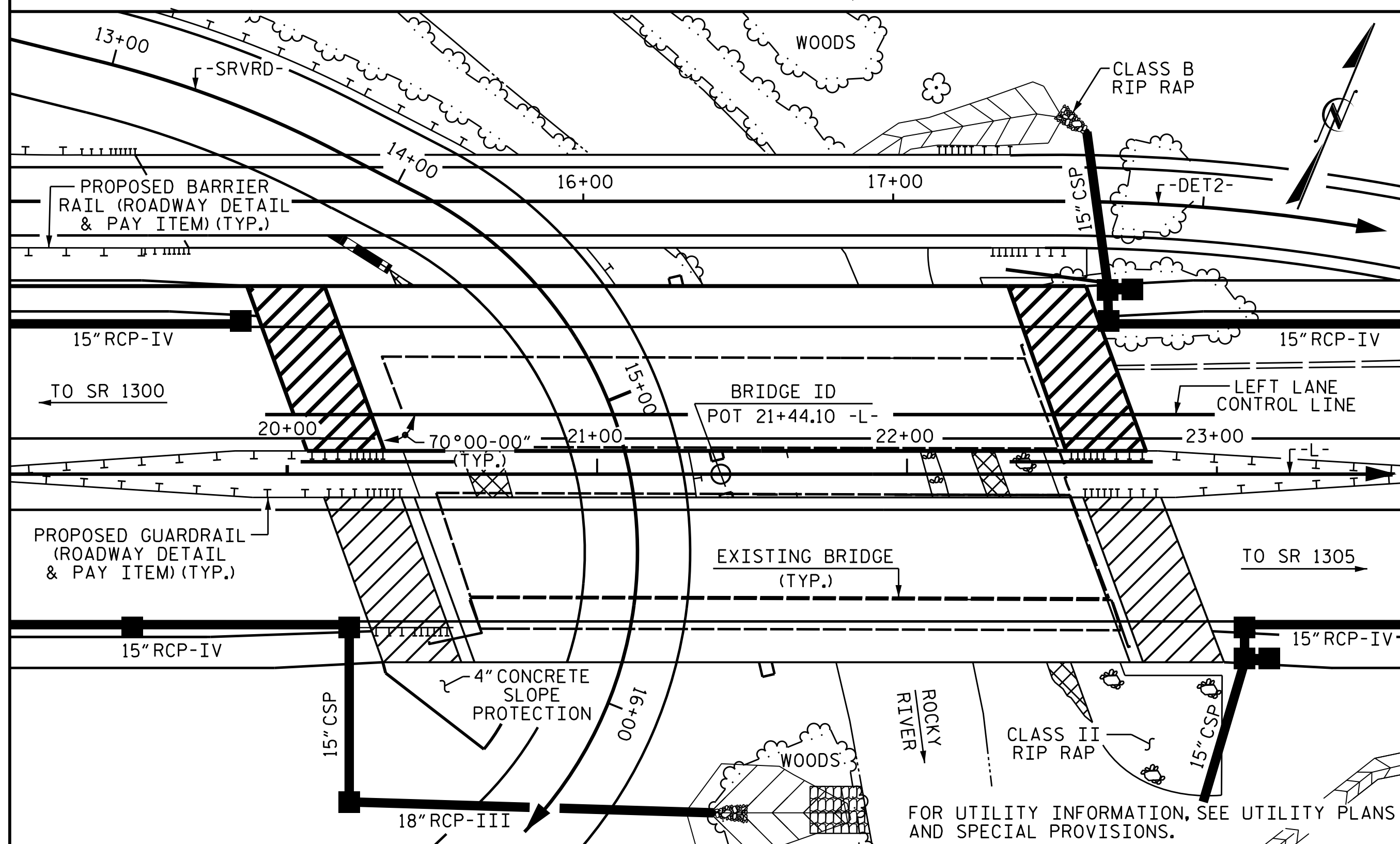


BM #2: RAILROAD SPIKE IN BASE OF POWER POLE  
66.4' RIGHT. STA. 18+01.44 -L-, EL. 587.42



LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.  
THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.  
THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.  
FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.  
FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.  
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.  
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.  
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.  
FOR PLACING LOAD ON STRUCTURE MEMBERS, SEE SPECIAL PROVISIONS.  
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.  
THE ELEVATION AND CLEARANCE SHOWN ON THE PLANS AT THE POINTS OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATION ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.  
FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.  
PRESTRESSED CONCRETE DECK PANELS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.  
NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.  
THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.  
THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

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.  
THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT, MAINTAIN AND AFTERWARDS REMOVE A TEMPORARY STRUCTURE AT STATION 21+44.10 -L- FOR USE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE. FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE, SEE SPECIAL PROVISIONS.

THE BRIDGE RAILS ON THE TEMPORARY STRUCTURE SHALL BE DESIGNED FOR THE AASHTO LRFD TEST LEVEL 3 (TL-3) CRASH TEST CRITERIA. FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE, SEE SPECIAL PROVISIONS.

THE EXISTING STRUCTURE CONSISTING OF 4 SPANS @ 52'-6" ON REINFORCED CONCRETE DECK GIRDERS WITH A CLEAR ROADWAY WIDTH OF 25'-10" ON REINFORCED CONCRETE ABUTMENTS ON SPREAD FOOTINGS AT END BENTS AND REINFORCED CONCRETE POST AND WEB ON SPREAD FOOTINGS AT BENTS LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE SUBSTRUCTURE OF 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 SUBSTRUCTURE 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.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NOT TO DISTURB OR DAMAGE THE EXISTING 54 INCH SANITARY SEWER LINE WHILE CONSTRUCTING THE DETOUR BRIDGE. THE CONTRACTOR WILL BE RESPONSIBLE TO FIX ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE UTILITY COMPANY OR STATE. FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURE	REMOVAL OF EXISTING STRUCTURE	4'-0" DIA. DRILLED PIERS IN SOIL	4'-0" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 4'-0" DIA. DRILLED PIER	SID INSPECTIONS	SPT TESTING	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	LUMP SUM	SO. FT.	SO. FT.	CU. YDS.	LUMP SUM	LBS.
SUPERSTRUCTURE										12,412	12,241		LUMP SUM	
END BENT 1												46.0		6,141
BENT 1			69.0	33.0	69.0	1	1	1				55.4		18,467
END BENT 2												46.2		6,298
TOTAL	LUMP SUM	LUMP SUM	69.0	33.0	69.0	1	1	1	LUMP SUM	12,412	12,241	147.6	LUMP SUM	30,906

	SPIRAL COLUMN REINFORCING STEEL	MODIFIED 63" PRESTRESSED CONCRETE GIRDERS	HP 12X53 STEEL PILES	TWO BAR METAL RAIL	CONCRETE BARRIER RAIL	1'-2" X 2'-6" CONCRETE PARAPET	4" SLOPE PROTECTION	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	ASBESTOS ASSESSMENT
	LBS.	NO. LIN. FT.	NO. LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SO. YDS.	TONS	SO. YDS.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE		14	1,516.08		210.05	486.44	218.23	375		LUMP SUM	LUMP SUM
END BENT 1				11	445						
BENT 1	3,668										
END BENT 2				11	385			590	650		
TOTAL	3,668	14	1,516.08	22	830	210.05	486.44	218.23	375	590	650

HYDRAULIC DATA

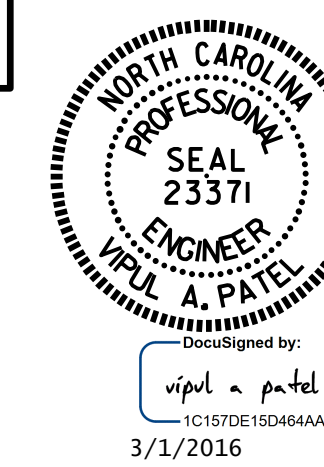
DESIGN DISCHARGE	= 10,070 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 576.10
DRAINAGE AREA	= 87.5 SQ.MI.
BASE DISCHARGE (0100)	= 12,060 C.F.S.
BASE HIGH WATER ELEVATION	= 577.21

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 33,000 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 588.90

PROJECT NO. B-5123  
CABARRUS COUNTY  
STATION: 21+44.10 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
GENERAL DRAWING  
FOR BRIDGE ON US 29 OVER  
ROCKY RIVER & SERVICE RD.  
BETWEEN SR 1300 AND SR 1305  
(LEFT LANE)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			74

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY: N.D. AIUTO DATE: 8/27/15  
CHECKED BY: K.D. LAYNE DATE: 9/8/15  
DESIGN ENGINEER OF RECORD: H.A. LOCKLEAR DATE: 12/7/15