

### GENERAL NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.  
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.  
 THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.  
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE "STANDARD NOTES" SHEET.  
 FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.  
 THE EXISTING STRUCTURE CONSISTING OF (2) 23'-0", (1) 16'-9", (1) 34'-4", (1) 22'-8", AND (1) 23'-0" SPANS WITH TIMBER DECK ON STEEL I-BEAMS WITH A CLEAR ROADWAY OF 24'-1" AND SUPPORTED BY TIMBER CAP AND PILES AND ADDED CRUTCH BENTS SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY 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.  
 REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL 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.  
 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 AT STATION 16+06.00 -L-".  
 THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA (ON SHEET 1 OF 2) SHALL BE EXCAVATED FOR A DISTANCE FROM THE CENTERLINE OF ROADWAY OF 26'± (LEFT) AND 24'± (RIGHT) AT END BENT 1, AND 25'± (LEFT) AND 21'± (RIGHT) AT END BENT 2, 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.  
 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.  
 AT THE CONTRACTOR'S OPTION, PRESTRESSED CONCRETE END BENT CAPS MAY BE SUBSTITUTED IN PLACE OF THE CAST-IN-PLACE CAPS. THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER TO RECEIVE REVISED PLANS AND DETAILS FROM THE STRUCTURES MANAGEMENT UNIT. THE REDESIGN AND ANY ADDITIONAL MATERIALS NEEDED WILL BE AT NO ADDITIONAL COST TO 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" SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30" 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.  
 THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES".  
 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.  
 ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.  
 FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

### FOUNDATION NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.  
 PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 65 TONS PER PILE.  
 DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 108 TONS PER PILE.  
 FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.  
 INSTALL DRILLED PIERS AT BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 472 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 11 FT. INTO ROCK.  
 DRILLED PIERS AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 340.0 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 70.0 TSF.  
 INSTALL PERMANENT STEEL CASINGS AT BENT NO. 1 BY VIBRATING, SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 480 FT.  
 THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 477 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.  
 TO VERIFY BEARING STRATA, STANDARD PENETRATION TESTING (SPT) IS REQUIRED FOR DRILLED PIERS AT BENT NO. 1. PERFORM SPTS AT ELEVATION 483 FT (LT) AND 485 FT (RT) TO VERIFY TOP OF PARTIALLY WEATHERED ROCK AND AGAIN AT THE FINAL TIP ELEVATION INDICATED. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.  
 INSTALL DRILLED PIERS AT BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 464 FT. WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 15 FT. INTO ROCK.  
 DRILLED PIERS AT BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 425.0 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 70.0 TSF.  
 PERMANENT STEEL CASINGS ARE REQUIRED FOR DRILLED PIERS AT BENT NO. 2. DO NOT EXTEND CASING BELOW ELEVATION 479 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER.  
 THE SCOUR CRITICAL ELEVATION FOR BENT NO. 2 IS ELEVATION 479 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.  
 TO VERIFY BEARING STRATA, STANDARD PENETRATION TESTING (SPT) IS REQUIRED FOR DRILLED PIERS AT BENT NO. 2. PERFORM SPTS AT ELEVATION 479 FT TO VERIFY TOP OF PARTIALLY WEATHERED ROCK AND AGAIN AT THE FINAL TIP ELEVATION INDICATED. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.  
 CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.  
 PILES AT END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE.  
 DRIVE PILES AT END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 142 TONS PER PILE.

▲ IF REQUIRED

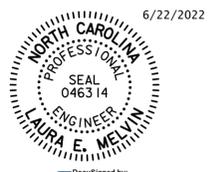
TOTAL BILL OF MATERIAL												
	REMOVAL OF EXISTING STRUCTURE AT STA. 16+06.00 -L-	ASBESTOS ASSESSMENT	3'-0" Ø DRILLED PIERS IN SOIL	3'-0" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" Ø DRILLED PIER	SPT TESTING	CSL TESTING (IF REQUIRED)	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EA.	EA.	LUMP SUM	CU. YD.	LUMP SUM	LBS.	LBS.
SUPERSTRUCTURE												
END BENT 1									20.0		2,449	
BENT 1			40.4	30.0	46.4 ▲	6			13.9		7,618	1,307
BENT 2			32.0	40.0	26.9	6			16.0		8,825	1,632
END BENT 2									20.0		2,449	
TOTAL	LUMP SUM	LUMP SUM	72.4	70.0	73.3	12	1	LUMP SUM	69.9	LUMP SUM	21,341	2,939

SAMPLE BAR REPLACEMENT	
SIZE	LENGTH
#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"

NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND  $f_y = 60ksi$

TOTAL BILL OF MATERIAL (CONT'D)											
	PILE DRIVING EQUIPMENT SETUP FOR HP 12X53 STEEL PILES	HP 12X53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS			
	EA.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.	NO.	LIN. FT.
SUPERSTRUCTURE				320.5				20	(900)	10	700
END BENT 1	5	5	75		80	90					
BENT 1											
BENT 2											
END BENT 2	5	5	125		80	90					
TOTAL	10	10	200	320.5	160	180	LUMP SUM	20	(900)	10	700

PROJECT NO. B-5375  
CABARRUS COUNTY  
 STATION: 16+06.00 -L-  
 SHEET 2 OF 2



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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE ON SR 1132  
 (MIAMI CHURCH ROAD)  
 OVER DUTCH BUFFALO CREEK  
 BETWEEN SR 1006 AND SR 1100

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1	LEM	6-22	3		
2			4		

TOTAL SHEETS 23

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