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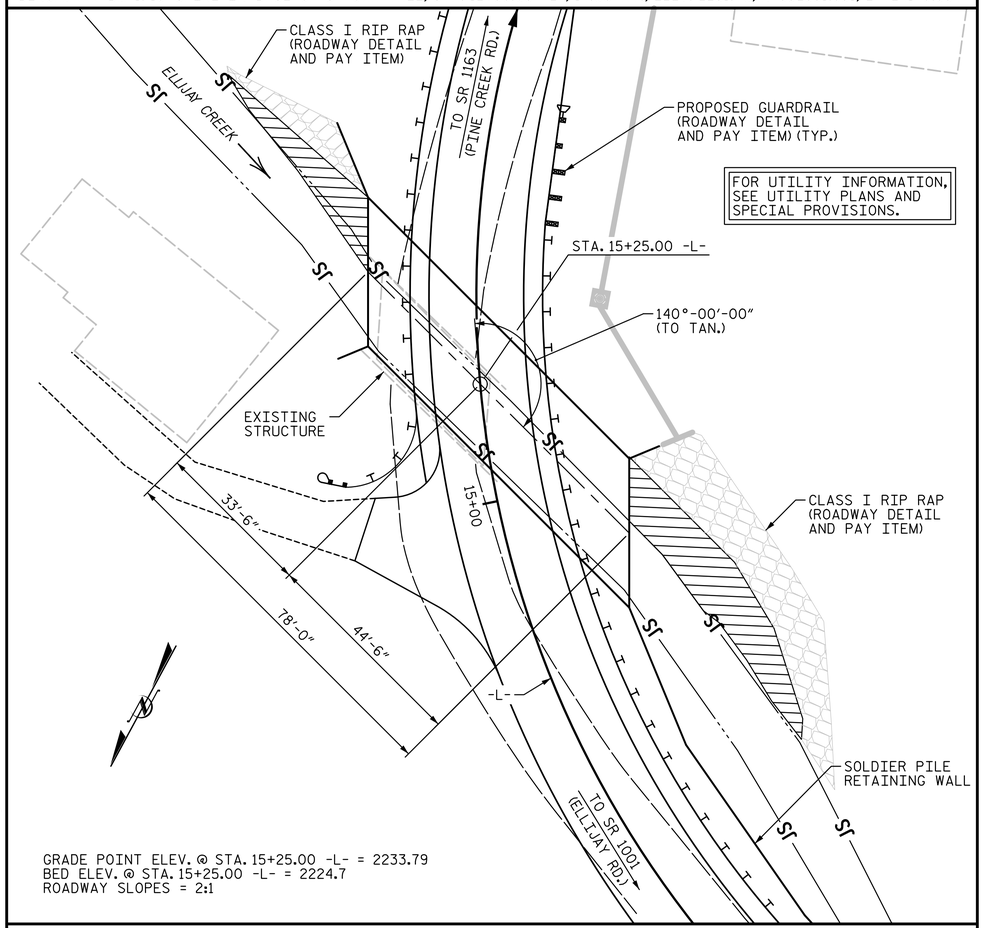
BENCHMARK BM-1: 10" SPIKE IN BASE OF 34" OAK TREE, STA. 12+58.68 -L-, 14.60' RT., ELEV. 2231.76, N 552831.951, E 724149.954



LOCATION SKETCH

F.A. PROJ. NO. BRZ-1528 (007)

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE	LUMP SUM
ASBESTOS ASSESSMENT	LUMP SUM
CULVERT EXCAVATION, STA. 15+25.00 -L-	LUMP SUM
FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	123 TONS
CLASS A CONCRETE	
BARREL:	2.259 CY/FT = 176.2 C.Y.
WINGS, ETC.:	24.2 C.Y.
TOTAL:	200.4 C.Y.
REINFORCING STEEL	
BARREL:	29,660 LBS.
WINGS, ETC.:	824 LBS.
TOTAL:	30,484 LBS.
PLACEMENT OF NATURAL STREAM BED MATERIAL	LUMP SUM

HYDRAULIC DATA

DESIGN DISCHARGE: 850 CFS
FREQUENCY OF DESIGN FLOOD: 10 YRS.
DESIGN HIGH WATER ELEVATION: 2231.0
DRAINAGE AREA: 4.2 SQ. MI.
BASE DISCHARGE (Q100): 1,840 CFS
BASE HIGH WATER ELEVATION: 2235.07

OVERTOPPING DATA

OVERTOPPING DISCHARGE: 1,000 CFS
FREQUENCY OF OVERTOPPING: 10± YRS.
OVERTOPPING FLOOD ELEVATION: 2233.4

NOTES:

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

DESIGN FILL----------2.91' MAX. AND 1.15' MIN.

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

THE EXISTING STRUCTURE CONSISTING OF ONE 20'-6" TIMBER DECK ON TIMBER JOIST SPAN WITH A CLEAR ROADWAY WIDTH OF 24'-2" ON TIMBER CAPS AND TIMBER POST AND SILLS AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED IN STAGES. SEE SHEETS C-2 AND C-3 FOR CONSTRUCTION PHASING DIAGRAM. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE PORTION OF THE BRIDGE THAT REMAINS DURING PHASE 1 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 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.

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

CONCRETE IN 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 THE ROOF SLAB AND HEADWALLS.

FOR OPTIONAL STAGING OF BARRELS, SEE SHEET C-7.

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 SHEETS.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF THE EXTERIOR WALL AND BOTH FACES OF INTERIOR WALL ABOVE THE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE 2'-2" FOR #5 BARS AND 1'-9" FOR #4 BARS. EXTRA WEIGHT OF STEEL DUE TO SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

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.

EXCAVATE 1 FOOT BELOW THE BOTTOM OF THE PROPOSED CULVERT BARREL AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414 OF THE STANDARD SPECIFICATIONS.

NO WORK SHALL BE DONE ON THE CULVERT UNTIL THE AREA OF THE BOX CULVERT HAS BEEN UNDERCUT AND UNSUITABLE MATERIAL REPLACED WITH SUITABLE MATERIAL, PROPERLY COMPACTED TO THE ELEVATION OF THE BOTTOM OF THE PROPOSED FLOOR SLAB. THE LIMITS OF THE UNDERCUT EXCAVATION SHALL BE AT LEAST THE LIMITS OF THE BOX CULVERT.

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 OF THE PROJECT SITE.

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

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

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

FOR PLACEMENT OF NATURAL STREAM BED MATERIAL, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECTIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

UNO = UNLESS NOTED OTHERWISE

UPSTATION - IN DIRECTION OF INCREASING STATIONING

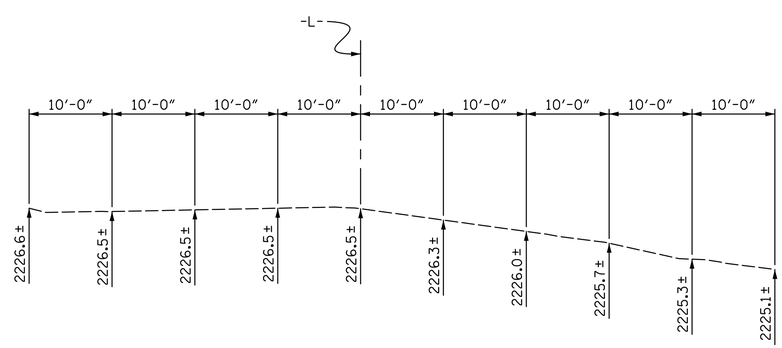
DOWNSTATION - IN DIRECTION OF DECREASING STATIONING

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

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.



PROFILE ALONG ℄ CULVERT

PROJECT NO. B-6028
MACON COUNTY
STATION: 15+25.00 -L-

SHEET 1 OF 11 REPLACES BRIDGE NO. 150

DocuSigned by: 68C7E5EFD4F8...

NORTH CAROLINA PROFESSIONAL SEAL 038640 ENGINEER WESLEY JONES
12/10/2021

STV 100 Years
STV ENGINEERS, INC.
900 West Trade St., Suite 715
Charlotte, NC 28202
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 10'-0" X 6'-0" CONCRETE BOX CULVERT ON SR 1528 AT ELLIJAY CREEK 135°-00'-00" SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			14

DRAWN BY :	LEM	DATE :	8-17
CHECKED BY :	JAD	DATE :	9-17
DESIGN ENGINEER OF RECORD :	JWJ	DATE :	12-21

JJones 12/7/2021 11:04:13 AM R:\Structures\ustation\401_001_17BP.14.R.157_SMU_RCBC01.dgn