



Appalachian Regional Commission

**New Energy. New Jobs.
New Opportunities for Appalachia**

**Presented by
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Director of Construction
Bibb County School District
Macon, GA
October 27, 2009**



Bibb County School District
Achievement and Performance ... For Every Child

"Forbes Online"

October 12, 2009

Macon, GA - 7th Most Impoverished
Metro Area in the US

Bottom 20% = \$7,500 per capita



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In the past the *primary* source of local revenue available to most Georgia school systems for renovating and modifying existing educational facilities and the construction of new schools was **property tax.**

Two options were available.



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The local board of education (LBOE) could ask the voters to approve issuance of General Obligation Bonds to be repaid from property tax revenues.



The LBOE had the option of using ad valorem tax revenues levied for the Maintenance and Operation (M & O) of schools to fund capital improvement projects.



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The constitutional amendment

approved by the voters of Georgia in
November 1996

allows LBOE's the option of
calling for a referendum
to ask their voters to approve a

SPLOST.



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SPLOST

SPECIAL PPURPOSE

LOCAL OPTION

SALES TTAX

Authorized Expenditures

- Specific capital improvement projects for educational purposes, and/or
- Retire General Obligation Bond debt previously incurred with respect only to capital outlay projects and/or
- Issue new General Obligation Bond for specific capital outlay projects to be paid with **SPLOST**

Rate and Length

- The *rate* shall be 1 (one) percent. The tax shall not be subject to any sales tax exemption such as food and beverage exemptions.
- The *length* shall be imposed for a period of time not to exceed five years.

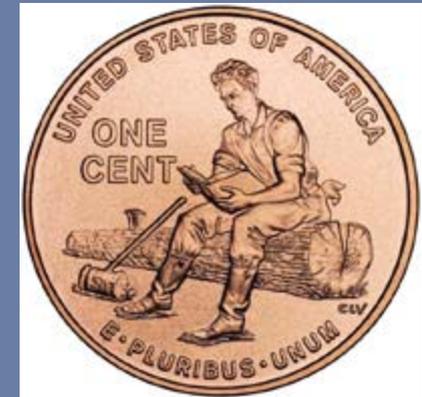


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2000 Capital Improvement Program

\$143,754,000

- 26 Projects
- 13 New Facilities
- 12 New Schools
- 1 Central Kitchen Facility
- 6 Schools Upgraded
 - 90 new elementary classrooms
 - 6 new music rooms
 - 9 new gymnasiums
 - 16 new middle school classrooms





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2005 Capital Improvement Program

\$174,969,000

- 17 Projects
- New Facilities
 - 3 High Schools
 - 1 Middle School
 - 1 Elementary School
 - 1 Early Childhood Education Center
- 8 Additions and/or Renovations
- 2 Athletic Facility Upgrades





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2005 Capital Improvement Program

1600 JOBS!!!

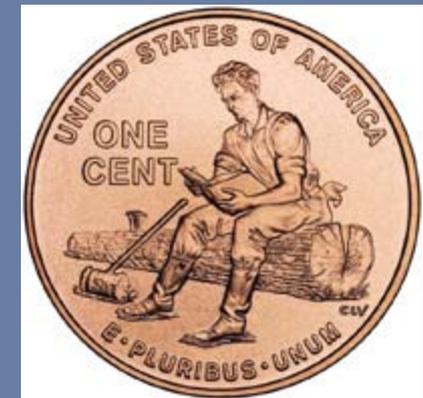
Based upon formula provided in ARRA



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2010 Capital Improvement Program \$176,130,000 (Proposed)

- 25 Projects @ 36 campuses in the district
- New Facilities
 - 5 Elementary Schools
 - 4 Athletic Field Houses
- 9 Major Renovation Projects
- Safety upgrades at 27 school facilities
- \$20 million in district IT upgrades
- District-wide athletic facility upgrades





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2010 Capital Improvement Program (Proposed)

1700 JOBS!!

Based upon formula provided in ARRA



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71.4%

Collected from

OUT OF COUNTY VISITORS



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Mission

Our Mission is to provide a high quality education for all Bibb County students

in a safe and comfortable environment

and to make use of all human and technological resources in preparing graduates for post high school objectives.



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Capital Improvement Program Goal

To develop high performance facilities that will improve the learning environment for our students and provide long-term lower energy, maintenance, and operational costs.

Our students are our clients.



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2005 Capital Improvement Program **--A New Opportunity--**

In it's pursuit of high achievement, the Bibb County School District embraced the correlation between the learning environment and student performance; and the wisdom of making long term decisions for long term facilities.

The 2005 Capital Improvement Program provided the ideal opportunity to extend the District's commitment to excellence into the physical environment of it's facilities.

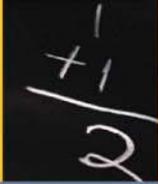


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2005 Capital Improvement Program **--A New Opportunity--**

The District seized the opportunity provided in this capital improvement program to construct high performance facilities that will better serve not only this generation of students, but other generations to come.

Beginning with the design and construction of its newest schools, the District has stepped forward as a leader in providing facilities that truly enhance the learning environment for every student.



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Why develop high performance school facilities??



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Standard Schools



Often built to minimum code requirements



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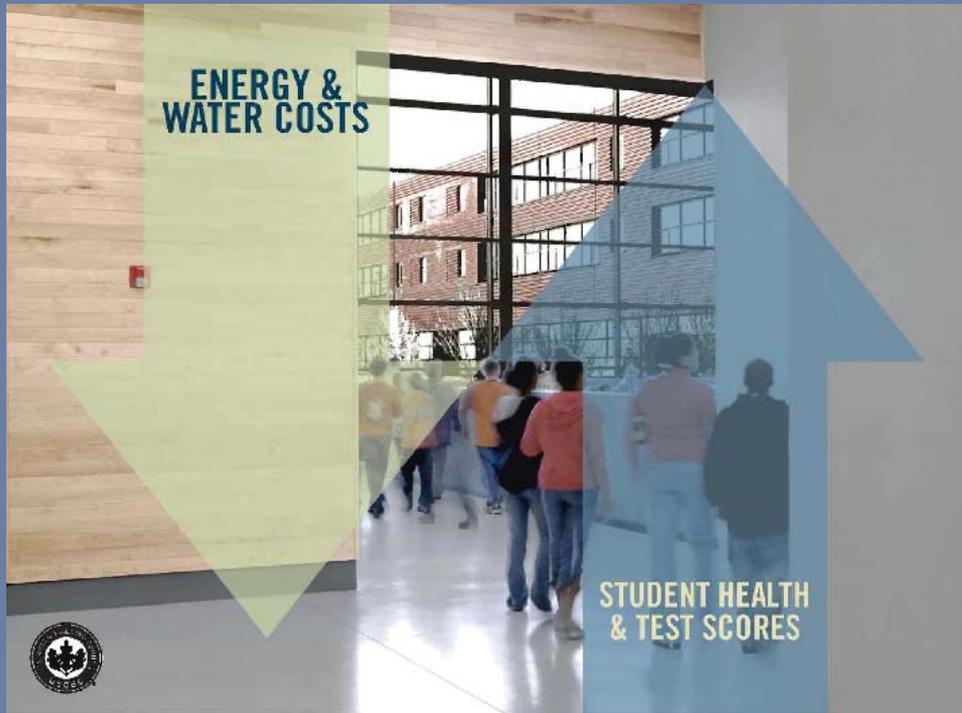
Standard Schools

- Lower quality materials
- Higher energy costs
- Less user friendly
- Higher life cycle maintenance costs
- May suffer from poor indoor air quality



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High Performance Schools



Save substantial
energy costs

Provide a better
learning environment



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High Performance Schools

Provide a
more durable, lower
maintenance building

**DIRECT SAVINGS
FOR AN AVERAGE
GREEN SCHOOL**

\$47,880
Annual direct energy savings per school
\$95,760
Annual total direct savings per school



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LEED

Leadership in Energy and Environmental Design
for Schools

BCSD benchmark in developing
high performance facilities



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LEED

Leadership in Energy and Environmental Design
for Schools

A standard rating system administered by the U.S. Green Building Council that documents and recognizes the extensive efforts to achieve high performance school facilities.



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LEED

Addresses design, construction,
and operation of a building for its
full lifecycle.

Involves architects, engineers,
planning staff, building
occupants, building managers,
custodial, grounds keeping,
and maintenance staff.



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High Performance Schools

- Sustainable Sites
 - Water Management
 - Energy
 - Material Use
- Indoor Environmental Quality



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High Performance Schools

**HEALTH BENEFITS
OF GREEN SCHOOLS**

25%
reduction in asthma

15%
reduction in colds and flu




Reduce
absenteeism

Increase teacher retention



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High Performance Schools in Bibb County

Educational Specifications

Ensured design supports
academic program

Involved school staff,
community,
central office, maintenance
and others in planning

Ensured a user-friendly,
easier to maintain facility



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High Performance Schools in Bibb County

Sustainable Sites

Re-used existing sites

Maximized open space

Planned for future
expansion



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High Performance Schools in Bibb County

Water Management

Facilities use 20% less water

Native landscape plants require less water and maintenance

Higher level of storm-water control and quality



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High Performance Schools in Bibb County

Energy & Lighting

High efficiency,
non-glare direct / indirect
lighting

Interior and exterior lighting
controls
to manage light levels and usage

Exterior light fixtures
that reduce light pollution



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High Performance Schools in Bibb County

Energy & Mechanical

High efficiency heating ventilation
& air conditioning equipment

Increased amount of building
insulation

Use of refrigerant that is
less harmful to the environment

Controls to improve thermal
comfort



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High Performance Schools in Bibb County

Energy & Transportation

Alternative transportation
options

Incentives for use of
more fuel-efficient vehicles

Use of low-emitting alternative
fuel buses



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High Performance Schools in Bibb County

Material Use

Minimum 20% recycled content
used in construction

Re-use of existing buildings &
materials

Recycling of building materials

98% of construction waste
diverted from disposal



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High Performance Schools in Bibb County

Indoor

Environmental

Quality During

Construction

Mold prevention strategies

Indoor air quality protective
measures

Pollution prevention strategies

Independent inspection & testing



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High Performance Schools in Bibb County

Indoor Environmental Quality Completed School

Designed to achieve
rigorous acoustical performance

Use of low-emitting
volatile organic compound
materials

Increased training in
eco-friendly cleaning methods

Independent inspection & testing



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Dollars and 'sense'...

What does it mean to our students and teachers?

What does it mean to our construction costs and operating budget?



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Students and Teachers

Rooms with ample day-lighting & outside views → improves student performance

Reduced eye strain due to evenly distributed non-glare lighting → improves productivity

Improved acoustical performance → improves student attentiveness, reduces teacher voice fatigue



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Students and Teachers

- Rooms with enhanced indoor air quality and mold-resistant materials → reduces incidents of asthma, flu, and colds
- Improved thermal control → improves attentiveness and productivity
- Academic needs specifically met from deliberately designed rooms → increases instructional performance



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Students and Teachers

Research & Studies

- www.buildgreenschools.org/resources/research.html
- The Hescong Mahone Daylighting Study
- Greening America's Schools
- The Cost of Green Revisited (Davis Langdon, 2007).
- Energy Performance of Daylit Schools in North Carolina (Mike Nicklas and Gary Bailey, 1996).
- Green Schools: Attributes for Health and Learning
- Environmental Law Institute, *Green Cleaning in Schools: Summary of Selected State and School District Policies* (2007)
- *Acoustical Barriers to Learning*, Technical Committee on Speech Communication, Acoustical Society of America
- National Clearinghouse for Educational Facilities
- Carnegie Mellon University Center for Building Performance, 2005

Construction Savings

Deconstruction, recycling,
& landfill diversion

55,166 tons

New material
and landfill dumping
fees savings

\$2,463,245

Operating Costs

Potential floor maintenance savings by using polished concrete

Potential cost savings
\$.80/sf/year
150,040 square feet

\$120,000/year

Potential life-cycle cost savings:
(50 years w/ 3% inflation per year)

\$13,500,000+

Operating Costs

Potential electrical
and gas cost savings

\$160,000/year

Potential life-cycle cost savings
(50 years w/ 3% inflation per year)

\$18,000,000+



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Collateral Efforts

Invited to share our strategies and successes in constructing high performance schools on the Southface Energy Institute web site

Utilizing the Environmental Protection Agency's Energy Star Portfolio in partnership with Southface Energy Institute

District challenged architects and contractors to become LEED Accredited Professionals

Participated in Macon's Earth Day 2008

Collateral Efforts

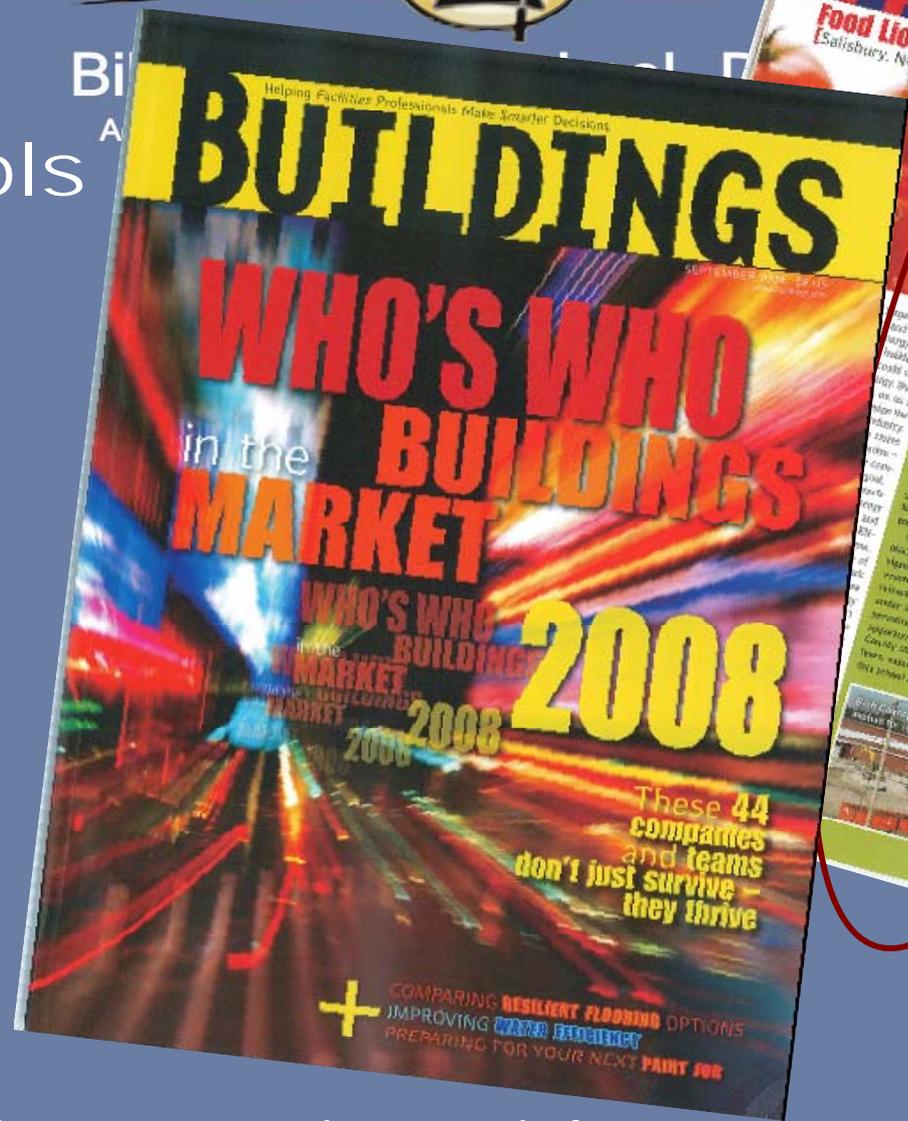


The new Southwest High School features a solar panel demonstration kit - including a 12' x 12' solar panel and monitoring equipment - thanks to the generosity of Georgia Power, their Partner in Education.

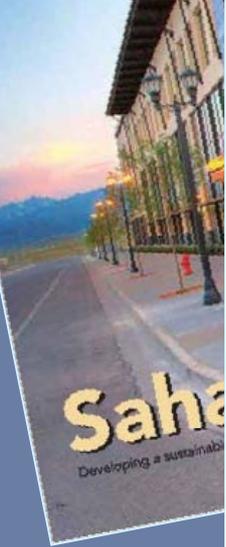


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Bibb Schools
selected
for "Who's
Who in the
Building
Market"
by
*Buildings
Magazine.*
Sept '08



Only 44 organizations nationwide were selected.



Saha
Developing a sustainable



July '09



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Building for the Future

With the leadership of our Superintendent and the commitment of our Board of Education we are promoting the design and construction of high performance schools that we believe will make a substantial impact on occupant health, test scores, teacher retention, school operational costs, and the environment.

