TOTAL BILL OF MATERIAL

	4'-6"DIA. DRILLED PIERS IN SOIL	4'-6"DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 4'-6"DIA. DRILLED PIERS	SID INSPECTIONS	SPT TESTING	CSL TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	54" PRESTESSED CONCRETE GIRDERS		HP12X53 STEEL PILES		CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GETEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS
	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	NO.	FEET	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM
SUPERSTRUCTURE							10,897	10,864		LUMP SUM			15	1301.25			524.92			LUMP SUM
END BENT #1									24.7		4426				8	480		2500	2777	
BENT #1	49.0	37.0	31.9						97.4		29,186	6791								
BENT #2	22.8	28.0	19.1						99.2		21,159	5899								
END BENT #2									24.7		4184				8	465		2638	2931	
TOTAL	71.8	65.0	51.0	1	1	1	10,897	10,864	246.0	LUMP SUM	58,955	12,690	15	1301.25	16	945	524.92	5138	5708	LUMP SUM

HYDRAULIC DATA

DESIGN DISCHARGE	= 2400 C.F.S
FREQUENCY OF DESIGN FLOOD	= 50 YR.
DESIGN HIGH WATER ELEVATION	= 828.3 FT.
DRAINAGE AREA	= 3.9 SQ. MI.
BASE DISCHARGE (Q 100)	= 2700 C.F.S
BASE HIGH WATER ELEVATION	= 828.7 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 4300 C.F.S +
FREQUENCY OF OVERTOPPING FLOOD	= 500 YR. +
OVERTOPPING FLOOD ELEVATION	= ✱ 850.0 FT.
	✱ OT TO NEXT BASIN

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIRMENT OF 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.

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 SHALL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

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.

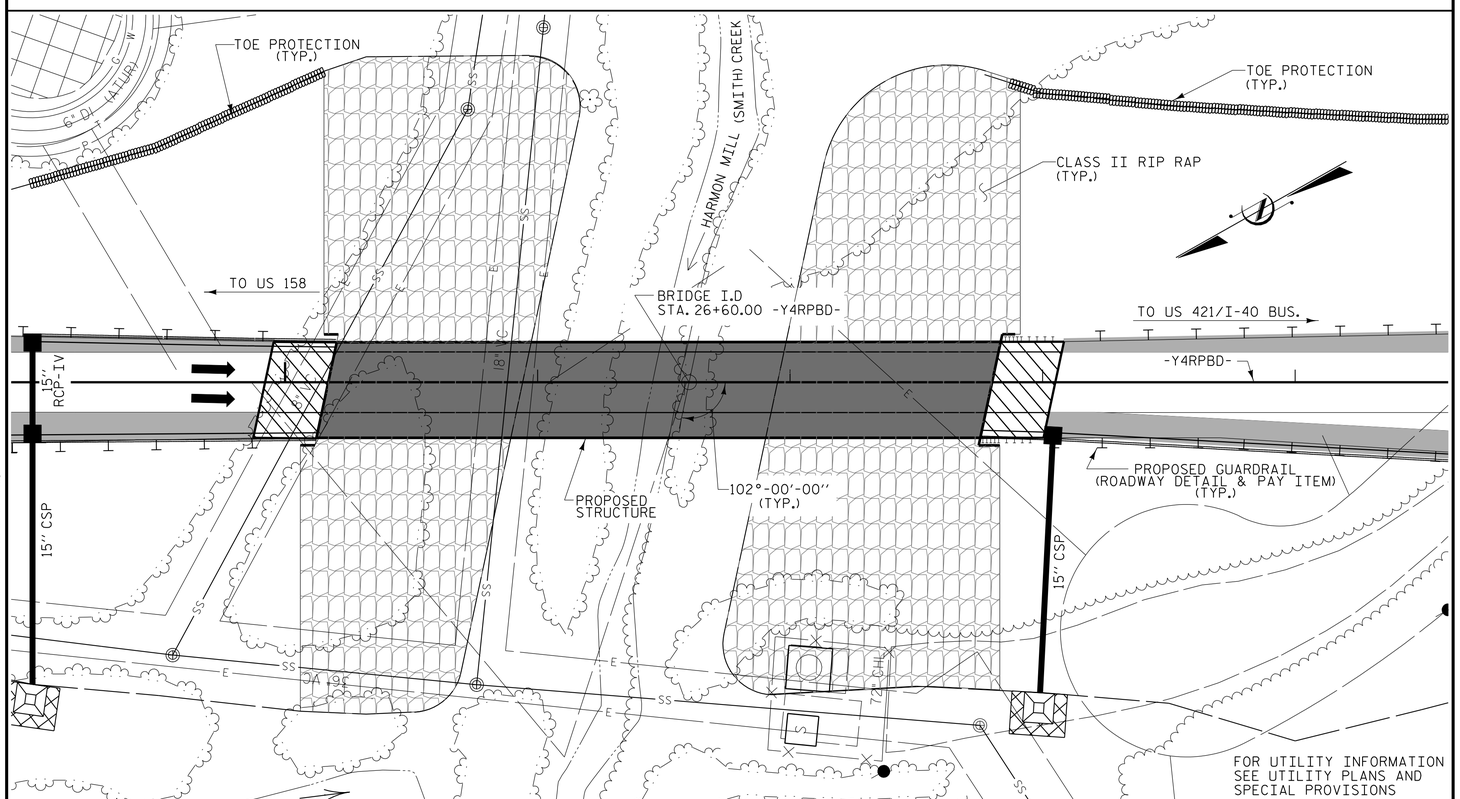
THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC-18 - EVALUATING SCOUR AT BRIDGES."

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FT. BELOW THE GROUND LINE.

FOR PLACING LOAD ON STRUCTURE MEMBERS, SEE SPECIAL PROVISIONS.

BM #9: R/R SPIKE SET IN PAVEMENT OF RACHEL ST. AT INTERSECTION OF GERRY RD; 702' RT STA. 637+58 -L- ELEV. 899.76



LOCATION SKETCH

DRAWN BY :	W. B. ALLEN	DATE :	2/14
CHECKED BY :	T. R. PETERSON	DATE :	3/14
DESIGN ENGINEER OF RECORD:	T. R. PETERSON	DATE :	5/27/14

PROJECT NO. U-2579B

FORSYTH COUNTY

STATION: 26+60.00 -Y4RPBD-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON -Y4RPBD- OVER HARMON MILL (SMITH) CREEK BETWEEN US 158 AND US 421/I-40 BUS.

PLANS PREPARED BY:

MULKEY ENGINEERS & CONSULTANTS
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM
NC LICENSE NO. C-1021

NORTH CAROLINA PROFESSIONAL SEAL 034352 ENGINEER TERRY R. PETERSON

5/27/2014

DocuSigned by: Terry R. Peterson
6DC4171647CD40F...

DWG. NO. RPBD-3

REVISIONS								SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			S-400
1			3					TOTAL SHEETS
2			4					707

STR #11

5/27/2014 11:8:29 AM R:\Structures\U-2579B Ramp BD\U-2579B_RPBD_SD_GD_02.dgn