

**PRELIMINARY DESIGN. NOT FOR CONSTRUCTION.**

**UNIT BASE FOUNDATION SUMMARY**

**Yotta Services LLC**  
**Cyrusone, IL**

**U- 38.0 300**  
**Quote- 560894-02**

v 4.7

Foundation Dimensions	
Pad width, <b>W:</b>	<b>45.00</b> ft
Depth, <b>D:</b>	<b>7.00</b> ft
Ext. above grade, <b>E:</b>	<b>0.50</b> ft
Pier diameter, <b>d<sub>p</sub>:</b>	<b>3.00</b> ft
Pad thickness, <b>T:</b>	<b>1.50</b> ft
Depth neglected, <b>N:</b>	<b>7.00</b> ft
Volume, <b>V<sub>o</sub>:</b>	<b>117.21</b> cy

Reinforcement Design	
<b>pad rebar qty., m<sub>p</sub>:</b>	<b>57</b> bars *
size, <b>s<sub>p</sub>:</b>	<b>7</b>
<b>pier vertical qty, m<sub>v</sub>:</b>	<b>15</b> verticals/pier
size, <b>s<sub>v</sub>:</b>	<b>8</b> 2.5' cage
<b>pier tie qty., m<sub>t</sub>:</b>	<b>14</b> ties/pier
size, <b>s<sub>t</sub>:</b>	<b>4</b> default hook

\* Rebar to be equally spaced, both ways, top & bottom, for a total of 228 bars  
\* Use standees to support top rebar above bottom rebar in mat

Foundation Loading		
	stress ratio: 99.9%	mark up: 0.1%
Shear (Per Leg), <b>S<sub>i</sub>:</b>	46.00 kips	x 1 = 46.05 kips
Shear (total), <b>S:</b>	73.00 kips	x 1 = 73.07 kips
Moment, <b>M:</b>	13410.00 ft-kips	x 1 = 13423.41 ft-kips
Compression/Leg, <b>C:</b>	435.00 kips	x 1 = 435.44 kips
Uplift/Leg, <b>U:</b>	352.00 kips	x 1 = 352.35 kips
Tower Weight, <b>W<sub>t</sub>:</b>	90.00 kips	= 90.00 kips

Soil Information Per:
Assumed as Clay Per TIA-222-G Annex F.

Soil Parameters	
Soil unit weight, <b>γ:</b>	<b>110</b> pcf
Ultimate Bearing, <b>B<sub>c</sub>:</b>	<b>9.000</b> ksf
Cohesion, <b>C<sub>o</sub>:</b>	<b>1.000</b> ksf
Friction angle, <b>φ:</b>	<b>0.0</b> degrees
Ult. Passive P., <b>P<sub>p</sub>:</b>	<b>0.396</b> pcf
Base sliding, <b>μ:</b>	<b>0.20</b>
Seismic Design Cat.:	<b>B</b>
Water at:	<b>none</b> ft

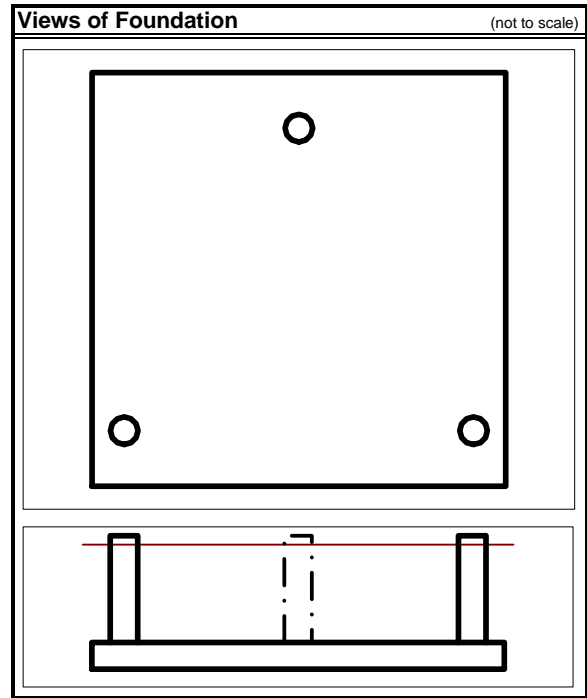
Anchor Steel Selection	
Part Number, <b>P/N:</b>	<b>282819</b> <small>Dia = 1.5 Length = 60"</small>

Material Properties	
Steel tensile str, <b>F<sub>y</sub>:</b>	<b>60000</b> psi
Conc. Comp. str, <b>F'<sub>c</sub>:</b>	<b>4500</b> psi
Conc. Density, <b>δ:</b>	<b>150</b> pcf
Clear cover, <b>cc:</b>	<b>3.00</b> in

Backfill Compaction	
Lift thickness:	<b>12</b> in
Compaction:	<b>97</b> %
Standard Proctor:	<b>ASTM D698</b>

**Tower design conforms to the following:**  
\* International Building Code (IBC)  
\* ANSI TIA-222-G  
\* Building Code Requirements for Reinforced Concrete (ACI 318-14)

**Note: The centroid of the tower is offset from the centroid of the foundation**



**Additional Notes:**

- \* No foundation modifications listed.
- \* No foundation notes given.