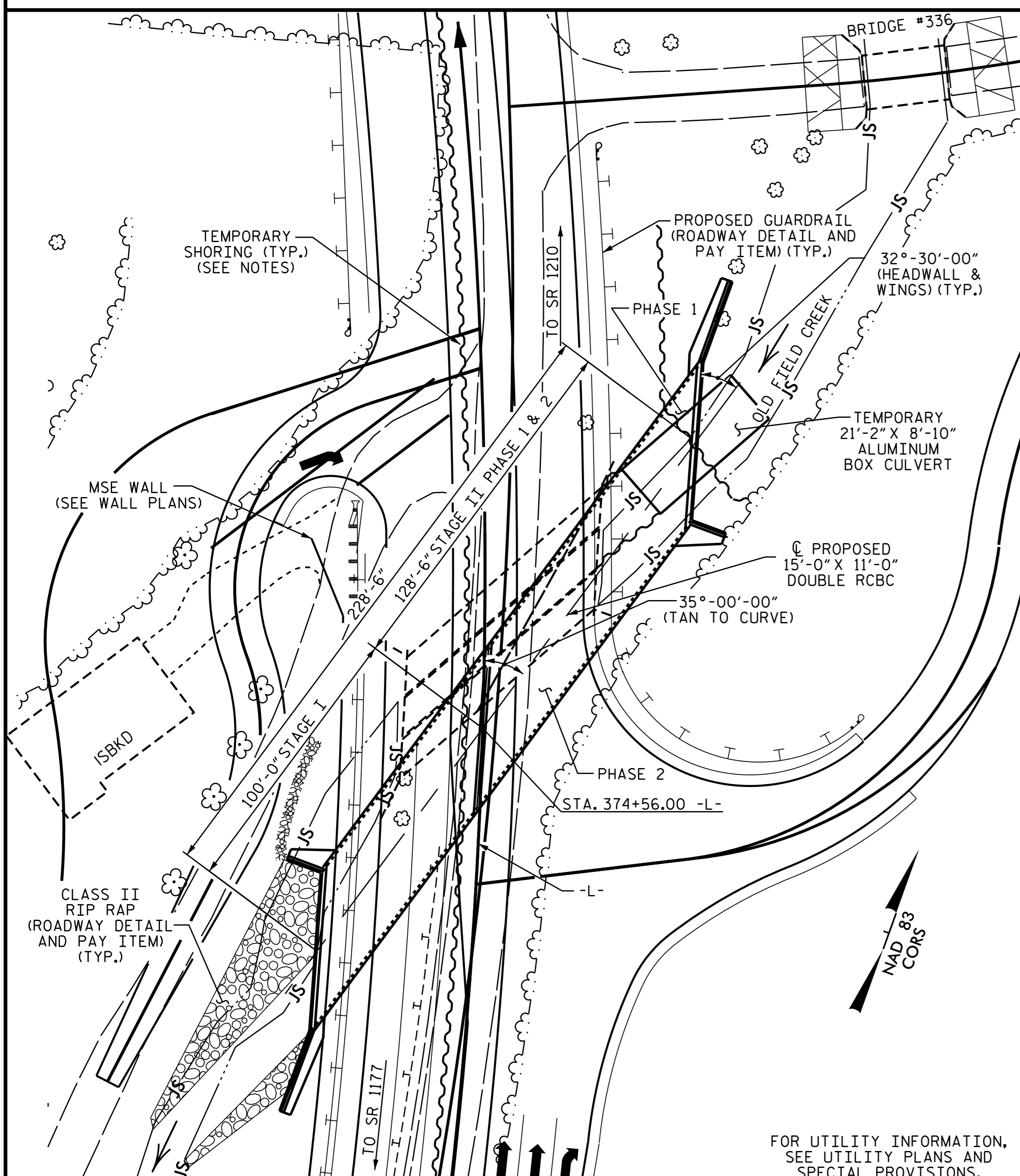


BENCHMARK #5: CHISELED SQUARE IN SW WING WALL OF BRIDGE
 STA. 13+68.00 -Y9-, 120' LEFT; EL. 2964.46 N 946397 E 1257341

NOTES **F. A. PROJECT No.: STP-0221(41)**



LOCATION SKETCH

ROADWAY DATA

GRADE POINT EL. @ STA. 374+56.00 -L- = 2974.99
 BED EL. @ STA. 374+56.00 -L- = 2948.16
 ROADWAY SLOPES = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 1900 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 50 YEARS
 DESIGN HIGH WATER ELEVATION = 2958.60
 DRAINAGE AREA = 6.7 SQ. MI.
 BASE DISCHARGE (Q100) = 2473 C.F.S.
 BASE HIGH WATER ELEVATION = 2959.50

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 3000(+) C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YEARS
 OVERTOPPING FLOOD ELEVATION = 2973.27
 SHD @ SAG STA. 377+36.56 -L-

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
 DESIGN FILL = 13.6 FT. (MIN.), 15.78 FT. (MAX.)
 FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.
 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN STAGE I CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS, CURTAIN WALL, EDGE BEAM AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTION OF WALLS AND WINGS FULL HEIGHT.
3. SILLS.
4. ROOF SLAB, EDGE BEAM AND HEADWALL.

CONCRETE IN STAGE II CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. PHASE 1 WING FOOTING, CURTAIN WALL, EDGE BEAM AND FLOOR SLAB TO THE CONSTRUCTION JOINT INCLUDING 4" OF PHASE 1 VERTICAL WALLS.
2. THE REMAINING PORTION OF PHASE 1 WALLS AND PHASE 1 WING FULL HEIGHT.
3. PHASE 2 WING FOOTING, CURTAIN WALL, EDGE BEAM AND FLOOR SLAB TO THE CONSTRUCTION JOINT INCLUDING 4" OF PHASE 2 VERTICAL WALL.
4. THE REMAINING PORTION OF PHASE 2 WALL AND PHASE 2 WING FULL HEIGHT.
5. SILLS.
6. ROOF SLAB, EDGE BEAM 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.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACES OF THE EXTERIOR WALLS 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.

AFTER SERVING AS A TEMPORARY STRUCTURE THE EXISTING TRIPLE 10.0' X 10.0' BOTTOMLESS CULVERT 92.5' LONG AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING STRUCTURE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE STRUCTURE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS CULVERT 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. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOR CONSTRUCTION SEQUENCE, SEE EROSION CONTROL PLANS.
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
 FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

TRAFFIC ON US 221 SHALL BE MAINTAINED. IN ORDER TO MAINTAIN TRAFFIC THE CULVERT SHALL BE CONSTRUCTED IN SECTIONS AS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

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.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FEET. 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.

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.

THE RCBC SHALL BE PLACED ON THE STANDARD 1.0 FOOT BLANKET OF FOUNDATION CONDITIONING MATERIAL SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.

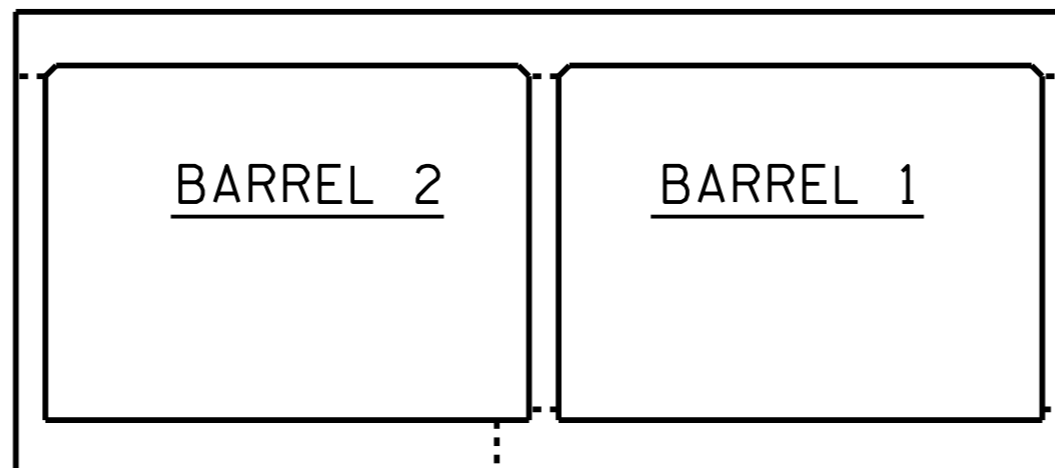
THE REQUIRED BEARING CAPACITY AT THE BASE OF THE CULVERT IS 5 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

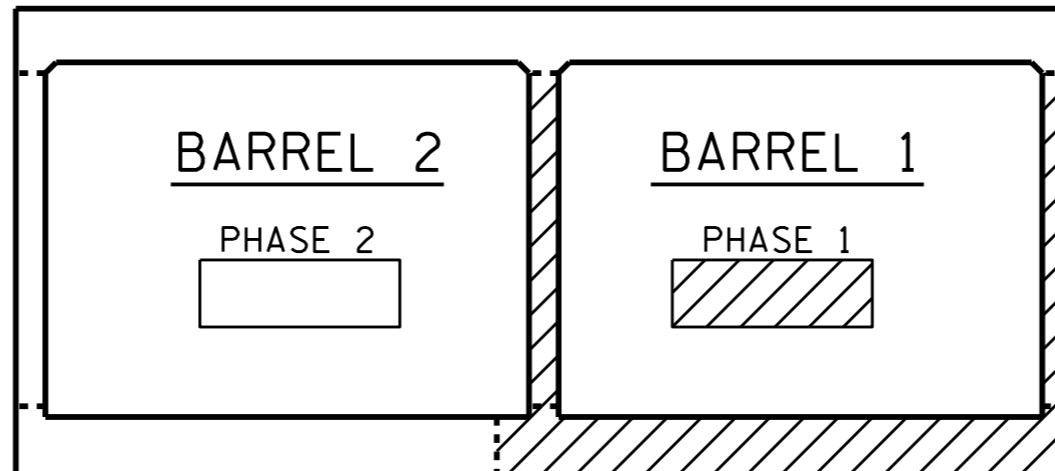
FOR CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMP. ALUMINUM BOX CULVERT, SEE SPECIAL PROVISIONS.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 31'-8", ON 4" X 8" TIMBER FLOORS WITH A 2.5" ASW ON 9 LINES OF 21" I-BEAMS @ 2'-3" CTS. WITH A CLEAR ROADWAY WIDTH OF 19'-0" ON REINFORCED CONCRETE ABUTMENTS AND LOCATED UPSTREAM FROM PROPOSED STRUCTURE SHALL BE REMOVED. SEE SPECIAL PROVISION FOR REMOVAL OF EXISTING STRUCTURES.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

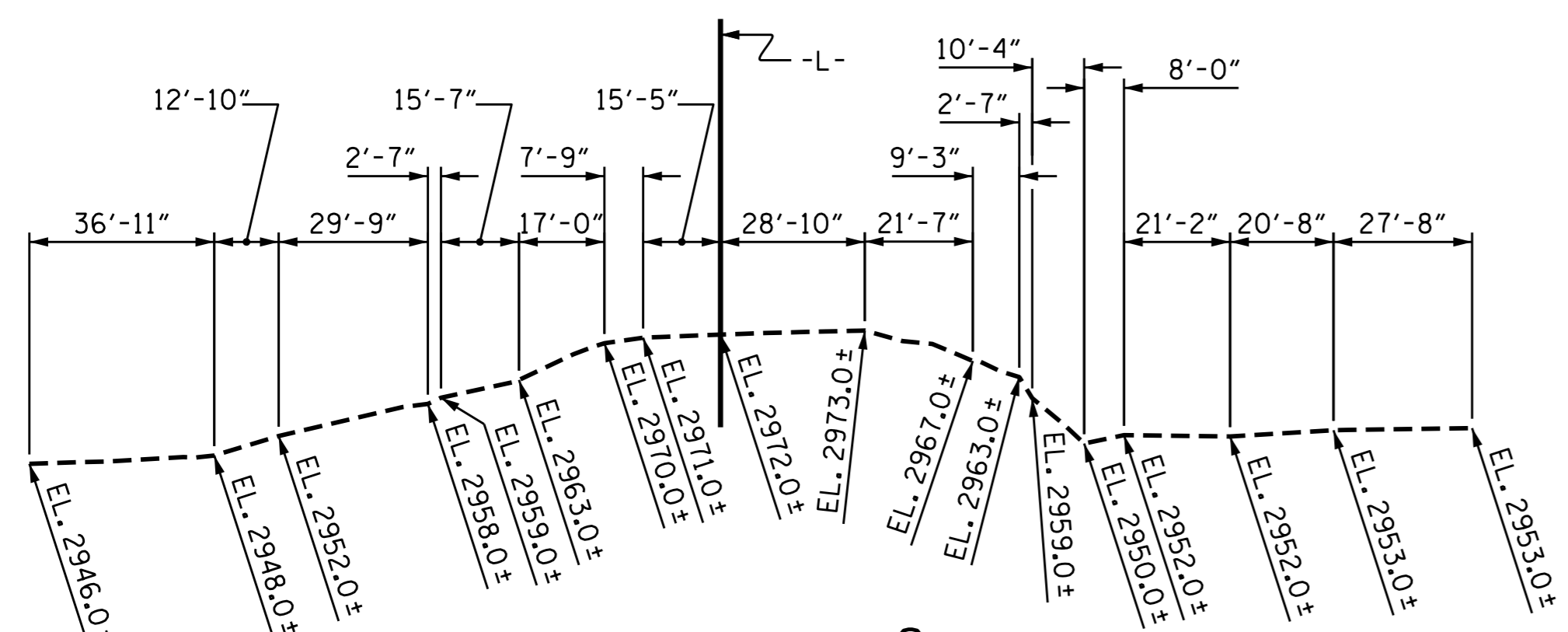


STAGE I RIGHT ANGLE SECTION OF BARREL
 LOOKING DOWNSTREAM



STAGE II - PHASE 1 & 2 RIGHT ANGLE SECTION OF BARREL
 LOOKING DOWNSTREAM

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE	
STAGE I	599.7 C.Y.
STAGE II	754.6 C.Y.
TOTAL	1354.3 C.Y.
REINFORCING STEEL	
STAGE I	74675 LBS.
STAGE II	98505 LBS.
TOTAL	173180 LBS.
CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMPORARY STRUCTURE	LUMP SUM
REMOVAL OF EXISTING STRUCTURES	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	
STAGE I	259 TONS
STAGE II	333 TONS
TOTAL	592 TONS
ASBESTOS ASSESSMENT	LUMP SUM



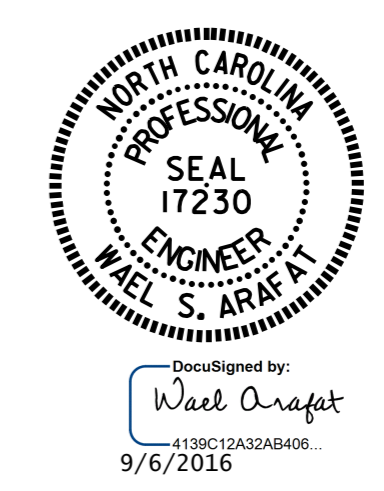
PROFILE ALONG CULVERT

DRAWN BY: H. T. BARBOUR DATE: 6-19-16
 CHECKED BY: V. X. NGUYEN DATE: 7-16
 DESIGN ENGINEER OF RECORD: A. M. LEE DATE: 7-16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. R-2915C
ASHE COUNTY
 STATION: 374+56.00 -L-
 REMOVES BRIDGE #336
 REPLACES STR. #531

SHEET 1 OF 12



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
DOUBLE 15 FT. X 11 FT. RCBC
35°00'-00" SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			C-1
2			4			12