

**GENERAL NOTES**

Grated Culvert End Sections shall be constructed according to the requirements for end sections of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Grated Culvert End Sections of the pipe diameter specified.

Number of sections shown in Elevation is for example only. Length and number of precast sections required to construct Grated Culvert End Sections shall be determined by the Contractor and indicated in the shop drawings. Joints between precast sections shall be produced with reinforced tongue and groove ends conforming to the requirements of ASTM C 1577.

See roadway plans for embankment slope (V:H) and pipe I.D.

1"  $\phi$  anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. All anchor rods in a culvert tie assembly shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

Alternate culvert ties similar in strength and stiffness to the plan details may be provided by the Contractor. Alternate culvert ties shall be subject to approval of the Engineer.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Grated Culvert End Sections of the pipe diameter specified.

Reinforcement bars designated (E) shall be epoxy coated.

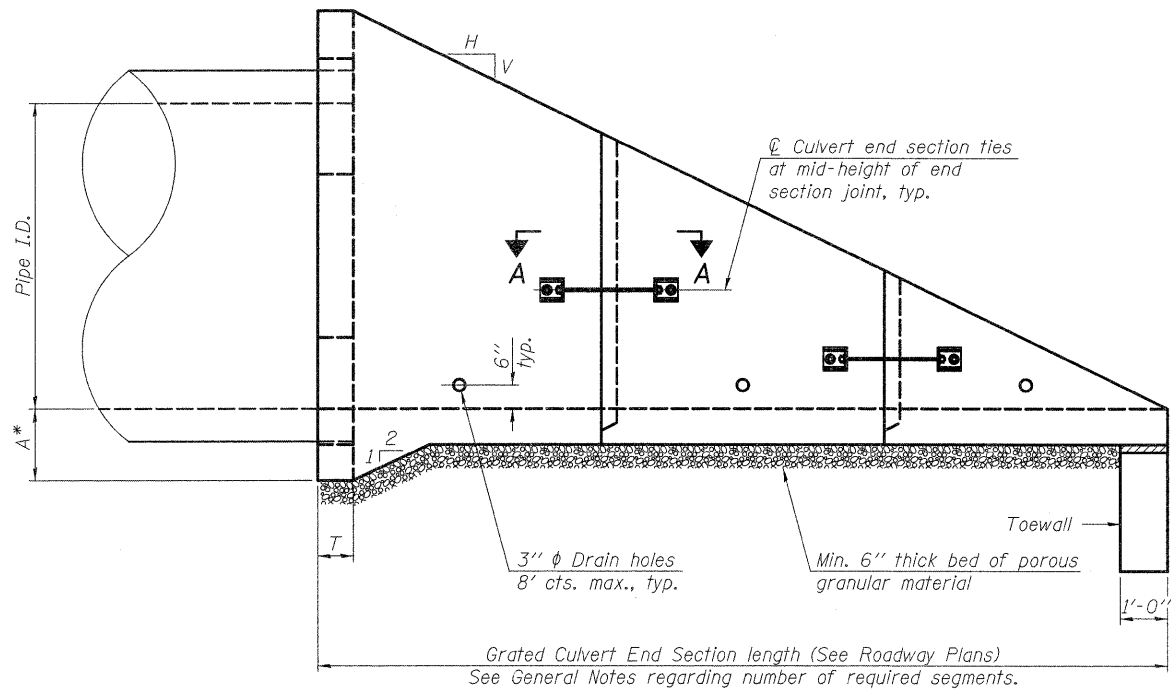
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval. Unless noted otherwise, reinforcement shall be detailed with a 1" concrete cover and a clear distance at the end of the reinforcement not less than 1/2" nor more than 2".

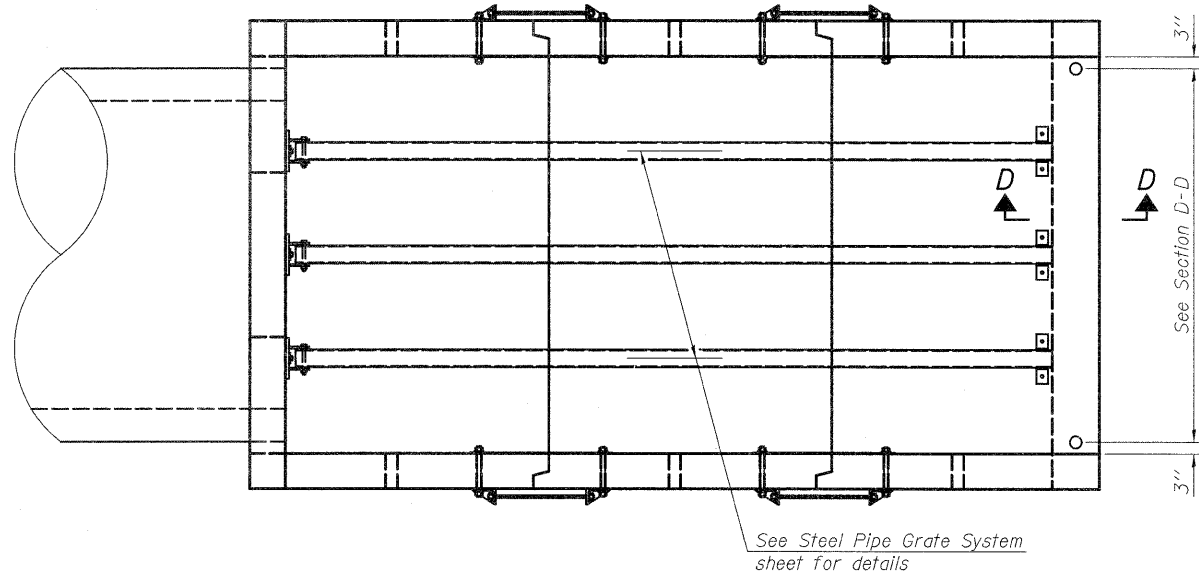
Unless noted otherwise, concrete shall be class PC and shall have a minimum compressive strength of 5000 psi at 28 days.

The Contractor may construct all or a portion of the end section in the field using cast-in-place (CIP) construction.

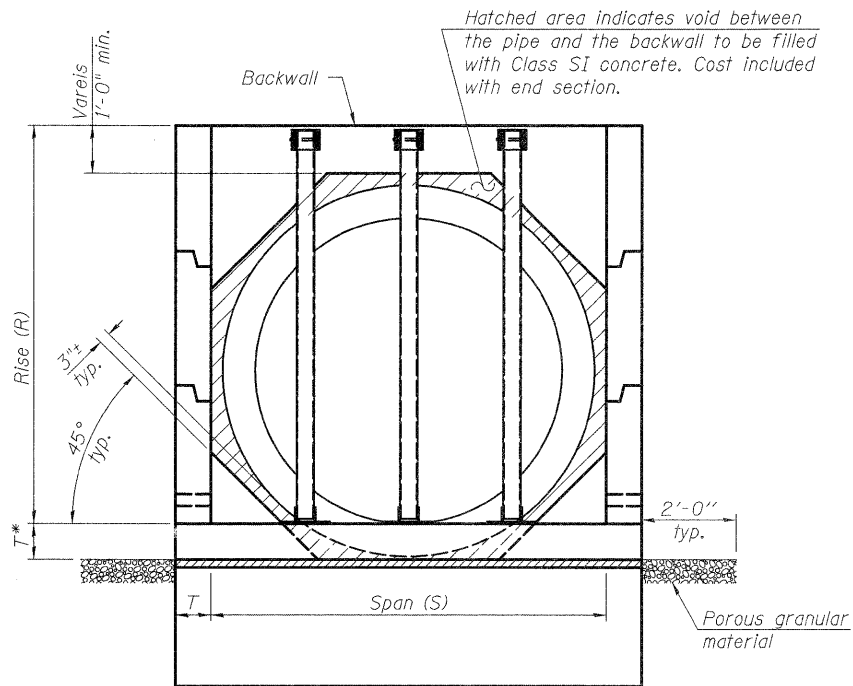


**ELEVATION**

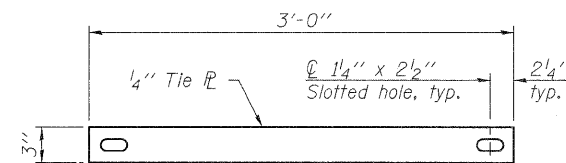
\* This dimension shall be increased by 2" for CIP field construction. See General Notes.



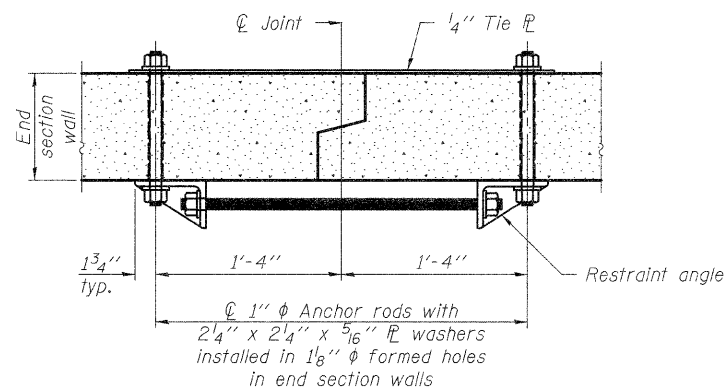
**PLAN**



**END VIEW**

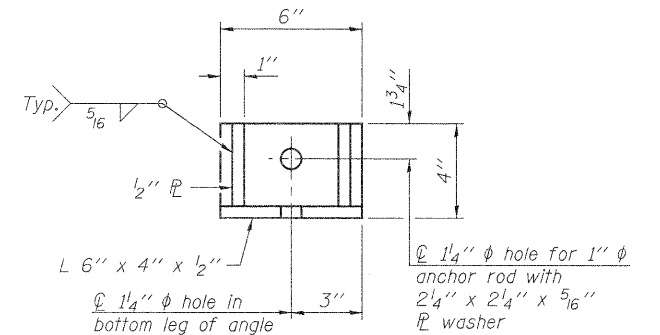


**TIE PLATE DETAIL**



**SECTION A-A**

(Showing end section tie details)



**RESTRAINT ANGLE DETAIL**

**PIPE CULVERT END SECTION DIMENSIONS**

Pipe I.D.	A	R	S	T
42"	1'-5"	5'-3"	5'-0"	8"
48"	1'-5"	5'-9"	5'-6"	8"
54"	1'-6"	6'-4"	6'-2"	8"
60"	1'-6"	6'-10"	6'-8"	8"
66"	1'-7"	7'-5"	7'-4"	8"
72"	1'-7"	7'-11"	7'-10"	8"
78"	1'-8"	8'-6"	8'-6"	8"
84"	1'-9"	9'-0"	9'-0"	9"

6-28-11

(Sheet 1 of 3)

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PRECAST CULVERT END SECTIONS WITH PIPE GRATES</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE =	CHECKED -	REVISOR -	*			(19,20)RS-2	**	231	59	
PLOT DATE =	DRAWN -	REVISOR -								
	CHECKED -	REVISOR -								
						SHEET NO. 1 OF 3 SHEETS		CONTRACT NO. 64D72		
						ILLINOIS FED. AID PROJECT				

\* 221.213 & 220

\*\* ROCK ISLAND & MERCER COUNTY