

Triton SWS' Quality Runs "Deep" In Toronto Project

The Situation:

Engineers from Terrafix Geosynthetics needed a high-quality, high-strength, high-volume underground stormwater management system to support construction of a 600,000 square-foot retail center in Toronto.

The project demanded a small stormwater footprint with enough capacity to store the runoff from the shopping area and parking lots. Additionally, a system flexible enough to work with the existing site infrastructure, including a storage tank and large diameter underground pipe, was needed.

An added challenge was posed by the fact that the system would need to be strong enough to be buried 24 feet below the surface

Triton SWS' unique double-stack design allowed developers to create 22,000 cubic meters of storage in a $20m \times 70m$ area for a new retail center in Toronto, Canada.

The Solution:

Consultation between Triton Stormwater Solutions' engineering staff and Terrafix Geosynthetics led to the selection of the Triton SWS' unique double-stack configuration. The small-footprint system was able to achieve 22,000 cubic meters of storage in a $20m \times 70m$ area.

The Triton SWS system's flexibility also was critical to the project's success. The "challenge" of the large diameter inlet pipe was turned into an advantage – project engineers used the pipe as a preliminary main header row. Water was gathered in the large pipe and then was fed to smaller Triton SWS Main Header Rows ahead of each distribution row. This allowed sediments to settle out for easy removal through maintenance ports, protecting the distribution rows from debris build-up and the resultant drainage problems from sediment clogs.



Existing infrastructure demanded that the stormwater system be placed very deep -24 feet - fortunately, the Triton SWS chambers' strength accommodated this need easily.



The system also featured an oil separator to remove hydrocarbons from the incoming stormwater, helping to protect water quality.

The Installation:

After initial site preparation, the double-stack of nearly 2,000 Triton SWS Chambers was placed in a day and a half by a crew from Topsite Contracting, Ltd. A PVC non-molded liner and non-woven geotext fabric, along with layers of 2" crushed stone, were also used to support the storage and drainage at the site.

Because of the Triton SWS chambers' strength, the crushed stone could be quickly spread with rock-slinger trucks, reducing the time needed for this phase of the installation by nearly half.

"The strong, lightweight chambers and flexible design options made the Triton System the obvious choice. It provided the storage needed in an efficient, cost-efficient manner — and the ease of installation was a bonus."

- J.J. Breede of Terrafix Geo



The Triton SWS Chambers lightweight design and ease of installation allowed the project team to place nearly $2{,}000$ chambers in less than two days.



A pre-existing large inlet pipe was converted into a preliminary Main Header Row – a solution made possible by Triton SWS' design flexibility.

Triton Stormwater Solutions is the proven, comprehensive solution to stormwater management challenges. On your next project, turn to Triton Stormwater Solutions, the stronger, lighter, larger, greener, easier-to-install, cost-effective stormwater solution. Triton Stormwater Solutions gives you Power Over Water.

