Perforated pipe connected to catch basic for flow distribution within the cells.

Plastic top cover of the soil cell casings.

Backfilling of the soil cells with high organic content mulch.

Stormwater Performance Evaluation of Soil Cells
City of Toronto - The Queensway Sustainable Sidewalk Pilot Project

Funded by Toronto Water

Duration: 2008-2015

Significance: First sidewalk with Silva cells in the world to examine storm water quality control performance. Redirects storm water run-off to promote healthier trees and shade in urban environments. Reduces storm water flow in the combined storm sewer system.

The Queensway Sustainable Sidewalk Pilot Project was developed in 2008 to manage storm water run-off from the streets in Etobicoke, north side of Queensway between Berl Ave. and Moynes Ave. The working group comprised members from City of Toronto Planning, Forestry, Transportation, Urban Planning, and Toronto Water in collaboration with researchers from Ryerson University. Ryerson University researchers, Drs James Li, Darko Joksimovic and Marija Eric, designed the storm water monitoring program and equipment layout concept before construction. Two sets of soil cells were then installed around existing utilities left in place as part of the project.

Soil samples were collected and processed by Ryerson. Performance is defined by the concentration changes/reductions and mass loading reductions of measured parameters/contaminants in the storm water runoff after passing through the soil cells.

More than 25 rainfall events were monitored in 2014 and 2015. Two rainfall events of different sizes were selected to analyze field monitoring results, a small event on June 12, 2015 and a larger event on June 22-23, 2015. **The results of (small and large) storm event sampling showed improved effluent water, including an average total suspended solids reduction of about 98%, indicating a strong filtration effect of the soil cells.**

Without Stormwater Capture
West Cells

With Stormwater Capture
East Cells

For more information, click here.