

**SAFETY METAL END SECTIONS FOR CIRCULAR PIPES**

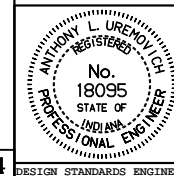
| Pipe Dia. | Min. Thick. | Dimensions |     |      |               | L Dimensions |           |
|-----------|-------------|------------|-----|------|---------------|--------------|-----------|
|           |             | A          | H   | W    | Overall Width | 4:1 Slope    | 6:1 Slope |
| 375       | 1.63        | 200        | 150 | 525  | 925           | 500          | 750       |
| 450       | 1.63        | 200        | 150 | 600  | 1000          | 800          | 1200      |
| 525       | 1.63        | 200        | 150 | 675  | 1075          | 1100         | 1650      |
| 600       | 1.63        | 200        | 150 | 750  | 1150          | 1400         | 2100      |
| 675       | 2.77        | 300        | 225 | 825  | 1425          | 1700         | 2550      |
| 750       | 2.77        | 300        | 225 | 900  | 1500          | 2000         | 3000      |
| 825       | 2.77        | 300        | 225 | 975  | 1575          | 2300         | 3450      |
| 900       | 2.77        | 300        | 225 | 1050 | 1650          | 2600         | 3900      |
| 1050      | 2.77        | 400        | 300 | 1200 | 2000          | 3200         | 4800      |
| 1200      | 2.77        | 400        | 300 | 1350 | 2150          | 3800         | 5700      |
| 1350      | 2.77        | 400        | 300 | 1500 | 2300          | 4400         | 6600      |
| 1500      | 2.77        | 400        | 300 | 1650 | 2450          | 5000         | 7500      |

**SAFETY METAL END SECTIONS FOR HORIZONTAL ELLIPTICAL PIPE**

| Equiv. Dia. | Span | Rise | Min. Thick. | Dimensions |     |      |               | L Dimension |           |
|-------------|------|------|-------------|------------|-----|------|---------------|-------------|-----------|
|             |      |      |             | A          | H   | W    | Overall Width | 4:1 Slope   | 6:1 Slope |
| 450         | 575  | 365  | 1.63        | 200        | 150 | 725  | 1125          | 400         | 600       |
| 600         | 770  | 490  | 1.63        | 200        | 150 | 900  | 1300          | 900         | 1350      |
| 675         | 865  | 550  | 2.01        | 300        | 225 | 1000 | 1600          | 1200        | 1800      |
| 750         | 960  | 610  | 2.01        | 300        | 225 | 1100 | 1700          | 1400        | 2100      |
| 825         | 1055 | 670  | 2.77        | 300        | 225 | 1200 | 1800          | 1700        | 2550      |
| 900         | 1150 | 730  | 2.77        | 400        | 300 | 1275 | 2075          | 1900        | 2850      |
| 975         | 1250 | 795  | 2.77        | 400        | 300 | 1400 | 2200          | 2180        | 3270      |
| 1050        | 1345 | 855  | 2.77        | 400        | 300 | 1475 | 2275          | 2400        | 3600      |
| 1200        | 1535 | 975  | 2.77        | 400        | 300 | 1650 | 2450          | 2800        | 4200      |
| 1350        | 1730 | 1095 | 2.77        | 400        | 300 | 1875 | 2675          | 3300        | 4950      |
| 1500        | 1920 | 1220 | 2.77        | 400        | 300 | 2025 | 2825          | 3800        | 5700      |

All dimensions are in mm unless otherwise specified.

INDIANA DEPARTMENT OF TRANSPORTATION  
**SAFETY METAL CULVERT END SECTIONS FOR SMOOTH PIPE**  
 JANUARY 1998  
 STANDARD DRAWING NO. **715-SMES-12**



/s/ Anthony L. Uremovich 1-02-98  
 DESIGN STANDARDS ENGINEER DATE

/s/ Donald W. Lucas 1-02-98  
 CHIEF HIGHWAY ENGINEER DATE

Source Sheet: **SMES4**