

DESIGN NOTES

1. 4 ksi minimum 28-day concrete compressive strength
2. 60 ksi Steel tensile strength
3. 1 1/2" cover on all stirrups



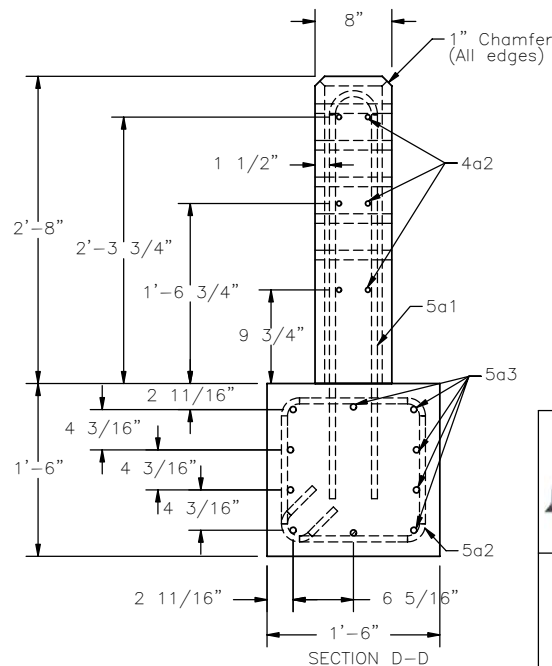
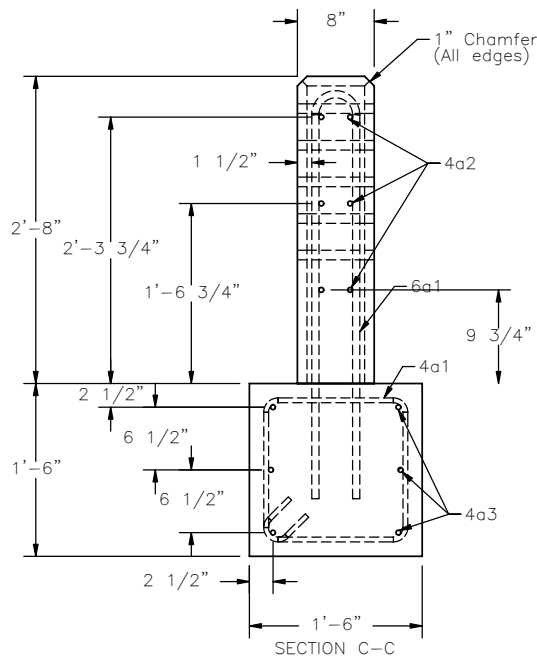
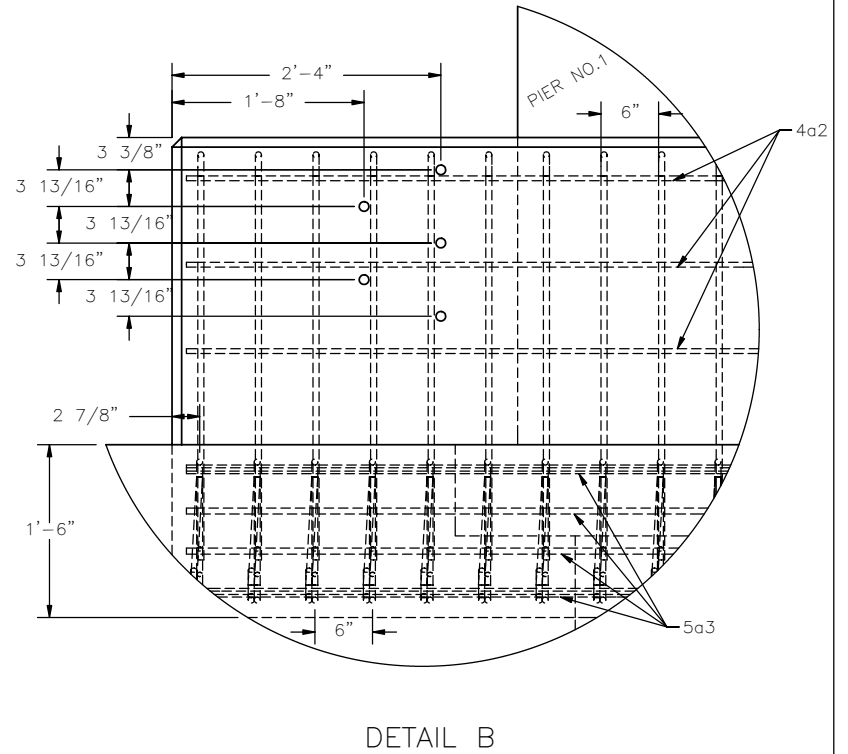
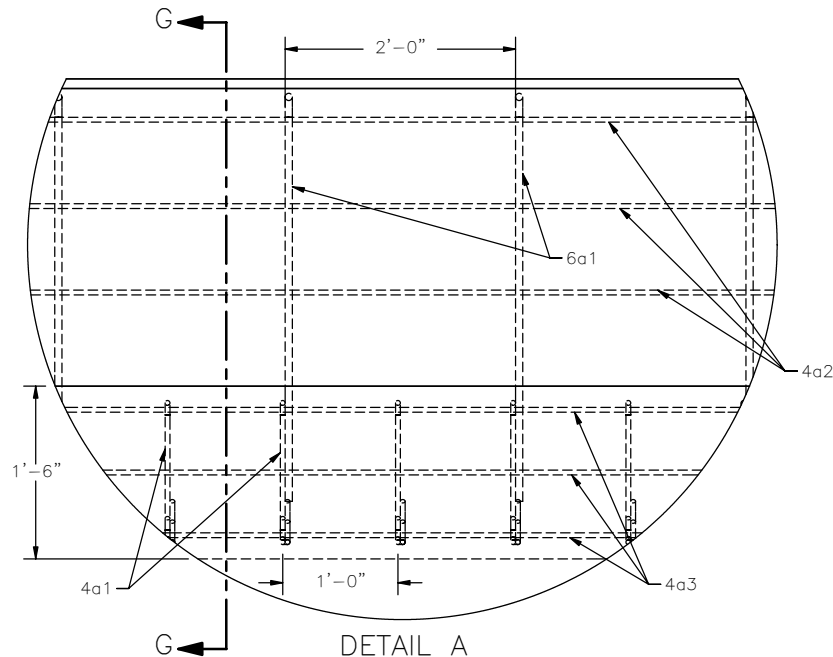
Midwest Roadside
Safety Facility

Bridge Pier Protection
System Layout

DWG. NAME.
BPP_R4

SCALE: None
UNITS: Inches

SHEET:
1 of 4
DATE:
5/11/2007
DRAWN BY:
JAH/GEP
REV. BY:
RKF



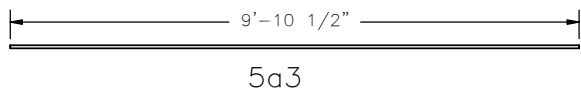
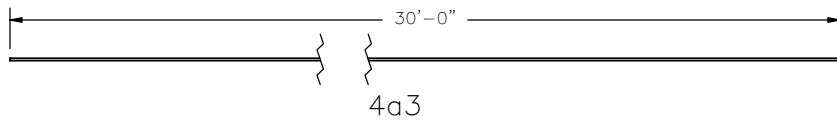
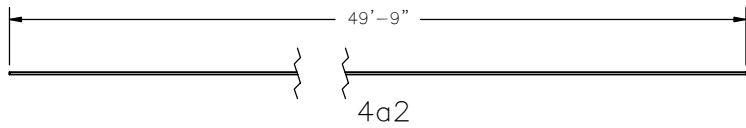
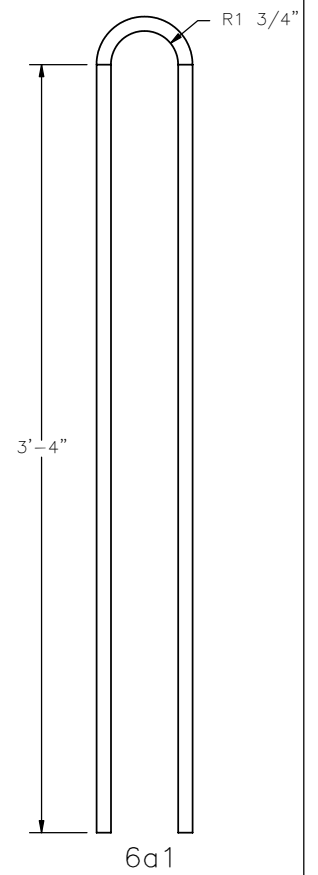
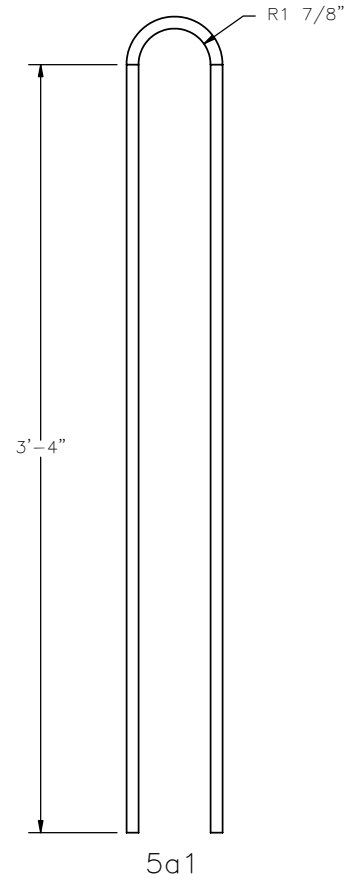
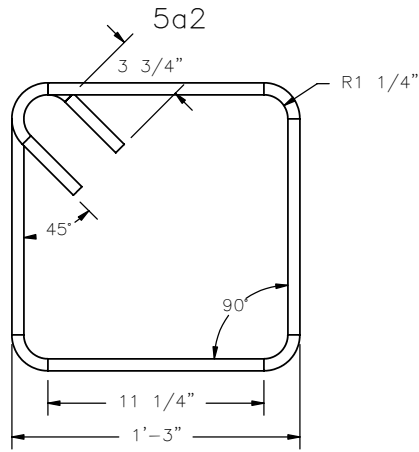
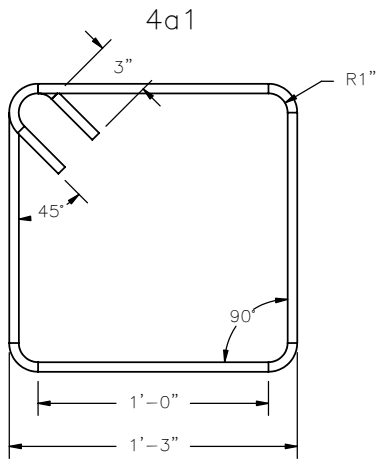
Midwest Roadside Safety Facility

Bridge Pier Protection
Section Details

| | | |
|----------------------|------------------------------|----------------------|
| DWG. NAME: BPP_R4 | SCALE: None UNITS: Inches | SHEET: 2 of 4 |
| | | DATE: 5/11/2007 |
| | | DRAWN BY: JAH/GEP |
| | | REV. BY: RKF |

Bill of Bars

| Item No. | Bar Size | Pin Dia. | Bar Length | Description | Material | QTY. |
|----------|----------|----------|-------------------|----------------------------------|-------------|------|
| 4a1 | 4 | 2" | 65 3/4" | Footer Interior Stirrups | A615 Gr. 60 | 31 |
| 4a2 | 4 | - | 597" | Wall Longitudinal Bar | A615 Gr. 60 | 6 |
| 4a3 | 4 | - | 360" | Footer Interior Longitudinal Bar | A615 Gr. 60 | 6 |
| 5a1 | 5 | 3 3/4" | 86 7/8" | Wall End Stirrup | A615 Gr. 60 | 38 |
| 5a2 | 5 | 2 1/2" | 67 1/4" | Footer End Stirrups | A615 Gr. 60 | 38 |
| 5a3 | 5 | - | 118 1/2" | Footer End Longitudinal Bar | A615 Gr. 60 | 20 |
| 6a1 | 6 | 3 1/2" | 86 5/8" | Interior Wall Stirrups | A615 Gr. 60 | 16 |
| - | - | - | Made October 2005 | - | - | 2 |



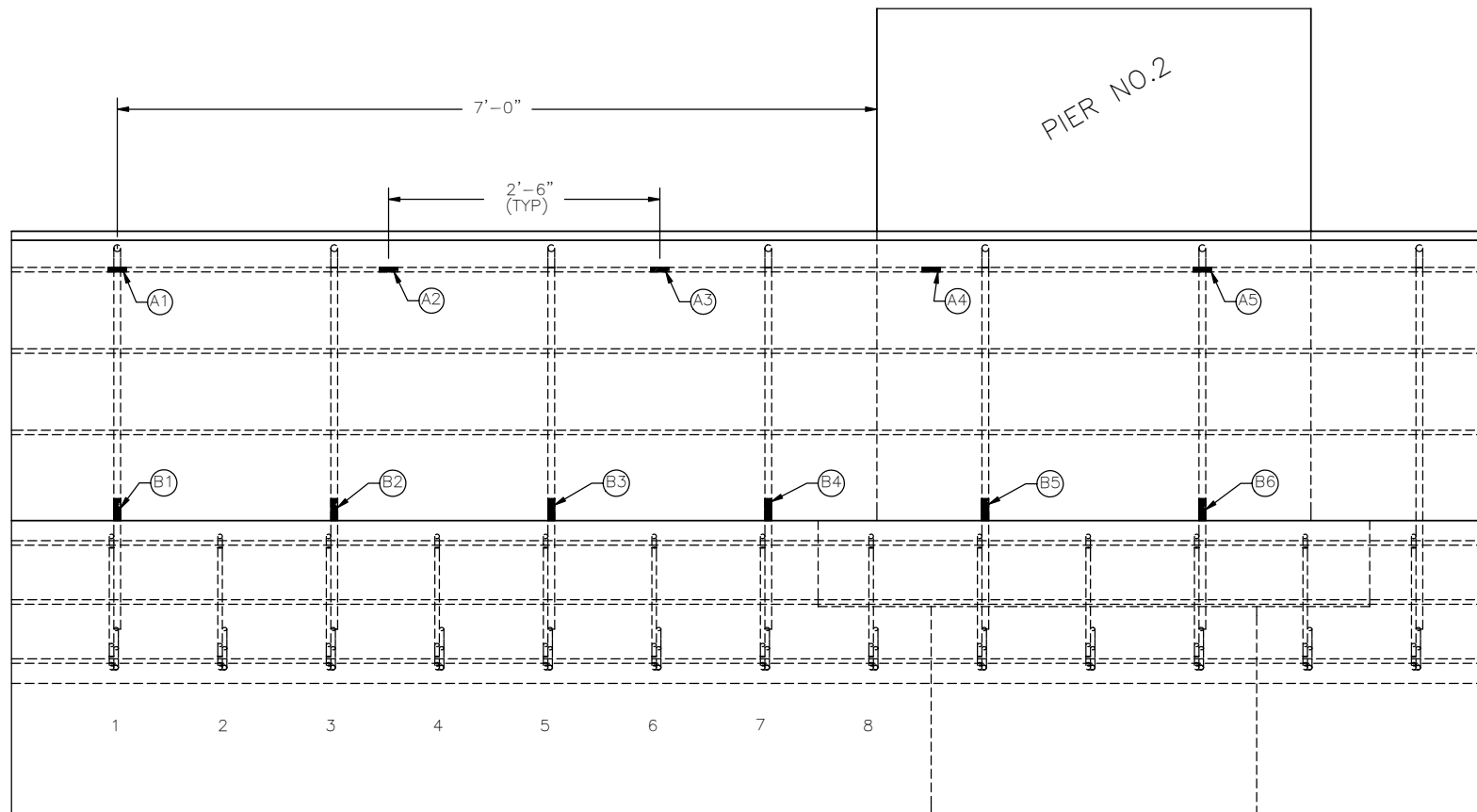
**Midwest Roadside
Safety Facility**

Bridge Pier Protection
Bill of Bars

DWG. NAME:
BPP_R4

SCALE: None
UNITS: Inches

SHEET:
3 of 4
DATE:
5/11/2007
DRAWN BY:
JAH/GEP
REV. BY:
RKF



NOTE:

1. Strain gauges A1–A5 are attached to the top horizontal 4a2 bars of the wall on both sides (10 gauges total)
2. Strain gauges B1–B6 are attached to the vertical 6a1 bars of the wall on the front side of wall (6 gauges total)
3. Other linear displacement transducers still may be utilized on the back side of the parapet.



Midwest Roadside
Safety Facility

Bridge Pier Protection

Instrumentation Layout
–16 Strain gauges

DWG. NAME.
BPP_R4

SCALE: None
UNITS: Inches

SHEET:
4 of 4
DATE:
5/11/2007
DRAWN BY:
JAH/GEP
REV. BY:
RKf