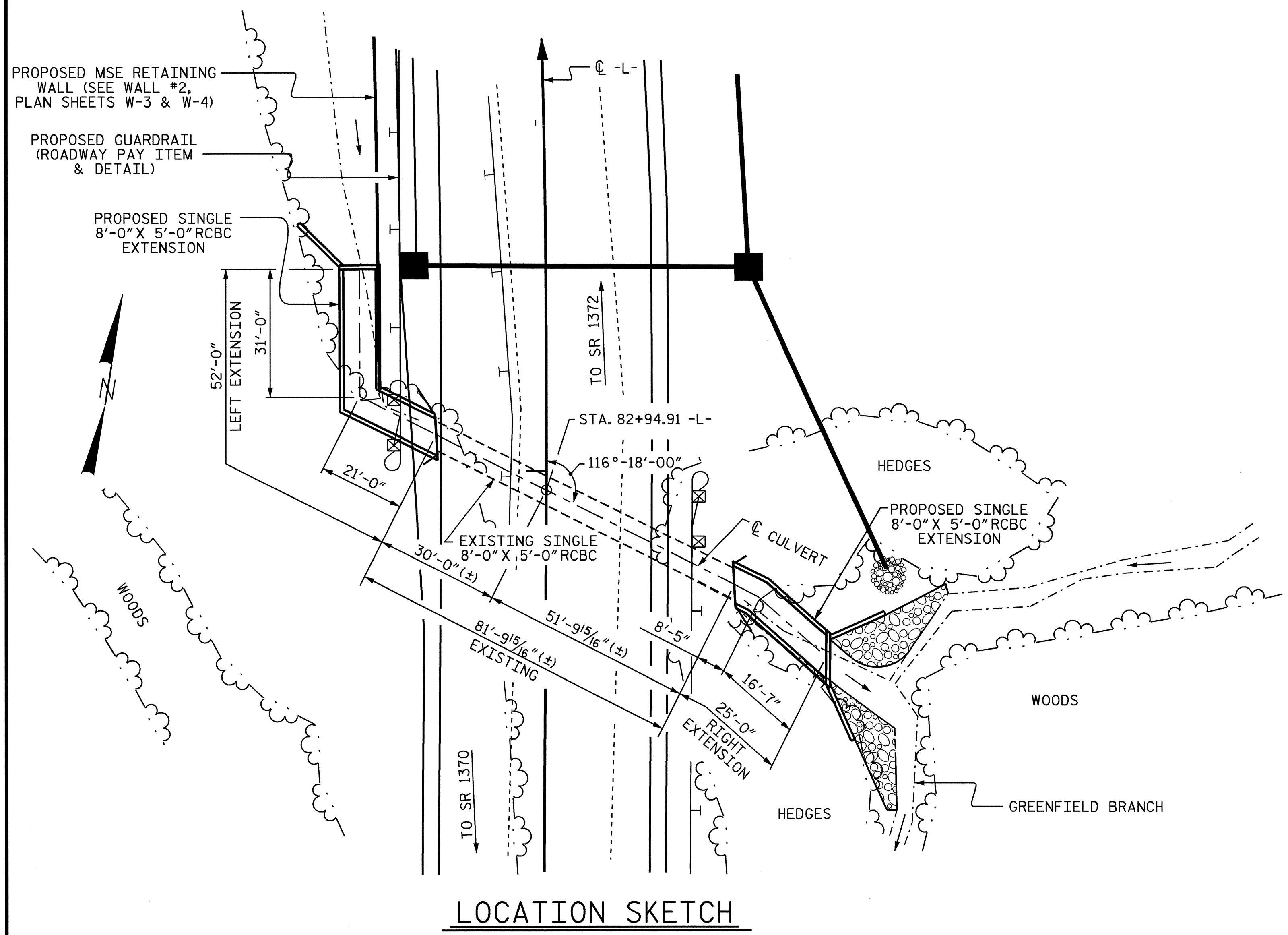


BM #4 : RR SPIKE IN BASE OF 27" YELLOW POPLAR 76.32' LEFT OF -L- STA. 89+45.29 ELEV. 1875.570

F.A. PROJECT NO. NHF-321(12)



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	= 320 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS
DESIGN HIGH WATER ELEVATION	= 1841.200
DRAINAGE AREA	= .35 SQ.MILE
BASIC DISCHARGE (Q100)	= 400 CFS
BASIC HIGH WATER ELEVATION	= 1843.700

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 570 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 200 YRS
OVERTOPPING FLOOD ELEVATION	= 1850.200

ROADWAY DATA

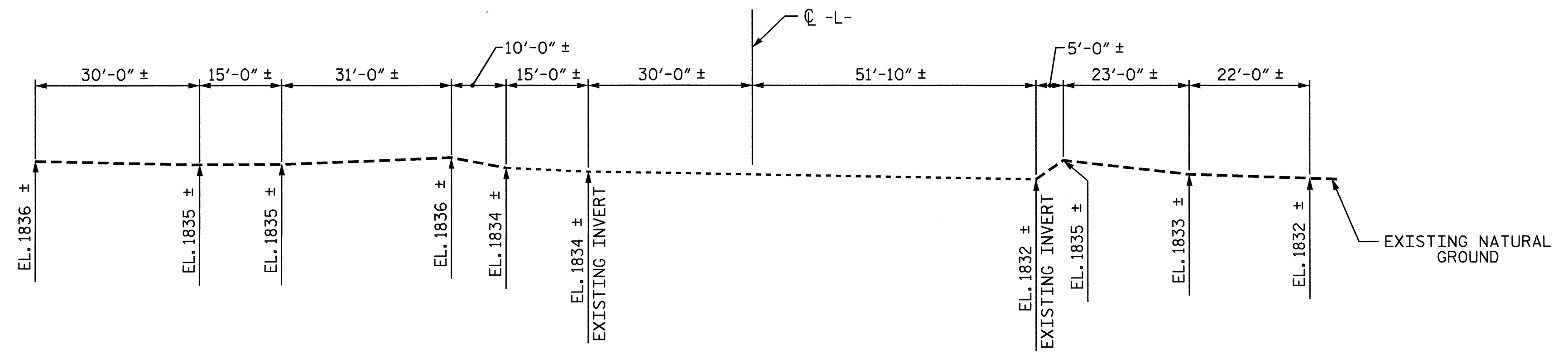
GRADE POINT EL. @ STA. 82+94.91 -L-	= 1855.440
BED EL. @ STA. 82+94.91 -L-	= 1833.570
ROADWAY SLOPES	= 2 : 1 LEFT = 1.75 : 1 RIGHT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
LEFT EXTENSION	45.1 C.Y.
RIGHT EXTENSION	28.8 C.Y.
TOTAL	73.9 C.Y.
REINFORCING STEEL	
LEFT EXTENSION	7563 LBS.
RIGHT EXTENSION	4074 LBS.
TOTAL	11637 LBS.
FOUNDATION CONDITIONING MATERIAL	
LEFT EXTENSION	35 TONS
RIGHT EXTENSION	15 TONS
TOTAL	50 TONS
CULVERT EXCAVATION	LUMP SUM

NOTES

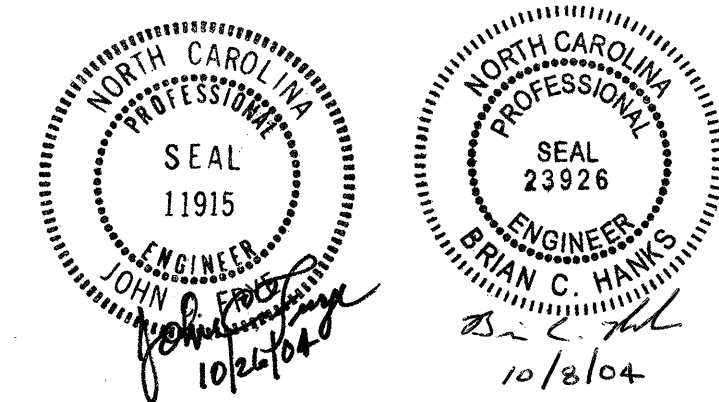
ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.  
 DESIGN FILL-----LEFT EXTENSION = 17.0'  
 DESIGN FILL-----RIGHT EXTENSION = 18.0'  
 FOR OTHER DESIGN DATA AND GENERAL NOTES SEE SHEET SN.  
 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.  
 CONCRETE IN CULVERTS TO BE POURED 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 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.  
 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.  
 DOWELS (Ø1) SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.  
 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.  
 NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.  
 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 BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.  
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.  
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.  
 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 THE 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.  
 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.



PROFILE ALONG CULVERT

PROJECT NO. R-2237B  
 CALDWELL COUNTY  
 STATION: 82+94.91 -L-

SHEET 1 OF 9  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SINGLE 8 FT. X 5 FT.  
 CONCRETE BOX CULVERT  
 EXTENSIONS  
 116° 18' 00" SKEW



ASSEMBLED BY : J.L. WALTON DATE : 4/13/04  
 CHECKED BY : K.K. PUROHIT DATE : 7/22/04

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-11
1			3			TOTAL SHEETS 19
2			4			