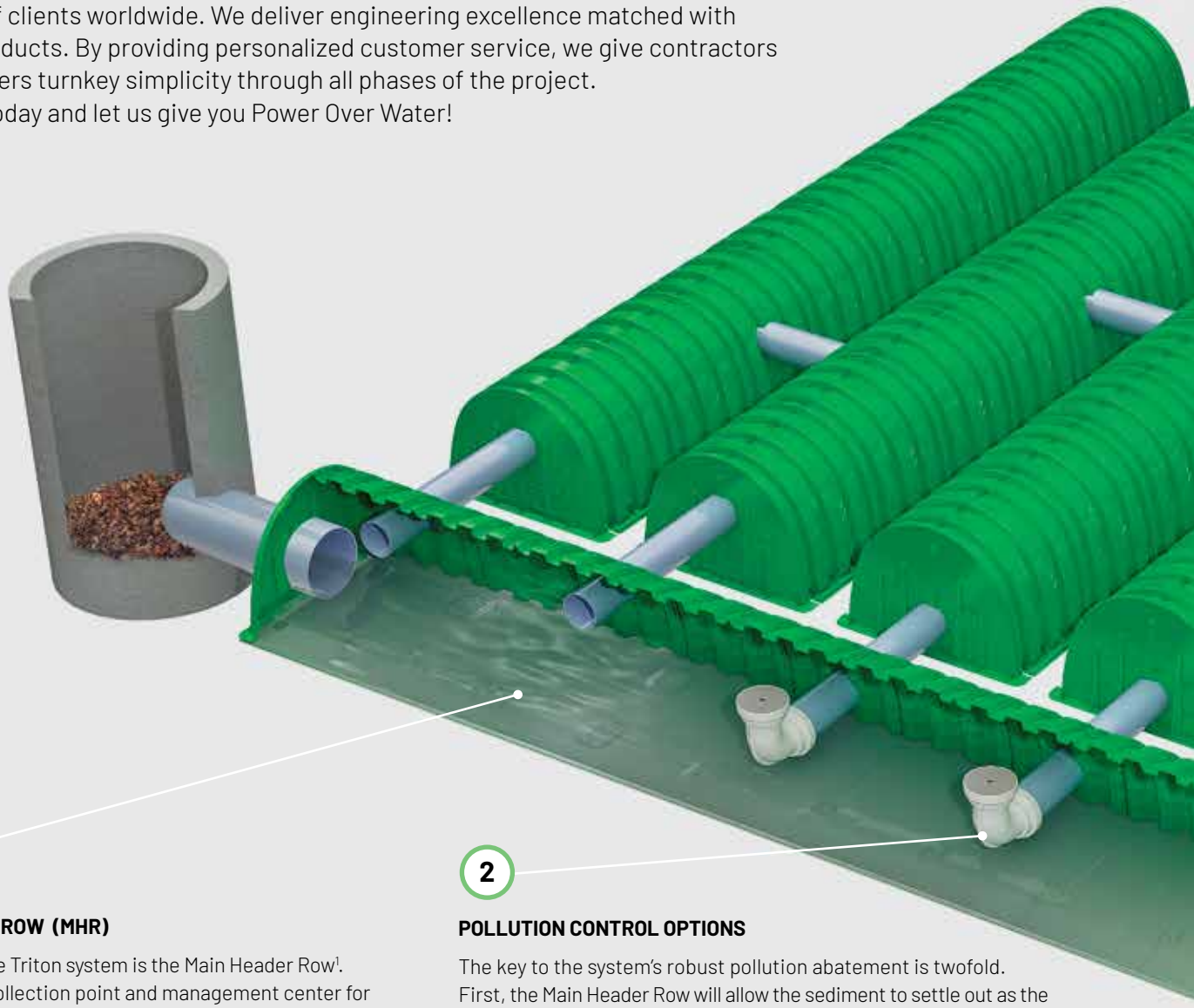
TRITON
STORMWATER SOLUTIONS

Specialized System Solutions Through Innovation

TRITON STORMWATER SYSTEMS

Triton Stormwater Solutions provides innovative, system-based solutions to meet the needs of clients worldwide. We deliver engineering excellence matched with superior products. By providing personalized customer service, we give contractors and developers turnkey simplicity through all phases of the project.
Call Triton today and let us give you Power Over Water!



1

MAIN HEADER ROW (MHR)

The heart of the Triton system is the Main Header Row[1]. Working as a collection point and management center for incoming stormwater runoff, the Main Header Row allows sediments to be captured onto Triton's patented Sediment Floors before passing the water into the Distribution Chamber Rows. Intelligently designed, Triton's MHR systems can work in conjunction with a variety of catch basin pre-treatment devices, where required.

The Triton Main Header Row eliminates the need for manifolds and manholes altogether, because our products are so strong they can take a direct connection into the end cap or side of the chamber.

2

POLLUTION CONTROL OPTIONS

The key to the system's robust pollution abatement is twofold. First, the Main Header Row will allow the sediment to settle out as the water from the inlet manhole rises upward to the connecting pipe inverts.

Then, once the water is inside the Main Header Row, the Triton-designed upward Elbow and Filter Puck system gives designers the ability to use any type of customer sourced filtration media (Zeolite, Granular Activated Carbon (GAC), Metal Zorb, etc.). This flexibility allows the user to target a wide range of common contaminants before the water is sent to the distribution chambers.

The water in the distribution (storage) chambers then leaches back through the soil to recharge aquifers just as it would in nature. If a liner is used with the system, the water can be used for landscape irrigation, toilets or wet fire suppression systems.

By adding a Puck Sceen, the download Elbow and Filter Puck System could also be used to prevent floatables from entering the storage chambers.

The image above shows three different options: Connecting pipes without the Elbows, with Elbows and Filters Pucks pointing up, and with the Elbows and Filter Pucks pointing down.

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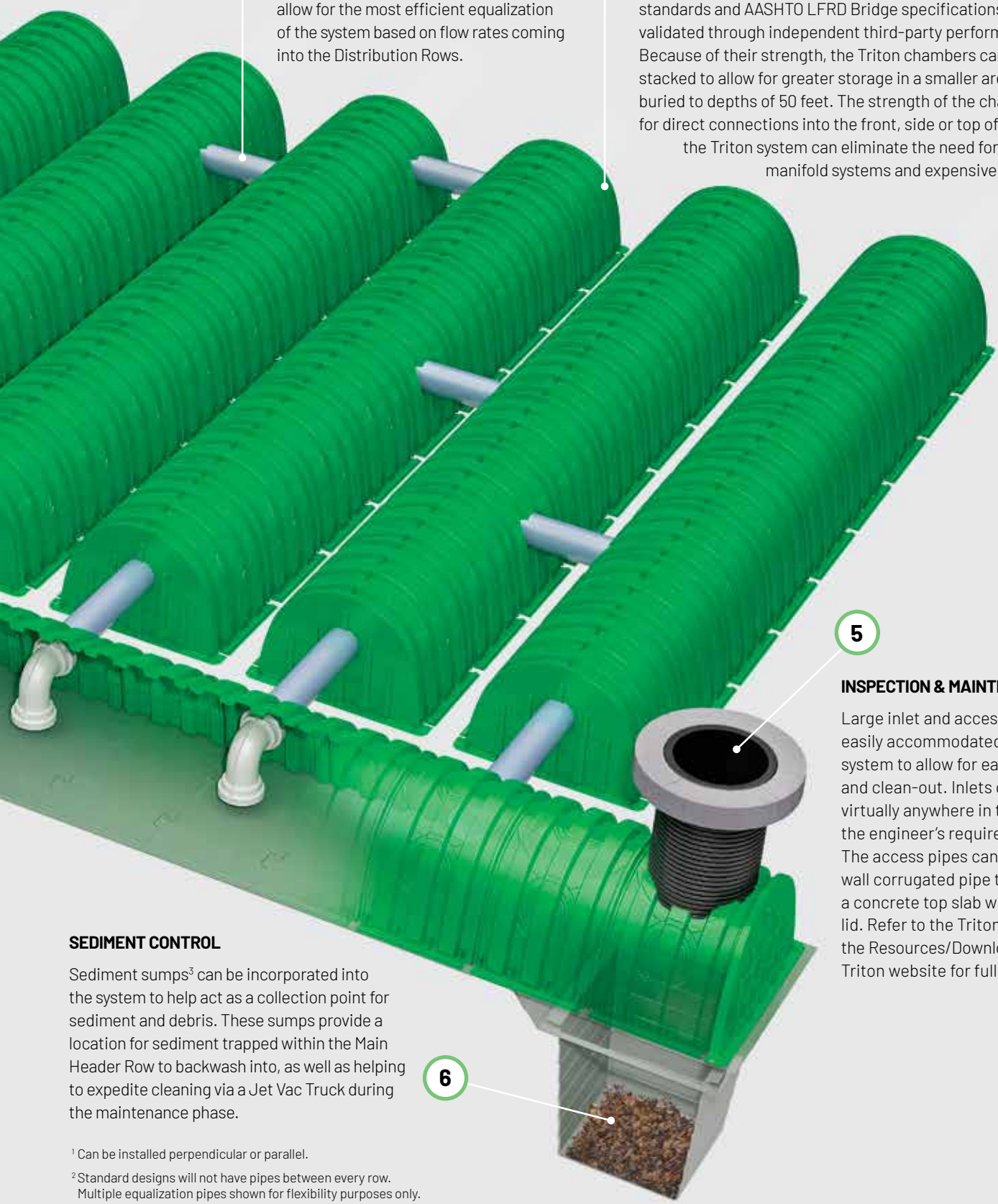

3 EFFICIENT EQUALIZATION

Equalization Pipes[2] can be placed anywhere within the Triton System to allow for the most efficient equalization of the system based on flow rates coming into the Distribution Rows.

4 STRENGTH, STORAGE & FLEXIBILITY

Triton chamber systems are the strongest in the market. The Triton products were designed to exceed the ASTM F2418, F2787, F2922 standards and AASHTO LFRD Bridge specifications, and have been validated through independent third-party performance testing. Because of their strength, the Triton chambers can be double-stacked to allow for greater storage in a smaller area and can be buried to depths of 50 feet. The strength of the chambers allows for direct connections into the front, side or top of the units so the Triton system can eliminate the need for cumbersome manifold systems and expensive catch basins.

5 INSPECTION & MAINTENANCE

Large inlet and access ports are easily accommodated into the Triton system to allow for easy inspection and clean-out. Inlets can be placed virtually anywhere in the system per the engineer's requirements.
The access pipes can be PVC or dual-wall corrugated pipe that sits inside a concrete top slab with a frame and lid. Refer to the Triton Details found on the Resources/Downloads page of the Triton website for full details.

SEDIMENT CONTROL

Sediment sumps[3] can be incorporated into the system to help act as a collection point for sediment and debris. These sumps provide a location for sediment trapped within the Main Header Row to backwash into, as well as helping to expedite cleaning via a Jet Vac Truck during the maintenance phase.

[1] Can be installed perpendicular or parallel.

[2] Standard designs will not have pipes between every row. Multiple equalization pipes shown for flexibility purposes only.

[3] Sumps can be customer sourced.

COMMERCIAL

Triton Stormwater Solutions is the ideal system for commercial installations. The combination of chamber strength and storage capacity allows required storage in a small footprint while preserving valuable surface area for development.

Car Dealership Maximizes Parking Area

PROJECT: Champion Chrysler, Jeep, Dodge Auto Dealership

LOCATION: Lansing, Michigan

CHALLENGE: Existing detention pond would need to be expanded to meet requirements — Costing the dealership 20 parking spots.

60 PARKING SPACES GAINED

TRITON'S SOLUTION: Replace the 185' x 75' detention pond with an underground system that stores more water than the old pond which added 60 new parking spaces.

Shopping Complex Protects Local Creek

PROJECT: Keyser Shopping Complex

LOCATION: Keyser, West Virginia

CHALLENGE: Preserve space, protect a local creek, store large volumes of runoff.

HANDLED STORAGE DEMANDS

TRITON'S SOLUTION: Placement of nearly 2,550 chambers under a parking lot with only 16" of top-fill due to the tremendous strength of the chambers. The system is able to handle the demands of storage, even with the negligible change in elevation that creates large volumes of water being held for long periods of time.

Fast Food Restaurant Gets Upgrade

PROJECT: Restaurant Remodel and Renovation

LOCATION: St. Paul, Minnesota

CHALLENGE: New watershed requirements, return land previously used by detention pond.

MET CITY'S STRICT REQUIREMENTS

TRITON'S SOLUTION: A high-volume underground storage system that was placed in conjunction with ongoing street work in the area to minimize disruption. The system meets the city's strict requirements while providing almost 7,800 cubic feet of storage.

Panda Express Retains Shallow Depth

PROJECT: Panda Express New Build

LOCATION: Midland, MI

CHALLENGE: Provide a stormwater system with ample storage while having to retain a very shallow depth.

M6 ACHIEVES SHALLOW FOOTPRINT

TRITON'S SOLUTION: Using the M6 chamber system, contractor was able to maximize storage volume keeping a shallow footprint. Triton was also able to supply the fabric and pipe, along with the chambers, to deliver the entire packaged system saving money and time.

MUNICIPAL

Triton's money-saving systems are perfect for municipalities who require proven bang-for-the-buck solutions that can deliver long-term performance.

Minnesota Bus Stop Project Runs on Time

PROJECT: Metro Transit Bus Stop Improvement

LOCATION: Brooklyn Park, Minnesota

CHALLENGE: Triangular site with an existing pond on one side and a mall on the other side with limited storage options.

ADAPT TO FIT TRIANGULAR SITE

TRITON'S SOLUTION: The flexibility inherent in the Triton system allowed the triangular site to work, which gave developers the ability to tie into the existing inflow and outflow pipes.

Duluth Airport Flies High

PROJECT: Duluth International Airport Upgrade

LOCATION: Duluth, Minnesota

CHALLENGE: Extreme weather and a rocky landscape coupled with a need to protect the area's natural beauty.

CHEMICAL RESISTANT MATERIAL

TRITON'S SOLUTION: A design incorporating a hydrocarbon-capturing pretreatment system into our main header row was used to mitigate pollution, while our large-capacity S29 chambers provided the needed storage and strength at a shallow depth.

Resort Relaxing at Ontario's Friday Harbor

PROJECT: Friday Harbor Four Season Resort

LOCATION: Lake Simcoe, Ontario

CHALLENGE: The site's elevation and an existing barrier wall made a strong, large-capacity system a must.

ACCOMMODATED PUMPING STATIONS

TRITON'S SOLUTION: An extra-long main header row was used to accommodate four pumping stations — three to get water to the storage system and one to bring water to the surface when needed.

Penn DOT Gives Green Light

PROJECT: Intersection Upgrade

LOCATION: Dubois, Pennsylvania

CHALLENGE: Developers needed to gather runoff from a large hospital parking lot, as well as the street intersection all while collecting sediment to protect the city's water supply.

PROTECTED CITIES WATER SUPPLY

TRITON'S SOLUTION: A large capacity storage system with a collection port to easily clean the sediment catch basins, as well as a pressure washing inlet on the opposite end of the main header row, to allow any sediments on the floor to be easily flushed or washed back down to the catch basins for collection.

CORPORATE

The efficiencies of the Triton system make us a natural fit for corporate projects, where return on investment is a must.

Flexibility, Storage Mark 3M Path

PROJECT: 3M Community Walking Path

LOCATION: Maplewood, Minnesota

CHALLENGE: Existing structures had to be worked around, and the project team had to minimize disruption to ongoing work at the facility.

SYSTEM DESIGN ALLOWS FLEXIBILITY

TRITON'S SOLUTION: The design flexibility of the Triton system allowed the engineers to create a system that met the storage needs without compromising existing natural features and landmarks.

Strength Speaks Volumes for Lowe's

PROJECT: Lowe's Home Improvement Centers Silverton Store

LOCATION: Silverton, Colorado

CHALLENGE: Sloping terrain and nearby water features that needed to be protected.

BURY DEPTH OF 10 FEET

TRITON'S SOLUTION: A system with a main header row allowed the inclusion of an oil-separating pre-treatment device to protect nearby waters. Used chambers strong enough to be buried 10 feet below the surface to accommodate the slope of the land.

Multiple Chamber Sizes for IKEA

PROJECT: IKEA Jacksonville Store

LOCATION: Jacksonville, Florida

CHALLENGE: Not only would this be the largest underground stormwater system in the Southeastern US, but it also had to collect water from a variety of sources to work within the seasonal high water table limitations.

LARGEST SYSTEM IN SOUTHWEST U.S.

TRITON'S SOLUTION: A robust, flexible system that could handle runoff from parking lots, roof lines and unimproved lands was designed. By incorporating a main header row, the Triton system could filter out sediments when needed, allowing pass through of water to storage chambers during heavy rainfall events.

Ease of Installation at Skate Park

PROJECT: Skateboard Park

LOCATION: Ann Arbor, Michigan

CHALLENGE: Limited space and an existing outlet pipe presented a depth restriction.

RECOVERED LAND USE

TRITON'S SOLUTION: A system with an integrated but offset Main Header Row was chosen to help filter sediments from the water before it entered the distribution rows, while still conforming to the drainage field's unique shape.

COMMUNITY

Triton Stormwater Solutions is a tremendous asset to community developers. Installations are faster than traditional stormwater management options and can be done with minimum disruption.

Neighborhood Upgrade at Detroit's Brush Park

PROJECT: Community Park Stormwater System

LOCATION: Detroit, Michigan

CHALLENGE: Limited space compounded by contaminated soils and utility easements.

MULTIPLE SYSTEMS

TRITON'S SOLUTION: Instead of the planned stormwater pipes, Triton created 20 individual systems that could work together to prevent infiltration of the contaminated soils, while providing 45,600 cubic feet of storage.

Community Center for St. Cloud

PROJECT: St. Cloud Community Center

LOCATION: St. Cloud, Minnesota

CHALLENGE: The proposed site had a very small area that needed to comply with Minnesota's B-3 Guidelines for stormwater management.

DOUBLE-STACKED EFFICIENCY

TRITON'S SOLUTION: By designing the installation to utilize Triton's strength in a double-stacked configuration, engineers were able to drain three acres of impervious surface runoff into a 36' x 140' drainfield to protect local waterways and meet state requirements.

School Install Earns an "A" in Indiana

PROJECT: Brown Elementary School Parking Lot

LOCATION: Brownsburg, Indiana

CHALLENGE: A tight footprint combined with the need to minimize disruption to ongoing class schedules and activities.

MINIMIZED DISRUPTION

TRITON'S SOLUTION: By using the S29 Chamber rather than the originally specified competitive product, the contractor was able to achieve greater storage capacity with a faster, easier install that also required less stone — saving time, money and hassle.

1ST Global Vault Multiplex Install in Michigan

PROJECT: Studio Park Complex

LOCATION: Grand Rapids, MI

CHALLENGE: The site had an extremely narrow jobsite with a need for maximum storage capacity.

1ST WORLDWIDE INSTALLATION

TRITON'S SOLUTION: The Brand New Vault system not only provided the best stormwater storage solution, it allowed the owner of the site to save money by reducing stone backfill, cutting in half the need for stone/backfill trucks and eliminating the need for an expensive pretreatment system by customizing the system's expandable sediment forebay.

INNOVATION TIMELINE

From its founding, Triton Stormwater Solutions has been driven by a single focus: to solve problems of stormwater management through innovative engineering approaches and product development.

2004
PROBLEM
After watching uncontrolled water runoff in front of his house, Triton founder Joe Miskovich looked for ways to protect his property and nearby water features and found that no suitable options existed.

2007
SOLUTION


Miskovich invented the S29 Chamber and launched Triton Stormwater Solutions.

2008
PROBLEM
The S29 Chamber was not meeting the needs of customers who had to deal with high water tables, shallow footprints or other storage challenges.

2009
SOLUTION


Triton introduced the M6 and C10 chambers, which reduced chamber heights to allow designs with shallow footprints. Thus, the benefits of underground storage can be realized in almost any environment.

2010
PROBLEM
The international market could not be easily serviced by existing chambers, because they did not fit efficiently into sea freight containers.

2012
SOLUTION


Triton introduced the S22 Chamber, which maximized shipping efficiencies by modifying the design of the S29 to create an easily transported chamber that delivered cost-efficient stormwater storage.

2015
PROBLEM
The stormwater market was turning to larger and larger chambers to achieve needed storage, which created new issues with installation in areas where stone costs are high.

2019
SOLUTION


Triton developed the revolutionary Vault System which matched or exceeded the largest volume chambers on the market, while maintaining the height of the S29 Chamber and offering system design flexibility never before seen in the market — all while requiring 70% less stone than comparable products!

COMPLETE STORMWATER SYSTEMS

MINI | Model: M-6
34" W x 17.5" H x 32" L 12 lbs
863.6mm x 44.5mm x 812.8mm 6.8 kg.

Bare Chamber Storage 5.6 cf (.16 m^3)
With 6" (160mm) Stone Above and Below 11.5 cf (.326 m^3)

COMPACT | Model: C-10
40" W x 25" H x 32" L 15 lbs
1016mm x 635mm x 812.8mm 6.8 kg.

Bare Chamber Storage 9.8 cf (.28 m^3)
With 6" (160mm) Stone Above and Below 17.6 cf (.498 m^3)

MEGA | Model: S-22
55" W x 35" H x 30" L 28 lbs
1397mm x 863.6mm x 762mm 12.7kg

Bare Chamber Storage 23.2 cf (.66 m^3)
With 6" (150mm) Stone Above and Below 33.8 cf (.96 m^3)

ULTIMATE | Model: S-29
59" W x 36" H x 35" L 37 lbs
1498.6mm x 914.4mm x 889mm 14.5 kg.

Bare Chamber Storage 29 cf (.82 m^3)
With 6" (160mm) Stone Above and Below 41.1 cf (1.161 m^3)

VAULT
41.28" W x 36" H x 41.28" L 50 lbs
1049mm x 1049mm x 914mm 22.7kg
Bare Chamber Storage 28.79 cf (.82 m^3)

Without Tray and 6" (150mm) Stone Above and Below 36.21 cf (1.025 m^3)

With Tray and 6" (150mm) Stone Above and Below 43.78 cf (1.24 m^3)

TRITON STORMWATER SOLUTIONS

LIFETIME SYSTEM WARRANTY

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Power Over Water®