COMPUTED BY: JDG	DATE:	10/6/2016
CHECKED BY: SLS	DATE:	10/11/2016

PROJECT NO.	SHEET NO.
R-3826	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Undercut Excav.	Embank. +%	Borrow	Waste
-L- 12+00.00	-L- 32+05.65	3,956	5,561	11,561	9,777	7,733
-Y- 18+00.00	-Y- 32+50.00	2,447	2,302	4,651	2,473	2,571
	SUBTOTAL	6,403	7,863	16,212	12,250	10,304
-L- 32+80.30	-L- 55+11.50 (RR)	1,510	2,872	16,784	15,766	3,364
-DR2- 10+50.00	-DR2- 11+00.00	186	0	185	0	1
	SUBTOTAL	1,696	2,872	16,969	15,766	3,365
-L- 55+36.00 (RR)	-L- 80+10.80	3,256	4,047	26,071	24,441	5,673
-Y1- 14+00.00	-Y1- 20+13.67	1,133	1,214	1,793	780	1,334
-Y1- 20+49.17	-Y1- 24+50.00	741	947	1,500	828	1,016
	SUBTOTAL	5,130	6,208	29,364	26,049	8,023
-L- 80+46.88	-L- 109+50.00	1,309	3,208	28,676	27,502	3,343
	SUBTOTAL	1,309	3,208	28,676	27,502	3,343
-L- 109+50.00	-L- 132+50.00 (CUL)	0	623	33,139	33,139	623
-DR1- 10+00.00	-DR1- 11+25.00	29	0	344	315	0
	SUBTOTAL	29	623	33,483	33,454	623
-L- 132+50.00 (CUL)	-L- 149+00.00	3,121	4,328	28,719	27,357	6,087
-Y2- 10+50.00	-Y2- 16+00.00	288	0	6,388	6,100	0
	SUBTOTAL	3,409	4,328	35,107	33,457	6,087
	PROJECT SUBTOTAL:	17,976	25,102	159,811	148,478	31,745
SHOULDER MATERIAL				10,405	10,405	
LESS SELECT GRANULAR MATERIAL				-31,378	-31,378	
ADDITIONAL UNDERCUT (PER GEOTECH)			3,800	4,750	4,750	3,800
WASTE IN LIEU OF BORROW					-1	-1
PROJECT TOTALS:		17,976	28,902	143,588	132,254	35,544
EST 5% TO REPLACE TOP SOIL ON BORROW PIT					6,613	
GRAND TOTAL:		17,976	28,902	143,588	138,867	35,544
SAY:		**18,100**	**29,125**		**139,950**	

EARTHWORK TOTALS FOR ALTERNATE ASPHALT PAVEMENT DESIGN

	Uncl. Excav.	Undercut Excav.	Embank. +%	Borrow	Waste
PROJECT SUBTOTAL:	17,976	25,102	159,811	148,478	31,745
ADJUSTMENT FOR ALTERNATE PAVEMENT	-904	-2,547	5,312	5,570	-3,193
SHOULDER MATERIAL			7,471	7,471	
LESS SELECT GRANULAR MATERIAL			-28,194	-28,194	
ADDITIONAL UNDERCUT (PER GEOTECH)		3,800	4,750	4,750	3,800
WASTE IN LIEU OF BORROW				-1	-1
PROJECT TOTALS:	17,072	26,355	149,150	138,074	32,351
EST 5% TO REPLACE TOP SOIL ON BORROW PIT				6,904	
GRAND TOTAL:	17,072	26,355	149,150	144,978	32,351
SAY:	**17,200**	**26,550**		**146,075**	

EST. 1,300 CY DDE
CONTINGENCY ITEMS PER GEOTECHNICAL RECOMMENDATIONS:
SELECT GRANULAR MATERIAL FOR BACKFILL + CONTENGENCY = 31,378 + 2500 = 33878 CY
SELECT GRANULAR MATERIAL FOR BACKFILL + CONTENGENCY = 28,194 + 2500 = 30694 CY (ALT)
EST. 1,000 CY SHALLOW UNDERCUT
EST. 1,900 TON CLASS IV SUBGRADE STABILIZATION
-L-, -Y-, -Y1-, & -Y2- PAVEMENT STRUCTURE VOLUME = 42,360 cy
-L- (ALT.), -Y-, -Y1-, & -Y2- PAVEMENT STRUCTURE VOLUME = 29524 cy

Note: 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.

SHOULDER BERM GUTTER SUMMARY

LINE	Station	Station	LENGTH (LF)
-L-	130+51.15	134+76.15	425
		TOTAL:	425
		SAY:	425

2' X 6" CONCRETE CURB AND GUTTER

LINE	Station	Station	LENGTH (LF)
-L-	32+80	54+15	1992
-L-	32+80	54+15	1935
-Y-	22+74	23+33	74
-Y-	23+94	26+69	252
		TOTAL:	4253
		SAY:	4265

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	23+00.00	32+06.00	LT.	2778			
-L-	33+59.00	45+50.00	RT.	1405			
-L-	45+50.00	53+92.00	RT.	2427			
-Y2-	10+00.00	14+50.00	RT.	2753			
		TOTAL:		9363			
		SAY:		9400			

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 SHOUL 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	XIII	CAT-1	VI MOD	BIC		G	NG				
-L-	62+65.60	66+01.39	LT	335.79			64+75.04	63+93.03	8	11	50	50	1	1			2												
-L-	62+63.97	66+03.02	RT	339.05			63+89.60	64+76.54	8	11	50	50	1	1			2												
-L-	129+99.79	135+27.58	LT	527.79			132+49.51	132+28.48	8	11	50	50	1	1			2												
-L-	130+24.39	135+49.39	RT	525.00			131+50.00	132+69.00	8	11	50		1				1			1									
			SUBTOTAL	**1727.63**													**7**			**1**									
			DEDUCTIONS FOR GRAU 350: 7 @ 50 FT	**350**																									
			DEDUCTIONS FOR CAT-I: 1 @ 6.25 FT	6.25																									
			TOTAL	**1371.38**	**5 ADDITIONAL GUARDRAIL POST**																								
			SAY	**1375**																									