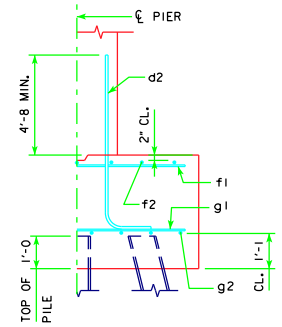
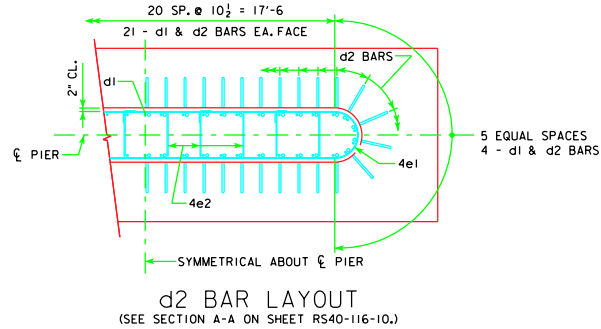


H IN FT.	℄ - ℄ ABUT. BRG.	NO. & LAYOUT	PILING (HP10x57)		FOOTING SIZE
			① DES. BRG. (TONS)	② LRFD DES. BRG. (KIPS)	
16 TO 18	160'-0"	15A	50	146	4' x 9' x 24'
	180'-0"	16A	50	146	
	200'-0"	18A	50	145	
	220'-0"	18E	49	142	
	240'-0"	20A	49	142	4' x 11' x 28'
	260'-0"	20B	50	145	
	280'-0"	22A	50	144	4' x 12' x 30'
	300'-0"	23B	50	144	
	320'-0"	24B	50	146	
	340'-0"	26A	50	144	
19 TO 21	160'-0"	16A	49	141	4' x 9' x 24'
	180'-0"	17A	50	145	
	200'-0"	18D	49	143	
	220'-0"	18E	50	145	
	240'-0"	20A	50	145	4' x 11' x 28'
	260'-0"	21B	50	143	
	280'-0"	23A	50	143	4' x 12' x 30'
	300'-0"	23B	50	146	
	320'-0"	25A	50	144	
	340'-0"	26A	50	147	
22 TO 24	160'-0"	16B	50	143	4' x 10' x 24'
	180'-0"	18B	49	142	
	200'-0"	18D	50	146	
	220'-0"	19A	50	144	
	240'-0"	20B	49	141	4' x 11' x 28'
	260'-0"	21B	50	146	
	280'-0"	23A	50	145	4' x 12' x 30'
	300'-0"	24B	50	143	
	320'-0"	25A	50	147	
	340'-0"	26B	49	142	
25 TO 27	160'-0"	16C	50	144	4' x 14' x 32'
	180'-0"	18C	49	142	
	200'-0"	18E	49	141	
	220'-0"	19A	50	146	
	240'-0"	20B	50	144	4' x 11' x 28'
	260'-0"	22A	49	142	
	280'-0"	24A	50	143	4' x 12' x 30'
	300'-0"	24B	50	145	
	320'-0"	26A	50	144	
	340'-0"	26B	50	144	
28 TO 30	160'-0"	17B	49	142	4' x 14' x 32'
	180'-0"	18C	50	145	
	200'-0"	18E	50	144	
	220'-0"	20A	50	143	
	240'-0"	20B	50	146	4' x 11' x 28'
	260'-0"	22A	50	144	
	280'-0"	24A	50	145	4' x 12' x 30'
	300'-0"	25A	50	143	
	320'-0"	26A	50	146	
	340'-0"	26B	50	145	
31 TO 33	160'-0"	17C	50	143	4' x 14' x 32'
	180'-0"	18D	50	146	
	200'-0"	18E	50	146	
	220'-0"	20A	50	145	
	240'-0"	21B	50	143	4' x 11' x 28'
	260'-0"	22A	50	146	
	280'-0"	24B	49	140	4' x 12' x 32'
	300'-0"	25A	50	144	
	320'-0"	26B	49	141	
	340'-0"	27A	50	143	
34 TO 36	160'-0"	17D	49	141	4' x 14' x 32'
	180'-0"	18E	49	141	
	200'-0"	19A	50	144	
	220'-0"	21A	50	143	
	240'-0"	21B	50	145	4' x 11' x 28'
	260'-0"	23A	50	144	
	280'-0"	24B	49	142	4' x 12' x 30'
	300'-0"	25A	50	146	
	320'-0"	26B	49	142	
	340'-0"	27A	50	144	

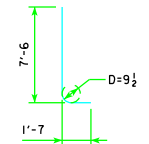
H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57)			FOOTING SIZE
		NO. & LAYOUT	① DES. BRG. (TONS)	② LRFSD DES. BRG. (KIPS)	
37 TO 40	160'-0"	18E	47	136	4' x 11' x 28'
	180'-0"	18E	50	144	
	200'-0"	20A	49	141	
	220'-0"	21A	50	146	
	240'-0"	22A	49	142	4' x 12' x 30'
	260'-0"	23A	50	146	
	280'-0"	24B	50	144	4' x 12' x 32'
	300'-0"	26A	50	143	
	320'-0"	26B	50	144	
	340'-0"	27A	50	146	

FOOTING SIZE	REINFORCING STEEL (ONE FOOTING)				TOTAL WEIGHT (LB.)	STRUCTURAL CONCRETE (CY)
	BAR	NO., SIZE & SPACING	LENGTH	WEIGHT (LB.)		
4' x 9' x 24'	d2	50 - #9 AS SHOWN	9'-1	1544	2694	32.0
	f1	24 - #5 @ 1'-0"	8'-8	217		
	f2	9 - #5 @ 1'-0"	23'-8	222		
	g1	30 - #6 @ 0'-9½"	8'-8	391		
	g2	9 - #6 @ 1'-0"	23'-8	320		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	24 - #5 @ 1'-0"	9'-8	242		
	f2	10 - #5 @ 1'-0"	23'-8	247		
4' x 10' x 24'	g1	28 - #7 @ 0'-10"	9'-8	553	2941	35.6
	g2	10 - #6 @ 1'-0"	23'-8	355		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	26 - #5 @ 1'-0"	9'-8	262		
	f2	10 - #5 @ 1'-0"	25'-8	268		
	g1	28 - #7 @ 0'-11"	9'-8	553		
	g2	13 - #7 @ 0'-9½"	25'-8	682		
	d2	50 - #9 AS SHOWN	9'-1	1544		
4' x 10' x 26'	f1	26 - #5 @ 1'-0"	10'-8	289	3309	38.5
	f2	10 - #5 @ 1'-0"	25'-8	268		
	g1	28 - #7 @ 0'-11"	9'-8	553		
	g2	13 - #7 @ 0'-9½"	25'-8	682		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	26 - #5 @ 1'-0"	10'-8	289		
	f2	11 - #5 @ 1'-0"	25'-8	294		
	g1	27 - #8 @ 0'-11½"	10'-8	769		
4' x 11' x 26'	g2	13 - #7 @ 0'-10½"	25'-8	682	3578	42.4
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	28 - #5 @ 1'-0"	10'-8	312		
	f2	11 - #5 @ 1'-0"	27'-8	317		
	g1	31 - #8 @ 0'-11"	10'-8	883		
	g2	15 - #8 @ 0'-9"	27'-8	1108		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	30 - #5 @ 1'-0"	11'-8	365		
4' x 11' x 28'	f2	12 - #5 @ 1'-0"	29'-8	371	5142	53.3
	g1	34 - #9 @ 0'-10½"	11'-8	1349		
	g2	15 - #9 @ 0'-9½"	29'-8	1513		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	32 - #5 @ 1'-0"	11'-8	389		
	f2	12 - #5 @ 1'-0"	31'-8	396		
	g1	38 - #9 @ 0'-10"	11'-8	1507		
	g2	15 - #10 @ 0'-9½"	31'-8	2044		
4' x 12' x 30'	d2	50 - #9 AS SHOWN	9'-1	1544	5880	56.9
	f1	32 - #5 @ 1'-0"	11'-8	389		
	f2	12 - #5 @ 1'-0"	31'-8	396		
	g1	38 - #9 @ 0'-10"	11'-8	1507		
	g2	15 - #10 @ 0'-9½"	31'-8	2044		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	f1	32 - #5 @ 1'-0"	13'-8	456		
	f2	14 - #5 @ 1'-0"	31'-8	462		
4' x 12' x 32'	g1	38 - #9 @ 0'-10"	13'-8	1766	6681	66.4
	g2	18 - #10 @ 0'-9½"	31'-8	2453		
	d2	50 - #9 AS SHOWN	9'-1	1544		
	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	18 - #10 @ 0'-9½"	31'-8	2453		
	d2	50 - #9 AS SHOWN	9'-1	1544		

- ① FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.
② FOR ESTIMATING PILE LENGTHS USING AASHTO LRFD SPECIFICATIONS.



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 RS40-116-10.

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		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 0° SKEW - SHEET 1	RS40-118-10