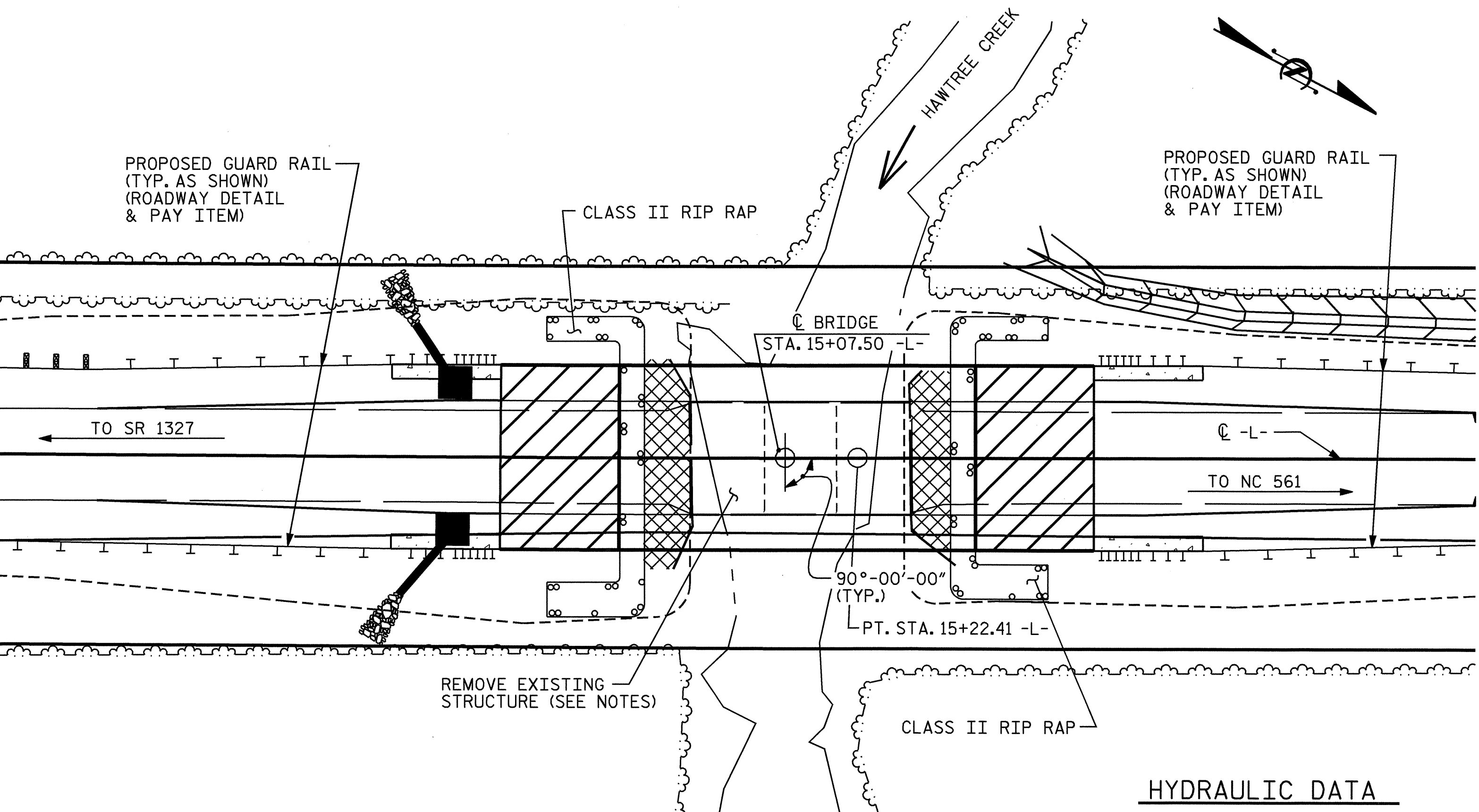


TBM #116 - RR SPIKE IN BASE OF 20" TWIN PINE -L- 14+54.92, 25.4' LT, EL = 212.45'.

NOTES



HYDRAULIC DATA

DESIGN DISCHARGE	= 1100 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YEARS
DESIGN HIGH WATER ELEVATION	= 213.400
DRAINAGE AREA	= 3.1 SQ.MI.
BASIC DISCHARGE (Q100)	= 1700 C.F.S.
BASIC HIGH WATER ELEVATION	= 214.800
OVERTOPPING DISCHARGE	= 1550 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 100 YEARS
OVERTOPPING FLOOD ELEVATION	= 214.500

NOTE : FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

ASSUMED LIVE LOAD = HS20 OR ALTERNATE LOADING.
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
 FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.
 THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.
 THE EXISTING STRUCTURE CONSISTING OF A RC FLOOR/TIMBER JOISTS (STD.BMD-10) END BENTS AND BENTS : TIMBER CAPS/TIMBER PILES @ 8'-0" CTS. AND WITH A CL. ROADWAY WIDTH OF 23.9 FT, 3 SPANS 1 @ 15'-9", 1 @ 15'-0" AND 1 @ 15'-9" 19 LINES 6 X 12 TIMBER JOISTS @ VAR CENTERS AT THE SITE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.
 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 DEMOLITION IN ACCORDANCE ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
 THE SUBSTRUCTURE OF 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.
 ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.
 THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER, 1995.
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.
 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 BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.
 THE DRILLED PIERS AT BENT NO.1 HAVE BEEN DESIGNED FOR SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 15 TONS PER SQUARE FOOT.
 THE REQUIRED TIP BEARING CAPACITY AT BENT NO.1 SHALL BE VARIFIED.
 DRILLED PIERS FOR BENT NO.1 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 173 TONS EACH AT THE TOP OF THE COLUMN.
 FOR CONSTRUCTION OF SUBSTRUCTURE SEE SPECIAL PROVISIONS.
 FOR CONSTRUCTION OF SUPERSTRUCTURE SEE SPECIAL PROVISIONS.
 THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE ELEVATION OF THE BOTTOM OF THE END BENT AND BENT CAPS ARE BELOW THE NORMAL WATER SURFACE ELEVATION.

PERMANENT STEEL CASING IS REQUIRED FOR DRILLED PIERS AT BENT NO.1, COLUMNS 1 AND 2 AND THE CASING SHALL NOT EXTEND BELOW ELEVATION 195.0 FEET WITHOUT THE ENGINEER'S PERMISSION.
 PERMANENT STEEL CASING IS REQUIRED FOR DRILLED PIERS AT BENT NO.1, COLUMN 3 AND THE CASING SHALL NOT EXTEND BELOW ELEVATION 204.5 FEET WITHOUT THE ENGINEER'S PERMISSION.
 FOR PERMANENT STEEL CASING, SEE SPECIAL PROVISIONS FOR DRILLED PIERS.
 DRILLED PIERS AT BENT NO.1 COLUMNS 1 AND 2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 183.0 FEET, AND SATISFY THE REQUIRED TIP BEARING CAPACITY.
 DRILLED PIERS AT BENT NO.1, COLUMN 3 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 192.0 FEET, AND SATISFY THE REQUIRED TIP BEARING CAPACITY.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 COLUMNS 1 AND 2 IS ELEVATION 193.0 FEET. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 COLUMN 3 IS ELEVATION 202.5 FEET. THE SCOUR CRITICAL ELEVATION ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE
 FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
 SPT TESTING IS NOT REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF THE DRILLED PIERS AT BENT NO.1.
 SLURRY CONSTRUCTION SHALL NOT BE USED FOR THIS PROJECT.
 SID INSPECTIONS ARE NOT REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS AT BENT NO.1.
 CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS AT BENT NO.1, SEE SPECIAL PROVISION FOR CROSSHOLE SONIC LOGGING.
 PILES AT END BENT NOS.1 AND 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.
 PILE EXCAVATION SHALL BE USED TO INSTALL PILES TO ELEVATION 200.0 FEET AT END BENT NOS.1 (RIGHT SIDE) AND 2 (RIGHT SIDE). SEE PILE EXCAVATION, SEE SPECIAL PROVISION.
 WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.
 PERMANENT STEEL CASING FOR BENT 1 SHALL BE INSTALLED ONE (1) FOOT ABOVE THE NORMAL WATER SURFACE ELEVATION AND MUST BE REMOVED DOWN TO THE BOTTOM OF CAP ELEVATION PRIOR TO CONSTRUCTION OF THE CAP.
 AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 15+07.50 -L-.
 THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 30 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. FOR UNCLASSIFIED STRUCTURE EXCAVATION, SEE SPECIAL PROVISIONS.
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL															
	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	3'-0" DIA. DRILLED PIERS IN SOIL	3'-0" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" DIA. DRILLED PIERS	CROSSHOLE SONIC LOGGING	CSL TUBES	UNCLASSIFIED STRUCTURE EXCAVATION	HP 12X53 STEEL PILES		PLAIN RIP RAP CLASS II (2'-0" THICK)	CONSTRUCTION OF SUBSTRUCTURE	CONSTRUCTION OF SUPERSTRUCTURE
											NO.	LIN. FT.			
END BENT #1			21	9						LUMP SUM	7	70.0	97		
BENT #1					35.5	33.0	32.0	1	304.0						
END BENT #2			30	10						LUMP SUM	9	112.5	64		
TOTAL	LUMP SUM	LUMP SUM	51	19	35.5	33.0	32.0	1	304.0	LUMP SUM	16	182.5	161	LUMP SUM	LUMP SUM

PROJECT NO. B-3182
 HALIFAX COUNTY
 STATION: 15+07.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE OVER
 HAWTREE CREEK ON
 SR 1333 BETWEEN
 SR 1327 AND NC 561

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			29



DRAWN BY : J. G. KHARVA DATE : 10-05-04
 CHECKED BY : W. A. DAVIS DATE : 11/30/04