

# ReCon Series 50 Standard Design Charts

## Geogrid Reinforced Walls

- Assumes an allowable geogrid reinforcement design strength of 21.8 kN/m. Check with ReCon for Grid types that have been tested for pull-out connection.

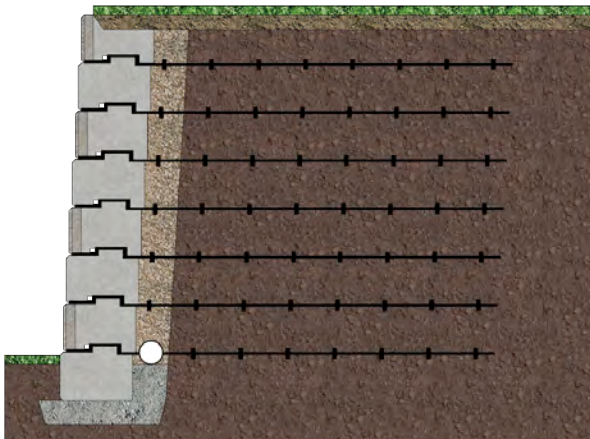
- 3.6° Batter
- No Slope
- No Surcharge

Geogrid Walls		Wall Elevation															
Soil Phi Angle	Wall Height (m)		0.4m	0.8m	1.2m	1.6m	2.0m	2.4m	2.8m	3.2m	3.6m	4.0m	4.4m	4.8m	5.2m	5.6m	
26°	2.4m	Grid Length	2.4m	n/a	2.4m	n/a	2.4m										
	2.8m		n/a	2.7m	n/a	2.7m	n/a	2.7m									
	3.2m		3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m								
	3.6m		3.0m	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m							
	4.0m		3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m						
	4.4m		3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m					
	4.8m		3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m				
	5.2m		3.9m	3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m			
	5.6m		4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	n/a	4.2m	n/a	4.2m	n/a	4.2m	n/a	4.2m
	6.0m		4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	n/a	4.5m	n/a	4.5m	n/a	4.5m	n/a
30°	2.4m	Grid Length	2.1m	n/a	2.1m	n/a	2.1m										
	2.8m		n/a	2.4m	n/a	2.4m	n/a	2.4m									
	3.2m		2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m								
	3.6m		n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m							
	4.0m		3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m						
	4.4m		3.0m	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m					
	4.8m		3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m				
	5.2m		3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m			
	5.6m		3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m
	6.0m		3.9m	3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m	n/a
34°	2.4m	Grid Length	1.8m	n/a	1.8m	n/a	1.8m										
	2.8m		n/a	2.1m	n/a	2.1m	n/a	2.1m									
	3.2m		2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m								
	3.6m		n/a	2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m							
	4.0m		2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m						
	4.4m		n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m					
	4.8m		3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m				
	5.2m		n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m			
	5.6m		3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m
	6.0m		3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a

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**Notes:**

- Minimum factors of safety for overturning, sliding and bearing are 1.5, 1.5 and 2.0 respectively. Global stability has not been addressed in this chart.
- The information in the above chart assumes that the soil phi angle is the same for both the foundation and the retained soils.
- Design as per NCMA standards / Design Manual for Segmental Retaining Walls (2nd Ed) with the exception that the soil pressure is derived using a Rankine Analysis.
- The information in the above chart assumes that the retained soil has a weight of 1922 kg / m<sup>3</sup>.
- Installation shall follow ReCon Installation Instructions and any additional instruction or guidance provided as a part of the final engineered stamped and site specific plans.



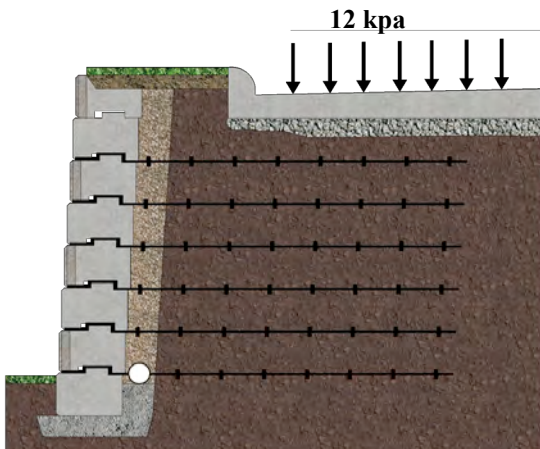
# ReCon Series 50 Standard Design Charts

## Geogrid Reinforced Walls

• Assumes an allowable geogrid reinforcement design strength of 21.8 kN/m. Check with ReCon for Grid types that have been tested for pull-out connection.

• 3.6° Batter  
 • 12 kpa Surcharge  
 (1m behind wall face)

Geogrid Walls		Wall Elevation													
Soil Phi Angle	Wall Height (m)	0.4m	0.8m	1.2m	1.6m	2.0m	2.4m	2.8m	3.2m	3.6m	4.0m	4.4m	4.8m	5.2m	5.6m
<b>26°</b>	2.4m	3.0m	n/a	3.0m	n/a	3.0m									
	2.8m	3.0m	3.0m	n/a	3.0m	n/a	3.0m								
	3.2m	3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m							
	3.6m	3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m						
	4.0m	3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m					
	4.4m	3.9m	3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m				
	4.8m	4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	n/a	4.2m	n/a	4.2m			
	5.2m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	4.5m	n/a	4.5m	n/a	4.5m		
	5.6m	4.8m	4.8m	4.8m	4.8m	4.8m	4.8m	4.8m	4.8m	4.8m	n/a	4.8m	n/a	4.8m	
	6.0m	5.2m	5.2m	5.2m	5.2m	5.2m	5.2m	5.2m	5.2m	5.2m	5.2m	n/a	5.2m	n/a	5.2m
<b>30°</b>	2.4m	2.4m	n/a	2.4m	n/a	2.4m									
	2.8m	n/a	2.4m	n/a	2.4m	n/a	2.4m								
	3.2m	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m							
	3.6m	3.0m	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m						
	4.0m	3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m					
	4.4m	3.3m	3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m				
	4.8m	3.6m	3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m			
	5.2m	3.9m	3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m		
	5.6m	3.9m	3.9m	3.9m	3.9m	3.9m	3.9m	3.9m	n/a	3.9m	n/a	3.9m	n/a	3.9m	
	6.0m	4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	4.2m	n/a	4.2m	n/a	4.2m	n/a	4.2m
<b>34°</b>	2.4m	2.1m	n/a	2.1m	n/a	2.1m									
	2.8m	n/a	2.1m	n/a	2.1m	n/a	2.1m								
	3.2m	2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m							
	3.6m	n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m						
	4.0m	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m					
	4.4m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m				
	4.8m	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m			
	5.2m	3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m		
	5.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	
	6.0m	3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m



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**Notes:**

1. Minimum factors of safety for overturning, sliding and bearing are 1.5, 1.5 and 2.0 respectively. Global stability has not been addressed in this chart.
2. The information in the above chart assumes that the soil phi angle is the same for both the foundation and the retained soils.
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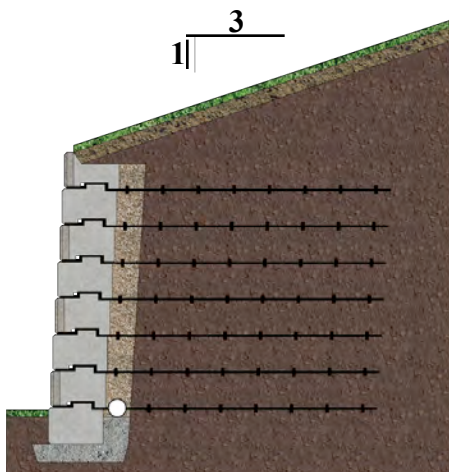
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- 3.6° Batter
- 3:1 Slope
- No Surcharge

Geogrid Walls		Wall Elevation															
Soil Phi Angle	Wall Height (m)		0.4m	0.8m	1.2m	1.6m	2.0m	2.4m	2.8m	3.2m	3.6m	4.0m	4.4m	4.8m	5.2m	5.6m	
<b>26°</b>	2.4m	<b>Grid Length</b>	2.1m	n/a	2.1m	n/a	2.1m										
	2.8m		2.4m	2.4m	n/a	2.4m	n/a	2.4m									
	3.2m		2.7m	2.7m	2.7m	n/a	2.7m	n/a	2.7m								
	3.6m		3.3m	3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m							
	4.0m		4.2m	4.2m	4.2m	4.2m	4.2m	n/a	4.2m	n/a	4.2m						
	4.4m		5.2m	5.2m	5.2m	5.2m	5.2m	5.2m	n/a	5.2m	n/a	5.2m					
	4.8m		6.0m	6.0m	6.0m	6.0m	6.0m	6.0m	6.0m	n/a	6.0m	n/a	6.0m				
	5.2m		6.7m	6.7m	6.7m	6.7m	6.7m	6.7m	6.7m	6.7m	n/a	6.7m	n/a	6.7m			
	5.6m		7.6m	7.6m	7.6m	7.6m	7.6m	7.6m	7.6m	7.6m	7.6m	n/a	7.6m	n/a	7.6m		
	6.0m		8.2m	8.2m	8.2m	8.2m	8.2m	8.2m	8.2m	8.2m	8.2m	8.2m	n/a	8.2m	n/a	8.2m	
<b>30°</b>	2.4m	<b>Grid Length</b>	1.8m	n/a	1.8m	n/a	1.8m										
	2.8m		n/a	2.1m	n/a	2.1m	n/a	2.1m									
	3.2m		2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m								
	3.6m		2.4m	2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m							
	4.0m		2.7m	2.7m	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m						
	4.4m		3.0m	3.0m	3.0m	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m					
	4.8m		3.0m	3.0m	3.0m	3.0m	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m				
	5.2m		3.3m	3.3m	3.3m	3.3m	3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m			
	5.6m		3.6m	3.6m	3.6m	3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m		
	6.0m		3.6m	3.6m	3.6m	3.6m	3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	
<b>34°</b>	2.4m	<b>Grid Length</b>	1.8m	n/a	1.8m	n/a	1.8m										
	2.8m		n/a	1.8m	n/a	1.8m	n/a	1.8m									
	3.2m		2.1m	n/a	2.1m	n/a	2.1m	n/a	2.1m								
	3.6m		n/a	2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m							
	4.0m		2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m	n/a	2.4m						
	4.4m		n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m	n/a	2.7m					
	4.8m		3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m	n/a	3.0m				
	5.2m		3.3m	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m	n/a	3.3m			
	5.6m		3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m		
	6.0m		3.6m	3.6m	3.6m	3.6m	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m	n/a	3.6m



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