COMPUTED BY: M. HUSSEY DATE: 10/08/04
CHECKED BY: J. JOHNSON DATE: 12/08/04

PROJECT REFERENCE NO.	SHEET NO.
B-4180	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

STATION / SIZE / THICKNESS OR GAUGE	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" .064	15" .064	18" .064	24" .064	30" .079	30" .079	36" .079	36" .109	42" .109	42" .109	48" .109	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.	ENDWALLS CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	LIN. *FT. B 10.0' AND ABOVE	* TOTAL L.F. FOR PAY QUANTY. SHALL BE COL. 'A' + (1.3 X COL. 'B')	T.B.J.B. STD. 840.34	MANHOLE FRAME AND COVER STD. 840.54	T.B.M.D.I. STD. 840.35	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	CORR. STEEL ELBOWS NO. & SIZE	REMARKS
14+41	RT	1		2513.39																											1			1	1					
		1	2		2508.49	2510.70					32																													
		1	3		2508.49	2508.45					12																													
		1	4		2508.49	2510.38			52																															
15+00	LT	5																										40												
14+92	RT	4		2513.55																											1				1	1				
		4	6	2510.38	2511.18				140																															
16+36	RT	6		2514.44																											1				1	1				
		6	7	2511.18	2511.27				32																															
16+36	LT	7		2514.44																											1				1	1				
17+82	LT	8		2518.17																											1				1	1				
		8	9	2515.00	2512.30												20																				2@15"			
18+13	RT	10																									32													
TOTALS									224		44						20										32	40			5			1	1	4	4		2@15"	

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 SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS TYPE 350	ANCHORS III	ANCHORS AT-1	IMPACT ATTENUATOR TYPE 350 NO.	PERMITTED G	PERMITTED NG	REMARKS
-L-	14+32.50	16+57.50	RT	225			16+57.50		3.91	7	206.25		1.09		1	1					
-L-	16+22.00	16+57.50	LT	14.75	17.4			16+57.50	3.91	7						1	1				10' RADIUS ON SHOP CURVE
-L-	17+54.50	17+86	RT	48	18.8			17+54.50	3.91	7		56.25		1.13		1	1				6' RADIUS ON SHOP CURVE
-L-	17+54.50	19+79.50	LT	225			17+54.50		3.91	7	206.25		1.09		1	1					
			TOTALS	512.75	36.2										2	4	2				
	ANCHOR DEDUCTIONS:																				
		2 TYPE 350'S @ 50' ea.		-100																	
		4 TYPE III's @ 18.75' ea.		-75																	
		2 AT-1 @6.25'			-12.5																
			GRAND TOTAL	337.75	23.7																
			SAY	350	25		ADDITIONAL GUARDRAIL POST 5 ea.														

PAVEMENT REMOVAL SUMMARY

LINE	STATION - STATION	LOCATION	AREA REMOVAL (SY)
-L-	15+75 TO 16+87	FULL WIDTH	224
-L-	17+21 TO 18+25	FULL WIDTH	208
-L-	13+80 TO 15+75	RT	65
-L-	18+25 TO 19+30	RT	31
		TOTAL	528
		SAY	530

SUMMARY OF EARTHWORK (IN CUBIC YARDS)

LINE	STATION - STATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L-	13+80 - 16+88.50	67		45		22
-L-	17+23 - 20+00	4		933	929	
	SUB TOTAL	71		978	929	22
	LOSS DUE TO CLEAR&GRUBB	-100			100	
	USE WASTE IN LIEU OF BORROW				-22	-22
	PROJECT TOTAL	0			1007	
	SAY				1020	
	EST. DDE = 14 SY					
	GEOTECH REC.'s:					
	EST. UNDERCUT EXC.	500 CY				
	EST. GRADEPOINT UNDERCUT	100 CY				
	SELECT GRANULAR MAT CL. II OR III	500 CY				
	CL. IV SUBGRADE STABILIZATION	600 TONS				

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