

Runoff Solution at St. John's College High School

Due to storm water management regulations, St. John's College High School in Washington, D.C., needed to find a solution for storm water runoff from the addition of a new roof, patio and concrete service road. The original convey-and-detain design incorporated drains from the new additions flowing onto a conventional asphalt surface, with all storm water runoff subsequently sent to an underground storage tank. Piping the runoff to an already taxed infrastructure was the final piece of the storm water sequence.

Soil infiltration tests at St. John's showed a rate of 0.7 in. per hour. Landesign Inc. of Bowie, Md., was encouraged by school officials to look into the PaveDrain system, manufactured in nearby Bladensburg, Md. By modifying the clean stone base depth in different areas and modeling the storage capacity of the built-in arch of the PaveDrain block, Landesign Inc. solved several storm water issues with one product. The service road built out of the system not only could infiltrate direct rainfall on the 8,000-sq-ft service road, but also the rainfall from the 16,500 sq ft of roof and patio adjacent to it.

The service road behind the cafeteria required a surface

capable of withstanding daily wear from food delivery trucks and garbage haulers. The service road also acts as overflow parking during sporting and other events at the school.

In addition to saving the school almost \$50,000 over the conventional convey-and-detain design, after one year of installation, the system will have infiltrated more than 20 in. of rain and 300,000 gal of storm water.

Due to the success and durability of the service road, a school bus roundabout with a 7% grade also was changed to the PaveDrain system to replace the asphalt surface, which required significant maintenance due to rutting. **SWS**



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