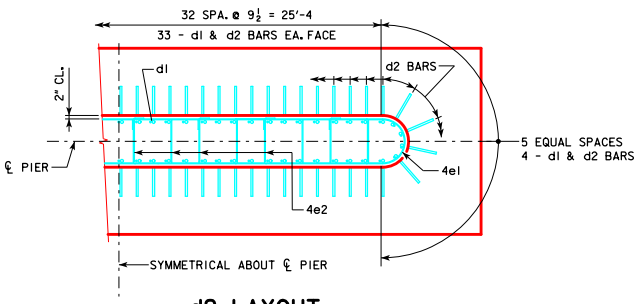
H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57) NO. & LAYOUT	① LRFD Pu, STRENGTH I, DES. LOAD (KIPS)	FOOTING SIZE
16 TO 18	160'-0	17A	140	4' x 8' x 32'
	180'-0	18A	140	
	200'-0	19A	143	
	220'-0	20A	145	
	240'-0	21B	144	4' x 11' x 32'
	260'-0	22B	145	
	280'-0	24A	145	
	300'-0	26A	146	
	320'-0	27A	144	4' x 14' x 32'
	340'-0	28A	145	
19 TO 21	160'-0	17A	145	
	180'-0	18A	145	4' x 8' x 32'
	200'-0	20A	138	
	220'-0	21A	144	4' x 9' x 32'
	240'-0	22B	140	
	260'-0	23A	145	4' x 11' x 32'
	280'-0	25A	145	
	300'-0	26B	143	
	320'-0	28A	142	4' x 14' x 32'
	340'-0	29A	145	
22 TO 24	160'-0	18A	140	4' x 8' x 32'
	180'-0	19A	144	
	200'-0	20B	141	4' x 9' x 32'
	220'-0	22A	142	
	240'-0	22B	143	
	260'-0	24A	143	4' x 11' x 32'
	280'-0	26A	145	
	300'-0	26B	146	
	320'-0	28A	145	4' x 14' x 32'
	340'-0	30A	144	
25 TO 27	160'-0	18A	145	4' x 8' x 32'
	180'-0	20A	139	
	200'-0	21A	141	4' x 9' x 32'
	220'-0	22B	137	
	240'-0	22B	147	4' x 11' x 32'
	260'-0	24A	146	
	280'-0	26B	141	
	300'-0	27A	145	4' x 14' x 32'
	320'-0	29A	144	
	340'-0	30A	147	
28 TO 30	160'-0	19A	143	4' x 8' x 32'
	180'-0	20A	143	
	200'-0	21A	144	4' x 9' x 32'
	220'-0	22B	140	
	240'-0	23A	146	4' x 11' x 32'
	260'-0	25A	145	
	280'-0	26B	144	
	300'-0	28A	143	4' x 14' x 32'
	320'-0	30A	143	
	340'-0	31A	146	
31 TO 33	160'-0	20A	138	4' x 8' x 32'
	180'-0	20B	144	4' x 9' x 32'
	200'-0	22A	142	
	220'-0	22B	143	
	240'-0	24A	143	4' x 11' x 32'
	260'-0	26A	145	
	280'-0	26B	146	
	300'-0	28A	145	4' x 14' x 32'
	320'-0	30A	145	
	340'-0	32B	143	4' x 14' x 36'
34 TO 36	160'-0	20A	143	4' x 8' x 32'
	180'-0	21A	144	4' x 9' x 32'
	200'-0	22B	137	
	220'-0	22B	146	4' x 11' x 32'
	240'-0	24A	146	
	260'-0	26B	140	
	280'-0	27A	145	4' x 14' x 32'
	300'-0	29A	144	
	320'-0	31A	145	
	340'-0	32B	145	4' x 14' x 36'

H IN FT.	℄ - ℄ ABUT. BRG.	PILING (HP10x57) NO. & LAYOUT	① LRFD Pu, STRENGTH I, DES. LOAD (KIPS)	FOOTING SIZE
37 TO 40	160'-0	20B	145	4' x 9' x 32'
	180'-0	22A	144	
	200'-0	22B	141	
	220'-0	23A	146	4' x 11' x 32'
	240'-0	25A	146	
	260'-0	26B	143	
	280'-0	28A	143	4' x 14' x 32'
	300'-0	30A	144	
	320'-0	32A	145	4' x 14' x 34'
	340'-0	32C	146	4' x 15' x 38'

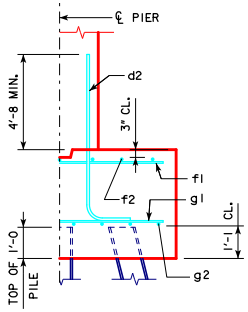
FOOTING SIZE	REINFORCING STEEL (ONE FOOTING) BAR	NO., SIZE & SPACING	LENGTH	WEIGHT (LB.)	TOTAL WEIGHT (LB.)	STRUCTURAL CONCRETE (CY)
4' x 8' x 32'	d2	74 - #9 AS SHOWN	9'-1	2285	3601	37.9
	f1	32 - #5 @ 1'-0	7'-8	256		
	f2	8 - #5 @ 1'-0	31'-8	264		
	g1	32 - #6 @ 1'-0	7'-8	368		
	g2	9 - #6 @ 0'-11	31'-8	428		
4' x 9' x 32'	d2	74 - #9 AS SHOWN	9'-1	2285	3820	42.7
	f1	32 - #5 @ 1'-0	8'-8	289		
	f2	9 - #5 @ 1'-0	31'-8	297		
	g1	40 - #6 @ 0'-9½	8'-8	521		
	g2	9 - #6 @ 1'-0	31'-8	428		
4' x 11' x 32'	d2	74 - #9 AS SHOWN	9'-1	2285	4600	52.1
	f1	32 - #5 @ 1'-0	10'-8	356		
	f2	11 - #5 @ 1'-0	31'-8	363		
	g1	36 - #8 @ 0'-10½	10'-8	1025		
	g2	12 - #6 @ 0'-11	31'-8	571		
4' x 14' x 32'	d2	74 - #9 AS SHOWN	9'-1	2285	5681	66.4
	f1	32 - #5 @ 1'-0	13'-8	456		
	f2	14 - #5 @ 1'-0	31'-8	462		
	g1	39 - #9 @ 0'-9½	13'-8	1812		
	g2	14 - #6 @ 1'-0	31'-8	666		
4' x 14' x 34'	d2	74 - #9 AS SHOWN	9'-1	2285	6337	70.5
	f1	34 - #5 @ 1'-0	13'-8	485		
	f2	14 - #5 @ 1'-0	33'-8	492		
	g1	41 - #9 @ 0'-10	13'-8	1905		
	g2	17 - #7 @ 0'-10	33'-8	1170		
4' x 14' x 36'	d2	74 - #9 AS SHOWN	9'-1	2285	7136	74.7
	f1	36 - #5 @ 1'-0	13'-8	513		
	f2	14 - #5 @ 1'-0	35'-8	521		
	g1	43 - #9 @ 0'-10	13'-8	1998		
	g2	15 - #9 @ 0'-11½	35'-8	1819		
4' x 15' x 38'	d2	74 - #9 AS SHOWN	9'-1	2285	8182	84.4
	f1	38 - #5 @ 1'-0	14'-8	581		
	f2	15 - #5 @ 1'-0	37'-8	589		
	g1	46 - #9 @ 0'-10	14'-8	2294		
	g2	19 - #9 @ 0'-9½	37'-8	2433		

① NOTE: PU, STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

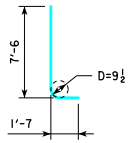


d2 LAYOUT

(SEE SECTION A-A ON SHEET RS40-156-10.)



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 RS40-156-10.

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.

PIER PILES SHALL BE DRIVEN TO VALUES SHOWN IN DESIGN PLANS.

REVISED 05-13 - REVISION FOR LRFD PILE DESIGN.
REVISED 10-2016 - CHANGED VERTICAL CLEARANCE OF REBAR "f2" TO TOP OF PIER FOOTING TO 3" (WAS 2").

10-2016
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWADOT Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

ROLLED STEEL BEAM BRIDGES

JUNE, 2010

TEE PIER-HP10x57 SRL-I STEEL PILE FOOTINGS

45° SKEW - SHEET 1

RS40-158-10