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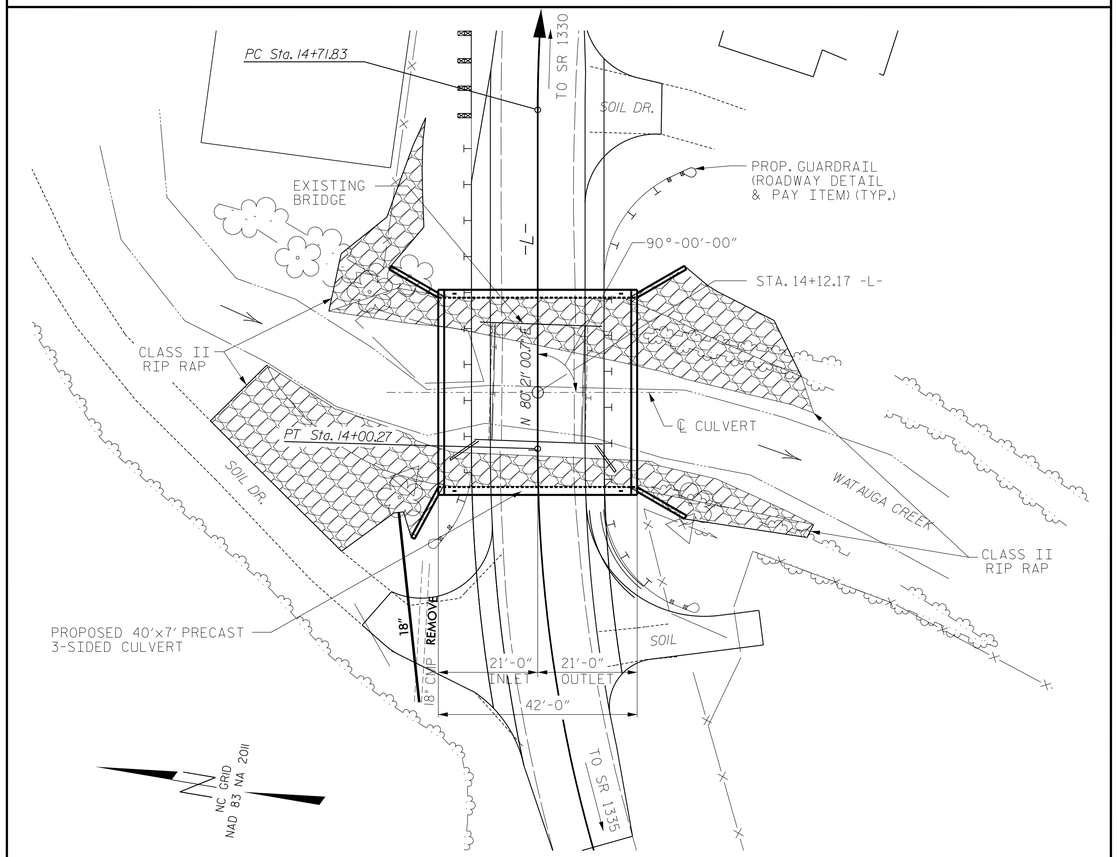
BM #2: 8" SPIKE IN ROOT OF 36" SYCAMORE 68.5' LEFT OF STA. 15+94.11 -L-
N 565528.67, E 696839.55 EL. 2019.06'



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

NOTES:

ASSUMED LIVE LOAD ----- HL-93 OR ALTERNATE LOADING.

DESIGN FILL ----- MAX. = 3.8' MIN. = 2.6'

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.

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.

CONCRETE IN WINGS SHALL BE POURED IN THE FOLLOWING ORDER:
1. FOOTINGS INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT.

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

A 3'-0" STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC MANAGEMENT PLANS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL PROVIDE DRIVING EQUIPMENT IN ACCORDANCE WITH SUB-ARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

TEMPORARY SHORING MAY BE REQUIRED. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN, 25'-6" LONG, WITH A CLEAR ROADWAY WIDTH OF 19'-0", WITH TIMBER DECKING ON I-BEAMS ON TIMBER CAPS, POSTS AND SILLS AND TIMBER BULKHEADS AND LOCATED AT THE PROPOSED STRUCTURE, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED. 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 WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

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.

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 SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

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 WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE".

FOR PRECAST REINFORCED THREE-SIDE CULVERT, SEE SPECIAL PROVISIONS.

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

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

FOOTING IS DESIGNED FOR ASSUMED PRECAST CULVERT WALL THICKNESS OF 1'-8". HEADWALL IS DESIGNED FOR PRECAST TOP SLAB THICKNESS OF 1'-3".

FOUNDATION RECOMMENDATIONS:

THE SPREAD FOOTINGS ARE DESIGNED FOR A FACTORED RESISTANCE OF 6 TSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 14 TSF JUST BEFORE PLACING CONCRETE.

KEY SPREAD FOOTINGS AT LEAST 12" INTO ROCK WITH MINIMUM THICKNESS AS SHOWN ON THE PLANS.

THE SCOUR CRITICAL ELEVATION IS THE BOTTOM OF FOOTING. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT EAST FOUNDATION ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE.

DRIVE PILES AT EAST FOUNDATION TO A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE.

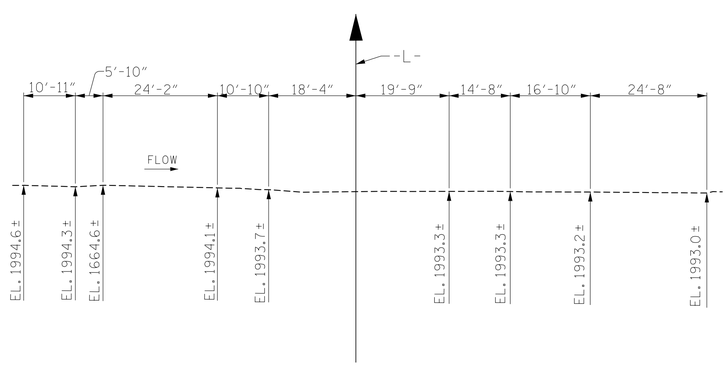
PILE EXCAVATION IS REQUIRED TO INSTALL PILES AT EAST FOUNDATION. EXCAVATE HOLES AT PILE LOCATIONS TO ELEVATION 1,978.0 FT. AND HAVE AT LEAST 5 FEET OF PENETRATION INTO WEATHERED ROCK OR CRYSTALLINE ROCK. SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

CONCRETE IS REQUIRED TO FILL HOLES FOR PILE EXCAVATION AT EAST FOUNDATION.

GRADE DATA

GRADE POINT ELEV. @ STATION 14+12.17 = 2002.6±
BED ELEV. @ STATION 14+12.17 = 1992.24±
ROADWAY SLOPES 2:1

I HEREBY CERTIFY THAT THESE PLANS ARE THE AS-BUILT PLANS.



PROFILE ALONG ℄ CULVERT

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE AT STA. 14+12.17 -L-	LUMP SUM
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT AT STA. 14+12.17 -L-	LUMP SUM
CLASS 'A' CONCRETE	60.6 CU. YDS.
REINFORCING STEEL	4,857 LBS
12x53 STEEL H-PILES	121.0 LIN. FT.
CLASS II RIP RAP	94.0 TONS
NATIVE MATERIAL	87.0 TONS
PILE EXCAVATION IN SOIL	55.0 LIN. FT.
PILE EXCAVATION NOT IN SOIL	58.0 LIN. FT.
ASBESTOS ASSESSMENT	LUMP SUM
FOUNDATION EXCAVATION	8.7 CU. YDS.

HYDRAULIC DATA

DESIGN DISCHARGE	= 1700	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2001.5	FT
BASE DISCHARGE	= 2500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2002.98	FT
OVERTOPPING DISCHARGE	= 2100	CFS
OVERTOPPING FREQUENCY	= 25+	YRS
OVERTOPPING ELEVATION	= 2002.3	FT
DRAINAGE AREA	= 7.68	SQ. MI.
W.S. ELEVATION AT DATE OF SURVEY	= 1994.2 (10/15/2013)	FT

NORTH CAROLINA PROFESSIONAL SEAL 042241 ENGINEER HARDY L. WILLIS
DocuSigned by: Hardy Willis
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1/10/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

V&M Vaughn & Melton Consulting Engineers
Middlesboro, Kentucky 606-248-6600
Knoxville, Tennessee 865-546-5800
Asheville, North Carolina 828-253-2796
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PROJECT NO. 17BP.14.R.140
MACON COUNTY
STATION: 14+12.17 -L-
SHEET 1 OF 9 REPLACES BRIDGE NO. 64

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT, 90° SKEW ALONG WATAUGA CREEK ON SR 1328 (JIM BERRY ROAD) BETWEEN SR 1335 AND SR 1330

DRAWN BY: FRJ DATE: 8/2016
CHECKED BY: HLW DATE: 8/2016
ENG. OF RECORD: JEB DATE: 8/2016

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			9