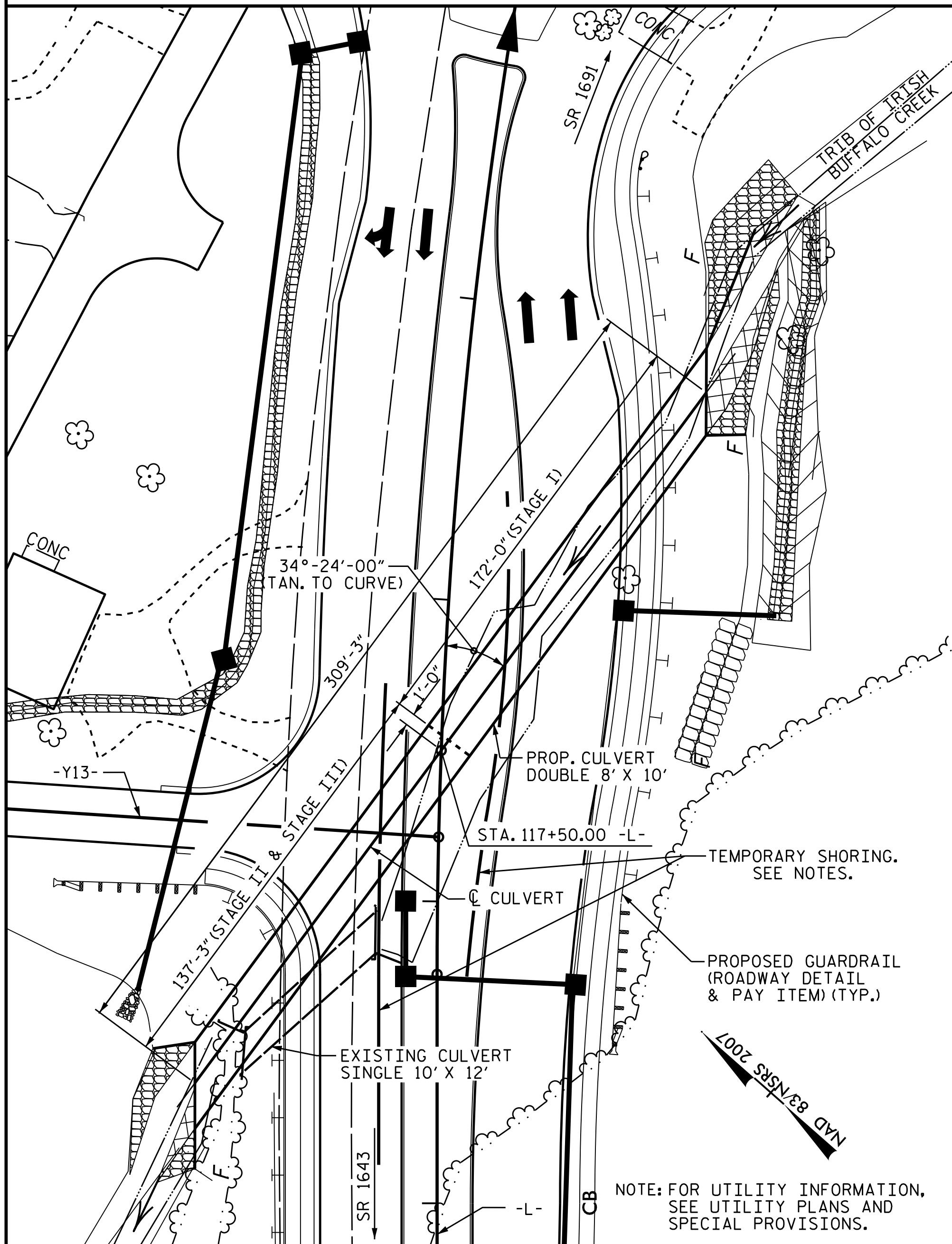


BM# 16 21' LT. OF STA. 116+97.2 EL. 703.19



LOCATION SKETCH

ROADWAY DATA

GRADE POINT EL. @ STA. 117+50.00 -L- = 708.80
 BED ELEVATION @ STA. 117+50.00 -L- = 688.20
 ROADWAY SLOPES = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 850 CFS
 FREQUENCY OF DESIGN FLOOD = 50 Yrs.
 DESIGN HIGH WATER ELEVATION = 700.10
 DRAINAGE AREA = 0.53 Sq.Mi.
 BASE DISCHARGE (Q100) = 950 CFS
 BASE HIGH WATER ELEVATION = 700.75

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 2600 CFS
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
 OVERTOPPING FLOOD ELEVATION = 709.10

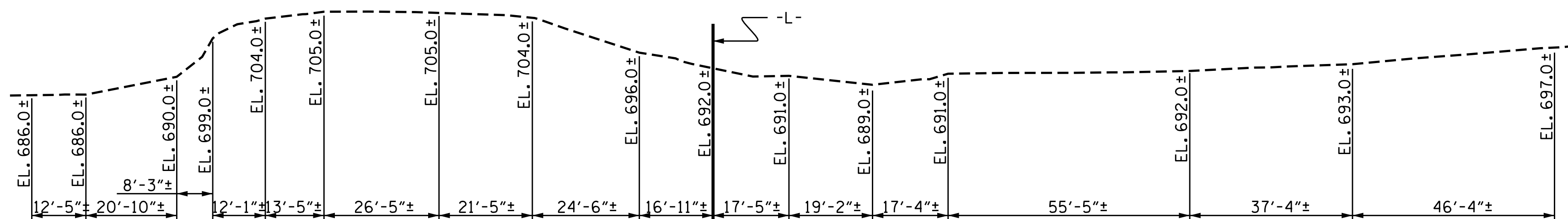
TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	
STAGE I	268 TONS
STAGE II	116 TONS
STAGE III	99 TONS
TOTAL	483 TONS
CLASS A CONCRETE	
STAGE I	377.1 C.Y.
STAGE II	129.1 C.Y.
STAGE III	217.1 C.Y.
TOTAL	723.3 C.Y.
REINFORCING STEEL	
STAGE I	42,991 LBS.
STAGE II	15,693 LBS.
STAGE III	20,402 LBS.
TOTAL	79,086 LBS.
PLACEMENT OF NATURAL STREAM BED MATERIAL	LUMP SUM

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- DESIGN FILL = 12.00 FEET.
- 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, CURTAIN WALL, AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS IN STAGE I.
 2. THE REMAINING PORTIONS OF STAGE I WALLS, SILLS, BAFFLES, AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALL.
 3. WING FOOTING, CURTAIN WALL, AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS IN STAGE II.
 4. THE REMAINING PORTIONS OF STAGE II WALLS, SILL, BAFFLES, AND WING FULL HEIGHT.
 5. WING FOOTING, CURTAIN WALL, AND FLOOR SLAB INCLUDING 4" OF VERTICAL WALL IN STAGE III.
 6. THE REMAINING PORTION OF STAGE III WALL, SILL, AND WING FULL HEIGHT FOLLOWED BY 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.
- TRAFFIC ON EXISTING ROAD SHALL BE MAINTAINED. IN ORDER TO MAINTAIN TRAFFIC THE CULVERT SHALL BE CONSTRUCTED IN SECTIONS AS DIRECTED BY THE ENGINEER.
- 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.
- STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES WILL BE PAID FOR BY THE CONTRACTOR.
- 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.
- 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 CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- NATURAL STREAM BED MATERIAL SHALL BE USED TO BACKFILL THE CULVERT BETWEEN THE SILLS AND BETWEEN THE BAFFLES. SEE SPECIAL PROVISIONS.
- FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.
- 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 Q CULVERT

PROJECT NO. U-3440
CABARRUS COUNTY
 STATION: 117+50.00 -L-

SHEET 1 OF 8 BRIDGE #405



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**DOUBLE 8 FT. X 10 FT.
 CONCRETE BOX CULVERT**
 34°-24'-00" SKEW / 45° HEADWALL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C2-1
1			3			TOTAL SHEETS
2			4			8

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY: KEITH D. LAYNE DATE: 5/06/16
 CHECKED BY: J. D. HAWK DATE: 5/20/16
 DESIGN ENGINEER OF RECORD: R. P. PATEL DATE: 6/3/16