

**Part 3 - Manufacturing Tolerances**

PRODUCT		Dimensional Tolerances (H,L,W)	Rebar Spacing (in.)	Lateral Rebar Location (in.)	Top & Bottom Slab Thickness (in.)	Wall Thickness (in.)	Concrete Cover <sup>5</sup> (in.)
<b>DRY CAST</b>	Round Pipe - Diameter ≤ 30"	± 1/2 in	NA	NA	NA	-3/16 in.	1/2" min.
	Round Pipe - Diameter ≥ 36"	± 1/2 in	NA	NA	NA	5% <sub>4</sub>	1/2" min.
	Arch Pipe - < 26 5/8" x 43 3/8"	± 1/2 in	NA	NA	NA	5% <sub>4</sub>	1/2" min.
	Arch Pipe - ≥ 26 5/8" x 43 3/8"	± 1/2 in	NA	NA	NA	5% <sub>4</sub>	1/2" min.
	Elliptical Pipe - < 29" x 45"	± 1/2 in	NA	NA	NA	-3/16 in	1/2" min.
	Elliptical Pipe - ≥ 29" x 45"	± 1/2 in	NA	NA	NA	5% <sub>4</sub>	1/2" min.
<b>WET CAST</b>	Manholes/Lid	± 1/2 in	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	-3/8" ≤ D ≤ 1" <sub>1</sub>	Design- 1/2 in. <sub>2</sub>
	Catchbasins/Lid	± 1/2 in	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	-3/8" ≤ D ≤ 1" <sub>1</sub>	Design- 1/2 in. <sub>2</sub>
	Junction Box/Lid	± 1/2 in	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	-3/8" ≤ D ≤ 1" <sub>1</sub>	Design- 1/2 in. <sub>2</sub>
	Spring Box/Lid	± 1/2 in	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	-3/8" ≤ D ≤ 1" <sub>1</sub>	Design- 1/2 in. <sub>2</sub>
	Structural Spans	± 1/2 in <sub>3</sub>	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	± 1/2 in	Design- 1/2 in. <sub>2</sub>
	Box Culverts	± 1/2 in	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	-3/8" ≤ D ≤ 1" <sub>1</sub>	Design- 1/2 in. <sub>2</sub>
	Endwalls	± 1/2 in	±1.5 in.	± 1/2 in	-3/8" ≤ D ≤ 1" <sub>1</sub>	-3/8" ≤ D ≤ 1" <sub>1</sub>	Design- 1/2 in. <sub>2</sub>
	Noise and retaining wall panels	± 1/2 in	±1.5 in.	± 1/2 in	NA	NA	Design- 1/2 in.

1 - Shall not be less than 3/8" of design nor more than 1" greater than design

2- Minor Error : Actual concrete cover greater than or equal to the designed concrete cover minus 1 inch.

Major Error: Actual concrete cover less than the designed concrete cover minus 1 inch.

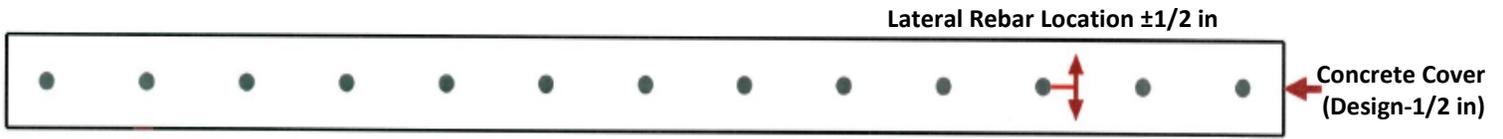
3 - For length of beams: Computed Elastic Shortening ± 1/2"

4 - Not more than 5% less than the specified wall thickness

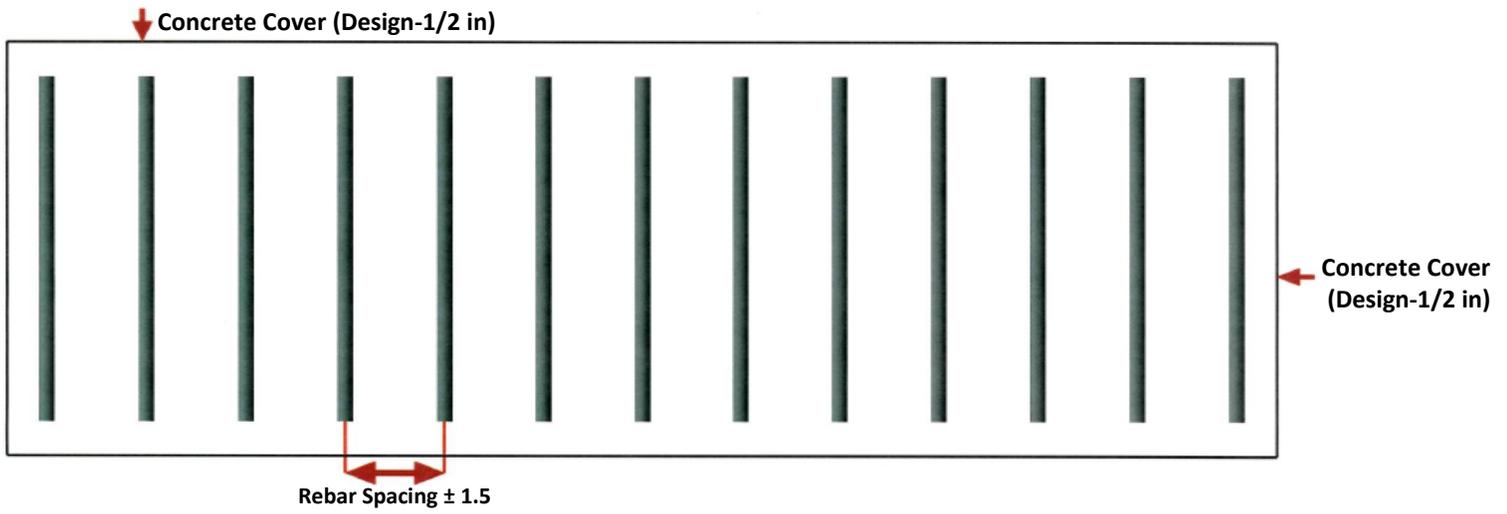
5 - Concrete cover does not include the lid. Anything less than 1" of concrete cover for lids constitutes a major error.

**NOTE: All errors in excess of two times these allowable tolerances are considered major errors and qualify for rejection.**

### TOP VIEW



### FRONT VIEW



### ISOMETRIC VIEW

