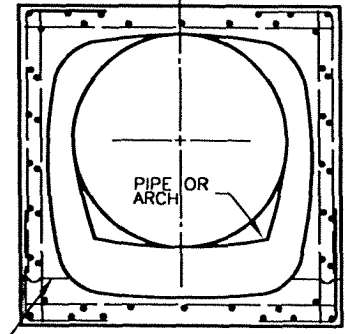


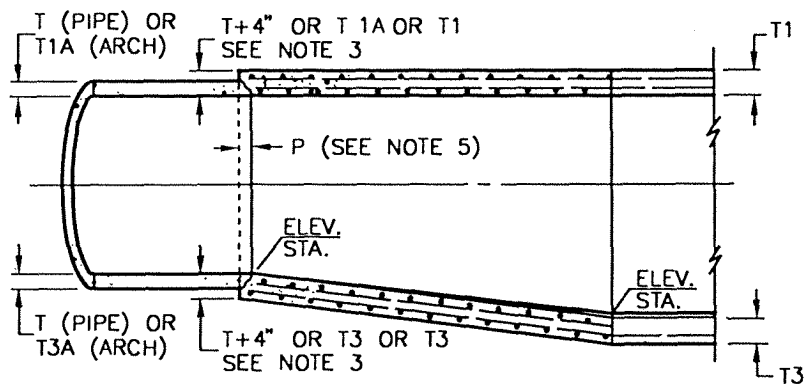
**PLAN**

\* ARCH MAY HAVE A HORSESHOE-SHAPED, CIRCULAR, ELLIPTICAL OR SIMILAR CROSS-SECTION.



OPTIONAL CONSTRUCTION JOINT:  
 BOX OR ARCH TO PIPE - USE CONSTRUCTION JOINT OF BOX OR ARCH.  
 BOX TO ARCH-USE CONSTRUCTION JOINT OF BOX.

**SECTION B-B**



**SECTION A-A**

**NOTES:**

1. THE HORIZONTAL ANGLE OF DIVERGENCE OR CONVERGENCE,  $\phi$ , SHALL NOT TO EXCEED 5 DEGREES 45 MINUTES.
2. REINFORCING STEEL BAR SIZES, SPACING, PATTERN AND COVER OVER THE STEEL SHALL BE AS FOLLOWS:  
 BOX TO PIPE AND BOX TO ARCH-THAT OF BOX SECTION.  
 ARCH TO PIPE-THAT OF ARCH SECTION.  
 ARCH TO ARCH-THAT OF ARCH SECTION HAVING THE THICKER WALLS.  
 THE BAR LENGTHS SHALL VARY UNIFORMLY THROUGHOUT THE TRANSITION.
3. THE CONCRETE THICKNESS SHALL BE AS FOLLOWS:  
 BOX TO PIPE AND ARCH TO PIPE-THAT OF ARCH OR BOX SECTION UNLESS THE WALL THICKNESS OF THE PIPE PLUS 4 INCHES IS GREATER, IN WHICH CASE THE CONCRETE THICKNESS SHALL VARY UNIFORMLY FROM THAT OF THE ARCH OR BOX SECTION TO THAT OF THE PIPE WALL PLUS 4 INCHES.  
 BOX TO ARCH AND ARCH TO ARCH-THAT OF THE ADJOINING BOX OR ARCH SECTION AT EACH END OF THE TRANSITION AND SHALL VARY UNIFORMLY BETWEEN THE TWO ENDS.
4. THE INTERIOR SURFACE SHALL BE SMOOTH AND VARY UNIFORMLY BETWEEN THE TWO ADJOINING SECTIONS.
5. AT PIPE JUNCTURE, EMBEDMENT P SHALL BE 5 INCHES FOR PIPE SIZES OF 96 INCHES OR LESS, AND 8 INCHES FOR PIPE SIZES OVER 96 INCHES.
6.  $f'c=4000$  PSI AT 28 DAYS .
7. KEYED CONSTRUCTION JOINTS OF THE SAME DIMENSIONS AS THOSE OF THE BOX OR ARCH SECTION MAY BE CARRIED THROUGH THE TRANSITION STRUCTURE AT THE CONTRACTOR'S OPTION. SEE SECTION B-B HEREON.
8. THE TRANSITION STRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GENERAL STRUCTURAL NOTES APPLYING TO BOX OR ARCH STRUCTURES SHOWN ON THE PROJECT DRAWINGS.
9. ALL STEEL, EXCEPT LONGITUDINAL STEEL SHALL BE GRADE 60 BILLET STEEL CONFORMING TO ASTM A 615 AND SHALL TERMINATE  $1\frac{1}{2}$ " CLEAR OF CONCRETE SURFACE UNLESS OTHERWISE SHOWN.

REV.	APPR. BY	DATE

REV.	APPR. BY	DATE

	<b>TRANSITION STRUCTURE No. 1</b> PIPE TO BOX		STANDARD PLAN 2002
	DRAWN: STAFF	CKD.: STAFF <i>LB</i>	APPR. <i>Granville M. Bowman</i> Granville M. Bowman