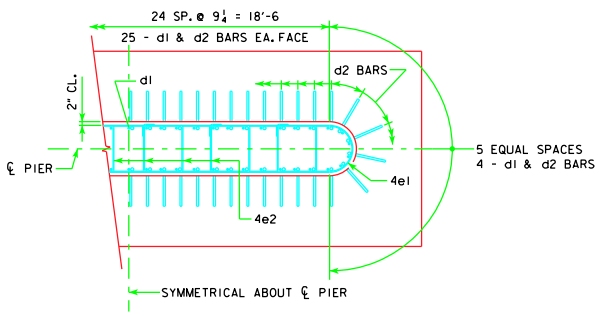
H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57) NO. & LAYOUT	① DES. BRG. (TONS)	② LRFD DES. BRG. (KIPS)	FOOTING SIZE
16 TO 18	160'-0	17A	47	134	4' x 8' x 26'
	180'-0	17A	50	144	
	200'-0	18A	50	143	
	220'-0	20A	50	145	
	240'-0	21C	50	146	4' x 11' x 26'
	260'-0	21F	49	142	4' x 14' x 30'
	280'-0	22A	50	146	
	300'-0	24A	48	138	4' x 14' x 32'
	320'-0	24A	50	146	
	340'-0	26A	50	143	
19 TO 21	160'-0	17A	48	139	4' x 8' x 26'
	180'-0	18A	48	139	
	200'-0	19A	50	143	
	220'-0	21A	50	146	
	240'-0	21D	50	144	4' x 11' x 30'
	260'-0	21F	50	145	4' x 14' x 30'
	280'-0	23A	50	145	
	300'-0	24A	49	141	4' x 14' x 32'
	320'-0	25A	50	144	
	340'-0	26A	50	146	
22 TO 24	160'-0	17A	50	143	4' x 8' x 26'
	180'-0	18A	50	143	
	200'-0	20A	49	142	
	220'-0	21B	50	146	4' x 9' x 26'
	240'-0	21E	49	143	4' x 12' x 30'
	260'-0	22A	50	143	4' x 14' x 30'
	280'-0	24A	47	136	4' x 14' x 32'
	300'-0	24A	50	143	
	320'-0	26A	49	142	
	340'-0	27A	50	144	
25 TO 27	160'-0	17B	50	144	4' x 9' x 26'
	180'-0	18B	50	144	
	200'-0	20B	50	143	
	220'-0	21C	50	146	4' x 11' x 26'
	240'-0	21E	50	145	4' x 12' x 30'
	260'-0	22A	50	145	4' x 14' x 30'
	280'-0	24A	48	138	4' x 14' x 32'
	300'-0	24A	50	146	
	320'-0	26A	50	144	
	340'-0	27A	50	147	
28 TO 30	160'-0	17C	50	146	4' x 10' x 26'
	180'-0	18C	50	146	
	200'-0	20C	50	144	
	220'-0	21D	50	144	4' x 11' x 30'
	240'-0	21F	50	144	4' x 14' x 30'
	260'-0	23A	50	144	
	280'-0	24A	49	140	4' x 14' x 32'
	300'-0	25A	50	144	
	320'-0	26A	50	146	
	340'-0	28A	50	145	
31 TO 33	160'-0	18D	48	139	4' x 11' x 26'
	180'-0	19B	50	143	
	200'-0	20D	50	145	
	220'-0	21D	50	146	4' x 11' x 30'
	240'-0	21F	50	147	4' x 14' x 30'
	260'-0	23A	50	146	
	280'-0	24A	49	142	4' x 14' x 32'
	300'-0	25A	50	146	
	320'-0	27A	50	144	
	340'-0	28A	50	147	
34 TO 36	160'-0	18D	49	142	4' x 11' x 26'
	180'-0	19B	50	146	
	200'-0	20E	50	143	4' x 11' x 30'
	220'-0	21E	50	143	4' x 12' x 30'
	240'-0	22A	50	144	4' x 14' x 30'
	260'-0	24A	47	136	4' x 14' x 32'
	280'-0	24A	50	144	
	300'-0	26A	49	143	
	320'-0	27A	50	146	
	340'-0	29A	50	144	

H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57) NO. & LAYOUT	① DES. BRG. (TONS)	② LRFD DES. BRG. (KIPS)	FOOTING SIZE
37 TO 40	160'-0	18E	49	142	4' x 11' x 30'
	180'-0	19C	50	145	
	200'-0	21D	49	143	
	220'-0	21E	50	146	4' x 12' x 30'
	240'-0	22A	50	146	4' x 14' x 30'
	260'-0	24A	48	138	4' x 14' x 32'
	280'-0	24A	50	146	
	300'-0	26A	50	145	
	320'-0	28A	50	144	
	340'-0	29A	50	145	

FOOTING SIZE	REINFORCING STEEL (ONE FOOTING) BAR	NO., SIZE & SPACING	LENGTH	WEIGHT (LB.)	TOTAL WEIGHT (LB.)	STRUCTURAL CONCRETE (CY)
4' x 8' x 26'	d2	58 - #9 AS SHOWN	9'-1	1791	3037	30.8
	f1	26 - #5 @ 1'-0	7'-8	208		
	f2	8 - #5 @ 1'-0	25'-8	214		
	g1	26 - #6 @ 1'-0	7'-8	299		
	g2	10 - #7 @ 0'-10	25'-8	525		
4' x 9' x 26'	d2	58 - #9 AS SHOWN	9'-1	1791	3253	34.7
	f1	26 - #5 @ 1'-0	8'-8	235		
	f2	9 - #5 @ 1'-0	25'-8	241		
	g1	26 - #7 @ 1'-0	8'-8	461		
	g2	10 - #7 @ 0'-11	25'-8	525		
4' x 10' x 26'	d2	58 - #9 AS SHOWN	9'-1	1791	3646	38.5
	f1	26 - #5 @ 1'-0	9'-8	262		
	f2	10 - #5 @ 1'-0	25'-8	268		
	g1	31 - #8 @ 0'-10	9'-8	800		
	g2	10 - #7 @ 1'-0	25'-8	525		
4' x 11' x 26'	d2	58 - #9 AS SHOWN	9'-1	1791	3758	42.4
	f1	26 - #5 @ 1'-0	10'-8	289		
	f2	11 - #5 @ 1'-0	25'-8	294		
	g1	31 - #8 @ 0'-10	10'-8	883		
	g2	13 - #6 @ 0'-10½	25'-8	501		
4' x 11' x 30'	d2	58 - #9 AS SHOWN	9'-1	1791	4760	48.9
	f1	30 - #5 @ 1'-0	10'-8	334		
	f2	11 - #5 @ 1'-0	29'-8	340		
	g1	31 - #8 @ 0'-11½	10'-8	883		
	g2	14 - #9 @ 0'-9½	29'-8	1412		
4' x 12' x 30'	d2	58 - #9 AS SHOWN	9'-1	1791	5187	53.3
	f1	30 - #5 @ 1'-0	11'-8	365		
	f2	12 - #5 @ 1'-0	29'-8	371		
	g1	34 - #9 @ 0'-10½	11'-8	1349		
	g2	13 - #9 @ 0'-11½	29'-8	1311		
4' x 14' x 30'	d2	58 - #9 AS SHOWN	9'-1	1791	6141	62.2
	f1	30 - #5 @ 1'-0	13'-8	428		
	f2	14 - #5 @ 1'-0	29'-8	433		
	g1	36 - #9 @ 0'-10	13'-8	1673		
	g2	18 - #9 @ 0'-9½	29'-8	1816		
4' x 14' x 32'	d2	58 - #9 AS SHOWN	9'-1	1791	6521	66.4
	f1	32 - #5 @ 1'-0	13'-8	456		
	f2	14 - #5 @ 1'-0	31'-8	462		
	g1	38 - #9 @ 0'-10	13'-8	1766		
	g2	19 - #9 @ 0'-9	31'-8	2046		

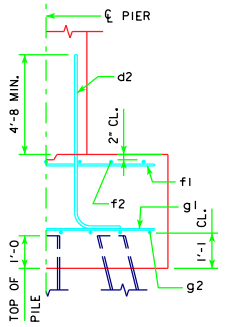
① FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.

② FOR ESTIMATING PILE LENGTHS USING AASHTO LRFD SPECIFICATIONS.

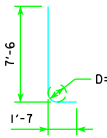


d2 BAR LAYOUT

(SEE SECTION A-A ON SHEET RS40-136-10.)



TYPICAL SECTION



d2

NOTE: D = PIN DIAMETER.
DIMENSIONS ARE OUT TO OUT.

FOOTING NOTES:

THESE FOOTINGS ARE DESIGNED AND DETAILED TO BE USED WITH THE CAP AND COLUMN DETAILS OF THE TEE PIERS AS SHOWN ON SHEET RS40-136-10.

BATTER PILES IN EXTERIOR ROWS 1:4 IN THE DIRECTION SHOWN.

STEEL PILING USED AS POINT BEARING SHALL HAVE A MINIMUM DISTANCE OF APPROXIMATELY 10 FEET FROM BOTTOM OF FOOTING TO TOP OF BEARING ROCK. THE PILE LAYOUTS ARE SUCH THAT THE DISTANCE CENTER TO CENTER OF ADJACENT PILING SHALL NOT EXCEED 8'-0.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

ROLLED STEEL BEAM BRIDGES

JUNE, 2010

TEE PIER - 50 TON
STEEL PILE FOOTINGS
20° SKEW - SHEET 1

RS40-138-10