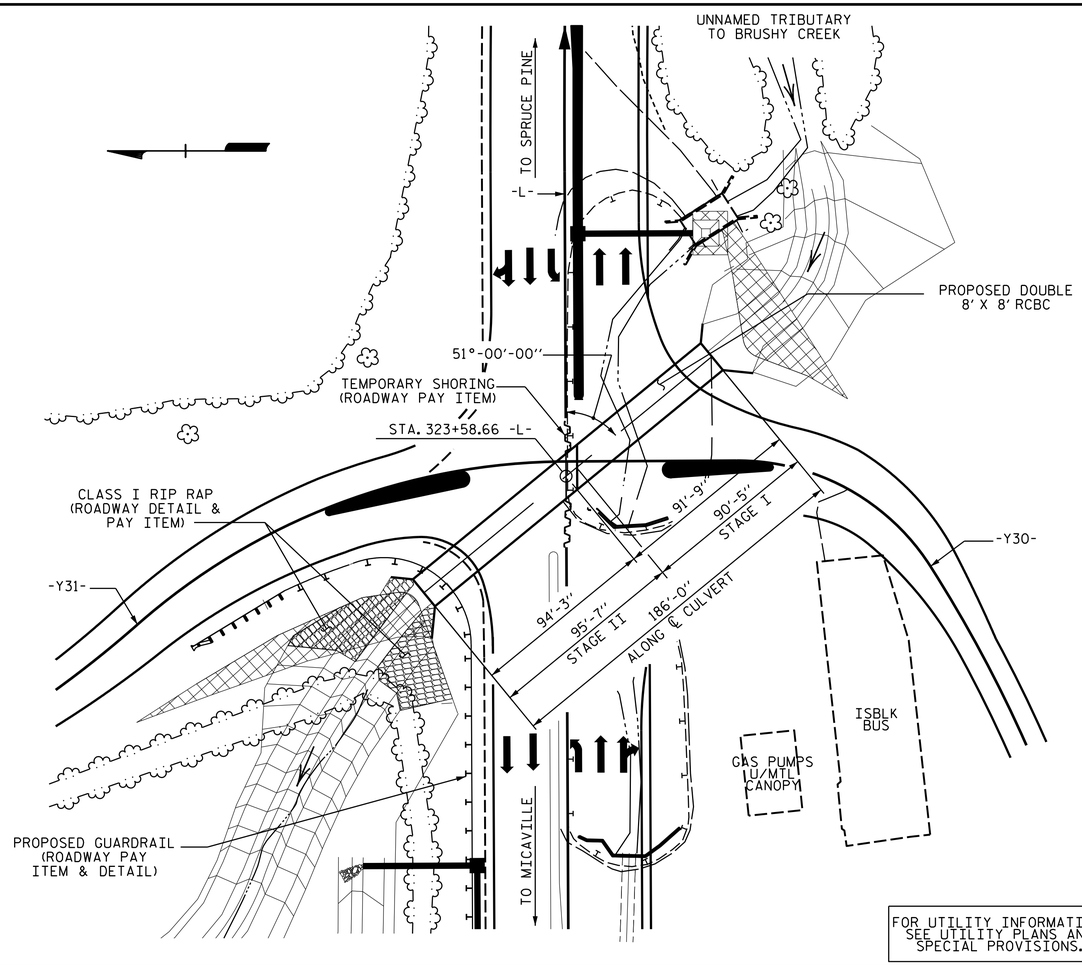
BENCHMARK #23: RAILROAD SPIKE IN LIGHT POLE 73.62' RT. OF STA. 320+28.48 -L-, EL. 2628.74



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

DESIGN FILL---------- 6.5 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:

STAGE I

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, HEADWALL AND EDGE BEAMS.

STAGE II

3. PHASE I WING FOOTING AND FLOOR SLAB INCLUDING 4" OF PHASE I VERTICAL WALLS.
4. THE REMAINING PORTIONS OF PHASE I WALLS AND PHASE I WING FULL HEIGHT.
5. PHASE II WING FOOTING AND FLOOR SLAB INCLUDING 4" OF PHASE II VERTICAL WALLS.
6. THE REMAINING PORTIONS OF PHASE II WALLS AND PHASE II WING FULL HEIGHT.
7. ROOF SLAB AND HEADWALL.

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.

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 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.

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 LIMITS OF TEMPORARY SHORING, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING, SEE ROADWAY PLANS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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.

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
STAGE I	188.7	C.Y.
STAGE II	197.7	C.Y.
TOTAL	386.4	C.Y.
REINFORCING STEEL		
STAGE I	23,312	LBS.
STAGE II	25,320	LBS.
TOTAL	48,632	LBS.
FOUNDATION CONDITIONING MATERIAL		
STAGE I	115	TONS
STAGE II	121	TONS
TOTAL	236	TONS
CULVERT EXCAVATION	LUMP SUM	

HYDRAULIC DATA

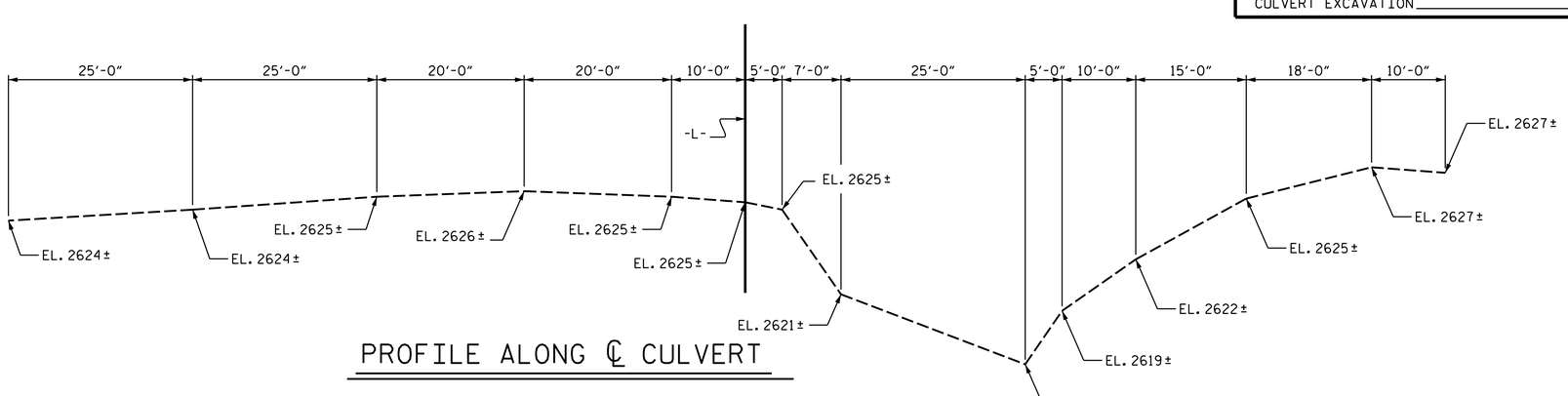
DESIGN DISCHARGE	= 750 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 2621.91
DRAINAGE AREA	= 1.44 SQ. MI.
BASE DISCHARGE (Q100)	= 950 CFS
BASE HIGH WATER ELEVATION	= 2623.03

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1558 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500 YRS. +
OVERTOPPING FLOOD ELEVATION	= 2626.15

GRADE DATA

GRADE POINT ELEVATION @ STA. 323+58.66 -L-	= 2626.16
BED ELEVATION @ STA. 323+58.66 -L-	= 2612.53
ROADWAY FILL SLOPES	= 2:1



PROFILE ALONG ℄ CULVERT

PROJECT NO. R-2519B

MITCHELL COUNTY

STATION: 323+58.66 -L-

SHEET 1 OF 11

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 8 FT. X 8 FT. CONCRETE BOX CULVERT

NORTH CAROLINA PROFESSIONAL SEAL 13014 ENGINEER QUANG H. NGUYEN
DocuSigned by: Quang H. Nguyen
8/27/2014 F1C74D1D9225477...

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL G. CHECK, JR.
DocuSigned by: Marshall G. Check, Jr.
8/27/2014 6549D6EBAA3B405...

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-54
1			3			TOTAL SHEETS
2			4			87

DRAWN BY : M. POOLE DATE : 10/13
CHECKED BY : D. HODGE DATE : 10/13

$$$$$$$SYSTIME$$$$$
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$$$$USERNAME$$$$

STR. #11