Evanston's Civic Center: An Opportunity to Model Sustainability

By Ellen Galland and Eleanor Revelle

In October 2006, the Evanston City Council authorized Mayor Morton to sign the U.S. Mayors Climate Protection Agreement, thereby committing the city to reduce Evanston's greenhouse gas emissions to seven percent below 1990 levels by 2012 — the target set by the Kyoto Protocol for developed countries like the U.S.

Council members now have an opportunity to make significant progress towards this goal by making sustainability a priority in their decisions about the future of Evanston's Civic Center.

It's encouraging that the council is investigating the scope of rehab work that would be required to make the existing building safe and healthy for continued use in the near term. At a minimum, renovations are needed in the areas of life safety and ADA compliance — basic provisions of the building code that the city itself enforces on others. Roof repairs are also clearly needed so as to avoid further water damage and mold formation and to allow removal of the scaffolding, which is both an eyesore and an ongoing expense to the city.

But as council members consider allocating funds to this much deferred maintenance project, they should also commit themselves to renovating the Civic Center for the long term. A decision to remain in the existing building, updated in accord with as many green design principles as practical, is the most sustainable option for Evanston's civic headquarters. As is often noted in preservation circles, "the greenest building is the one that is already built."

Benefits of renovation over new construction

Renovating the existing structure will make use of the large investment in its embodied energy — the energy required to extract and process raw materials, transport finished products to the site and put up the building. Constructing a new civic center of comparable size would require a similar investment of new energy and resources.

Moreover, if the current Civic Center were to be sold and torn down, the "demolition energy" — the energy required to raze, load and haul away the old building — would also figure into the calculation of the energy investment in constructing a new facility.

The energy that would be consumed in building a new 100,000-square-foot civic center would be roughly equivalent to 1.4 million gallons of gasoline — or slightly more than 14,000 tons of CO2. The energy needed to demolish the old building would be the equivalent of about 10,400 gallons of gasoline — or 102 tons of CO2. (Calculations were made using an embodied energy calculator based on a model developed by the Advisory Council on Historic Preservation.)

A rehab project would also consume energy — but far less than new construction. As an example, in an analysis of the adaptive reuse of an 80,000-square-foot hotel into office and commercial space, the ACHP found that the renovation required less than one-fifth of the energy for materials and construction as needed for a comparable new facility. For the Civic Center, this would translate into a savings of over 1.1 million gallons of gasoline — or more than 11,000 tons of CO2.

Even compared to a highly energy-efficient new facility, the rehab option comes out ahead. The annual savings in operational energy for a new civic center would be but a small fraction of the amount of energy required for its construction.

Greening the civic center
Restoring the Civic Center also provides an opportunity to model how green best practices can be employed in older structures, demonstrating to other Evanston property owners the feasibility and environmental benefits of reusing older buildings. Goals for a sustainable, redeveloped Civic Center could include the following —

• **Maximize the use of sustainable materials**. Repair and reuse existing materials where possible. Insist that new materials have recycled content and that wood products come from independently certified, well-managed forests. Seek locally-produced materials.

• **Improve the building's energy performance**. Increase insulation levels. Provide for zoned heating and cooling and natural ventilation. Install high-efficiency lights and mechanical equipment, programmable thermostats, and high-performance windows. Explore active solar systems for hot water heating and for electricity.

• **Promote water conservation**. Install dual-flush toilets and water-efficient faucets.

• **Enhance indoor air quality**. Use only low-VOC finishes and formaldehyde-free materials.

• **Emphasize green solutions to stormwater management**. Use permeable materials for walkways, patios, and parking areas. Install rain gardens and bioswales. Collect rainwater from roof surfaces and reuse for irrigation. Landscape with water-efficient, climate-appropriate plants.

• **Minimize environmental impact throughout**. Reduce light pollution with diffuse lighting. Provide ample bicycle parking. Make it easy for city staff and visitors to recycle. Recycle construction waste.

Over the last six months, city staff and community volunteers have been collaborating on the development of an Evanston Climate Action Plan, a set of strategies designed to put us on the path towards fulfilling the commitment made in signing the Climate Protection Agreement. A green renovation of the existing Civic Center will advance this important goal.

Online resources
Assessing the Energy Conservation Benefits of Historic Preservation: Methods and Examples, Advisory Council on Historic Preservation.
http://www.thegreenestbuilding.org/1979_ACHP_Energy_Conserv_and_Hist_Pres.pdf

Embodied Energy Calculator. http://www.thegreenestbuilding.org/