

HOME DEPOT PARKING

FLUSHING, NY

INITIAL CONCERN

A new home improvement store required a cost-saving underground stormwater management system alternate to the originally designed concrete precast system. The engineer desired a shallow underground stormwater system that could be installed under the future parking lot.

Goal

Provide a high void space, cost effective, shallow subsurface stormwater management system that can meet HS-25 loading requirements.

Installation/Solution

The original underground stormwater system design for this project called for a large field of concrete leaching galleys. After reviewing initial pricing from contractors, the project team decided to revisit the design plans and evaluate other potential systems that would be more cost-effective and work better within the shallow cover conditions. R-Tank UD modules were chosen to replace the concrete leaching galleys as they would reduce the total depth of the system while maintaining the load bearing capacity for heavy traffic loads commonly found in parking lots and also provide savings to the owner.

We were involved during the redesign process and provided preassembled modules and on-site assistance during the installation. Prior to the tanks being installed, the area was excavated and regraded. A smooth base layer of stone was then added and leveled to provide a suitable base to put the tanks on. The R-Tank modules were placed on a woven monofilament geotextile, which was placed over the level stone base. Inspection ports were added and horizontal pipe connections were made while the tanks were being placed. The system was then sealed with woven monofilament geotextile. Once the system was sealed, a 12-in stone layer was added to encase the system, followed by a layer of biaxial geogrid prior to pavement being installed over top.



Placement of R-Tank UD modules.



Stone backfill and maintenance ports.

RESULTS

Both the engineer and contractor were thrilled with the rapid installation of the system. The R-Tank UD offered cost savings and installation efficiencies on this tight site both in section and available space.

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ADDITIONAL PHOTOS



Connection of pipes with geotextile boot kits.



Side backfill and geotextile wrap.



Progress of initial 12-in stone cover.

