



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 21, 2019

Addendum No. 1

RE: Contract # C204266

WBS # 36030.3.GV4

F. A. # NHPP-026-1(199)6

Buncombe-Henderson Counties (I-4700)

I-26 FROM NC-280 (EXIT 40) TO I-40

July 16, 2019 Letting

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the Roadway plans:

Sheet No.	Revision
New Sheet TMP-002A	Temporary Shoring Data for shoring locations 1 thru 5

The plans furnished to you contained 2 Sheet TMP-002Bs. Void the first Sheet TMP-002B and replace with this New Sheet TMP-002A.

The following revisions have been made to the Structure plans:

Sheet No.	Revision
S4-4	Revised quantities for PERMANENT STEEL CASING FOR 5'-0" DIA. DRILLED PIER under <u>Total Bill of Material</u>
S4-63	Revised quantities for PERMANENT STEEL CASING FOR 5'-0" DIA. DRILLED PIER under <u>Quantities</u>
S4-69	Revised quantities for PERMANENT STEEL CASING FOR 5'-0" DIA. DRILLED PIER under <u>Quantities</u>

Please void the above listed existing Sheets in your proposal and staple the revised Sheets thereto.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 1 Dated 06-21-2019".
Table of Contents	Deleted INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES. Added INTERMEDIATE CONTRACT TIME NUMBER 1, BONUS CLAUSE AND LIQUIDATED DAMAGES. Added INTERMEDIATE CONTRACT TIME NUMBER 5 AND LIQUIDATED DAMAGES.
G-1 thru G-4	Deleted the project special provision entitled INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES . Added the project special provision entitled INTERMEDIATE CONTRACT TIME NUMBER 1, BONUS CLAUSE AND LIQUIDATED DAMAGES . Revised the project special provision entitled INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES . Revised the project special provision entitled INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES . Added the project special provision entitled INTERMEDIATE CONTRACT TIME NUMBER 5 AND LIQUIDATED DAMAGES .
G-6 thru G-7	Revised project special provision entitled CONSTRUCTION MORATORIUM . Revised project special provision entitled DELAY IN RIGHT OF ENTRY .
G-37	Revised the first sentence of the last paragraph on the Page.
G-38 and New Page G-39	Revised the project special provision entitled NOTES TO CONTRACTOR .
R-37 thru R-39	Revised the project special provision entitled DIAMOND GRINDING CONCRETE PAVEMENT .
New Pages BLRI-174 and BLRI-175	Added the project special provision entitled SEGMENTAL BRIDGE CONTRACTOR AND PERSONNEL .
TC-1	Added Work Zone Traffic Pattern Masking
TC-32 and New Pages TC-33 thru TC-36	Added the project special provision entitled WORK ZONE TRAFFIC PATTERN MASKING .
UbO-1	Revised 2 nd paragraph under General :
ST-1 thru ST-52 and New Pages ST-53 thru ST-57	Added project special provisions entitled Maintenance and Protection of Traffic Beneath Proposed Structure at Station 27+36.45 -Y13- and Application of Bridge Coating .

Please void the above listed existing Pages in your proposal and staple the revised Pages thereto. Staple new Page G-39 after revised Page G-38 in your proposal. Staple new Pages BLRI-174 and BLRI-175 after Page BLRI-173 in your proposal. Staple new Pages TC-33 thru TC-36 after revised Page TC-32 in your proposal. Staple new Pages ST-53 thru ST-57 after revised Page ST-52 in your proposal.

On the item sheets the following pay items have been revised:


<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
265- 4855000000-E-1205	Removal of Pavement Marking Lines (6")	307,545 LF	61,511 LF
266- 4865000000-E-1205	Removal of Pavement Marking Lines (12")	16,796 SY	4,113 LF
267- 4875000000-N-1205	Removal of Pavement Marking Symbols & Characters	21 EA	7 EA
444- 8111000000-E-411	Permanent Steel Casing for 5'-0" Dia. Drilled Pier	344 LF	200.6 LF
488- 4848000000-E-SP	Work Zone Traffic Pattern Masking	New Item	5,979,745 SF
489- 8860000000-N-SP	Application of Bridge Coating	New Item	Lump Sum

The Contractor's bid must include these pay item revisions.

The electronic bidding file has been updated to reflect this revision. Please download the Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:

 F81B6038A47A442...

Ronald E. Davenport, Jr., PE
 State Contract Officer

RED/jjr
 Attachments

cc: Mr. Lamar Sylvester, PE
 Mr. Mark T. Gibbs, PE
 Mr. Brian Burch, PE
 Mr. Ron Hancock, PE
 Mr. Chris Peoples, PE
 Mr. Jon Weathersbee, PE
 Project File (2)

Mr. Ray Arnold, PE
 Mr. Ken Kennedy, PE
 Ms. Jaci Kincaid
 Ms. Lori Strickland
 Mr. Mike Gwyn
 Ms. Penny Higgins
 Mr. Mitchell Dixon

TEMPORARY SHORING DATA

SHORING LOCATION NO. ①

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM STATION -EBL- 895+00±, 2.0'± RT., TO STATION -EBL 895+00±, 15.0'± LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -EBL- 895+00±, 2.0'± RT., TO STATION -EBL- 895+00±, 15.0'± LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT γ = 120 LB/CF
 FRICTION ANGLE ϕ = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 2090 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -EBL- 895+00±, 2.0'± RT., TO STATION -EBL- 895+00±, 15.0'± LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -EBL- 895+00±, 2.0'± RT., TO STATION -EBL- 895+00±, 15.0'± LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. ②

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM STATION -EBL- 895+00±, 15.0'± LT, TO STATION -EBL- 896+50±, 30.5'± LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -EBL- 895+00±, 15.0'± LT, TO STATION -EBL- 896+50±, 30.5'± LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT γ = 120 LB/CF
 FRICTION ANGLE ϕ = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 2095 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -EBL- 895+00±, 15.0'± LT, TO STATION -EBL- 896+50±, 30.5'± LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -EBL- 895+00±, 15.0'± LT, TO STATION -EBL- 896+50±, 30.5'± LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. ③

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR END BENT CONSTRUCTION FROM STATION -EBL- 911+69±, 47.0'± LT, TO STATION -EBL- 912+30±, 47.0'± LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -EBL- 911+69±, 47.0'± LT, TO STATION -EBL- 912+30±, 47.0'± LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT γ = 120 LB/CF
 FRICTION ANGLE ϕ = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 2065 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -EBL- 911+69±, 47.0'± LT, TO STATION -EBL- 912+30±, 47.0'± LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -EBL- 911+69±, 47.0'± LT, TO STATION -EBL- 912+30±, 47.0'± LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. ④

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR END BENT CONSTRUCTION FROM STATION -EBL- 912+85±, 46.5'± LT, TO STATION -EBL- 913+28±, 46.5'± LT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -EBL- 912+85±, 46.5'± LT, TO STATION -EBL- 913+28±, 46.5'± LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT γ = 120 LB/CF
 FRICTION ANGLE ϕ = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 2050 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -EBL- 912+85±, 46.5'± LT, TO STATION -EBL- 913+28±, 46.5'± LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -EBL- 912+85±, 46.5'± LT, TO STATION -EBL- 913+28±, 46.5'± LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. ⑤

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE ROADWAY CONSTRUCTION FROM STATION -EBL- 892+00±, 10.3'± RT, TO STATION -EBL- 895+00±, 2.0'± RT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -EBL- 892+00±, 10.3'± RT, TO STATION -EBL- 895+00±, 2.0'± RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

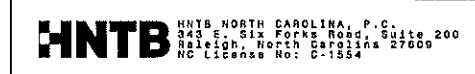
UNIT WEIGHT γ = 120 LB/CF
 FRICTION ANGLE ϕ = 30 DEGREES
 COHESION (c) = 0 LB/SF
 GROUNDWATER ELEVATION = 2090 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -EBL- 892+00±, 10.3'± RT, TO STATION -EBL- 895+00±, 2.0'± RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -EBL- 892+00±, 10.3'± RT, TO STATION -EBL- 895+00±, 2.0'± RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH SEALED DOCUMENTS FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENTS WERE SUBMITTED TO THE WZTC SECTION ON FEBRUARY 20, 2019 AND SEALED BY PROFESSIONAL ENGINEER, SHANE CLARK, P.E., LICENSE #29869.

20-MAY-2019 10:41 I-4700-rc-TMP02A Shoring Notes.dgn HNTB



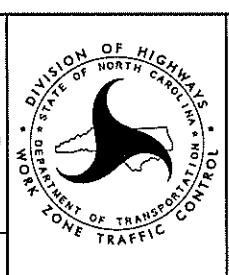
APPROVED: Shane Clark
 DATE: 5/20/2019

SEAL

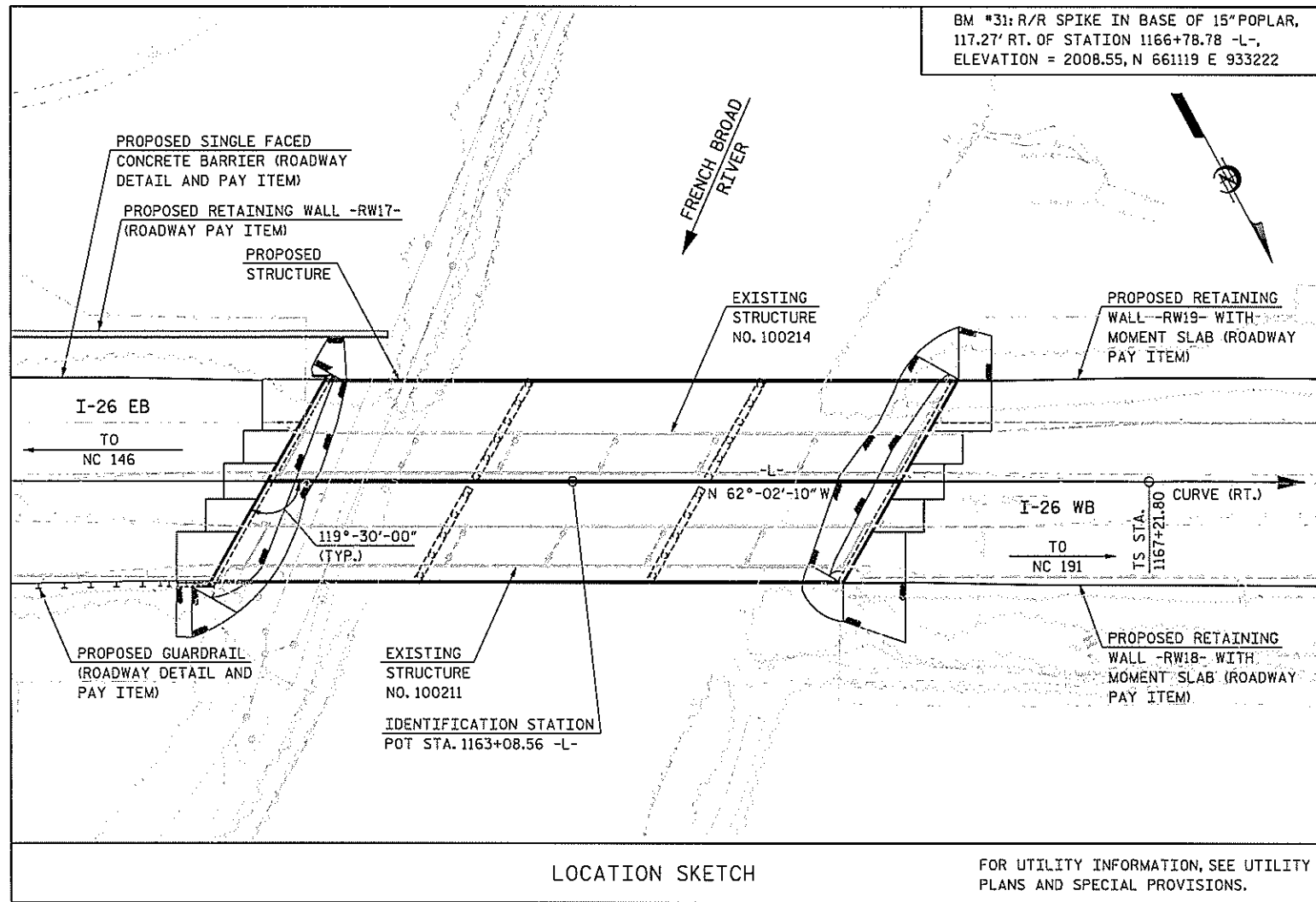
SEAL

ENGINEER
 SHANE C. CLARK

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



TEMPORARY SHORING NOTES



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

GENERAL NOTES:

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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.

FOR CAUSEWAY LIMITS AND CONSTRUCTION SEQUENCE, SEE BIOLOGICAL OPINION "I-26 WIDENING FROM US 25 NEAR HENDERSONVILLE TO I-40/I-240 SOUTH OF ASHEVILLE, HENDERSON AND BUNCOMBE COUNTIES, NORTH CAROLINA".

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 1163+08.56 -L-.

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.

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.

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

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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 MATERIAL CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURES AT STATION 1163+08.56 -L-".

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 5 OR SYSTEM 6 OF THE STRUCTURAL STEEL SHOP COATINGS PROGRAM AND SECTION 442-8 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

DIMENSIONS AND ELEVATIONS SHOWN FOR THE EXISTING STRUCTURES ARE FROM THE BEST INFORMATION AVAILABLE. 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 STRUCTURES SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE. IF FIELD CONDITIONS VARY FROM THE PLANS, MODIFICATIONS MAY BE MADE AS NECESSARY AS DIRECTED BY THE ENGINEER.

REMOVAL OF THE EXISTING BRIDGES 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".

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 SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

EXISTING STRUCTURE NO. 100214 WITH ONE END SPAN LENGTH OF 87'-0", INTERIOR SPAN LENGTHS OF 73'-0", 73'-0", 73'-0", AND 73'-0" AND ONE END SPAN LENGTH OF 74'-6" WITH REINFORCED CONCRETE DECK SUPPORTED BY 4 LINES OF 36" STEEL I-BEAMS AT 8'-0" CTS. AND 28'-0" CLEAR ROADWAY WIDTH ON REINFORCED CONCRETE END BENT CAPS ON H-PILES AND REINFORCED CONCRETE BENT POST AND BEAM ON SPREAD FOOTINGS LOCATED ±21' DOWNSTREAM OF THE PROPOSED STRUCTURE SHALL BE REMOVED. EXISTING STRUCTURE NO. 100211 WITH ONE END SPAN LENGTH OF 74'-6", INTERIOR SPAN LENGTHS OF 73'-0", 73'-0", 73'-0", AND 73'-0", AND ONE END SPAN LENGTH OF 74'-6" WITH REINFORCED CONCRETE DECK SUPPORTED BY 4 LINES OF 36" STEEL I-BEAMS AT 8'-0" CTS. AND 28'-0" CLEAR ROADWAY WIDTH ON REINFORCED CONCRETE END BENT CAPS ON H-PILES AND REINFORCED CONCRETE BENT POST AND BEAM ON SPREAD FOOTINGS LOCATED ±46' UPSTREAM OF THE PROPOSED STRUCTURE SHALL ALSO BE REMOVED. BOTH EXISTING BRIDGES ARE PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGES 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.

FOR SECURING OF VESSELS, SEE SPECIAL PROVISIONS.

RIVER TRAFFIC SHALL BE MAINTAINED DURING BRIDGE CONSTRUCTION. FOR REQUIREMENTS, SEE WORK ZONE TRAFFIC CONTROL FOR SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION STA. 1163+08.56 -L-	REMOVAL OF EXISTING STRUCTURES AT STA. 1163+08.56 -L-	ASBESTOS ASSESSMENT	5'-0" DIA. DRILLED PIERS IN SOIL	5'-0" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 5'-0" DIA. DRILLED PIER	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION AT STA. 1163+08.56 -L-	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE
	LUMP SUM	LUMP SUM	LUMP SUM	L.F.	L.F.	L.F.	EACH	LUMP SUM	SQ. FEET	SQ. FEET	CU. YARDS
SUPERSTRUCTURE	---	---	---	---	---	---	---	---	68,878	72,841	---
END BENT 1	---	---	---	---	---	---	---	---	---	---	201.5
BENT 1	---	---	---	81.3	147.0	103.3	---	---	---	---	280.9
BENT 2	---	---	---	75.3	153.0	97.3	---	---	---	---	290.4
END BENT 2	---	---	---	---	---	---	---	---	---	---	175.2
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	156.6	300.0	200.6	4	LUMP SUM	68,878	72,841	948.0

TOTAL BILL OF MATERIAL

	BRIDGE APPR. SLABS, STATION STA. 1163+08.56 -L-	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	APPROX. 2,787,684 LBS. STRUCTURAL STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 14 x 73 STEEL PILES	HP 14 x 73 STEEL PILES	CONCRETE BARRIER RAIL	CONCRETE MEDIAN BARRIER	RIP-RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	DISC BEARINGS	EXPANSION JOINT SEALS	
	LUMP SUM	LBS.	LBS.	LUMP SUM	EACH	NO.	L.F.	L.F.	L.F.	TON	SQ. YD.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE	LUMP SUM	---	---	LUMP SUM	---	---	1,050.20	526.00	---	---	LUMP SUM	LUMP SUM	
END BENT 1	---	24,109	---	---	27	27	---	---	914.8	1,016.4	---	---	
BENT 1	---	131,930	14,212	---	---	---	---	---	---	---	---	---	
BENT 2	---	134,323	14,641	---	---	---	---	---	---	---	---	---	
END BENT 2	---	21,739	---	---	27	27	---	---	1,328.6	1,476.3	---	---	
TOTAL	LUMP SUM	312,101	28,853	LUMP SUM	54	54	1,350	1,050.20	526.00	2,243.4	2,492.7	LUMP SUM	LUMP SUM

SAMPLE BAR REPLACEMENT		NOTE:
SIZE	LENGTH	SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60ksi. BAR LENGTHS IN THIS TABLE ARE A GUIDE. THE ENGINEER SHALL APPROVE FINAL LENGTHS BASED ON THE TYPE AND LOCATION OF SAMPLE BAR.
#3	6'-2"	
#4	7'-4"	
#5	8'-6"	
#6	9'-8"	
#7	10'-10"	
#8	12'-0"	
#9	13'-2"	
#10	14'-6"	
#11	15'-10"	

PROJECT NO. I-4700B
BUNCOMBE COUNTY
 STATION: POT 1163+08.56 -L-

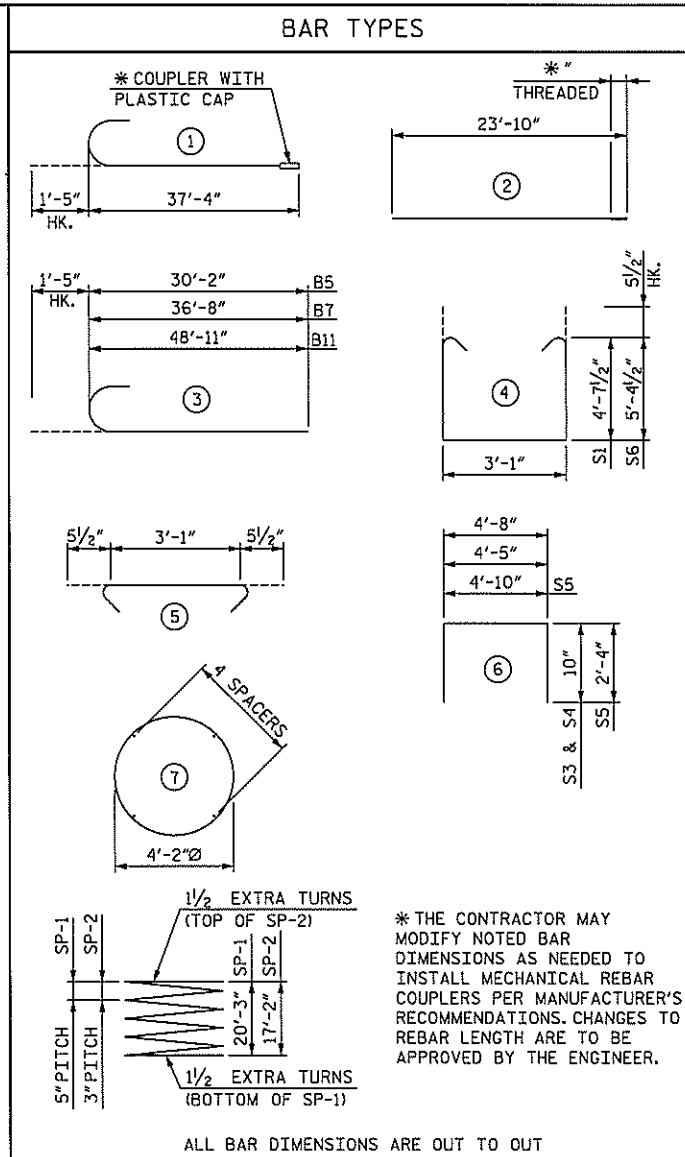
SHEET 4 OF 4
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 LOCATION SKETCH,
 GENERAL NOTES, AND
 TOTAL BILL OF MATERIAL



HNTB	HNTB NORTH CAROLINA, P.C. NC License No. C-1554 343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609
DRAWN BY: B. VAUGHN	DATE: 11/18
CHECKED BY: R. RAPP	DATE: 11/18
DESIGN ENGINEER OF RECORD: R. RAPP	DATE: 11/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S4-4
1			3			TOTAL SHEETS 89
2			4			



BILL OF REINFORCING

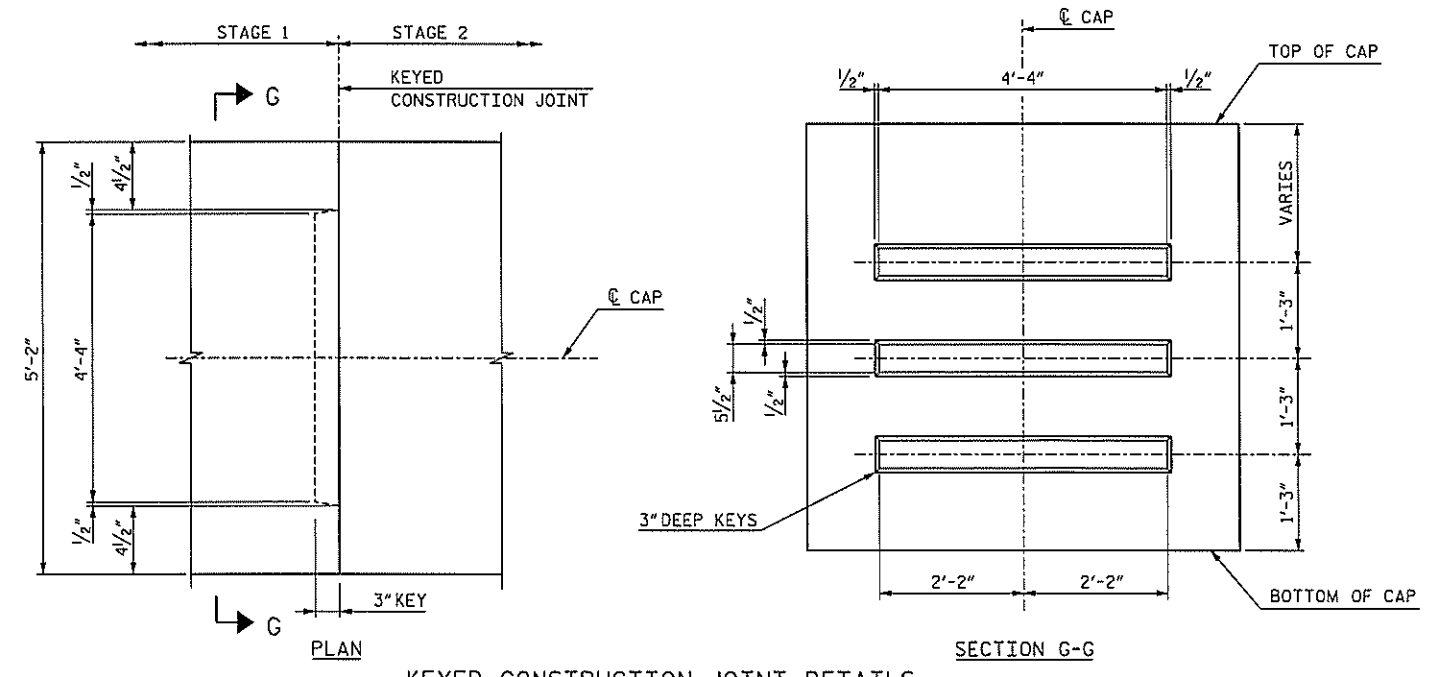
BENT 1																	
STAGE 1					STAGE 2					STAGE 3							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	22	10		38'-9"	3,669	B3	20	4	STR	10'-3"	137	B3	40	4	STR	10'-3"	274
B2	10	5	STR	39'-10"	416	B4	10	4	STR	8'-11"	60	B7	22	10	3	38'-1"	3,606
B3	20	4	STR	10'-3"	137	B5	22	10	3	31'-7"	2,990	B8	20	5	STR	40'-6"	845
B4	10	4	STR	8'-11"	60	B6	10	5	STR	47'-10"	499	B9	10	4	STR	7'-5"	50
						B10	22	10	2	23'-10"	2,257	B11	22	10	3	50'-4"	4,765
												B12	10	10	STR	10'-3"	442
M1	60	11	STR	29'-6"	9,405	M1	60	11	STR	29'-6"	9,405	M1	100	11	STR	29'-6"	15,674
M2	60	11	STR	23'-1"	7,359	M2	60	11	STR	23'-1"	7,359	M2	100	11	STR	23'-1"	12,265
S1	96	5	4	13'-3"	1,327	S1	136	5	4	13'-3"	1,880	S1	190	5	4	13'-3"	2,626
S2	96	5	5	4'-0"	401	S2	136	5	5	4'-0"	568	S2	224	5	5	4'-0"	935
S3	5	5	6	6'-4"	34	S3	5	5	6	6'-4"	34	S3	10	5	6	6'-4"	67
S4	6	5	6	6'-1"	39	S4	6	5	6	6'-1"	39	S4	12	5	6	6'-1"	77
S5	39	4	6	9'-6"	248	S5	38	4	6	9'-6"	242	S5	55	4	6	9'-6"	350
												S6	34	5	4	14'-9"	524
SP-1	3	**	7	653'-2"	2,044	SP-1	3	**	7	653'-2"	2,044	SP-1	5	**	7	653'-2"	3,407
SP-2	3	***	7	913'-10"	1,832	SP-2	3	***	7	913'-10"	1,832	SP-2	5	***	7	913'-10"	3,053
V1	120	10	STR	21'-7"	11,145	V1	120	10	STR	21'-7"	11,145	V1	200	10	STR	21'-7"	18,575

QUANTITIES			QUANTITIES			QUANTITIES		
REINFORCING STEEL	LBS.	34,240	REINFORCING STEEL	LBS.	36,615	REINFORCING STEEL	LBS.	61,075
SPIRAL COLUMN REINFORCING STEEL	LBS.	3,876	SPIRAL COLUMN REINFORCING STEEL	LBS.	3,876	SPIRAL COLUMN REINFORCING STEEL	LBS.	6,460
CLASS "A" CONCRETE BREAKDOWN			CLASS "A" CONCRETE BREAKDOWN			CLASS "A" CONCRETE BREAKDOWN		
COLUMNS POUR 2	CU. YDS.	30.2	COLUMNS POUR 2	CU. YDS.	30.2	COLUMNS POUR 2	CU. YDS.	50.3
CAP POUR 3	CU. YDS.	38.2	CAP POUR 3	CU. YDS.	49.0	CAP POUR 3	CU. YDS.	83.0
TOTAL	CU. YDS.	68.4	TOTAL	CU. YDS.	79.2	TOTAL	CU. YDS.	133.3
5'-0" Ø DRILLED PIERS	NO.	3	5'-0" Ø DRILLED PIERS	NO.	3	5'-0" Ø DRILLED PIERS	NO.	5
DRILLED PIERS, NOT IN SOIL	LIN. FT.	40.1	DRILLED PIERS, NOT IN SOIL	LIN. FT.	40.1	DRILLED PIERS, NOT IN SOIL	LIN. FT.	66.8
DRILLED PIERS, IN SOIL	LIN. FT.	22.2	DRILLED PIERS, IN SOIL	LIN. FT.	22.2	DRILLED PIERS, IN SOIL	LIN. FT.	36.9
DRILLED PIER CONCRETE POUR 1	CU. YDS.	45.3	DRILLED PIER CONCRETE POUR 1	CU. YDS.	45.3	DRILLED PIER CONCRETE POUR 1	CU. YDS.	75.4
PERMANENT STEEL CASING	LIN. FT.	28.2	PERMANENT STEEL CASING	LIN. FT.	28.2	PERMANENT STEEL CASING	LIN. FT.	46.9

NOTE: THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH. M2 BARS SHALL BE FIELD CUT AS NECESSARY TO MAINTAIN 6" CLEARANCE FROM THE CONSTRUCTION JOINT BETWEEN THE COLUMN AND DRILLED PIER.

** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

*** THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR.



PROJECT NO. I-4700B
BUNCOMBE COUNTY
 STATION: POT 1163+08.56 -L-

SHEET 6 OF 6

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENT 1



HNTB HNTB NORTH CAROLINA, P.C.
 NC License No. C-1554
 343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609

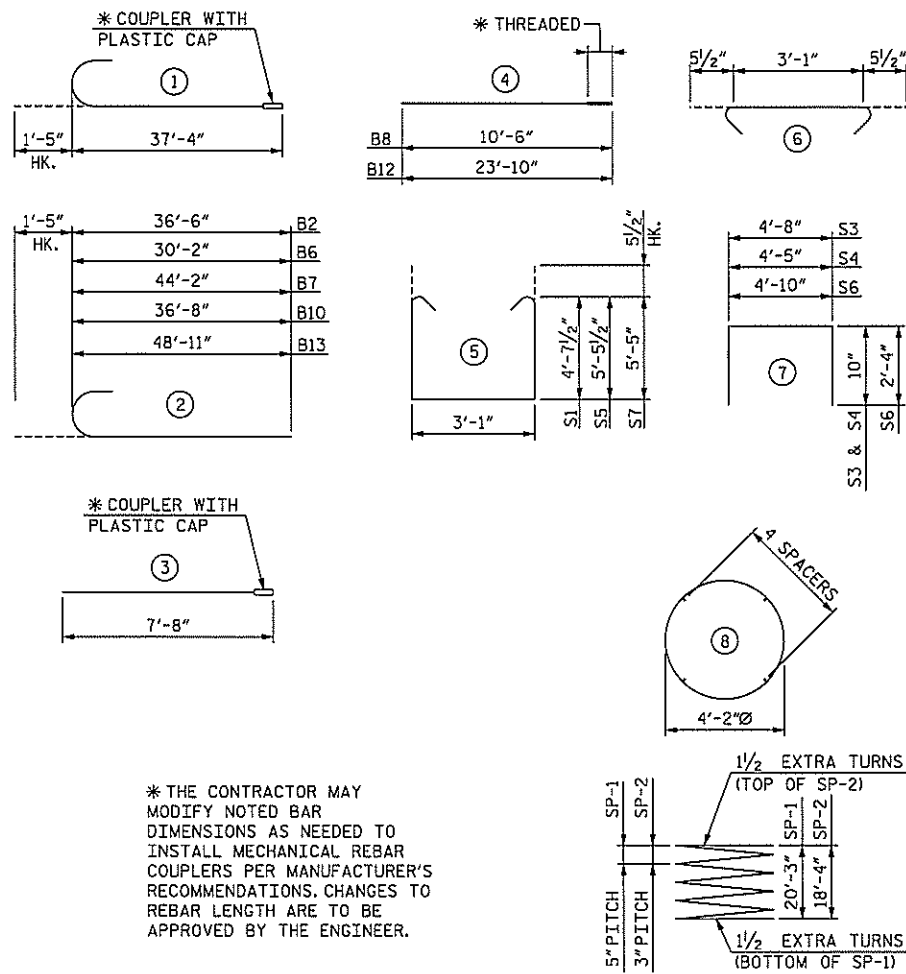
DRAWN BY: B. VAUGHN DATE: 1/19
 CHECKED BY: R. RAPP DATE: 2/19
 DESIGN ENGINEER OF RECORD: R. RAPP DATE: 2/19

DWG. NO. 63

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S4-63
1			3			TOTAL SHEETS 89
2			4			

BAR TYPES



* THE CONTRACTOR MAY MODIFY NOTED BAR DIMENSIONS AS NEEDED TO INSTALL MECHANICAL REBAR COUPLERS PER MANUFACTURER'S RECOMMENDATIONS. CHANGES TO REBAR LENGTH ARE TO BE APPROVED BY THE ENGINEER.

ALL BAR DIMENSIONS ARE OUT TO OUT

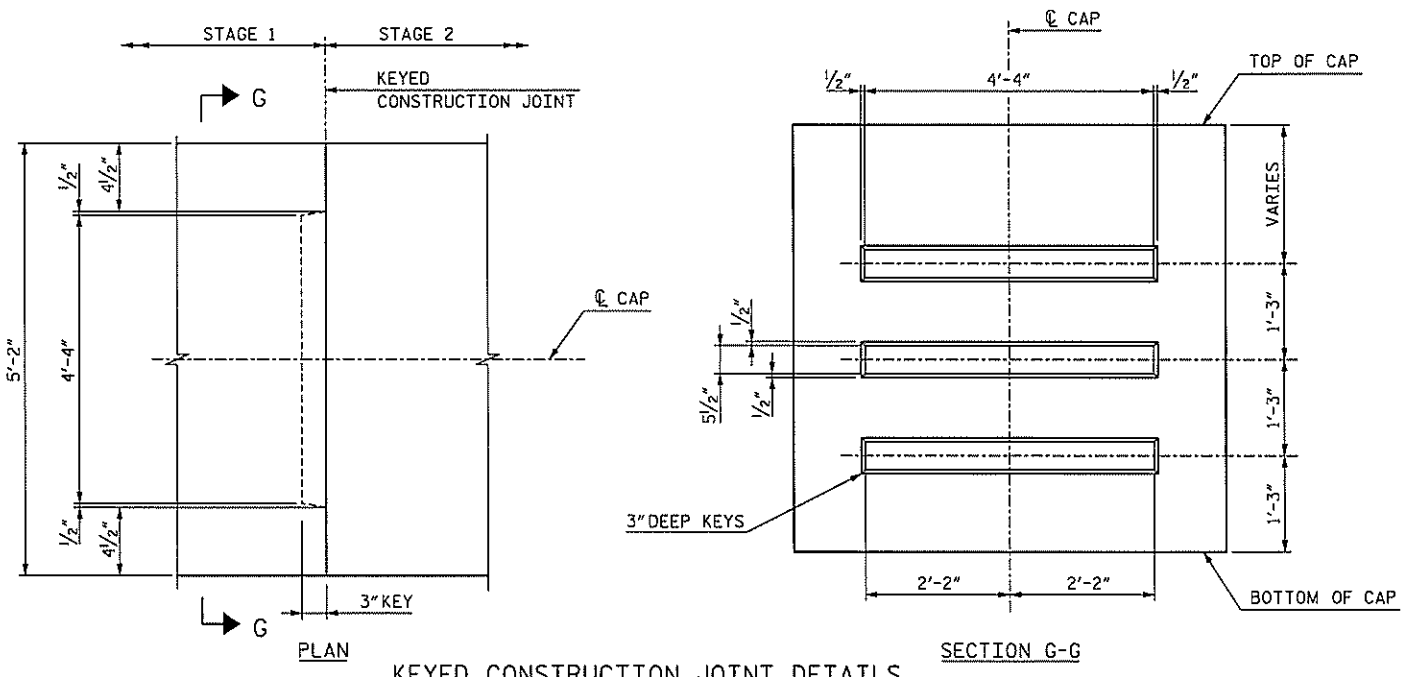
NOTE: THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH. M2 BARS SHALL BE FIELD CUT AS NECESSARY TO MAINTAIN 6" CLEARANCE FROM THE CONSTRUCTION JOINT BETWEEN THE COLUMN AND DRILLED PIER.

BILL OF REINFORCING

BENT 2																					
STAGE 1					STAGE 2					STAGE 3											
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT				
B1	12	10	1	38'-9"	2,001	B5	20	4	STR	10'-3"	137	B5	40	4	STR	10'-3"	274				
B2	10	10	2	37'-11"	1,632	B6	12	10	2	31'-7"	1,631	B10	22	10	2	38'-1"	3,606				
B3	10	10	3	7'-8"	330	B7	10	10	2	45'-7"	1,962	B11	20	5	STR	40'-6"	845				
B4	10	5	STR	39'-10"	416	B8	10	10	4	10'-6"	452	B13	22	10	2	50'-4"	4,765				
B5	20	4	STR	10'-3"	137	B9	10	5	STR	47'-10"	499	B14	10	10	STR	10'-3"	442				
B15	10	4	STR	8'-2"	55	B12	12	10	4	23'-10"	1,231										
M1	60	11	STR	29'-6"	9,405	M1	60	11	STR	29'-6"	9,405	M1	100	11	STR	29'-6"	15,674				
M2	60	11	STR	23'-1"	7,359	M2	60	11	STR	23'-1"	7,359	M2	100	11	STR	23'-1"	12,265				
S1	82	5	5	13'-3"	1,134	S1	94	5	5	13'-3"	1,300	S1	190	5	5	13'-3"	2,626				
S2	96	5	6	4'-0"	401	S2	136	5	6	4'-0"	568	S2	224	5	6	4'-0"	935				
S3	5	5	7	6'-4"	34	S3	5	5	7	6'-4"	34	S3	10	5	7	6'-4"	67				
S4	6	5	7	6'-1"	39	S4	6	5	7	6'-1"	39	S4	12	5	7	6'-1"	77				
S5	14	5	5	14'-11"	218	S5	42	5	5	14'-11"	654	S6	46	4	7	9'-6"	292				
S6	39	4	7	9'-6"	248	S6	27	4	7	9'-6"	172	S7	34	5	5	14'-10"	527				
SP-1	3	**	8	653'-2"	2,044	SP-1	3	**	8	653'-2"	2,044	SP-1	5	**	8	653'-2"	3,407				
SP-2	3	***	8	972'-2"	1,949	SP-2	3	***	8	972'-2"	1,949	SP-2	5	***	8	972'-2"	3,248				
V1	120	10	STR	22'-9"	11,748	V1	120	10	STR	22'-9"	11,748	V1	200	10	STR	22'-9"	19,580				
QUANTITIES					QUANTITIES					QUANTITIES											
REINFORCING STEEL					LBS.	35,157	REINFORCING STEEL					LBS.	37,191	REINFORCING STEEL						LBS.	61,975
SPIRAL COLUMN REINFORCING STEEL					LBS.	3,993	SPIRAL COLUMN REINFORCING STEEL					LBS.	3,993	SPIRAL COLUMN REINFORCING STEEL						LBS.	6,655
CLASS "A" CONCRETE BREAKDOWN							CLASS "A" CONCRETE BREAKDOWN							CLASS "A" CONCRETE BREAKDOWN							
COLUMNS POUR 2					CU. YDS.	32.3	COLUMNS POUR 2					CU. YDS.	32.3	COLUMNS POUR 2						CU. YDS.	53.8
CAP POUR 3					CU. YDS.	40.3	CAP POUR 3					CU. YDS.	50.1	CAP POUR 3						CU. YDS.	81.6
TOTAL					CU. YDS.	72.6	TOTAL					CU. YDS.	82.4	TOTAL						CU. YDS.	135.4
5'-0" Ø DRILLED PIERS					NO.	3	5'-0" Ø DRILLED PIERS					NO.	3	5'-0" Ø DRILLED PIERS						NO.	5
DRILLED PIERS, NOT IN SOIL					LIN. FT.	41.7	DRILLED PIERS, NOT IN SOIL					LIN. FT.	41.7	DRILLED PIERS, NOT IN SOIL						LIN. FT.	69.6
DRILLED PIERS, IN SOIL					LIN. FT.	20.5	DRILLED PIERS, IN SOIL					LIN. FT.	20.5	DRILLED PIERS, IN SOIL						LIN. FT.	34.3
DRILLED PIER CONCRETE POUR 1					CU. YDS.	45.3	DRILLED PIER CONCRETE POUR 1					CU. YDS.	45.3	DRILLED PIER CONCRETE POUR 1						CU. YDS.	75.4
PERMANENT STEEL CASING					LIN. FT.	26.5	PERMANENT STEEL CASING					LIN. FT.	26.5	PERMANENT STEEL CASING						LIN. FT.	44.3

** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

*** THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR.



PROJECT NO. I-4700B
 BUNCOMBE COUNTY
 STATION: POT 1163+08.56 -L-

SHEET 6 OF 6
 DEPARTMENT OF TRANSPORTATION
 SUBSTRUCTURE
 BENT 2



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 343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609

DRAWN BY B. VAUGHN DATE 1/19
 CHECKED BY R. RAPP DATE 2/19
 DESIGN ENGINEER OF RECORD R. RAPP DATE 2/19

DWG. NO. 69

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REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S4-69
1			3			TOTAL SHEETS 89
2			4			