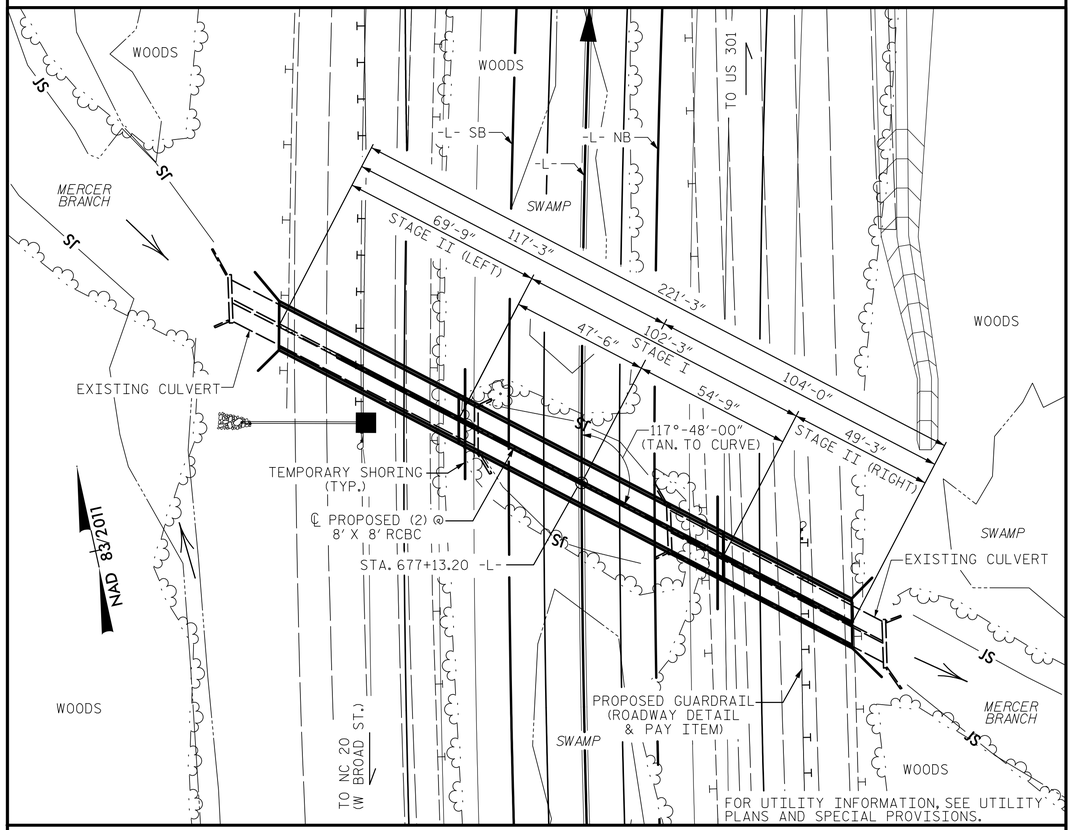
BENCH MARK #54: TIE SPIKE SET IN 19" OAK; STA. 681+81.49 -L-; 121.90' RT.; ELEV. 170.46'



LOCATION SKETCH

NOTES:

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

DESIGN FILL---------- 9.14 FT.

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

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

CONCRETE IN EACH STAGE TO BE POURED IN THE FOLLOWING ORDER:

1. PHASE I WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF PHASE I WALLS AND PHASE I WINGS FULL HEIGHT.
3. PHASE II WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF PHASE II VERTICAL WALLS.
4. THE REMAINING PORTIONS OF PHASE II WALLS AND PHASE II WINGS FULL HEIGHT.
5. ROOF SLAB AND HEADWALLS.

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 SHEET.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. 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.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR CONSTRUCTION SEQUENCE, SEE EROSION CONTROL PLANS.

FOR TRAFFIC PHASING, SEE TRAFFIC CONTROL PLANS.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

DOWELS SHALL BE USED TO CONNECT THE STAGE II CULVERT TO STAGE I AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.

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.

EXCAVATE FOUNDATION A MINIMUM OF 12" BELOW CULVERT BEARING ELEVATION. PLACE 12" OF CLASS VI FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH SECTION 414 OF THE STANDARD SPECIFICATIONS.

FOR AREAS WITH NEW FILL BELOW CULVERT BEARING ELEVATION, PLACE A MINIMUM OF 12" OF CLASS VI FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH SECTION 414 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE ADDITIONAL CLASS VI FOUNDATION CONDITIONING MATERIAL FOR FILL BENEATH CULVERT BEARING ELEVATION.

OVEREXCAVATE ADDITIONAL LOOSE/SOFT OR ORGANIC MATERIAL IF PRESENT TO SUITABLE BEARING MATERIALS AND REPLACE WITH ADDITIONAL CLASS VI FOUNDATION CONDITIONING MATERIAL.

ENCAPSULATE ALL FOUNDATION CONDITIONING MATERIAL IN TYPE 4 GEOTEXTILE. FOR FOUNDATION CONDITIONING GEOTEXTILE, SEE BOX CULVERT EXCAVATION SPECIAL PROVISION.

ROADWAY DATA

G.P. ELEV. @ STA. 677+26.38 -L- SB	= 172.90'
G.P. ELEV. @ STA. 677+00.02 -L- NB	= 171.85'
BED ELEV. @ STA. 677+13.20 -L-	= 156.50'
ROADWAY SLOPES	= 3 : 1

HYDRAULIC DATA

DESIGN DISCHARGE	= 670 CFS
FREQUENCY OF DESIGN FLOOD	= 100 YRS
DESIGN HIGH WATER ELEVATION	= 165.7'
DRAINAGE AREA	= 2.1 SQ. MI.
BASE DISCHARGE (Q100)	= 670 CFS
BASE HIGH WATER ELEVATION	= 165.7'

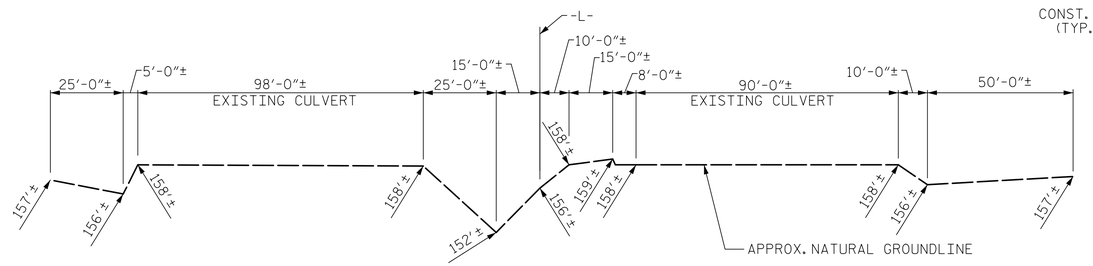
OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1000 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS
OVERTOPPING FLOOD ELEVATION	= 168.0'

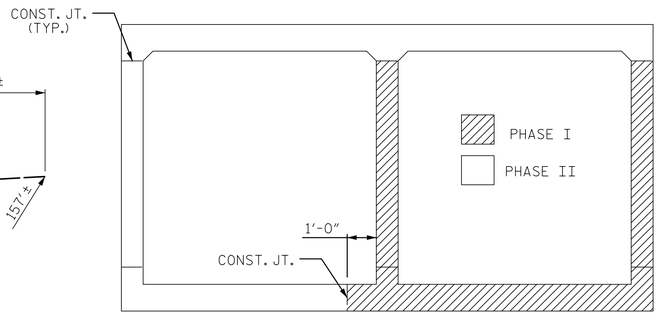
TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		REINFORCING STEEL		FOUNDATION COND. MAT'L.		FOUNDATION COND. GEOTEXTILE	
STAGE I	198.4 C.Y.	STAGE I	24,373 LBS.	STAGE I	160 TONS	STAGE I	530 SQ. YDS.
STAGE II (LEFT)	158.1 C.Y.	STAGE II (LEFT)	18,102 LBS.	STAGE II (LEFT)	110 TONS	STAGE II (LEFT)	380 SQ. YDS.
STAGE II (RIGHT)	119.0 C.Y.	STAGE II (RIGHT)	13,349 LBS.	STAGE II (RIGHT)	78 TONS	STAGE II (RIGHT)	270 SQ. YDS.
TOTAL	475.5 C.Y.	TOTAL	55,824 LBS.	TOTAL	348 TONS	TOTAL	1,180 SQ. YDS.

REMOVAL OF EXISTING STRUCTURES	LUMP SUM
CULVERT EXCAVATION	LUMP SUM



PROFILE ALONG ℄ CULVERT



CONSTRUCTION PHASING

(LOOKING DOWNSTREAM)

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

SEAL

PROJECT NO. I-5987B

ROBESON COUNTY

STATION: 677+13.20 -L-

SHEET 1 OF 13 STRUCTURE #770569

DRAWN BY : ZCS DATE : 5/21

CHECKED BY : MGC DATE : 9/21

DESIGN ENGINEER OF RECORD: ZCS DATE : 9/21

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARGARET G. CHEEK JR.

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4/12/2022 | 10:34 AM EDT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH STREET
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 8 FT. X 8 FT. CAST-IN-PLACE CONCRETE BOX CULVERT 117°-48'-00" SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C15-1
1			3			TOTAL SHEETS
2			4			13

FILE NAME: 411_001_I-5987B_Site_15_SMU_CU_001.dgn SITE 15