

Case Study – Playground Expansion



Location: Grand Rapids, Michigan
Product: Classic® 8
Manufacturer: Consumers Concrete - South Haven, Michigan
Design Engineer: Walltek - Clarkston, Michigan
Contractor: Walltek - Clarkston, Michigan
Total Area: 32,000 sq. ft. (2,973 sq. m), 42 ft. high (13m)

Design Challenge:

To contain a 50' (15m) high slope which was historically subject to soil erosion, an SRW was chosen to maximize the land space at Knapp Forest Elementary School in Grand Rapids, Michigan. Zoning required that much of the donated land remain untouched to protect a "green belt" between the school property and public land.

Design Solution:

Rockwood Retaining Walls' Classic® 8 was the block chosen for this formidable SRW project. Covering one square foot per block, Classic® 8 was the most sensible and efficient solution for the 32,000 sq. ft. (2,973 sq. m) needed to surround the perimeter of the school. The final design utilized a series of tiered walls which met the "green belt" requirement set forth by the zoning commission. Each tier measures 7' (2m) in height and is spaced 5' (1.5m) apart, as independent walls. At one section of the wall, the total wall height is an impressive 42' (12.8m).



Soils on site were mostly sand, which made the actual removal of the native soil easy. However, extensive excavation was required to accommodate grid layers that would extend back approximately 40' (12.1m) behind the wall face, near the bottom of the wall. The biggest concern was the global stability issue that would develop as a result of seven multiple tiers being constructed on the project site. Careful consideration was given to these individual walls, as there was no room for error. The multi-tiered walls would not only retain the slope; they would also provide additional space for recreational play structures at the foot of the wall. Public safety was a higher than normal concern, so the walls were designed and engineered to exceed normal performance requirements.

The Result:

Regarded as the biggest retaining wall in the Midwest, the Knapp Forest Elementary School project demonstrates the performance of a Rockwood wall to retain a significant earth formation, reclaim invaluable space, and ultimately prevent soil erosion.

Classic® 8

Classic® 8 is the high performance block specifically designed for virtually every retaining wall need. The award winning design is preferred by architects, builders, developers, and engineers worldwide. It is known for its ease of installation, strength, and versatility. Whether the wall is supporting a roadway or being built along the shore of a lake, Classic 8 is the best solution for any type of wall application.



Straight or Radius Split

Size: 8" H x 18" W x 12" D
200mm x 450mm x 300mm

Weight: 85 lbs., 39 kg

Appearance

Dependability

Efficiency

ROCKWOOD®
RETAINING WALLS

A better way.™

