

(Above and on cover)

The *BEATFUSE!* installation by OBRA Architects of New York is the 2006 winning design of the Young Architects Program, sponsored by New York City's Museum of Modern Art and P.S.1 Contemporary Art Center.

# WOOD DESIGN & BUILDING®

## DEPARTMENTS

### Wood Chips **6**

*News and events on wood-related subjects*  
Structural wood panel production down in 2007; Natural Resources Canada renews Value to Wood program; Timber frame housing growing in the U.K.; Work Begins on National Green Building Standard; 2007 expected to be a year of transition for state housing markets; Record Canadian residential construction in 2006; New Boreal Information Centre created for North America; 2030 Challenge for carbon-neutral buildings; UN climate change report renews urgency of green construction; Half of homes to be built green by 2010; Ten U.S. Green Projects win accolades; Australian studies highlight energy efficiency

### Wood Basics **12**

*Basics of wood structure and tree growth*

### Ideas & Solutions **34**

*The evolution of prefabricated housing*

### Technical Abstract **38**

*BIM and Green Design*

#### Correction

Last issue's cover photograph of the Gibson Centre for Community, Arts & Culture was provided by Barrie, Ontario firm Ted Handy & Associates Inc., Architect. The 2004 Ontario Wood WORKS! Heritage Award was given to Ted Handy and Associates for the firm's work on the Gibson Centre.

## ON THE COVER

### BEATFUSE! Installation **22**

*Engineered wood product installation at New York City's Museum of Modern Art blends architecture and art through the medium of wood*

## FEATURES

### Pine Tree Residence **14**

*Island home blends with pristine setting while asserting a man-made presence*

### Four Seasons Centre for the Performing Arts **18**

*Design of opera and ballet house draws on acoustical and aesthetic qualities of wood*

### Motukawaiti Island Resort **26**

*New Zealand resort links restored century-old cottage with modern pavilions*



## CRAFT & HERITAGE

### Cary Cottage **30**

*Restoration of historically relevant Victorian nursing school residence allows building to begin new era as detox transition center*

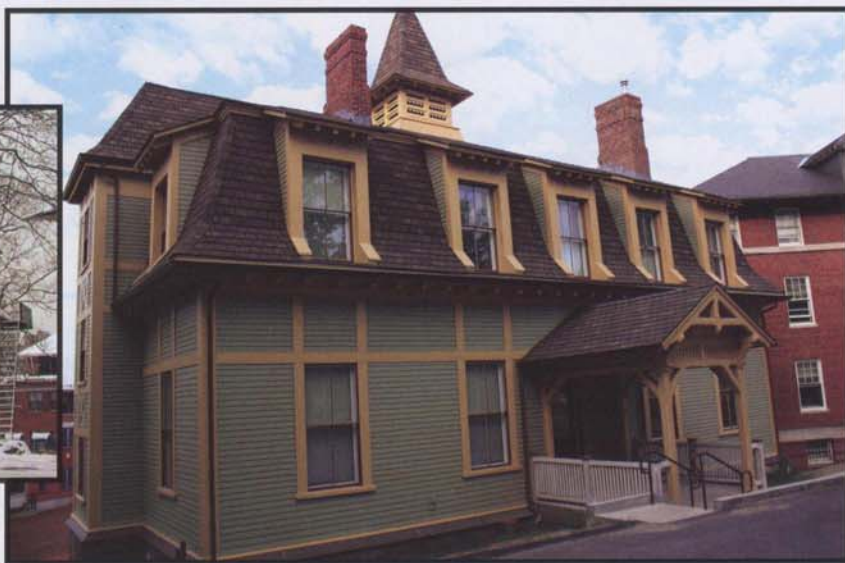
# Cary Cottage

Restoration of historically relevant Victorian nursing school residence allows building to begin new era as detox transition center

Catherine Muir, based on an interview with John Freeman



Before and after the reconstruction:  
(Top left and right) The cottage's exterior;  
(Center and far right) The original porte-cochere  
was restored to its original state.



*A simple wood cottage with a weighty historical past, the Cary Cottage on the Dimock Community Health Centre campus in Boston holds many stories in its walls. Built 125 years ago by renowned Boston architects Cummings and Sears, the building first housed nurses-in-training at the New England Hospital for Women and Children, the first hospital run by women for women in the U.S.*

The hospital had in its staff and roster of graduates some of America's most prominent women associated with nursing in history: Linda Ann Richards, a student at the New England Hospital for Women and Children, was America's first professionally trained nurse. The hospital was also the home of the nation's first black graduate nurse, Mary Eliza Mahoney.

The creator of the New England Hospital for Women and Children, Dr. Marie Zakrewska, founded the hospital in 1862 with a goal of providing medical services to women by women, and was a pioneer of training women in the study and practice of medicine

at a time when women were not admitted to medical schools in Boston.

Women such as Dr. Susan Dimock and Dr. Lucy Ellen Sewall, early resident physicians at the New England Hospital for Women and Children, became leaders in the women's medical movement.

The architects of the building have an important place in New England history as well. Cummings and Sears were prominent Boston architects in the 1880s, and built many structures that are now associated with the city's history. Among the buildings they designed were the massive brick Boston Cyclorama (built to



exhibit a large cyclical mural of The Battle of Gettysburg, that today houses the Boston Center for the Arts, and the Old South Church in Boston located in Boston's Copley Square.

The Cary Cottage restoration project architects (Platt Anderson Freeman) were accustomed to working on historical projects in and around the city,

An example of Stick Style architecture, the small three-and-one-half-storey wood frame, T-plan building features shed dormers crowned by a wood frame louvered cupola. The five-dormered front façade and the three-dormered side façades are capped by a bell cast mansard roof of asphalt shingle, and the central entrance displays a gabled porte-cochere with a paneled double door.

In 1969, in response to community need, the hospital became Dimock Community Health Center. The building has been home to many health-related programs over the years, and the most recent is the John Flowers Recovery program.



The Platt Anderson Freeman cottage renovation now houses the latter, a program for men transitioning out of detox.

As such an important historical landmark on campus,

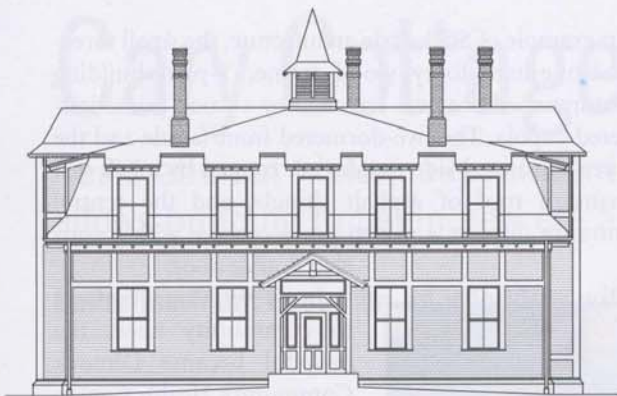
particularly ones by the designers of the cottage. "We've had a long-time

the architects had to meet guidelines under the Massachusetts Historical Commission, and certain standards including those of the secretary of the interior and standards for preservation and renovation, says Freeman. Though the building was not technically under the purview of the Boston Landmarks Commission, the organization still provided Platt Anderson Freeman with advice on consistency with other buildings in Boston from the same period.

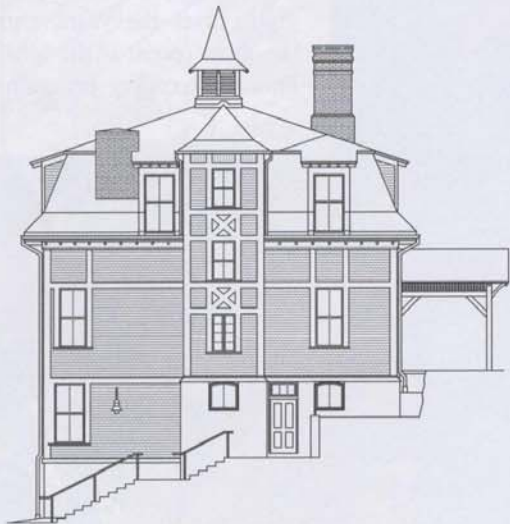
association with the campus. There are at least three buildings there that we've renovated by Cummings and Sears," says architect John Freeman.

Cary Cottage is the oldest of the eight major buildings on the nine-acre site of the original New England Hospital for Women and Children, located on a small hill in the Roxbury neighborhood of Boston. The Cummings and Sears design was constructed in 1872.

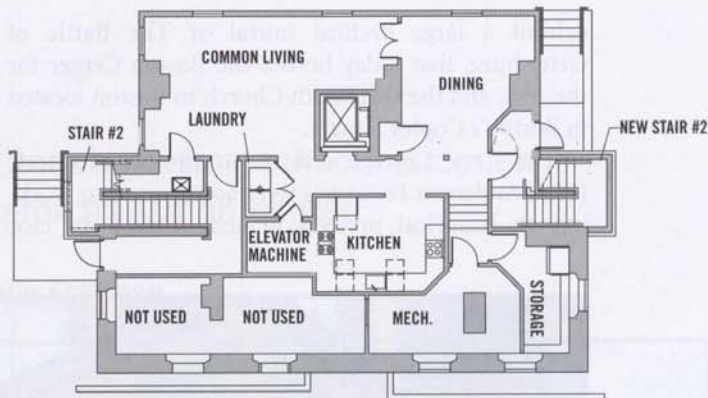
Paint color turned out to be one topic the Boston Landmarks Commission gave advice on. Freeman says his firm was not able to determine the original color, because the building had been repainted white when



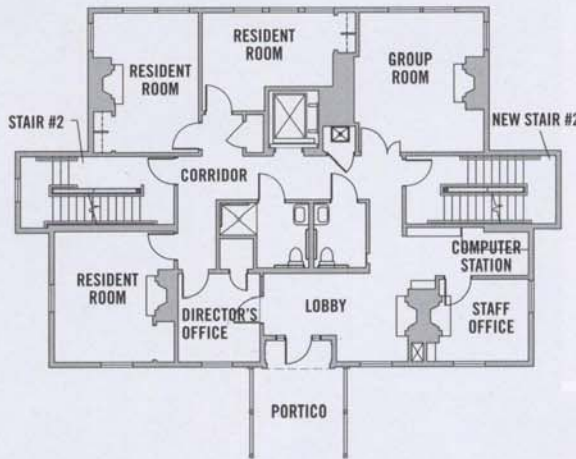
FRONT ELEVATION



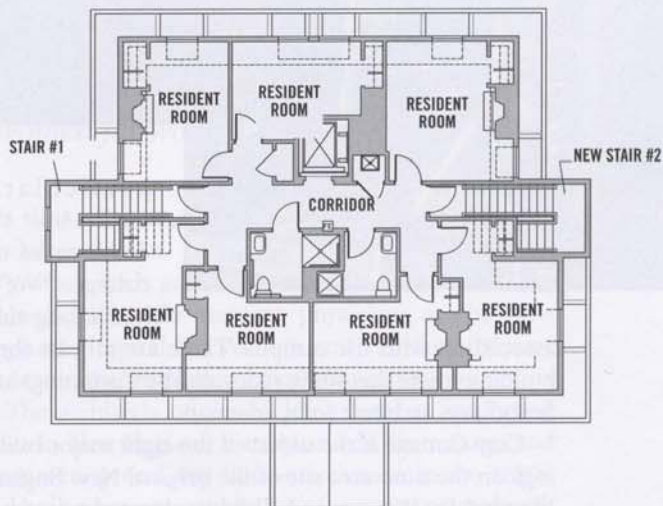
SIDE ELEVATION



BASEMENT



FIRST FLOOR



SECOND FLOOR

they first saw it, and old photos of the building were black and white.

Modern day building regulations mean that the building had to undergo some changes, but Freeman feels that his team was able to keep them to a minimum, and make them as inconspicuous as possible. For example, adding an elevator, a necessity in a building housing an adult health care program could have been a problem to a building with a sloped roof and not much room for interior additions.

"Typically, an elevator needs 12 feet above the top floor. But the existence of a cupola in the original structure, historically used for venting, meant that the headhouse of the elevator did not have to stick out. We put it right under the cupola and it just fit under the roof. So we were able to preserve the historic profile," Freeman says.

As a three-storey building, it had only one stair initially. The one main addition that Freeman and his team made to Cary Cottage was adding a second egress stair tower, to meet current fire safety regulations and to suit the needs of the residential program to be accommodated within. The original stair, on the inside of the east side of the building, was housed in a bay that stuck out of the left side of the building.



"We assumed that if they had wanted a stair, that they would have done it similarly on the west side," says Freeman. The detail is slightly different with the new stair, though. According to Freeman, that was done intentionally: We wanted future historians to be able to quickly figure out that the stair was an addition. For preservation – you want to make something not quite identical, so that part of the history of the building is evident in the building itself, not just in the records."

"Wherever we can, we repair and restore rather than replace, in a historic building," Freeman says. The windows throughout the cottage, wood frame 2/2 double hung sash, are an example of this practice. All of the windows in the renovated cottage are the original windows – they were taken out and carefully renovated and put back. According to Freeman, that is because back when Cary Cottage was built, trees were not being fertilized, meaning they didn't grow as fast, resulting in a much tighter grain in historic wood compared to modern wood. "One-hundred-year-old wood windows are like gold – they weather better, they last longer," he says.

A lot of the original siding had to be stripped, because of toxic lead paint. The carpenters replaced almost all of the clapboard, but kept as much of the trim as possible, duplicated faithfully when replacement was necessary. But where there was special detail, such as the brackets and the portico, Freeman says they "went to great efforts to keep the original material."

Freeman gets excited talking about what it was like to preserve the 125-year-old architecture in the cottage. "We could see the different techniques that were used with the wood in the original structure. Everything was all done by hand and visually on the site, and you can obviously see that they were not using computers or calculators." ❧



*Dormers on the front facade, before and after*

**ARCHITECT:** PLATT ANDERSON FREEMAN ARCHITECTS, BOSTON, MA  
**CONSTRUCTION MANAGER:** CHAPMAN CONSTRUCTION/DESIGN, NEWTON, MA  
**PROJECT MANAGER:** KRAPP ASSOCIATES, BOSTON, MA  
**RENOVATION WORK:** ENVIROVANTAGE INC, EPPING, NH  
**STRUCTURAL ENGINEER:** MACLEOD CONSULTING, BELMONT, MA  
**SITE ENGINEER:** SAMIOTES CONSULTANTS, FRAMINGHAM, MA  
**CODE CONSULTANT:** WBA ASSOCIATES, WELLESLEY, MA  
**PHOTOGRAPHER:** JOHN GRUMMITT,  
 PLATT ANDERSON FREEMAN ARCHITECTS



## Some assembly required.

Architectural expression meets advanced building science in this elegant New England summer home from DAC International.

Designed by award-winning architect Lyman Perry and pre-engineered by DAC International, the house has been pre-fabricated in a controlled environment with the highest quality building materials, and careful attention to detail.

To learn how you can realize the benefits of pre-engineering – without sacrificing your architectural vision – contact DAC.

613.839.0888 x 24  
[www.dac.ca](http://www.dac.ca)

