COMPUTED BY: SMM DATE: 6/1/2020
CHECKED BY: JCH DATE: 1/4/2021

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
W-5600	3B-2

ETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

"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

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR MASH TL-3
NG = NON-GATING IMPACT ATTENUATOR MASH TL-3

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHLD. WIDTH	FLARE LENGTH		W		ANCHORS					IMPACT ATTENUATOR MASH, TL-3			REMOVE EXISTING GUARDRAIL	REMOVE & RESET EXISTING GUARDRAIL	REMARKS
																					PERMITTED				
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APP. END	TRAIL END			APP. END	TRAIL END	APP. END	TRAIL END	Type III	B-77	GREU TL-3	CAT-1	TES	NO.	G	NG			
L	19+00.00	24+87.50	LT	587.5					13	16	50		1				1						587.5		Replace Existing Guardail
L	19+00.00	22+29.00	RT	331.25					10	13								1					331.25		Replace Existing Guardail
L	19+61.00	22+92.00	MED LT & RT																				652		
L	41+20.00	54+26.00	MED LT & RT																				2602		
L	94+50.00	95+65.00	LT																				115		
L	154+35.00	155+89.00	LT																				159		
L	153+45.00	155+45.00	RT																				200		Left and right of existing Y7
Y7	28+00.00	30+05.00	LT/RT																				415		
L	158+39.00	168+93.00	RT																				1058		
L	191+63.00	201+83.00	RT																				1033		
WBL	12+25.00	16+00.00	LT																				378		
L	221+60.00	242+05.00	MED LT & RT																				4075		
L	250+21.00	254+08.00	MED LT & RT																				750		
L	262+60.00	273+04.00	MED LT & RT																				2054		
L	281+06.00	281+85.00	MED LT & RT																				131		
L	27+94.92	31+60.00	RT	372.875			31+60.00		14	17	50		1			1	1								
SR2	20+47.64	24+06.75	LT	360.375				21+70.00	8	11		50		1		1	1								
SR2	35+50.00	40+36.45	RT	487.5			36+75.00	39+11.45	8	11	50	50	1	1			2								
SR1	25+20.00	28+45.88	LT	325			26+45.00	27+20.88	8	11	50	50	1	1			2								
L	52+60.00	56+20.37	LT	360.375			52+60.00		14	17	50		1			1	1								
SR2	58+06.00	60+68.50	LT	262.5			58+56.00	58+56.00	8	11	50	50	1	1			2								
L	66+85.00	69+35.00	RT	247.875			69+35.00		14	17	50		1			1	1								
Y5	12+74.00		LT/RT	75																					
L	154+43.75	158+00.00	LT	356.25			155+20.00		5.8125	12	50		1				1	1							RDY STD 610.02 for GR. underneath -Y7- bridge.
L	12+00.00 (-Y7LPC-)	175+08.00	RT	2143.75			10+75.00 (-Y7LPC-)		12	15	250		5				1	1							RDY STD 610.02 for GR. underneath -Y7- bridge, use 50:1 taper to reach "N".
L	155+23.69	157+46.31	Median	241.5			Bridge Pier		19.58							4				2	X	X			RDY STD. 865.01 SHEET 1 OF 12. SEE CONC BARRIER SUMMARY
Y7	23+68.54	25+97.78	RT	231.25			Bridge		6	9	50		1		1		1								
Y7	27+92.19	29+66.57	RT	175				Bridge	6	9					1			1							
Y7	23+93.20	26+11.93	LT	218.75				Bridge	7.5	10.5		50		1	1		1								
Y7	28+06.53	30+25.09	LT	218.75			Bridge		7.5	10.5	50		1		1		1								
L	193+50.00	201+63.19	RT	806.25			195+00.00		12	15	50		1				1	1							
Y9RPB	14+71.78	20+50.00	LT	581.25			20+00.00		12	15	50		1				1	1							
L	209+62.14	216+59.84	LT	704.125			209+62.14		12	15						1		1							
L	210+48.79	217+02.46	RT	647.875			212+50.00		12	15	50		1			1	1								
L	217+60.63	226+01.14	LT	847.875			224+50.00		12	15	50		1			1	1								
L	218+05.31	224+02.14	RT	591.625			Bridge		12	15						1		1							
Y9RPA	16+00.00	22+76.43	RT	681.25			17+00.00		12	15	50		1				1	1							
Y9RPD	16+90.72	22+50.00	LT	556.25			20+50.00		12	15	50		1				1	1							
Y9	19+45.00	21+38.75	RT	193.75			20+02.00		Face of Curb		50		1				1	1							
Y9	20+26.25	22+45.00	LT	218.75			21+61.74		Face of Curb		50		1				1	1							
L	233+00.00	234+45.00	LT	143.75			23+00.00		12	15	50		1				1	1							
L	276+50.00	279+43.75	LT	293.75			276+50.00		12	15	50		1				1	1							
L	279+66.25	281+85.00	Median RT	222.875			279+66.25		13.79							1									Tie to Existing Guardrail
L	279+66.25	281+85.00	Median LT	218.75					13.79									1							Tie to Existing Guardrail
Y16	11+70.00		LT/RT	37.5																					
			SUBTOTAL	13741.125																					
	ANCHOR UNIT DEDUCTIONS																								
	Type	Quantity	Deduction																						
	III	4	18.75	75																					
	B-77	13	22.875	297.375																					
	GREU-TL3	26	50	1300																					
	CAT-1	15	6.25	93.75																					
			TOTAL	11975											4	13	26	15		2			14540.75		
			SAY	12000											4	13	26	15		2			14550		

ADDITIONAL GUARDRAIL POSTS: SAY 10 EA

CABLE GUIDERAIL SUMMARY

SURVEY LINE	BEGIN STATION	END STATION	LENGTH DOUBLE FACED	END ANCHOR UNIT	INTERMEDIATE ANCHOR UNIT	ADDITIONAL GUIDERAIL POSTS	REMOVE EXISTING GUIDERAIL
-L-	19+70.00	155+12.00	13544.84	2	12	6	9975
-L-	157+58.00	209+58.00	5208.89	2	4	6	5516
		SUBTOTAL:	18753.73	4	16	12	15491
		LESS END ANCHOR UNITS - 4 @25'	-100				
		GRAND TOTAL:	18653.73	4	16	12	15491
		SAY:	18700	4	16	12	15500

SUMMARY OF CONCRETE BARRIER

LINE	BEGIN STATION	END STATION	LOCATION	DOUBLE FACED TYPE T (FT)	SINGLE FACED CONCRETE BARRIER (FT)	CONC. BARRIER TRANSITION SECTION (EA)
-L-	31+60.00	34+90.23	RT			1
-L-	34+90.23	52+45.00	RT	1,754.77		
-L-	43+10.00	52+60.00	LT	945.00		
-L-	69+35.00	99+40.00	RT	2,975.00		
-L-	156+05.00	156+65.00	MED LT		60.00	
-L-	156+05.00	156+65.00	MED RT		60.00	
-L-	209+75.00	214+68.00	MED	494.00		
-L-	214+68.00	216+58.00	MED			1*
-L-	218+10.00	219+05.00	MED			1*
-L-	219+05.00	279+66.25	MED	6,061.25		
		TOTAL:		12,230.02	120.00	3
		SAY:		12,300.00	130.00	3

* Transition from Type T Barrier to Conc Barrier on Approach Slab

1/4/2021
W-5600_gr_dy_psh_03B-02_Guardrail Summary.dgn
USER: tfear