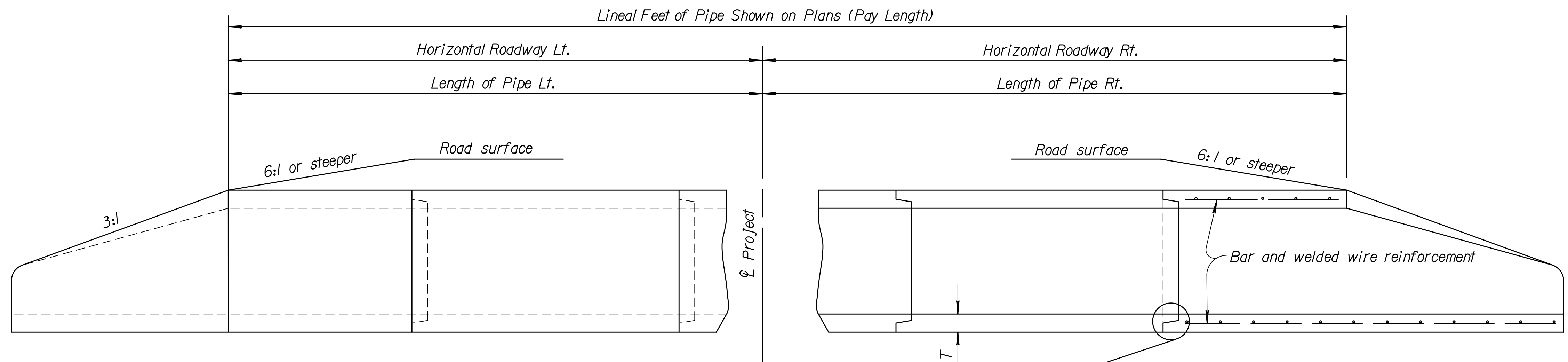
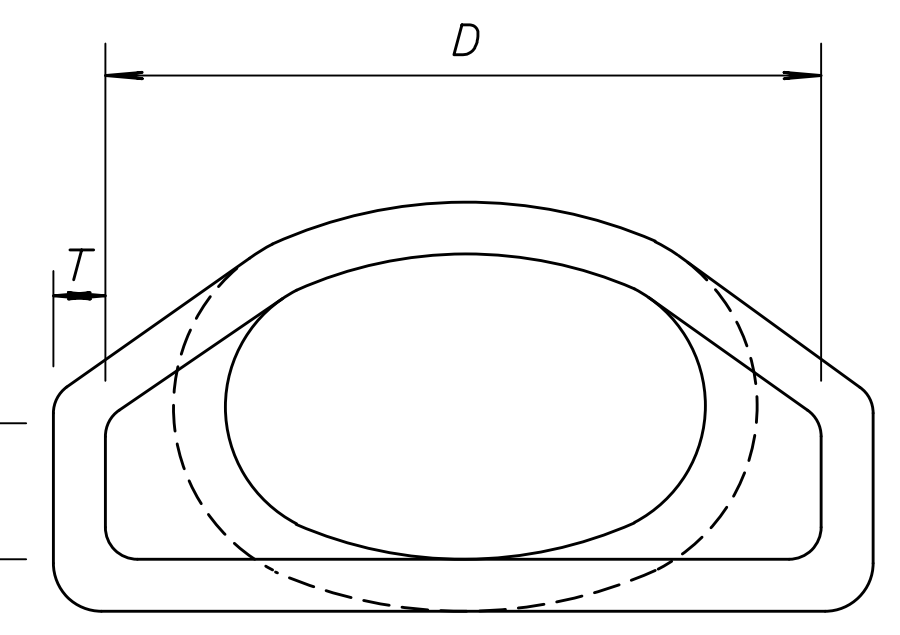


|        |             |      |           |              |
|--------|-------------|------|-----------|--------------|
| STATE  | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
| KANSAS | 472-84692   | 2013 | 63        | 193          |

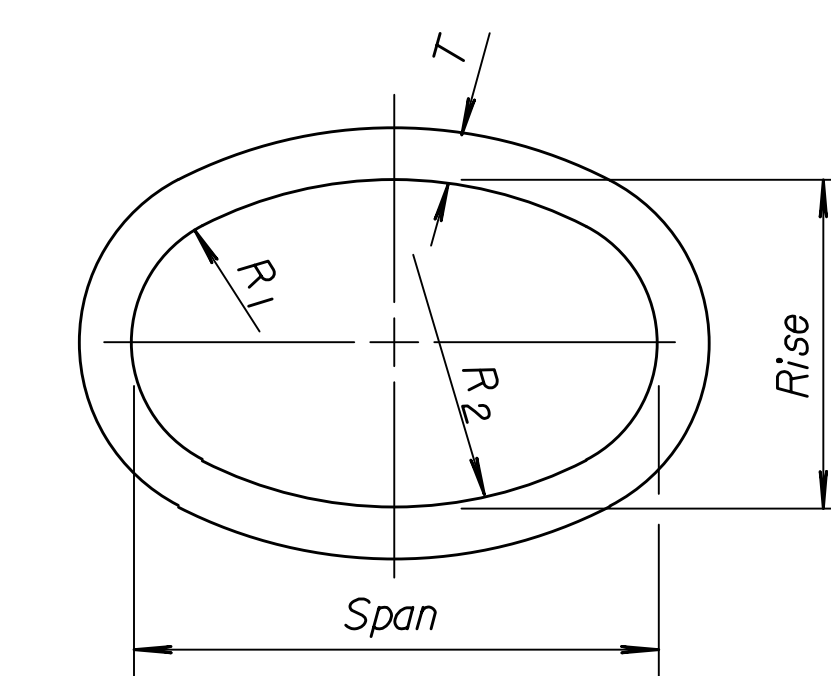


ELEVATION AND SECTION

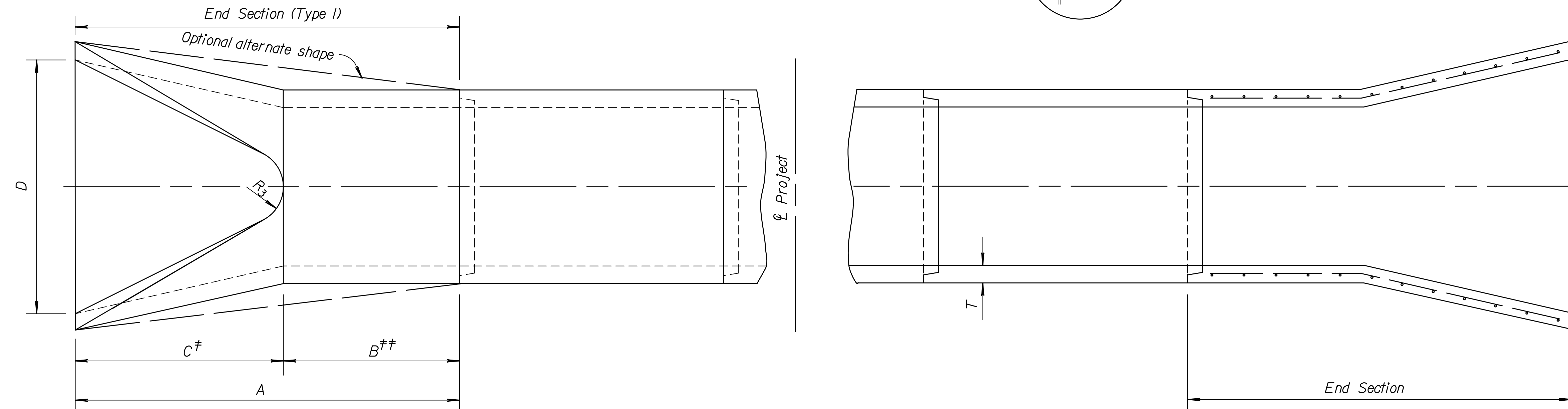
Note: Gain in length due to joint fit tolerance will not be paid for.



FLARED END SECTION ELEVATION



END ELEVATION



PLAN AND SECTION

| END SECTION (TYPE I) NOMINAL DIMENSIONS |                        |      |      |                  |                    |        |       |         |                |                |                |        |
|---|------------------------|------|------|------------------|--------------------|--------|-------|---------|----------------|----------------|----------------|--------|
| Bid Designation Sq. Ft.                 | Min. W.W. Area Sq. Ft. | Span | Rise | Overall Length A | Barrel Length B ## | C #    | D     | E       | R <sub>1</sub> | R <sub>2</sub> | R <sub>3</sub> | T      |
| 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 21/32"      | 58 3/32"       | 16"            | 6"     |

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

Design of end section shall conform to standard reinforced concrete horizontal elliptical pipe. Slight variations in the dimensions specified will be allowed.

Note to Designer: KDOT Pipe Policy provides guidance in identifying the prohibited and/or restricted uses of CSP, ACSP, PEP, PVC, CAP & RCP. Provide end sections of the same type and coating as the pipe. Exceptions to this are noted in the Standard Specifications. Refer to the KDOT Design Manual, Volume I (Part C), Road Section, Elements of Drainage & Culvert Design for structural pipe design information which includes: corrugations, sizes, gauges, maximum/minimum fill heights and classes of pipe.

Drawn By: svb  
 Plotted: 8/14/2013  
 File: I:\2008\08207\Standards\08207-rd663.dgn

| NO. | DATE    | REVISIONS                      | BY     | APP'D  |
|-----|---------|--------------------------------|--------|--------|
| 3   | 4-18-08 | Added ref. to KDOT Pipe Policy | S.W.K. | J.O.B. |
| 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. |

KANSAS DEPARTMENT OF TRANSPORTATION

**CONCRETE END SECTION FOR REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE TYPE I**

**RD663**

|            |            |                       |
|------------|------------|-----------------------|
| DESIGNED   | 6-27-08    | APP'D. Jame O. Brewer |
| DESIGN CK. | DETAIL CK. | QUAN. CK.             |
| TRACED     | QUAN. CK.  | TRACE CK. King        |