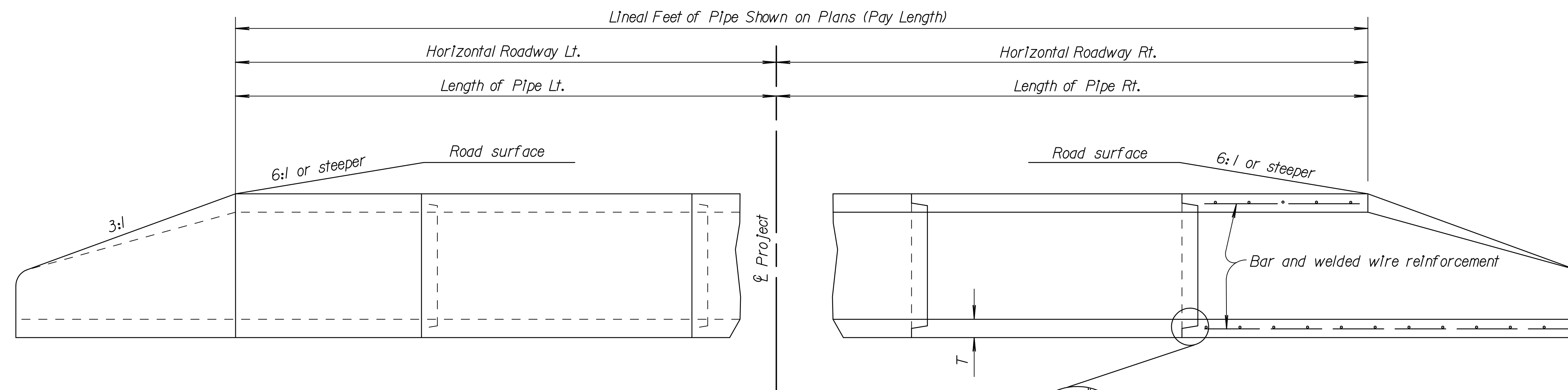
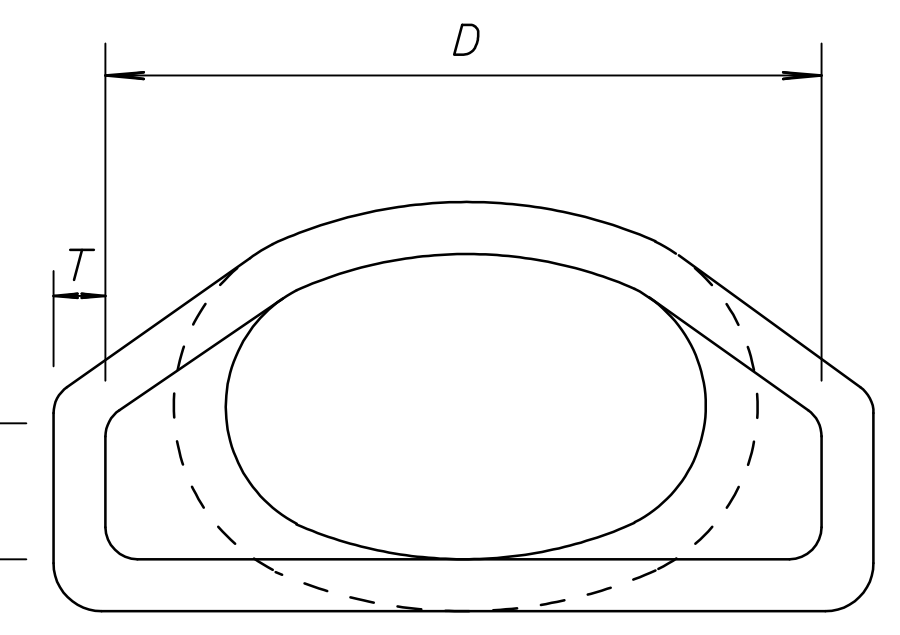


| | | | | |
|--------|-------------|------|-----------|--------------|
| STATE | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
| KANSAS | 472-84639 | 2008 | 32 | 142 |

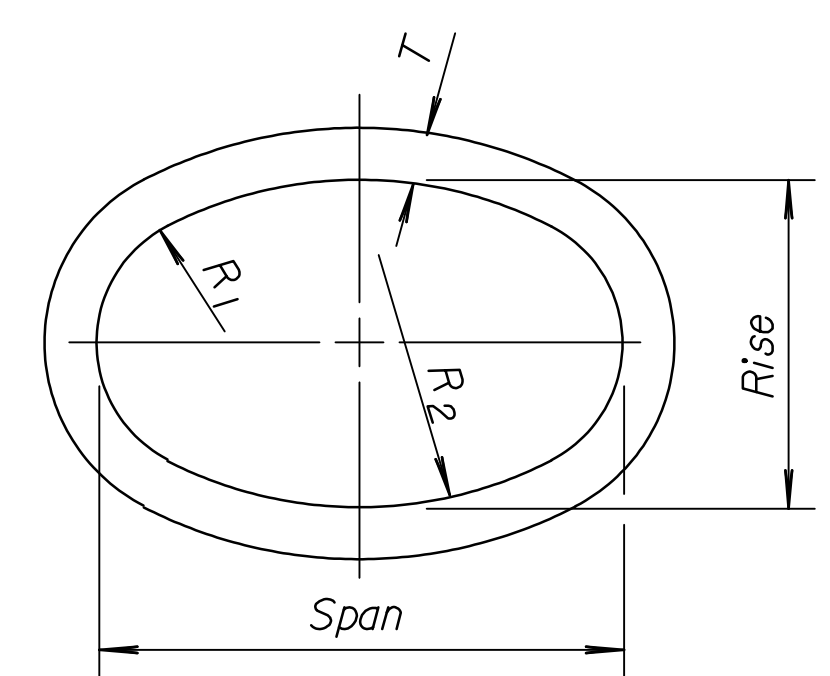


ELEVATION AND SECTION

Note: Gain in length due to joint fit tolerance will not be paid for.
 1/4" max.

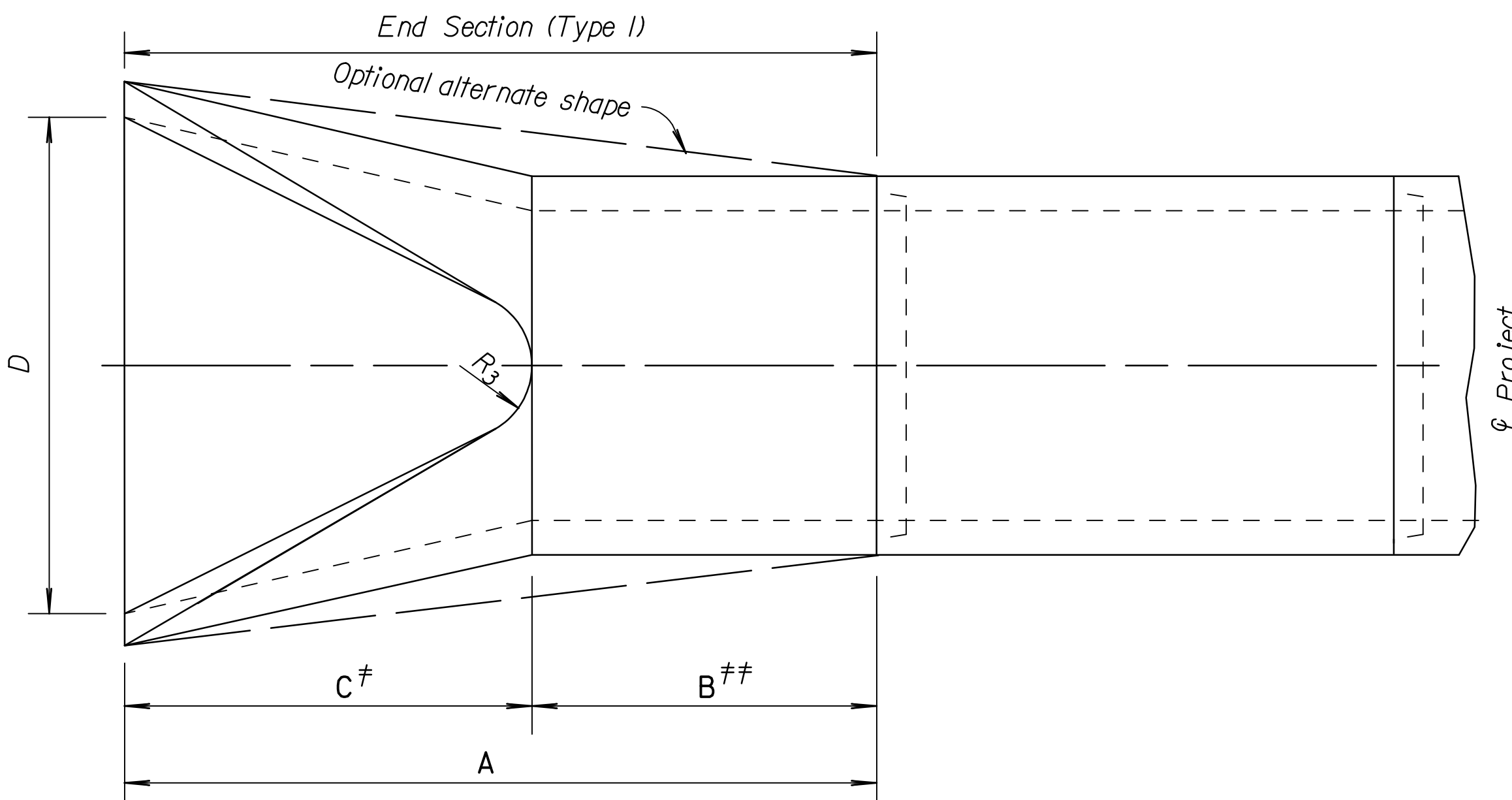


FLARED END SECTION ELEVATION



END ELEVATION

Note: The culverts listed on this sheet may or may not indicate that the culvert installed will be reinforced concrete, steel, or aluminum. Design of end section shall conform to standard reinforced concrete horizontal elliptical pipe. Slight variations in the dimensions specified will be allowed.



PLAN AND SECTION

END SECTION (TYPE I) NOMINAL DIMENSIONS

| Bid Designation Sq. Ft. | Min. W.W. Area Sq. Ft. | Span | Rise | Overall Length | | C † | D | E | R ₁ | R ₂ | R ₃ | T |
|-------------------------|------------------------|------|------|----------------|-------|--------|-------|---------|----------------|----------------|----------------|--------|
| | | | | A | B †† | | | | | | | |
| 1.0 or 1.5 | 1.8 | 23" | 14" | 6'-0" | 3'-9" | 2'-3" | 3'-0" | 8" | 6" | 20" | 6" | 2 3/4" |
| 2.0, 2.5 or 3.0 | 3.3 | 30" | 19" | 6'-0" | 2'-9" | 3'-3" | 4'-0" | 8 1/2" | 8 1/4" | 26 1/4" | 7" | 3 1/4" |
| 4.0 | 4.1 | 34" | 22" | 6'-0" | 2'-2" | 3'-10" | 4'-6" | 9" | 9 1/4" | 29 17/32" | 8" | 3 1/2" |
| 5.0 | 5.1 | 38" | 24" | 6'-0" | 1'-6" | 4'-6" | 5'-0" | 9 1/2" | 10 1/4" | 32 3/4" | 9" | 3 3/4" |
| 6.0 | 6.3 | 42" | 27" | 6'-0" | 1'-3" | 4'-9" | 5'-6" | 10 3/8" | 11 7/16" | 36 3/16" | 10 1/2" | 3 3/4" |
| 7.0 | 7.4 | 45" | 29" | 8'-0" | 3'-0" | 5'-0" | 6'-0" | 11 1/4" | 12 1/4" | 39 1/4" | 12" | 4 1/2" |
| 8.5 | 8.8 | 49" | 32" | 8'-0" | 3'-0" | 5'-0" | 6'-3" | 12" | 13 9/16" | 42 21/32" | 12 1/2" | 4 3/4" |
| 10.0 | 10.2 | 53" | 34" | 8'-0" | 3'-0" | 5'-0" | 6'-6" | 15 3/4" | 14 3/4" | 46" | 13" | 5" |
| 11.0 or 12.5 | 12.9 | 60" | 38" | 8'-0" | 3'-0" | 5'-0" | 7'-0" | 21" | 16 1/2" | 51 3/4" | 14" | 5 1/2" |
| 14.0 or 16.5 | 16.6 | 68" | 43" | 8'-0" | 3'-0" | 5'-0" | 7'-6" | 25 1/2" | 18 2/32" | 58 3/32" | 16" | 6" |

† Paid for as separate item of "End Sections".
 †† Included in pay length of pipe.

PIPE CULVERT SUMMARY

| Station | Location | Type | Bid Designation Sq. Ft. | Profile 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 | | | |
| 301+00.27 | Ramp A | RCPHE | 5.0 Sq. Ft. | 1309.26 | 1305.06 | 1305.04 | - | 17.99 | - | - | 6' | 6' | - | 1 | | | |
| 52+25.63 | Central | RCPHE | 10.0 Sq. Ft. | 1309.84 | 1305.04 | 1304.40 | 93.60 | 103.32 | 6°00'00" Lt. | 94.11' | 103.89' | 198' | 1 | 1 | | | |

Ⓛ Extend Existing CRP.

| 2 | 4-6-05 | Revised reinforcement callout | S.W.K. | J.O.B. |
|-----|---------|-------------------------------|--------|--------|
| 1 | 6-16-95 | Revised table & labeling | R.J.S. | J.O.B. |
| NO. | DATE | REVISIONS | BY | APP'D |

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE END SECTION FOR REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE TYPE I

RD663

| | | |
|------------|------------|------------------------|
| DESIGNED | 6-10-05 | APP'D. James O. Brewer |
| DESIGN CK. | DETAIL CK. | QUANTITIES |
| | | TRACED Bowser |
| | | QUAN. CK. |
| | | TRACE CK. Seltz |

Drawn By: dtp
 Plotted: 1/15/2008
 File: I:\2006\06655\Standards\06655-rd663.dgn