

B. M. #1: RR SPIKE IN BASE OF 20" Ø SYCAMORE TREE, STA. 22+62.32 -L-,
30.08 FT. RIGHT, EL. 940.87, N 623474 E 1150906

F. A. PROJECT No.: BRSTP-1538 (8)

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
DESIGN FILL ----- 8.91 FT. (MIN.), 10.06 FT. (MAX.)
FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.
3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

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

CONCRETE IN PHASE 1 CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. PHASE 1 WING FOOTINGS, FLOOR SLAB AND CURTAIN WALL TO THE CONSTRUCTION JOINT INCLUDING 4" OF PHASE 1 VERTICAL WALLS.
2. THE REMAINING PORTION OF PHASE 1 WALLS AND PHASE 1 WINGS FULL HEIGHT.

THE EXISTING STRUCTURE CONSISTING OF 3 SPANS, 1 @ 35'-6", 1 @ 29'-6" AND 1 @ 35'-6", STEEL PLANK FLOOR ON 10 LINES OF 21" I-BEAMS @ 2'-7" CTS., WITH A CLEAR ROADWAY WIDTH OF 24.3 FT. ON END BENTS AND INTERIOR BENTS WITH TIMBER CAPS, TIMBER PILES ENCASED IN CONCRETE AND LOCATED AT PROPOSED STRUCTURE SHALL BE REMOVED. SEE SPECIAL PROVISIONS.

FOR SALVAGE AND DELIVERY OF EXISTING 21" I-BEAMS, SEE SPECIAL PROVISIONS.

CONCRETE IN PHASE 2 CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. PHASE 2 WING FOOTINGS, FLOOR SLAB AND CURTAIN WALL TO THE CONSTRUCTION JOINT INCLUDING 4" OF PHASE 2 VERTICAL WALLS.
2. THE REMAINING PORTION OF PHASE 2 WALLS AND PHASE 2 WINGS FULL HEIGHT.
3. SILLS AND BAFFLES.
4. ROOF SLAB AND HEADWALLS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE."

THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

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.

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.

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.

FOR BOX CULVERT EXCAVATION, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.

THE REQUIRED BEARING CAPACITY AT THE BASE OF THE CULVERT IS 1 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.

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.

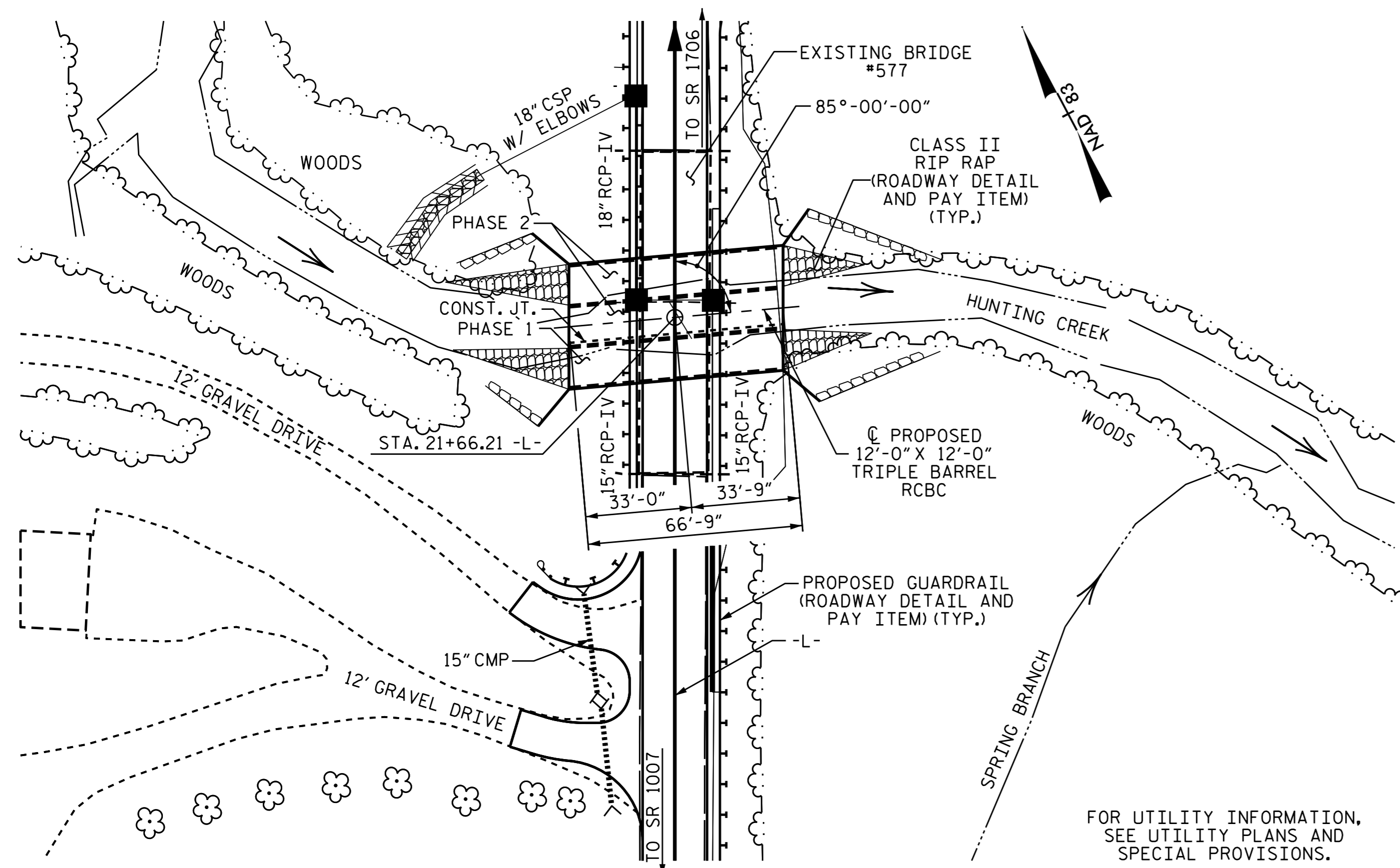
AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

FOR 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.



LOCATION SKETCH

ROADWAY DATA

GRADE POINT EL. @ STA. 21+66.21 -L- = 939.23
BED EL. @ STA. 21+66.21 -L- ----- = 917.90
ROADWAY SLOPES ----- = 2:1

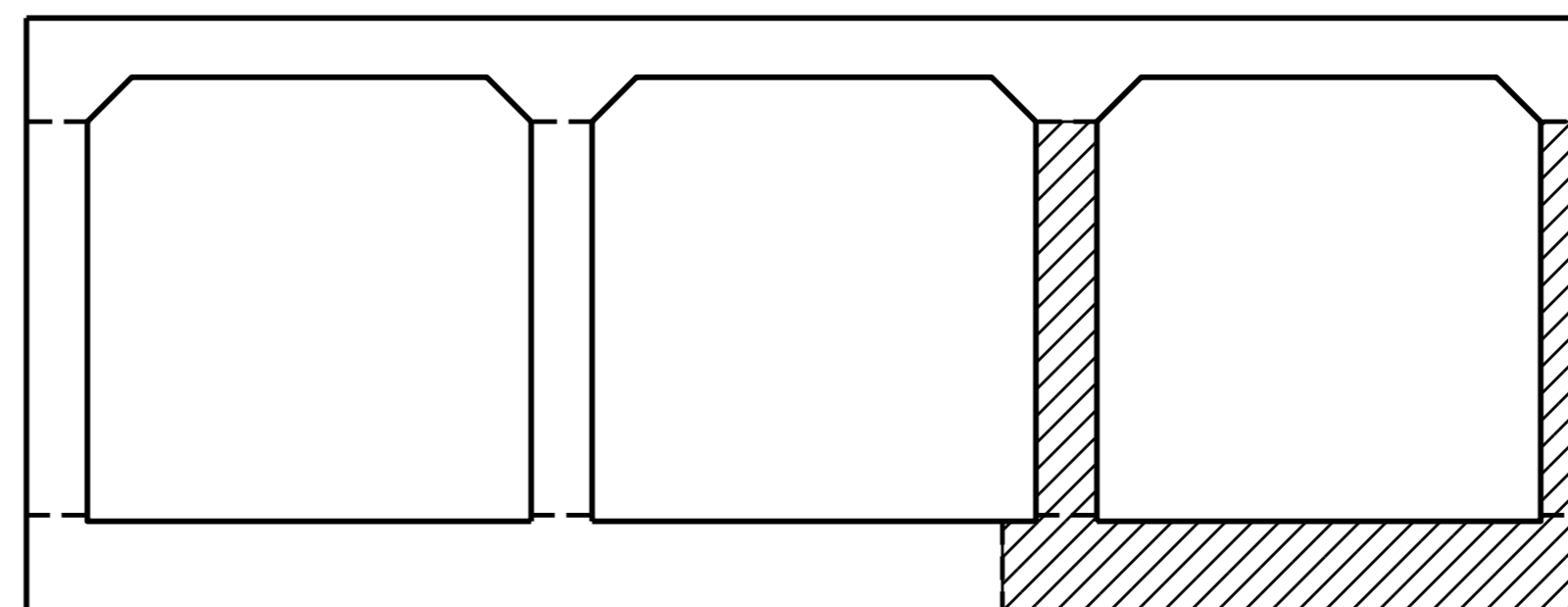
HYDRAULIC DATA

DESIGN DISCHARGE ----- = 1200 C.F.S.
FREQUENCY OF DESIGN FLOOD ----- = 25 YEARS
DESIGN HIGH WATER ELEVATION --- = 927.00
DRAINAGE AREA ----- = 3.65 SQ. MI.
BASE DISCHARGE (Q100) ----- = 2000 C.F.S.
BASE HIGH WATER ELEVATION ----- = 928.84

OVERTOPPING FLOOD DATA

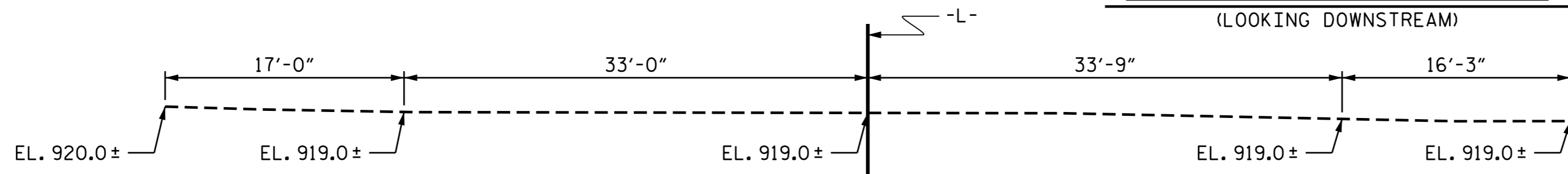
OVERTOPPING DISCHARGE ----- = 6300 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD -- = 500+ YEARS
OVERTOPPING FLOOD ELEVATION ----- = 939.30

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE	
PHASE 1	117.1 C.Y.
PHASE 2	266.9 C.Y.
TOTAL	384.0 C.Y.
REINFORCING STEEL	
PHASE 1	13843 LBS.
PHASE 2	26538 LBS.
TOTAL	40381 LBS.
REMOVAL OF EXISTING STRUCTURE	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MAT'L.	
PHASE 1	87 TONS
PHASE 2	115 TONS
TOTAL	202 TONS



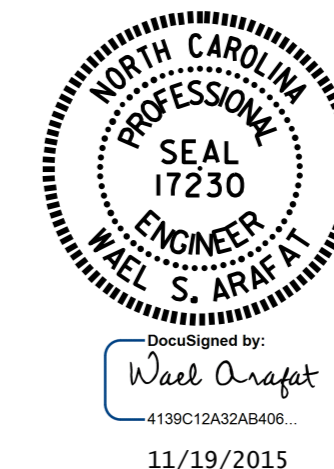
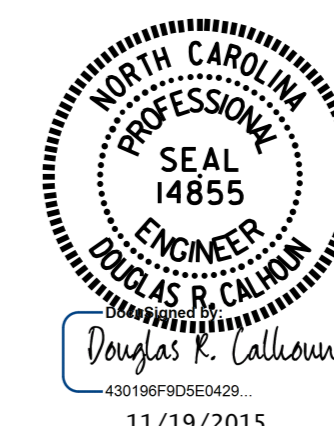
PHASING SEQUENCE

(LOOKING DOWNSTREAM)



PROFILE ALONG CULVERT

I HEREBY CERTIFY THESE PLANS ARE THE AS BUILT PLANS



PROJECT NO. B-5395
RUTHERFORD COUNTY
STATION: 21+66.21 -L-

SHEET 1 OF 7 REPLACES BRIDGE #577

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
TRIPLE 12 FT. X 12 FT.
CONCRETE BOX CULVERT
85°-00'-00" SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			7

DRAWN BY: H. T. BARBOUR DATE: 6-10-15
CHECKED BY: V. X. NGUYEN DATE: 7-15
DESIGN ENGINEER OF RECORD: J. P. McCARTHA DATE: 8-13-15