

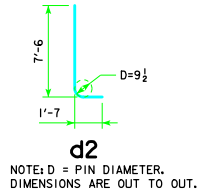
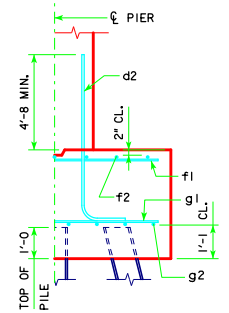
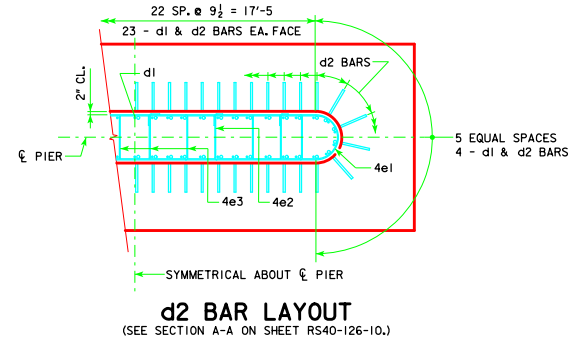
REVISED 05-13 - REVISION FOR LRFD PILE DESIGN.

| H IN FT. | C - C ABUT. BRG. | PILING (HP10x57) | | FOOTING SIZE |
|----------------|------------------------|------------------|--|----------------|
| | | NO. & LAYOUT | ① LRFD P _u , STRENGTH I, DES. LOAD (KIPS) | |
| 16 TO 18 | 160'-0 | 16A | 139 | 4' x 9' x 24' |
| | 180'-0 | 17A | 144 | |
| | 200'-0 | 18A | 145 | 4' x 10' x 24' |
| | 220'-0 | 18D | 144 | 4' x 11' x 28' |
| | 240'-0 | 20A | 144 | |
| | 260'-0 | 21B | 143 | 4' x 11' x 30' |
| | 280'-0 | 23A | 143 | |
| | 300'-0 | 23B | 146 | |
| | 320'-0 | 25A | 144 | 4' x 12' x 32' |
| | 340'-0 | 26A | 146 | |
| 19 TO 21 | 160'-0 | 16B | 142 | 4' x 10' x 24' |
| | 180'-0 | 17B | 146 | |
| | 200'-0 | 18B | 146 | 4' x 10' x 26' |
| | 220'-0 | 19A | 143 | |
| | 240'-0 | 21A | 143 | 4' x 11' x 28' |
| | 260'-0 | 21B | 146 | |
| | 280'-0 | 23A | 146 | 4' x 11' x 30' |
| | 300'-0 | 24B | 143 | |
| | 320'-0 | 25A | 147 | 4' x 12' x 32' |
| | 340'-0 | 26B | 142 | 4' x 14' x 32' |
| 22 TO 24 | 160'-0 | 16C | 143 | 4' x 10' x 26' |
| | 180'-0 | 17C | 147 | |
| | 200'-0 | 18D | 140 | |
| | 220'-0 | 19A | 146 | 4' x 11' x 28' |
| | 240'-0 | 21A | 146 | |
| | 260'-0 | 22A | 143 | 4' x 11' x 30' |
| | 280'-0 | 23B | 143 | |
| | 300'-0 | 24B | 145 | 4' x 12' x 32' |
| | 320'-0 | 25B | 143 | |
| | 340'-0 | 26B | 144 | 4' x 14' x 32' |
| 25 TO 27 | 160'-0 | 16D | 145 | 4' x 11' x 26' |
| | 180'-0 | 18C | 143 | |
| | 200'-0 | 18D | 143 | 4' x 11' x 28' |
| | 220'-0 | 20A | 143 | |
| | 240'-0 | 21B | 142 | 4' x 11' x 30' |
| | 260'-0 | 22A | 146 | |
| | 280'-0 | 23B | 145 | 4' x 12' x 32' |
| | 300'-0 | 25A | 144 | |
| | 320'-0 | 25B | 145 | 4' x 14' x 32' |
| | 340'-0 | 26B | 146 | |
| 28 TO 30 | 160'-0 | 17D | 143 | 4' x 11' x 26' |
| | 180'-0 | 18C | 146 | |
| | 200'-0 | 18D | 146 | 4' x 11' x 28' |
| | 220'-0 | 20A | 146 | |
| | 240'-0 | 21B | 145 | 4' x 11' x 30' |
| | 260'-0 | 23A | 144 | |
| | 280'-0 | 24B | 141 | 4' x 12' x 32' |
| | 300'-0 | 25A | 145 | |
| | 320'-0 | 26B | 142 | 4' x 14' x 32' |
| | 340'-0 | 27A | 144 | |
| 31 TO 33 | 160'-0 | 17D | 146 | 4' x 11' x 26' |
| | 180'-0 | 18D | 141 | |
| | 200'-0 | 19A | 144 | 4' x 11' x 28' |
| | 220'-0 | 21A | 144 | |
| | 240'-0 | 22A | 141 | 4' x 11' x 30' |
| | 260'-0 | 23A | 146 | |
| | 280'-0 | 24B | 143 | 4' x 12' x 32' |
| | 300'-0 | 26A | 143 | |
| | 320'-0 | 26B | 143 | 4' x 14' x 32' |
| | 340'-0 | 27A | 146 | |
| 34 TO 36 | 160'-0 | 17E | 144 | |
| | 180'-0 | 18D | 144 | 4' x 11' x 28' |
| | 200'-0 | 19A | 147 | |
| | 220'-0 | 21A | 146 | |
| | 240'-0 | 22A | 144 | 4' x 11' x 30' |
| | 260'-0 | 24A | 144 | |
| | 280'-0 | 24B | 145 | 4' x 12' x 32' |
| | 300'-0 | 26A | 145 | |
| | 320'-0 | 26B | 145 | 4' x 14' x 32' |
| | 340'-0 | 28A | 143 | |

| H IN FT. | C - C ABUT. BRG. | PILING (HP10x57) | | FOOTING SIZE |
|----------------|------------------------|------------------|--|----------------|
| | | NO. & LAYOUT | ① LRFD P _u , STRENGTH I, DES. LOAD (KIPS) | |
| 37 TO 40 | 160'-0 | 18D | 139 | |
| | 180'-0 | 19A | 142 | 4' x 11' x 28' |
| | 200'-0 | 20A | 144 | |
| | 220'-0 | 21B | 142 | |
| | 240'-0 | 22A | 146 | 4' x 11' x 30' |
| | 260'-0 | 24A | 147 | |
| | 280'-0 | 25A | 143 | 4' x 12' x 32' |
| | 300'-0 | 26A | 147 | |
| | 320'-0 | 26B | 147 | |
| | 340'-0 | 28A | 145 | 4' x 14' x 32' |

| FOOTING SIZE | REINFORCING STEEL (ONE FOOTING) | | | | TOTAL WEIGHT (L.B.) | STRUCTURAL CONCRETE (CY) |
|---------------|---------------------------------|---------------------|--------|---------------|---------------------|--------------------------|
| | BAR | NO., SIZE & SPACING | LENGTH | WEIGHT (L.B.) | | |
| 4' x 9' x 24' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 2818 | 32.0 |
| | f1 | 24 - #5 @ 1'-0 | 8'-8 | 217 | | |
| | f2 | 9 - #5 @ 1'-0 | 23'-8 | 222 | | |
| | g1 | 30 - #6 @ 0'-9 1/2 | 8'-8 | 391 | | |
| | g2 | 9 - #6 @ 1'-0 | 23'-8 | 320 | | |
| | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | | |
| f1 | 24 - #5 @ 1'-0 | 9'-8 | 242 | | | |
| f2 | 10 - #5 @ 1'-0 | 23'-8 | 247 | | | |
| g1 | 29 - #7 @ 0'-10 | 9'-8 | 573 | | | |
| g2 | 10 - #6 @ 1'-0 | 23'-8 | 355 | | | |
| d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 3453 | 38.5 | |
| f1 | 26 - #5 @ 1'-0 | 9'-8 | 262 | | | |
| f2 | 10 - #5 @ 1'-0 | 25'-8 | 268 | | | |
| g1 | 29 - #7 @ 0'-10 1/2 | 9'-8 | 573 | | | |
| g2 | 13 - #7 @ 0'-9 1/2 | 25'-8 | 682 | | | |
| d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | | | 3702 |
| f1 | 26 - #5 @ 1'-0 | 10'-8 | 289 | | | |
| f2 | 11 - #5 @ 1'-0 | 25'-8 | 294 | | | |
| g1 | 27 - #8 @ 0'-11 1/2 | 10'-8 | 769 | | | |
| g2 | 13 - #7 @ 0'-10 1/2 | 25'-8 | 682 | | | |
| d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 4288 | 45.6 | |
| 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 | 54 - #9 AS SHOWN | 9'-1 | 1668 | | | 4842 |
| f1 | 30 - #5 @ 1'-0 | 10'-8 | 334 | | | |
| f2 | 11 - #5 @ 1'-0 | 29'-8 | 340 | | | |
| g1 | 30 - #9 @ 1'-0 | 10'-8 | 1088 | | | |
| g2 | 14 - #9 @ 0'-9 1/2 | 29'-8 | 1412 | | | |
| d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 6004 | 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'-9 1/2 | 31'-8 | 2044 | | | |
| d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | | | 6987 |
| f1 | 32 - #5 @ 1'-0 | 13'-8 | 456 | | | |
| f2 | 14 - #5 @ 1'-0 | 31'-8 | 462 | | | |
| g1 | 39 - #9 @ 0'-9 1/2 | 13'-8 | 1812 | | | |
| g2 | 19 - #10 @ 0'-9 | 31'-8 | 2589 | | | |

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



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 RS40-126-10.

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.

| | | | |
|---|---|--|--|
| 05-13 LATEST REVISION DATE | APPROVED BY BRIDGE ENGINEER <i>Thomas E. McQuinn</i> | Iowa Department of Transportation Highway Division | STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES |
| | | | ROLLED STEEL BEAM BRIDGES JUNE, 2010 |
| TEE PIER-HP10x57 SRL-1 STEEL PILE FOOTINGS 10° SKEW - SHEET 1 | | RS40-128-10 | |