**Strength Meets Flexibility**

The IronRidge Ground Mount System supports a wide adjustment of tilt angle, foundation size and depth, and module size. These variables can be quickly optimized for cost and performance using the online Design Assistant tool.

One of the most critical engineering variables is the array size. For example, using 5-high columns in landscape significantly increases the number of modules per pier compared to 4-high columns, saving on pipe or mechanical tubing, and concrete.

**Concrete Foundations**
Concrete foundations allow for the largest possible spans and highest lateral force bearing, which eliminates the need for cross bracing.

**Compatible with Soil Classes 2-4**

The size of Ground Mount foundations depends on a number of factors, including column height and site loading conditions. Stronger and sturdier soil classes (Class 2 and Class 3) allow for reduced foundation depth, saving on materials and labor.

**Steel Substructure**

Multiple pipe and mechanical tubing size options help to optimize cost. The 3” option can increase East-West spans up to 18 feet, greatly reducing the number of piers and material required.

**XR1000 Rail**

The curved shape of XR1000 increases vertical and lateral strength, while also resisting bending and twisting. Modules are attached using familiar top-down clamps or under clamps.

**Wide Tilt Angle Range (0-45 Degrees)**

Lower tilt angles are an effective way of reducing wind loads on ground mount structures, resulting in increased East-West pipe spans and reduced number of foundations. Refer to table on backside to see how tilt angle affects spans.
Substructure Selection

Ground Mount uses locally-sourced galvanized schedule 40 steel pipe (ASTM A53 Grade B, 35 ksi) or Allied mechanical tubing (2” – 50 ksi, 3” – 45 ksi) to reduce shipping costs. Mechanical tubing is lighter and can be easier to couple when building the substructure.

2” Pipe/Tubing

Ideal for residential use.
Easier to handle.
Smaller foundations.

Wall Thickness
0.154” (Pipe)
0.109” (Allied)

Outside Diameter 2.375”

3” Pipe/Tubing

More attractive for commercial use.
Capable of spanning up to 18’.
Greatly reduces number of piers.

Wall Thickness
0.216” (Pipe)
0.165” (Allied)

Outside Diameter 3.5”

Refer to the following table to see how size impacts the East-West span between foundations. The table complies with ASCE 7-10 structural code. Values are based on 72-cell modules in Wind Exposure Category B.

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<thead>
<tr>
<th>Conditions</th>
<th>Snow</th>
<th>Height</th>
<th>Tilt</th>
<th>Wind (MPH)</th>
<th>4’</th>
<th>6’</th>
<th>8’</th>
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<th>12’</th>
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</table>

2” Pipe/Tubing

3” Pipe/Tubing

*Requires Diagonal Bracing

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