

COMPUTED BY: ESM DATE: 04-10-15  
 CHECKED BY: VBB DATE: 01-14-16

PROJECT NO. B-4761  
 SHEET NO. 3B-1

**STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS**

**SUMMARY OF EARTHWORK  
 IN CUBIC YARDS**

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
<b>SUMMARY NO. 1</b>					
-L- STA. 12+90.00	-L- STA. 19+06.00	28	4766	4738	
<b>TOTAL SUMMARY NO. 1</b>		28	4766	4738	
<b>SUMMARY NO. 2</b>					
-L- STA. 21+16.00	-L- STA. 29+20.00	13	8225	8212	
<b>TOTAL SUMMARY NO. 2</b>		13	8225	8212	
<b>SUMMARY TOTALS</b>					
		41	12991	12950	
EST 5% TO REPLACE TOP SOIL ON BORROW PIT				648	
<b>PROJECT TOTALS:</b>					
		41		13598	
<b>PROJECT GRAND TOTALS:</b>					
		41		13598	
<b>SAY:</b>		<b>50</b>		<b>13700</b>	
UNDERCUT CONTINGENCY = 400 CY					
SELECT GRANULAR MATERIAL = 400 CY					

**PAVEMENT REMOVAL SUMMARY  
 IN SQUARE YARDS**

SURVEY LINE	Station	Station	LOCATION LT/RT/C/L	ASPHALT REMOVAL (SY)
-L-	12+90.00	18+00.00	LT	52.21
-L-	12+90.00	18+00.00	RT	62.38
-L-	18+00.00	19+11.00	CL	313.53
-L-	21+16.00	25+00.00	CL	1127.3
-L-	25+00.00	29+20.00	LT	38.29
-L-	25+00.00	29+20.00	RT	67.46
<b>TOTAL:</b>				<b>1661.17</b>
<b>SAY:</b>				<b>1700</b>

**SHOULDER BERM GUTTER SUMMARY**

LINE	Station	Station	LENGTH
-L- LT	18+75.00	18+91.83	16.83
-L- RT	18+75.00	18+91.83	16.83
<b>TOTAL:</b>			<b>33.66</b>
<b>SAY:</b>			<b>35.00</b>

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA  
**GUARDRAIL SUMMARY**

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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS													
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	M-350	B-77	CAT-1	VI MOD	BIC	G	NG																	
-L-	15+99.75	19+06.00	RT	306.25			19+06.00		6	11	50	100	1	2			1																								
-L-	15+99.75	19+06.00	LT	306.25				19+06.00	6	11	100	50	2	1			1																								
-L-	21+16.00	24+22.25	RT	306.25				21+16.00	6	11	100	50	2	1			1																								
-L-	21+16.00	24+22.25	LT	306.25				21+16.00	6	11	50	100	1	2			1																								
<b>SUBTOTALS:</b>				1225													4																								
<b>LESS ANCHOR DEDUCTIONS:</b>																																									
GRAU-350 TL-3 @ 50 FT				200.00																																					
B-77 @ 18.75 FT				75.00																																					
<b>ANCHOR TOTALS:</b>				275																																					
<b>GUARDRAIL TOTAL:</b>				950																																					
<b>SAY:</b>				1,050.00																																					

ADDITIONAL GUARDRAIL POSTS = 5 EACH