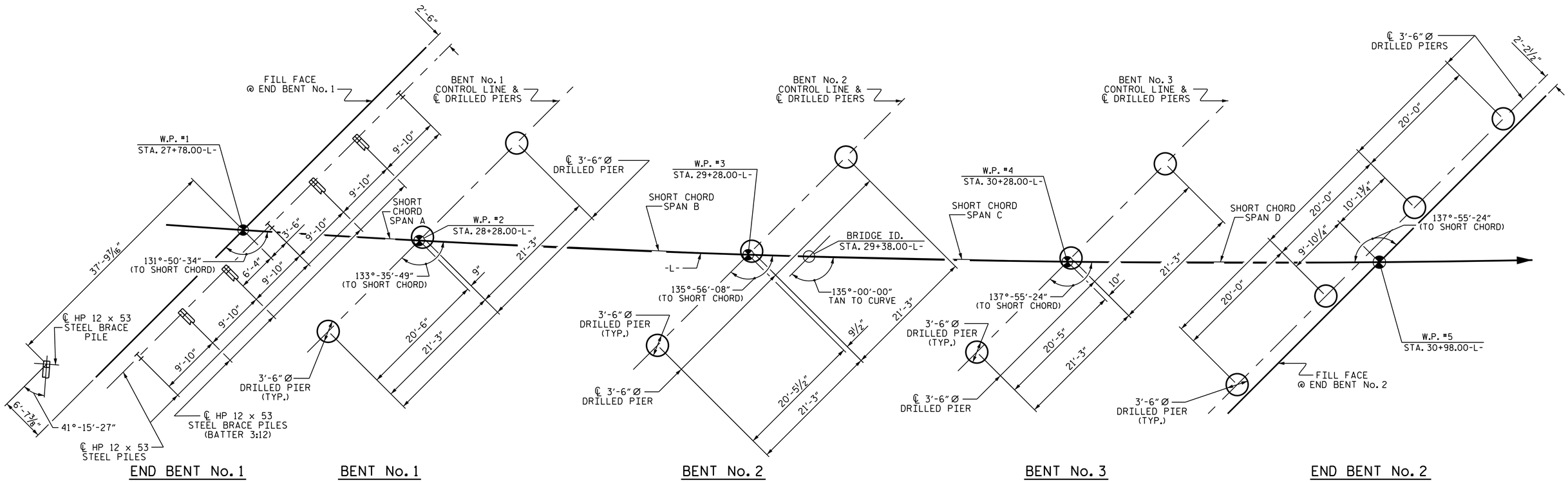

FOUNDATION LAYOUT

DIMENSIONS LOCATING BRACE PILES ARE SHOWN TO THE PILE CENTERLINE AT THE BOTTOM OF THE CAP OR WING.

DIMENSIONS LOCATING DRILLED PIERS ARE SHOWN TO THE CENTERLINE OF DRILLED PIERS.

END BENT WING BRACE PILE IS BATTERED AT 3:12.

NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT No. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 90 TONS PER PILE.

DRIVE PILES AT END BENT No. 1 TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

STEEL H-PILE POINTS ARE REQUIRED FOR STEEL H-PILES AT END BENT No. 1. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

INSTALL DRILLED PIERS AT BENT No. 1 TO A TIP ELEVATION NO HIGHER THAN 1125.6 FT, SATISFY THE REQUIRED TIP RESISTANCE AND HAVE A PENETRATION OF AT LEAST 10.5 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT BENT No. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 460 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30.0 TSF.

PERMANENT STEEL CASING ARE REQUIRED FOR DRILLED PIERS AT BENT No. 1. DO NOT EXTEND PERMANENT CASING BELOW ELEVATION 1136.6 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

THE SCOUR CRITICAL ELEVATION FOR BENT No. 1 IS ELEVATION 1136.1 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

INSTALL DRILLED PIERS AT BENT No. 2 TO A TIP ELEVATION NO HIGHER THAN 1128.8 FT, SATISFY THE REQUIRED TIP RESISTANCE AND HAVE A PENETRATION OF AT LEAST 10.5 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT BENT No. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 510 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30.0 TSF.

PERMANENT STEEL CASING ARE REQUIRED FOR DRILLED PIERS AT BENT No. 2. DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 1139.3 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

THE SCOUR CRITICAL ELEVATION FOR BENT No. 2 IS ELEVATION 1139.3 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

INSTALL DRILLED PIERS AT BENT No. 3 TO A TIP ELEVATION NO HIGHER THAN 1125.7 FT, SATISFY THE REQUIRED TIP RESISTANCE AND HAVE A PENETRATION OF AT LEAST 10.5 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT BENT No. 3 ARE DESIGNED FOR A FACTORED RESISTANCE OF 450 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30.0 TSF.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT No. 3. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 1140.5 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.

THE SCOUR CRITICAL ELEVATION FOR BENT No. 3 IS ELEVATION 1139.5 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

INSTALL DRILLED PIERS AT END BENT No. 2 TO A TIP ELEVATION NO HIGHER THAN 1129.5 FT, SATISFY THE REQUIRED TIP RESISTANCE AND HAVE A PENETRATION OF AT LEAST 10 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT END BENT No. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 270 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30.0 TSF.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT END BENT No. 2. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 1140.0 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.

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.

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

SEE SHEET 4 OF 4 FOR ADDITIONAL NOTES.

NORTH CAROLINA PROFESSIONAL SEAL 17230 ENGINEER WAEL S. ARAFAT

DocuSigned by: Wael Arafat 2/24/2015
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PROJECT NO. B-3673
McDOWELL COUNTY
STATION: 29+38.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE OVER SECOND BROAD RIVER ON US 221 BETWEEN SR 1781 AND SR 1786

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		S-2
1			3				TOTAL SHEETS
2			4				43

DRAWN BY : H. T. BARBOUR DATE : 11-17-14
CHECKED BY : D. HODGE DATE : 12-14
DESIGN ENGINEER OF RECORD: J.P. McCARTHA DATE : 1-7-15

23-FEB-2015 16:41
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warafat