

Clearview Elementary School
Hanover, Pennsylvania
A LEED Gold Certified Building

Meg Malloy

Envs 664

October 18, 2006

LEED

- Leadership in Energy and Environmental Design Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings.

-<http://www.usgbc.org/>

Why Was LEED Created?

- Facilitate positive results for the environment, occupant health and financial return
- Define “green” by providing a standard for measurement
- Prevent “green washing” (false exaggerated claims)
- Promote whole building, integrated design processes
- Raise consumer awareness
- Transform the marketplace!!

– Page 9 of LEED Green Building Rating System
Version 2.0 Final, March 2000

LEED

“Cosmo Quiz”



- LEED Green Building Certification Levels
 - Certified 26-32 points
 - Silver 33-38 points
 - Gold 39-51 points
 - Platinum 52+

LEED CATEGORIES

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

- Sets
- “Living
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Case Study:

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Jim Schafer

<http://www.eere.energy.gov/buildings/info/documents/pdfs/32680.pdf>

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Clearview Elementary School

- Sustainable Sites:
 - Pre-existing elementary school site
 - No Brownfield
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

Clearview Elementary School

- Sustainable Sites
- Water Efficiency
 - Landscape: Native Species
 - Low flow showerheads, waterless urinals, push button faucets
 - Stormwater?
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

LEED CATEGORIES

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
 - Location of windows
 - Heating and Cooling
 - High Albedo
- Materials and Resources
- Indoor Environmental Quality

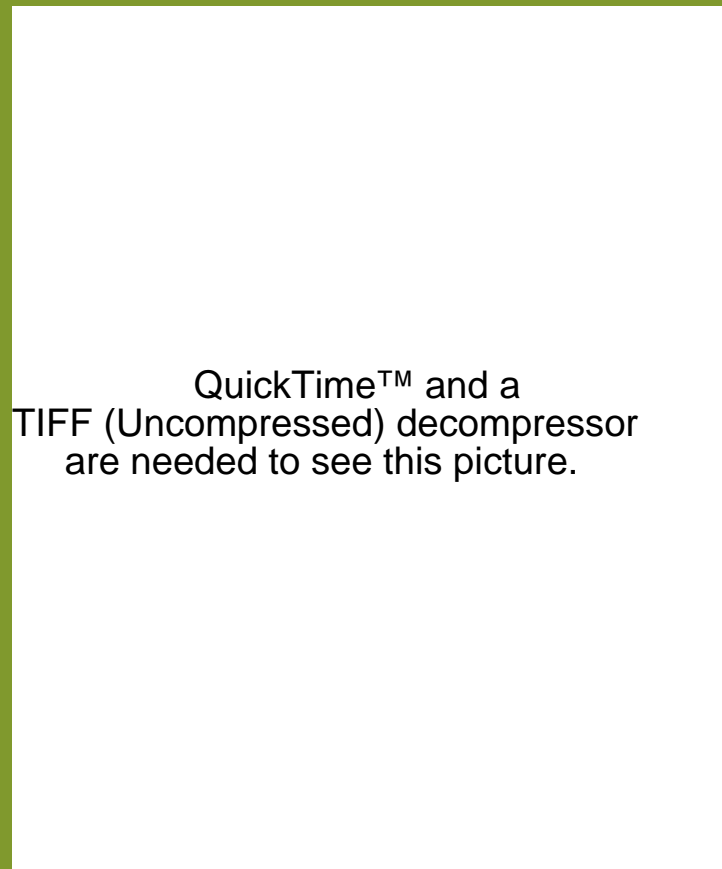
Window Design

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Jim Schafer

<http://www.eere.energy.gov/buildings/info/documents/pdfs/32680.pdf>

Windows



- This image is double paned
- Triple paned is more expensive and some argue obsolete now with glazing

High Albedo Roofing

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• www.eley.com/guam/wink/masroof1.gi

OFFICE OF GEOTHERMAL TECHNOLOGIES

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Geothermal heat pumps use the stable temperature of the ground (vertical boreholes typically are 100 to 400 feet deep) as a heat source to warm buildings in winter and as a heat sink to cool them in summer.

LEED CATEGORIES

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- **Materials and Resources**
 - Innovation Credit
 - Insulating Concrete Forms(ICF)
 - Recycled/Reuse: waste and new
- Indoor Environmental Quality

Insulating Concrete Forms

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- Right: www.semmesco.com/images/smICF2.jpg

LEED CATEGORIES

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
 - Floor mounted air diffusers
 - Low emission and non toxic paints, sealers and adhesives

Numbers

- 30% reduction in water use
- 40% reduction use in energy
- Total annual saving in energy costs to be \$34,000 per year
- 40% of the material was local
- 75% of all material used had a high recycled content.
- Building cost 6.35 million dollars which is only \$150,000 over a conventional school in the Hanover Pennsylvanian District.

Office of Energy Efficiency and Renewable
Building Technologies Program part of the U.S.
Department of Energy

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TIFF (LZW) decompressor
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Summary

- Lives up to expectations
- Parents, Faculty and Staff are happy with the new building
- A study is being conducted by a local university about daylighting and test results.
- More cost upfront but has cut energy cost in the last 3 years.
- Implement Stormwater Management Plan

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