

Case Study

NDS StormChamber[®] System

NDS DESIGN WORX[®] TEAM MASTERS MULTIPLE SITE CONSTRAINTS FOR UNDERGROUND WATER STORAGE AT WAWA'S NEWEST SERVICE CENTER

WAWA, the gas station and convenience store chain, announced in 2022 that it intended to expand in the state of Pennsylvania with dozens of new locations. Construction for one of those sites began in April 2024 in the town of Sanatoga. Bohler Engineering of Chalfont was the Engineer of Record, responsible for plan development and construction oversight.

As part of the project, Bohler identified the need for a subsurface storage basin and contacted NDS to assist with the design and to determine the size, location, and storage necessary to ensure they would meet regulations set forth by the state of Pennsylvania.

NDS SOLUTION MEETS NUMEROUS CHALLENGES

Bohler and NDS have partnered on a number of projects and the engineering firm looked to NDS for expert guidance on a stormwater system that could circumvent a few key constraints with this particular job, including challenges with elevation, poor soil, and the location of utilities.

After a thorough analysis of the jobsite and research on the specific storage volume criteria required in the state, the NDS Design Worx[®] team proposed a comprehensive NDS StormChamber[®] system solution that could handle 27,000cf of storage. NDS StormChamber units maximize storage volume in limited footprints, providing 75ft³ of internal storage capacity. Because this is significantly more storage per chamber than similar size chambers, it results in a layout that requires fewer chambers, which in turn leads to a reduction in installation time and onsite excavation.



ROBUST DESIGN SUPPORT WHEN NEEDED MOST

The NDS team was at the ready when it was time for installation, knowing minor revisions to the plan might be required to work around the challenges presented onsite. Their final installation details evaded elevation and ground constraints, circumvented utility placements, and even provided custom details for the catch basins installed to ensure a secure connection to the subsurface system in less than ideal soil conditions. All NDS product was successfully installed in August of 2024; and while it may be invisible underneath the station's asphalt parking area, its placement has enabled an effective stormwater management solution for WAWA's newest location.

PROJECT SUMMARY

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| PROJECT TYPE Storage & Infiltrate | PROPERTY Gas Station |
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STAKEHOLDERS
B. Blair Corporation
Bohler Engineering

NDS PRODUCTS USED
220 SC-34 StormChamber[®] units
4 SedimenTrap[™] devices

NDS Design Worx Services Utilized:

1. Layout drawings
2. Stormwater calculations
3. Installation details