

# T.C. WILLIAMS HIGH SCHOOL ALEXANDRIA, VIRGINIA

## Integrating LEED Strategies Used in the Design of the School Into the Curriculum

*Size: 461,000 S.F.  
Budget: \$80,000,000  
Completed: 2007*



The new TC Williams High School replaced the existing school, which housed grades 10 -12. A projected increase in enrollment from 2,100 to 2,500 students over the next five to seven years, and a worn existing building, created the need for the new building. With no available land in the City of Alexandria large enough to accommodate a facility of this size, it was determined that the existing school site was the only practical location for the new high school.

A new school was designed and constructed according to standards and principles set forth in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) "Green Building Rating System" version 2.1. Environmentally sound strategies incorporated into the school include:

- a 450,000 gallon underground cistern that collects rainwater from the roof and stores it for use in toilet flushing, irrigation, and air conditioning operations;
- a rain garden that cleanses rainwater from parking and driving surfaces;
- a roof garden covering a portion of the school's overall roof surface, providing stormwater management, education opportunities, and aesthetic appeal;
- waterless urinals that reduces the amount of water used within the building;
- dedicated outdoor ventilation systems that provide dehumidification;
- indoor space temperature control, which contributes to energy savings;
- permanent measuring and verifying system that track water and energy use; and
- a central "dash board" location in the student commons, which provides students access to the data collected by the measurement and verification system.



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**DESIGNED TO  
EARN THE  
ENERGY STAR**

The estimated energy performance for this design meets US EPA criteria. The building will be eligible for ENERGY STAR after maintaining superior performance for one year.