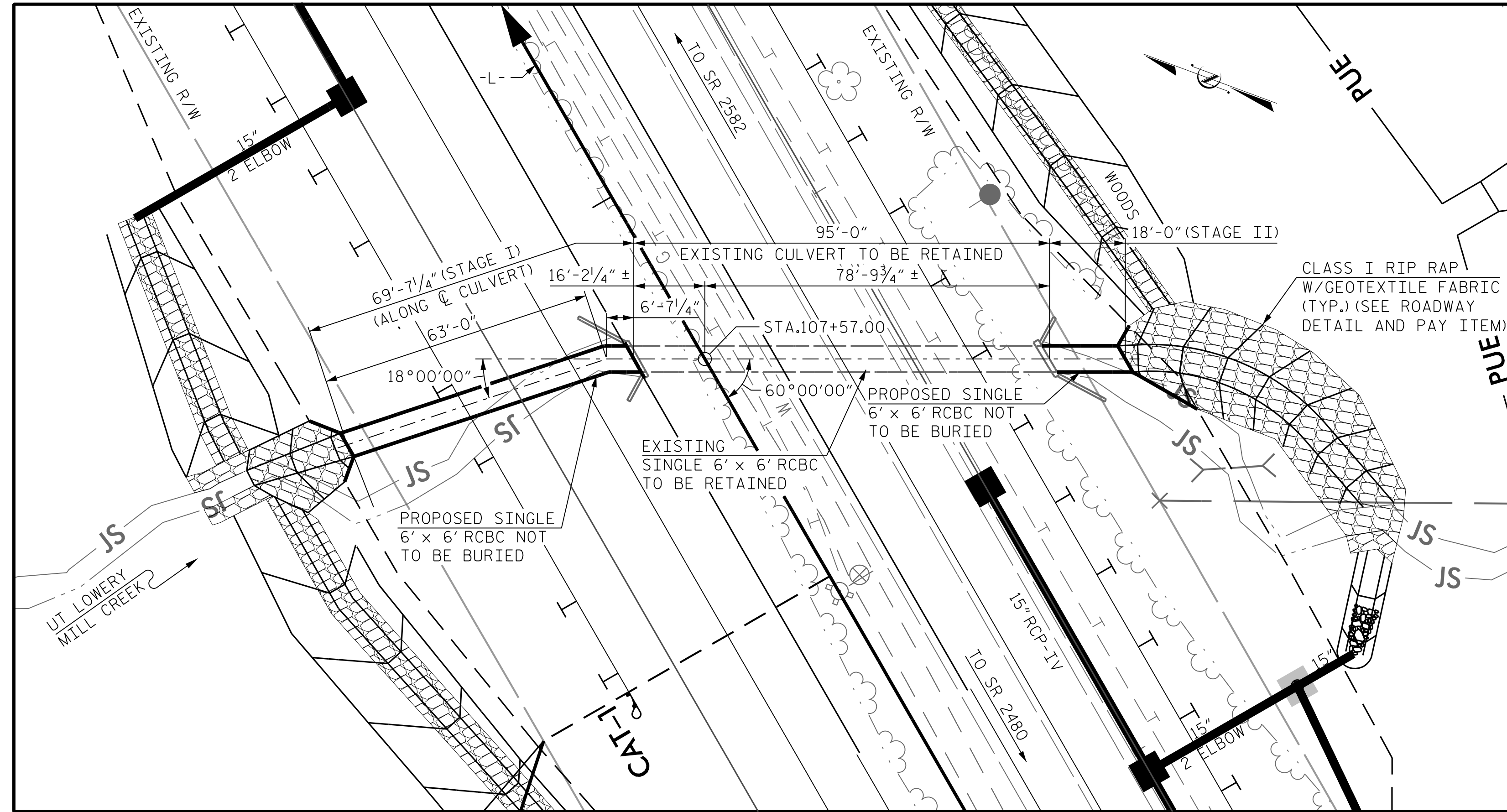
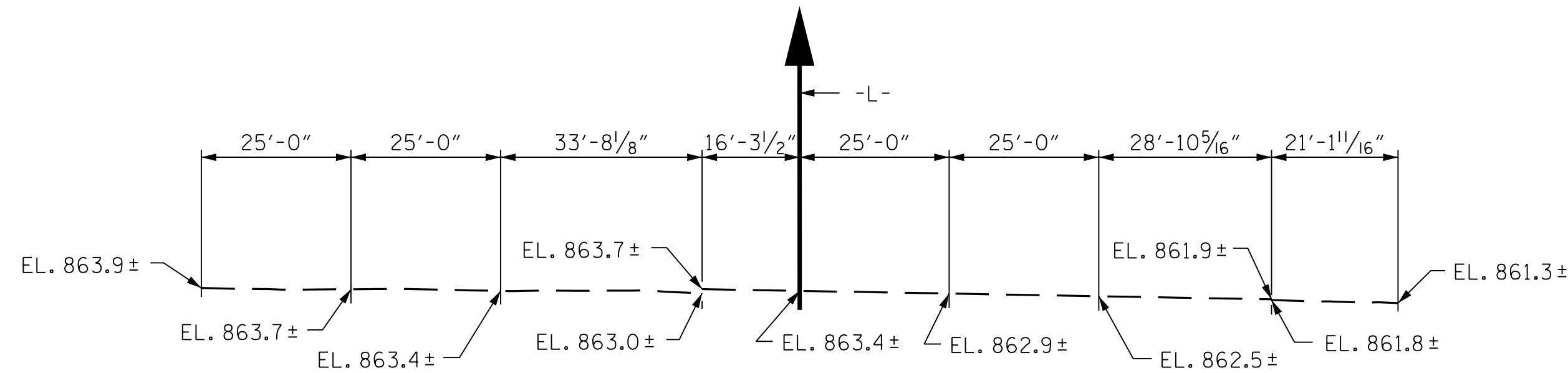


BENCH MARK: BM #6 AT STA. 99+17.1 -L-, 289.8' LT, RAILROAD SPIKE SET IN 36" OAK TREE, EL. 878.38, N 869487, E 1654353; NAVD 88



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS
 GRADE POINT ELEVATION AT STA. 107+57.00 -L- = 883.9
 EXISTING INLET INVERT ELEVATION = 863.7, EXISTING OUTLET INVERT ELEVATION = 862.0
 ROADWAY SLOPES = 2:1



PROFILE ALONG CULVERT

STAGE I STRUCTURE QUANTITIES			
CLASS A CONCRETE			
BARREL @	0.86	CY/FT	59.6 C.Y.
WING ETC.	8.5		C.Y.
TOTAL	68.1		C.Y.
REINFORCING STEEL			
BARREL	6,411		LBS.
WINGS ETC.	475		LBS.
TOTAL	6,886		LBS.
CULVERT EXCAVATION ----- LUMP SUM			
FOUNDATION CONDITIONING MATERIAL--- 56 TONS			

STAGE II STRUCTURE QUANTITIES			
CLASS A CONCRETE			
BARREL @	0.88	CY/FT	15.9 C.Y.
WING ETC.	8.8		C.Y.
TOTAL	24.7		C.Y.
REINFORCING STEEL			
BARREL	2,069		LBS.
WINGS ETC.	474		LBS.
TOTAL	2,543		LBS.
CULVERT EXCAVATION ----- LUMP SUM			
FOUNDATION CONDITIONING MATERIAL--- 14 TONS			

NOTES:

- ASSUMED LIVE LOAD ----- HL-93 OR ALTERNATE LOADING.
- DESIGN FILL----- 14.9 FT. (MAX.), 13.2 FT. (MIN.)
- 3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.
- CONCRETE IN BOTH STAGE I AND STAGE II OF THE CULVERT TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS, CURTAIN WALL, AND FLOOR SLAB INCLUDING 4" OF VERTICAL WALLS.
 2. THE REMAINING PORTION OF THE WALL TO THE PERMITTED CONSTRUCTION JOINT, THE WINGS FULL HEIGHT, FOLLOWED BY THE ROOF SLAB AND HEADWALLS.
- THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN 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.
- DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE STANDARD NOTES SHEET.
- IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSIONS. IN THIS CASE, THE BOTTOM SLAB OF EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO CUTTING THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE STRENGTH HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.
- NO PRECAST BOX CULVERT OPTION WILL BE ALLOWED.
- A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WINGS COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- EXCAVATE 1 FOOT BELOW CULVERT BEARING ELEVATION AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL (SELECT MATERIAL, CLASS VI)
- UNDERCUT ANY SOFT/LOOSE ALLUVIAL SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. BACKFILL UNDERCUT AREA WITH FOUNDATION CONDITIONING MATERIAL.

HYDRAULIC DATA

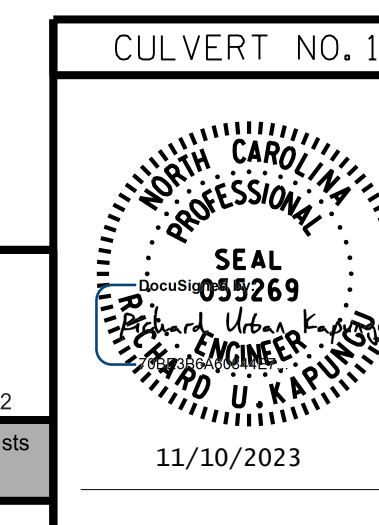
DESIGN DISCHARGE-----170 C.F.S.
 FREQUENCY OF DESIGN FLOOD-----50 YR.
 DESIGN HIGH WATER ELEVATION-----868.6
 DRAINAGE AREA-----0.14 SQ. MI.
 BASE DISCHARGE (Q100)-----180 C.F.S.
 BASE HIGH WATER ELEVATION-----868.8

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE-----791 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD-----500 YR. +
 OVERTOPPING FLOOD ELEVATION-----881.4
 OVERTOPPING OCCURS AT STA. 103+22.8 -L-

PROJECT NO. R-2577A
 FORSYTH COUNTY
 STATION: 107+57.00 -L-

SHEET 1 OF 9



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SINGLE 6 FT. X 6 FT.
 CONCRETE BOX CULVERT
 LEFT AND RIGHT EXTENSION



REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 9

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

R:\Structures\Culvert\UT Lowery Mill Creek Culvert\VDGN\Final\R-2577A_SMU_CU_1-1_330000.dgn

DRAWN BY : B. H. GONFA DATE : NOV 2023
 CHECKED BY : O. J. PAITEL DATE : NOV 2023
 DESIGN ENGINEER OF RECORD : R. U. KAPUNGU DATE : NOV 2023