

RAFN COMPANY: CRAFTING NEW LIFE INTO BUSH SCHOOL'S HISTORIC GRACEMONT ALUMNI HALL

By Christopher Imbeau, Rafn Company Marketing Director

The Bush School is an independent private school in the Denny-Blaine neighborhood of Seattle with more than 700 students in grades K-12. Over the past year and a half, the Rafn Company and SHKS Architects have renovated and upgraded the Gracemont Alumni Hall building to serve the school for years to come.

The Bush School's circa 1915 Gracemont Alumni Hall building is a historic mansion designed by Kirtland Cutter, the same architect who designed the Stimson-Green Mansion. The building was once owned by Grace Hefferman Arnold and was sold to the school in 1944. Located in the upper campus, it houses administration offices and classrooms across 12,000 square feet on four levels.

This complex renovation and seismic retrofit project restored and preserved the historic building

while giving it new life. The team restored beautiful exterior masonry, ornate plastered ceilings and walls, and historic woodwork throughout the building. New modern mechanical, electrical, plumbing, and fire sprinkler systems, in conjunction with energy upgrades to the exterior envelope, ensure occupant comfort and energy efficiency. And critical safety elements added to the building's structure create a safe building at the center of the upper campus.

While the new skylight-lit atrium and beautifully restored and preserved finishes steal the show visually, as craftspeople, what really excites us is how all the pieces come together. The new structural system within the building stands out as a masterpiece of planning, coordination, ingenuity, and execution.



Right: The exterior of the historic Bush School's Gracemont Alumni Hall building in Seattle.



Left: Glass is installed in the building's new skylight atrium, while scaffolding enables masonry restoration and other projects around the exterior.

Below: A 30-foot steel beam for seismic retrofitting is craned into the historic building via the roof.

Bottom left: The grout pocket and collector strap system in the gable at work.

Bottom right: A Rafn carpenter installs angle brackets in the second-floor system of the Gracemont Alumni Hall building.

All photos courtesy of the Rafn Company.

Getting the complex steel and diaphragm connections needed for seismic retrofitting into the building with minimal disruption to the existing historic structure of the building was a challenge worth taking. To complete the task, we cut holes in eight places through the roof of the building and craned in 30-foot steel beams vertically down through the roof, turning some horizontally for placement and others down the inside of the exterior walls past three floors to precisely land on anchor bolts in the basement. The new structural steel went together perfectly and tied in the floors just as it was designed to do.

To tie the exterior walls to the floors of the building and keep them from failing in an earthquake, we poured concrete "grout pockets" around the majority of the perimeter wall on the second and third floors (and up the gables). This concrete acts as the glue to stabilize and tie the exterior walls of the building to a collector strap system across the floors to the new central concrete elevator shaft. Our craftspeople installed solid wood blocking, quarter-inch-thick steel plates, and more than a thousand angle brackets with ten thousand screws to tie the whole system together. This all occurred in the second-floor system above



the historic plastered ceilings, third-floor system, and roof structure.

Quality renovation work relies heavily on the quality of people on the job. The Rafn Company is proud to have provided an opportunity for our long-tenured carpenters to teach these renovation and restoration skills to our next generation of craftspeople. The result is a beautiful and safe building for the Bush School and quality craftspeople for the next project. ■

