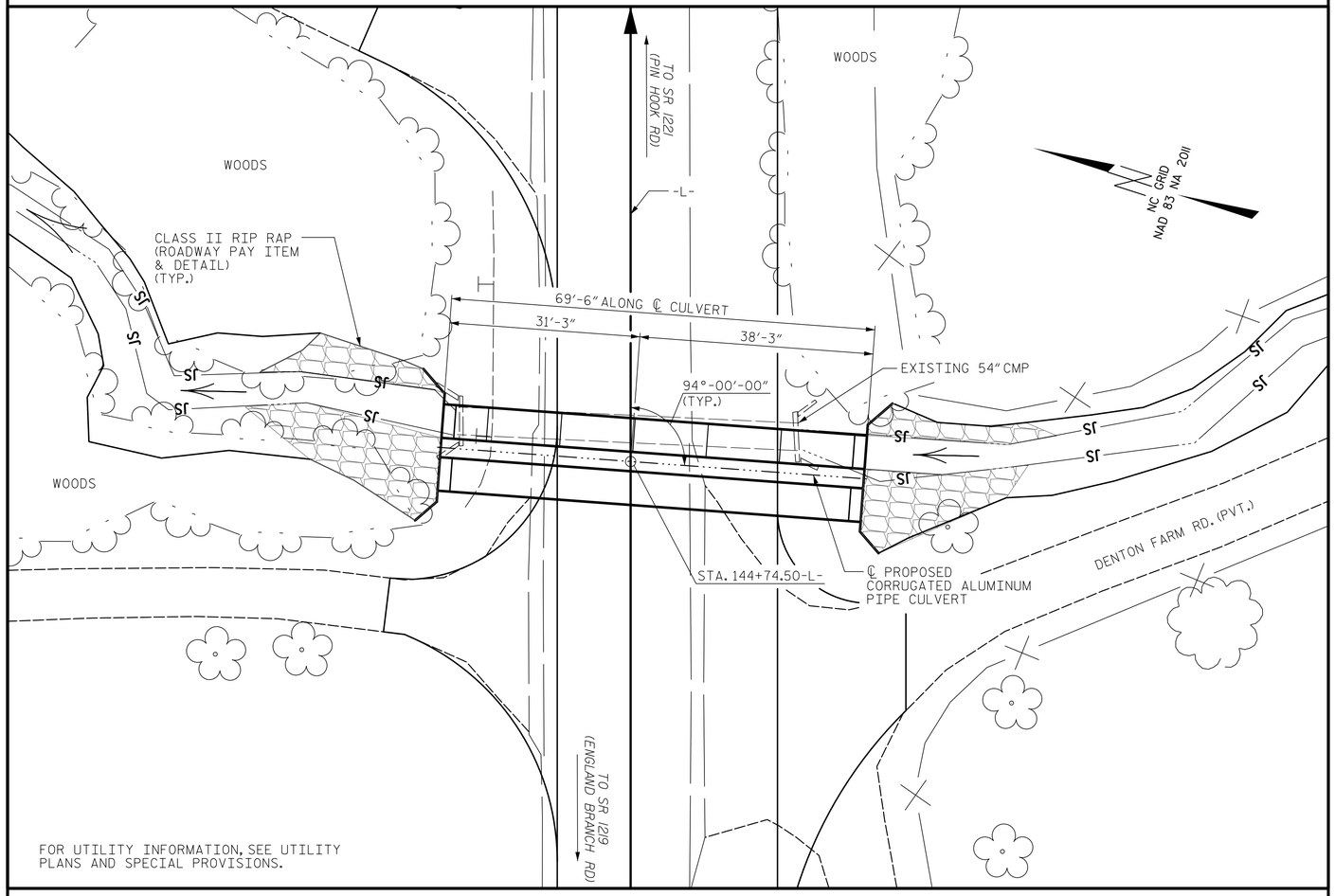
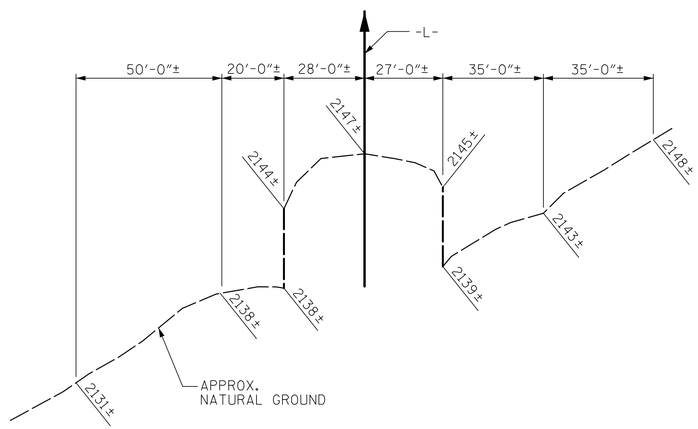
BENCH MARK #7: SPIKE NAIL SET IN BASE OF 20" POPLAR; 33.6' RT. OF STA. 137+92.90 -L-; ELEV. 2125.10



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG ℄ CULVERT

DRAWN BY : ZCS DATE : 12/21
CHECKED BY : MGC DATE : 1/22

NOTES:

ASSUMED LIVE LOAD - HL-93 OR ALTERNATE.

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

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF THE CULVERT BEFORE CONSTRUCTION TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

FILL DEPTH 3'-0".

EXCAVATE AT LEAST 1 FOOT BELOW THE CULVERT AND REPLACE EXCAVATED MATERIAL WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414-4 OF THE STANDARD SPECIFICATIONS. FOUNDATION CONDITIONING MATERIAL SHOULD CONSIST OF SELECT MATERIAL CLASS V OR VI FOR RCBC.

IF REQUIRED, UNDERCUT LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL.

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 EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

THE ENTIRE AREA OF THE ALUMINUM PIPES IN CONTACT WITH THE CONCRETE HEADWALL SHALL BE THOROUGHLY COATED WITH NEOPRENE SEALANT FOR CORROSION PROTECTION AT THE DIRECTION OF THE ENGINEER.

FOR CORRUGATED ALUMINUM PIPE CULVERT, SEE SPECIAL PROVISIONS.

F.A. PROJECT NO.: APD-0074(178)

TOTAL STRUCTURE QUANTITIES	
CORRUGATED ALUMINUM PIPE CULVERT	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	89 TONS

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.

ROADWAY DATA

GRADE POINT ELEV. @ STA. 144+74.50-L-	= 2147.65'
BED ELEV. @ STA. 144+74.50-L-	= 2138.3'
ROADWAY SLOPES	= VARIES

HYDRAULIC DATA

DESIGN DISCHARGE	= 330 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS
DESIGN HIGH WATER ELEVATION	= 2146.5'
DRAINAGE AREA	= 0.39 SQ. MI.
BASE DISCHARGE (Q100)	= 410 CFS
BASE HIGH WATER ELEVATION	= 2146.8'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 410 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 100 YRS
OVERTOPPING FLOOD ELEVATION	= 2146.8'

PROJECT NO. A-0009CA
GRAHAM COUNTY
STATION: 144+74.50 -L-

SHEET 1 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL G. CHEEK, JR.
Marshall G. Cheek, Jr.
1F8C6F3A4DC41...
6/1/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CORRUGATED ALUMINUM PIPE CULVERT 94° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C5-1
1			3			TOTAL SHEETS
2			4			4

STR. #5