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ARCHITECTURE SUSTAINABILITY PRESERVATION

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SOME THOUGHTS ON PRESERVATION AND SUSTAINABILITY

Sustainability: "[Meeting] the needs of the present without compromising the ability of future generations to meet their own needs."¹

Sustainability: "A means of configuring civilization and human activity so that society, its members, and its economies are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems, planning and acting for the ability to maintain these ideals in the very long term."²

However one defines it, evidence our present culture is not sustainable is pervasive. Scarcity, extinctions, climate change, extreme and rapid price fluctuations, all are symptomatic of attitudes and practices which must change in order to enable future generations to thrive. Bero Architecture joins in the effort to preserve our culture by conserving our natural environment.

The modern corporate slogan for sustainability advocates is "green"; **your historic building is a "green" goldmine**. Rehabilitating and preserving historic buildings is a great way to help save our natural environment while preserving our built environment. "The greenest building is the one that is already built"³ Reusing an existing building benefits sustainability several ways: existing buildings have embodied energy – the energy required to obtain, transport, manufacture and assemble materials; demolition throws out the embodied energy, requires expenditure of energy, and adds burden to landfills; reuse using modern technology augments the environmental value of existing materials and the buildings they are a part of. "Preservation saves energy by taking advantage of the nonrecoverable energy embodied in an existing building and extending the use of it."⁴

Transportation – cars, trucks, trains, airplanes – , the focus of most energy headlines, accounts for only about a quarter of America's greenhouse gas emissions, while nearly half, twice as much, is produced by construction and operation of buildings. It is estimated that constructing a 50,000-square-foot commercial building releases about the same amount of carbon into the atmosphere as driving a car 2.8 million miles.¹ And once an old building is gone, building its replacement uses more natural resources and releases new pollutants and greenhouse gases into

¹ The World Commission on Environment and Development, *Our Common Future*, Oxford University Press, 1987.

² Wiktionary, 2009. <http://en.wiktionary.org/wiki/sustainability>

³ Carl EleFante AIA, LEED-AP, *ForumJournal*, 2007, National Trust for Historic Preservation, Washington D.C.

⁴ *Assessing the Energy Conservation Benefits of Historic Preservation: Methods and Examples*, Advisory Council on Historic Preservation, 2009.

¹ *Preservation facts* by Advisory Council on Historic Preservation

our environment: It is estimated it takes 65 years for a new energy-efficient building to save the embodied energy lost when demolishing an existing building⁵.

Surprise! Beside the embodied energy that comes with historic buildings, it turns out they are inherently energy efficient to operate. Data from the U.S. Energy Information Agency suggests buildings constructed before 1920 are actually more energy efficient than buildings built between 1920 and 2000.⁶ “The original buildings had no choice but to be green. Otherwise, you'd die of heat stroke in the summer, or freeze to death in the winter.”⁷ Important and crucial design elements include siting, and use of local materials, natural ventilation, shading, reflective roofing, cisterns, and indigenous plantings. Houses in the South have high ceilings and louvered shutters; in the North, they feature thick walls and smaller windows. Sleeping porches provide coolness in summer, and woodstove-centered kitchens give off warmth in winter. Modern houses are largely interchangeable wherever you live. Shutters, for instance, have become vestigial, totems of the past screwed into the sides of new houses that do nothing to protect occupants from wind or sun.

“We cannot build our way to sustainability. Seeking salvation through green building fails to account for the overwhelming vastness of the existing building stock. We must **conserve** our way to sustainability.”⁸ Recycling has become part of our daily lives; the most responsible and efficient way to conserve energy is by re-using historic buildings, the same way we re-use paper, cans, and bottles. Bero Architecture is committed to re-cycling historic buildings as part of our sustainability strategy to help save energy *and* our architectural heritage.

References

- 1) Sustainable Stewardship: Berkeley, California Historic Preservation's Essential Role in Fighting Climate Change – An address by Richard Moe, President, the National Trust for Historic Preservation, presented on March 27, 2008 in Berkeley, California <http://press.nationaltrust.org/content/view/218/162/>
- 2) National Trust for Historic Preservation- Our Position on Sustainability <http://www.preservationnation.org/issues/sustainability/public-policy/our-position-on.html>
- 3) National Housing Trust Preserving Affordable Housing is Green —Fact Sheet: Environmental Benefits of Affordable Housing Preservation (May 2008) http://www.nhtinc.org/green_preservation_facts.asp
- 4) New Directions for the Old Retreat -With its President Lincoln's Cottage project, the National Trust puts environmental principles to work, Kim A. O'Connell Preservation January/February 2008
- 5) A Cautionary Tale Amid our green-building boom, why neglecting the old in favor of the new just might cost us dearly. Wayne Curtis Preservation January/February 2008
- 6) <http://www.nps.gov/history/hps/tps/briefs/brief09.htm>
- 7) Embodied Energy Calculator, <http://www.thegreenestbuilding.org>, concept models for calculating embodied energy.

⁵ *Facts about Preservation and Sustainability*. National Trust for Historic Preservation

⁶ Reference

⁷ Steve Mouzon, founder of the New Urban Guild, at the 2007 Traditional Building Conference.

⁸ Carl EleFante AIA, LEED-AP, *ForumJournal*, 2007, National Trust for Historic Preservation, Washington D.C.