

REPLACEMENT OF FAILED CONCRETE STORMWATER STORAGE SYSTEM

HARRISON, NY

INITIAL CONCERN

The top slab of an existing underground concrete stormwater storage system was severely cracked and failing. The cracked system was located underneath an existing office complex parking lot, which created potentially hazardous conditions for those who parked there. Failing concrete systems create conditions for sinkholes to develop.

Goal

The solution required a stormwater storage system that would:

- Fit the existing footprint
- Provide a cost-friendly solution
- Minimize disturbance
- Replicate the existing system's volume

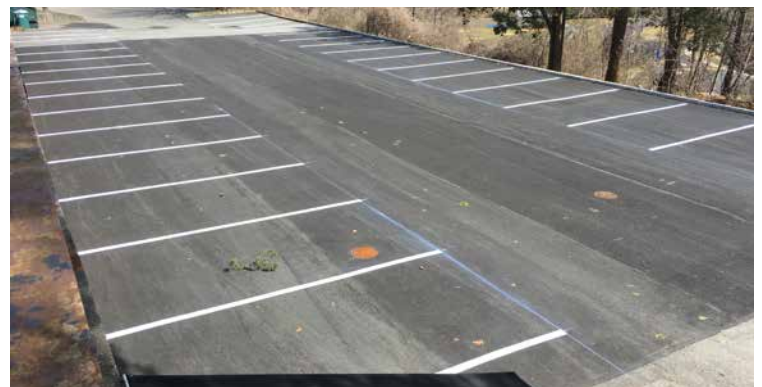
Installation/Solution

When the client realized the system was failing, they contacted us to assist in a new design. It was determined that a replacement system using R-Tank® HD could be constructed inside the existing system's footprint by keeping the concrete perimeter intact. This minimized the amount of stone required around the perimeter of the system and simplified placement and compaction of the side stone. It also saved the client time and money by reducing labor and material costs.

R-Tank HD Pent 7-ft modules were selected to replace the existing system due to the high void space and cover parameters. To allow for the passage of water from the tanks to the perimeter stone, the system was wrapped in SR-18 microgrid. Additionally, TrashGuards were placed in the upstream drains feeding into the system for collection of sediment, trash and debris.



Prior to installation



Post-installation

RESULTS

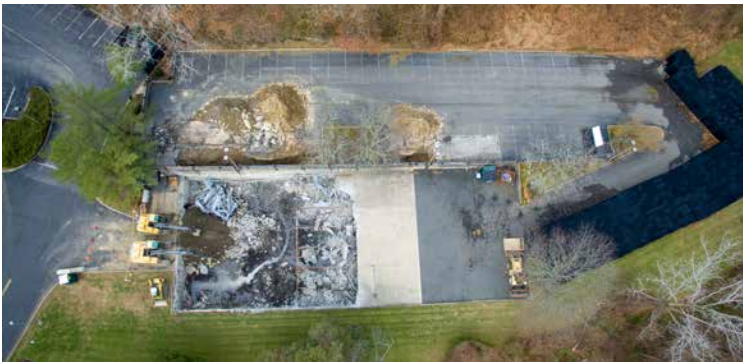
This urgent replacement was an unexpected cost for the client but was necessary to avoid compromising the safety of those parking in this lot. The replacement stormwater storage system not only fit the old system's footprint, but also provided a budget-conscious solution to the client's initial concern. The parking lot is safe and secure once again.

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ADDITIONAL DETAILS AND PHOTOS

The below photos represent some of the additional details of the R-Tank installation.



Demolition of the failing concrete stormwater storage system.



Base prep for the installation of the system.



R-Tank HD Pent 7-ft modules filled the existing concrete footprint.



The system was wrapped in SR-18 microgrid (pictured in green).



Crushed stone cover layer placed over the tanks and SR-18 microgrid prior to final layers.



Biaxial geogrid and base gravels are placed before the final asphalt layer.