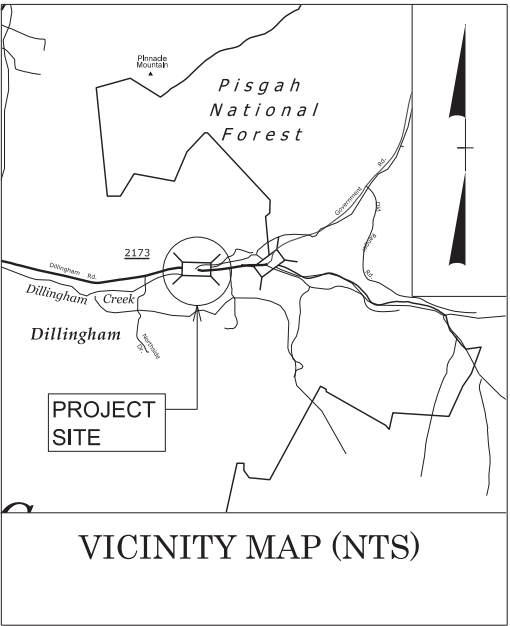


CONTRACT: DM00518 BRIDGE PROJECT: DF18313.2011360



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

LOCATION: *REPAIR BRIDGE #100148 OVER DILLINGHAM CREEK
ON SR 2173 (DILLINGHAM RD.)*

TYPE OF WORK: *STRUCTURE REPAIRS*



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18313.2011360		
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
DF18313.2011360	N/A	CONSTRUCTION	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DESIGN DATA

ADT 2022 = 400
ADT 2040 = 800

-
-
-
V = 40 MPH
* TTST = __ DUAL __
FUNC CLASS = RURAL LOCAL

PROJECT LENGTH

PROJECT LENGTHS FOR BRIDGE PROJECT DF18313.2011360:
TOTAL LENGTH PROJECT DF18313.2011360 = 0.016 MILES

NCDOT Contact: JOEL M. DAVIS
Prepared in the Office of:



2024 STANDARD SPECIFICATIONS

W. KEVIN FISCHER, PE
PROJECT ENGINEER

LETTING DATE:
SEPTEMBER 2, 2026

STRUCTURES ENGINEER

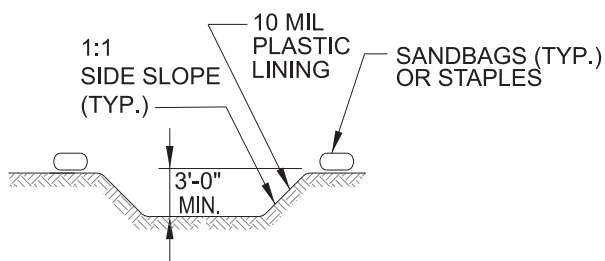
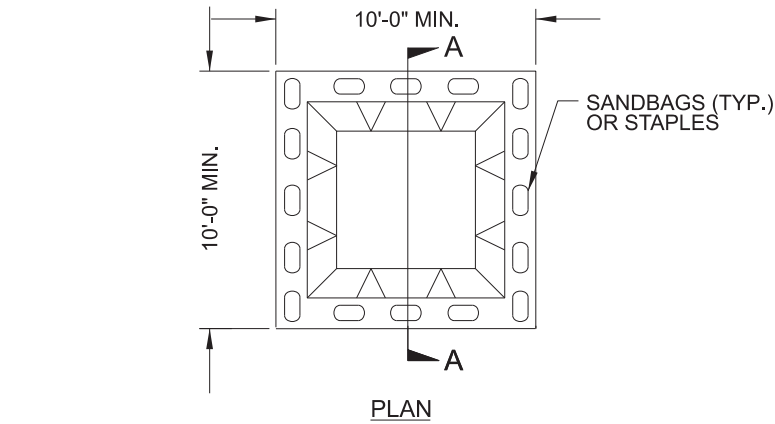


Signed by: Jeffrey C. Wilson
7/31/2026
SC/0740E050848B...

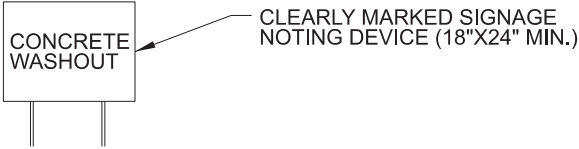
JEFFREY C. WILSON
SIGNATURE:



ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

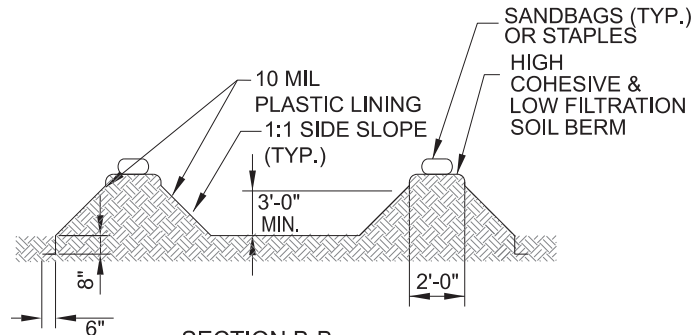
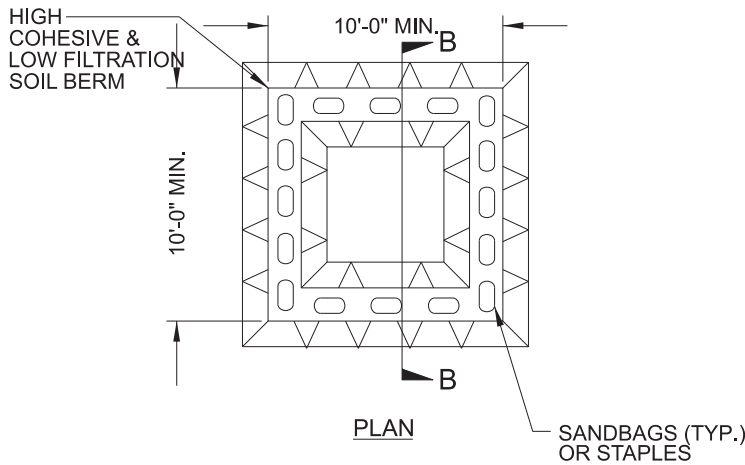


SECTION A-A



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



SECTION B-B



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PROJECT NO. **DF18313.2011360**
BUNCOMBE COUNTY
STATION: _____

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			EC-1
2			4			TOTAL SHEETS 6



VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

DRAWN BY :	ASHLEY HATHAWAY	DATE :	5/2026
CHECKED BY :	J.R. HOPSON	DATE :	5/2026
DESIGN ENGINEER OF RECORD:		DATE :	

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

PROJECT NO. **DF18313.2011360**
BUNCOMBE COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

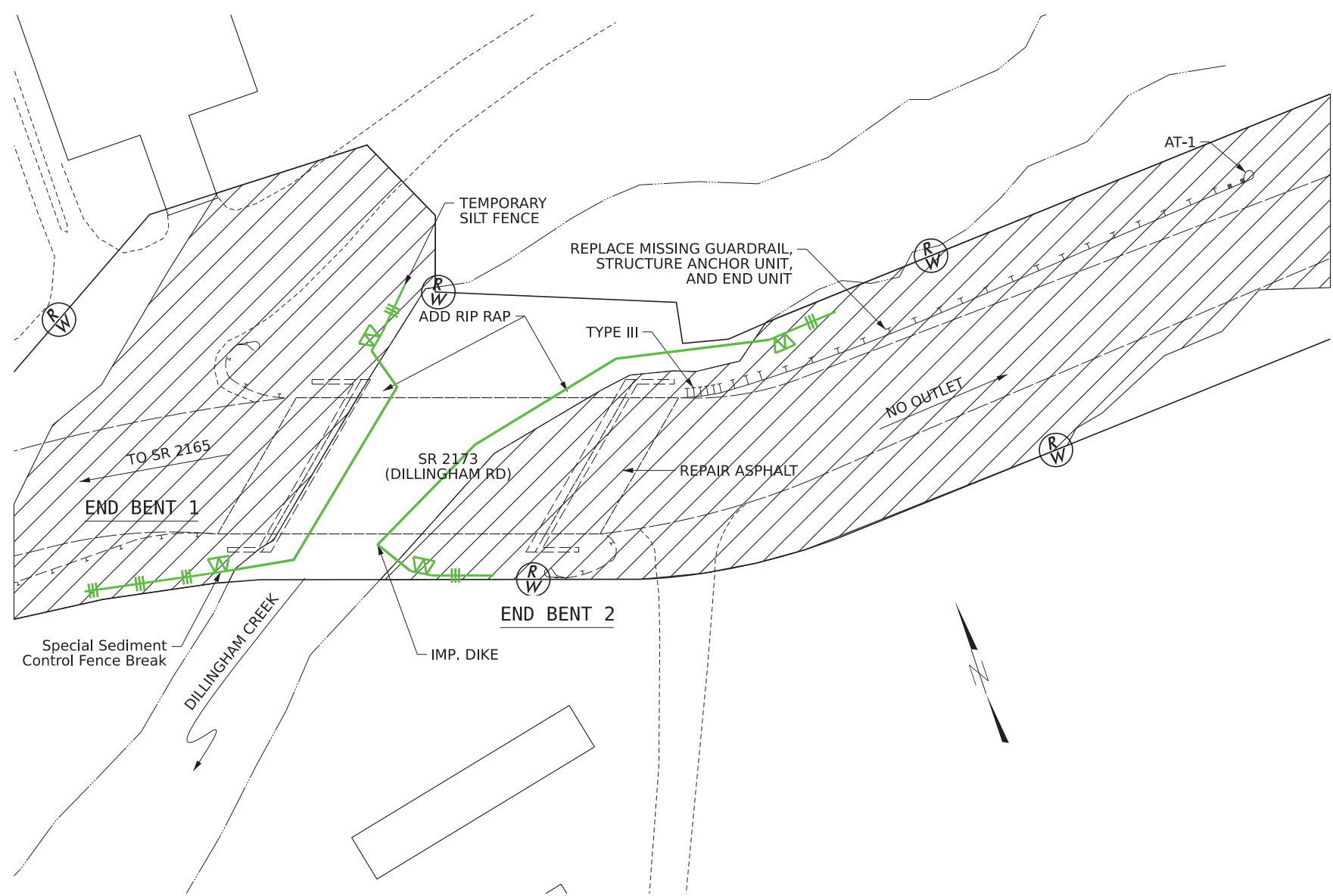
REPAIRS FOR BRIDGE
100148 ON SR 2173
(DILLINGHAM ROAD)
OVER DILLINGHAM CREEK

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	EC-2
1			3			TOTAL SHEETS
2			4			6



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DRAWN BY :	ASHLEY HATHAWAY	DATE :	5/2026
CHECKED BY :	J.R. HOPSON	DATE :	5/2026
DESIGN ENGINEER OF RECORD:			



EROSION CONTROL SKETCH



 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.

HIGH QUALITY WATER(S) EXIST
ON THIS PROJECT
*High Quality Water Zone(s) Exist
throughout entirety of project
Refer To E.C. Special Provisions
for Special Considerations.*

ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT
*Refer To E.C. Special Provisions
for Special Considerations.*

EC NOTES:

EROSION CONTROL SKETCH WAS NOT BASED ON ACTUAL SURVEY,
CONTRACTOR TO FIELD VERIFY PLACEMENT OF PROPOSED EROSION CONTROL
DEVICES AND QUANTITIES REQUIRED FOR THIS PROJECT.

NOTE

EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM 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.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET S-1

PAY ITEM NO.	SEC. NO.	DESCRIPTION	QTY	UNIT
3656000000-E	876	GEOTEXTILE FOR DRAINAGE	210	SY
6000000000-E	1605	TEMPORARY SILT FENCE	100	LF
6006000000-E	1610	EROSION CONTROL STONE, CLASS A	35	TON
6012000000-E	1610	SEDIMENT CONTROL STONE	55	TON
6015000000-E	1615	TEMPORARY MULCHING	0.5	ACR
6018000000-E	1620	SEED FOR TEMPORARY SEEDING	100	LB
6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	0.5	TON
6024000000-E	1622	TEMPORARY SLOPE DRAINS	200	LF
6029000000-E	SP	SAFETY FENCE	260	LF
6036000000-E	1629	COIR FIBER MAT	100	SY
6042000000-E	1632	1/4" HARDWARE CLOTH	75	LF
6070000000-N	1639	SPECIAL STILLING BASINS	2	EA
6084000000-E	1660	SEEDING AND MULCHING	0.5	ACR
6087000000-E	1660	MOWING	0.5	ACR
6090000000-E	1661	SEED FOR REPAIR SEEDING	50	LB
6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.25	TON
6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	50	LB
6108000000-E	1665	FERTILIZER TOPDRESSING	0.25	TON
6111000000-E	SP	IMPERVIOUS DIKE	179	LF
6114500000-N	1667	SPECIALIZED HAND MOWING	10	MHR
6117000000-N	1675	RESPONSE FOR EROSION CONTROL	13	EA
6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	1	EA
6132000000-N	SP	GENERIC EROSION CONTROL ITEM - PREFABRICATED CONCRETE WASHOUT	2	EA

PROJECT NO. **DF18313.2011360**
BUNCOMBE COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

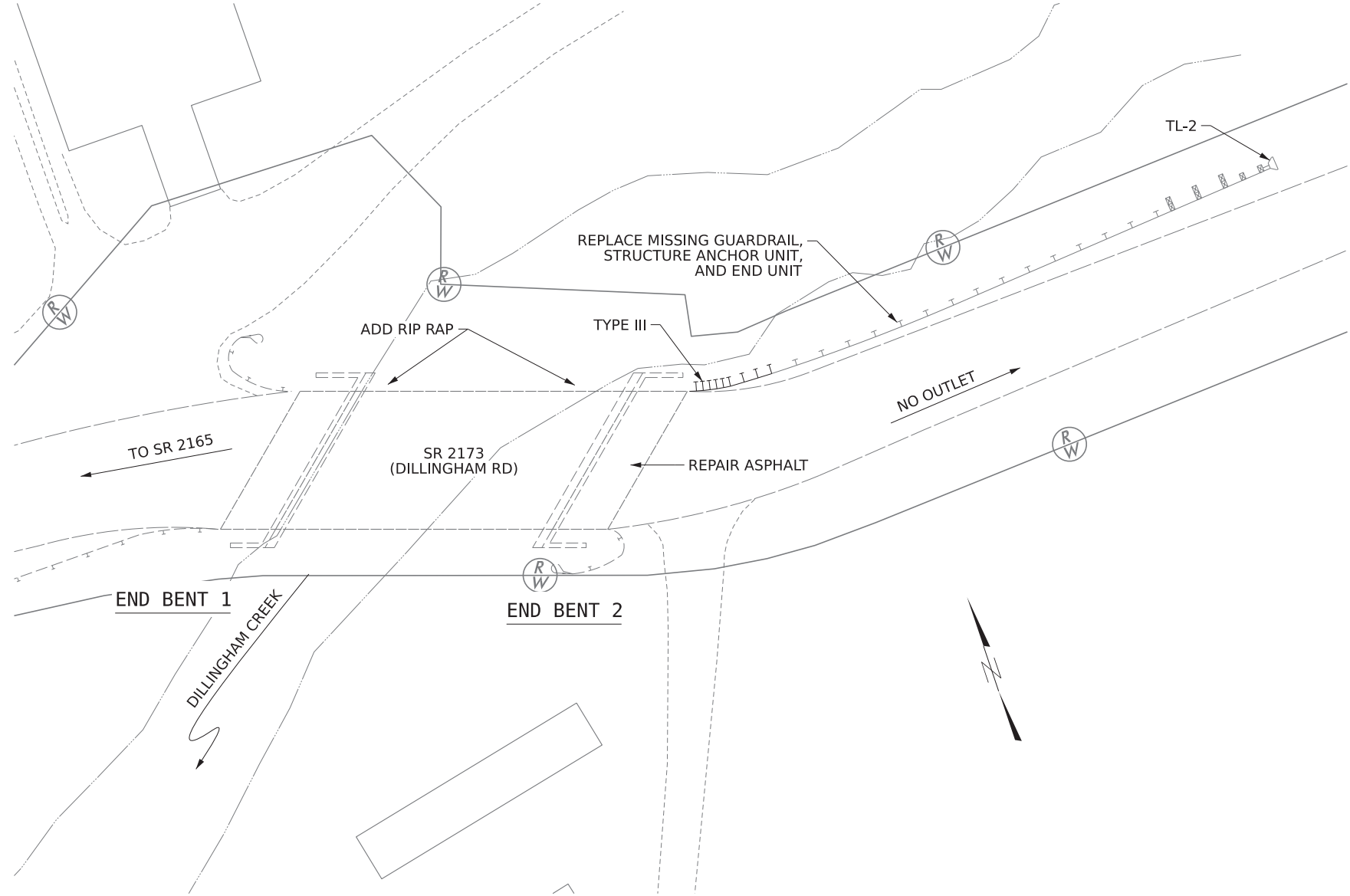
REPAIRS FOR BRIDGE
100148 ON SR 2173
(DILLINGHAM ROAD)
OVER DILLINGHAM CREEK

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			EC-3
2			4			TOTAL SHEETS 6

VHB

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

DRAWN BY :	ASHLEY HATHAWAY	DATE :	5/2026
CHECKED BY :	J.R. HOPSON	DATE :	5/2026
DESIGN ENGINEER OF RECORD:		DATE :	



LOCATION SKETCH



SCOPE OF WORK:

- REPLACE GUARDRAIL AT NORTHEAST CORNER OF BRIDGE
- INSTALL FILTER FABRIC AND CLASS II RIP RAP AT EACH END BENT AS SHOWN ON THE PLANS
- REPAIR PAVEMENT AT END BENT 2 APPROACH

NOTE

EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM 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.

TRAFFIC CONTROL NOTES:

- STEP 1: USING RSD 1101.02, SHEET 1 OF 19, CLOSE THE ADJACENT TRAVEL LANE AND MAINTAIN ONE-LANE, TWO-WAY TRAFFIC WITH FLAGGERS TO REPLACE THE GUARDRAIL.
- STEP 2: USING RSD 1101.02, SHEET 1 OF 19, CLOSE ONE TRAVEL LANE AND MAINTAIN ONE-LANE, TWO-WAY TRAFFIC WITH FLAGGERS TO BEGIN THE ASPHALT PAVEMENT REPAIRS. FLIP THE CLOSURE TO COMPLETE THE REMAINING ASPHALT PAVEMENT REPAIRS.

Line Item	Sec No.	Description	Quantity	Unit
0000100000-N	800	MOBILIZATION	1	LS
1297000000-E	607	MILLING ASPHALT PAVEMENT, 1.5"	30	SY
1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	2	TON
2275000000-E	SP	FLOWABLE FILL	3	CY
3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	100	LF
3215000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE III	1	EA
3288000000-N	862	GUARDRAIL END UNITS, TYPE TL-2	1	EA
4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	96	SF
4430000000-N	1130	DRUMS	50	EA
4455000000-N	1150	FLAGGER	10	DAY
8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	81	TON
8622000000-E	876	GEOTEXTILE FOR DRAINAGE	90	SY

PROJECT NO. **DF18313.2011360**

BUNCOMBE COUNTY

STATION: _____



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CHECKED BY : J. C. WILSON	DATE : 5/2026
DESIGN ENGINEER OF RECORD: J. C. WILSON	DATE : 5/2026

7/31/2026
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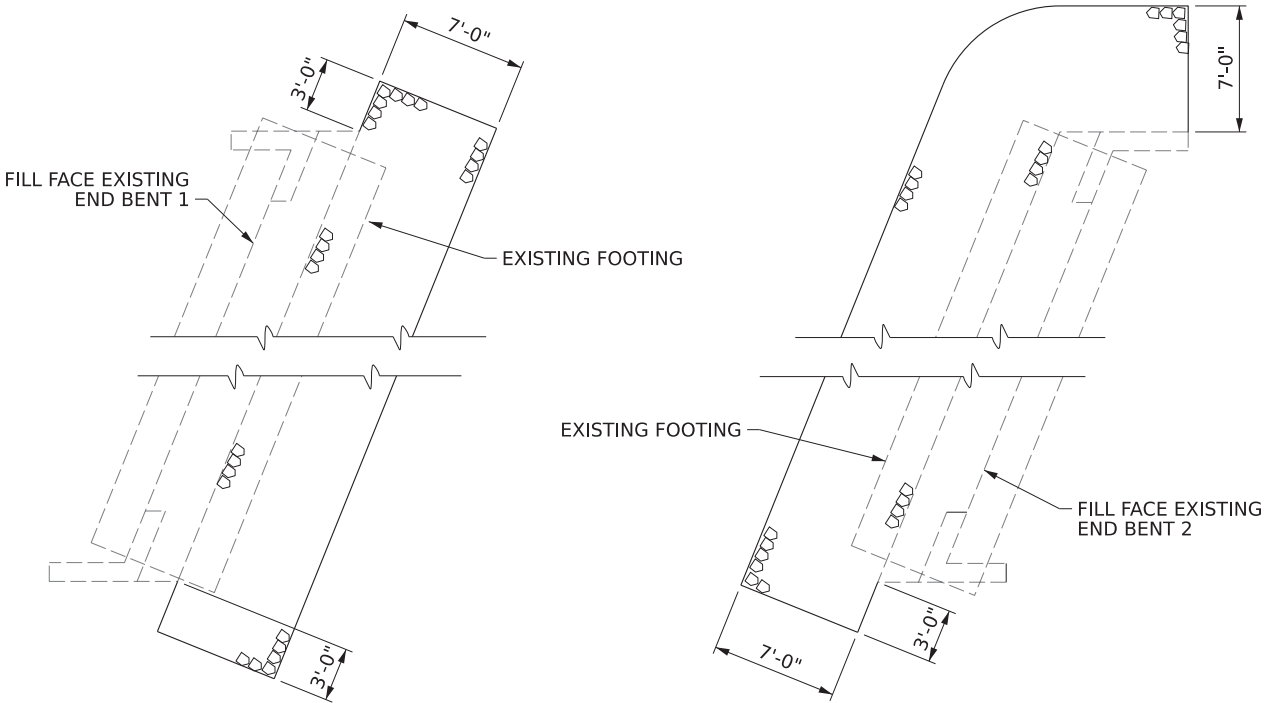


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SIGNATURES COMPLETED

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RALEIGH

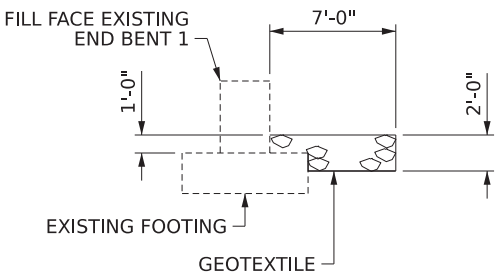
**REPAIRS FOR BRIDGE
100148 ON SR 2173
(DILLINGHAM ROAD)
OVER DILLINGHAM CREEK**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			6



END BENT 1

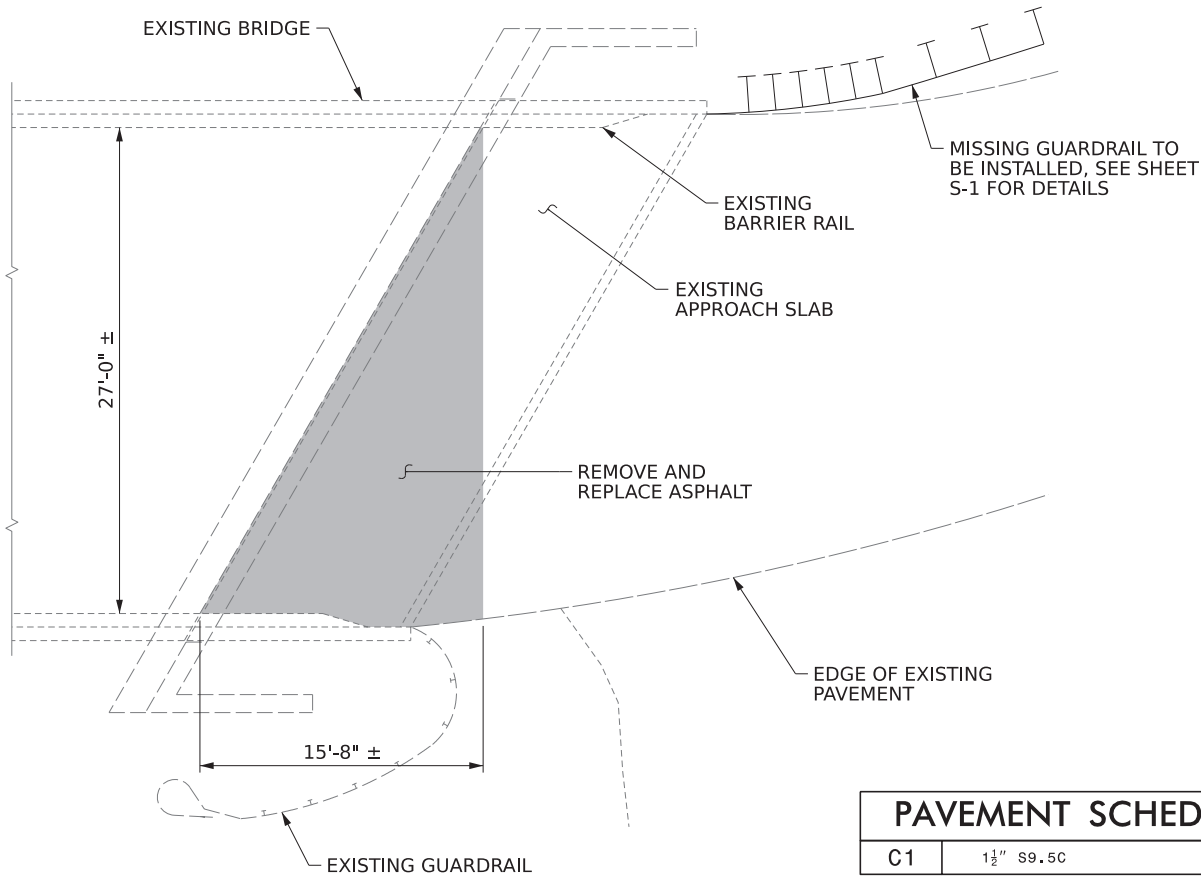
END BENT 2



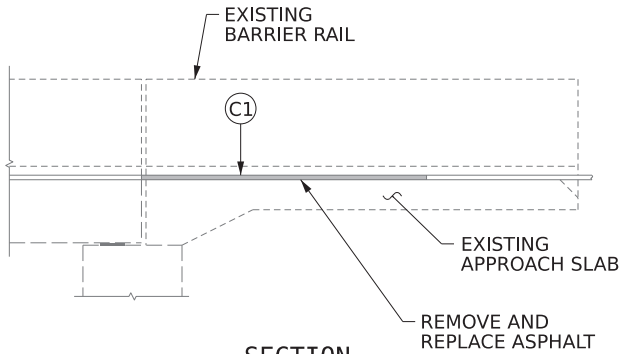
SECTION
(END BENT 1 SHOWN,
END BENT 2 SIMILAR)

ESTIMATED QUANTITIES		
	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	36	40
END BENT 2	45	50

RIP RAP DETAILS



PLAN



SECTION

NOTES
ONCE ASPHALT IS REMOVED FROM THE END BENT 2 APPROACH AS INDICATED IN THE ASPHALT REPAIR DETAILS, CONTRACTOR TO ASSESS THE APPROACH SLAB FOR POSSIBLE SETTLEMENT OF APPROACH SLAB OR VOIDS UNDER APPROACH SLAB. IF VOIDS ARE SUSPECTED CONTACT NCDOT AND ENGINEER IMMEDIATELY. A PAY ITEM AND QUANTITY FOR FLOWABLE FILL IS PROVIDED IN THESE PLANS TO INJECT POSSIBLE VOIDS PRIOR TO REPLACING THE ASPHALT.

PROJECT NO. **DF18313.2011360**

BUNCOMBE COUNTY

STATION: _____

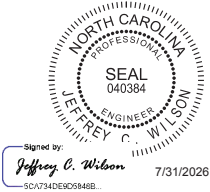
ASPHALT REPAIR DETAILS



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Raleigh, NC 27606

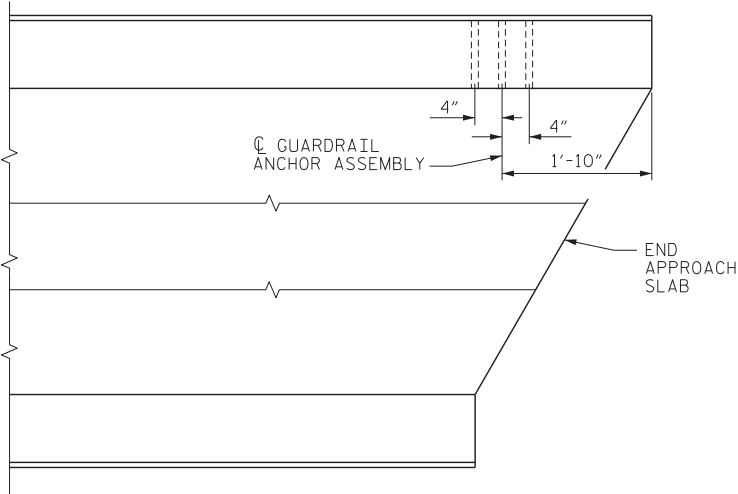
DRAWN BY : **D.B. HINNANT** DATE : **5/2026**
CHECKED BY : **J. C. WILSON** DATE : **5/2026**
DESIGN ENGINEER OF RECORD: **J. C. WILSON** DATE : **5/2026**

7/31/2026
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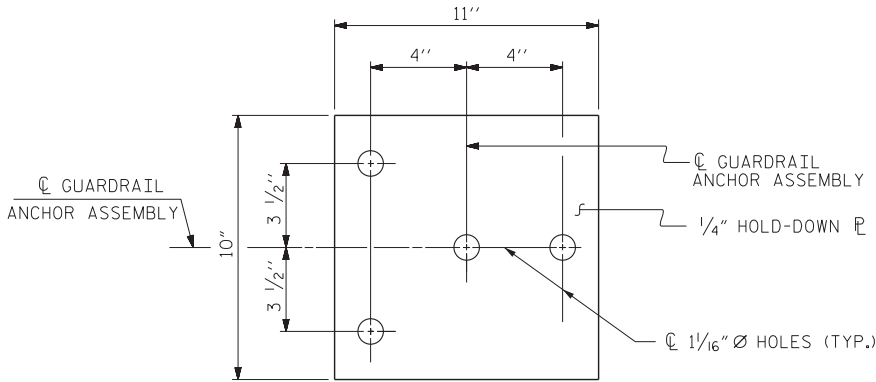


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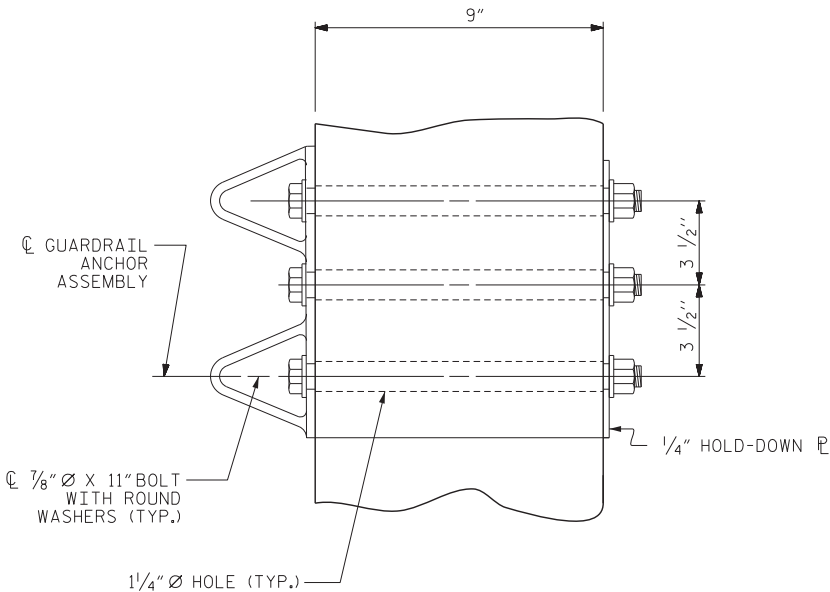
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			6



LOCATION OF GUARDRAIL ANCHOR

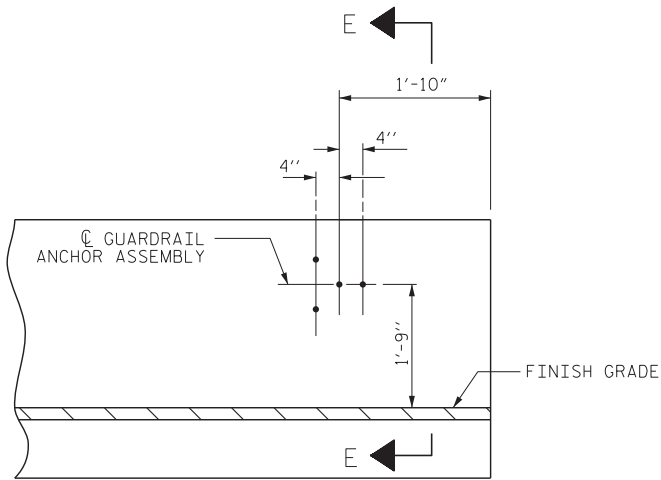


PLAN



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



ELEVATION

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 4 - 7/8" Ø BOLTS WITH NUTS AND WASHERS.

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.

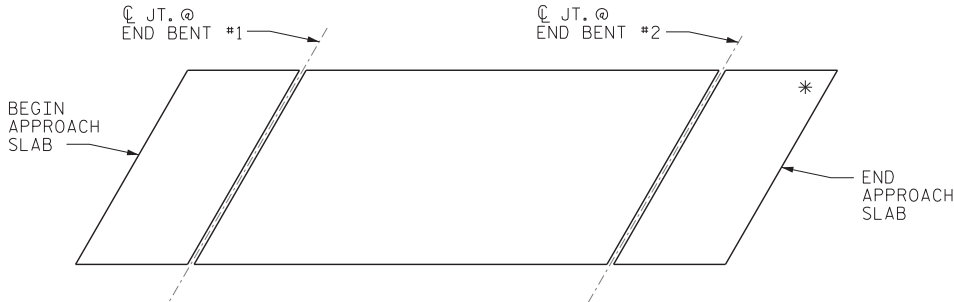
BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. 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 STEEL BEAM GUARDRAIL.

THE BOLT HOLES SHOWN ARE BASED ON EXISTING PLANS. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING HOLES.



SKETCH SHOWING POINTS OF ATTACHMENT

* LOCATION OF GUARDRAIL ATTACHMENT

PROJECT NO. **DF18313.2011360**

BUNCOMBE COUNTY

STATION: _____



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7/31/2026
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RALEIGH

**REPAIRS FOR BRIDGE
100148 ON SR 2173
(DILLINGHAM ROAD)
OVER DILLINGHAM CREEK**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			6