NMTC-Funded Armory Project Becomes First on National Register of Historic Places to Win Platinum Designation for Sustainable Design

By Alex Ruiz, Managing Editor, Novogradac & Company LLP

The Gerding Theater at the Armory has been awarded the Leadership in Energy and Environmental Design (LEED) Platinum designation from the U.S. Green Building Council, the highest sustainable design award available for a building in the United States. The award was announced by the USGBC on Monday, September 25.

With this award, the former First Regiment Armory Annex, built in 1891 and listed on the National Register of Historic Places in 2000, becomes the first building on the National Register of Historic Places to achieve Platinum status. It is also the first performing arts facility, and the first historic building on the West Coast, to be so designated. The project garnered 53 out of a possible 69 LEED points; 52 are required for Platinum designation.

“Many wonder why sustainability matters to a theater company,” said Chris Coleman, artistic director of Portland Center Stage. “Though we’re in the storytelling business, what we’re really trying to do is connect with our community. Portland cares as much about its historic buildings and healthy indoor spaces as they care about plays. A Platinum building really shows our respect for our audience and, we believe, will help us achieve our mission in a more meaningful way.”

Norris Lozano, CEO and president of Portland Family of Funds, which assisted with financing the project, said, “We initiated the challenge to reach LEED Platinum because sustainable buildings are a valuable asset to our community. They make for healthier places for people to live, work and be entertained while preserving precious natural resources. That we combined new markets tax credits, historic tax credits and energy tax credits shows how these programs can be leveraged to create extraordinary results.”

Historic architectural features of Portland’s second-largest 19th century building have been preserved during the rehabilitation effort, while extra care was put into achieving key LEED points for innovation. These strategies included public education with interactive kiosks throughout the facility, exemplary performance for sourcing local materials and water reduction through stormwater management, as well as green cleaning maintenance practices.

The LEED Platinum achievement was made possible by collaboration between GBD Architects, Green Building Services, Portland Family of Funds, Gerding Edlen Development, Glumac and Hoffman Construction, with key sustainable features provided by Murase & Associates and Second Story Interactive Studios.

According to the U.S. Green Building Council, The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED … [recognizes] performance in five key areas of human and environmental

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health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Platinum is the highest LEED level, followed by gold, silver and certified designations.

“Portland has more LEED buildings per capita than any city in the US,” said Alan Beard, FAIA, principal of GBD Architects, the architect of record on the project. “We really take a whole-building approach to our built environment, with the resulting benefits to our natural environment.”

In the Armory, cutting edge technologies, passive solar elements and integrated operational designs work together. Forty-one skylights adorn the ceiling, flooding the lobby and administrative spaces with natural light during the day. Photo-sensors turn down the lights when the sun is bright, and motion sensors turn them off when people are not in a space, helping to conserve 30 percent of the energy that a 55,000-square-foot building would ordinarily use.

Outside the building, a 12,000 gallon underground cistern collects and filters all the rainwater from the roof for toilet flushing, while pervious pavers and bioswales absorb rainwater from the sidewalks for the native-sourced trees and shrubs, and reduce the amount of stormwater that flows into the city’s central river, the Willamette. Low-flow fixtures and other water conservation features reduce potable water use by 89 percent.

Hot water tubes embedded in the concrete floor slabs, as well as chilled beams (overhead cooling units that use cold and hot water to modulate temperature) and underfloor passive air circulation in the main stage theater contribute to a comfortable experience in the building. The chiller plant that services the entire neighborhood provides the beams’ chilled water while using no CFCs in the chilling process. Low volatile organic compound (VOC) paints, adhesives, finishes and fabrics were used throughout. Hoffman Construction even used biodiesel and air scrubbing technologies during the building’s construction to protect worker health. Even the technology cabling, implemented by Glumac, reduced the amount of raw materials such as copper and polymers by 50 percent.

Interactive displays, guided docent tours, glass walls on equipment rooms and minimally designed infrastructure combine to educate visitors about how a true green building works.

“The Platinum designation for the Gerding Theater at the Armory is a bridge between the sustainable design world and the world of historic preservation,” said Elaine Aye, principal of Green Building Services, the LEED and green building consultant on the project. “What we’ve proved here is that the requirements of the National Register and...”
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LEED program can coexist at the highest levels. This project combines the best of historic design with innovative technology.”

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