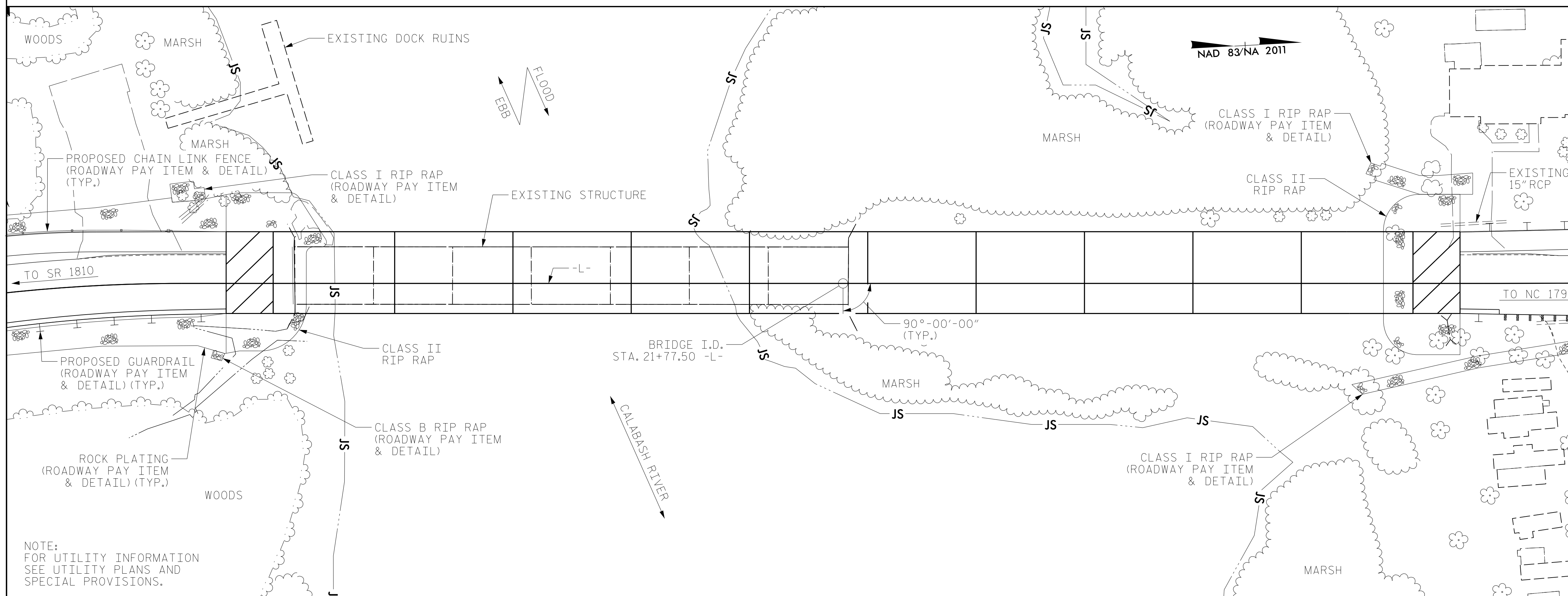


BENCH MARK #1: RR SPIKE IN 21" OAK 143.00' LT OF -L- STA. 17+64.17, EL. 11.88'



HYDRAULIC DATA

DESIGN DISCHARGE	= N/A
FREQUENCY OF DESIGN FLOOD	= 50 YRS + 6" SLR
DESIGN HIGH WATER ELEVATION	= 10.1' **
DRAINAGE AREA	= 8.16 SQ. MI.
BASE DISCHARGE (Q100)	= N/A
BASE HIGH WATER ELEVATION	= 12.0' ΔΔ

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= N/A
FREQUENCY OF OVERTOPPING FLOOD	= 100+ YRS
* OVERTOPPING FLOOD ELEVATION	= 13.1'
* SAG @ STA. 17+41.19 -L-	

** DUE TO THE BACKWATER EFFECTS FROM THE ATLANTIC OCEAN, HYDRAULIC MODELING FOR THE CALABASH RIVER IN THIS AREA IS INSIGNIFICANT. DESIGN HIGH WATER TAKEN AS FEMA 50 YR. WSEL + 6" SEA LEVEL RISE.

ΔΔ FEMA BASE HIGHWATER ELEVATION TAKEN FROM FEMA FIS FOR BRUNSWICK COUNTY (EFF. 8-28-2018) AND ARE CONTROLLED BY BACKWATER FROM THE ATLANTIC OCEAN.

LOCATION SKETCH

CORROSION PROTECTION NOTES:

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

CLASS AA CONCRETE SHALL BE USED IN ALL CAST-IN-PLACE BENT CAPS.

ALL BAR SUPPORTS USED IN THE BARRIER RAIL, CURB, CONCRETE WEARING SURFACE, AND ALL INCIDENTAL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE CONCRETE IN THE PRESTRESSED CONCRETE PILES SHALL CONTAIN A MINIMUM OF 25% FLY ASH CLASS F OR A MINIMUM OF 40% GROUND GRANULATED BLAST FURNACE SLAG. ADDITIONALLY, SILICA FUME SHALL BE SUBSTITUTED FOR A MINIMUM 5% OF THE PORTLAND CEMENT BY WEIGHT. MINERAL ADMIXTURES SHALL REPLACE THE CEMENT CONTENT AT A 1:1 RATIO BY WEIGHT. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.

ALL METALIZED SURFACES SHALL RECEIVE A SEAL COATING AS SPECIFIED IN TABLE 2 OF THE DEPARTMENTS THERMAL SPRAYED COATINGS (METALLIZATION) PROGRAM. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

PRESTRESSED CONCRETE CORED SLAB UNITS AND IF USED, PRECAST BENT CAPS, SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR IN ACCORDANCE WITH THE STANDARD SPECIFICATION.

THE CONCRETE IN THE CAST-IN-PLACE BENT CAPS OR THE PRECAST BENT CAPS, IF UTILIZED, SHALL CONTAIN SILICA FUME. SILICA FUME SHALL BE SUBSTITUTED FOR 5% OF THE PORTLAND CEMENT BY WEIGHT. IF THE OPTION OF ARTICLE 1024-1 OF THE STANDARD SPECIFICATIONS TO PARTIALLY SUBSTITUTE CLASS F FLY ASH FOR PORTLAND CEMENT IS EXERCISED, THEN THE RATE OF FLY ASH SUBSTITUTION SHALL BE REDUCED TO 1.0 LB OF FLY ASH PER 1.0 LB OF CEMENT. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.

NOTES:

ASSUMED LIVE LOAD = HL 93 OR ALTERNATE LOADING.

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

THIS STRUCTURE HAS BEEN DESIGNED WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 2.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET 1 OF 5 AND SHEET 2 OF 5 SHALL BE EXCAVATED FOR A DISTANCE OF 19 FT LEFT AND 60 FT RIGHT FOR END BENT NO. 1 AND 57 FT LEFT AND 48 FT RIGHT FOR END BENT NO. 2 OF THE CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED.

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.

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.

AFTER SERVING AS A TEMPORARY STRUCTURE FOR CONSTRUCTION OF THE PROPOSED BRIDGE, THE EXISTING STRUCTURE, CONSISTING OF 7 SPANS, 1 @ 40'-3", 5 @ 40'-0" AND 1 @ 40'-3" WITH A CLEAR ROADWAY WIDTH OF 29'-4" WITH PPC CORED SLABS ON PPC CAPS WITH STEEL PILES SHALL BE REMOVED.

THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

FERROUS REINFORCEMENT SHALL NOT BE USED IN THE CAST-IN-PLACE SUBSTRUCTURE EXCEPT FOR ANCHOR BOLTS CONNECTING THE SUPERSTRUCTURE TO THE SUBSTRUCTURE. FOR STRUCTURE REINFORCEMENT, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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

FOR 3'-8" X 3'-0" PRESTRESSED CONCRETE BENT CAPS, SEE SPECIAL PROVISIONS.

FOR CLASS AA CONCRETE (END BENT), SEE SPECIAL PROVISIONS.

FOR GLASS FIBER REINFORCED POLYMER (GFRP) BAR (END BENT), SEE SPECIAL PROVISIONS.

FOR GLASS FIBER REINFORCED POLYMER (GFRP) BAR, SEE SPECIAL PROVISIONS.

FOR 20" CARBON FIBER REINFORCED POLYMER (CFRP) PRESTRESSED CONCRETE PILES, SEE SPECIAL PROVISIONS.

FOR CARBON FIBER REINFORCED POLYMER (CFRP) STRAND, SEE SPECIAL PROVISIONS.

FOR CARBON FIBER REINFORCED POLYMER (CFRP) BAR, SEE SPECIAL PROVISIONS.

FOR PATH LIGHTING SYSTEM, SEE ELECTRICAL AND LIGHTING SPECIAL PROVISIONS.

PROJECT NO. BR-0160
BRUNSWICK COUNTY
 STATION: 21+77.50 -L-

SHEET 4 OF 5



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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON NC 179B
 OVER CALABASH RIVER
 BETWEEN SR 1810 AND NC 179

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S-5
TOTAL SHEETS 42

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : NSC	DATE : 11/2021
CHECKED BY : MKO	DATE : 01/2023
DESIGN ENGINEER OF RECORD: RLB	DATE : 03/2023