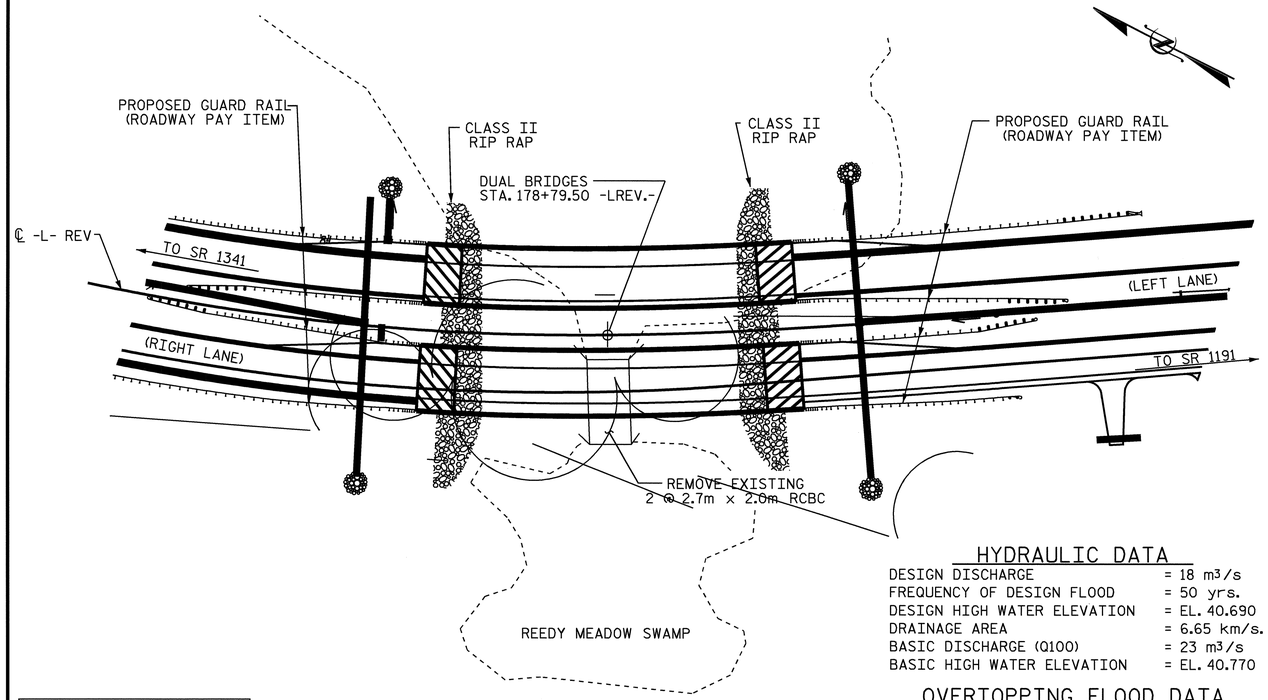
BM #14 : ELEV. 41.568m SURVEY BL STA. 86+35 OFFSET 78m LEFT RR SPIKE SET IN ROOT OF 15" SWEET GUM TREE.



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	= 18 m³/s
FREQUENCY OF DESIGN FLOOD	= 50 yrs.
DESIGN HIGH WATER ELEVATION	= EL. 40.690
DRAINAGE AREA	= 6.65 km/s.
BASIC DISCHARGE (Q100)	= 23 m³/s
BASIC HIGH WATER ELEVATION	= EL. 40.770

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 37 m³/s
FREQUENCY OF OVERTOPPING FLOOD	= 500 yrs. +
OVERTOPPING FLOOD ELEVATION	= EL. 42.910

LOCATION SKETCH

NOTES

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALL ELEVATIONS ARE IN METERS.

ASSUMED LIVE LOAD = MS 18 OR ALTERNATE LOADING.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 2 - 2.7m X 2m REINFORCED CONCRETE BOX CULVERTS SHALL BE REMOVED.

REMOVAL OF THE EXISTING CULVERTS 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.

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.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER, 1995.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 7.000m. LEFT AND 15m RIGHT EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AS UNCLASSIFIED STRUCTURE EXCAVATION.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

FOR "FABRICATED METAL STAY-IN-PLACE FORMS", SEE SPECIAL PROVISIONS.

THE CONTRACTOR MAY CHOOSE TO UTILIZE THE STANDARD OVERHANG FALSEWORK BRACING SYSTEM. SEE "STANARD OVERHANG FALSEWORK" SHEETS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

FOR METRIC STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.

PILES AT END BENT #1 AND #2 SHALL BE SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530kN EACH.

PILES AT BENT #1 SHALL BE SHALL BE DRIVEN TO AN ELEVATION NO HIGHER THAN 30.5 METERS AND SATISFY THE BEARING CAPACITY OF 900 kN EACH.

PILES AT BENT #2 SHALL BE SHALL BE DRIVEN TO AN ELEVATION NO HIGHER THAN 32.5 METERS AND SATISFY THE BEARING CAPACITY OF 900 kN EACH.

THE SCOUR CRITICAL ELEVATION FOR BENT #1 AND BENT #2 IS 38.5 m. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 100,000 N-m TO 150,000 N-m PER BLOW WILL BE REQUIRED TO DRIVE THE PP610x12.70 CLOSED ENDED PIPE PILES. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM THE PROVISIONS OUTLINED IN ARTICLE 450-6 OF THE STANDARD SPECIFICATIONS.

THE UNDERCUT AT END BENTS #1 AND #2 AS SHOWN ON THE ROADWAY PLANS MUST BE COMPLETE BEFORE END BENT CONSTRUCTION IS STARTED.

THE BEARING CAPACITY OF THE PP610x12.70 CLOSED ENDED PIPE PILES AT BENTS #1 AND #2 SHALL BE DETERMINED BY THE RESULTS OF THE PILE DRIVING ANALYSER AND WAVE EQUATION PERFORMED ON THE LEFT LANE OF THIS PROJECT.

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	1143mm PRESTRESSED CONCRETE GIRDERS		HP 310 x 79 STEEL PILES		PP 610 X 12.70 STEEL PILES		CONCRETE BARRIER RAIL	PLAIN RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS
	LUMP SUM	CU. METERS	SQ. METERS	SQ. METERS	CU. METERS	LUMP SUM	KGS.	NO.	LIN. METERS	NO.	LIN. METERS	NO.	LIN. METERS	LIN. METERS	METRIC TONS	SQ. METERS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE		1750.0	913.5	976.2				18	382.386					128.759				
END BENT #1					23.1		2085			10	195				445	455		
BENT #1					14.2		1257					8	96					
BENT #2					14.2		1257					8	92					
END BENT #2					22.8		2085			10	120				331	338		
TOTAL	LUMP SUM	1750.0	913.5	976.2	74.3	LUMP SUM	6684	18	382.386	20	315	16	188	128.759	776	793	LUMP SUM	LUMP SUM

PROJECT NO. R-2562C

BLADEN COUNTY

STATION: 178+79.50 -L- REV

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE OVER REEDY MEADOW SWAMP ON NC 87 BETWEEN SR 1341 AND SR 1191 (RIGHT LANE)

NORTH CAROLINA PROFESSIONAL SEAL 11905 ENGINEER WILLIAM A. DAVIS
10/16/04

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-38
1			3			TOTAL SHEETS
2			4			68

DRAWN BY : J. G. KHARVA DATE : 11/21/03
CHECKED BY : W. A. DAVIS DATE : 09/16/04

NCBDS