



# SOLENO

MASTERING WATER SUSTAINABLY



## KUSTOMFLO

### DELAWARE COUNTY TRANSIT YARD DETENTION BASIN

#### STORMWATER DETENTION BASIN

**Location:** New Brunswick, NJ  
**Installation:** October 7-21, 2025

#### PROJECT DETAILS

**Owner:** NJ Transit  
**Contractor:** George Harms Construction Co., Inc.  
**Engineer:** Jacobs

#### PRODUCT DESCRIPTION

**Diameter:** 72" and 36"  
**Length:** 5 rows of 140 feet  
**Profile Information:** 72" RSC 100 Open Profile, solid wall 36" manifolds and risers  
**Joints:** Gasketed  
**Accessories Provided:** Reducer bulk-heads, various manifold components, 90 degree bend, Tee, 20 degree elbow, Access risers

#### SITE CONDITIONS

**Trench Depth:** 11'  
**Backfill Material:** Crushed stone aggregate  
**Surface Material:** Asphalt Pavement  
**Other:** Detention basin set adjacent to new retaining wall

#### CONTEXT

A stormwater detention basin was proposed as part of this railroad inspection facility and storage expansion project. The project required substantial fill to elevate the existing ground to match the adjacent railroad grade. This resulted in constructing new retaining walls to support the fill area for development. The location of the detention basin is located directly beside these retaining walls, creating a strict requirement for the basin to be fully watertight to prevent any impact on the structural integrity of the walls.



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## CHALLENGE

The project involved a major expansion of a New Jersey Transit rail yard, but the available footprint was limited due to its proximity to active Amtrak train tracks. The proposed improvements to the site involved significant fill and multiple retaining walls to allow for the proposed development. A large detention basin was needed to meet the stormwater regulations, and the ideal location to capture this runoff was adjacent to the proposed retaining walls.

The contractor needed a detention system made of BABA-compliant material to meet the project specifications. It had to be a system that could support shallow cover loads, and able to maintain fully watertight connections. Likewise, the system required risers for maintenance and inspection, and custom manifolds to allow for connection to the inflow and outlet piping.



## SOLUTION

The KUSTOMFLO piping system provided a seamless, fully watertight solution for the detention basin design. Customized manifold components minimized the number of individual connections required, simplifying the installation process. Similarly, the redundant gaskets in KUSTOMFLO's gasketed joints allowed for quick, simple installation along with a watertight, pressure-rated seal at every connection.

KUSTOMFLO's lightweight profile also offered major logistical advantages. The smaller 36-inch manifold sections were shipped nested inside the larger 72-inch detention pipes, significantly improving shipping efficiency and reducing onsite storage needs. Each pipe section could be positioned and installed using the same excavator used for basin excavation and stone backfill placement, streamlining equipment use on an already constrained and active construction site.



## BENEFITS

- **Adaptable accessories:** Allowed watertight, structural connections between the 72-inch detention basin pipes, and the 36-inch access risers and manifolds.
- **Positive experience regarding product installation:** Ease of installation when connecting each 20-foot length of pipe. No crane needed for installation of lightweight HDPE profile-wall pipe.
- **Reasons motivating the product selection:** Watertight joints, lightweight products, and adaptive design for connections. Made in America.
- **Specific project conditions:** Proximity to retaining wall, heavy live loads.
- **Important facts or other relevant information:** Best performance comes from proper attention to foundation, bedding, and backfill compaction. As larger diameters are used, it's crucial to remember to compact the backfill within the haunch zones of the pipes, especially between the rows. The contractor had plenty of pipe installation experience and was prepared to properly backfill and compact during installation.

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