

case study: Byrd Park

Pisa2®



project details

wall system	owner	design	manufacturer	installer
Pisa2 with Geogrid Reinforcement	City of Richmond, VA	Landscape Architect: Higgins Associates, Inc. Richmond, VA Structural Engineer: Mr. Mike Matthews, P.E. The Structures Group, Inc.	Custom Concrete, Inc. Williamsburg, VA	Mid Atlantic Retaining Wall Systems, Inc.

>> Water Application



RisiStone®
retaining wall systems

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In 1992, the City of Richmond, VA selected a Pisa2 / Risigrd reinforced retaining wall system to protect the lakefront surrounding a large municipal retention pond. The size of the wall was approximately 6 ft high and 2,350 ft long.

The pond was pumped dry for cleaning and general rehabilitation. A stable footer/leveling pad was constructed to provide a firm foundation for the base course of blocks. Due to the soft foundation in the lake bed, all materials were "handed down" from the top of the excavation using a pair of Skytrack 6036s.

Number 10 manufactured crushed stone was specified as infill material for its high internal angle of friction and compactability properties.

The geogrid specified was Risigrd with a long-term allowable design strength of 541 lbs/ft (ultimate strength = 1,979 lbs/ft). Two six-foot-long layers were required to satisfy minimum factors of safety against failure by sliding, overturning, overstressing, and pullout.

There were 22 pipes which penetrated this wall, ranging from 8 to 36 inch drainage outfalls. The Pisa2 blocks were field-cut to fit snugly around the pipes and the annulus was grouted.

The construction of the wall began on April 11th, 1992 and was completed on May 22nd. Not including rain days, an average of 470 square ft per day was realized. All granular backfill was placed with a Case 621 wheelloader and compacted to 95% Standard Proctor with two Case 900 plate compactors.

This retaining wall adds outstanding aesthetic appeal to this neighbourhood lake. Most importantly, it has stabilized the shoreline against erosion for its 75-100 year design life. The project was completed on time and under budget.

"This wall looks great and is performing better than expected.

We are very pleased."

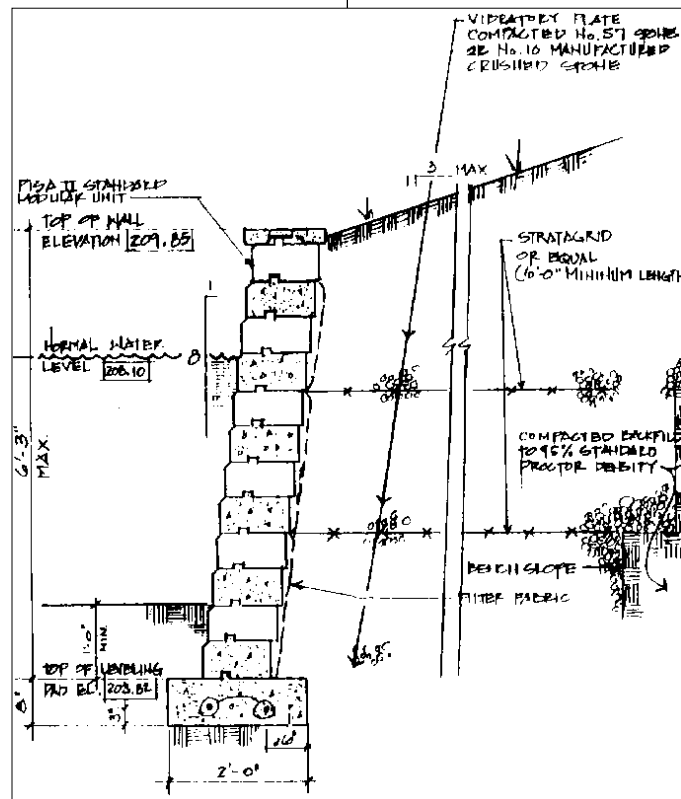
Mr. Saeed Rabie, City Engineer, City of Richmond

"The experience we had on the Byrd Park Project with Risigrd gives us a lot of confidence in its future use for soil reinforcement."

Mr. Bill Spell, ASLA, RLA, Higgins Associates, Inc.

"From the manufacturing and installation aspect, Pisa2 with geogrids are a joy to work with. The solid Pisa2 wall units provide superior strength and durability in comparison to other hollow units available. Their performance will secure much more work for us in this field."

Mr. Bob Swope, Custom Concrete



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