COMPUTED BY: JBG DATE: 04-07-03
CHECKED BY: DWG DATE: 10-21-04

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3350	3-A

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. *FT. A	B	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	T.B.D.I. STD. 840.35	(N.S.) FRAME WITH TWO GRATES STD. 840.29	CORR. STEEL ELBOWS NO. & SIZE	REMARKS
SIZE																																											
THICKNESS OR GAUGE		FROM	TO																									PER EACH (0' THRU 5.0')	5.0' THRU 10.0'	10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02														
–L–																.064	.064	.064	.064	.079	.079	.109	.109																					
16+50.00	LT	1			877.00	862.00											36											0.7													2@15"			HEADWALL WITH BEVELED RING INLET
16+50.00	RT	2			880.00	860.60											36											0.7													2@15"			HEADWALL WITH BEVELED RING INLET
18+71.50	RT	3		884.04																								1															
		3	4		881.29	881.15			32																																		
18+69.30	LT	4		884.16																								1															
		4	OUT		881.15	874.92											20																									2@15"			
19+50.67	LT	5		885.38																								1											1	1				FALSE SUMP
		5	OUT		881.30	880.70			44																																		
TOTAL									76								92											1.4	3										1	1	2	2	6@15"			
SAY																												2.0																	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

"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 STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS BIC	ANCHORS GRAU 350	ANCHORS TYPE III	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	13+60.00	16+35.00	RT	275.00				16+35.00 (BRIDGE)	5	8	100		2			1	1					79.31		WEATHERING STEEL WITH WOOD POSTS
–L–	18+32.00	20+82.00	RT	250.00			19+50.00 (FILL)		5	8		100		2		1	1					145.12		WEATHERING STEEL WITH WOOD POSTS
–L–	18+32.00	19+13.25	LT	81.25			18+32.00 (BRIDGE)		5	8	62.5		1.25			1	1					108.80		WEATHERING STEEL WITH WOOD POSTS
–L–	15+35.00	16+35.00	LT	100.00				16+35.00 (BRIDGE)	5	8		81.25		1.625		1	1					43.99		WEATHERING STEEL WITH WOOD POSTS
			SUB-TOTAL	706.25																				
			LESS DEDUCTIONS FOR ANCHORS																					
			GRAU-350 4@50 =	–200																				
			TYPE III 4@18.75 =	–75																				
			PROJECT TOTAL	431.25												4	4					377.22		
			SAY	450																		380.0		
		ADDITIONAL GUARDRAIL POSTS = 10 EA																						

SUMMARY OF PAVEMENT REMOVAL AND BREAK-UP
IN SQUARE YARDS

STATION TO STATION	LOCATION	LENGTH	WIDTH	ASPHALT REMOVAL	ASPHALT BREAK-UP
–L– 12+00.00 TO 13+25.00	LT./RT.	125	18	250	
–L– 13+25.00 TO 16+45.00	LT./RT.	320	18		640
–L– 18+06.00 TO 19+75.00	LT./RT.	169	18		338
–L– 19+75.00 TO 21+00.00	LT./RT.	125	18	250	
			TOTAL	500	978
			SAY	525	1000

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCL. EXCAVATION	EMBT+%	BORROW	WASTE
SUMMARY NO. 1				
–L– STA 12+00 TO 16+35 (BEGIN BRIDGE)	6340	3324		3016
TOTAL SUMMARY NO. 1	6340	3324		3016
SUMMARY NO. 2				
–L– STA 18+32 (END BRIDGE) TO 21+00	27	1964	1937	
–DRIVE– STA 10+00 TO 11+46.83	45	95	50	
TOTAL SUMMARY NO. 2	72	2059	1987	
SUMMARY TOTALS	6412	5383	1987	3016
REDUCTION DUE TO CLEARING & GRUBBING	– 250			– 250
WASTE IN LIEU OF BORROW			–1987	–1987
PROJECT TOTALS	6162	5383	0	779
SAY	6200			
DDE = 26 CY				
UNDERCUT EXCAVATION = 250 CY				

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

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