## EPOXY REINFORCING STEEL-TWO BARRIER RAILS

| BRIDGE LENGTH | | | | 70'-0 | | | 80'-0 | | | 90'-0 | | | 100'-0 | | | 110'-0 | | | 120'-0 | | | 130'-0 | | | 140'-0 | | | 150'-0 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SECTION | BAR | LOCATION | SHAPE | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT |
| STANDARD SECTION | 5g1 | VERTICAL | | 136 | 5'-11 | 839 | 156 | 5'-11 | 963 | 176 | 5'-11 | 1086 | 196 | 5'-11 | 1210 | 216 | 5'-11 | 1333 | 236 | 5'-11 | 1456 | 256 | 5'-11 | 1580 | 276 | 5'-11 | 1703 | 296 | 5'-11 | 1827 |
| | 5f1 | LONGITUDINAL | | 36 | 35'-1 | 1317 | 54 | 27'-5 | 1544 | 54 | 30'-9 | 1732 | 54 | 34'-1 | 1920 | 54 | 37'-5 | 2107 | 72 | 31'-2 | 2340 | 72 | 33'-8 | 2528 | 72 | 36'-2 | 2716 | 72 | 38'-8 | 2904 |
| | | 4 END SECTIONS @ 266 LBS. | | | | 1064 | | | 1064 | | | 1064 | | | 1064 | | | 1064 | | | 1064 | | | 1064 | | | 1064 | | | 1064 |
| (INCLUDE WITH SUPERSTRUCTURE REINFORCING) | | | | TOTAL (LBS.) | | 3220 | TOTAL (LBS.) | | 3571 | TOTAL (LBS.) | | 3882 | TOTAL (LBS.) | | 4194 | TOTAL (LBS.) | | 4504 | TOTAL (LBS.) | | 4860 | TOTAL (LBS.) | | 5172 | TOTAL (LBS.) | | 5483 | TOTAL (LBS.) | | 5795 |

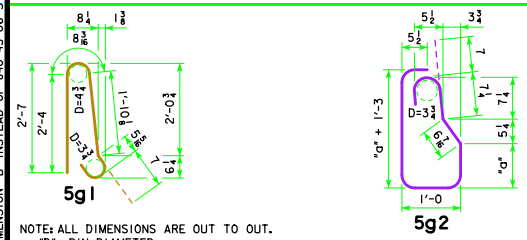
REINFORCING QUANTITIES SHOWN ARE BASED ON 45° SKEW BID LENGTHS.

## STAINLESS STEEL REINFORCING STEEL-TWO BARRIER RAILS

| BRIDGE LENGTH | | | | 70'-0 | | | 80'-0 | | | 90'-0 | | | 100'-0 | | | 110'-0 | | | 120'-0 | | | 130'-0 | | | 140'-0 | | | 150'-0 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SECTION | BAR | LOCATION | SHAPE | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT |
| STANDARD SECTION | 5g2 | VERTICAL | | 136 | 6'-10 | 969 | 156 | 6'-11 | 1125 | 176 | 7'-1 | 1300 | 196 | 7'-4 | 1499 | 216 | 7'-6 | 1690 | 236 | 7'-9 | 1908 | 256 | 7'-11 | 2114 | 276 | 8'-2 | 2351 | 296 | 8'-5 | 2598 |
| | | 4 END SECTIONS @ 192 LBS. | | | | 768 | | | 768 | | | 768 | | | 768 | | | 768 | | | 768 | | | 768 | | | 768 | | | 768 |
| (INCLUDE WITH SUPERSTRUCTURE REINFORCING) | | | | TOTAL (LBS.) | | 1737 | TOTAL (LBS.) | | 1893 | TOTAL (LBS.) | | 2068 | TOTAL (LBS.) | | 2267 | TOTAL (LBS.) | | 2458 | TOTAL (LBS.) | | 2676 | TOTAL (LBS.) | | 2882 | TOTAL (LBS.) | | 3119 | TOTAL (LBS.) | | 3366 |

REINFORCING QUANTITIES SHOWN ARE BASED ON 45° SKEW BID LENGTHS.

## BENT BAR DETAILS




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

| 5g2 BARS | | |
|---|---|---|
| BRIDGE | "a" | LENGTH |
| 70' | 1'-2 | 6'-10 |
| 80' | 1'-2 3/4 | 6'-11 |
| 90' | 1'-3 3/4 | 7'-1 |
| 100' | 1'-5 | 7'-4 |
| 110' | 1'-6 | 7'-6 |
| 120' | 1'-7 1/2 | 7'-9 |
| 130' | 1'-8 3/4 | 7'-11 |
| 140' | 1'-10 | 8'-2 |
| 150' | 1'-11 1/2 | 8'-5 |

## CONCRETE PLACEMENT SUMMARY

| BRIDGE LENGTH | 70'-0 | 80'-0 | 90'-0 | 100'-0 | 110'-0 | 120'-0 | 130'-0 | 140'-0 | 150'-0 |
|---|---|---|---|---|---|---|---|---|---|
| STANDARD SECTION * 2 x B @ 0.1052 CU. YDS. PER FT. | 14.4 | 16.5 | 18.6 | 20.7 | 22.8 | 24.9 | 27.0 | 29.1 | 31.2 |
| END SECTION 4 @ 0.65 CU. YDS. | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| TOTAL (CU. YDS.) | 17.0 | 19.1 | 21.2 | 23.3 | 25.4 | 27.5 | 29.6 | 31.7 | 33.8 |

* SEE J40-45-14 FOR DIMENSION "B".
CONCRETE QUANTITIES SHOWN ARE
BASED ON 45° SKEW BID LENGTHS.

## CONCRETE BARRIER RAIL QUANTITIES

| BRIDGE LENGTH | | UNIT | 70'-0 | 80'-0 | 90'-0 | 100'-0 | 110'-0 | 120'-0 | 130'-0 | 140'-0 | 150'-0 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CONCRETE BARRIER RAILING | 0° SKEW | L.F. | 162.0 | 182.0 | 202.0 | 222.0 | 242.0 | 262.0 | 282.0 | 302.0 | 322.0 |
| CONCRETE BARRIER RAILING | 15° SKEW | L.F. | 162.2 | 182.2 | 202.2 | 222.2 | 242.2 | 262.2 | 282.2 | 302.2 | 322.2 |
| CONCRETE BARRIER RAILING | 30° SKEW | L.F. | 162.9 | 182.9 | 202.9 | 222.9 | 242.9 | 262.9 | 282.9 | 302.9 | 322.9 |
| CONCRETE BARRIER RAILING | 45° SKEW | L.F. | 164.5 | 184.5 | 204.5 | 224.5 | 244.5 | 264.5 | 284.5 | 304.5 | 324.5 |

09-14
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWADOT Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES
CONTINUOUS CONCRETE
SLAB BRIDGES
JULY, 2014

BARRIER RAIL DETAILS

J40-46-14

REVISED 09-14 - CHANGED REFERENCE TO THE J40-45-14 STANDARD FOR DIMENSION "B" INSTEAD OF J40-45-06 STANDARD.