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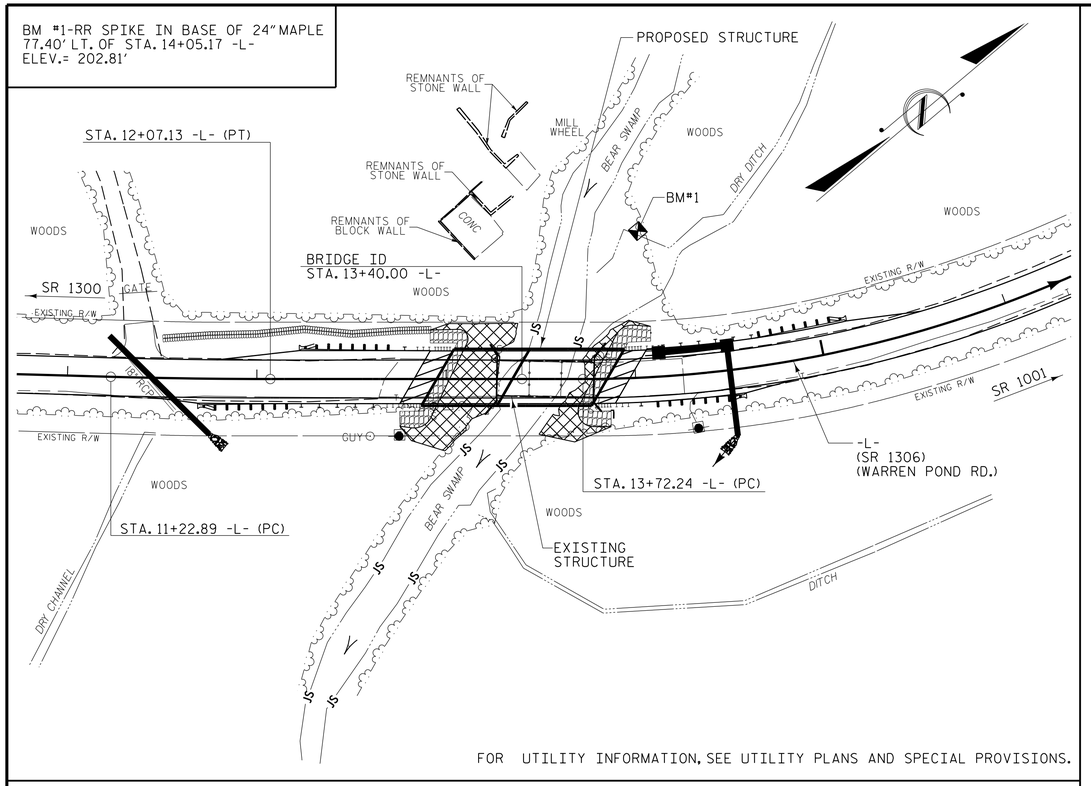

LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR THE DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN ON SHEET 1 OF 2 IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A MAX. DISTANCE OF 38 FT. RT. AND 31 FT. LT. AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF THREE SPANS 1 @ 17'-2", 1 @ 16'-8", 1 @ 17'-2" WITH A 19'-2" CLEAR ROADWAY WIDTH AND TIMBER FLOOR ON TIMBER BEAMS SUPPORTED ON TIMBER CAPS AND TIMBER PILES SHALL BE REMOVED. THE BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES".

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATIONS ACTIVITIES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

NO DECK DRAINS REQUIRED.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

FOUNDATION NOTES

FOR PILES, SEE GEOTECHNICAL SPECIAL PROVISIONS AND SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 70 TONS PER PILE. DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE.

PILES AT END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 81 TONS PER PILE. DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 135 TONS PER PILE.

STEEL H PILE POINTS ARE REQUIRED FOR STEEL H PILES AT END BENT NO. 1 AND 2. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH EQUIVALENT RATED ENERGY IN THE RANGE OF 30 TO 45 FT-KIPS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO. 1 AND 2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

FOR DRILLED PIERS, SEE GEOTECHNICAL SPECIAL PROVISIONS AND SECTION 411 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 350 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 50 TSF.

PERMANENT STEEL CASINGS ARE REQUIRED FOR DRILLED PIERS AT BENT NO. 1. DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 190.0 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

INSTALL DRILLED PIERS AT BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 187 FT (LT), 185 FT (CTR) AND 184 FT (RT) AND WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 6 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 191.0 FT (LT), 189.5 FT (CTR) AND 188 FT (RT). SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

DO NOT USE SLURRY CONSTRUCTION FOR DRILLED PIERS AT BENT NO. 1

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	3'-0" DIA. DRILLED PIERS IN SOIL	3'-0" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" DIA. DRILLED PIERS	SID INSPECTIONS	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS
	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	LUMP SUM	CU. YARDS	LUMP SUM
SUPERSTRUCTURE									LUMP SUM
END BENT 1							LUMP SUM	22.4	
BENT 1		30.2	21.0	37.0	1	1		17.9	
END BENT 2							LUMP SUM	22.4	
TOTAL	LUMP SUM	30.2	21.0	37.0	1	1	LUMP SUM	62.7	LUMP SUM

TOTAL BILL OF MATERIAL

	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	HP 12 X 53 STEEL PILES		STEEL PILE POINTS	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS		ASBESTOS ASSESSMENT
	LBS.	LBS.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YARDS	LUMP SUM	NO.	LIN. FT.	LUMP SUM
SUPERSTRUCTURE						180.58			LUMP SUM	20	900.00	LUMP SUM
END BENT 1	2736		5	85	5		46	52				
BENT 1	7322	1110										
END BENT 2	2736		5	110	5		61	68				
TOTAL	12794	1110	10	195	10	180.58	107	120	LUMP SUM	20	900.00	LUMP SUM

HYDRAULIC DATA:

DESIGN DISCHARGE -	700 CFS
FREQUENCY OF DESIGN FLOOD -	25 YEAR
DESIGN HIGH WATER ELEVATION -	204.0
DRAINAGE AREA -	5.4 SQ. MI.
BASE DISCHARGE (Q 100) -	1000 CFS
BASE HIGH WATER ELEVATION -	204.98

OVERTOPPING DATA:

OVERTOPPING DISCHARGE -	2450 CFS
FREQUENCY OF OVERTOPPING-	>500 YEAR
OVERTOPPING FLOOD ELEVATION -	206.7

OVERTOPPING OCCURS AT ROADWAY STA. 15+75.00 -L- AT HIGH SIDE OF CURVE

PROJECT NO. 17BP.4.R.67

HALIFAX COUNTY

STATION: 13+40.00 -L-

SHEET 2 OF 2 REPLACES BRIDGE NO. 198

NORTH CAROLINA PROFESSIONAL SEAL 19561 ENGINEER KEVIN AUSTIN

DocuSigned by: K. Kevin Austin 22F7837282A46...

11/1/2016

PLANS PREPARED BY:

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CALYXengineers.com
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE ON SR 1306 OVER BEAR SWAMP BETWEEN SR 1300 & SR 1001

27'-10" CLEAR ROADWAY - 120° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : W. B. ALLEN DATE : 10/16
CHECKED BY : Z. H. BROWN DATE : 10/16

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