



NJ Schools Construction Corporation
BUILDING 21ST CENTURY SCHOOLS FOR 21ST CENTURY LEADERS

NJ School Boards Association

John F. Spencer, CEO

October 21, 2004

James E. McGreevey, Governor



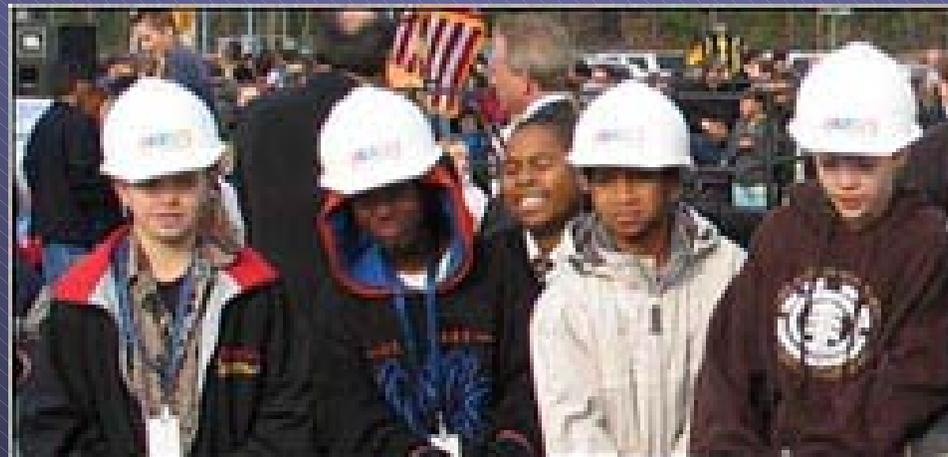
Building A Better

New Jersey

Building Schools For the 21st Century

Building Stronger Communities

Building a Robust Economy



Program Background



Educational Facilities Construction & Financing Act Passed July 2000

\$8.6 Billion in School Construction throughout NJ

- \$6 billion for 31 Abbott Districts
- \$2.5 billion for Non-Abbott Districts
- \$100 Million for County Vocational Schools

Gov. McGreevey signs E.O. Creating SCC July 2002



Responsible for Activities in 31 Abbott Districts & 27 Districts Receiving Over 55% of Funding in State Aid

Manage All Phases of Construction Activity Including:

- Land Acquisition
- Procurement of Design Professionals
- Procurement of Construction Contractors
- Day-to-Day Construction Management
- Furniture & Equipment
- Computers



Over 550 School Districts

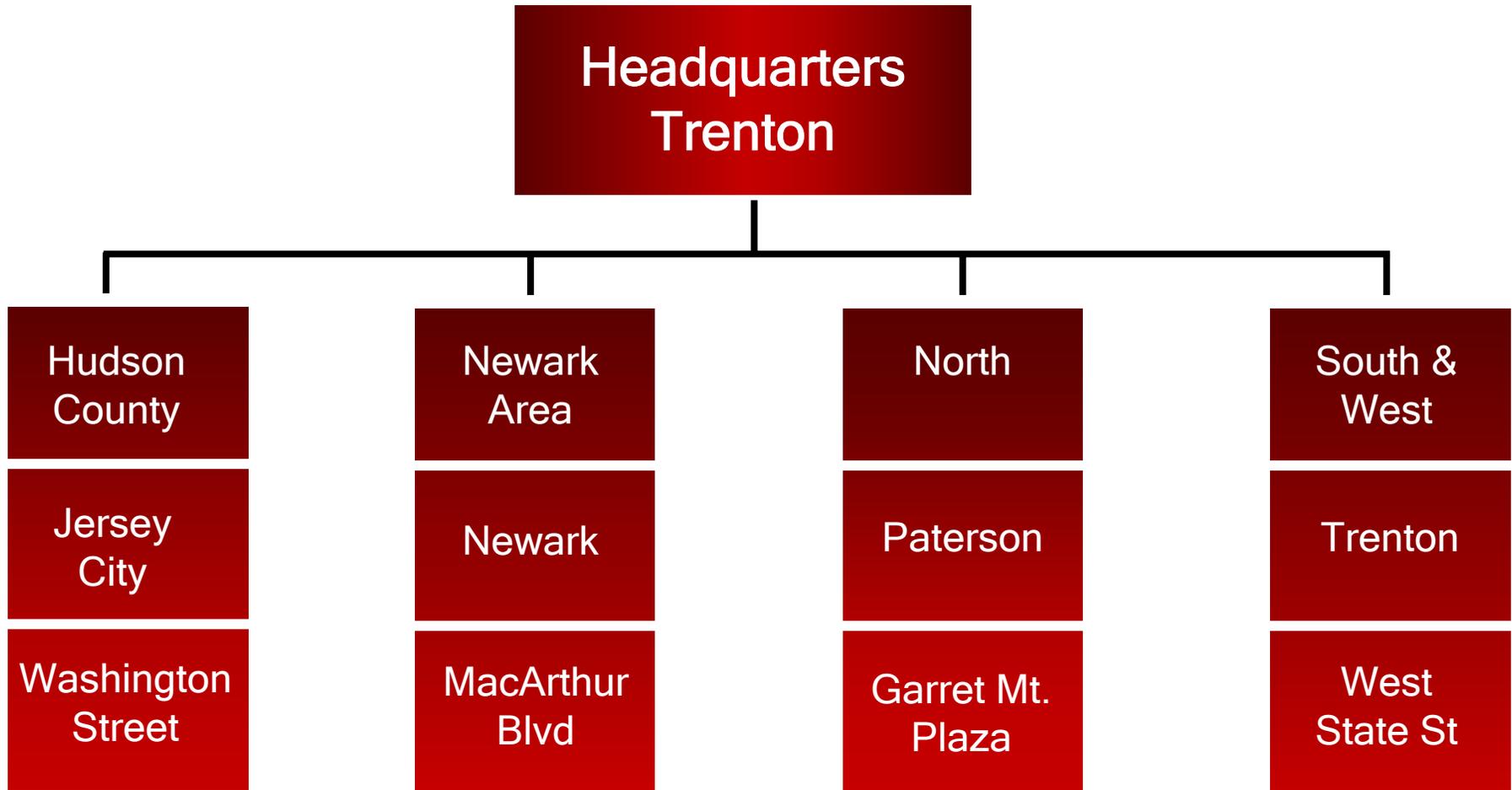
Substantially all Projects Managed by District

**NJSCC Reimburses District at Minimum of 40% of
Eligible Costs**

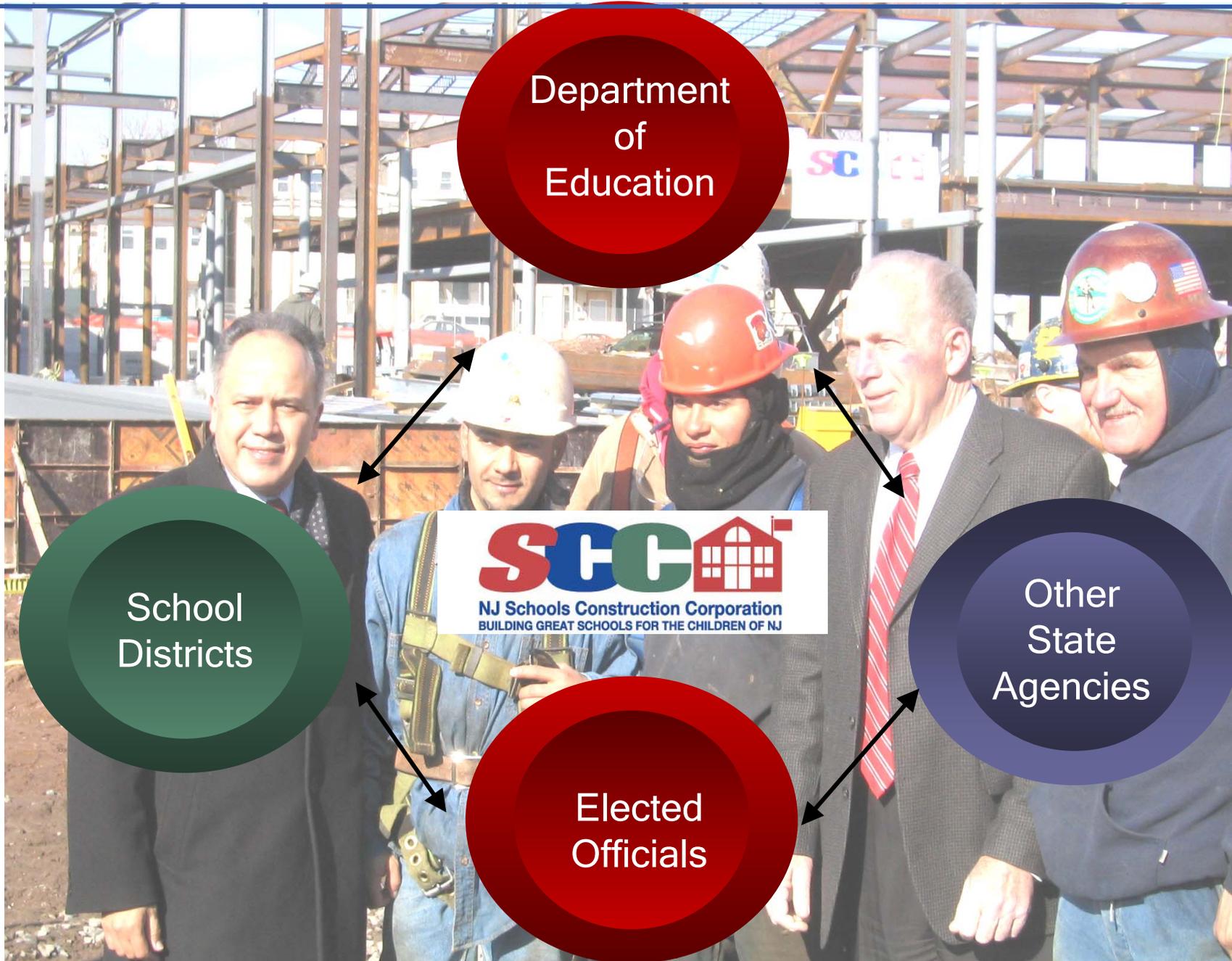
Ensure Compliance with Contracting Laws

Payments Made Based on Milestones

REGIONAL OFFICES



Partnering



Actual and Projected Total Expenditures

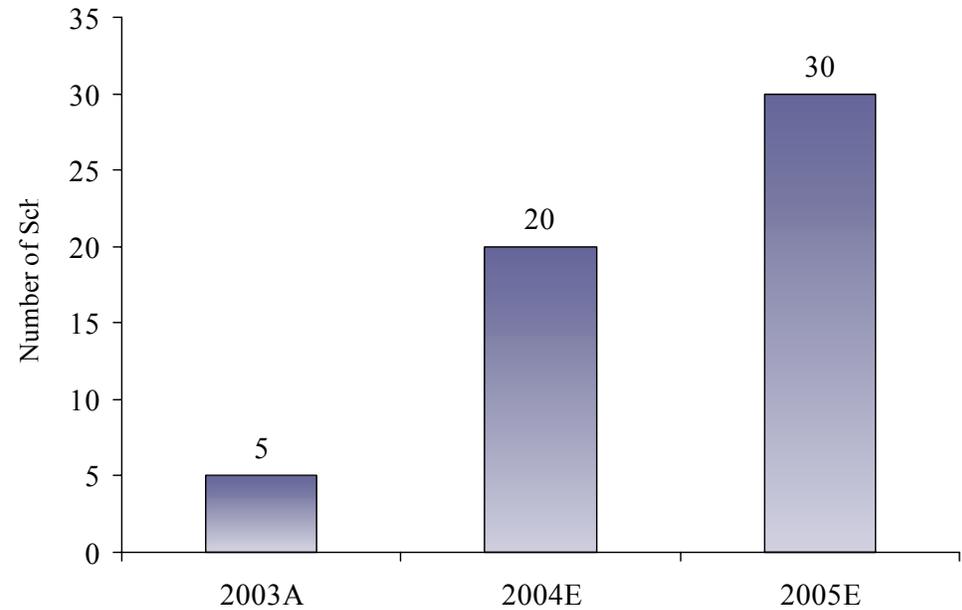
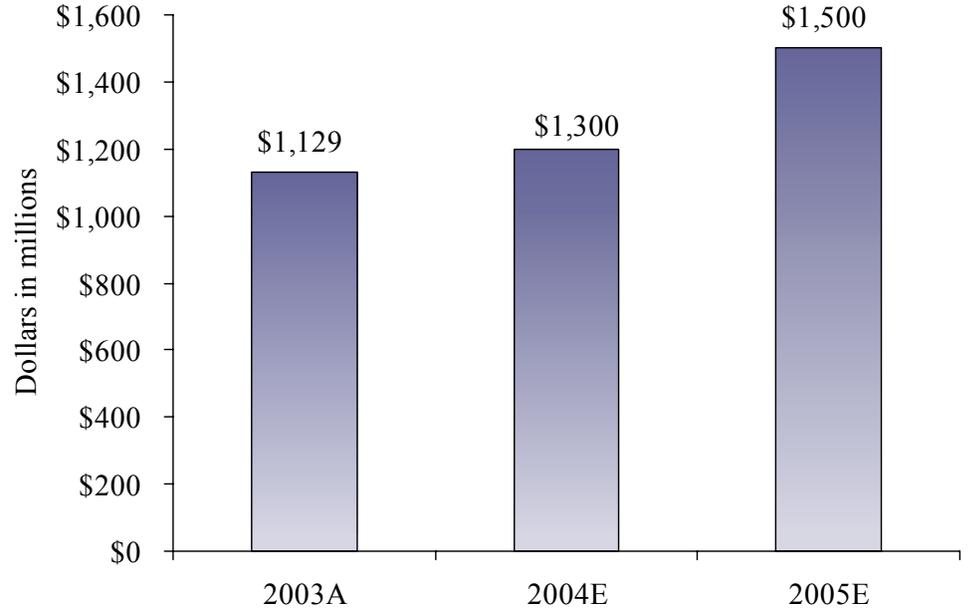


Actual and Projected New School Openings

2003: 5

2004: 20

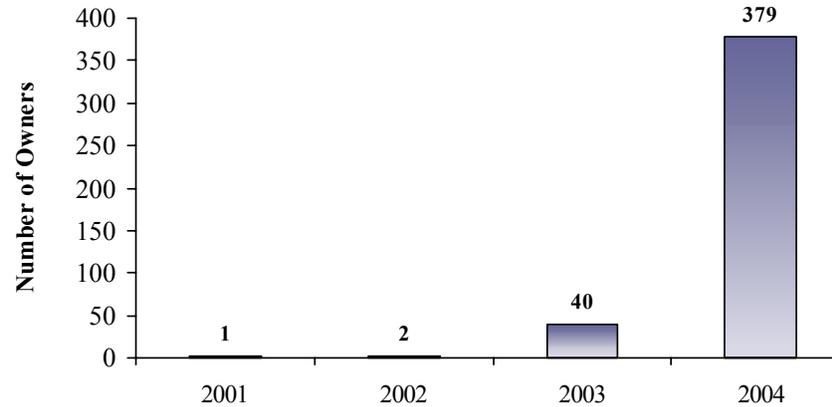
2005: 30



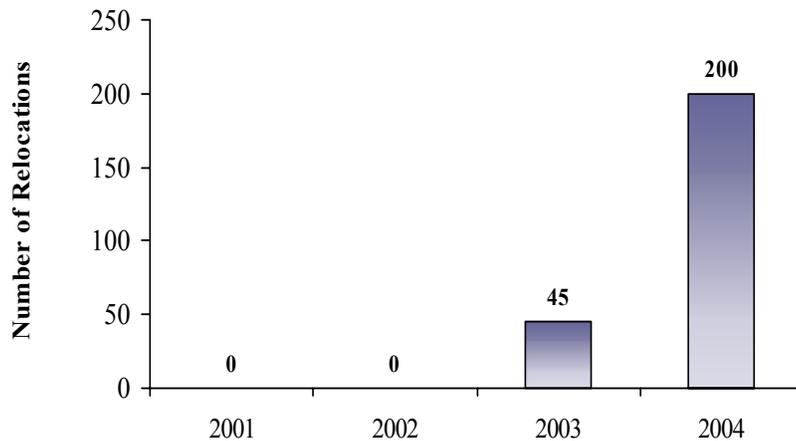
Land Acquisition and Relocation



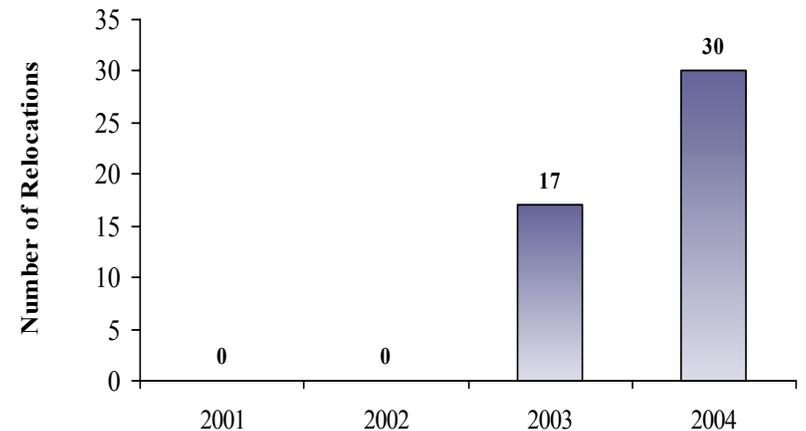
Land Acquisitions (Abbott Districts)



Residential Relocations (Abbott Districts)



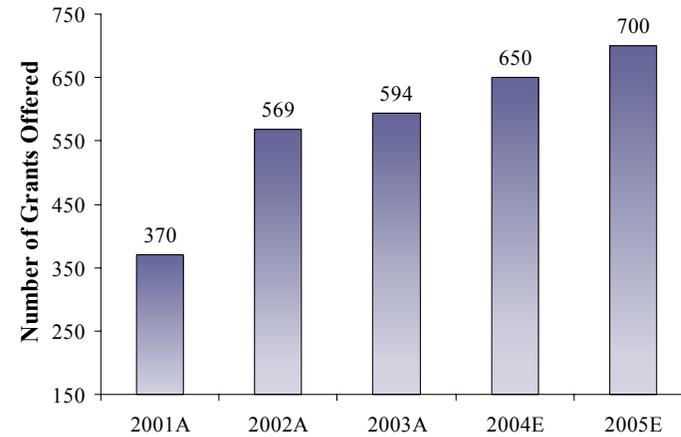
Commercial Relocations (Abbott Districts)



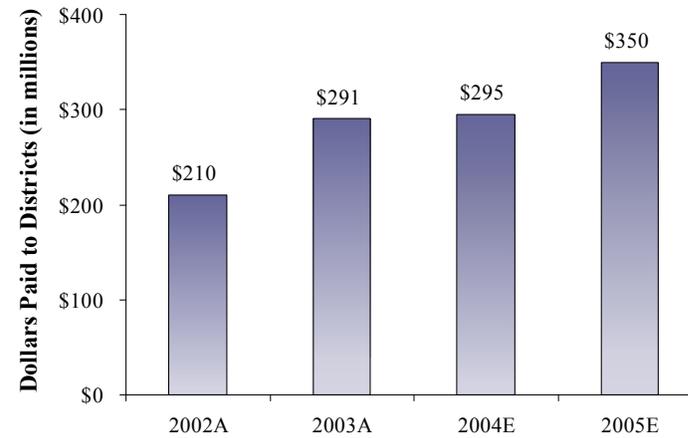
Non-Abbott Grant Activity



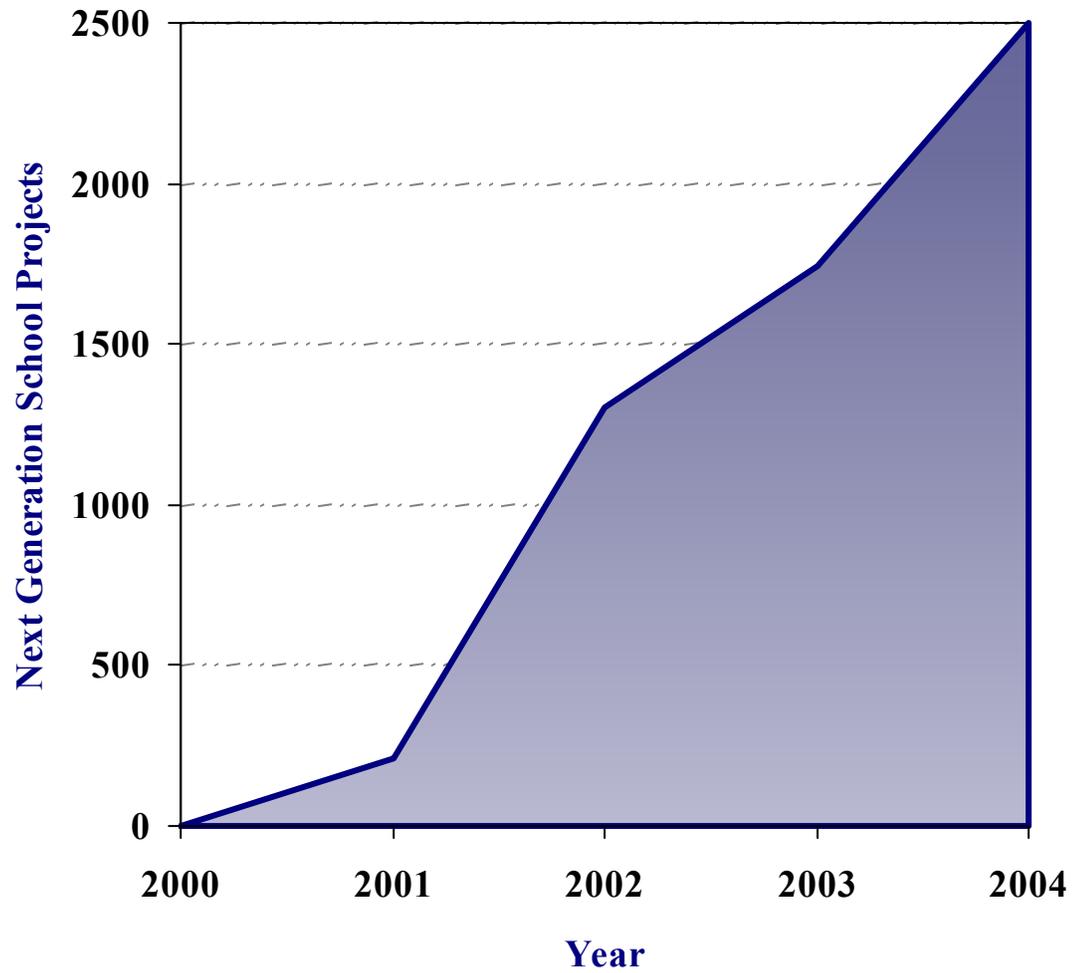
Actual and Projected Grant Awards



Actual and Projected Grant Disbursements



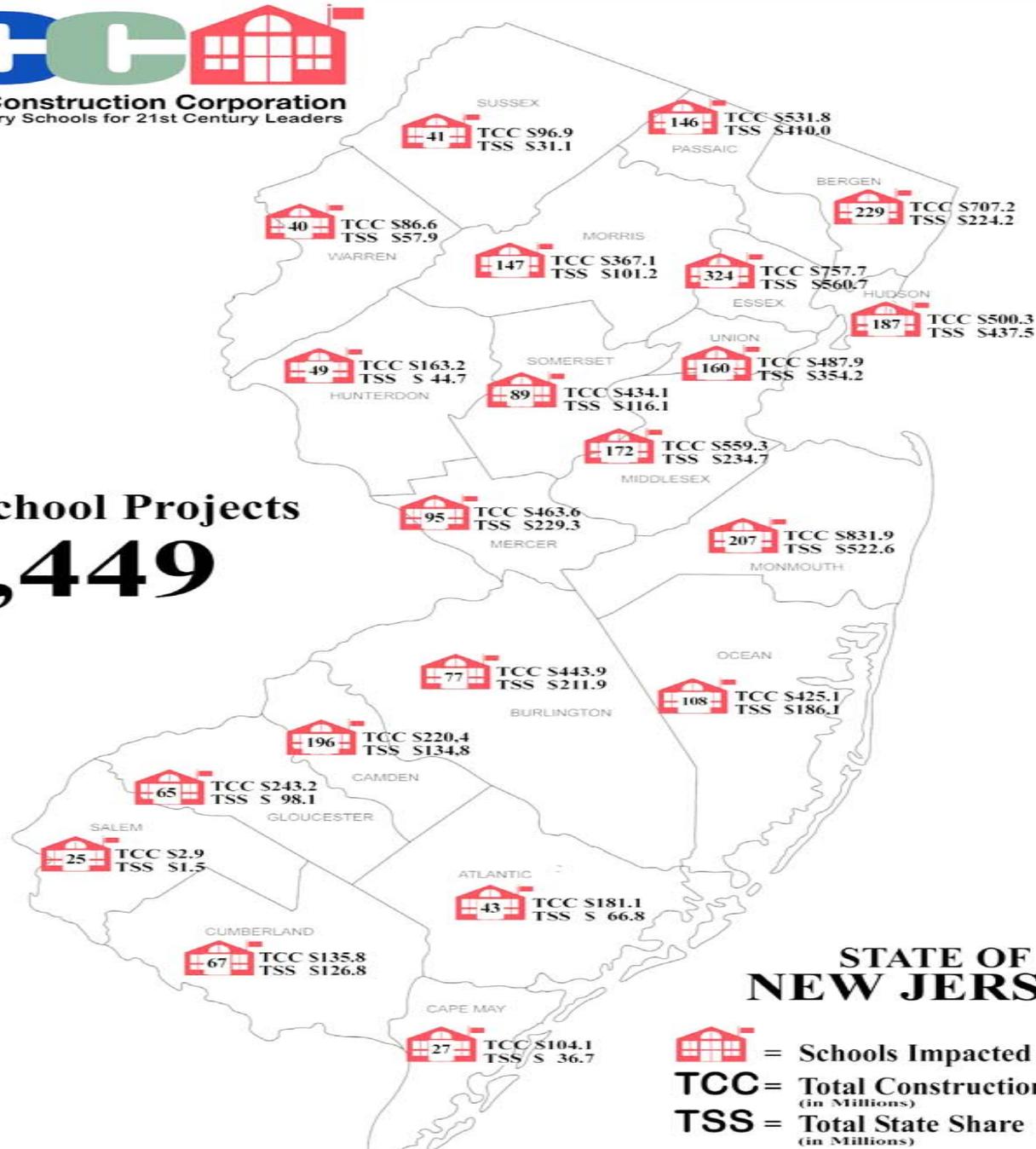
School Projects Underway



County Breakdown- Managed & Non-Managed Projects



Total School Projects
2,449



STATE OF NEW JERSEY

= Schools Impacted or Created
TCC = Total Construction Costs (in Millions)
TSS = Total State Share (in Millions)

SCC Program Status

	Allocated	Committed
Abbott	\$6.0 B	\$3.5 B
Non Abbott	\$2.5 B	\$1.9 B
Vocational	\$0.1 B	\$0.1 B
Total	\$8.6 B	\$5.7 B



Developed Aggressive SBE Program

Carve-Out Program

Established SCC Workforce Monitoring Program

Created Owner Controlled Insurance Policy

Initiated Statewide Marketing & Outreach Campaign

Implemented M/WBE Contractor Training Program

Created Bonding & Working Capital Program

Significant Milestones

Burlington City's Samuel Smith School Early Childhood Learning Center Opens

February 2003



SCC Completes Health & Safety Repairs Throughout the State
Impacts \$660 million for 344 Schools With No Delayed Openings

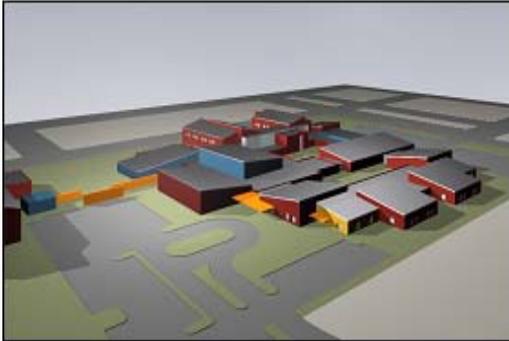


December 2003



Final Designations, July 2004

*Camden, New Brunswick, Vineland, Trenton,
Union City, East Orange*



Significant Milestones - SCC Opens New Schools Throughout NJ

Union City Middle School

September 2004



Schools must incorporate maximum operating efficiencies and new technologies to advance energy efficiency of schools and their operating systems.

Educational Facilities
Construction and Financing Act
Legislative Findings

“WHEREAS, it is in the best interests of the people of New Jersey that school facilities developed under the Act shall be modern facilities of the 21st century, combining all of these features: the best possible learning environment, the most energy-efficient design, the most environmentally sustainable systems, and the highest community relevance....”

Governor James E. McGreevey
New Jersey Executive Order #24

What is a High Performance,
21st Century School Building?

High Performance, 21st Century Schools

- **Five Characteristics**
 - **Healthy and Productive**
 - **Cost Effective**
 - **Educationally Effective**
 - **Sustainable**
 - **Community Centered**

Healthy and Productive

- High levels of acoustic, thermal, and visual comfort
- Large amounts of natural daylight
- Superior indoor air quality
- Safe and secure



Cost Effective

- **Energy Efficient**
- **Use energy analysis tools that optimize energy performance**
- **Use life cycle costing**
- **Use a commissioning process**



Cost Effective Energy Efficient

- 30%-40% for new schools
- 20%-30% for renovated schools



Educationally Effective

- Learning Centered Design
- Stimulating Architecture
- Accessibility
- Flexibility and Adaptability
- Information Technology



Sustainable

- Renewable energy
- High performance mechanical and lighting systems
- Environmentally responsive site planning
- Environmentally preferable materials and products
- Water efficient design



Community Centered

- Community Involvement
- Community Use
- Catalyst for Community Economic Development



Why is a High Performance School Valuable?

- Better Student Performance
- Increased average daily attendance
- Increased teacher satisfaction and retention
- Reduced operating costs
- Reduced liability exposure
- Positive influence on the environment
- Ability to use the facility as a teaching tool

Better Student Performance

Daylighting in Schools

*An Investigation into the Relationship Between
Daylighting and Human Performance*

Condensed Report

August 20, 1999

Submitted to:

*George Loisos
The Pacific Gas and Electric Company
on behalf of the
California Board for Energy Efficiency Third Party Program*

Submitted by:

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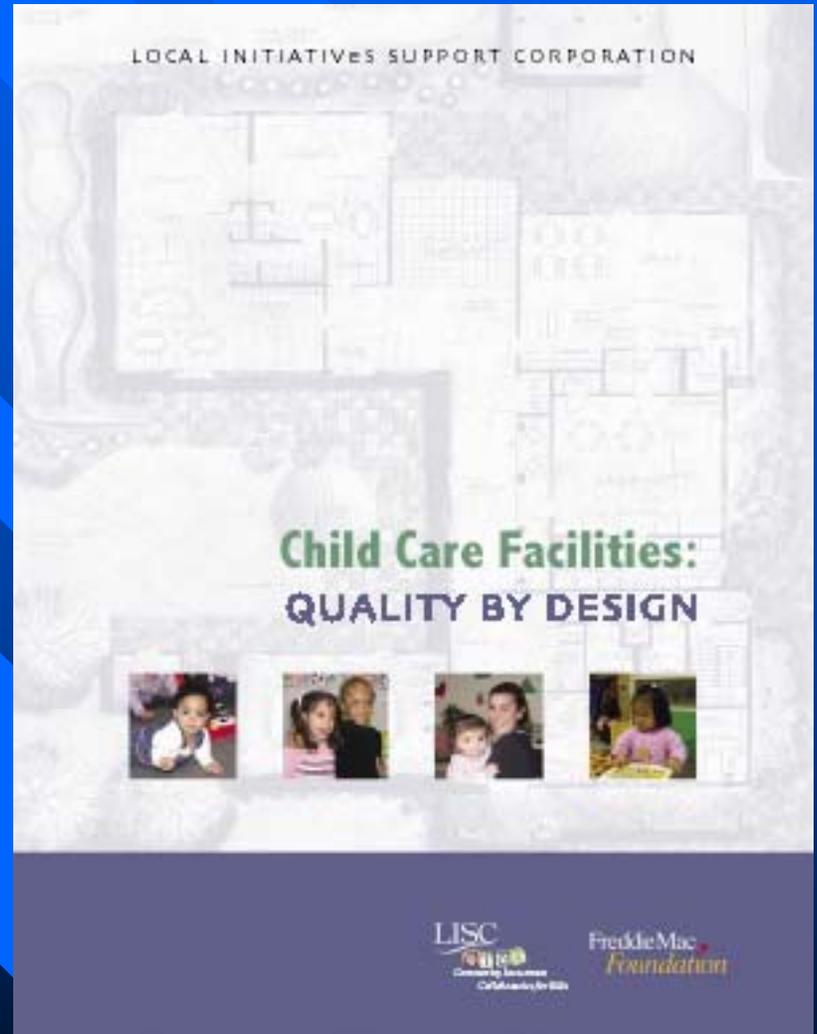
Better Student Performance

- 21,000 students from three districts:
 - Orange County, California
 - Seattle, Washington
 - Fort Collins, Colorado
- Elementary (2nd through 5th grades):
 - Highly standardized tests
 - Extensive data available
 - One teacher/one classroom throughout year

Better Student Performance

- The classrooms with the most amount of daylighting are seen to be associated with a 20% to 26% faster learning rate, as evidenced by increased student test scores over one school year, compared to classrooms with the least amount of daylighting.
- The classrooms with the most window area are seen to be associated with 15% to 23% faster rate of improvement over a one year period when compared to classrooms with the least amount of windows.

Why is a high
performace
school
valuable?



New Jersey Examples

José Martí Middle School



New Jersey Examples

José Martí Middle School



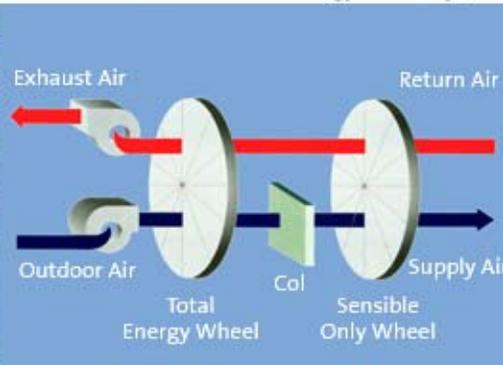
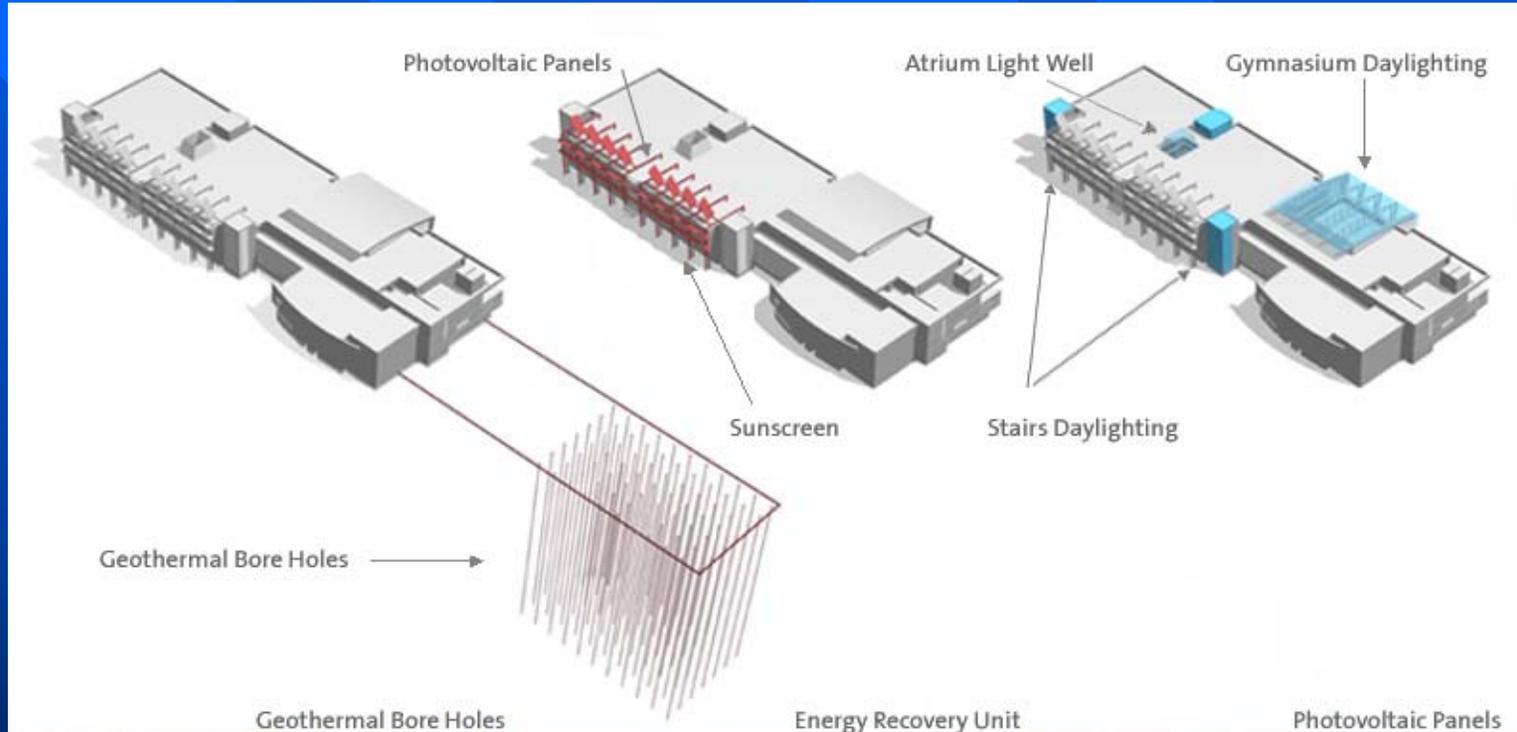
New Jersey Examples

Newark Science Park H.S.



New Jersey Examples

Newark Science Park H.S.



New Jersey Examples

Neptune Township Community School

THE RESULTS
OF NEPTUNE

COMMUNITY CENTERED
SUSTAINABLY DESIGNED
TEACHING TOOL
HIGH PERFORMANCE

Unique District programs

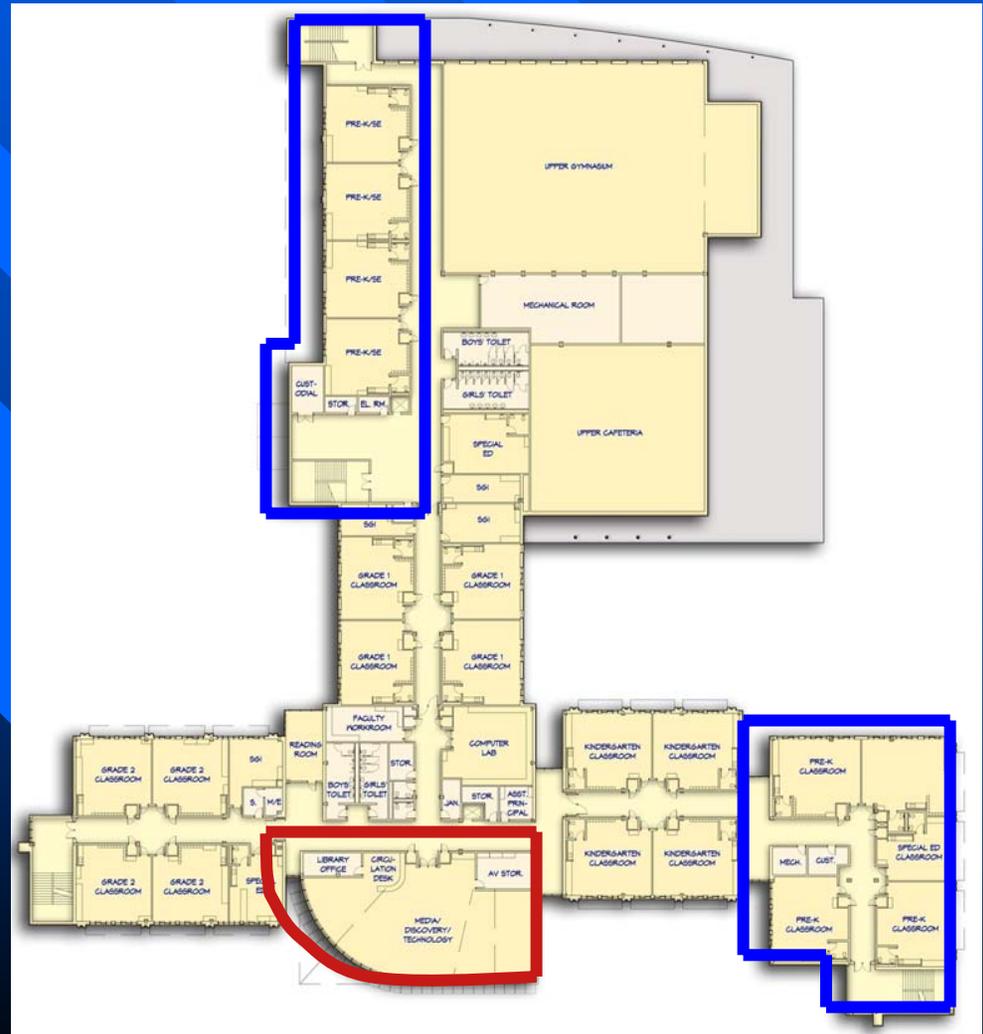
Pre-K – Grade 5 with
self contained special
ed classes, grades 6-12
classes on site

Expanded Fitness and PE

Larger than model gym
and cafeteria
community pool

Community Outreach

Children's public
Library and demonstration
programs



New Jersey Examples

Neptune Township Community School

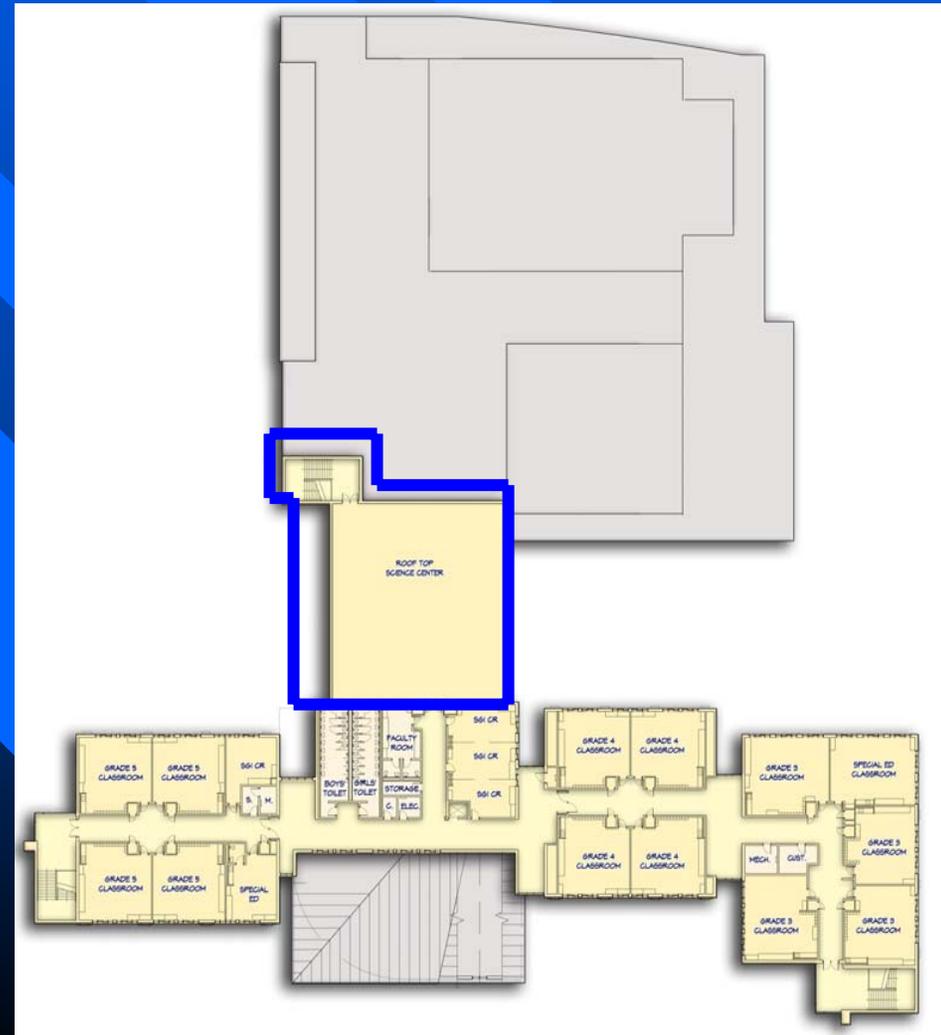
THE RESULTS OF NEPTUNE

COMMUNITY CENTERED
SUSTAINABLY DESIGNED
TEACHING TOOL
HIGH PERFORMANCE

Rooftop garden / science
center

Emphasis on art, music,
life skills, hands on
explorations and cultural
diversity

Time-sharing and
co-curricular
features respond to
neighborhood
and community needs

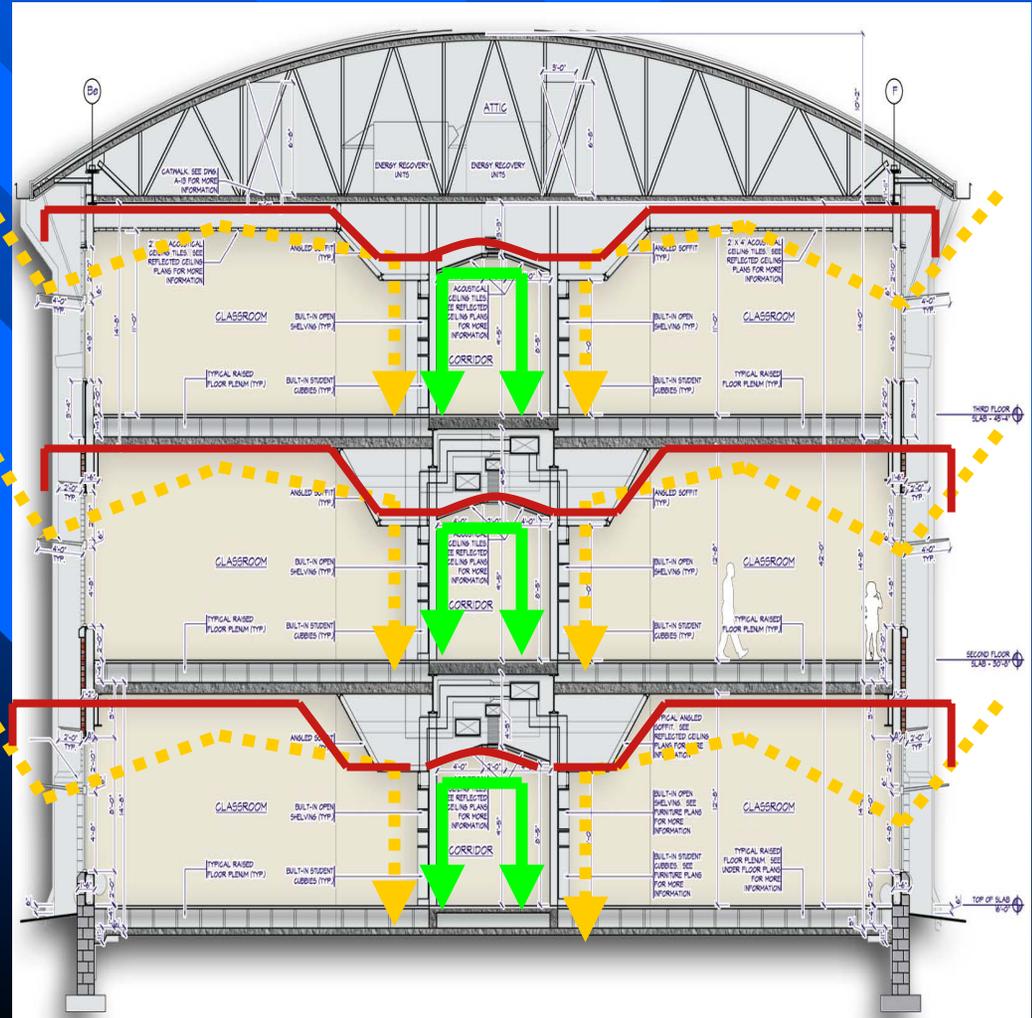


New Jersey Examples

Neptune Township Community School

COMMUNITY CENTERED
SUSTAINABLY DESIGNED
TEACHING TOOL
HIGH PERFORMANCE

- Bounced natural daylighting
- Bounced artificial lighting
- Over 90% views and daylighting focus
- Ceiling profile used as teaching tool

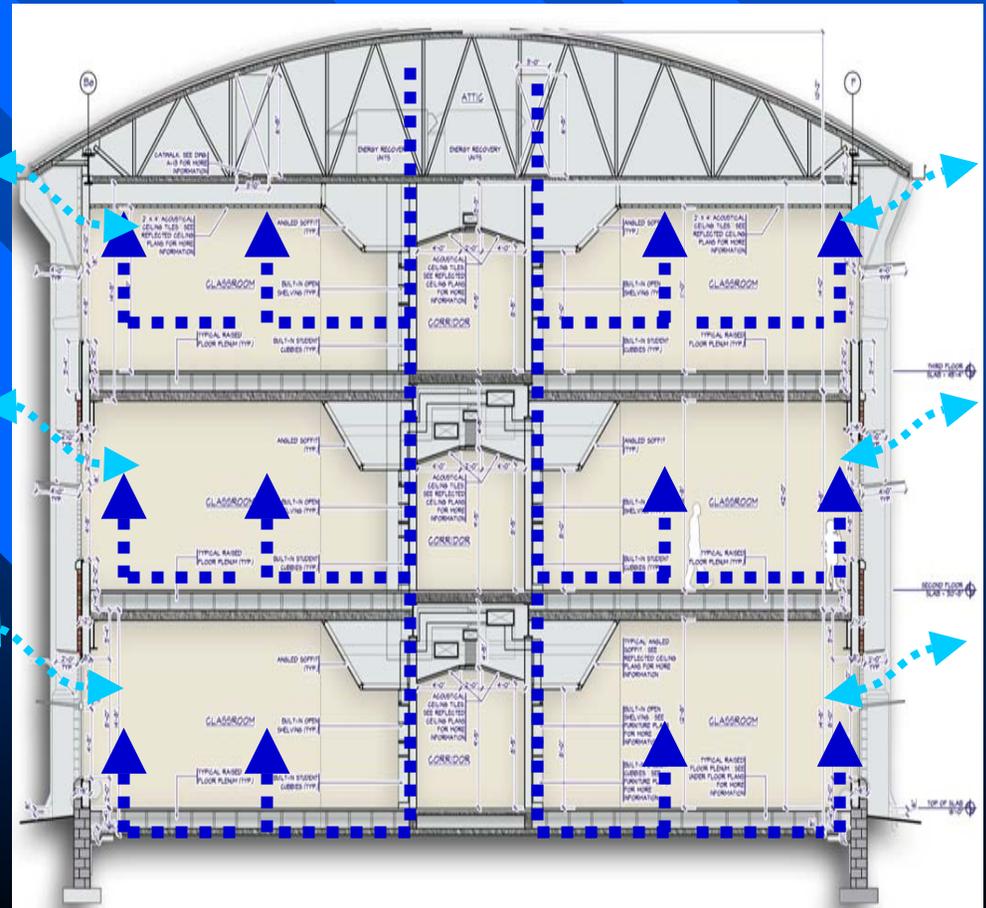


New Jersey Examples

Neptune Township Community School

COMMUNITY CENTERED
SUSTAINABLY DESIGNED
TEACHING TOOL
HIGH PERFORMANCE

- Geothermal heating and cooling
- Raised floor air distribution
- Heat recovery and discharge
- Natural ventilation, passive systems, and use of sensors
- CO₂ monitoring

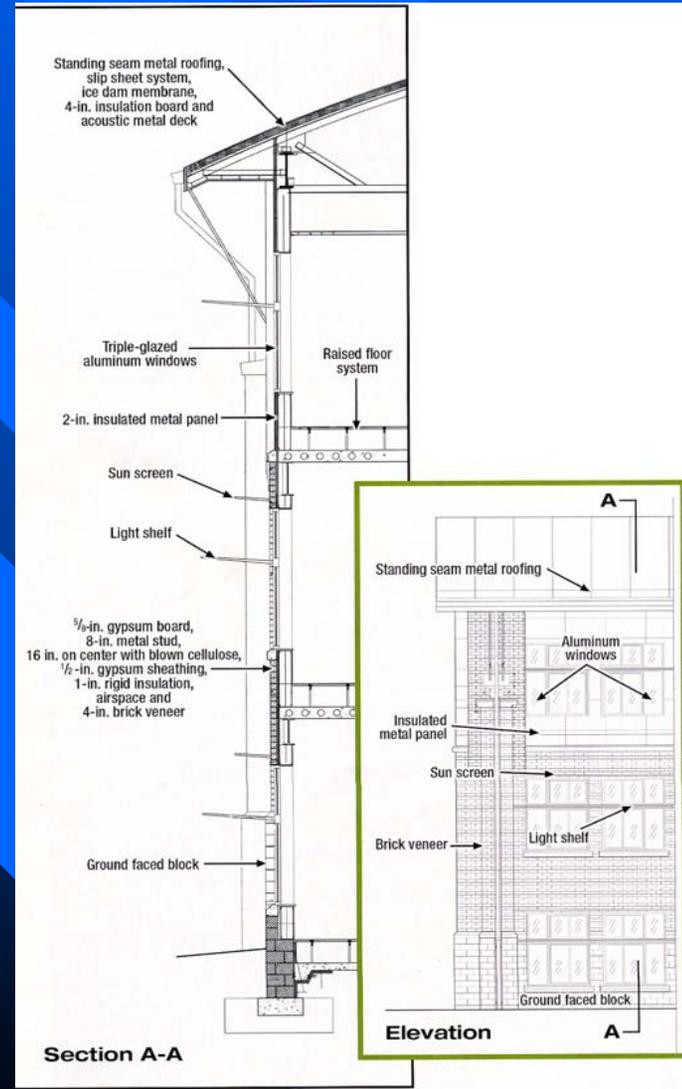


New Jersey Examples

Neptune Township Community School

COMMUNITY CENTERED
SUSTAINABLY DESIGNED
TEACHING TOOL
HIGH PERFORMANCE

- \$125,000 investment yields \$275,000 net downsizing of mechanical systems and \$80,000 annual savings in operational costs
- Renewable energy, use of BPU grant for photo-voltaics and exploring use of wind
- Cool metal roof and light reflectivity
- High tech meets the familiar



High Performance, 21st Century Schools

Making High
Performance
the Norm in
New Jersey

Key Characteristics and Design Criteria

•Healthy and Productive

- Acoustic, Thermal and Visual Comfort
- Daylighting
- Indoor Air Quality
- Safety and Security

•Cost Effective

- Commissioning
- Energy Analysis
- Life-cycle Cost

•Educationally Effective

- Learning Centered Design
- Stimulating Architecture
- Accessibility
- Flexibility and Adaptability
- Information Technology

•Sustainable

- High Performance Building Shell
- Renewable Energy
- High Performance HVAC
- High Performance Electric Lighting
- Environmentally Responsive Site Planning
- Environmentally Preferable Materials and Products
- Water Efficiency

•Community Centered

- Catalyst for Economic Development
- Community Involvement
- Community Use

21st Century Schools Design Manual

- **Design Criteria**

- Performance based and flexible
- Fact sheets that explain each of the 24 Design Criteria and offer best practice recommendations

- **Design Performance Standards**

- Design and construction standards
- Requirements

- **Deliverables**

- Required deliverables at key project review phases
- Oral presentations at the conclusion of each major design phase (organized to address each individual Design Criteria)
- LEED checklist

- **Goals**

- Help Project Teams achieve high performance goals
- Help NJSCC review Project Team progress in meeting goals and in overall performance evaluation

Program Phase

Daylighting

- ❑ Has daylighting been established as a specific design goal for the school and, in particular, for the Classroom?
- ❑ How will siting and site elements influence the building's access to sunlight?
- ❑ Can the site accommodate one-story construction to allow skylights or roof monitors in the classroom?
- ❑ Does the site allow the building to be oriented so as to optimize daylighting opportunities?
- ❑ How are the proposed daylighting strategies reflected in the program; specifically, what are the implications for the height and massing of the building?

Schematic Design Phase

Daylighting

- ❑ What basic strategies are being considered for bringing daylight into the school, particularly the classrooms?
- ❑ What strategies are being considered to control unwanted heat gain and glare?
- ❑ What tools are being used to analyze the impact of any daylighting strategies on the electric lighting system and on visual comfort and energy use?
- ❑ What are the preliminary results of these analyses?

Q & A

Visit our web site at www.njscc.com