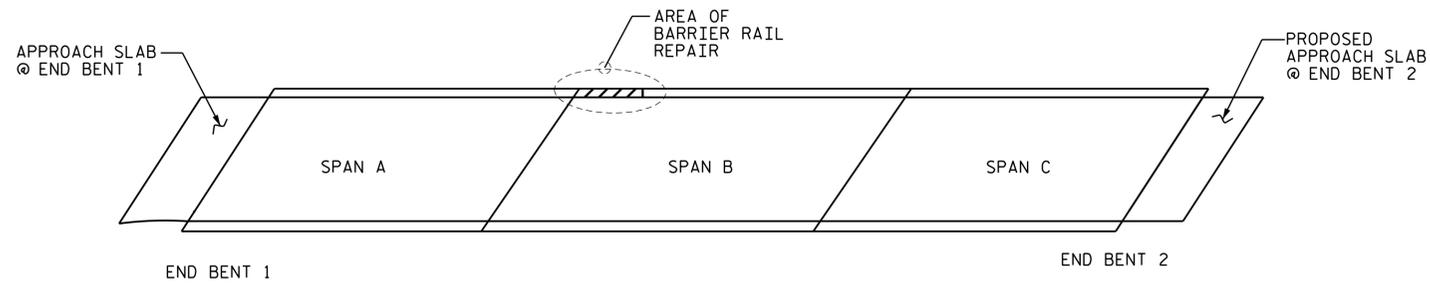
BRIDGE #105 ON SR 1151  
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2			4			



PLAN VIEW OF SHOTCRETE REPAIRS

NOTES

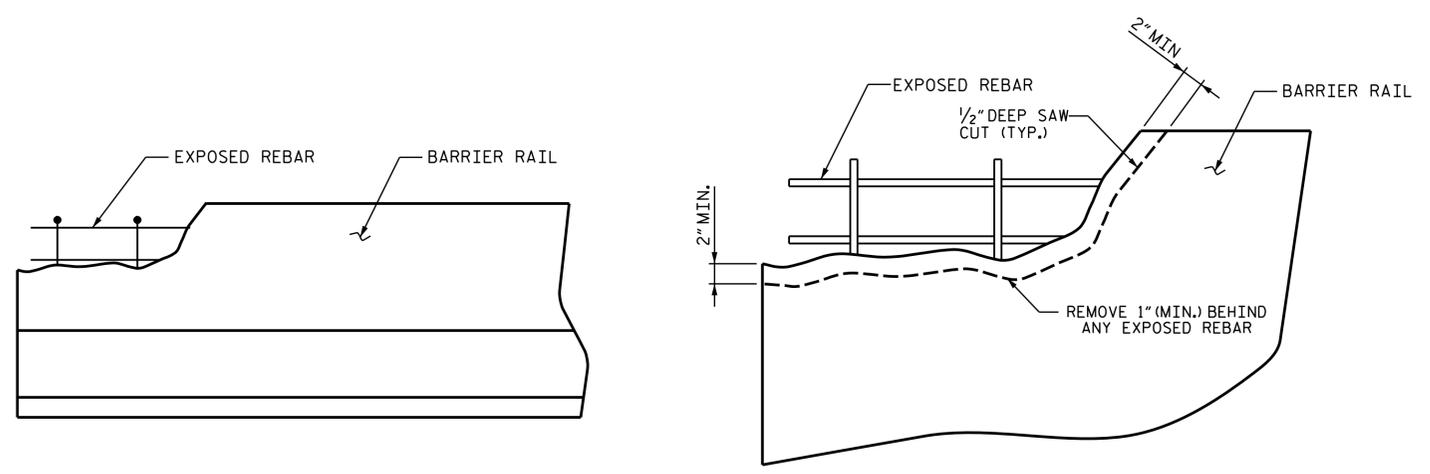
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

THE CONTRACTOR SHALL REMOVE ANY DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY MINIMUM OF 1" BEHIND REBAR AND A MINIMUM OF 2" CLEARANCE TO SAWCUT.

CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

BARRIER RAIL	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
	3.0	2.5		



ELEVATION

BARRIER RAIL REPAIR

BARRIER RAIL DETAILS

PROJECT NO. W03291  
POLK COUNTY  
 BRIDGE NO. 740105

SHEET 6 OF 7



2/4/2026

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE #105 ON SR 1151  
 OVER GREEN RIVER  
 BETWEEN I-26 AND SR 1138

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

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.  
 S2-6  
 TOTAL SHEETS  
 7

DRAWN BY : NMW DATE : 6/25  
 CHECKED BY : MGC DATE : 7/25

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD-DOWN PLATE AND 4 - 1/8" Ø BOLTS WITH NUTS AND WASHERS, RUBRAIL, AND ADHESIVELY ANCHORED BOLTS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

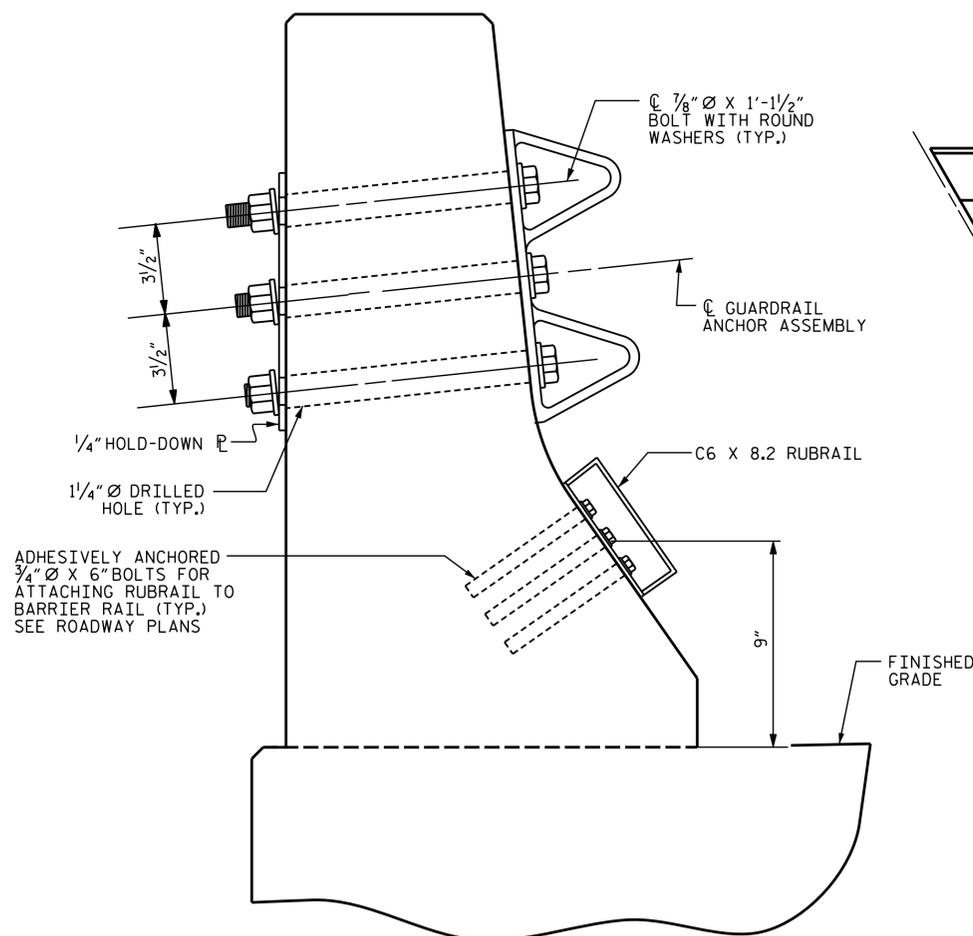
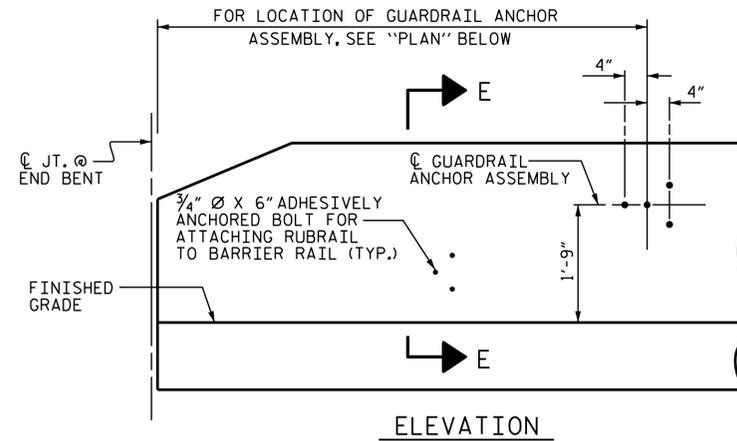
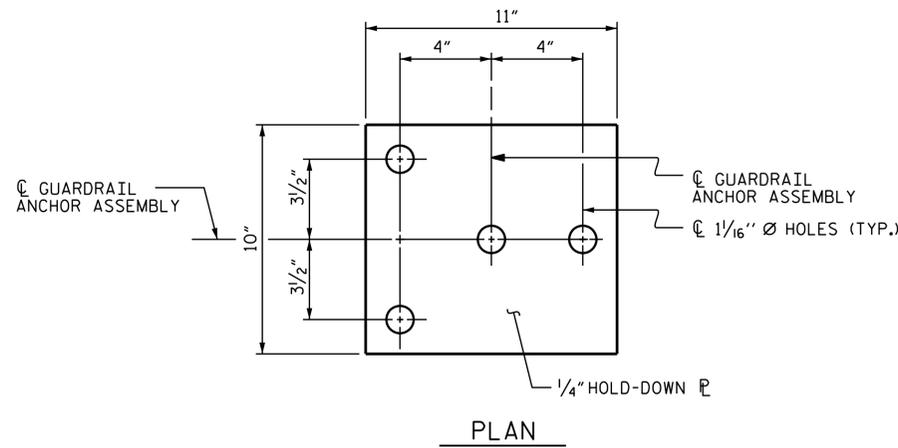
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR GUARDRAIL ANCHOR UNITS TYPE B-77 (ROADWAY PAY ITEM & DETAIL).

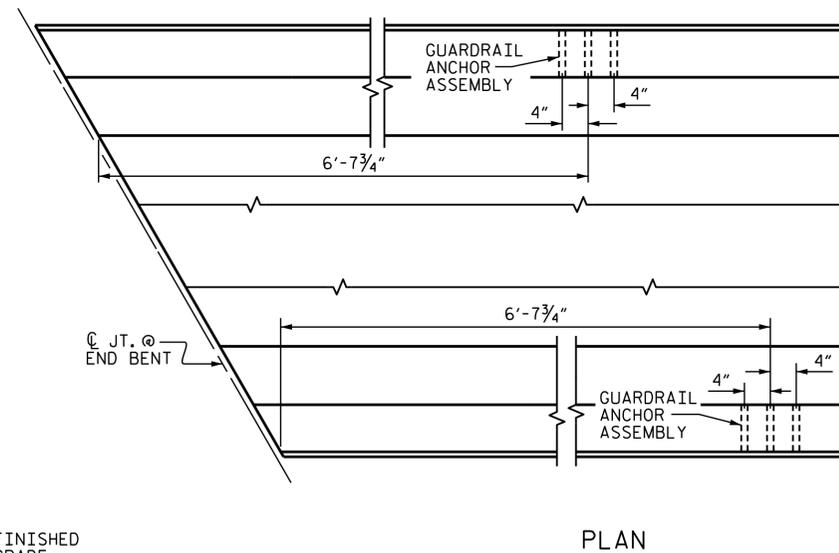
THE 1 1/4" Ø HOLES SHALL BE DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4" Ø X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS. SEE ROADWAY PLANS FOR DETAILS AND LOCATION OF THE RUBRAIL.

AFTER REMOVING EXISTING GUARDRAIL, EXISTING ANCHORAGE HOLES SHALL BE FILLED WITH GROUT.

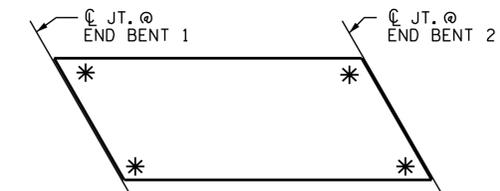


SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENTS

\* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. W03291

POLK COUNTY

BRIDGE NO. 740105

SHEET 7 OF 7



2/4/2026

STATE OF NORTH CAROLINA  
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BRIDGE #105 ON SR 1151  
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REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S2-7  
TOTAL SHEETS  
7

