DANA BUILDING
University of Michigan, Ann Arbor

LEED Rating:
NC, v.2/v.2.1 Gold (40 points)

Building type: Higher education, urban campus setting
Project scope: 5-story building built in 1903
108,000 sq. feet (10,000 sq. meters)
Classroom (36%), Office (31%),
Laboratory (18%),
Public assembly (11%), Restrooms (4%)
Renovations: 1961 & 2003
25% new construction;
75% historic renovation
Cost: $25 million
Occupancy: 105 people, 40 hours per person per week
550 visitors, 20 hours per visitor per week

Project Goals:
• Create a comfortable place to learn and work
• Demonstrate state-of-the-art green design

Pictures/drawings courtesy of: Quinn Evans Architects

Bethany Johnson
Eco-Preservation [Falsetto]
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University of Oregon
ecological design

Materials reuse - Timbers from the attic were re-milled for trim and furniture; Old doors were refinished; bricks and pavers were cleaned and re-used to fill existing holes; casework and furniture were refinished; chalkboards and whiteboards were salvaged and re-used in classrooms; 3,000 pounds of building materials were salvaged, diverted from landfills and donated, to local non-profit Re-Use Center for resale.

Recycled ‘new’ materials - flooring made from recycled rubber, ceiling panels made from rapidly renewable materials, bathroom tiles made from recycled glass, and toilet partitions and furniture upholstery made from recycled plastic bottles.

Daylighting - Skylight covers old courtyard, 4,000 square foot atrium skylight.

Increased insulation - exterior masonry walls were built out with steel studs and then insulated on the interior saving energy on heating and cooling.

Systems Control - All mechanical and electrical systems can be tailored to meet the needs of individual work spaces through Direct Digital Control.

Ceiling-mounted radiant cooling system - cold water acts as a heat sink for the warm air in the room.

High-efficiency lighting - Fluorescent light fixtures, sensor-activated Photovaltaic thin-film and multicrystalline solar panels

Water use reduction - sensor and Low-flow plumbing fixtures; composting toilets; waterless urinals; native, drought-resistant plants

Dana is GREEN ... but is it eco-preservation?

historical preservation

LEED Score Card:

- Sustainable Sites = 7 of 14 points
- Water Efficiency = 5 of 5 points
- Energy & Atmosphere = 7 of 17 points
- Materials & Resources = 9 of 13 points
- Indoor Env. Quality = 10 of 15 points
- Innovation & Design Process = 3 of 5 points

Character Defining Features:

- rusticated-stone (1st and 2nd floors)
- slightly projecting corner/end pavilions
- classical double-pediments on pavilions
- regularized fenestration
- classical cornice and entablature
- defined central recessed formal entry

Eco-Preservation

- continued use as classroom/lab/office

Eco-Preservation +

- removal of double-hung windows
- infill of courtyard design
- fifth story addition
- removal of courtyard windows

Eco-Preservation -

- 1:1 double-hung windows
- central light and ventilation courtyard design
- roofline and building height

LEED Points & Building Reuse:

- Site Selection (1 pt)
- Urban Redevelopment (1 pt)
- Alternative Transporation (2 pt)
- Reduce Site-Disturbance (1 pt)
- Building Reuse (5 pts)
- Daylighting and Views (1 pt)
- Preserving Cultural Heritage (1 pt)