## 9" x 2½" STRUCTURAL PLATE ALUMINUM ALLOY PIPE (STEEL BOLTED)
## HEIGHT OF COVER LIMITS (ft.)

| AREA (sft) | DIAMETER (in.) | THICKNESS (in.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.100 | | 0.125 | | 0.150 | | 0.175 | | 0.200 | |
| | | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. |
| 19.6 | 60 | 1.0 | 31.1 | 1.0 | 45.5 | 1.0 | 60.1 | 1.0 | 70.7 | 1.0 | 81.5 |
| 23.8 | 66 | 1.0 | 28.2 | 1.0 | 41.4 | 1.0 | 54.6 | 1.0 | 64.3 | 1.0 | 74.1 |
| 28.3 | 72 | 1.0 | 25.9 | 1.0 | 37.9 | 1.0 | 50.0 | 1.0 | 58.9 | 1.0 | 67.9 |
| 33.2 | 78 | 1.0 | 23.9 | 1.0 | 35.0 | 1.0 | 46.2 | 1.0 | 54.4 | 1.0 | 62.7 |
| 38.5 | 84 | 1.0 | 22.2 | 1.0 | 32.5 | 1.0 | 42.9 | 1.0 | 50.5 | 1.0 | 58.2 |
| 44.2 | 90 | 1.1 | 20.7 | 1.0 | 30.3 | 1.0 | 40.0 | 1.0 | 47.1 | 1.0 | 54.3 |
| 50.3 | 96 | 1.1 | 19.4 | 1.0 | 28.4 | 1.0 | 37.5 | 1.0 | 44.2 | 1.0 | 50.9 |
| 56.7 | 102 | 1.1 | 18.3 | 1.1 | 26.7 | 1.1 | 35.3 | 1.1 | 41.6 | 1.1 | 47.9 |
| 63.6 | 108 | 1.2 | 17.2 | 1.1 | 25.3 | 1.1 | 33.3 | 1.1 | 39.3 | 1.1 | 45.3 |
| 70.9 | 114 | 1.3 | 16.3 | 1.2 | 23.9 | 1.2 | 31.6 | 1.2 | 37.2 | 1.2 | 42.9 |
| 78.5 | 120 | 1.3 | 15.5 | 1.3 | 22.7 | 1.3 | 30.0 | 1.3 | 35.3 | 1.3 | 40.7 |
| 86.6 | 126 | 1.4 | 14.8 | 1.3 | 21.6 | 1.3 | 28.6 | 1.3 | 33.7 | 1.3 | 38.8 |
| 95.0 | 132 | 1.4 | 14.1 | 1.4 | 20.7 | 1.4 | 27.3 | 1.4 | 32.1 | 1.4 | 37.0 |
| 103.9 | 138 | 1.5 | 13.5 | 1.4 | 19.8 | 1.4 | 26.1 | 1.4 | 30.7 | 1.4 | 35.4 |
| 113.1 | 144 | 1.6 | 12.9 | 1.5 | 18.9 | 1.5 | 25.0 | 1.5 | 29.4 | 1.5 | 33.9 |
| 122.7 | 150 | | | 1.6 | 18.2 | 1.6 | 24.0 | 1.6 | 28.3 | 1.6 | 32.6 |
| 132.7 | 156 | | | 1.6 | 17.5 | 1.6 | 23.1 | 1.6 | 27.2 | 1.6 | 31.3 |
| 143.1 | 162 | | | | | 1.7 | 22.2 | 1.7 | 26.2 | 1.7 | 30.2 |
| 153.9 | 168 | | | | | 1.8 | 21.4 | 1.8 | 25.2 | 1.8 | 29.1 |
| 165.1 | 174 | | | | | 1.8 | 20.7 | 1.8 | 24.4 | 1.8 | 28.1 |
| 176.7 | 180 | | | | | | | 1.9 | 23.5 | 1.9 | 27.1 |
| 188.7 | 186 | | | | | | | 1.9 | 22.8 | 1.9 | 26.3 |
| 201.1 | 192 | | | | | | | | | 2.0 | 25.4 |
| 213.8 | 198 | | | | | | | | | 2.1 | 24.7 |
| 227.0 | 204 | | | | | | | | | 2.1 | 23.9 |
| 240.5 | 210 | | | | | | | | | | |
| 254.5 | 216 | | | | | | | | | | |
| 268.8 | 222 | | | | | | | | | | |
| 283.5 | 228 | | | | | | | | | | |

**NOTE:**

1. The tabulated cover depths shall be measured from the bottom of the asphalt or concrete pavement to the top of the pipe.

INDIANA DEPARTMENT OF TRANSPORTATION

**PIPE HEIGHT OF COVER LIMITS**

JANUARY 1998

STANDARD DRAWING NO. **E 717-PHCL-01**

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-99

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

ORIGINALLY APPROVED 1-02-98