Infiltrator Quick4® Standard Chambers Key to Successful Expansion of School Wastewater Treatment System

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St Augustine Prep School
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When St. Augustine Prep School in Richland, New Jersey decided to expand its classroom, cafeteria, gym, and pool complex, they focused on maintaining the school's historically strong environmental commitment. Seeking out a wastewater treatment system that would meet their sustainability goals as well as the treatment needs of this 700 person boarding school was a major priority of the project. Shortly after going online however, they realized the original treatment system built for the expansion was too small. The school was exceeding their allowable flow and wastewater concentration discharge amount. School leaders knew they needed to upgrade the system quickly with only minor delays to meet the schedule of the school. The decision was made to expand the entire treatment plant while planning for future needs.

Water conservation in addition to wastewater treatment was also important for designers in the selection of the system. In addition to an upgraded septic system, the building incorporates waterless urinals and low flow toilets as further water conservation measures.

In order to gain approval to operate the upgraded system, designers had to meet the total nitrogen guidelines set by the New Jersey Department of Environmental Protection. The expanded wastewater treatment system handles 8,000 gallons per day of flow at a total nitrogen of 270; whereas the previous version of the plant was only able to handle 2,600 gallons per day at a total nitrogen of 120. Also designed into the system are multiple new concrete treatment tanks; the largest of which is 12,000 gallons. In an effort to save resources, much of the existing plant was incorporated into the new design, including the existing filters for de-nitrification and polishing.

The system features two new disposal fields, each with 450 Infiltrator Quick4 Standard chambers. The chambers are installed in ten 100-foot long rows. The traditional side-by-side bed installation includes a distribution box in the middle that feeds both fields. A forced main sends effluent from the tank to a two-way d-box that splits the flow to the individual fields, each having their own d-box sending the flow through the chamber runs.

The system is expected to handle the treatment needs of the school for the forseeable future.

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