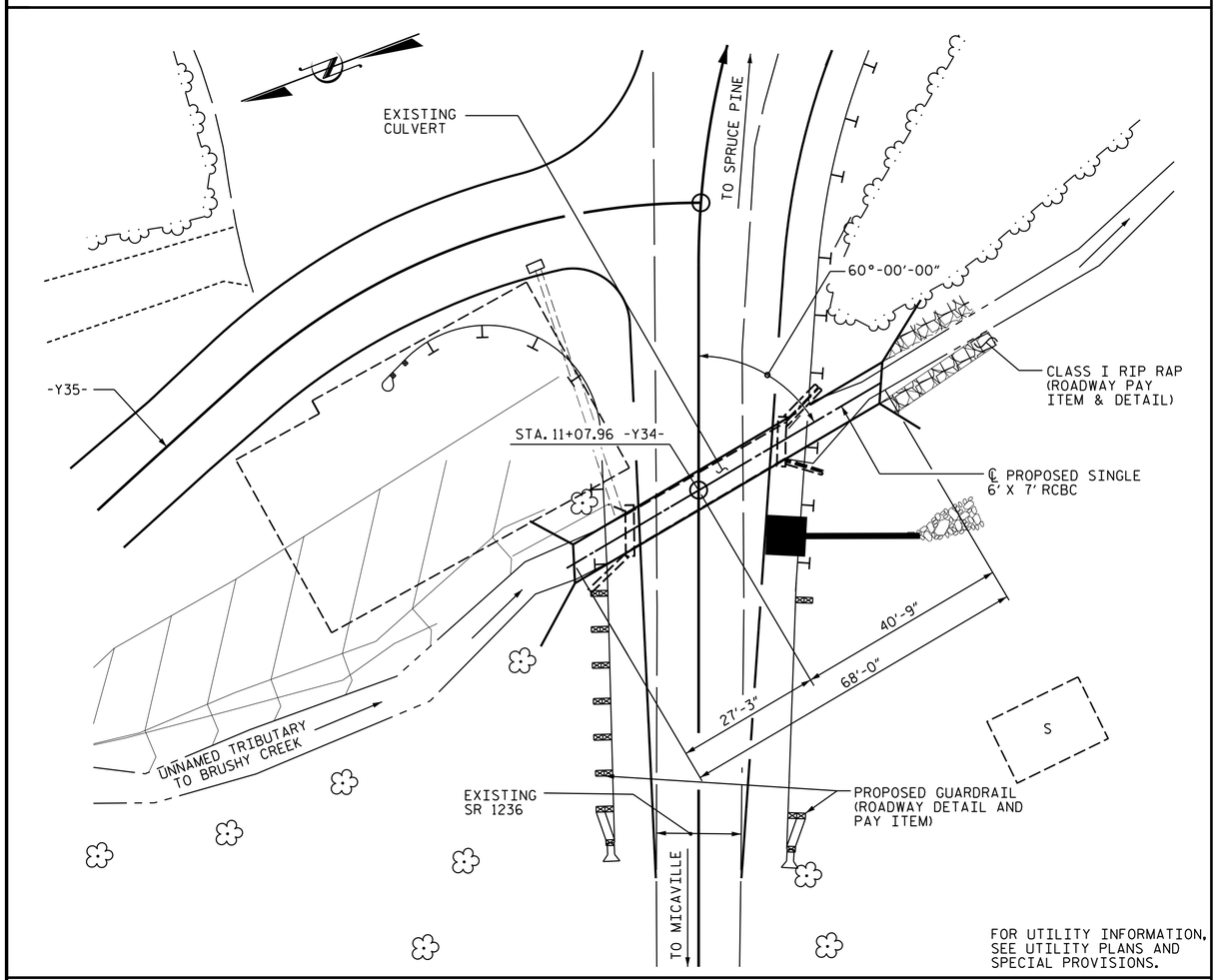
BENCHMARK #37: RAILROAD SPIKE IN 8" POPLAR, STA. 10+74.91 -Y34-, 21.48' LT., ELEV.= 2676.20



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE	= 220 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 2672.3
DRAINAGE AREA	= 0.21 SQ. MI.
BASE DISCHARGE (Q100)	= 280 CFS
BASE HIGH WATER ELEVATION	= 2673.2

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 330 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 100 + YRS.
OVERTOPPING FLOOD ELEVATION	= 2674.0

GRADE DATA

GRADE POINT ELEVATION @ STA. 11+07.96 -L-	= 2677.04
BED ELEVATION @ STA. 11+07.96 -L-	= 2665.00
ROADWAY FILL SLOPES	= 2:1

NOTES

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

DESIGN FILL---------- 6.1 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 CULVERT 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.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAILED 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.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

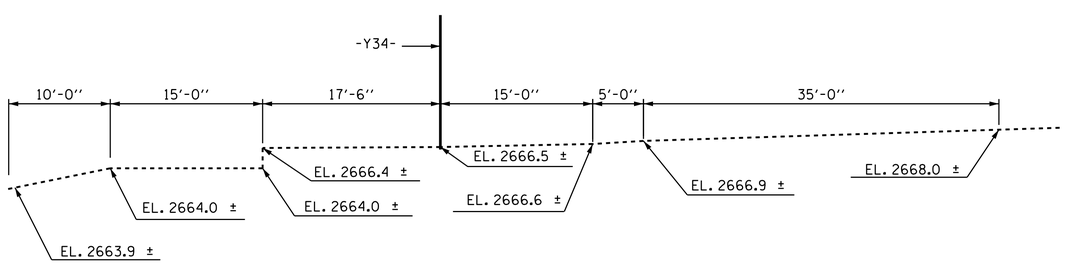
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CULVERT DIVERSION DETAILS, SEE EROSION CONTROL PLANS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

REMOVAL OF THE EXISTING CULVERT SHALL BE CONSIDERED INCIDENTAL TO CULVERT EXCAVATION.



PROFILE ALONG ℄ CULVERT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
BARREL @ 0.712 CY/FT	48.4	C.Y.
WINGS, ETC.	21.3	C.Y.
SILLS	0.8	C.Y.
TOTAL	70.5	C.Y.
REINFORCING STEEL		
BARREL & SILLS	5,771	LBS.
WINGS, ETC.	1,321	LBS.
TOTAL	7,092	LBS.
FOUNDATION CONDITIONING MATERIAL	35	TONS
CULVERT EXCAVATION	LUMP	SUM

NORTH CAROLINA PROFESSIONAL SEAL 13014 ENGINEER QUANG H. NGUYEN
9/2/2014
Quang H. Nguyen
F1C74D1D9225477...

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL C. CHEEK, JR.
8/27/2014
Marshall C. Cheek, Jr.
6549D6EBAA3B405...

PROJECT NO. R-2519B
MITCHELL COUNTY
STATION: 11+07.96 -Y34-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE 6 FT. X 7 FT. CONCRETE BOX CULVERT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-83
1			3			TOTAL SHEETS
2			4			87

ASSEMBLED BY : A. SORSENGINH/VXN DATE : 9/2011
CHECKED BY : H. KIM DATE : 10/2011

STR. #15