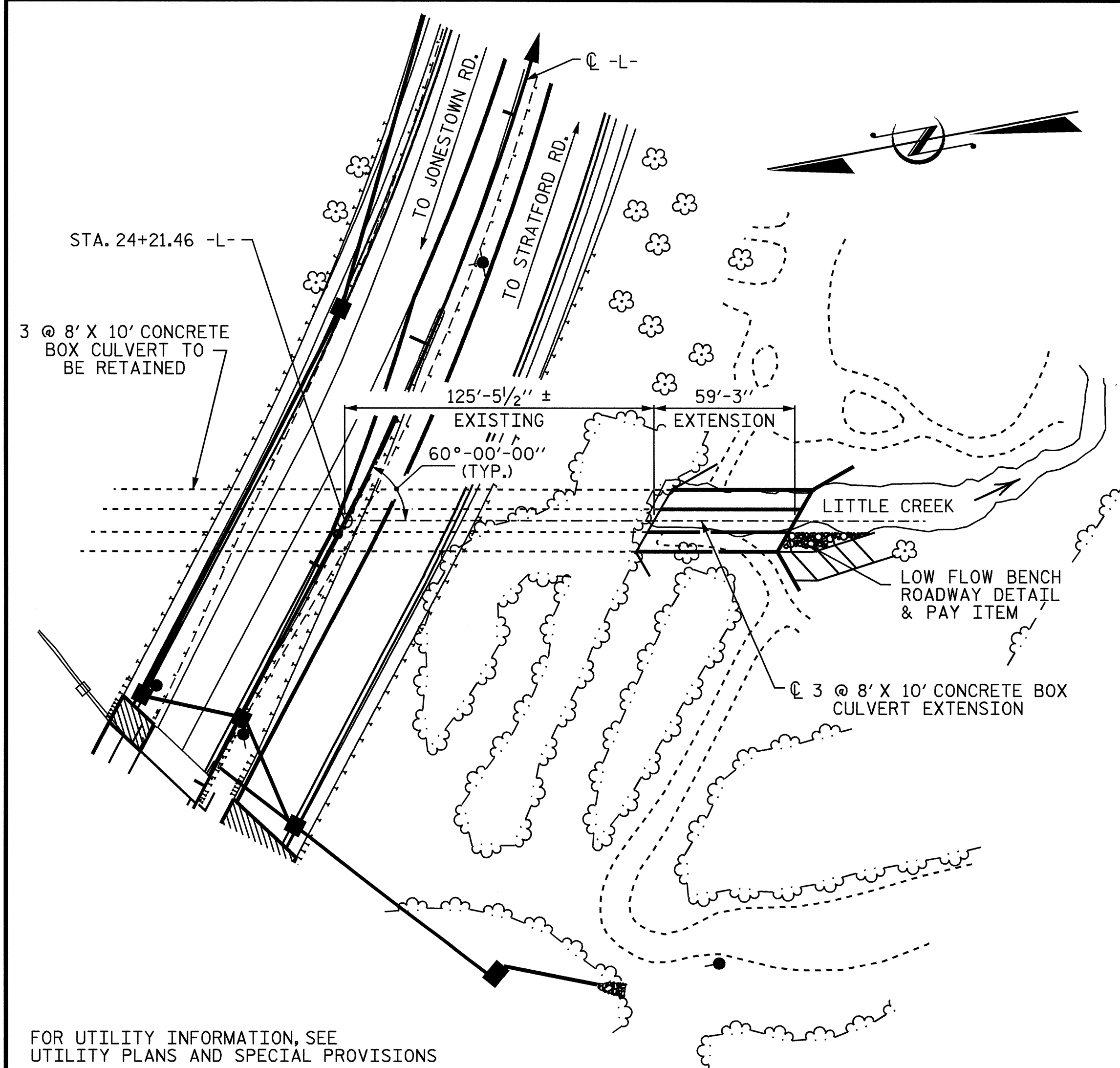


BENCH MARK #101: RR SPIKE IN BASE OF 28" WHITE OAK 40' OFF WESTERN EP OF HANES MALL BLVD 77' RIGHT OF -BL- STA. 27+63.00 EL. 797.16



LOCATION SKETCH

HYDRAULIC DATA

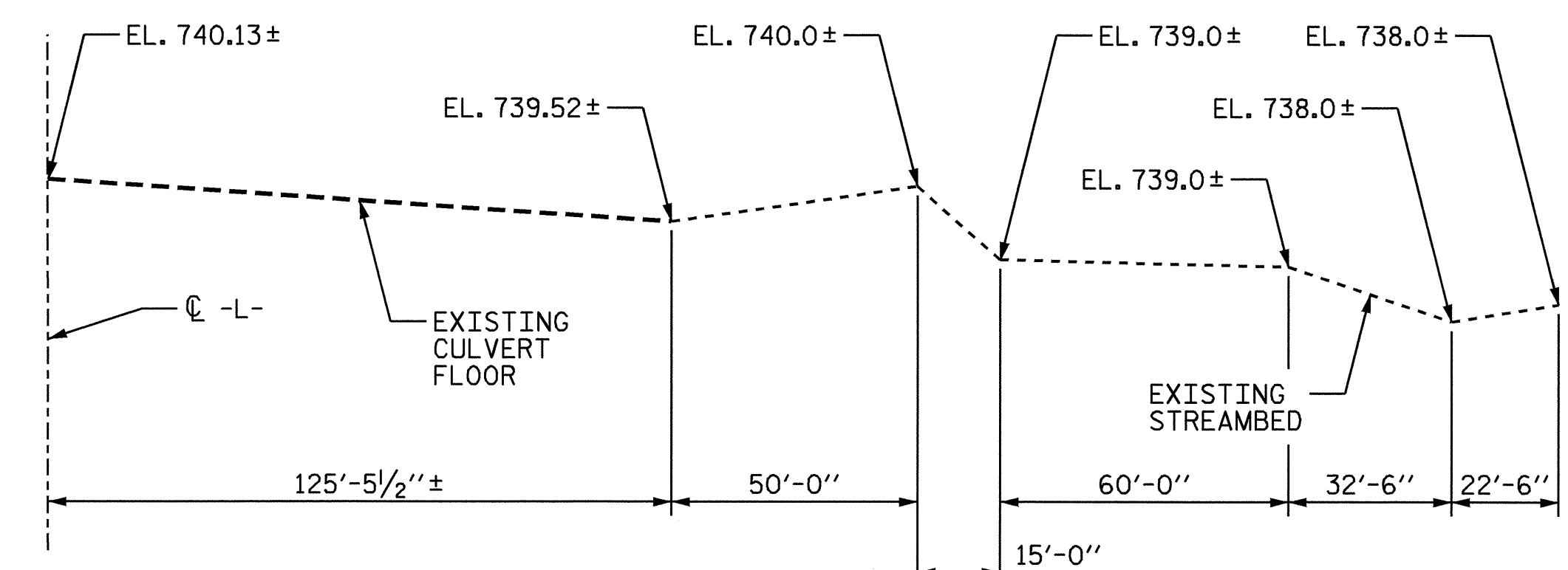
GRADE POINT ELEV. @ STA. 24+21.46 -L- = 805.05
 BED ELEV. @ STA. 24+21.46 -L- = 740.13±
 ROADWAY SLOPES = 2:1
 DESIGN DISCHARGE = 2550 CFS
 FREQUENCY OF DESIGN FLOOD = 50 YEARS
 DESIGN HIGH WATER ELEVATION = 755.76
 DRAINAGE AREA = 3.3 SQ. MI.
 BASIC DISCHARGE (Q100) = 2910 CFS
 BASIC HIGH WATER ELEVATION = 757.26
 OVERTOPPING FLOOD DATA = N/A (500 YR. +)

TOTAL STRUCTURE QUANTITIES

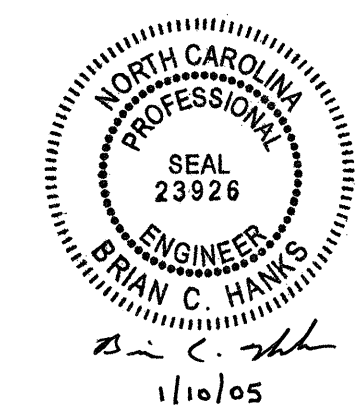
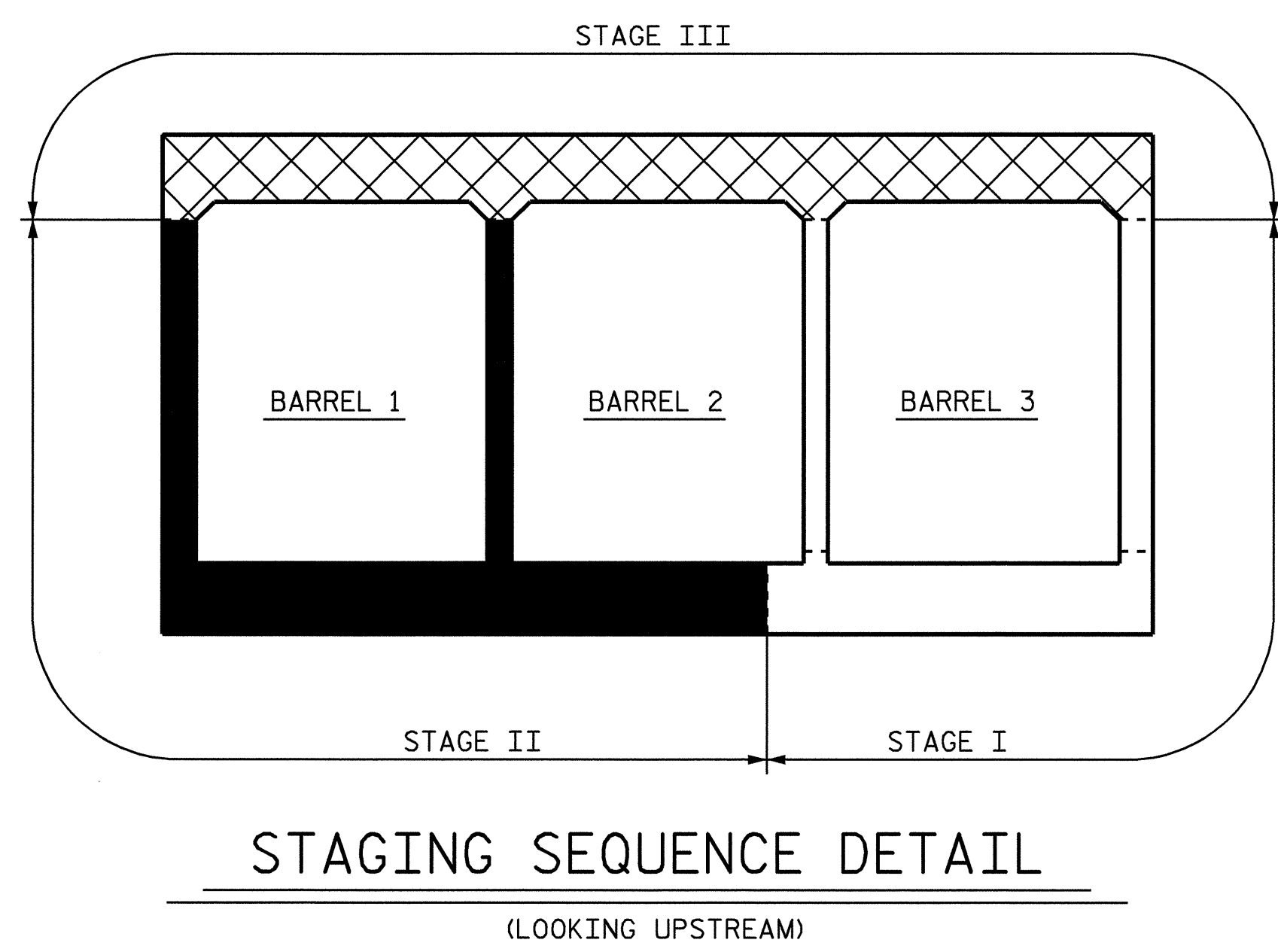
CLASS A CONCRETE	
BARREL - STAGE I	79.1 C.Y.
BARREL - STAGE II	104.9 C.Y.
BARREL - STAGE III	112.3 C.Y.
WINGS, ETC.	23.5 C.Y.
TOTAL	319.8 C.Y.
REINFORCING STEEL	
BARREL	41080 LBS.
WINGS, ETC.	1392 LBS.
TOTAL	42472 LBS.
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	115 TONS

NOTES

ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.
 DESIGN FILL----- 55.85'
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
 CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:
 STAGE I & STAGE II
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
 2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT.
 STAGE III
 3. THE ENTIRE ROOF SLAB, HEADWALLS, AND EDGE BEAMS.
 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 AND BOTH FACES OF INTERIOR WALLS 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.
 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.
 DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.
 DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS CULVERT EXTENSION SHALL BE SUBMITTED. SEE SHEET SN.
 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 EROSION CONTROL MEASURES, 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.
 FOR FALSEWORK AND FORMWORK SEE SPECIAL PROVISIONS.
 FOR SUBMITTAL OF WORKING DRAWINGS SEE SPECIAL PROVISIONS.
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.



PROFILE ALONG CULVERT



PROJECT NO. U-3837
 FORSYTH COUNTY
 STATION: 24+21.46 -L-

SHEET 1 OF 6 CULVERT NO. C198

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 TRIPLE 8 FT. X 10 FT.
 CONCRETE BOX CULVERT
 EXTENSION
 60° SKEW

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1	
1			3			TOTAL	6
2			4				

DRAWN BY: William J. Parker DATE: 10/3/03
 CHECKED BY: A.B. NAIK DATE: 11/26/03