

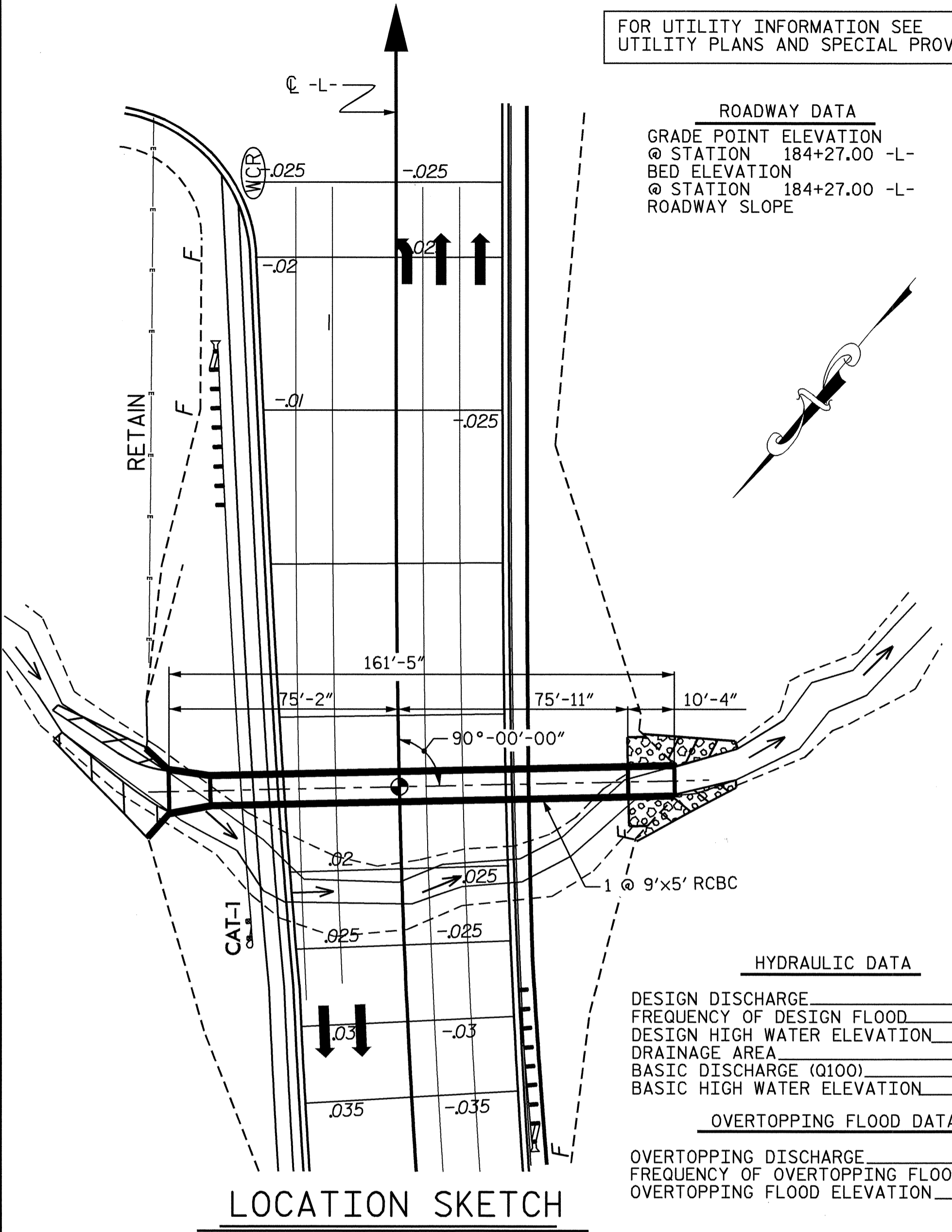
B.M. #106 R.R. SPIKE IN BASE OF 8" PINE 26.32" LT OF -L- STA. 193+85.93

F.A. PROJECT NO. STP-0622 (5)

FOR UTILITY INFORMATION SEE  
 UTILITY PLANS AND SPECIAL PROVISIONS

**ROADWAY DATA**

GRADE POINT ELEVATION @ STATION 184+27.00 -L-	= 148.90
BED ELEVATION @ STATION 184+27.00 -L-	= 132.01
ROADWAY SLOPE	= 2 : 1



**HYDRAULIC DATA**

DESIGN DISCHARGE	410 CFS
FREQUENCY OF DESIGN FLOOD	50 YEARS
DESIGN HIGH WATER ELEVATION	139.30
DRAINAGE AREA	.48 SQ. MI.
BASIC DISCHARGE (Q100)	460 CFS
BASIC HIGH WATER ELEVATION	139.65

**OVERTOPPING FLOOD DATA**

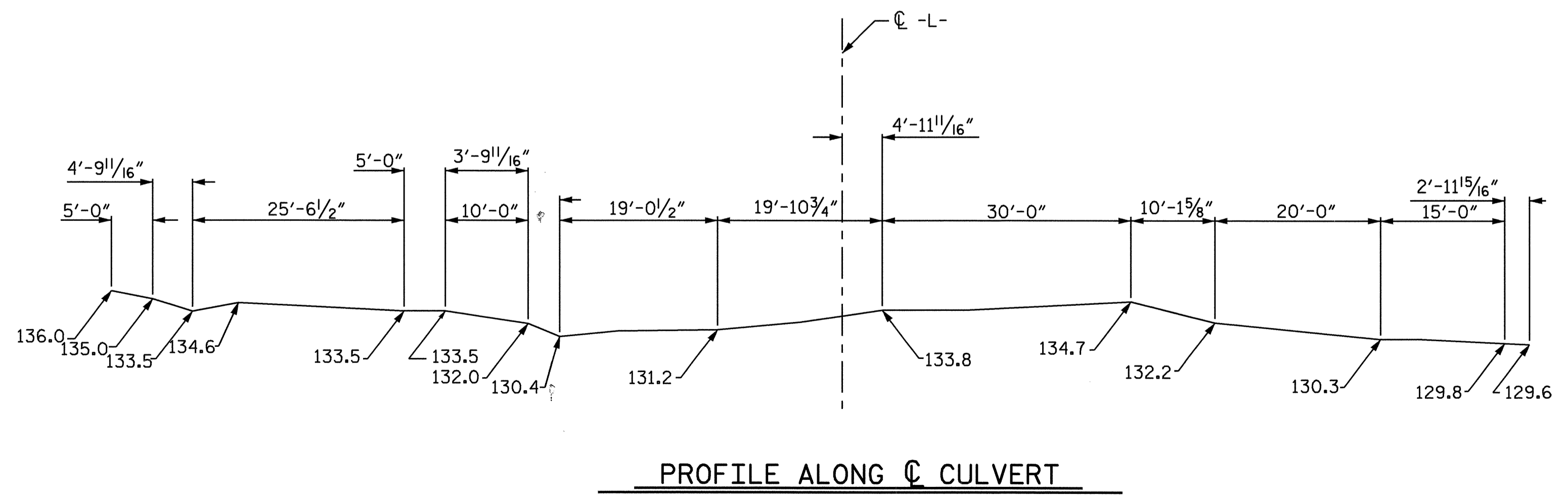
OVERTOPPING DISCHARGE	*CFS
FREQUENCY OF OVERTOPPING FLOOD	>500 YRS.+
OVERTOPPING FLOOD ELEVATION	148.70

**TOTAL STRUCTURE QUANTITIES**

<b>CLASS A CONCRETE</b>		
BARREL @ .793 CY/FT	109.1	C.Y.
TAPERED INLET	12.2	C.Y.
INLET WINGS ETC.	6.5	C.Y.
OUTLET WINGS ETC.	5.5	C.Y.
<b>TOTAL</b>	<b>133.3</b>	<b>C.Y.</b>
<b>REINFORCING STEEL</b>		
BARREL, TAPERED INLET AND OUTLET WINGS	19,528	LBS.
INLET WINGS ETC.	340	LBS.
<b>TOTAL</b>	<b>19,868</b>	<b>LBS.</b>
CULVERT EXCAVATION	LUMP SUM	
FOUNDATION CONDITIONING MAT'L	120	TONS
PLAIN RIP RAP CLASS I	23	TONS
FILTER FABRIC	30	SQ.YDS.

**NOTES**

- ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.
- DESIGN FILL----- 12.89
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- 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.
- THIS BARREL STANDARD TO BE USED ONLY ON CULVERT ON 90° SKEW AND TO BE USED WITH STANDARD WING SHEET WITH THE SAME SKEW AND VERTICAL CLEARANCE.
- 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 CONTRACTORS 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.
- NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
- 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.
- AT THE CONTRACTOR'S OPTION THE VERTICAL CONSTRUCTION JOINT BETWEEN THE OUTLET WINGS AND THE BARREL MAY BE ELIMINATED AND THE 'C' BARS IN THE BARREL MAY BE EXTENDED TO REPLACE 'D' AND 'H' BARS IN THE WINGS AND SLAB.



PROJECT NO. U-0620  
CUMBERLAND COUNTY  
 STATION: 184+27.00 -L-

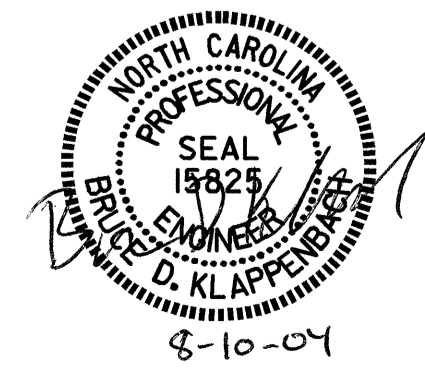
SHEET 1 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SINGLE 9 FT. X 5 FT.  
 CONCRETE BOX CULVERT  
 90° SKEW**

AUGUST 1989

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-18
1			3			TOTAL SHEETS
2			4			23



DRAWN BY : J.B. WILSON DATE : 9/03  
 CHECKED BY : G.M. Patterson DATE : 1/04