"Green" Building

As energy conservation awareness increases and the design and construction industry gain experience, there are an ever increasing number of organized initiatives. The US Green Building Council (USGBC) has developed the LEED (Leadership in Energy and Environmental Design) program which is fairly well accepted in the market as a well defined environmentally sensitive grading system.

Within the LEED System and other green building initiatives, you will find supplemental industry guidance standards like; ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers), and FSC (Forest Stewardship Council) to name a few.

Unfortunately the existing City Building does not meet, or is some cases, does not even address many industry accepted minimum "Green Standards". One Example is the simple concept of Daylighting. Daylighting is the term that describes bringing useful, natural light to the interior of a building for its occupants use. The goal is to bring 25 foot candles of measured natural light to 75% of all regularly occupied areas.

Reference supplemental information sheet N-1 for current foot candles (fc) natural light readings. Readings in rooms with windows only varied from 5.3 fc to 25 fc. Due to the fact that the windows are so small, the only way to get an acceptable reading is to be directly in front of the window. However, this is misleading because once you have moved away from the window, while still in the office, the light readings drops significantly (5fc to 10 fc). The goal is to achieve 25fc in the entire room.

The amount of exterior windows in City Hall (built 1970) is only 6% of the total exterior skin. This is very low. As a comparison:

- West Lafayette Library (built 2004) has 50% exterior wall glass
- West Lafayette Morton Center (built 1929) has approximately 20% exterior wall glass

Clearly with the current window configuration, any attempt at Daylighting would be futile.

"Green" Building Continued:

The following is a list of "Green" strategies that can be contemplated if and when a building renovation would take place.

Energy Management
Automated Lighting Controls
Daylighting
Low-VOC paints/finishes/adhesives
Building commissioning
Energy analysis/modeling tools
Recycled/renewable building materials
Environmentally sensitive landscaping
Environmentally responsive site design
High-reflectance, high-emittance roof
Acoustics/soundproofing
Green furniture, fixtures, equipment
Reused construction and demolition waste
Waterless urinals
Stormwater harvesting
Environmentally preferred purchasing
Passive solar
Green (vegetated) roof
Photovoltaics
Geothermal heating/cooling
Underfloor air distribution