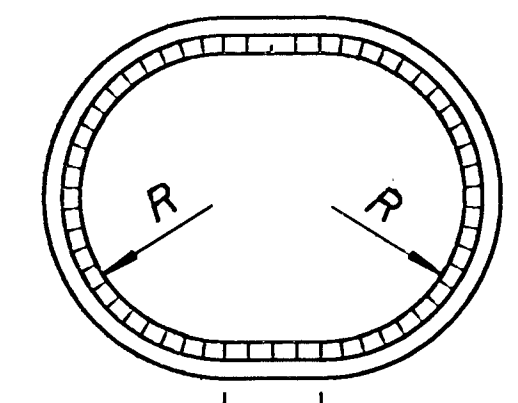
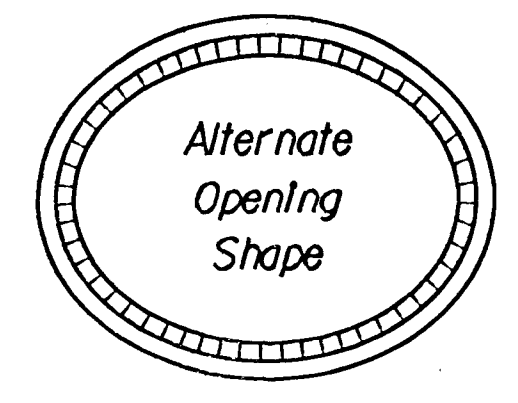
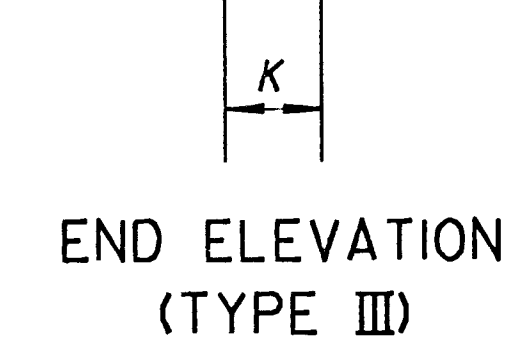


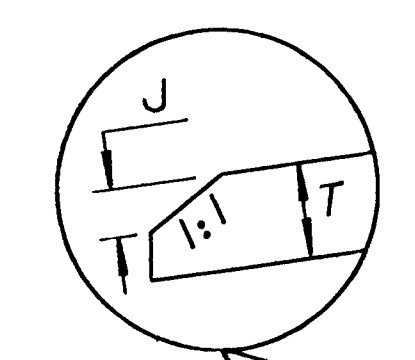
END ELEVATION (TYPE I)



SECTION A-A
Showing rounding of inside edge of end section.



END ELEVATION (TYPE III)

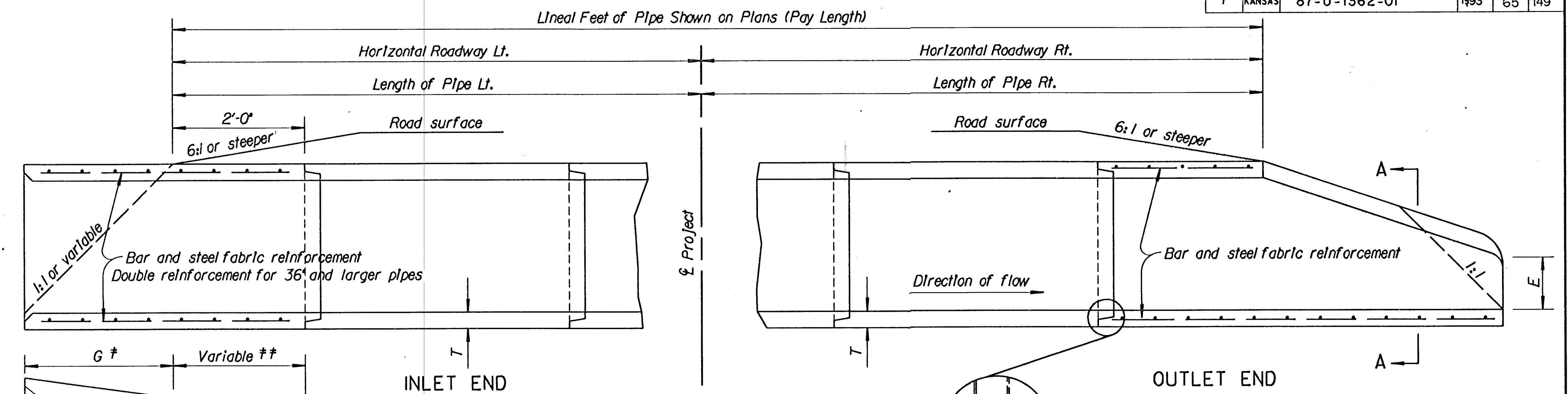


- φ Pipe.
- † Paid for as separate item of End Section, except when structures shall bid as alternates. In that case End Sections shall be subsidiary to bid item. *Drainage Structure No. *
- †† Included in pay length of pipe.
- * Minimum waterway area is calculated at the inside of the bevel.

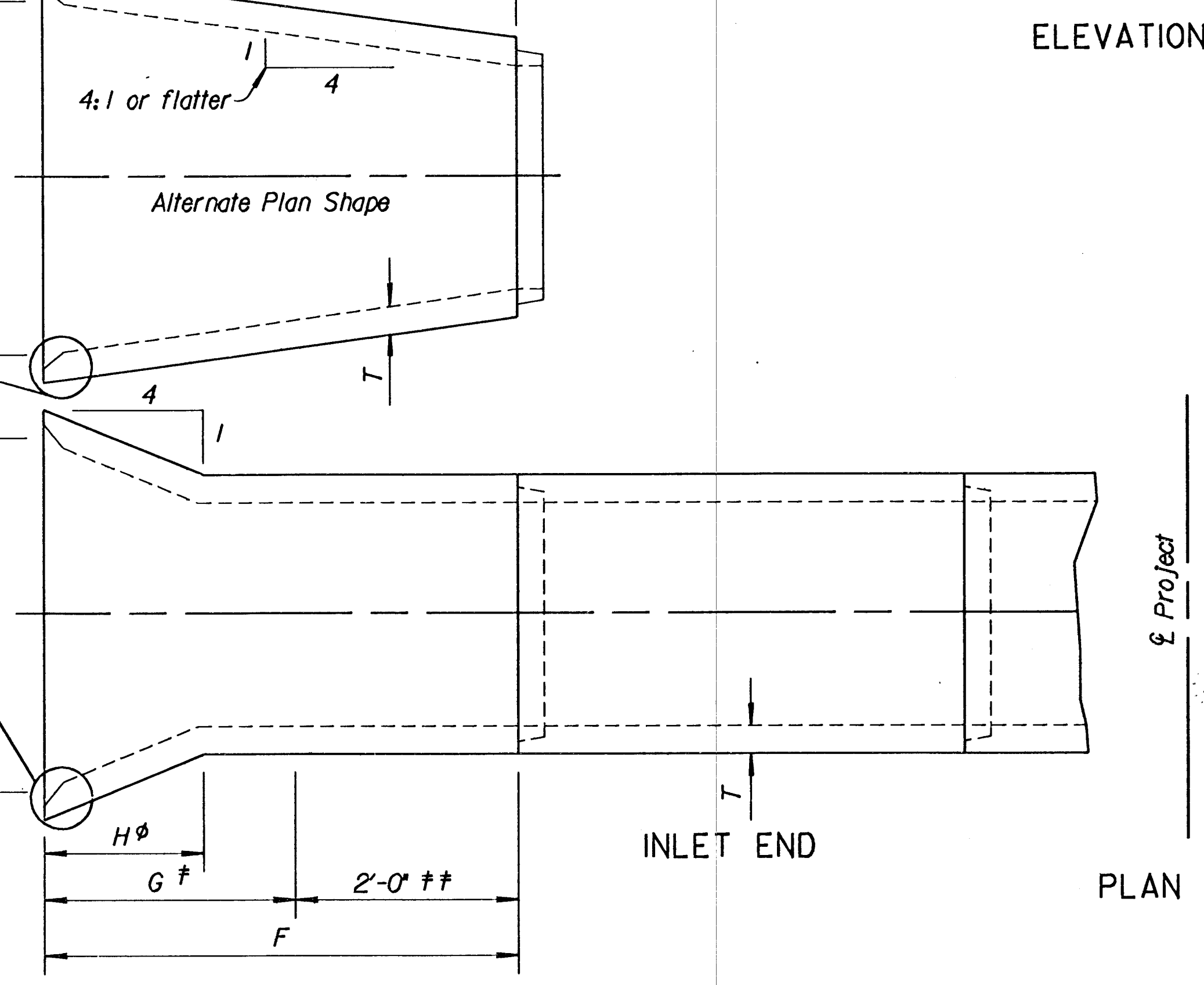
| Diam. | A | B†† | C† | D | E | R ₁ | Slope | T |
|-------|-----------|------------|-----------|--------|--------|----------------|----------|--------|
| 12" | 6'-0 1/8" | 4'-0 1/8" | 2'-0" | 2'-0" | 4" | 9 | 3:1 | 2" |
| 15" | 6'-1" | 3'-10" | 2'-3" | 2'-6" | 6" | 11 | 3:1 | 2 1/4" |
| 18" | 6'-1" | 3'-10" | 2'-3" | 3'-0" | 9" | 12 | 3:1 | 2 1/2" |
| 24" | 6'-1 1/2" | 2'-6" | 3'-7 1/2" | 4'-0" | 9 1/2" | 14 | 3:1 | 3" |
| 30" | 6'-1 3/4" | 1'-7 3/4" | 4'-6" | 5'-0" | 1'-0" | 15 | 3:1 | 3 1/2" |
| 36" | 8'-1 3/4" | 2'-10 3/4" | 5'-3" | 6'-0" | 1'-3" | 20 | 3:1 | 4" |
| 42" | 8'-2" | 2'-11" | 5'-3" | 6'-6" | 1'-9" | 22 | 3:1 | 4 1/2" |
| 48" | 8'-2" | 2'-2" | 6'-0" | 7'-0" | 2'-0" | 22 | 3:1 | 5" |
| 54" | 8'-2 1/4" | 2'-9 1/4" | 5'-5" | 7'-6" | 2'-3" | 24 | 2.4 : 1 | 5 1/2" |
| 60" | 8'-3" | 3'-3" | 5'-0" | 8'-0" | 2'-11" | 24 | 2:1 | 6" |
| 72" | 8'-3" | 1'-9" | 6'-6" | 9'-0" | 3'-0" | 24 | 1.86 : 1 | 7" |
| 84" | 9'-3 1/2" | 1'-9" | 7'-6 1/2" | 10'-0" | 3'-0" | 24 | 1.6 : 1 | 8" |

| Diam. | Min. W.W. Area Sq.Ft. * | F | G | H | I | J | K | R | T |
|-------|-------------------------|------------|------------|------------|-------|--------|-------|-------|--------|
| 24" | 4.5 | 4'-3" | 2'-3" | 1'-5 1/8" | 2'-8" | 1 1/2" | 8" | 1'-0" | 3" |
| 30" | 7.0 | 4'-9 1/2" | 2'-9 1/2" | 1'-9 1/2" | 3'-4" | 2" | 10" | 1'-3" | 3 1/2" |
| 36" | 10.1 | 5'-4" | 3'-4" | 2'-1 1/2" | 4'-0" | 2" | 1'-0" | 1'-6" | 4" |
| 42" | 13.7 | 5'-10 1/2" | 3'-10 1/2" | 2'-5 1/8" | 4'-8" | 2 1/2" | 1'-2" | 1'-9" | 4 1/2" |
| 48" | 17.9 | 6'-5" | 4'-5" | 2'-10 1/8" | 5'-4" | 3" | 1'-4" | 2'-0" | 5" |
| 54" | 22.7 | 6'-11 1/2" | 4'-11 1/2" | 3'-2 1/2" | 6'-0" | 3 1/2" | 1'-6" | 2'-3" | 5 1/2" |
| 60" | 28.0 | 7'-6" | 5'-6" | 3'-6 1/8" | 6'-8" | 4" | 1'-8" | 2'-6" | 6" |
| 72" | 40.3 | 8'-7" | 6'-7" | 4'-3 5/8" | 8'-0" | 5" | 2'-0" | 3'-0" | 7" |
| 84" | 54.8 | 9'-8" | 7'-8" | 5'-0 3/8" | 9'-4" | 6" | 2'-4" | 3'-6" | 8" |

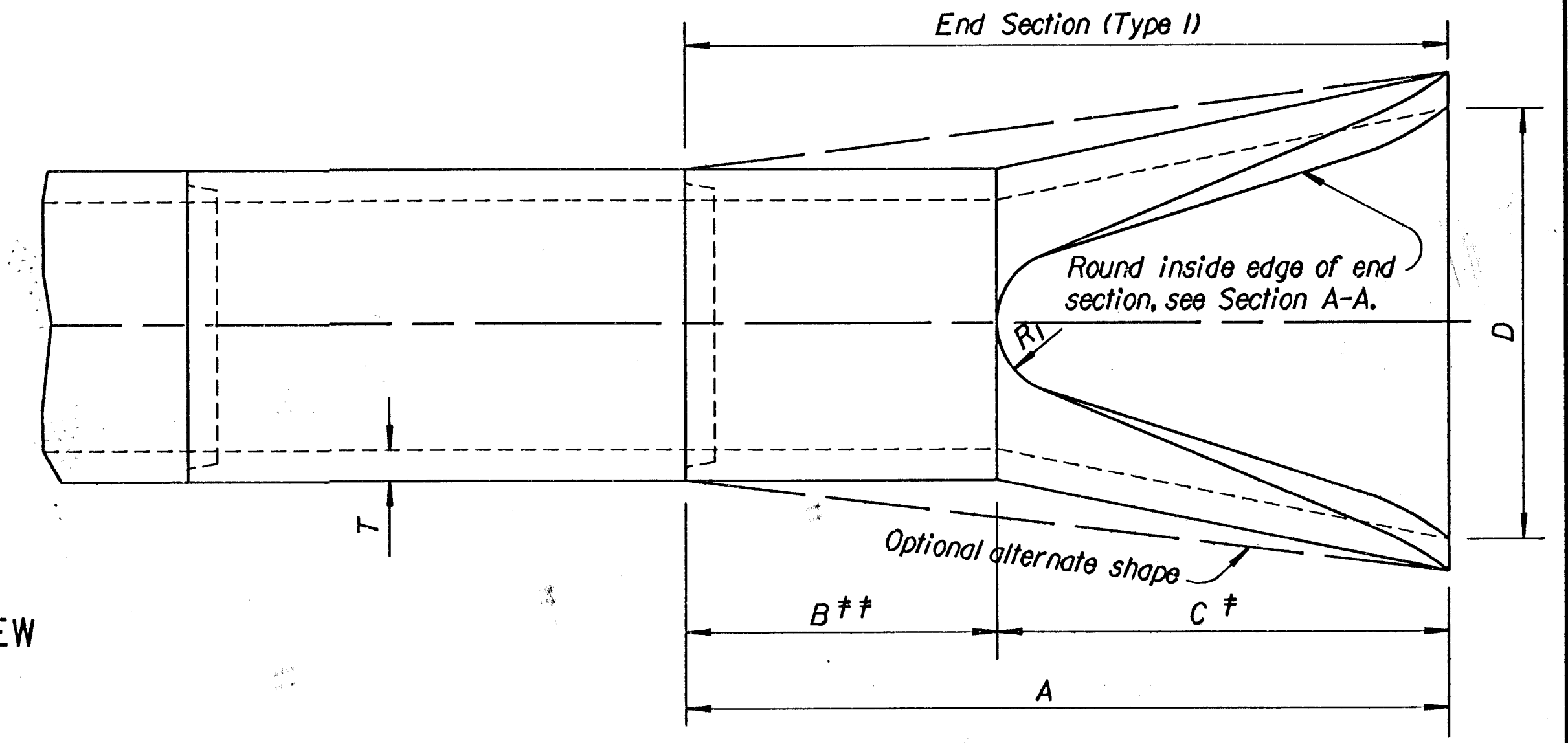
Dimensions for alternate shapes shall be equal to or greater than those shown in the table, unless otherwise shown.



ELEVATION SECTION



PLAN VIEW



OUTLET END

| Station | Location | Type | Size | Crown Grade Elev. | Flow line | | Horizontal Roadway | | Degree of Rotation | Length of Pipe | | Lin. Ft. of Pipe | | End Sects. | |
|--------------|---------------------|------|------|-------------------|-----------|-----|--------------------|-----|--------------------|----------------|-----|------------------|----------|------------|--|
| | | | | | LT. | RT. | LT. | RT. | | LT. | RT. | Type I | Type III | | |
| SEE SCHEDULE | SHEETS 62, 63, & 64 | | | | | | | | | | | | | | |

Note: The culverts listed on this sheet may or may not indicate that the culvert installed will be reinforced concrete, steel, or aluminum.

| NO. | DATE | REVISIONS | BY | APP'D |
|-----|------|-----------|----|-------|
| | | | | |

KANSAS DEPARTMENT OF TRANSPORTATION
CONCRETE END SECTIONS FOR CONCRETE PIPES
 TYPE I & SIDE TAPERED INLET SECTION (TYPE III)
 STD. NO. 662

| | | | |
|------------|------------|------------|-----------------|
| DESIGNED | TRACED | QUANTITIES | APP'D |
| DESIGN CK. | DETAIL CK. | QUAN. CK. | JAMES O. BREWER |
| | | | BOWSER |
| | | | TRACE CK. SEITZ |