COMPUTED BY: JDE DATE: 8-21-02
CHECKED BY: PWR DATE: 6-07-04

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3690	3-A

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

STATION / SIZE	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	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	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 24" QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B')	T.B.D.I. STD. 840.35	FRAME AND NARROW SLOT FLAT GRATE STD. 840.29	PIPE REMOVAL LIN.FT.	REMARKS
–L– 15+85	LT	1		427.3	424.5	421.3											24′										1			1	1		2 GI (FLAT)
–DR1– 10+98	CL	2			407.39	406.2								96′																		15′	REMOVE 24" TC
–L– 19+79	LT																															33′	REMOVE 15" CONC.
–L– 21+06	RT																															40′	REMOVE 12" PLASTIC
–L– 21+49	CL	3			439.8	439.54				52′																						
TOTALS =										52′				96′			24′										1			1	1		88′	

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

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"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

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 GRAU 350	ANCHORS TYPE III	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	REMOVE EXISTING GUARDRAIL	REMARKS
–L–	12+30.00	14+80.00	RT	250			13+05.00		4′	7′	50′	50′	1′	1′	2						BREAK FOR DRIVE
–L–	15+18.67	16+12.42	RT	93.75				16+12.42	2′	7′	75′		1.5′		1	1					TIE TO BRIDGE RAIL
–L–	15+06.17	16+12.42	LT	106.25			15+81.17	16+12.42	6′	9′	50′		1′		1	1					TIE TO BRIDGE RAIL
–L–	18+69.58	19+50.83	RT	81.25			18+69.55	18+75.83	2′	7′	62.5′		1.25′		1	1					TIE TO BRIDGE RAIL
–L–	18+69.58	20+75.83	LT	206.25			18+69.58	20+00.83	6′	7′	50′	50′	1′	1′	1	1					TIE TO BRIDGE RAIL
			SUBTOTAL =	737.50′									SUBTOTAL =		6	4					
		LESS ANCHOR DEDUCTIONS																			
		GRAU-350	6 @ 50′ =	300′																	
		TYPE III	4 @ 18.75′ =	75′																	
		TOTAL DEDUCTIONS =		–375′																	
			TOTAL =	362.5′																	
			SAY =	375′																	
		ADDITIONAL GUARDRAIL POSTS		5 EA																	

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