

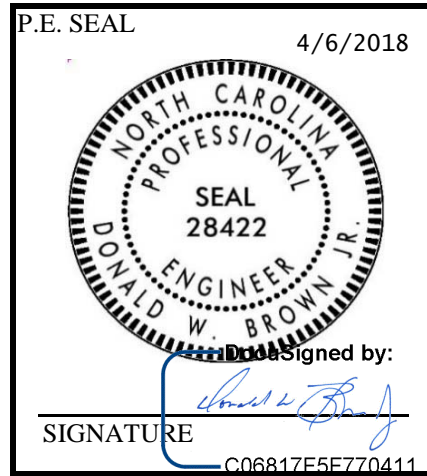
FOUNDATION RECOMMENDATIONS

Prepared for NCDOT by: Stewart

PROJECT 17BP.6.R.96
 TIP NO. SF-420072
 COUNTY Harnett
 STATION 23+71.00 -L-

DESCRIPTION Bridge No. 72 on SR 2045
(Elliott Bridge Road) over Anderson Creek

	INITIALS	DATE
DESIGN	CT	3/21/18
CHECK	DB	3/28/18
APPROVAL		



Not considered final until all signatures are complete

	STATION	FOUNDATION TYPE	FACTORED RESISTANCE	ADDITIONAL INFORMATION
END BENT 1	23+12.31 -L-	Cap on HP 12 x 53 Steel H-Piles	85 Tons/Pile	Bottom of Cap Elev. = 131.2 ft± Average Estimated Pile Length = 60 ft Number of Piles/Cap = 7
BENT 1	23+83.50 -L-	Cap on HP 14 x 73 Steel H-Piles	125 Tons/Pile	Bottom of Cap Elev. = 132.9 ft± Point of Fixity Elev. = 106 ft Tip No Higher Than Elev. = 100 ft Average Estimated Pile Length = 65 ft Number of Piles/Cap = 8
END BENT 2	24+29.69 -L-	Cap on HP 12 x 53 Steel H-Piles	65 Tons/Pile	Bottom of Cap Elev. = 131.9 ft± Average Estimated Pile Length = 45 ft Number of Piles/Cap = 7

(SEE NOTES ON PLANS AND COMMENTS ON FOLLOWING PAGES.)

FOUNDATION RECOMMENDATIONS NOTES ON PLANS

1. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
2. PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE.
3. PILES AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 125 TONS PER PILE.
4. PILES AT END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 65 TONS PER PILE.
5. DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE.
6. DRIVE PILES AT BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR SCOUR.
7. DRIVE PILES AT END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
8. INSTALL PILES AT BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 100 FT.
9. THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 118 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
10. TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

FOUNDATION RECOMMENDATIONS COMMENTS

1. A SINGLE ROW WITH 7 PLUMB PILES IS PLANNED FOR END BENT NO. 1 AND END BENT NO. 2. A SINGLE ROW WITH 8 PLUMB PILES IS PLANNED FOR BENT NO. 1
2. NO WAITING PERIOD IS REQUIRED FOR END BENT CONSTRUCTION AFTER COMPLETION OF EMBANKMENT.
3. END BENT SLOPES OF 1.5H:1V ARE SATISFACTORY WITH SLOPE PROTECTION.
4. USE TYPE II BRIDGE APPROACH DETAIL.
5. A DYNAMIC RESISTANCE FACTOR OF 0.6 WAS USED FOR EACH BENT.
6. DESIGN SCOUR ELEVATION FOR BENT NO. 1 IS 120.0 FEET.

PILE PAY ITEMS

(Revised 8/11/15)

WBS ELEMENT 17BP.6.R.96

DATE 3/28/2018

TIP NO. SF-420072

DESIGNED BY CT

COUNTY Harnett

CHECKED BY DB

STATION 23+71.00 -L-

DESCRIPTION Bridge No. 72 on SR 2045 (Elliott Bridge Road) over Anderson Creek

NUMBER OF BENTS WITH PILES _____	}	Only required for "Predrilling for Piles" & "Pile Excavation" pay items
NUMBER OF PILES PER BENT _____		
NUMBER OF END BENTS WITH PILES _____		
NUMBER OF PILES PER END BENT _____		

Bent # or End Bent #	PILE PAY ITEM QUANTITIES						PDA Testing (per each)
	Steel Pile Points (yes/no)	Pipe Pile Plates (yes/no/maybe)	Predrilling For Piles (per linear ft)	Pile Redrives (per each)	Pile Excavation (per linear ft)		
					In Soil	Not In Soil	
END BENT #1				4			X
BENT #1				5			
END BENT #2				4			
TOTALS			0	13	0	0	

Notes:

Blanks or "no" represent quantity of zero.

If steel pile points are required, calculate quantity of "Steel Pile Points" as equal to the number of steel piles.

If pipe pile plates are or may be required, calculate the quantity of "Pipe Pile Plates" as equal to the number of pipe piles.

Show quantity of "PDA Testing" on the plans as total only.