



**JAMES K. POLK
ELEMENTARY**

January 2011

**POLK CONSTRUCTION
AND GREENOVATION NEWS**
FREQUENTLY ASKED QUESTIONS FOR PARENTS



HEATING AND COOLING THE ENTIRE SCHOOL USING JUST THE EARTH AND SKY

James K. Polk Elementary

WHAT ARE THE COMPONENTS OF THE GREENOVATION PLAN AT POLK?

In September 2011, James K. Polk Elementary will be heated and cooled by using just the earth and sky!

Greenovation at Polk includes installation of a renewable energy heating and cooling system – on-site geothermal wells, state-of-the-art fresh air intake Eco-Air System, photovoltaic panels, solar panels (solar hot water array to warm water), a vegetative roof, sand filters to filter water, and a Greenovation Learning Lab!

This Green project merges technologies to create the ***first hybrid system of its kind in North America*** utilizing a combination of solar and ground source geothermal renewable energy to significantly lower heating and cooling costs while a solar thermal energy system and photo voltaic equipment will dramatically decrease the utilization of fossil fuels and green house gas emissions. It also provides for cleaner air quality and lighting systems for the students and transforms Polk into a state-of-the-art working Green Laboratory School.



By using the earth and sky to heat and cool the building, Polk is eliminating two-locomotive size boilers and replacing it with one compact refrigerator-size emergency boiler, only to be used when there is no sunlight. This new geosolar renewable HVAC system will meet LEED Gold certification requirements for the entire Polk campus.



A GREEN SCHOOL MODEL

Did you know that since July 2010 more than 20 outside school districts, community officials and industry leaders have toured Polk's Greenovation transformation?

In early November 2010 a high ranking education ministry official from the Republic of Kosovo visited ACPS and James K. Polk to learn about Greenovation and the school's future Learning Lab!

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WHAT ARE THE CURRENT CONSTRUCTION AND GREENOVATION PROJECTS AT POLK?

There are three components to the construction and Greenovation at Polk. 1) New gymnasium (completion February 2011), 2) greenovation of Polk' HVAC system to include renewable energy sources and cleaner air intake (completion September 2011), and 3) installation of modular classrooms (construction to begin February 2011).

WHAT IS 'GREENOVATION'?

Greenovation is the term ACPS is using to label its use of economical, earth-friendly building and management practices as a foundation for academic and hands-on learning experiences for its students. It is the joining of **GREEN** building and **GREEN** energy – terms used to describe building in an Eco-friendly method and sources of energy that are considered environmentally friendly and non-polluting – and **INNOVATION** – the process that renews something that exists. Thus, **GREEN + INNOVATION = GREENOVATION** in Alexandria Public Schools System (ACPS) and at James K. Polk Elementary. The term 'Greenovation' was coined by Grace Taylor, then principal at TC Williams' Minnie Howard Campus.

WHEN WILL THE GYM OPEN?

Polk's new gymnasium was built to address the growing student population and designed to better serve the physical education needs of the students. Its design included a modular approach where large sections of pre-fabricated walls were dropped in by crane, allowing the gym's walls to be erected within a 3 day span as opposed to 12 months if built from the ground up. It contains sun tunnels providing natural light to illuminate the space, LED lighting, and sound absorption panels. The gym's exterior showcases a native Virginia plant design, tying another natural element to the construction design. The gym will open in February 2011.

WHAT CONTRIBUTED TO THE DELAYED GYM CONSTRUCTION?

The gym construction faced delays during the rainstorms in October 2010. Essential resources from the gym construction were diverted to contain the flooding that occurred in Polk's basement.

WHAT WORK HAS BEEN DONE TO ADDRESS WATER ISSUES AT POLK?

Polk, built in 1965, sits on a natural spring and therefore water entering the building has been a consistent challenge. In October 2010 Polk's interior garden pond appeared to overflow and cause water to enter the lower level. However, the pond did not cause the water damage but a larger issue was uncovered – the need for foundational water proofing. Resources from the gymnasium construction were diverted to waterproof the school's foundation and lower level.

WHEN WILL THE ELEVATOR BE OPERATIONAL?

An elevator was installed that reaches each floor of Polk and will be operational by mid-January.

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