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## Lincoln Hall's reach goes beyond gold

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The team that renovated Portland State University's Lincoln Hall says the building is in a good position to earn a platinum LEED rating. (Dan Carter/DJC)

Lincoln Hall was constructed in 1911 as a high school.

Nearly 100 years later, Portland State University's oldest campus building is on the verge of graduating to [Leadership in Energy and Environmental Design](#) platinum status.

The university had \$29.1 million in state money to perform deferred maintenance projects. But workers soon discovered that the old wall partitions, made of gypsum rock, needed major repairs.

"We would try to take down a portion of a wall and the whole wall would end up crumbling," said Doug Greenwalt, project manager for Howard S. Wright Constructors. "We ended up having to (demolish) a lot more than we originally thought."

The crumbling walls led to the team essentially gutting the entire building, said Scott Gallagher, director of communications for PSU.

Additional construction threatened to increase project costs, so the team looked for ways to stay under budget.

Designers made a conscious decision to incorporate new plumbing and electrical parts into the design of the building instead of trying to conceal it in the walls. This reduced costs significantly, Greenwalt said.

"We had so many creative ideas from our team that helped us stretch the dollars and keep the historic feel of the building intact," said Barbara Sestak, an architect and one of the PSU faculty members who contributed to project design.

Howard S. Wright suggested supporting old stairwells from above and installing new shear walls and footings for support. This allowed original stairways to be upgraded to current seismic codes, and avoided costly replacement work.

The project also required the addition of several 68-foot steel beams to reinforce the structure. In order to insert the steel beams into the building, the roof above two old light wells had to be torn up. The light wells, which were included in the original design to provide natural light, had been covered with brick and used as storage space.

"Once the roof was removed and everybody saw how much natural light was coming into the building, nobody wanted to cover it back up," Gallagher said.

The decision was made to tear out makeshift storage spaces and reopen the space. The space was then capped with large skylights. The steel beams were left exposed, as a cost-saving measure, and attached to the existing frame.

"We were able to use those things we had to do to meet code and do them in a way that would allow us to enhance the entire building," said Michael Tingley, a designer for Boora Architects.

Restoration of the light wells opened the building to natural light, which will help score LEED points. The building also had 324 windows replaced.

"The windows were custom-made for the building by JELD-WEN. The glass was made in Bend and the frames were made outside of Medford," Gallagher said.

The new windows increased the thermal envelope of the building so much that the university decided to replace aging HVAC systems, Greenwalt said. A heating unit in the basement was removed, and the space was converted into an actor's studio. The cooling system on the fourth floor was also removed and that space was turned into a music studio. An energy efficient HVAC system was installed on the building's roof.

The project originally was designed to achieve LEED gold certification, but when the university calculated efficiency, it discovered that the building was near the platinum level, Gallagher said. The university shared this information with a donor, who pitched in \$400,000 to add solar panels designed to provide 2 percent of the electricity needs for the entire building.

"The building got a completely new mechanical, electrical and hydronic heating and cooling system. We went from 1911 technology to a state-of-the-art, energy efficient system." Greenwalt said.

Gallagher said the university expects to apply for LEED platinum certification next month.

The next round of construction, which is set to start in October and wrap up next spring, will create a larger entrance from Southwest Broadway. Storage space near the existing entrance will be converted into a large lobby. One level above, the university plans to build a three-floor, glass studio space. PSU will host a grand reopening for Lincoln Hall on Thursday.