

| METAL END SECTIONS FOR CONC. OR METAL CIRCULAR PIPE | PIPE DIA. (IN.) | MIN. THICK. IN INCHES | DIMENSIONS | | | | L DIMENSIONS ① | | | | | | CONCRETE CU. YDS. |
|--|-----------------------|--------------------------------|------------|-----|--------|------------------|----------------|--------|--------|--------|---------|--------|----------------------|
| | | | A | H | W | OVERALL WIDTH | SLOPE | LENGTH | SLOPE | LENGTH | SLOPE | LENGTH | |
| 15 ② | 0.064 | 8" | 6" | 21" | 3'-1" | 4:1 | 1'-8" | 6:1 | 2'-6" | 10:1 | 5'-10" | 0.15 | |
| 18 ② | 0.064 | 8" | 6" | 24" | 3'-4" | 4:1 | 2'-8" | 6:1 | 4'-0" | 10:1 | 8'-4" | 0.16 | |
| 21 ② | 0.064 | 8" | 6" | 27" | 3'-7" | 4:1 | 3'-8" | 6:1 | 5'-6" | 10:1 | 10'-10" | 0.18 | |
| 24 ② | 0.064 | 8" | 6" | 30" | 3'-10" | 4:1 | 4'-8" | 6:1 | 7'-0" | 10:1 | 13'-4" | 0.19 | |
| 30 | 0.109 | 12" | 9" | 36" | 5'-0" | 4:1 | 6'-8" | 6:1 | 10'-0" | | | 0.25 | |
| 36 | 0.109 | 12" | 9" | 42" | 5'-6" | 4:1 | 8'-8" | 6:1 | 13'-0" | | | 0.27 | |
| 42 | 0.109 | 16" | 12" | 48" | 6'-8" | 4:1 | 10'-8" | 6:1 | 16'-0" | | | 0.33 | |
| 48 | 0.109 | 16" | 12" | 54" | 7'-2" | 4:1 | 12'-8" | 6:1 | 19'-0" | | | 0.35 | |
| 54 | 0.109 | 16" | 12" | 60" | 7'-8" | 4:1 | 14'-8" | 6:1 | 22'-0" | | | 0.38 | |
| 60 | 0.109 | 16" | 12" | 66" | 8'-2" | 4:1 | 16'-8" | 6:1 | 25'-0" | | | 0.40 | |

- ~ NOTES ~
- ① DIMENSIONAL TOLERANCE +1" -0"
- ② FOR METAL END SECTIONS WITH A SLOPE OF 10:1 USE A METAL THICKNESS OF .109" MIN.

| METAL END SECTIONS FOR METAL ARCHED PIPE | EQUV. DIA. (IN.) | SPAN (IN.) | RISE (IN.) | MIN. THICK. IN INCHES | DIMENSIONS | | | | L DIMENSIONS ① | | | | | | CONCRETE CU. YDS. |
|---|------------------------|---------------|---------------|--------------------------------|------------|-----|--------|------------------|----------------|--------|--------|--------|--------|--------|----------------------|
| | | | | | A | H | W | OVERALL WIDTH | SLOPE | LENGTH | SLOPE | LENGTH | SLOPE | LENGTH | |
| 18 ② | 21 | 15 | .064 | 8" | 6" | 27" | 3'-7" | 4:1 | 1'-8" | 6:1 | 2'-6" | 10:1 | 5'-10" | 0.18 | |
| 21 ② | 24 | 18 | .064 | 8" | 6" | 30" | 3'-10" | 4:1 | 2'-8" | 6:1 | 4'-0" | 10:1 | 8'-4" | 0.19 | |
| 24 ② | 28 | 20 | .064 | 8" | 6" | 34" | 4'-2" | 4:1 | 3'-4" | 6:1 | 5'-0" | 10:1 | 10'-0" | 0.21 | |
| 30 | 35 | 24 | .079 | 12" | 9" | 41" | 5'-5" | 4:1 | 4'-8" | 6:1 | 7'-0" | | | 0.27 | |
| 36 | 42 | 29 | .109 | 12" | 9" | 48" | 6'-0" | 4:1 | 6'-4" | 6:1 | 9'-6" | | | 0.30 | |
| 42 | 49 | 33 | .109 | 16" | 12" | 55" | 7'-3" | 4:1 | 7'-8" | 6:1 | 11'-6" | | | 0.36 | |
| 48 | 57 | 38 | .109 | 16" | 12" | 63" | 7'-11" | 4:1 | 9'-4" | 6:1 | 14'-0" | | | 0.39 | |
| 54 | 64 | 43 | .109 | 16" | 12" | 70" | 8'-6" | 4:1 | 11'-0" | 6:1 | 16'-6" | | | 0.42 | |
| 60 | 71 | 47 | .109 | 16" | 12" | 77" | 9'-1" | 4:1 | 12'-4" | 6:1 | 18'-6" | | | 0.45 | |
| 72 | 83 | 57 | .109 | 16" | 12" | 89" | 10'-1" | 4:1 | 15'-8" | 6:1 | 23'-6" | | | 0.50 | |

| METAL END SECTIONS FOR CONCRETE ELLIPTICAL PIPE | EQUV. DIA. (IN.) | SPAN (IN.) | RISE (IN.) | MIN. THICK. IN INCHES | DIMENSIONS | | | | L DIMENSIONS | | | | CONCRETE CU. YDS. |
|--|------------------------|---------------|---------------|--------------------------------|------------|-----|--------|------------------|--------------|--------|--------|--------|----------------------|
| | | | | | A | H | W | OVERALL WIDTH | SLOPE | LENGTH | SLOPE | LENGTH | |
| 18 | 23 | 14 | .064 | 8" | 6" | 29" | 3'-9" | 4:1 | 1'-4" | 6:1 | 2'-0" | 0.19 | |
| 24 | 30 | 19 | .064 | 8" | 6" | 36" | 4'-4" | 4:1 | 3'-0" | 6:1 | 4'-6" | 0.21 | |
| 30 | 38 | 24 | .079 | 12" | 9" | 44" | 5'-8" | 4:1 | 4'-8" | 6:1 | 7'-0" | 0.28 | |
| 36 | 45 | 29 | .109 | 16" | 12" | 51" | 6'-11" | 4:1 | 6'-4" | 6:1 | 9'-6" | 0.34 | |
| 42 | 53 | 34 | .109 | 16" | 12" | 59" | 7'-7" | 4:1 | 8'-0" | 6:1 | 12'-0" | 0.37 | |
| 48 | 60 | 38 | .109 | 16" | 12" | 66" | 8'-2" | 4:1 | 9'-4" | 6:1 | 14'-0" | 0.40 | |
| 54 | 68 | 43 | .109 | 16" | 12" | 74" | 8'-10" | 4:1 | 11'-0" | 6:1 | 16'-6" | 0.44 | |
| 60 | 76 | 48 | .109 | 16" | 12" | 80" | 9'-4" | 4:1 | 12'-8" | 6:1 | 19'-0" | 0.46 | |

USE WITH CUR. STD. DWGS.
RDB-150 RDB-155

KENTUCKY
DEPARTMENT OF HIGHWAYS

DIMENSIONS FOR
METAL END SECTIONS

STANDARD DRAWING NO. RDB-160-02

SUBMITTED *W. S. Galt* 12-01-15
DIRECTOR OF DESIGN DATE

APPROVED *[Signature]* 12-01-15
STATE HIGHWAY ENGINEER DATE