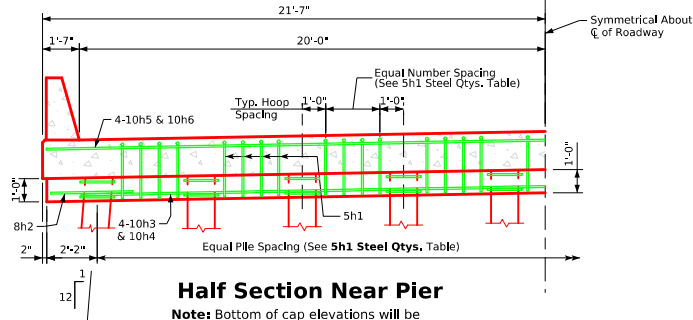
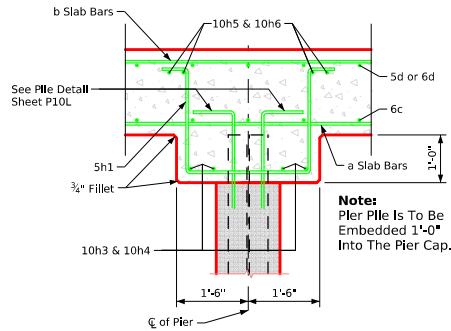




**Half Section Near Pier**

**Note:** Bottom of cap elevations will be required at the centerline of the roadway and at each exterior pile.



**TYPICAL CAP SECTION**

**Note:**  
\* Total weight shall be calculated by the Designer based on the type/size of piling used and the size of the bridge.

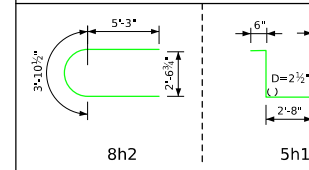
### 5h1 Steel Quantities - Monolithic Pier Cap - One Pier 40' Roadway Width

|           |                 |                             |                 | 0° Skew             |                 | 15° Skew            |                 | 30° Skew            |                 | 45° Skew            |                 |
|-----------|-----------------|-----------------------------|-----------------|---------------------|-----------------|---------------------|-----------------|---------------------|-----------------|---------------------|-----------------|
| No. Piles | No. Pile Spaces | 5h1 Shape                   | 5h1 Length (ft) | No. Eq. Hoop Spaces | Total No. Hoops | No. Eq. Hoop Spaces | Total No. Hoops | No. Eq. Hoop Spaces | Total No. Hoops | No. Eq. Hoop Spaces | Total No. Hoops |
| 7         | 6               | See 5h1 Steel Lengths Table |                 | 5                   | 36              | 5                   | 36              | 6                   | 42              | N/A                 | N/A             |
| 8         | 7               |                             |                 | 4                   | 35              | 4                   | 35              | 5                   | 42              | 6                   | 49              |
| 9         | 8               |                             |                 | 3                   | 32              | 3                   | 32              | 4                   | 40              | 5                   | 48              |
| 10        | 9               |                             |                 | 3                   | 36              | 3                   | 36              | 3                   | 36              | 5                   | 54              |
| 11        | 10              |                             |                 | 2                   | 30              | 2                   | 30              | 3                   | 40              | 4                   | 50              |
| 12        | 11              |                             |                 | 2                   | 33              | 2                   | 33              | 3                   | 44              | 3                   | 44              |
| 13        | 12              |                             |                 | 2                   | 36              | 2                   | 36              | 2                   | 36              | 3                   | 48              |
| 14        | 13              |                             |                 | 1                   | 26              | 2                   | 39              | 2                   | 39              | 3                   | 52              |
| 15        | 14              |                             |                 | 1                   | 28              | 1                   | 28              | 2                   | 42              | 2                   | 42              |
| 16        | 15              |                             |                 | 1                   | 30              | 1                   | 30              | 1                   | 30              | 2                   | 45              |
| 17        | 16              |                             |                 | N/A                 | N/A             | N/A                 | N/A             | 1                   | 32              | 2                   | 48              |
| 18        | 17              |                             |                 | N/A                 | N/A             | N/A                 | N/A             | 1                   | 34              | 2                   | 51              |
| 19        | 18              |                             |                 | N/A                 | N/A             | N/A                 | N/A             | 1                   | 36              | 2                   | 52              |

### Epoxy Reinforcing Steel - Monolithic 40' Roadway - One Pier

| Epoxy Reinforcing Steel - Monolithic - 40' Roadway - One Pier |       |     |         |          |         |     |         |          |         |     |        |
|---------------------------------------------------------------|-------|-----|---------|----------|---------|-----|---------|----------|---------|-----|--------|
| 0° Skew                                                       |       |     |         | 15° Skew |         |     |         | 30° Skew |         |     |        |
| Bar                                                           | Shape | No. | Length  | No.      | Length  | No. | Length  | No.      | Length  | No. | Length |
| 8h2                                                           |       | 2   | 14'-5"  | 2        | 14'-5"  | 2   | 14'-5"  | 2        | 14'-5"  | 2   | 14'-5" |
| 10h3                                                          |       | 4   | 19'-11" | 4        | 20'-7"  | 4   | 23'-0"  | 4        | 28'-2"  | 4   | 485    |
| 10h4                                                          |       | 4   | 26'-2"  | 4        | 26'-10" | 4   | 29'-3"  | 4        | 34'-2"  | 4   | 588    |
| 10h5                                                          |       | 4   | 21'-5"  | 4        | 21'-10" | 4   | 23'-11" | 4        | 28'-8"  | 4   | 493    |
| 10h6                                                          |       | 4   | 29'-7"  | 4        | 30'-0"  | 4   | 32'-1"  | 4        | 36'-10" | 4   | 634    |

### Bent Bar Details



### 5h1 bar Lengths

| Bridge Length | a Dimension | Length | Wt/bar (lbs) |
|---------------|-------------|--------|--------------|
| 70'-0"        | 1'-7 1/2"   | 6'-11" | 7            |
| 80'-0"        | 1'-8 1/2"   | 7'-1"  | 7            |
| 90'-0"        | 1'-9 1/2"   | 7'-3"  | 8            |
| 100'-0"       | 1'-10 1/2"  | 7'-5"  | 8            |
| 110'-0"       | 2'-0 1/2"   | 7'-9"  | 8            |
| 120'-0"       | 2'-1"       | 7'-10" | 8            |
| 130'-0"       | 2'-2 1/4"   | 8'-1"  | 8            |
| 140'-0"       | 2'-3 1/4"   | 8'-3"  | 9            |
| 150'-0"       | 2'-5"       | 8'-6"  | 9            |

**Note:**  
For Pile Spacing, See Sheet J40-25-25.

### Est. Concrete Qty - Monolithic One Pier 40' Roadway Width

| Skew | 70'-0" | 80'-0" | 90'-0" | 100'-0" | 110'-0" | 120'-0" | 130'-0" | 140'-0" | 150'-0" |
|------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0°   | 4.7    | 4.7    | 4.7    | 4.7     | 4.7     | 4.7     | 4.7     | 4.7     | 4.7     |
| 15°  | 4.8    | 4.8    | 4.8    | 4.8     | 4.8     | 4.8     | 4.8     | 4.8     | 4.8     |
| 30°  | 5.4    | 5.4    | 5.4    | 5.4     | 5.4     | 5.4     | 5.4     | 5.4     | 5.4     |
| 45°  | 6.5    | 6.5    | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |

**IOWA | DOT**

Standard Design-40'-0" Roadway, 3 Span Bridge

**Continuous Concrete Slab Bridge**

July, 2025

Pier Cap Monolithic  
Details All Bridges (2 of 2)

**J40-26-25**