

Portsmouth Public Library

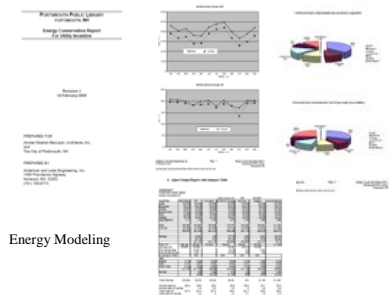
The Green Building Tour

In December 2006, the new library building opened to the public as the first municipal building in New Hampshire to achieve LEED certification. The Library earned silver certification, with outstanding performance in reuse and recycling, energy conservation, daylighting and views, and the use of local materials.

To make way for the new construction, an armory building was taken down through the process of *deconstruction*, not demolition. 99% of the material in the old building was reused or recycled. The slate on several roof sections of the Library were saved from the drill house of the armory and reinstalled on the new library building.



Energy models predicted that the Library would consume 32.8% less energy than a building built to code. The energy savings have been realized in the first two years of operation. The building is constructed as a super-envelope, insulated on the exterior with first rigid insulation, and then with sprayed insulation.



Other energy-savings measures are

- Enhanced Roof Insulation
- ½” Air Space, Argon Filled, Heat Smart Windows
- Multiple, Decentralized, Point-of-Use electric Water Heaters
- Premium Efficiency Heat Pump Units

- High Efficiency Condensing Boilers
- HVAC Heat Recovery Units
- Variable Frequency Devices on HVAC System
- Reduced Lighting Power Density Fixtures
- Improved Lighting Controls

Many features of the green building are evident in the lobby.



Daylight and Views

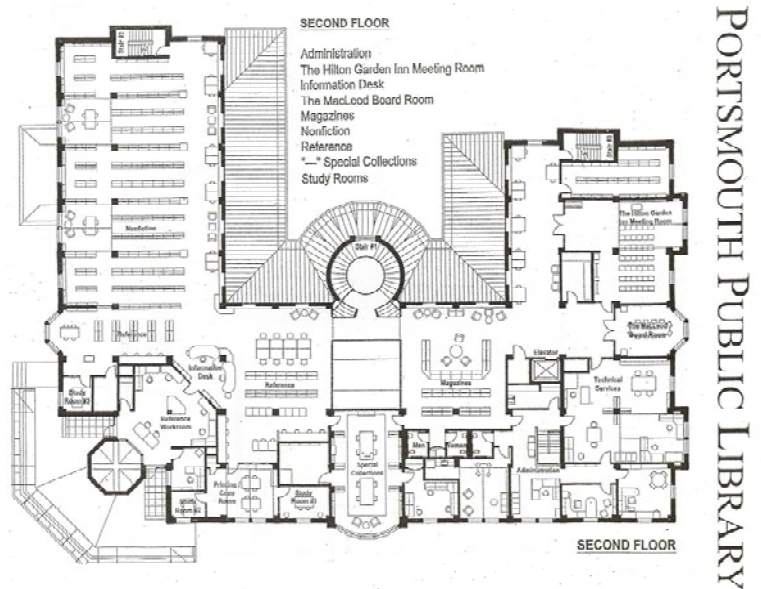
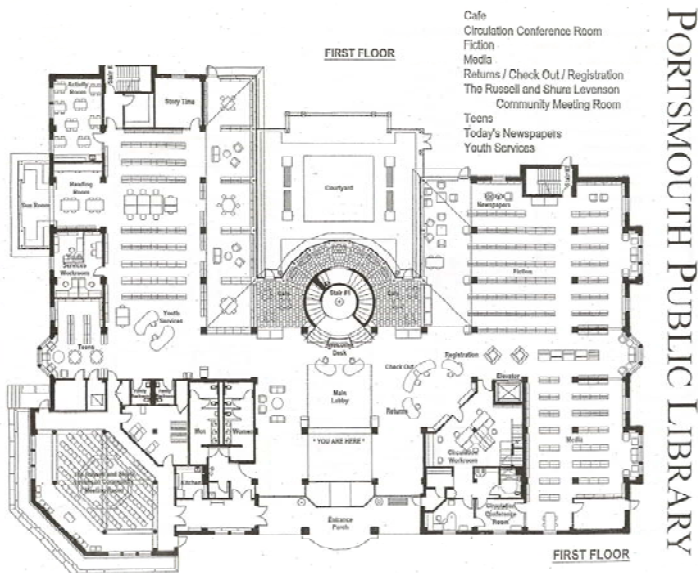
Daylight washes the lobby from all directions with a large skylight, and windows in the front, back and both sides. In fact, throughout the building, rooms are shot through with windows bringing daylight into 75% of occupied spaces and presenting views to the outside in 90% of the spaces.



Notice in the café and in second-floor alcoves that windows placed at different heights throw light into different parts of the room.

General Design

The U shape allows the library floor user to feel a connection with nature on all sides. On the first floor, “porches” flank the courtyard on each side, providing pleasant areas to browse or sit. On the second floor, windows look out over the roof lines into the South Mill Pond and into the courtyard. Acoustic division makes it possible for various activities to occur at the same time without interfering with each other.



Water Conservation

Visit bathrooms on the first floor to use low-flow toilets and the waterless urinal. Bathrooms on the second floor employ power-assisted toilets to allow low-flow toilets to operate over a longer distance.

Hot water is supplied by small point-of-service units to conserve energy.

Materials

Most wood in the building itself and in furnishings is ash, chosen because it is on the “low” end of the hardwoods. All wood, including that in the library furniture, is FSC certified. Service desks (welcome desk, circulation desk, youth services desk, information desk), and built-in units were built by local woodworkers, contributing to the local economy and minimizing transportation.



The carpet includes recycled materials. Paint, carpet, adhesives, sealants and all interior woods were chosen to have no off-gassing. Basic construction materials are steel and concrete, both with high recycled content.

Natural materials have been used whenever possible. Notice the slate on the café floor.

Clean Air

Notice that public computers do not have printers. All printing is directed into the Print/Copy Room on the second floor where fumes can be vented directly into the outside.

Windows can be opened for fresh air, or to regulate temperature during spring and fall.

Flexibility

The Levenson Community Meeting Room demonstrates flexibility of operations designed for both energy conservation and healthy use. The tower lights and large windows light the room on many days making the use of artificial light unnecessary. When needed, lights can be used to wash the walls, to light only the people seated in the center of the room, or to light the perimeter where a speaker may stand.

General heat and air-conditioning are achieved by a heat-pump separate from those for the rest of the building, and fin-tubes are installed at areas of heat escape for people comfort.

A carbon dioxide monitor signals the HVAC system to quickly pull in more outside air when carbon dioxide begins to build up in the room.



Landscaping

Native, drought resistant plants grow without an irrigation system. Natural fertilizers are applied to grassy areas each spring along with a tea-based broadleaf killer.

Look behind the courtyard wall at the very back of the Library to see the raised beds to be used for organic gardens in connection with the summer reading program.

Library Landscaping

In the front planter:

Little King River Birch



Blackhaw Viburnum



Dwarf White Pine



Sweet Gale



Bearberry (groundcover)



In the Courtyard:

Serviceberry



Dwarf Alberta Spruce



Juniper



Bearberry (groundcover)

In the Back Screen

Hawthorn



Serviceberry



Winterberry



We welcome you the Portsmouth Public Library. Please explore the building, stop to relax over a book or magazine, examine the diverse materials to take out, check your email, do a little research, or just sit and enjoy the community with us.

Visit the Library's web site at www.cityofportsmouth.com/library to keep up with events, and do plan to come again.

Questions about the green building?

Contact Mary Ann List at malist@cityofportsmouth.com