Illinois Resource Guide for Healthy, High Performing School Buildings

February 2006

Illinois Capital Development Board
Illinois State Board of Education
Healthy Schools Campaign

Foreword

January 2006

Building a new school is one of the most important investments a community can make

The true cost of a school is much more than the price to design and build it

[1] *Daylighting in Schools*, Heschong Mahone Group, Pacific Gas and Electric Company on behalf of the California Board of Energy Efficiency Third Party Program, August 1999

Section 4:

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A robust commissioning process will ensure that systems meet the goals of the school's students, teachers and administrators

By reducing energy and heat loss, an energy efficient building shell can reduce operating costs

Section 4:


Illinois Clean Energy
community foundation

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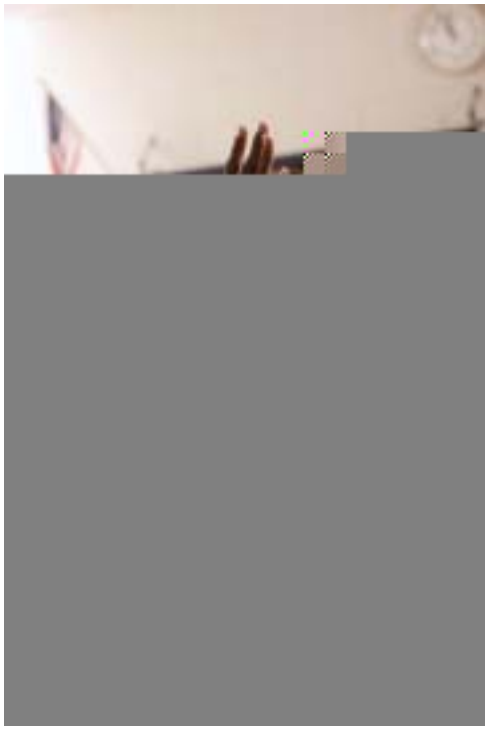
A high performance HVAC system will help ensure the health of students and employees by delivering sufficient volumes of fresh air



The HVAC system is one of the largest energy consumers in a school

Even modest improvements yield relatively large savings for operating budgets

[1] *Daylighting in Schools*, Heschong Mahone Group, Pacific Gas and Electric Company on behalf of the California Board of Energy Efficiency Third Party Program, August 1999

What

Why

According to the U.S. Environmental Protection Agency, the concentration of pollutants inside a building may be two to five times higher than outside levels. Children are particularly vulnerable to such pollutants because their breathing and metabolic rates are high relative to their size – much higher than for adults. Maintaining superior indoor air quality is therefore a critical issue for schools to address. According to the EPA, failure to do so may:

- Negatively impact student and teacher performance.
- Increase the potential for long- and short-term health problems for students and staff.
- Increase absenteeism.
- Accelerate deterioration and reduce efficiency of the school's physical plant.
- Create negative publicity that could damage a school's image.
- Create potential liability problems.

Designing for superior indoor air quality from the beginning is the most cost-effective way to avoid these negative outcomes and ensure a healthy and productive indoor environment.

How

Control Sources of Contamination.

- When selecting a site, test for potential sources of contamination, such as: radon, hazardous waste and releases from nearby industry or agricultural sites.
- Design location of odor and vehicle exhaust sources (e.g., from garbage dumpsters, buses, cars or trucks) away from air intake vents and from areas of occupancy.

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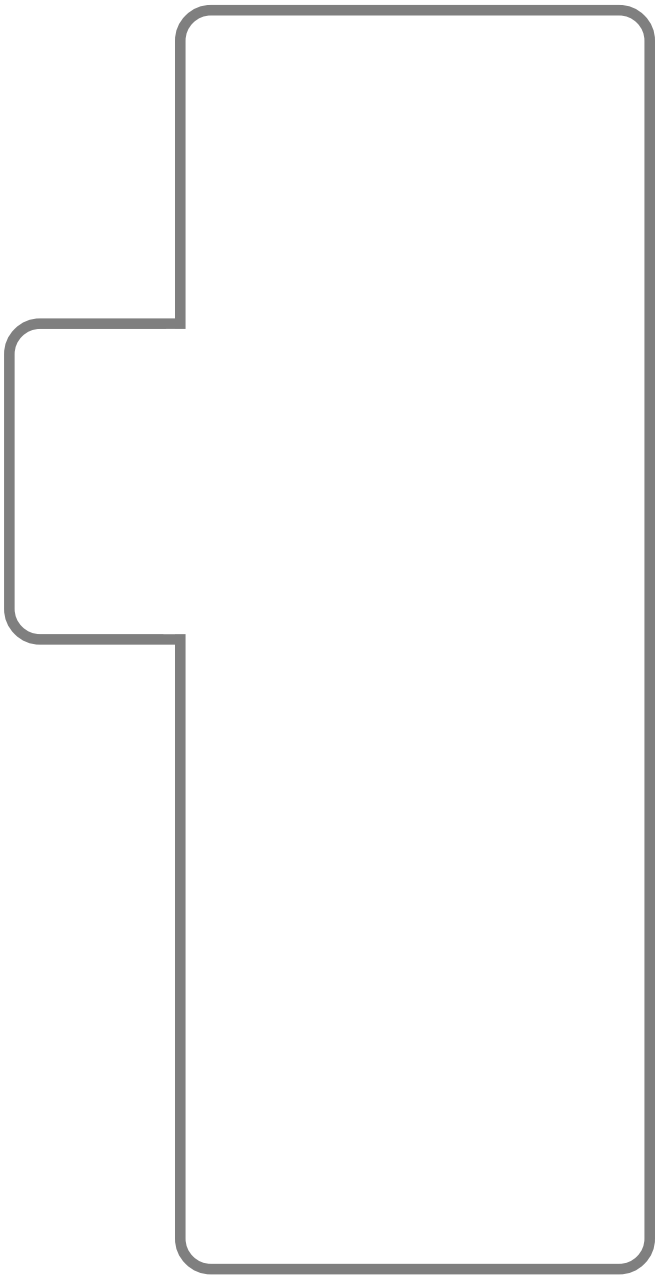
Kitchen and cafeteria design choices can promote healthy eating behaviors among students

Section 4:

A school health facility should support health-promoting efforts but also comply with OSHA requirements



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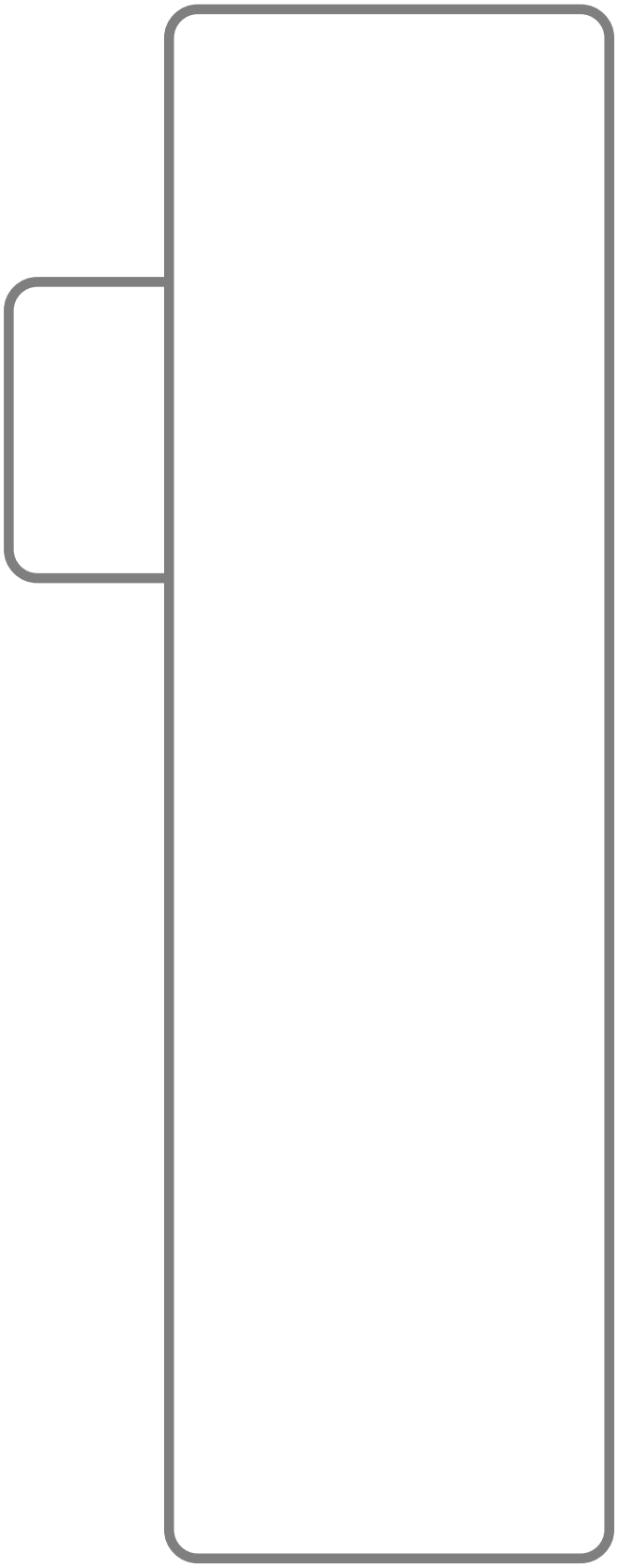


Section 5

Section 5:

New products such as microfiber cloths can reduce the need for unhealthy cleaning solutions

Impact on Other Systems and Technologies

Green cleaning is more than just replacing a traditional cleaning chemical for an environmentally friendly alternative. Many products come in concentrated form and can be used for multiple purposes, allowing for the reduction and consolidation of cleaning products. Some cleaners come in sealed, no-spill cartridges, which snap into a dispensing system that automatically portions the solution into a bottle or bucket. With no chance to incorrectly measure or spill, custodians use the minimum required amount of solution.

A successful cleaning program also begins before new products or equipment are installed and continues with routine vacuuming, maintenance cleaning and periodic restoration efforts. For example, it is important to keep carpets away from situations where water, chemicals or other hard-to-clean materials are used. Locker rooms, kitchens and copy centers are not good places to install carpets. Preventing soil from entering a building in the first place (e.g., large walk-on mats placed in high traffic areas) means the use of carpet cleaning products can be reduced.

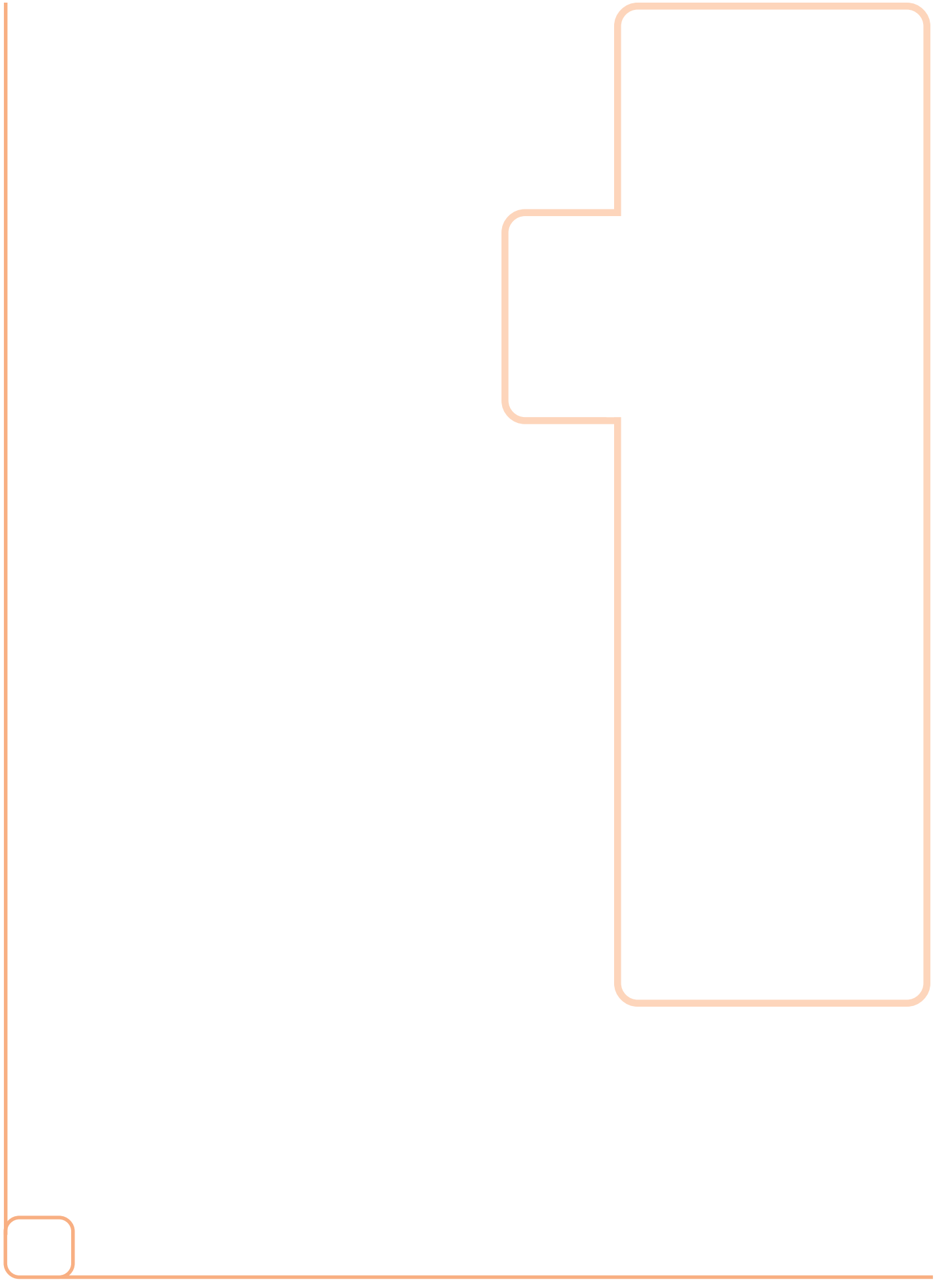
Finally, if more harsh cleaning products like floor strippers are necessary, it is important to recognize that some building occupants may be sensitive to the vapors or residues from these products. The floor stripping work should be done at night, on weekends or during holidays. Windows should be opened and fans used to increase the amount of outside air flowing into the work area. Facility staff should flush the building with fresh air prior to reoccupation by students and staff.

A janitor uses an average of 58.2 pounds of cleaning products per year, many containing hazardous chemicals

Resources

Exposure to diesel exhaust can trigger asthma and other respiratory ailments

The Safer Pest Control Project is the only organization in Illinois dedicated to protecting children and their families from the serious health consequences of pesticides



Mater Dei High School

Lockport Township High School

Acknowledgements

Disclaimer

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At the time of publication, all URLs for Web sites were accurate. A current list is maintained at www.healthyhighperformingschools.org.

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