

Performance
Center

Residence

Church

Medical
Facility



Architectural Woodwork Institute

design solutions

Fall 2016 | \$6.25





In February 2008 Northwestern University in Evanston, Illinois, announced plans for a new music building. A design competition followed, with proposals sent to 25 architectural firms. Chicago-based Goettsch Partners was eventually selected as the winner. Construction on the building, named the Bienen School of Music, began in June 2012.



A Stylish

tone.

Music School's Recital Hall a Melody of Moabi.

The building's main entrance opens onto a soaring glass atrium, with lounge and reception areas offering views of the lake and downtown Chicago. The atrium serves as the lobby for the 400-seat Galvin Recital Hall which features a glass wall and an abundance of wood.

Imperial Woodworking Company, an AWI member firm located in Palatine, Illinois, fabricated and installed 9,445 square feet of undulating wood panels and 3,570 square feet of curved ceiling panels suspended from the recital hall's catwalk structure. Imperial also produced the doors, mixing desk, custom handrails, control room desk and acoustical panels.

Acoustics Reign

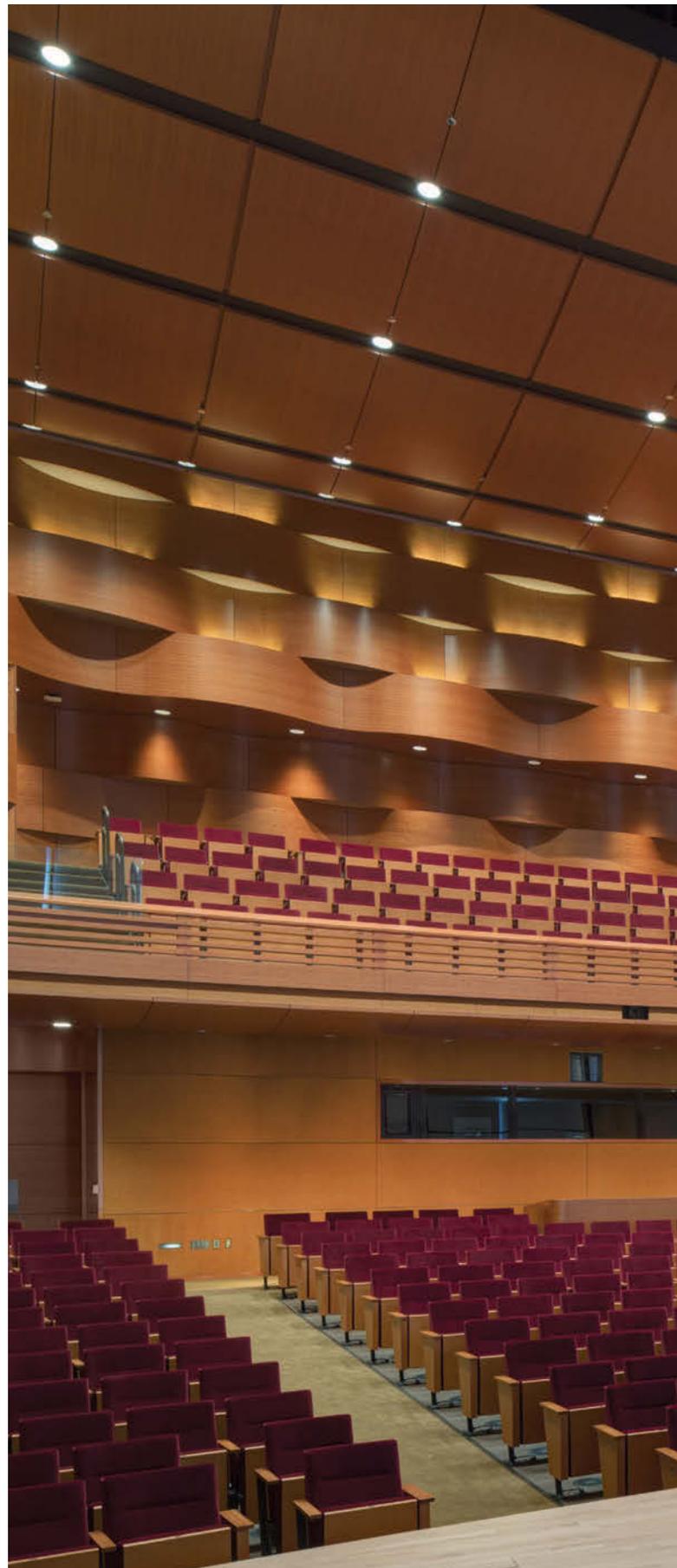
The wood clad walls have a unique weaving and banded design which becomes much denser at the back of the hall as desired acoustically, reports Scott Seyer AIA, LEED AP, principal at Goettsch Partners. "The pattern helps break down the scale of the space while focusing attention towards the stage," he says.

"We wanted to add warmth into the main recital hall with a rich wood that would play well off the limestone material. In addition, we planned to design and detail the wood to maximize the acoustical performance. The weaving pattern on the walls were oriented and dimensioned in collaboration with our acoustical engineering team. The density of the panels as well as their primary support system being acoustically isolated from the main structure was critical."

Although the glass wall in the hall affords spectacular views, it also contributed to the need for a special approach. There are very few recital halls with a glass wall serving as a backdrop, because glass is not recommended for an acoustically sensitive space. "As a result," Seyer explains, "we needed the wooden wall and ceiling panels to compensate for the glass backdrop. In addition, we added individually controlled acoustical fabric banners that would unfold from the wood wall weaving bands."

African Moabi

The veneer for the recital hall is Moabi, an African species with limited availability, reports Jim Hutchinson of Imperial Woodworking. The veneer used on the project came from one 75,000 square foot log.



at a glance

AWI MANUFACTURING MEMBER:

Imperial Woodworking Company

LOCATION:

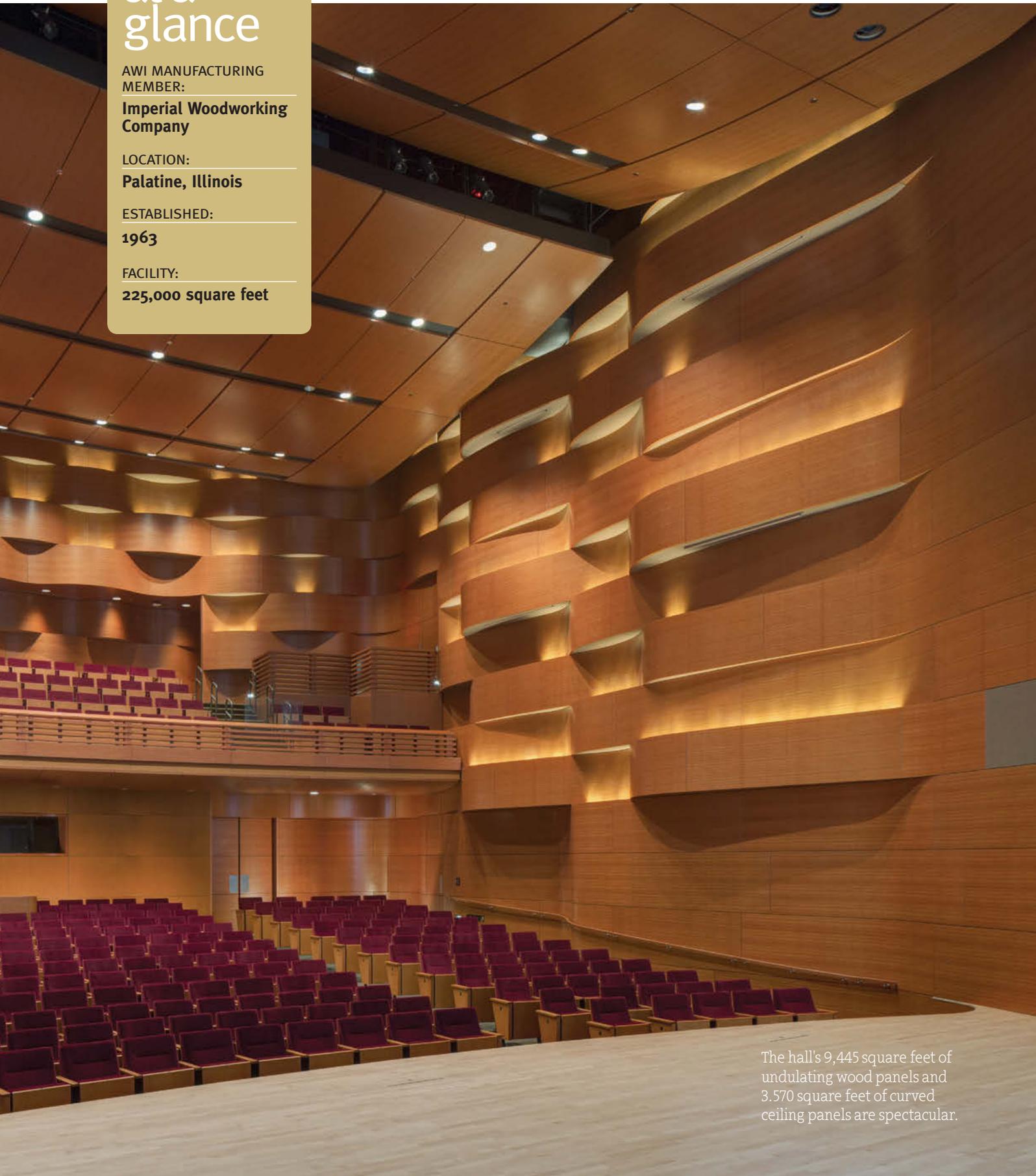
Palatine, Illinois

ESTABLISHED:

1963

FACILITY:

225,000 square feet

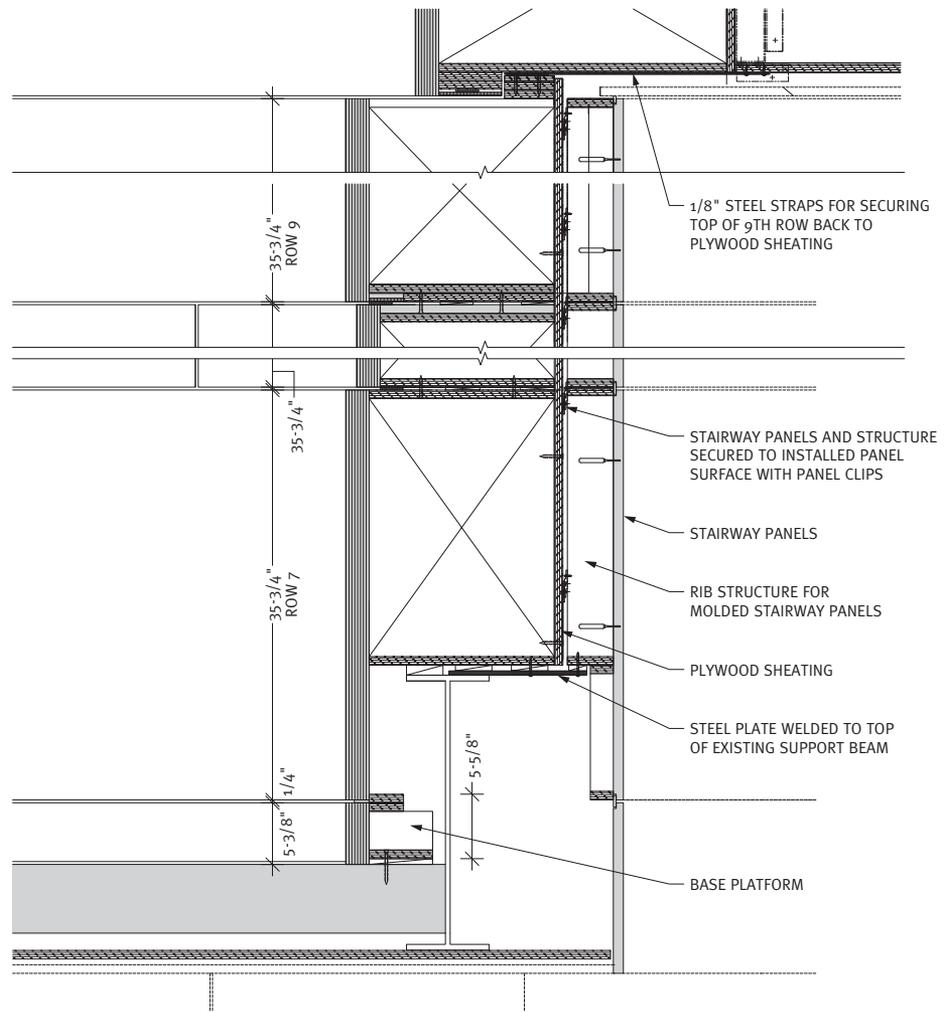


The hall's 9,445 square feet of undulating wood panels and 3,570 square feet of curved ceiling panels are spectacular.

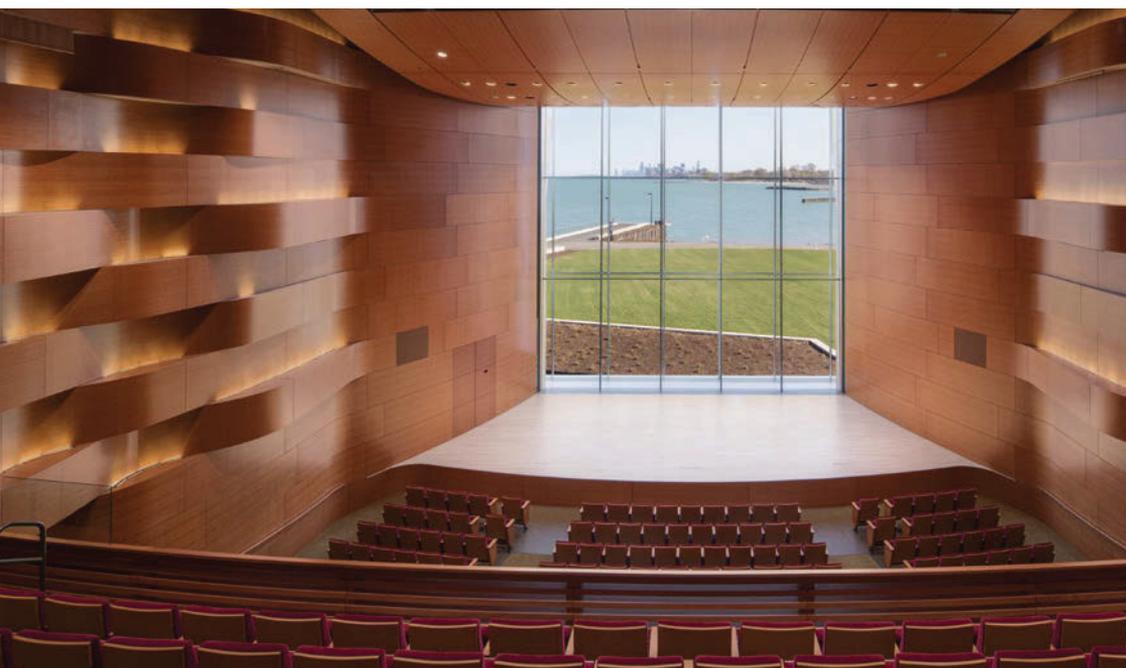
“The veneer on this project was slip matched. For the walls, the veneer was slipped up the face of the panel and from end to end. The veneer characteristics had to flow up the 42 foot face and continuously around the room,” he explains. “The ceiling, also slipped matched, was done from the center out and end to end.”

The architects carefully evaluated multiple wood species to select a wood that provides consistency of grain and the desired color, notes Bonnie Humphrey of the Ryan Center for the Musical Arts. “The curved wood paneling in the recital hall is truly amazing,” she adds.

Imperial Woodworking provided design assistance in locating and selecting the Moabi for the project, says Hutchinson. “We also directed the architect to the correct veneer matching. Our technical assistance came from our ability to figure out how to fabricate the two-inch thick curved panels and structure, and maintain the



A SECTION DETAIL
@ West Wall Paneling Above Stairs



acoustical requirement of the project. This project was also produced in a BIM environment and was a three-dimensional model for coordination with other trades.”

Of Significance

The geometry of the hall and the curving and blending of the panels were very complex and challenging parts of the entire project, recalls Seyer. “The solidity of the multi-layered panels will not be seen by the visitor but were of critical importance from an acoustical concern. Imperial did a fantastic job solving these issues,” he said.



Combining old world craftsmanship with the most advanced technology, Imperial Woodworking Company is committed to producing the most demanding projects imaginable. Our passion for pushing the boundaries of what's possible is second only to our commitment to **quality, service and craftsmanship.**



IMPERIAL
WOODWORKING COMPANY



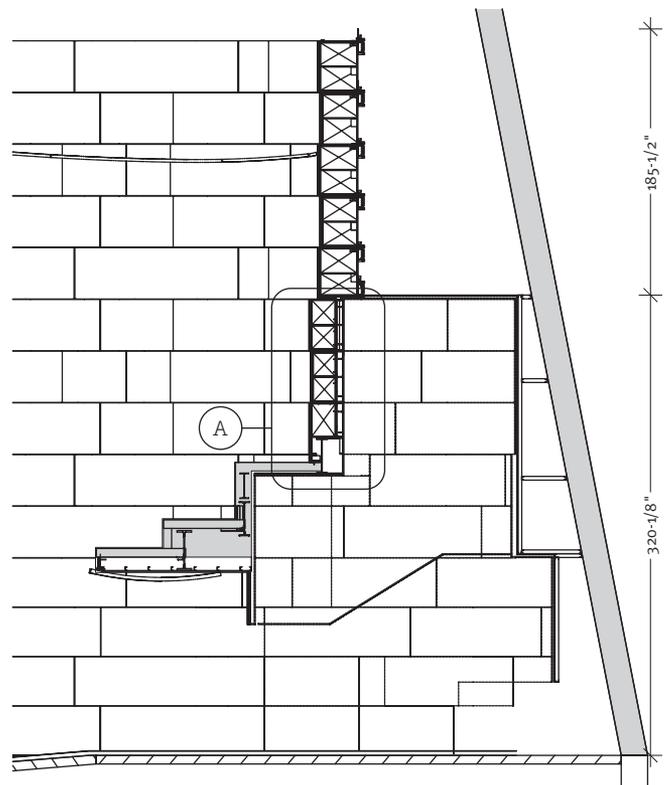
Hutchinson says the level of difficulty was high on the entire project but it is particularly noteworthy because it is 100% fabricated from FSC, NAUF and fire rated materials. “The walls and ceiling are complex geometrical shapes made from eight layers of formed MDF and bending plywood. Back-up structures are made of plywood to support the panel in space and maintain the shape. Sections of wall panels weighing over 700 pounds were used to create a 42-foot-tall wall and ceiling panels weighing upwards of 300 pounds were suspended from a catwalk by threaded rods and loaded with sand bags to create a 150,000 -pound acoustical ceiling mass.”

Meeting schedule on this project was very difficult because of its complexity, Hutchinson adds. “We relied heavily on our project team which included members from all facets of the company. We met bi-weekly to review production and goals, and discuss shop needs, materials and manpower.”

“Our working relationship with the architect was excellent. Goettsch Partners were very receptive to working within the limitation of the materials to make complex shapes.” 

“The Imperial team engages our clients with a personalized experience from the beginning stages of design all the way through the process to the final, one-of-a-kind result.”

– Frank Huschitt, Jr, President



 VERTICAL SECTION
@ Balcony 2-100

PROJECT:
**Bienen
School of
Music**
Evanston, IL

PROJECT OWNER:
**Northwestern
University**
Evanston, IL

WOODWORKER:
**Imperial
Woodworking
Company**
Palatine, IL

ARCHITECT:
**Goettsch
Partners**
Chicago, IL

GENERAL
CONTRACTOR:
**Power
Construction
Company**
Chicago, IL

PHOTOGRAPHER:
Tom Rossiter
Chicago, IL