

Gravity 101: A Short Course on the Force behind the Wall

Before building a retaining wall, it's important to recognize the role gravity plays in successful wall construction. That's because gravity, the unseen force that attracts mass to the surface of the earth, can make or break your wall.

According to Mike Simac, principal author of the National Concrete Masonry Association's Segmental Retaining Wall Installation Guide, every wall must harness the forces of gravity to create stability.

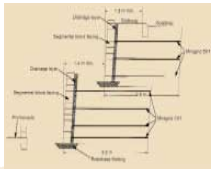
"A common misconception," notes Simac, "is that a soil-reinforced wall is fundamentally different than a 'conventional gravity wall' constructed with block alone. All segmental retaining walls are gravity walls, relying on a combination of mechanical interlock and mass or weight for stability. Reinforced walls use layers of synthetic soil reinforcements such as geotextiles or geogrids to create a gravity mass extending back behind the wall, giving strength and stability to the whole structure."

In the case of smaller segmental retaining walls, block alone may be heavy and wide enough to do

product while successfully meeting their exacting color requirements." Pioneer Contracting built the wall using Miragrid™ polyester geogrids as soil reinforcement elements and Anchor Vertica® segmental blocks as facing elements. The geogrid and soil reinforcement techniques made it possible to erect the multi-tiered wall on top of the existing sand foundation for an easy, cost-effective solution. To combat the extreme conditions of salt water, a marine cement proven to be durable in coastland environments was specified in the manufacture of the Anchor blocks.



Miragrid™ polyester geogrids serve as the soil reinforcement elements to strengthen and stabilize the Anchor Vertica® wall.



This cross-section shows the engineering of the Monterey Wall by Maccoferri for the construction of a multi-tiered segmental retaining wall along Australia's Botany Bay.

The completed wall is heavily landscaped with plants, maintaining the indigenous beauty that impressed Cook and his crew in the late 1700s. As to the wall's performance, Smith noted, "The council was exceedingly pleased — so much so that they have decided to extend the wall into an adjacent area of the park."