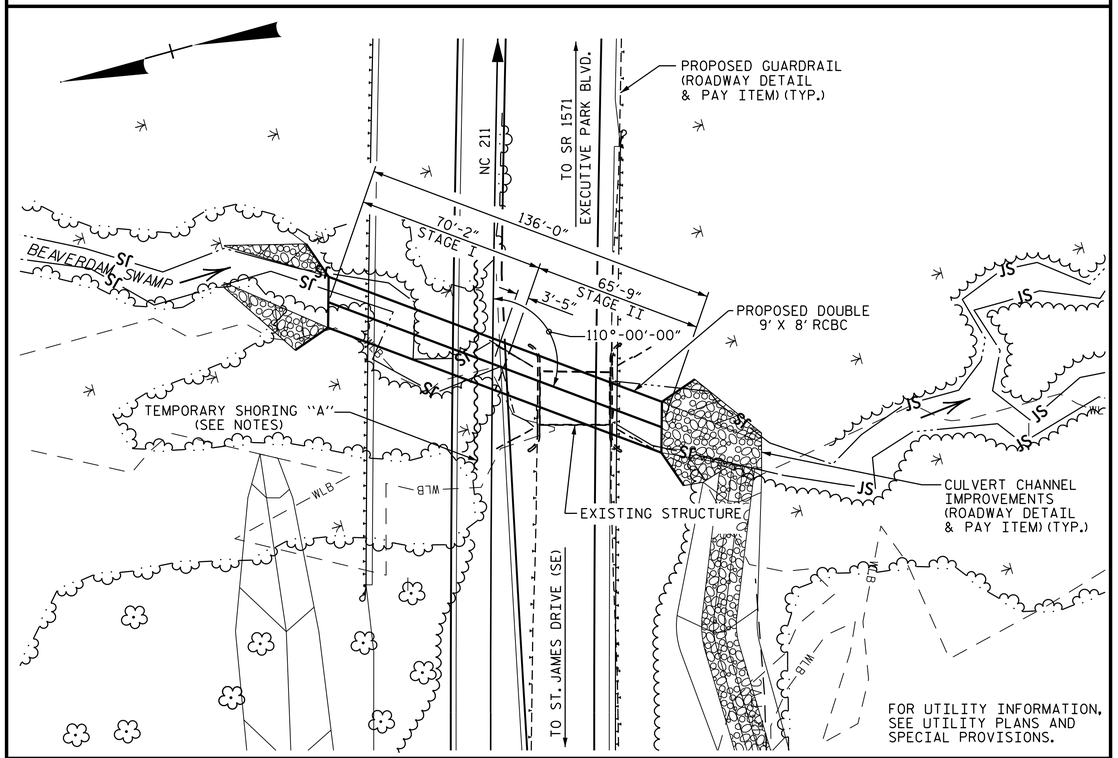
BM#5: SPIKE IN 9" PINE, 126' LEFT OF STA. 214+76.00 -L-, EL. 45.55



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE	= 1300 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 37.1 FT.
DRAINAGE AREA	= 2.0 SQ. MI.
BASE DISCHARGE (Q100)	= 1400 CFS
BASE HIGH WATER ELEVATION	= 37.68 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1600+ CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= ✳ 41.94 FT.

✳ CONC. MEDIAN SAG LOCATION AT STA. 225+98.38 -L-

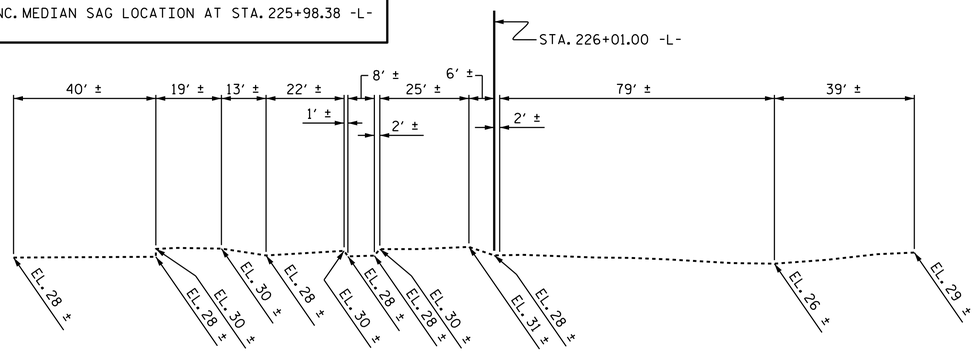
GRADE DATA -L-

GRADE POINT ELEV. @ STA. 226+01.00 -L- _____ = 41.45'

BED ELEVATION @ STA. 226+01.00 -L- _____ = 26.87'

ROADWAY SLOPES _____ = 3:1

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS



PROFILE ALONG ℄ CULVERT

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

MAXIMUM DESIGN FILL ---------- 6.60 FT.

MINIMUM DESIGN FILL ---------- 5.22 FT.

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN EACH STAGE OF THE CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.

2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE, CONSISTING OF 1 SPAN @ 19'-8" WITH A CLEAR ROADWAY WIDTH OF 26'-4" AND REINFORCED CONCRETE DECK SLAB WITH 81"2" AWS ON REINFORCED CONCRETE ABUTMENTS WITH TIMBER PILE FOOTINGS SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING THE CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

TRAFFIC ON NC211 (SOUTHPORT - SUPPLY RD.) SHALL BE MAINTAINED. IN ORDER TO MAINTAIN TRAFFIC THE CULVERT SHALL BE CONSTRUCTED IN SECTIONS AS DIRECTED BY THE ENGINEER. FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

THIS STRUCTURE CONTAINS THE NECESSARY CORROSION PROTECTION REQUIRED FOR A CORROSIVE SITE.

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.

ALL BAR SUPPORTS USED IN THE CULVERT AND ALL INCIDENTAL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

F. A. PROJECT NO. STP-0211(21)

TOTAL STRUCTURE QUANTITIES

CULVERT EXCAVATION		LUMP SUM
REMOVAL OF EXISTING STRUCTURE		LUMP SUM
ASBESTOS ASSESSMENT		LUMP SUM
FOUNDATION CONDITIONING MATERIAL		230 TONS
CLASS A CONCRETE		
BARREL @ 1.805 CY/FT		
STAGE I		126.7 C.Y.
STAGE II		118.7 C.Y.
OUTLET WINGS ETC.		
STAGE I		19.6 C.Y.
STAGE II		19.6 C.Y.
TOTAL		284.6 C.Y.
REINFORCING STEEL		
BARREL		
STAGE I		15,638 LBS.
STAGE II		14,623 LBS.
WINGS ETC.		
STAGE I		1,109 LBS.
STAGE II		1,109 LBS.
TOTAL		32,479 LBS.

SAMPLE BAR REPLACEMENT

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND f_y = 60ksi.

PROJECT NO. R-5021

BRUNSWICK COUNTY

STATION: 226+01.00 -L-

SHEET 1 OF 5 REPLACES BRIDGE NO. 76

NORTH CAROLINA PROFESSIONAL SEAL 26445 ENGINEER P. KOREY NEWTON

DocuSigned by: P. Korey Newton 1/21/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 9 FT. X 8 FT. CONCRETE BOX CULVERT 105° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C3-1
1			3			TOTAL SHEETS
2			4			5

ADDED NOV. 1990

ASSEMBLED BY : WFP / QTN	DATE : 10-17	SPECIAL	
CHECKED BY : P. K. NEWTON	DATE : 12/5/18		
DRAWN BY : R.W. WRIGHT	DATE : OCT. 1989	STANDARD	
CHECKED BY : C.R.K.	DATE : OCT. 1989		

21-JAN-2019 02:48
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pknewton

CUL 3

STD. NO. CB222A