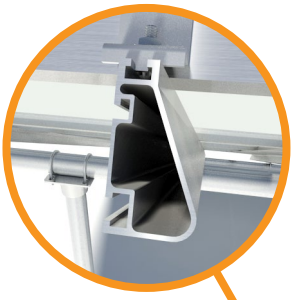
Tech Brief

Ground Mount Configurations

Strength Meets Flexibility

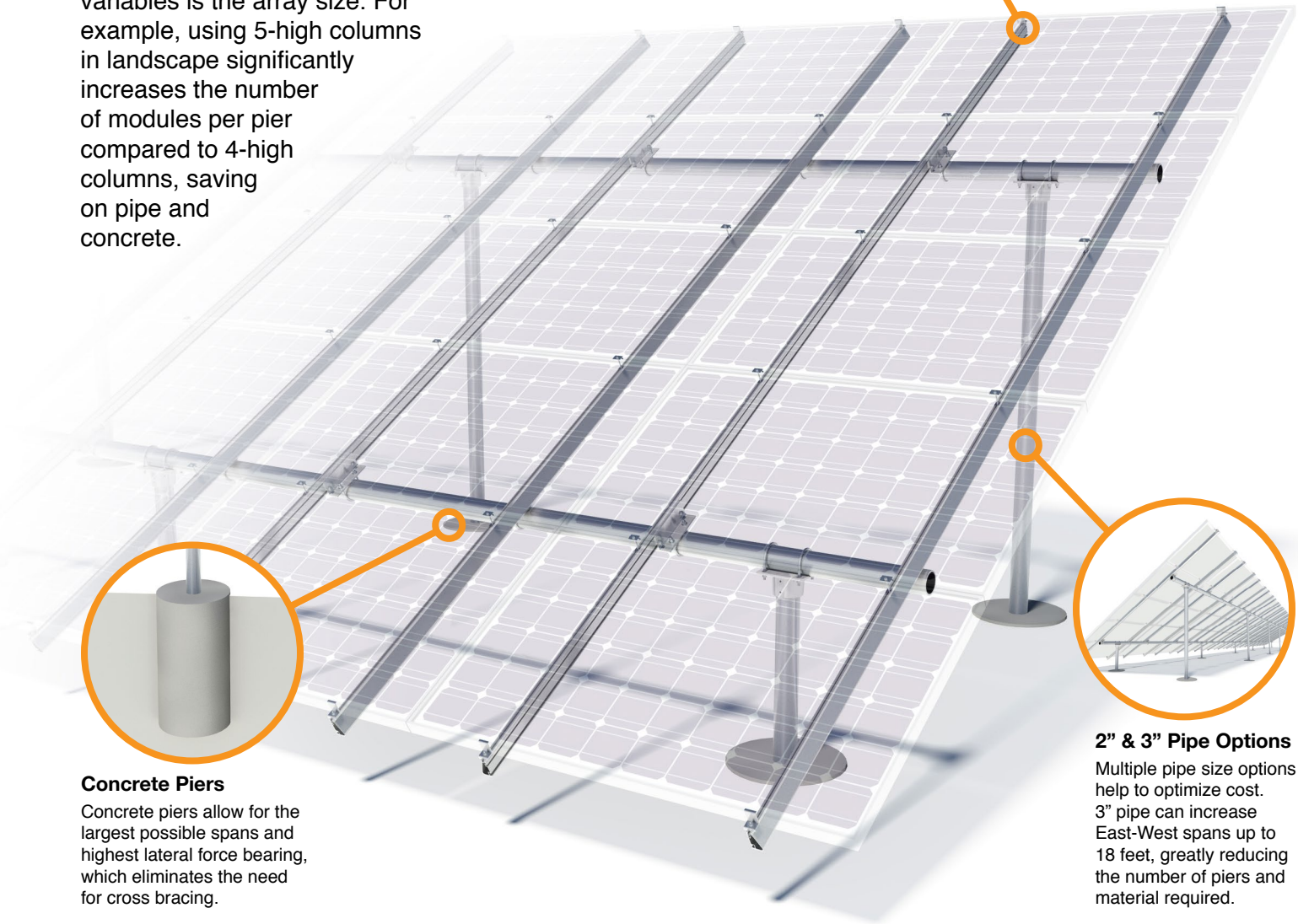
The IronRidge Ground Mount System supports wide adjustment of tilt angle, foundation size and depth, and module size. These variables can be quickly optimized for cost and performance using the online Design Assistant tool.

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 and concrete.



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.



Concrete Piers

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

2” & 3” Pipe Options

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

Compatible with Soil Classes 2-4

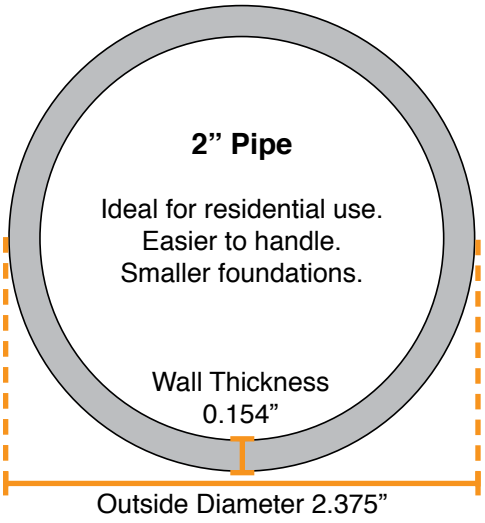
The size of Ground Mount foundations depends on a number of factors, including column height and site loading conditions. Stronger and sturdier soil classes (Class 2 and Class 3) allow for reduced foundation depth, saving on materials and labor.

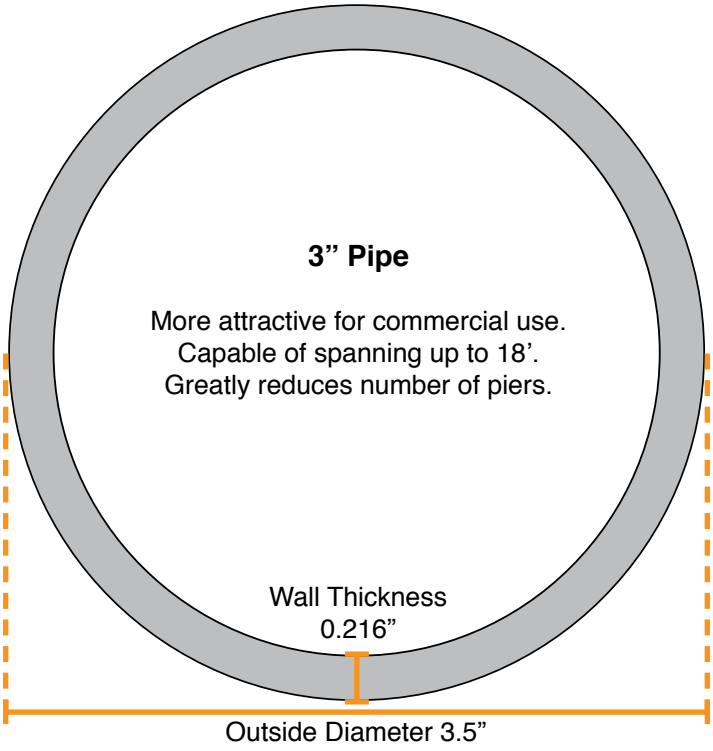
Wide Tilt Angle Range

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 pipe spans.

Pipe Selection

Ground Mount uses locally-sourced schedule 40 steel pipe (ASTM A53 Grade B) to reduce shipping costs. These full-size cross sections show how it is measured.





Refer to the following table to see how pipe 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.

Conditions				E-W Pipe Span							
Snow	Height	Tilt	Wind (MPH)	4’	6’	8’	10’	12’	14’	16’	18’
0 PSF	4-High	10°	100								
			120								
			140								
		30°	100			*					
			120	*	*						
			140	*	*						
	5-High	10°	100	2” Pipe			3” Pipe				
			120								
			140								
		30°	100		*	*					
			120	*	*						
30 PSF	4-High	10°	100								
			120								
			140								
		30°	100		*						
			120	*	*						
			140	*	*		*				
	5-High	10°	100								
			120								
			140								
		30°	100		*						
			120	*	*						

*Requires Diagonal Bracing

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