COMPUTED BY: L. JAH DATE: 6-2-2015
CHECKED BY: SKR DATE: 6-22-2016

PROJECT REFERENCE NO.	SHEET NO.
B-5360	3B-1

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUB-REGIONAL
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	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
-L- 21+80	RT	0401		533.6	530.8														
-L- 21+80	CL	0401	0402		530.8	530.7													
-L- 21+80	LT	0402		533.6	530.7														
-L- 21+80	LT	0402	0403		530.7	517.0			48										
-L- 19+50	RT	0404																	
-L- 20+40	RT	0405																	
-L- 25+82	LT																		
-L- 27+74	LT	0501																	
-L- 29+30	LT	0502																	
-L- 29+60	LT	0503																	
-L- 31+30	RT	0504																	
B-5360 TOTALS									48										
B-5546 TOTALS									12										
GRAND TOTAL									60										

STATION	C.S. PIPE 12" (.064)	15" (.064)	18" (.064)	24" (.064)	36" (.079)	42" (.109)	48" (.109)	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE (CLASS IV) 12"	15"	18"	24"	30"	36"	42"	48"
-L- 21+80																						
-L- 21+80																20						
-L- 21+80																						
-L- 21+80																						
-L- 19+50																						
-L- 20+40																						
-L- 25+82																						
-L- 27+74																						
-L- 29+30																						
-L- 29+60																						
-L- 31+30																						
B-5360 TOTALS																20						
B-5546 TOTALS																						
GRAND TOTAL																20						

STATION	**" R. C. PIPE (CLASS V)	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" 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 PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		CONCRETE TRANSITIONAL SECTION CATCH BASIN	DROP INLET				T.B.D.I. STD. 840.35 OR STD. 840.46	T.B.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29		DRAINAGE PIPE ELBOWS NO. & SIZE			PIPE REMOVAL LIN.FT.	REMARKS
-L- 21+80								1													1	1						
-L- 21+80																												
-L- 21+80								1													1	1						
-L- 21+80																								2@15"			36	
-L- 19+50				36																								
-L- 20+40					24																						18	
-L- 25+82																											28	
-L- 27+74				44																							24	
-L- 29+30				24																							44	
-L- 29+60				24																								
-L- 31+30				32																							28	
B-5360 TOTALS				160	24			2													2	2		2@15"			178	
B-5546 TOTALS								1													1	1						
GRAND TOTAL				160	24			3													3	3		2@15"			178	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED 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 JUNCTION 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	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END	ANCHORS TYPE III		GRAU-350 TL-2	IMPACT ATTENUATOR TYPE 350 EA	G	NG	REMOVE EXISTING GUARDRAIL	REMARKS
-L-	20+62.23	22+29.73	LT	167.50'				BRIDGE	3.92'	6.92'		25'		0.5'	1		1					
-L-	25+22.33	27+59.83	LT	237.50'			BRIDGE		3.92'	6.92'	25'		0.5'		1		1					
-L-	14+75.00	18+25.00	RT	350.00'			15+50.00	17+50.00	3'	6'	25'	25'	0.5'	0.5'			2					
-L-	19+88.67	22+13.67	RT	225.00'			BRIDGE		3.92'	6.92'					1		1					
-L-	25+06.27	26+56.27	RT	150.00'				BRIDGE	3.92'	6.92'		25'		0.5'	1		1					
			SUBTOTAL	1130.00'											4		6					
	DEDUCTIONS FOR ANCHOR UNITS		GRAU 350 TL-2 (6@25')	-150.00'																		
			TYPE III (4@18.75')	-75.00'																		
			B-5360 TOTALS	905.00'											4		6					
			B-5360 SAY	925.00'	ADDITIONAL GUARDRAIL POST = 5 EACH																	
			B-5546 TOTALS	150.00'	ADDITIONAL GUARDRAIL POST = 5 EACH										4		4					
			GRAND TOTAL	1075.00'	ADDITIONAL GUARDRAIL POST = 10 EACH										8		10					

SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +%	BORROW	WASTE
-L- 13+00.00	-L- 22+21.70	1820	350	7039	6069	1200
	(BEGIN BRIDGE)					
SUBTOTAL 1		1820	350	7039	6069	1200
-L- 25+13.61	-L- 33+15.70	777	800	5975	5198	800
(END BRIDGE)	(*SEE NOTE BELOW)					
-DRV3- 10+00.00	-DRV3- 12+25.00	383		241		142
SUBTOTAL 2		1160	800	6216	5198	942
PROJECT SUBTOTAL		2980	1150	13255	11267	2142
LOSS DUE TO CLEARING & GRUBBING		-150			150	
ADDITIONAL UNDERCUT EXCAVATION			400	480	480	400
GRADE POINT UNDERCUT EXCAVATION			80	96	96	80
SELECT GRANULAR MATERIAL IN LIEU OF BORROW				-480	-480	
WASTE IN LIEU OF BORROW					-142	-142
PROJECT TOTAL		2830	1630	13351	11371	2480
EST 5% TO REPLACE TOP SOIL ON BORROW PIT					569	
B-5360 TOTALS		2830	1630		11940	
B-5360 SAY		2900			12000	
B-5546 TOTALS		75	100		400	
GRAND TOTAL		2975	1730		12400	

* UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3' OF EMBANKMENT OR BACKFILL -L- 29+25.00 TO 30+10.00 (30 CY) & -L- 31+25.00 TO 33+16.00 (20 CY) PER GEOTECH

EST. DRAINAGE DITCH EXCAVATION = (B-5360) 685 CY + (B-5546) 30 CY = 715 CY
EST. SHALLOW UNDERCUT EXCAVATION = (B-5360) 100 CY + (B-5546) 100 CY = 200 CY
EST. SELECT GRANULAR MATERIAL = (B-5360) 400 CY + (B-5546) 100 CY = 500 CY

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SQ. YD.
-L-	13+80.00	15+20.00	LT.	32.98
		B-5360 TOTALS		32.98
		B-5360 SAY		40.00
		B-5546 TOTALS		350.00
		GRAND TOTAL		390.00

SHOULDER BERM GUTTER SUMMARY

LINE	BEGIN STATION	END STATION	LOCATION	LENGTH
-L-	STA. 21+73.00	STA. 22+19.00	LT	46.00'
-L-	STA. 21+73.00	STA. 22+04.00	RT	31.00'
B-5360 TOTALS				77.00'
B-5360 SAY				80.00'
B-5546 TOTALS				20.00'
GRAND TOTAL				100.00'

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

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.

4/04/06

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