

# Triton SWS Creates Win-Win for University of Michigan Project

## Situation

The University of Michigan needed to upgrade its historic Ingalls Mall area of campus to modernize existing electrical and pedestrian lighting infrastructure, improve fire safety apparatus and expand its stormwater management capabilities.

## The Challenge

Because the Ingalls Mall area is a major pedestrian thoroughway for students, faculty and visitors, construction activities had to be strictly confined to a small footprint – and completed as efficiently as possible.

Further, the University needed to retain more of the Mall area's stormwater onsite, with less outflow to the City of Ann Arbor's storm sewer system. Because of the limited area available, the plan required a robust, underground system with proven storage capacity.

The existing system had storm receptacles serving as pre-treatment units for incoming water, so the new design had to incorporate sediment control and pre-treatment features along with improved retention.

## The Solution

Project managers recognized the capability of the Triton Stormwater Solutions underground chambers to deliver the needed storage in a small footprint – with the added advantage of ease of installation and maintenance. The Triton system also allowed the project team to accommodate a high-voltage duct bank that ran through the stormwater field.

“This project had more than the typical layout constraints,” said design engineer Lance Hoff. “The location of the utility duct bank coupled with our need to collect water in that same area created challenges. The fact that we could work around those challenges

is testament to the modular benefit of the Triton Chambers – we were able to incorporate a design to protect the high-voltage area and still achieve the needed storage.”



A high voltage duct bank had to be worked around – highlighting the Triton Stormwater Solutions chambers' modular design flexibility. Inset photo shows the main header row floor and interior – an easily maintained sediment removal option.

## The Installation

A 70' x 150' trench was dug and lined with geofabric in preparation for the project. Next, a layer of stone was laid down and leveled. The installation of the chambers was done in a configuration that included a Main Header Row and two banks of distribution chambers, one bank on each side of the high-voltage duct. The chambers were then topped with crushed stone and finished with topsoil to re-establish the Mall's courtyard.

## The Result

After the initial excavation of the stormwater field, the entire project was completed in two days – including installation of the chamber system. The Triton Chambers are able to store over 21,000 cubic feet of stormwater without altering the traditional layout of the area. Today, the Ingalls Mall area serves the university community better than ever before, with improved lighting, fire safety and stormwater management.

### WHAT THEY ARE SAYING

*"I had worked with the Triton system on another project (the Ann Arbor Skate Park) and was impressed by the ease of installation. Given the setting of this project, the ease of working with the chambers – and the fact that they are delivered stacked to save space – made the Triton chambers a natural choice. When you look at the cost savings and the ease of installation, it makes it a win-win."*

— Jeff Leadbetter, Lead Contractor, Krull Construction

*"The Triton System will not only greatly improve the stormwater storage capabilities, but the use of the Main Header Row as a pre-treatment option probably saved \$20,000 itself. Not only will it save money, but it also will provide better pre-treatment."*

— Lance Hoff, Design Engineer, Momentum Environmental



The Ingalls Mall area is one of the university's historically significant landmarks. It now will serve the community better than ever.



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