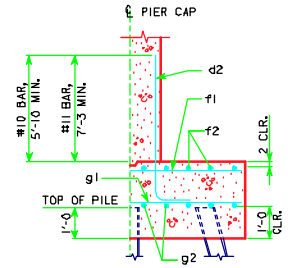
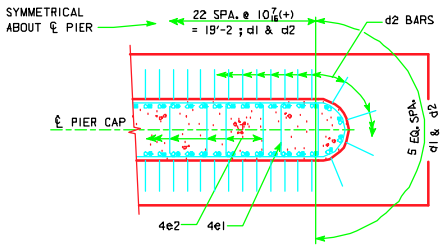
| ℄-℄ ABUT. BEARING | HEIGHT (FT) | PILING NO. & LAYOUT | PILING DES. BRG. (TONS) | FTG. SIZE | STRUCTURAL CONCRETE (C.Y.) |
|---|---|---|---|---|---|
| 160 ft | 16 | 17A | 36 | 4' x 8' x 27' | 32.0 |
| | 19 | 17A | 37 | | |
| | 22 | 18B | 35 | | |
| | 25 | 18B | 35 | | |
| | 28 | 18B | 37 | | |
| | 31 | 19A | 36 | 4' x 9' x 28' | 37.3 |
| | 34 | 19A | 37 | | |
| | 37 | 20B | 37 | | |
| | 40 | 20A | 37 | 4' x 10' x 29' | 43.0 |
| 180 ft | 16 | 18B | 35 | 4' x 8' x 27' | 32.0 |
| | 19 | 18B | 36 | | |
| | 22 | 18B | 37 | | |
| | 25 | 19A | 36 | 4' x 9' x 28' | 37.3 |
| | 28 | 19A | 37 | | |
| | 31 | 20B | 37 | | |
| | 34 | 21B | 37 | | |
| | 37 | 22B | 35 | 4' x 10' x 29' | 43.0 |
| | 40 | 22B | 37 | | |
| 200 ft | 16 | 19B | 36 | 4' x 8' x 27' | 32.0 |
| | 19 | 19B | 37 | | |
| | 22 | 20B | 36 | 4' x 9' x 28' | 37.3 |
| | 25 | 20B | 36 | | |
| | 28 | 21B | 37 | | |
| | 31 | 22B | 35 | 4' x 10' x 29' | 43.0 |
| | 34 | 22B | 36 | | |
| | 37 | 23B | 37 | | |
| | 40 | 24B | 37 | | |
| 220 ft | 16 | 20B | 36 | 4' x 9' x 28' | 37.3 |
| | 19 | 20B | 37 | | |
| | 22 | 21B | 36 | | |
| | 25 | 21B | 37 | | |
| | 28 | 22B | 36 | 4' x 10' x 29' | 43.0 |
| | 31 | 22B | 37 | | |
| | 34 | 24B | 36 | | |
| | 37 | 25B | 37 | | |
| | 40 | 25A | 37 | 4' x 11' x 30' | 48.9 |
| 240 ft | 16 | 22B | 36 | 4' x 10' x 29' | 43.0 |
| | 19 | 22B | 37 | | |
| | 22 | 22B | 37 | | |
| | 25 | 23B | 36 | | |
| | 28 | 23B | 37 | | |
| | 31 | 24B | 37 | | |
| | 34 | 26B | 37 | | |
| | 37 | 26A | 37 | 4' x 11' x 30' | 48.9 |
| | 40 | 28B | 36 | | |
| 260 ft | 16 | 23B | 37 | 4' x 10' x 29' | 43.0 |
| | 19 | 23B | 37 | | |
| | 22 | 24B | 36 | | |
| | 25 | 24B | 37 | | |
| | 28 | 25B | 37 | | |
| | 31 | 26A | 37 | 4' x 11' x 30' | 48.9 |
| | 34 | 27A | 37 | | |
| | 37 | 28B | 37 | | |
| | 40 | 29A | 37 | 4' x 12' x 31' | 55.1 |
| 280 ft | 16 | 24B | 37 | 4' x 10' x 29' | 43.0 |
| | 19 | 25B | 37 | | |
| | 22 | 25B | 37 | | |
| | 25 | 26B | 37 | | |
| | 28 | 26A | 37 | 4' x 11' x 30' | 48.9 |
| | 31 | 28B | 37 | | |
| | 34 | 29A | 37 | 4' x 12' x 31' | 55.1 |
| | 37 | 30A | 37 | | |
| | 40 | 32A | 36 | | |
| 300 ft | 16 | 26B | 37 | 4' x 10' x 29' | 43.0 |
| | 19 | 26B | 37 | | |
| | 22 | 27A | 36 | 4' x 11' x 30' | 48.9 |
| | 25 | 27A | 37 | | |
| | 28 | 28B | 37 | | |
| | 31 | 29A | 37 | 4' x 12' x 31' | 55.1 |
| | 34 | 32A | 35 | | |
| | 37 | 32A | 37 | | |
| | 40 | 33A | 37 | | |

| REINFORCING STEEL (ONE FOOTING) | | | | | |
|---|---|---|---|---|---|
| FTG. SIZE | BAR | NO. SIZE & SPC. | LENGTH | WEIGHT LB. | TOTAL WEIGHT LB. |
| 4' x 8' x 27' | d2 | SEE NOTE | -- | -- | |
| | f1 | 27 #5 @ 1'-0 | 7'-8 | 216 | |
| | f2 | 8 #5 @ 1'-0 | 26'-8 | 223 | |
| | g1 | 30 #6 @ 11 | 7'-8 | 345 | |
| | g2 | 10 #8 @ 10 | 26'-8 | 712 | 1496 |
| 4' x 9' x 28' | d2 | SEE NOTE | -- | -- | |
| | f1 | 28 #5 @ 1'-0 | 8'-8 | 253 | |
| | f2 | 9 #5 @ 1'-0 | 27'-8 | 260 | |
| | g1 | 31 #7 @ 11 | 8'-8 | 549 | |
| | g2 | 12 #8 @ 9 | 27'-8 | 886 | 1948 |
| 4' x 10' x 29' | d2 | SEE NOTE | -- | -- | |
| | f1 | 29 #5 @ 1'-0 | 9'-8 | 292 | |
| | f2 | 10 #5 @ 1'-0 | 28'-8 | 299 | |
| | g1 | 35 #8 @ 10 | 9'-8 | 904 | |
| | g2 | 13 #9 @ 9 | 28'-8 | 1267 | 2761 |
| 4' x 11' x 30' | d2 | SEE NOTE | -- | -- | |
| | f1 | 30 #5 @ 1'-0 | 10'-8 | 334 | |
| | f2 | 11 #5 @ 1'-0 | 29'-8 | 340 | |
| | g1 | 33 #9 @ 11 | 10'-8 | 1197 | |
| | g2 | 16 #10 @ 8 | 29'-8 | 2042 | 3913 |
| 4' x 12' x 31' | d2 | SEE NOTE | -- | -- | |
| | f1 | 31 #5 @ 1'-0 | 11'-8 | 377 | |
| | f2 | 12 #5 @ 1'-0 | 30'-8 | 384 | |
| | g1 | 41 #9 @ 9 | 11'-8 | 1626 | |
| | g2 | 16 #11 @ 9 | 30'-8 | 2607 | 4994 |

NOTE: SEE RS40-PR9-04 FOR DETAILS.




d2 BAR LAYOUT

## FOOTING NOTES :

1. THESE FOOTINGS ARE DESIGNED AND DETAILED TO BE USED WITH RS40-PR9-04.
2. PIER PILES (HP10x42) ARE TO BE DRIVEN TO THE DESIGN BEARING VALUE.
3. STEEL PILING USED AS POINT BEARING SHALL HAVE A MINIMUM DISTANCE OF APPROXIMATELY 10 FEET FROM BOTTOM OF FOOTING TO TOP OF BEARING ROCK. BATTER PILES IN EXTERIOR ROWS 1:4 IN THE DIRECTION SHOWN.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

ROLLED STEEL BEAM BRIDGES

FEBRUARY, 2004

T PIER 20° SKEW
STEEL PILE FOOTINGS
SHEET 1 OF 3

RS40-PR10-04