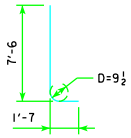
| H IN FT. | ℄ - ℄ ABUT. BRG. | PILING (HP10x57) NO. & LAYOUT | ① DES. BRG. (TONS) | ② LRFD DES. BRG. (KIPS) | FOOTING SIZE |
|---|---|---|---|---|---|
| 16 TO 18 | 160'-0 | 10A | 72 | 209 | 4' x 8' x 25' |
| | 180'-0 | 11A | 73 | 211 | |
| | 200'-0 | 12A | 71 | 206 | |
| | 220'-0 | 13A | 72 | 208 | |
| | 240'-0 | 14A | 72 | 206 | |
| | 260'-0 | 14B | 75 | 216 | 4' x 9' x 25' |
| | 280'-0 | 16A | 73 | 211 | |
| | 300'-0 | 16D | 74 | 214 | 4' x 11' x 27' |
| | 320'-0 | 16E | 74 | 215 | 4' x 12' x 27' |
| | 340'-0 | 17B | 75 | 216 | |
| 19 TO 21 | 160'-0 | 10A | 75 | 216 | 4' x 8' x 25' |
| | 180'-0 | 11A | 75 | 218 | |
| | 200'-0 | 12A | 74 | 213 | |
| | 220'-0 | 13A | 74 | 214 | |
| | 240'-0 | 14A | 74 | 212 | |
| | 260'-0 | 15A | 74 | 213 | 4' x 9' x 25' |
| | 280'-0 | 16A | 75 | 217 | |
| | 300'-0 | 16D | 75 | 219 | 4' x 11' x 27' |
| | 320'-0 | 16E | 75 | 219 | 4' x 12' x 27' |
| | 340'-0 | 18A | 73 | 210 | |
| 22 TO 24 | 160'-0 | 10B | 75 | 218 | 4' x 9' x 25' |
| | 180'-0 | 12B | 70 | 202 | |
| | 200'-0 | 12B | 74 | 214 | |
| | 220'-0 | 13B | 75 | 216 | |
| | 240'-0 | 14B | 74 | 213 | |
| | 260'-0 | 15A | 75 | 218 | |
| | 280'-0 | 16B | 75 | 217 | 4' x 10' x 25' |
| | 300'-0 | 16E | 73 | 212 | 4' x 12' x 27' |
| | 320'-0 | 17B | 74 | 215 | |
| | 340'-0 | 18A | 74 | 214 | |
| 25 TO 27 | 160'-0 | 11C | 72 | 209 | 4' x 10' x 25' |
| | 180'-0 | 12C | 71 | 204 | |
| | 200'-0 | 12C | 75 | 216 | |
| | 220'-0 | 13C | 75 | 217 | |
| | 240'-0 | 14C | 74 | 214 | |
| | 260'-0 | 15B | 75 | 218 | |
| | 280'-0 | 16C | 75 | 218 | 4' x 11' x 25' |
| | 300'-0 | 16E | 75 | 215 | 4' x 12' x 27' |
| | 320'-0 | 17B | 75 | 218 | |
| | 340'-0 | 18A | 75 | 217 | |
| 28 TO 30 | 160'-0 | 11C | 74 | 214 | 4' x 10' x 25' |
| | 180'-0 | 12C | 72 | 209 | |
| | 200'-0 | 13C | 71 | 206 | |
| | 220'-0 | 14C | 71 | 204 | |
| | 240'-0 | 14C | 75 | 218 | |
| | 260'-0 | 15C | 75 | 216 | 4' x 11' x 27' |
| | 280'-0 | 16D | 75 | 218 | |
| | 300'-0 | 16E | 75 | 218 | 4' x 12' x 27' |
| | 320'-0 | 18A | 73 | 210 | |
| | 340'-0 | 18A | 75 | 219 | |
| 31 TO 33 | 160'-0 | 12D | 69 | 198 | 4' x 11' x 25' |
| | 180'-0 | 12D | 73 | 211 | |
| | 200'-0 | 13D | 72 | 208 | |
| | 220'-0 | 14D | 71 | 205 | |
| | 240'-0 | 14D | 75 | 219 | |
| | 260'-0 | 15C | 75 | 219 | 4' x 11' x 27' |
| | 280'-0 | 16E | 72 | 209 | 4' x 12' x 27' |
| | 300'-0 | 17B | 74 | 212 | |
| | 320'-0 | 18A | 74 | 213 | |
| | 340'-0 | 19A | 74 | 214 | |
| 34 TO 36 | 160'-0 | 12E | 69 | 200 | 4' x 11' x 27' |
| | 180'-0 | 12E | 73 | 212 | |
| | 200'-0 | 13E | 72 | 208 | |
| | 220'-0 | 14E | 71 | 205 | |
| | 240'-0 | 14E | 75 | 219 | |
| | 260'-0 | 15D | 74 | 214 | 4' x 12' x 27' |
| | 280'-0 | 16E | 73 | 212 | |
| | 300'-0 | 17B | 74 | 215 | |
| | 320'-0 | 18A | 74 | 215 | |
| | 340'-0 | 19A | 75 | 216 | |

| 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 | 12F | 70 | 203 | 4' x 12' x 27' |
| | 180'-0 | 12F | 75 | 215 | |
| | 200'-0 | 13F | 75 | 215 | |
| | 220'-0 | 14F | 75 | 217 | |
| | 240'-0 | 15D | 71 | 205 | |
| | 260'-0 | 15D | 75 | 217 | |
| | 280'-0 | 16E | 74 | 215 | |
| | 300'-0 | 17B | 75 | 218 | |
| | 320'-0 | 18A | 75 | 218 | |
| | 340'-0 | 19A | 75 | 219 | |



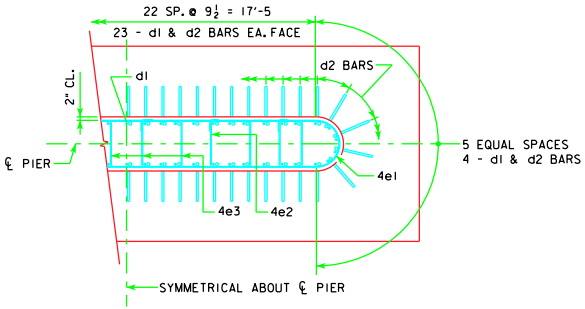

d2

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

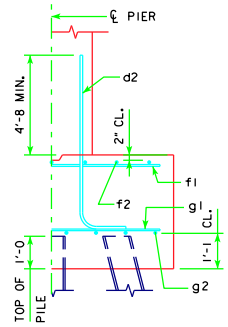
| FOOTING SIZE | REINFORCING STEEL (ONE FOOTING) BAR | NO., SIZE & SPACING | LENGTH | WEIGHT (LB.) | TOTAL WEIGHT (LB.) | STRUCTURAL CONCRETE (CY) |
|---|---|---|---|---|---|---|
| 4' x 8' x 25' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 3141 | 29.6 |
| | f1 | 25 - #5 @ 1'-0 | 7'-8 | 200 | | |
| | f2 | 8 - #5 @ 1'-0 | 24'-8 | 206 | | |
| | g1 | 27 - #6 @ 0'-11 | 7'-8 | 311 | | |
| | g2 | 15 - #7 @ 0'-6 | 24'-8 | 756 | | |
| 4' x 9' x 25' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 3378 | 33.3 |
| | f1 | 25 - #5 @ 1'-0 | 8'-8 | 226 | | |
| | f2 | 9 - #5 @ 1'-0 | 24'-8 | 232 | | |
| | g1 | 28 - #7 @ 0'-10½ | 8'-8 | 496 | | |
| | g2 | 15 - #7 @ 0'-7 | 24'-8 | 756 | | |
| 4' x 10' x 25' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 3656 | 37.0 |
| | f1 | 25 - #5 @ 1'-0 | 9'-8 | 252 | | |
| | f2 | 10 - #5 @ 1'-0 | 24'-8 | 257 | | |
| | g1 | 28 - #8 @ 0'-10½ | 9'-8 | 723 | | |
| | g2 | 15 - #7 @ 0'-8 | 24'-8 | 756 | | |
| 4' x 11' x 25' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 3998 | 40.7 |
| | f1 | 25 - #5 @ 1'-0 | 10'-8 | 278 | | |
| | f2 | 11 - #5 @ 1'-0 | 24'-8 | 283 | | |
| | g1 | 27 - #9 @ 0'-11 | 10'-8 | 979 | | |
| | g2 | 12 - #8 @ 0'-11 | 24'-8 | 790 | | |
| 4' x 11' x 27' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 4511 | 44.0 |
| | f1 | 27 - #5 @ 1'-0 | 10'-8 | 300 | | |
| | f2 | 11 - #5 @ 1'-0 | 26'-8 | 306 | | |
| | g1 | 34 - #8 @ 0'-9½ | 10'-8 | 968 | | |
| | g2 | 14 - #9 @ 0'-9½ | 26'-8 | 1269 | | |
| 4' x 12' x 27' | d2 | 54 - #9 AS SHOWN | 9'-1 | 1668 | 5000 | 48.0 |
| | f1 | 27 - #5 @ 1'-0 | 11'-8 | 329 | | |
| | f2 | 12 - #5 @ 1'-0 | 26'-8 | 334 | | |
| | g1 | 33 - #9 @ 0'-9½ | 11'-8 | 1309 | | |
| | g2 | 15 - #9 @ 0'-9½ | 26'-8 | 1360 | | |

① FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.

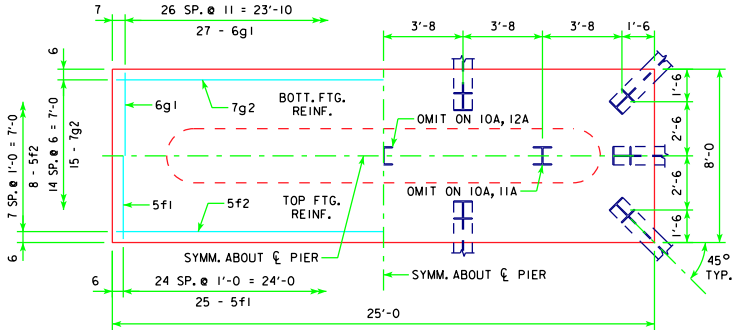
② FOR ESTIMATING PILE LENGTHS USING AASHTO LRFD SPECIFICATIONS.



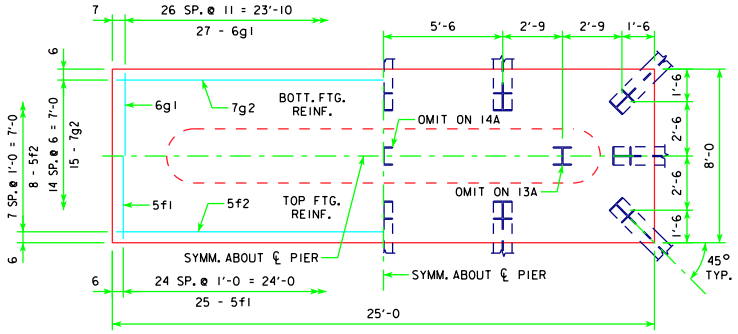

d2 BAR LAYOUT
(SEE SECTION A-A ON SHEET RS40-126-10.)




TYPICAL SECTION




4'-0 x 8'-0 x 25'-0 FOR 10A, 11A & 12A




4'-0 x 8'-0 x 25'-0 FOR 13A & 14A

## 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.

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 - 75 TON STEEL PILE FOOTINGS
10° SKEW - SHEET 1

RS40-131-10