TRITON
STORMWATER SOLUTIONS

Water Retention Case Study

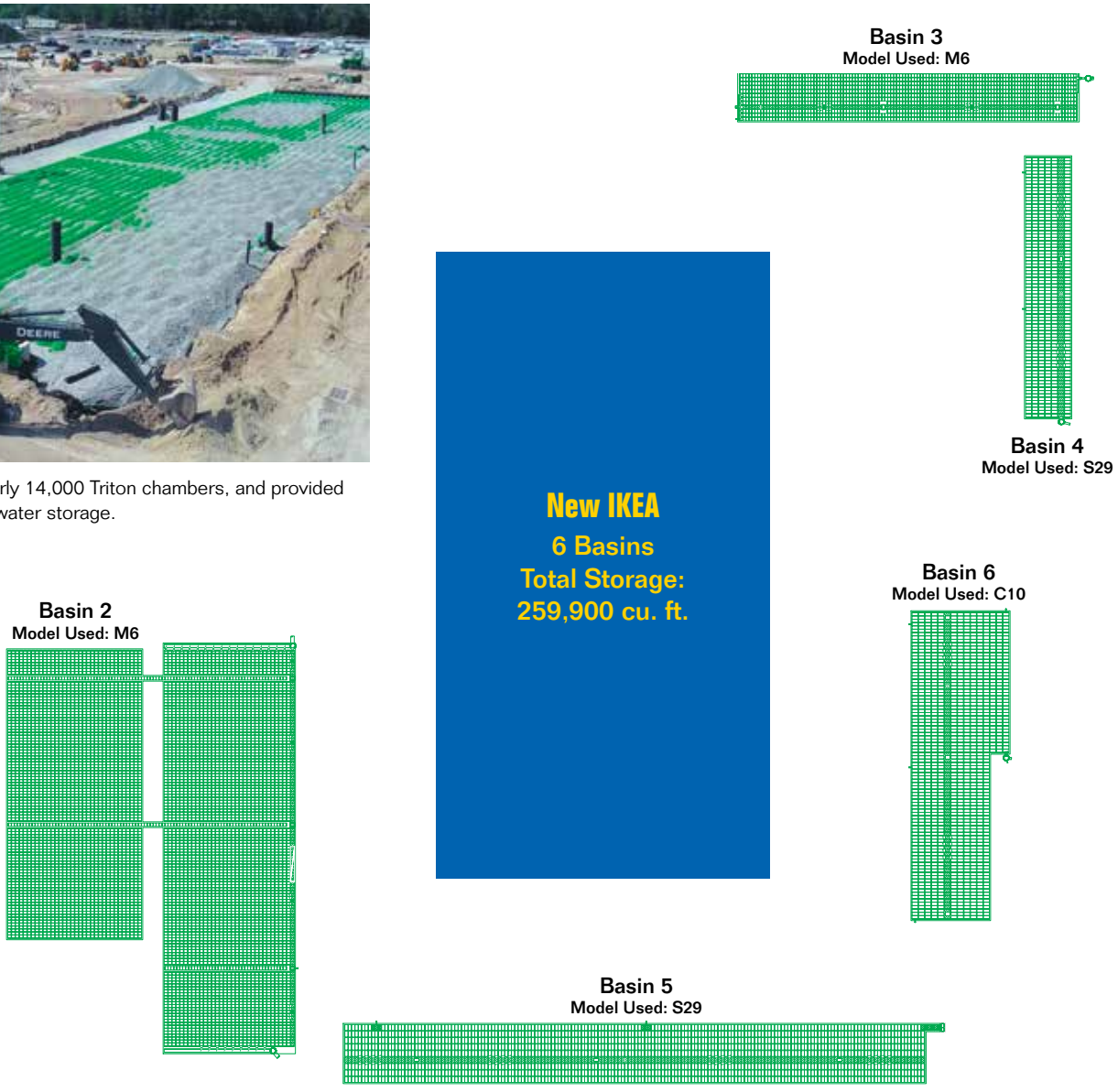
IKEA® Project Sets New Standard

Triton Chambers Support Largest Underground System in the Southeastern United States

The Situation:

Developers of the new IKEA store in Jacksonville, Florida, wanted to make this project a model of sustainable, forward-thinking design. A big part of this plan was an underground stormwater management system that would be the largest ever installed in the southeastern United States.

The IKEA project utilized nearly 14,000 Triton chambers, and provided 259,000 cubic feet of stormwater storage.



The Challenge:

Along with the size of the installation, developers faced the task of coordinating runoff from a variety of sources into six separate basins around the building, while also meeting state and local regulations that required a minimum separation between the bottom of the chambers and the Seasonal High Water Table (SHWT). The area also receives heavy precipitation, so a robust, large-storage-capacity system was needed to manage runoff and protect the area's nearby water sources.

The Solution:

Although a competitive product had originally been spec'd for the project, Triton's unrivaled strength, variety of sizes and engineering support convinced the developers that a change was warranted. Nearly 14,000 chambers were utilized, making this one of the largest chamber installations in the USA. Because of the multiple drainage basins, and their placement relative to the SHWT, Triton worked closely with the civil engineering team and the IKEA team to create the most efficient and economical solution to manage runoff from parking lots, rooflines and unimproved lands.

The Installation:

Because of the varied inputs of runoff, a multifaceted strategy was employed. The Triton system's flexibility allowed developers to utilize Triton's Main Header Row to filter out sediments where necessary, but also allowed for direct inlets into the Triton distribution (storage) chambers when the runoff was relatively sediment-free (such as rooflines) without having to add costly manholes.

After excavation of the six drainage basins, geofabric was laid in each and a bed of crushed stone was put down. Then the chambers and endcaps were installed. The developers used a combination S-29, C-10 and M-6 chambers on the project to achieve the specific strength and storage needs of each basin. The physical installation of the chambers took less than two weeks, despite the large number of chambers placed and the multiple installation sites.

After the chambers and endcaps were installed, a crushed stone layer was put over all chambers to prepare the sites for final topping with pavement.

Because the Triton chambers are stronger than the competitive products, the project team was able to do less excavating and use less crushed stone – saving time and money!

Triton M-6 Chambers were used in Basin 2. The basin relied on a combination of Main Header Row technology and direct input into the distribution rows to manage flows from parking lot drainage and roofline runoff.

The use of Triton chambers allowed the development team to do less excavating and use less crushed stone — saving money in all phases of the project!

The Result:

Because of Triton's superior strength, variety of model sizes available, engineering support and storage capacity, the decision to switch from the originally spec'd competitive system saved 7,217 square feet of land, required 1,237 cubic yards less excavation and 2,130 cubic yards less of crushed stone while providing 3,032 more cubic feet of storage capacity!

The Jacksonville IKEA stormwater management system created 259,000 cubic feet of storage, without compromising the local hydrology, or eating up valuable retail and parking space.

WHAT THEY ARE SAYING

"Triton provided great support from the engineering side, and working with the chambers is very easy."

— ALAN KICKLIGHTER, CIF DISTRIBUTING

The project required different chamber types to meet the challenge of a Seasonal High Water Table and still support parking lot traffic above the chambers. The top photo shows Triton C-10 chambers being installed in Basin 6. The bottom photo features S-29 chambers in basin 4.

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