

Boerner Botanical Garden Hales Corners, WI

Installed by Aquascape, Inc. in August 2009

The Boerner Botanical Garden is located in southeastern Wisconsin and is part of the Milwaukee County Parks. The goal of this project is to serve as a functional test site funded by the Milwaukee Metropolitan Sewerage District, (MMSD). The project is designed to capture stormwater runoff generated from the roof of the visitor center, associated parking lot and roadways with a combined surface area of approximately 140,000 square feet, which will generate over 2.5 million gallons of runoff in an average year. The entire system has a capacity of over 35,000 gallons. The incoming storm flows will be intercepted, filtered and the water reused in the landscape while providing habitat for native flora and fauna.

Project Overview:

A portion of stormwater water is intercepted off the roof of the Education and Visitor Center by a series of downspout filters, the water is then directed to a 4,500 gallon reservoir located beneath a 500 square foot Unilock permeable pavement system. The patio has a recirculating rock feature that aids in the aeration of the stored water. The captured water will be re-used for irrigation of the surrounding gardens, as the water is drawn down in the reservoir it is replenished by water from the larger main reservoir using a small transfer pump.



The Education and Visitor Center



Excavating the reservoir for the patio.



Laying liner for the 500 square foot basin.



AquaBlox® D-Raintanks® installed.



Woven geotextile set over AquaBlox® D-Raintanks®



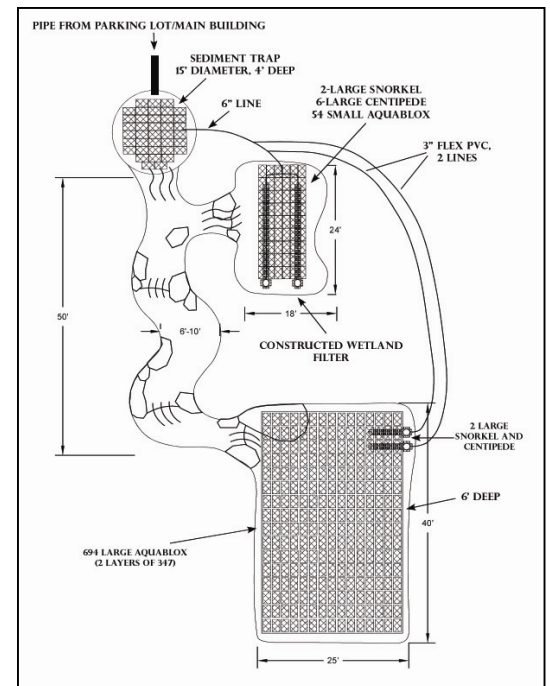
Aggregate layer added before pavers



Laying the permeable pavers

The main 24" storm sewer handling the storm water from the parking lot flows into sediment trap and then continues to flow by gravity downstream through a series of twists, turns and waterfalls all designed to mimic the natural cleansing process found in native rivers and streams.

A 20' x 60' reservoir located at the base of the stream was constructed using 700 AquaBlox® D-Raintank® units, which holds over 23,000 gallons of water. This large reservoir has two submersible pumps that recirculates the water; one through a constructed wetland filter and the other to the sediment trap to continue the cycle. The constructed wetland filter removes fine sediments and nutrients from the water, such as nitrogen and phosphorus, the plant roots extend down into the gravel layers further enhancing the natural action of the bacteria, enzymes and small invertebrates.



Project Blueprint

Public education is a critical component of the Boerner Botanical Garden RainXchange™ stormwater system, as stormwater issues, water quality and conservation programs become more and more important in our growing communities. Interpretative signage throughout the system will help explain to visitors the stormwater systems inner and how we can all do our part to help protect the most precious of all our resources...water.



After

