

11/14/23

COMPUTED BY: K. SABO

DATE: 8/13/2025

CHECKED BY: A. CONRAD

DATE: 8/15/2025

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

BR-0174

4R013B-1

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GREU TL-3	TYPE B-77	TEMP GREU TL-3	TEMP TYPE III									EA				
-L-	16+61.12	19+11.12	RT	250.00			19+11.12		6.00	9.50	50.00		1.00		1	1														EXTRA LENGTH GUARDRAIL POST (8' STEEL) = 29 EA	
-L-	14+51.90	19+01.90	LT	450.00				19+01.90	6.00	9.50		50.00		1.00	1	1													EXTRA LENGTH GUARDRAIL POST (8' STEEL) = 61 EA		
-L-	20+56.48	23+06.48	LT	250.00			20+56.48		6.00	9.50	50.00		1.00		1	1													EXTRA LENGTH GUARDRAIL POST (8' STEEL) = 29 EA		
-L-	20+66.55	23+04.05	RT	237.50				20+66.55	6.00	9.50		50.00		1.00	1	1													EXTRA LENGTH GUARDRAIL POST (8' STEEL) = 27 EA		
			SUBTOTALS	1,187.50											4	4															
			TYPE B-77, 4@22.875'	-91.50																											
			GREU TL-3, 4@50.00'	-200.00																											
			PROJECT TOTALS	896.00											4	4														TOTAL EXTRA LENGTH GUARDRAIL POST (8' STEEL) = 146 EA	
			SAY	900.00											4	4														SAY EXTRA LENGTH GUARDRAIL POST (8' STEEL) = 150 EA	
TEMPORARY GUARDRAIL																															
-LDET-	10+97.50	15+85.00	RT	487.50			15+85.00		3.00	6.00	50.00		1.00				1	1													
-LDET-	14+47.50	15+85.00	LT	137.50				15+85.00	3.00	6.00		50.00		1.00			1	1													
-LDET-	18+85.00	21+60.00	LT	275.00			18+85.00		3.00	6.00	50.00		1.00				1	1													
-LDET-	18+85.00	22+03.75	RT	318.75				18+85.00	3.00	6.00		50.00		1.00			1	1													
			SUBTOTALS	1,218.75													4	4													
			TYPE III, 4@18.75'	-75.00																											
			GREU TL-3, 4@50.00'	-200.00																											
			PROJECT TOTALS	943.75													4	4													
			SAY	950.00													4	4													
ADDITIONAL GUARDRAIL POSTS = 5 EA																															

NOTE: GUARDRAIL POSTS IN AREAS OF ROCK PLATING SHALL BE 8'-0" LONG (SEE REMARKS ABOVE FOR QUANTITIES).

SUMMARY OF EARTHWORK (CY)

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
-LDET- 10+00.00 - 15+85.00 (BEGIN BRIDGE)	82		5,360	5,278	
-LDET- 18+85.00 (END BRIDGE) - 29+08.97	263		9,412	9,149	
SUBTOTAL	345		14,772	14,427	
-L- 12+55.94 - 19+06.50 (BEGIN BRIDGE)	119		1,308	1,189	
-L- 20+61.50 (END BRIDGE) - 31+75.53	265		3,106	2,841	
SUBTOTAL	384		4,414	4,030	
-LDET- (REMOVAL) 10+00.00 - 29+08.97	10,275		2		10,273
SUBTOTAL	10,275		2		10,273
TOTAL	11,004		19,188	18,457	10,273
MATERIAL FOR SHOULDER CONSTRUCTION					
LOSS DUE TO CLEARING & GRUBBING					
ADDITIONAL UNDERCUT					
ROCK WASTE TO REPLACE BORROW					
ADJUST FOR ROCK WASTE					
WASTE IN LIEU OF BORROW					
PROJECT TOTAL	11,004		19,188	18,457	10,273
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				923	
GRAND TOTAL	11,004		19,188	19,380	10,273
SAY	11,100			19,400	

SUMMARY OF PAVEMENT REMOVAL (SY)

LINE	STATION - STATION	LOCATION	REMOVAL (SY)
-L-	STA. 17+39.28 TO STA. 19+18.08	CL	482
-L-	STA. 20+45.68 TO STA. 25+00.00	CL	1,196
-LDET-	STA. 10+00.00 TO STA. 12+24.65	RT	156
-LDET-	STA. 12+24.65 TO STA. 15+85.00	CL	1,099
-LDET-	STA. 18+85.00 TO STA. 24+88.00	CL	1,751
-LDET-	STA. 24+88.00 TO STA. 29+08.97	RT	280
GRAND TOTAL			4,964
SAY			4,970

SUMMARY OF MILLING (2.5") (SY)

LINE	STATION - STATION	LOCATION	MILLING (SY)
-L-	STA. 12+55.94 TO STA. 14+12.50	CL	412
-L-	STA. 30+02.50 TO STA. 31+75.53	CL	453
GRAND TOTAL			865
SAY			870

SUMMARY OF SHOULDER BERM GUTTER (LF)

LINE	STATION	STATION	LENGTH (LF)
-L- RT	17+10.07	18+86.33	176
-L- RT	20+90.08	22+05.00	115
		TOTAL	291
		SAY	300

Note: Earthwork quantities are calculated by the Engineer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

UNDERCUT EXCAVATION (CONTINGENCY) = 300 CY
SELECT GRANULAR MATERIAL (CONTINGENCY) = 300 CY
GEOTEXTILE FOR SOIL STABILIZATION (CONTINGENCY) = 300 SY