

1. For square or rectangular precast drainage structures, either deformed or smooth welded wire fabric may be used provided:
 - a) The smooth welded wire fabric shall comply with astm a-185, and deformed welded wire fabric shall comply with astm a-497.
 - b) Width and length of the unit is four times the spacing of the cross wires.
 - c) Wire fabric shall be continuous around the box, spliced at quarter point(s) with overlap of not less than the spacing of the cross wires plus two inches.
2. Horizontal steel in the walls of rectangles structures shall be lapped a minimum of 24 bar diameter at corners.
3. Welding of splices and laps is permitted. The requirements and restrictions placed on welding in AASHTO M-259 shall apply.
4. Rebar straight end embedment or peripheral reinforcement may be used in lieu of ACI standard hooks for top and bottom slabs except when hooks are specifically called for in plans or standard drawings.
5. Concrete which meets the requirements of ASTM C-478 shall be used for structures constructed to these details.
6. Reinforcement can be either deformed bar reinforcement or welded wire fabric. Bar reinforcement other than 40 KSI may be used, however only two grades are recognized: Grade 40 and Grade 60. Welded wire fabric, including deformed welded wire fabric, will be recognized as having a design strength of 65 KSI. The area of reinforcement required may be reduced in accordance with the Equivalent Steel Area Table provided. For bars and spacing not given, the steel area required can be determined by the following equations:

$$\text{Grade 60 Steel Area} = A_s 60 = 40k/60k \times A_s 40$$

$$\text{Welded Wire Fabric Steel Area} = A_s 65 = 40k/65k \times A_s 40$$

In no case will fabric with wires smaller than W3.1 or spacing greater than 8" be permitted. Bar reinforcement shall show the minimum yield designation grade mark of either the number 60 or one (1) grade mark line to be acceptable at the higher value. Maximum bar spacing shall not be greater than two (2) times the slab thickness with a maximum spacing shall not be the wall thickness, with a maximum spacing of 18".

EQUIVALENT STEEL AREA TABLE					
GRADE 40 REINFORCING BAR		EQUIVALENT GRADE 60 REINFORCING BAR		EQUIVALENT 65 KSI WELDED WIRE FABRIC	
Bar Size & Spacing	Steel Area	Bar Size & Spacing	Min Steel Area	Style Designation	Min Steel Area
#4 @ 12" CCEW	0.20	#3 @ 9½" CCEW	.1333	3" x 3" - W3.1 x W3.1 or 4" x 4" - W4.5 x W4.5 or 6" x 6" - W6.5 x W6.5	.1230
#4 @ 9" CCEW	0.20	#3 @ 13½" CCEW or #3 @ 7" CCEW	.1778	3" x 3" - W3.1 x W3.1 or 4" x 4" - W5.5 x W5.5 or 6" x 6" - W8.5 x W8.5	.1641
#6 @ 6" CCEW	0.20	#3 @ 9½" CCEW or #6 @ 9" CCEW	.5867	4" x 4" - W20 x W20 or 6" x 6" - W30 x W30	.5415
#7 @ 6" CCEW	0.20	#3 @ 6½" CCEW or #7 @ 9" CCEW	.80	4" x 4" - W26 x W26	.7385

NOTES FOR MANHOLES & INLETS	<i>CITY OF JACKSONVILLE STANDARD</i>	N.T.S.	PLATE D-107
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