



ALA Fall Tour

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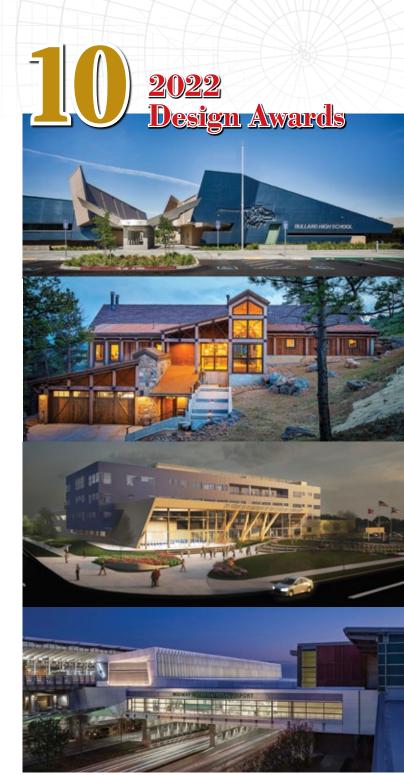


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PRESIDENT'S message



ith this issue. we celebrate excellence in design by showcasing the thirty-nine award-winning projects in our 2022 Design Awards program. A modern-retro carwash, a Chicago greenhouse for sustainable produce, a rustic Colorado mountain home, a dramatic software company interior and an Oklahoma public safety facility are among the projects winning top honors at the 23rd Annual Design Awards, which recognized projects for design achievement. The ALA Design Awards was celebrated on November 18 at the spectacular Medinah Country Club, Medinah, IL.

Our magazine is now back on a seasonal track. We hope you will spend time with this issue to learn more about the interesting awardwinning projects and read the excellent articles, as well.

Kicking off 2023 we had two informative programs: Loss Prevention through Better Communication presented by Jake Winkler, Holmes Murphy & Associates and 2021 IECC Residential Updates presented by Matthew Brown, APA - The Engineered Wood Association.

As part of our architecture student initiative, we will soon invite

Happy New Year Everyone!

architecture schools to nominate exemplary students to receive an ALA Student Merit Award Plaque at their spring awards programs.

Mark your calendars for two signature events: ALA will present two half-day, in-person conferences this year. The conferences will be held on May 18 and November 16 at the Mid-America Carpenters Regional Council in Elk Grove, IL. There will be an online participation option for those who are out of the area. The two continuing education conferences will each offer up to 5 learning units, with most being HSW.

And we're very excited about a tour and lunch program on June 21 to the Edith Farnsworth House in Plano, IL. Designed and constructed by Ludwig Mies van der Rohe between 1946 and 1951, this was his first and most significant domestic project in America. The glass and steel house, a masterpiece of the International Style of architecture, has National Historic Landmark status.

I hope you have been enjoying Architecture Focus, our weekly newsletter produced by Aggregage, a digital media content provider for architects and professionals in other industries. The newsletter appears in your mailbox every Monday morning and features popular architecture news content.

Coming soon in February...the very enjoyable ALA Napkin Sketch Contest. Get your cocktail napkins and sketching supplies ready!

If you have any questions or concerns, please email ala@ alatoday. We appreciate your membership!



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Laurent House and Anderson Japanese Gardens:

ALA Fall Tour Two Illinois Architectural Landmarks

Last year, ALA members had the opportunity to tour two architectural gems in Rockford, IL. The two disparate venues, one a Frank Lloyd Wright Usonian home and the other, a Japanese garden and tea house, feature surprising synergies and showcase the creative genius of their designers.



Laurent House, Street Side, Ink Pen and Colored Pencil Sketch by Joseph Charles Zimmer © May 22, 2022

The Laurent House, a modest Usonian home built in 1952 for Ken Laurent, a disabled US Navy veteran, and his beloved wife Phyllis, has the distinction of being the only home Frank Lloyd Wright designed for someone in a wheelchair. The 1952 original home had two bedrooms and one bathroom for the Laurents and adopted son Marc before the 1959 Wright-designed expansion that added another bedroom and a bathroom to accommodate Ken

and Phyllis Laurent's later adopted daughter Jean.

Joseph Zimmer, ALA member, Lake Geneva, WI-based architect, and Laurent House docent, presented background on The Laurent House before the tour and offered his thoughts on the partnership between Ken and Wright. "The Laurent House preceded the first ANSI national standards by nine years and ADA Civil Rights act amendment regulations by 44 years, but as an architect, to be able to sit down with someone with special physical needs made this unique project an interesting challenge in creative problemsolving," he said. "Wright also got a lot of his ideas because he traveled around the world and was aware of the work of other architects and societal design philosophies."

The home was designed with Ken Laurent's vantage point from his wheelchair in mind and with careful consideration of how he would move about and view the home. Wright usually designed a small 'compressive' entry foyer to a home that emphasizes the 'release' into an expansive living area, but Ken Laurent needed to be able to maneuver his wheelchair throughout, so the entrance foyer is adequately spacious. A Cherokee red concrete floor gallery in front of the 60-foot window wall at the back of the property allowed Laurent to easily move along the windows, out to the patio and back. A long, narrow hemicycle fishpond between window wall and patio is outfitted with an accessible water valve handle so Laurent could fill the pond himself.

Although modest in size, Zimmer adds that the house "features some of the tricks that Wright used frequently to give the illusion of spaciousness – an open plan,



The Laurent House, built in 1952, has the distinction of being the only home Frank Lloyd Wright designed for someone in a wheelchair. Photo: Andrew Pielage

shaped walls and full glass walls. The horizontal lines and banding of trim throughout the home broadened the space in the same way as in Prairie School homes Wright designed in the early 1920s for his middle/upperincome clients."

As for materials, the intended-tobe low-cost Usonian home had a limited budget of \$20,000 (double the \$10,000 Ken was granted because of 1948 US Public Law No 80-702 for veterans with special physical needs) which made way for some inspired

ingenuity. "As a Usonian, the home is not based on a historic precedent and Wright designed it to be modest in size and with less expensive materials instead of stone, stucco and wood typical of homes of his wealthier clients," said Zimmer, "Red Tidewater Cypress, a wood pallet material often discarded at the time, was formed into curves along the interior walls, and Chicago common brick replaced originally planned stone and was used for the fireplace, select interior walls and the exterior walls."

And although the home cost \$38,000 (including site, building, furnishings, and window treatment), about 2 ½ times that of a home the same size in the 1950s, the lifetime cost of ownership may have been lower than average. Because of thoughtful design - durable interior finishes, built-in cabinets and accessible bathroom fixtures within easy reach, and everything, inside and out, to be viewed from eye level when seated in a wheelchair - there was virtually no need or desire for remodeling during the 60 years the Laurents lived in the home. In Ken's words, "There was no need to change a thing. The house met all my needs."

"For me," says Zimmer, "The Laurent House has a place in history in terms of accessibility. "Wright's design elevated the lives of the Laurents and, one could argue, extended Ken's."

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"Wright also got a lot of his ideas because he traveled around the world and was aware of the work of other architects and societal design philosophies."

- JOSEPH ZIMMER, ALA MEMBER ARCHITECT, LAURENT HOUSE DOCENT



Frank Lloyd Wright designed The Laurent House interior with Ken Laurent's vantage point from his wheelchair in mind. Photo: Andrew Pielage



A Cherokee red concrete floor gallery in front of the 60-foot long window wall at the back of the Laurent House enabled Ken Laurent to move easily along the windows, out to the patio and back. Photo: Andrew Pielage





Main Gate at Anderson Japanese Gardens: The 12-acre garden features winding paths, waterfalls and koi ponds and is anchored by a Sukiya-style guest house and a traditional tea ceremony building. Photo: Anderson Japanese Gardens

"The intention is that it should be a place of calm and respite; a way to slow your mind down. There's spareness of the spaces and an emphasis on the view and getting away from the world outside"

Anderson Japanese Gardens, the second part of the tour, showcased a similar sense of calm as the Laurent House, but in a 12-acre garden with winding paths, waterfalls and koi ponds and anchored by a Sukiyastyle guest house and a traditional tea ceremony building.

The brainchild of Rockford businessman John Anderson, with the assistance and inspiration of master craftsman and designer Hoichi Kurisu, Anderson Japanese Gardens was built starting in 1978 and was donated in 1998 by the Andersons to the Rockford Rotary Charitable Association.

In the gardens, the Japanese elemental materials of stone, plants and water are complemented by secondary elements, such as water basins, stone lanterns, arbors, bridges and stone paths. Landscape architect Hoichi carefully considered what garden visitors see - and what they don't see - as they walk through the garden. Painstaking maintenance and pruning showcase trees and plants and pay homage to the beauty of each season. In addition to spots where visitors can view waterfalls, turtles and koi, there are sitting areas intended for meditation and quiet contemplation.

The Guest House, in particular, features an impressive entrance sequence, similar to the

compression-release found in Frank Lloyd Wright-designed residences. "There's compression and a pause before you enter an expansive space that seamlessly integrates the garden view," says Zimmer. The large room is unadorned, except for traditional tatami floor mats that were restored by Japanese craftsmen in 2019, "The intention is that it should be a place of calm and respite; a way to slow your mind down. There's spareness of the spaces and an emphasis on the view and getting away from the world outside," adds Zimmer.

The traditional tea ceremony building in Anderson Japanese Gardens harmonizes with its natural surroundings. Zimmer notes that it isn't really about the tea. "It's about the



Anderson Japanese Gardens was the brainchild of Rockford, IL businessman John Anderson with the help and inspiration of Hoichi Kurisu, master craftsman and landscape designer

ritual and the actions and motions that connect them together-like Tai Chi – and ultimately, seeking calm through pursuit of perfection. That pursuit is what drives the designer to find a better way and applies to both Hoichi and Frank Lloyd Wright," he says.

The other buildings at Anderson Japanese Gardens followed Japanese principles, as well. The Anderson Enterprises office building entrance doors face west and are not visible from the street. There are no free-standing columns in the office building; "everything is influenced by Japanese style without being a literal translation,"

says Zimmer. The Visitor Center, a blend in design between the Anderson Enterprises office building and the Guest House, is also post and beam and uses the Japanese elemental materials.

The two architectural landmarks in Rockford, although different at first view, offer some fascinating similarities. The design and construction of both required close collaboration between client and architect and the client's implicit trust in the architect's ability to not only understand the client's vision but to move beyond expectations to something enduring and extraordinary. 🕮



Tatami mats in the Guest House at Anderson Japanese Gardens were restored by Japanese craftsmen in 2019

For more information about Laurent House visit:

www.laurenthouse.com

For more information about Anderson Japanese Gardens visit:

www.andersongardens.org

2022

ALA Design Awards

hirty-nine projects were recognized by our judges in the 2022 ALA Design Award Program for their outstanding achievements as a Gold Medal, Silver Medal, or Award of Merit.

The ALA Design Awards Program is our annual showcase of the power of design by our members. The 2022 ALA Design Awards Celebration was held on November 18th at the Medinah Country Club in Medinah, IL.

Congratulations to all winners and to those who submitted their projects. We hope you enjoy viewing the winning projects on the following pages. Thanks to our Program Sponsors Andersen Windows & Doors and Exclusive Windows, Inc.!

ALA wishes to thank the following judges and Design Awards Committee members for their time and dedication to the program and profession:

Judges:

Daniel Baigelman, AIA, Full Circle Architects
Rada Doytcheva, PhD, FAIA, ALA, NCARB, LEED AP BD+C, RADA Architects
Dan Earles, ALA, AIA, LEED AP ID+C, Earles Architects and Associates, Inc.
Blair Payson, AIA, LEED AP, Olson Kundig
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Don Erickson Presidential Award





Full Service Car Wash Brookfield, WI

Category: Commercial / Industrial

Firm: SchultzWerk Architecture, Inc, Wauwatosa, WI

Contractor: 12 ga Construction

Owner: Dave Liekam

Photographer: Matthew Kerr

Description: Provide a new modern façade for an existing dull car wash that is eye catching. Bright modern materials,

bold form; natural light; glass and lighting and bold signage were employed.



CCC Intelligent Solutions Chicago, IL

Category: Interior Architecture
Firm: Partners by Design, Chicago, IL
Contractor: Skender Construction

Photographer: Tom Harris Architectural Photography

Description: CCC Intelligent Solution's new headquarters was designed to support the tech leader's growth and foster the company's culture of innovation and collaboration. The space includes an eye-catching radiused stairwell that connects the ninth-floor reception space to the eighth-floor town hall and customer experience area. On the eighth floor, visibility into the design center provides a view into the technology that helps to power CCC's advanced Al solutions, and open work areas lend a neighborhood vibe.

Four Mile Canyon Boulder, CO

Category: Single Family Homes
Firm: William Tabberson,
Architects, Muncie, IN
Contractor: Brain Hair
- Cornerstone

Owner: John and Anita Bauer Photographer: James Ray Spahn Description: The embedded story and details of this site are complex, but as a whole, Four Mile Canyon is a simple linear house. Nestled into the side of a mountain, the foundation is built in a similar manner as a mine structure would shelter the access opening into the shaft. This contextual design response provides historical continuity that binds the architecture and current land with its former use as a silver mining site.





Gotham Greens at Pullman Park, Chicago, IL

Category: Commercial /

Industrial

Firm Name: Heitman Architects, Inc., Itasca, IL

Contractor: ARCO Murray Owner: Gotham Greens Photographer: Gotham

Greens and Robo Aerial

Description: Gotham Greens at Pullman Park embodies the future of farming: a high-tech, hydroponic greenhouse located in Chicago's historic Pullman District: a highly sustainable facility that combines an 86,000 SF fully-automated greenhouse with a 13,700 SF support building that houses areas for harvesting and packaging produce, as well as a high-end corporate office environment. Through innovations in modern agriculture, Gotham Greens at Pullman Park brings food from farm to table in an urban environment.

Lawton Public Safety Facility Lawton, OK

Category: Institutional Firm: Dewberry Architects Inc., Elmhurst, IL

Contractor: Flintco, LLC Owner: City of Lawton, OK Photographer: Jon B Petersen



Description: To address significant operational, security and space deficiencies, the City of Lawton wanted a comprehensive municipal facility to house Courts, Police, Jail, and Fire Station No. 1. The City's desire for consolidated resources and improved facilities outlined the specific project needs. The narrow six-acre site provides greater visibility and extends existing cultural and civic presence in downtown to this northeast gateway with a design that is uniquely Lawton which rests at the Wichita Mountains foothills.



1111 West Addison-Movement Chicago, IL

Category: Commercial / Industrial

Firm: Hirsch MPG, LLC,

Chicago, IL

Contractor:

Summit Design Build

Owner: 1111 W Addison Development LLC

Photographer: Patsy McEnroe

Photography Inc.

Description: The building, which houses a 3-level climbing gym, has a façade composed of a brick folded 'ribbon' that floats above a glass retail evel; it is infilled by textured, colored brick panels that represent where the gym has climbing walls up against the exterior wall and is inspired by granite striations found in nature. The facade pushes and pulls to create outdoor terraces with views to the iconic Wrigley Field Marquee, create a defined entrance and step the building down to the scale of the neighboring residential buildings.

Broken Arrow Des Moines, IA

Category: Commercial / Industrial Firm: ASK Studio, Des Moines, IA Contractor: Venter Spooner, Inc. Owner: Broken Arrow Wear LLC Photographer: Cameron Campbell, Integrated Studio

Description: The project begins with an abandoned fast food restaurant. The clients wanted something extraordinary, but contrastingly, the budget required the retention and reuse of all existing areas. The first site visit was indelible. The floors were slippery with a history of cooking oils and optimism was quelled by all observations.





Bullard High School Additions Fresno, CA

Category: Institutional

Firm: Arthur Dyson Architect,

Fresno, CA

Contractor: Harris Construction

Owner: Fresno Unified

School District

Photographer: David Swann

Description: This 1955 high school addition and remodeling provides a new 7,500 SF Administration Building, a 14,500 SF Counseling Center and existing Library expansion and remodeling. The new structures frame the entrance, with an entry canopy reminiscent of an open book between. The new buildings have transformed this overlooked school into a community amenity and is a forceful reminder of the power to change lives through local school bonds.



Cleveland Division of Police Headquarters Cleveland, OH

Category: Unbuilt Design Firm: Dewberry-OH Designers PC, Elmhurst, IL

Owner: City of Cleveland

Description: Design a welcoming headquarters without diminishing the safety and security of the police within. The design team heard a clear note from the community that the building should reflect neither the image, nor the lack of function of their old buildings. With this directive, the design team has created a timeless design based upon meaning found within the community and function found within the Division of Police aimed at a new model of community-based policing.



Dressel Elementary St. Louis, MO

Category: Institutional Firm: Cordogan Clark,

St. Louis, MO

Contractor: TriCo, Inc. Owner: Lindbergh Schools

Photographer: Aaron

Gipperich

Description: Dressel Elementary School opened in 2017 to relieve overcrowding throughout the Lindbergh School District and replaced a small aging school on the site with a new 98,000-square-foot building designed to provide a welcoming environment for 21st century learners in kindergarten through fifth grade. Double-height assembly spaces are set into a hillside to reduce the building's scale. Grade-specific classroom wings shaped like fingers allow light to permeate and create outdoor spaces for both curriculum and nature.

First Church of Christ, Scientist Barrington, IL

Category: Religious

Firm: Studio Talo Architecture, Inc., Evanston, IL

Contractor: Efraim Carlson & Son

Owner: First Church of Christ, Scientist

Photographer: Joe Kirsch

Description: Sometimes the best addition is a subtraction. Our client needed to improve accessibility while addressing their church's changing space requirements. To accomplish this, we removed the original church and repurposed the 1960's religious education building as a skylit worship space. An arcade lined courtyard faces the street, and connects the auditorium, a religious education addition, and the new Christian Science Reading Room into an accessible. light-filled space for spiritual community.





Full Service Car Wash Brookfield, WI

Category: Commercial / Industrial

Firm: SchultzWerk Architecture,

Inc, Wauwatosa, WI

Contractor: 12 ga Construction

Owner: Dave Liekam

Photographer: Matthew Kerr Description: Provide a new modern façade for an existing dull car wash that is eye catching. Bright modern materials, bold form; natural light; glass and lighting and bold signage were

employed.

Grand Prix Des Moines, IA

Category: Multi-Family Homes Firm: ASK Studio, Des Moines, IA Contractor: Ball Team Construction Owner: Newbury Living

Photographer: Cameron Campbell, Integrated Studio

Description: The Grand Prix renovation is an exemplary exercise in finding a structure's architectural strengths in order to give it a marketable appeal. While it could simply be seen as a make-over, the process was one of respectful deconstruction rather than an applique of cosmetic layers.





Hoover+Greene Ann Arbor, MI

Category: Multi-Family Homes

Firm: Myefski Architects, Inc., Chicago, IL

Contractor: Cunningham-Limp

Owner: REDICO

Photographer: Clayton Studio,

Drone Brothers and Gabe Balazs Photo

Description: This residential resort for young professionals and students is four-stories, 226,905 sf and consists of 167 units, street level retail, and covered parking arranged on an entire city block near downtown Ann Arbor with an elevated deck that offers a magnificent view of Michigan Stadium.

llinois National Guard **Readiness Center and Army Aviation Support Facility** Kankakee, IL

Category: Institutional

Firm: Bailey Edward Design,

Chicago, IL

Contractor: The George Solitt **Construction Company**

Owner: Illinois National Guard

Photographer: Jason Keen



Description: The Army National Guard Readiness Center and Army Aviation Facility provides a welcoming, safe, and flexible space to care for service people as they care for American communities. Emulating the motor of the helicopters housed onsite, three wings dedicated to training and mission preparedness expand outward from a central hub featuring social and training areas. The LEED Silver design mirrors the National Guard's commitment to serve the people and protect our environment.



John Hancock College Prep High School Chicago, IL

Category: Institutional

Firm: UrbanWorks, Ltd., Chicago, IL Contractor: KRM ALL Joint Venture, LLC Owner: Public Building Commission of Chicago/Chicago Public Schools

Photographer: AJ Brown Imaging

Description: The new John Hancock College Preparatory High School, three blocks from Chicago's Midway Airport, features memorable window and glazing patterns representing sound waves that reverberate throughout the community from planes overhead and student activity within. The design concept of "uplift" fosters student ambition and achievement based on this local context. The 178,000 SF facility includes a black box theater, full-size auditorium, and two-position gymnasium shared with the neighborhood to maintain a vibrant year-round community center.

Magnolia Flats Chicago, IL

Category: Multi-Family Homes Firm: Nicholas Design Collaborative, Chicago, IL Contractor: NCA Build Ltd

Owner: Peter M Nicholas

Photographer: Bruce Van Inwegen - Van Inwegen Digital Arts Description: A four unit apartment building in the Magnolia Glen neighborhood of Chicago. The property is located on a block that is primarily multi-family apartments and within a one block walk of a CTA elevated train stop as well as a high end grocery store and an array of necessary goods and services. It was designed as an owner occupied building with a hierarchy of unit sizes and potential for multi-generational living.





Midway Airport Security Checkpoint Expansion Chicago, IL

Category: Commercial /

Industrial

Firm: Muller & Muller Ltd.,

Chicago, IL

Contractor: F.H. Pashen

Owner: Chicago Department

of Aviation

Photographer: William Zbaren

Description: This 80,000 square foot expansion brings much needed new space and organization to busy Midway International Airport. The compact Midway footprint offers limited opportunity for expansion. This project took advantage of previously wasted space in the heart of the airport terminal complex by spanning over Cicero Avenue and weaving between airport service roads to provide a unique new passenger experience.

Navy Pier Flyover Chicago, IL

Category: Commercial / Industrial

Firm: Muller & Muller Ltd., Chicago, IL

Contractors: F.H. Pashen and **Granite Construction**

Owner: City of Chicago Department of Transportation Photographer: William Zbaren

Description: This half mile long elevated bike and pedestrian path twists and turns through a complex and congested portion of Chicago's lakefront serving as a seamless carless connection between north and south. The functional ribbon like sculpture of steel, concrete, and light is woven inseparably into the city fabric. The path is an extraordinary pedestrian experience of the type rarely built.



OSF Ministry Headquarters Peoria, IL

Category: Mixed Use

Firm: Dewberry Architects Inc., Elmhurst, IL

Contractor: PointCore Construction

Owner: The Sisters of the Third Order of St. Francis

Photographer: Mark Ballogg

Description: A significant historic preservation effort under the standards of the National Parks Service, this collaborative office environment was recovered from a former retail building campus which was in complete disarray. Covering seven floors and three sublevels, the mixed-use office, café, and restaurant solution injects new life into the Peoria Downtown. Open office planning with a gradient from large conferencing areas to individual focus rooms is now nested into a forest of restored classical columns.

Wapiti Tranquility Wapiti, WY

Category: Single Family Homes Firm: William Tabberson, Architects, Muncie, IN

Contractor: Tom Quick - TLQuick Design + Build

Owner: Michael and Monica Miketa

Photographer: Tom Quick -TLQuick Design + Build



Description: The haptic quality of the rising sun beyond arid mountain slopes, sounds of rushing water from a river, visual tactility of rugged rock formations and gently rolling hills describe this Wyoming landscape. Mornings begin with a habitual migration of the biggest and grandest species of deer, the elk, also known as wapiti, as they take their morning saunter down the mountain and across the verdant valley to drink from the Shoshone River. This is, Wapiti Tranquility.



Adaptive Re-use Renovation for Triotech Corporation Whitehouse, OH

Category: Commercial / Industrial

Firm: Pastula Design | Architect, Toledo, OH

Contractor: The Dotson Company

Owner: Jon Marshall

Photographer: JLK Photography

Description: A 1930s gas station has been renovated into a modern office including servers, 3 workstations and a conference room. Challenges included matching the very tight existing soffit height with the new overhang addition on the front of the building and creating the correct open office scale to the existing high bay service area. The client's love of all things vintage automobile created a nostalgic remembrance of the previous property as a gas station while maintaining a new business aesthetic within a historic. small, mid-western downtown.

Boatwerks Waterfront Restaurant Addition and Remodel Holland, MI

Category: Commercial / Industrial Firm: Ghafari Associates, Grand Rapids, MI Contractor: Pinnacle Construction Group Owner: Redwater Restaurants

Photographer: Voss Glass



Description: Located on the shores of beautiful Lake Macatawa, the Boatwerks Waterfront Restaurant sought to create a seamless connection of the facility to its majestic surroundings and offer its customers a space made for a myriad of experiences, from casual dining to milestone events and celebrations.



Bradley University -Business and Engineering Convergence Center Peoria, IL

Category: Institutional

Firm: Dewberry Architects Inc., Elmhurst, IL Contractor: Williams Brothers Construction

Owner: Bradley University Photographer: Mark Ballogg

Description: The Convergence Center is the manifestation of a progressive approach to combined engineering and innovation education with applied entrepreneurship in business education to foster a truly collaborative environment which facilitates the productive engagement of theory and design with viable implementation within market forces. This is expressed architecturally in the combination of the business and engineering schools into a common facility.



Cedar Lake Mid-Century Minneapolis, MN

Category: Single Family Homes

Firm: PKA Architecture, Minneapolis, MN Contractor: Marsden Building and Remodeling

Photographer: Spacecrafting

Description: When the clients found an iconic mid-century home for sale on an urban lake, they discovered the house was originally designed by Elizabeth Scheu Close, one of Minnesota's first female Architects. They commissioned the architecture firm to carefully renovate the home for their current lifestyle and eventually, aging gracefully in place. Design goals included preserving the home's original mid-century character while creating modern flow and functionality with a strong connection between indoors and out.

City of Countryside Municipal Complex Countryside, IL

Category: Institutional Firm: Dewberry Architects Inc., Elmhurst, IL

> Contractor: Frederick Quinn Corp. Owner: The City of Countryside

> > Photographer: Mariusz Mizera

Description: The City of Countryside Municipal Complex is a combined, 34,638 sf city administration and police headquarters. The site was strategically selected to be a catalyst for future development for the city and be an educational hub for sustainable design. The contemporary design is welcoming to all visitors with a two-story entry lobby that is full of natural light and features an educational display about the facility's sustainable LEED Gold design and aspirational Net-Zero Energy design elements.





ComEd Recreation Center at Jane Addams Park Chicago, IL

Category: Institutional

Firm: SMNG A Ltd, Chicago, IL Contractor: Burling Builders Owner: Chicago Park District Photographer: Tom Rossiter

Description: The ComEd Recreation Center at Jane Addams Park is a first-of-its-kind, 100,000 SF Chicago Park District athletic and community center. Indoor athletic facilities include soccer, lacrosse, running/walking track, multi-use basketball, volleyball, badminton & roller-skating areas. Support spaces include multi-purpose community rooms, lockers, and offices. A colored canopy, glazed reveals, variation in fenestration height, and modulated exterior colors enhance wayfinding and mitigate the size and scale of this large facility.



Edmund Residence Minneapolis, MN

Category: Single Family Homes

Firm: PKA Architecture, Minneapolis, MN

Contractor: Hage Homes Photographer: Spacecrafting

Description: When a couple decided to sell their condo and build a new, "forever" home on a deep urban lot, their project goals included a right-sized, energy-efficient modern home that would integrate easily into the established neighborhood of varying home styles. The Architects responded with a simple, two-story home with large windows, sliding doors and a flexible, highly functional space plan that can be readily adapted for single-level living, allowing the owners to age gracefully in place.

Equilibrium Chicago, IL

Category: Interior Architecture Firm: Cernek Architects, Glenview, IL Contractor: Cernek Architects Photographer: Craig Cernek

Description: The program called for the design of a small companion table of "modern" design to be used for a cocktail and hors d'oeuvres which would resist being knocked over. The solution is a small table that utilizes a counterbalance to remain erect and wheels that allow it to move in order to accommodate external lateral forces without falling over. All of this ensures that the table remains in equilibrium.





Gettysburg Elementary School **Library Renovations** Clovis, CA

Category: Interior Architecture

Firm: Arthur Dyson Architect, Fresno, CA

Contractor: Mark Wilson

Owner: Clovis Unified School District

Photographer: David Swann

Description: This tired and outdated, 25-year old school library was reconfigured, updated and refreshed into a state-of-the-art, uplifting and exciting space for elementary aged students to study, learn and relax. It has become the favorite gathering space for the children.



Highland Community School Milwaukee, WI

Category: Institutional

Firm: Korb + Associates Architects, Milwaukee, WI

Contractor: Catalyst Construction

Owner: Highland Community School

Photographer: Nairn Olker

Description: After moving from The Schlitz Mansion to the Pabst Mansion, HCS settled into its perfect location on 17th and Highland, allowing the school to remain in the Highland Avenue community. We were engaged to create an addition to the school that reflected both its rich history and strong ties to the community, along with accurately reflecting the transition by advancing students into a bright and vibrant future. Art, sustainability and the pillars were imperative.

Imperial Lobby Des Moines, IA

Category: Architectural Elements Firm: Ask Studio, Des Moines, IA Owner: Newbury Living Photographer: ASK Studio

Description: The design for the lobby space in a half-century old apartment building began with a room that was too small and lacked any definition of the place. There was no message. The design solution was based on layering, lightness and focus. With a limited budget, all the ills of the space would need to be challenged with paint, flooring and an architectural millwork element.





Milan Readiness Center Addition Milan, IL

Category: Institutional

Firm: Bailey Edward Design, Chicago, IL Contractor: Swanson Construction Company

Owner: Illinois National Guard

Photographer: Dave Burk @ Hedrich Blessing

Description: The Milan Readiness Center Addition inspires National Guard members in their service to the community. Morse code patterns laced in the brick façade remind servicepeople of their promise to the American people. Photovoltaic shades and a solar wall demonstrate commitment to the planet. Daylight flows inside through solar tubes and skylights before being distributed throughout by a glass wall system offering transparency and a sense of community amongst offices, classrooms, and communal spaces within.



Prairie Remnant House Black Earth, WI

Category: Single Family Homes

Firm: Bruns Architecture, Milwaukee, WI

Contractor: Yahara Builders

Owner: Doug Steege and Kristine Euclide

Photographer: Tricia Shay

Description: Designed to preserve the past, Prairie Remnant House is a thoughtful, modern structure carefully sited on an original homestead foundation to continue a legacy of prairie conservancy. For 40 years, this dedicated couple actively maintained a 180-acre prairie remnant parcel. The design objective was to enhance the living and gathering functions of the home within a modest floor plan. The challenge was updating the accommodations with minimal impact on the cherished land and ecosystem.

Racine Unified School District Aquatic Center Racine, WI

Category: Institutional

Firm: Williams Architects, Itasca, IL Contractor: J.H. Findorff & Son Inc.

Photographer: Larry Kmiecik / Kmiecik Imagery

Description: The Racine Unified School District (RUSD) serves the fifth largest student population in Wisconsin. To support the students, three high schools were built with indoor swimming pool facilities. After decades of wear/tear, the facilities began to show their age. The RUSD approved a new facility to serve the student population and meet the needs of the community. Completed in 2021, the RUSD Aquatics Center now serves programs for the community and the state.





Rauner Family Veteran Studios Chicago, IL

Category: Multi-Family Homes Firm: UrbanWorks, Ltd., Chicago, IL Contractor: GMA Construction Group Owner: A Safe Haven Foundation Photographer: Karant + Associates

Description: The 45,891 SF Rauner Family Veteran Studios houses 90 efficiency residences primarily designated for veterans on Chicago's West Side. Clad in variated grey panels punctuated by wood and aluminum-clad feature units, the five-story-tall building deploys a "hospitality" approach to its public spaces, reminiscent of a boutique hotel. The fully furnished studio apartments house low-income, senior, and disabled military veterans, with its uplifting design representing a positive development within the North Lawndale community.



Rogers Behavioral Health Ladish Co. Foundation Center Oconomowoc, WI

Category: Institutional

Firm: GROTH Design Group, Cedarburg, WI

Contractor: Catalyst Construction

Owner: Jack Collier

Photographer: Reminisce Photography

Description: Rogers Behavioral Health, a leader in mental health and addiction treatment, identified a goal to create a restorative gathering place for families with loved ones going through treatment. The presence of this first-of-its-kind facility is a testimony to the ongoing dedication to help individuals and families within the surrounding communities live healthy and productive lives. It is a building full of hope and healing and is positively impacting the community one individual at a time.

Selma Police Department Selma. CA

Category: Unbuilt Design Firm: Arthur Dyson Architect, Fresno, CA

Owner: City of Selma



Description: This building is a new state-of-the-art police station for a small, but growing city in central California. This building replaces an old and tired facility with an exciting and forward looking design.

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The Patricia Browning Stone Sensory Playground Evansville, IN

Category: Institutional

Firm: Three i Design, Evansville, IN Contractor: Danco Construction. Inc.

Owner: Ascension St. Vincent Evansville Hospital Photographer: Black Pixel Studios- Glenn Tang

Description: It is essential that ALL children have opportunities to experience a variety of play activities for healthy development. Unfortunately, many have difficulties with sensory processing and are unable to enjoy these experiences. The Patricia Browning Stone Sensory Playground is directly aimed at helping children with sensory, behavioral, and emotional challenges. Children receive "therapy through play" as therapists observe, evaluate, and play alongside the child to address social, motor, and cognitive issues connected with sensory disorders.

WACO Aircraft Corporation Facility Expansion Battle Creek, MI

Category: Commercial / Industrial Firm: Ghafari Associates, Grand Rapids, MI

Contractor: Walbridge

Owner: WACO Aircraft Corporation

Photographer: Jason Keen

Description: The WACO project is an 80,000 SF expansion to their existing space. The project includes two new, large service hangars with "vintage look" facades, a fabrication shop, engine assembly shop, restaurant, FBO, and engineering office space to accommodate for future growth. The overall design highlights the beauty and grace of the WACO aircraft to existing and potential customers.



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Acoustics and Mass Timber: Room-to-Room **Noise Control**

BY: RICHARD MCLAIN, PE, SE, WOODWORKS

he growing availability and code acceptance of mass timber - i.e., large solid wood panel products such as cross-laminated timber (CLT) and nail-laminated timber (NLT) - for floor, wall and roof construction has given designers a low-carbon alternative to steel, concrete, and masonry for many applications. However, the use of mass timber in multi-family and commercial buildings presents unique acoustic challenges.



Timber House (Architect: Mesh Architectures; Structural Engineer: Silman; Photo: Travis Mark)

While laboratory measurements of the impact and airborne sound isolation of traditional building assemblies such as light wood-frame, steel and concrete are widely available, fewer resources exist that quantify the acoustic performance of mass timber assemblies. Additionally, one of the most desired aspects of mass timber construction is the ability to leave a building's structure exposed as finish, which creates the need for asymmetric assemblies. With careful design and detailing, mass timber buildings can meet the acoustic performance expectations of most building types.

Emphasizing room-to-room noise control, this paper covers key aspects of mass timber acoustical design, including rules of thumb for optimal design, common assemblies and where to find them, detailing strategies, and options for eliminating flanking paths. It is not intended to be an exhaustive review of building code requirements

and principles of acoustics design. Several existing resources, such as the WoodWorks publication, Acoustical Consideration for Mixed-Use Wood-Frame Buildings[1] and the Nail-Laminated Timber: US Design and Construction Guide^[2], discuss particulars of acoustical design in woodframe structures and considerations associated with a variety of mass timber panel options.

Basics of Acoustics and Code Requirements

Section 1206 of the 2018 International Building Code (IBC) lists requirements for acoustical performance of walls, partitions and floor/ceiling assemblies in multi-family buildings. These assemblies, which separate one dwelling unit from another or from public areas, must have a sound transmission class (STC) rating of 50 and, in the case of floor/ceiling assemblies, an impact insulation class (IIC) rating of 50. (These ratings can be reduced to 45 when field tested.) Note that these code requirements only apply to multifamily construction. Although guidelines related to acoustical performance in occupancies such as offices, schools and hospitals[3] do exist, they are not requirements under the IBC.

STC measures how effectively a wall or floor/ceiling assembly isolates airborne sound and reduces the level that passes from one side to the other. Examples of airborne sound include conversation and music. IIC measures how effectively a floor/ceiling assembly blocks impact sound from passing through a floor/ceiling and only applies to those assemblies. Examples of impact sound include foot falls and a book dropping on the floor.

Unique Mass Timber Acoustics Considerations

Bare mass timber floor/ceiling or wall assemblies are seldom used, in large part due to inadequate acoustical performance. For example, a 5-ply CLT floor with a thickness of 6.875 inches has an STC rating of 41 and an IIC rating of 25.[4] As such, components are typically

added to mass timber assemblies to improve their acoustics. See Table 1 for acoustical properties of bare mass timber panels. In floor/ceiling applications, owners and design teams often want to expose the ceiling side of mass timber panels for aesthetic reasons, which means that any acoustical components must be installed on top of the assembly. This is one of the main acoustical design distinctions between light wood-frame floor/ceiling assemblies and mass timber floor/ceiling assemblies. In light-frame construction, acoustical components are typically included above, within and below the assembly - e.g., underlayment and/or concrete topping above the framing, batt insulation within the depth of the framing, and resilient channels and gypsum ceiling board underneath.

There are three main ways to improve an assembly's acoustical performance:

- 1. Add mass
- 2. Add noise barriers
- 3. Add decouplers

One of the characteristics of mass timber is that it has a high strength-to-weight ratio; therefore, when compared to other panel and slab-type construction materials, it weighs significantly less. This reduces building mass, which is beneficial in terms of lower seismic forces, smaller foundation requirements, and soil improvement measures such as pilings or piers. However, with acoustics, more

Table 1 - Examples of acoustically-tested mass timber panels

Mass Timber Panel	Thickness	STC Rating	IIC Rating
3-py CLT wall ⁴	3.07" 33		N/A
5-ply CLT wall ⁴	6.875" 38		N/A
5-ply CLT floor ⁵	5.1875" 39		22
5-ply CLT floor ⁴	6.875" 41		25
7-ply CLT floor ⁴	9.65"	44	30
2x4 NLT wall ⁵	3-1/2" bare NLT;	24 bare NLT;	N/A
	4-1/4" with 3/4" plywood	29 with 3/4" plywood	
2x6 CLT wall ⁵	5-1/2" bare NLT; 6-1/4" with 3/4" plywood	22 bare NLT; 31 with 3/4" plywood	N/A
2x6 NLT floor + 1/2" plywood ²	6" with 1/2" plywood	34	33

Source: Inventory of Acoustically-Tested Mass Timber Assemblies, WoodWorks [6]



Ascent (Developer/Owner: New Land Enterprises; Architect: Korb + Associates Architects; Structural Engineer: Thornton Tomasetti; Photo VRX Media Group)

mass typically means better noise control. For comparison, a typical 6-inchthick concrete slab weighs approximately 80 pounds per square foot (psf) and has an STC rating of 53[7] while a ~7-inch-thick CLT panel weighs about 17 psf^[8] and has an STC of 41.4. Due to the lack of mass inherent in the mass timber panel, a common way to improve acoustical performance is to add a poured concrete or gypsum-based topping layer, usually in the range of 1-3 inches thick.



Concrete floor topping (Photo: Maxxon Corporation)

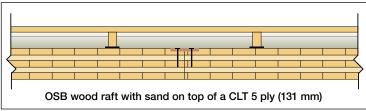
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Decouplers are products that decouple, or break direct connections between, finishes on one side of an assembly and the other. This reduces the amount of noise that can directly travel through finish to structure to finish. Common examples in light wood-frame construction include resilient channels and air spaces. In mass timber floor/ ceiling systems, the most common decoupling products are underlayments and mats placed between the mass timber panel and concrete or gypsum-based topping. The type and thickness of material varies by product line and manufacturer, but the purpose is the same: to break the direct connection between structure/ceiling finish (the mass timber panel) and the top side finish (topping and/or finish floor). Below are several examples of underlayment products. Although it is common to add noise barriers within light wood-frame assemblies (e.g., batt insulation in a floor cavity), this method is much less common in mass timber floor/ceiling assemblies. That said, several acoustically tested mass timber floor assemblies include wood sleepers on top of the panels and noise barriers such as sand or batt insulation between the sleepers. See Figure 1.



Acoustical floor underlayments

Figure 1 – CLT floor assembly with wood sleepers and sand topping

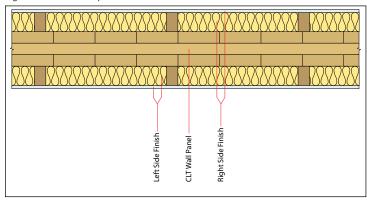


Source: Reguppol

Mass Timber Assembly Options: Walls

Mass timber panels can also be used for interior and exterior walls - both bearing and non-bearing. For interior walls, the need to conceal services such as electrical and plumbing is an added consideration. Common approaches include building a chase wall in front of the mass timber

Figure 2 – Interior CLT partition wall with chase walls on both sides



Source: Inventory of Acoustically-Tested Mass Timber Assemblies, WoodWorks [6]

wall or installing gypsum wallboard on resilient channels that are attached to the mass timber wall. As with bare mass timber floor panels, bare mass timber walls don't typically provide adequate noise control, and chase walls also function as acoustical improvements. For example, a 3-ply CLT wall panel with a thickness of 3.07 inches has an STC rating of 33.4. In contrast, Figure 2 shows an interior CLT partition wall with chase walls on both sides. This assembly achieves an STC rating of 58, exceeding the IBC's acoustical requirements for multifamily construction. Other examples are included in the inventory of tested assemblies noted above.

Building Code Changes Provide New Opportunity for Tall Timber

The introduction of three new construction types in the 2021 IBC - Types IV-A, IV-B and IV-C - allows designers to leverage mass timber construction for structures much larger and taller than prescriptively allowed under previous codes (up to 18 stories and 270 feet). One of the main ways to demonstrate a certain level of passive fire protection of a structure, regardless of the structural materials used, is with hourly fire-resistance ratings (FRRs). Required FRRs for the three new tall mass timber construction types are contained in Table 601 of the 2021 IBC and are similar to those required for Type I construction.

A new requirement for all timber elements in Type IV-A projects and most timber elements in Type IV-B projects is that of direct-applied noncombustible protection. This is typically accomplished in the form of Type X gypsum wallboard, which achieves two thirds of the assembly's required FRR. From an acoustics perspective, this has a direct impact on the design of mass timber assemblies, particularly floor assemblies. Since the floor panels in these tall timber structures will not be exposed on the ceiling side, it introduces the opportunity to leverage the ceiling side protection, and possibly the addition of a dropped ceiling, to enhance the acoustical performance

of the assembly. It also allows the possibility of reducing the materials required on the top side of the assembly when compared to assemblies exposed on the underside. Table 2 shows data collected during a series of mass timber acoustic tests conducted in 2019, analyzing the impact of direct-applied gypsum and a dropped ceiling on a mass timber floor assembly.

laminated timber panels (GLT), and tongue-and-groove decking.

Improving Performance by Minimizing Flanking

Even when the assemblies in a building are carefully designed and installed for high acoustical performance, consideration of flanking paths - in areas such as

Table 2: Impact of Direct-Applied Ceiling Gypsum and Dropped Ceiling on Mass Timber Floor Panels⁽⁶⁾

Base Assembly (Top to Bottom)		Base Assembly Plus Two Layers	Base Assembly Plus Two
		Direct-Applied 5/8" Gypsum on	Layers Direct-Applied
		Underside of Mass Timber	Gypsum Plus Dropped Ceiling
1" poured gypsum,	STC 50	STC 52	STC 63
acoustical mat, 5-ply CLT	IIC 40	IIC 46	IIC 60
LVT,* 1" poured	STC 51	STC 52	STC 63
gypsum, acoustical mat, 5-ply CLT	IIC 43	IIC 48	IIC 63
2" concrete, acoustical	STC 52	STC 59	Nettested
mat, 5-ply CLT	IIC 46	IIC 52	Not tested
LVT, 2" concrete,	STC 53	STC 58	
acoustical mat, 5-ply CLT	IIC 52	IIC 55	Not tested

^{*}Luxury vinyl tile

Source: Inventory of Acoustically-Tested Mass Timber Assemblies, WoodWorks [6]

Acoustical Differences between Mass Timber **Panel Options**

The majority of acoustically-tested mass timber assemblies include CLT. However, tests have also been done on other mass timber panel options such as NLT and dowel-laminated timber (DLT), as well as traditional heavy timber options such as tongue-and-groove decking. Most tests have concluded that CLT acoustical performance is slightly better than that of other mass timber options, largely because the cross-orientation of laminations in a CLT panel limits sound flanking.

For those interested in comparing similar assemblies and mass timber panel types and thicknesses, WoodWorks' Inventory of Acoustically-Tested Mass Timber Assemblies contains tested assemblies using CLT, NLT, gluedassembly intersections, beam-to-column/wall connections, and MEP penetrations – is necessary for a building to meet overall acoustical performance objectives.

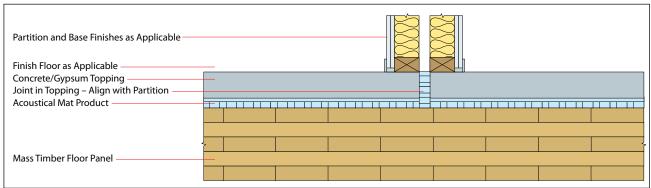
One way to minimize flanking paths at these connections and interfaces is to use resilient connection isolation and sealant strips. These products are capable of resisting structural loads in compression between structural members and connections while providing isolation and breaking hard, direct connections between members. In the context of the three methods for improving acoustical performance noted above, these strips act as decouplers. With airtight connections, interfaces and penetrations, there is a much greater chance that the acoustic performance of a mass timber building will meet expectations.

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Acoustical isolation strips (Photos: Rothoblaas)

Figure 3 - Flanging control detail at floor/wall interface



Source: WoodWorks



Interior partitions in a four-story CLT hotel (Photo: Lendlease)

In multi-family mass timber buildings, where numerous interior partitions exist, there are several detailing and panel layout techniques for minimizing flanking. As noted, a poured topping is common on mass timber floor panels. Breaking the topping at unit separation walls, as illustrated in Figure 3, can help minimize the ability of sound to travel through the topping from one unit to the next. Where further noise control is required, an additional step is to break the mass timber floor panels at each unit wall (if these walls are also bearing locations). While this can be an effective means of enhancing acoustical performance, such a panel layout can create inefficiencies in the manufacturing and erection processes. As such, this approach should be discussed with the manufacturer and installer to evaluate the cost-benefit trade-offs.

Conclusion

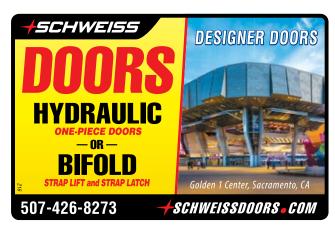
Designing a building for noise control has a tremendous impact on the overall satisfaction of tenants. Laboratory and field tests have already shown that mass timber assemblies can provide satisfactory sound insulation - and this is contributing to the use of mass timber for more projects. A greater number of buildings will generate more knowledge and lead to more field testing, and the result will be an expanding inventory of cost-efficient assemblies and details that perform well acoustically. Mass timber buildings are unique in that designers often try to maximize the visibility of structural members. This creates the need for unique solutions to address noise control. With appropriate attention to detail in the design and construction of assemblies, as well as consideration of flanking paths and sound isolation in connections and penetrations, mass timber buildings can deliver acoustic high performance.

WoodWorks (www.woodworks.org) is a non-profit organization that provides education, resources and free project support related to the design and construction of commercial and multi-family wood buildings in the U.S.

References

- 1. WoodWorks. (2014). Acoustical Consideration for Mixed-Use Wood-Frame Buildings. https://www.wood works.org/resources/acoustical-considerations-for-mixeduse-wood-frame-buildings/
- 2. Binational Softwood Lumber Council. (2017). Nail-Laminated Timber: U.S. Design & Construction Guide, v1.0, www.thinkwood.com/products-and-systems/ nltquide
- 3. American Hospital Association (for healthcare facilities); ANSI S12.60 (for K-12 schools); Department of Housing and Urban Development (for multi-family housing); General Services Administration (for federal courthouses and office buildings)
- 4. Schoenwald, S.; Zeitler, B.; Sabourin, I. National Research Council Canada. (2014). Acoustics summary: sound insulation in mid-rise wood building. https://nparc.nrccnrc.gc.ca/eng/view/fulltext/?id=0dd15eec-b02e-4fb5b8c6-aca331051d1d
- 5. Regupol America. National Research Council of Canada. (2016). Acoustic Testing of CLT and Glulam Floor Assemblies, Nordic Engineered Wood Report No. A1-008253.1. https://www.regupol.us/test-reports/pdfs/A1-008253.pdf. Addendum to RR-335: Sound Transmission through Nail-Laminated Timber (NLT) Assemblies, National Research Council Canada, https://nparc.nrccnrc.gc.ca/eng/view/fulltext/?id=9e3b39be-e0ed-415b-9649-3e7ec228f52c
- 6. WoodWorks. Inventory of Acoustically-Tested Mass Timber Panels. http://bit.ly/mass-timber-assemblies
- 7. Kinetics Noise Control. (2007). Test Report #AT001049. AT001049.pdf (kineticsnoise.com)
- 8. Smartlam. (2022). Smartlam. CLT Specifier Guide. https:// www.smartlam.com/wp-content/uploads/2022/10/ Design-Guide-Oct-2022-low-res.pdf
- 9. AcoustiTECH, a division of the Finitec Group: Sofix system + Soprema InsonoFloor underlayment
- 10. Ultra Quiet SR, Kinetics Noise Control, Inc.
- 11. GenieMat® FF, Pliteg Inc., Patents: US 8,240,430, US 8,556,029, CA 2,500,956 and CA 2,503,520





Test Questions

Acoustics and Mass Timber: Room-to-Room Noise Control

- In mass timber buildings, the desire to leave a building's structure exposed as finish creates the need for:
 - a. Larger shake-out areas
 - b. Alternate Means and Materials Requests
 - c. Asymmetric assemblies
 - d. Preservative-treated wood
- Under the 2018 International Building Code, what is the required sound transmission class (STC) rating for multifamily construction if an assembly is not field tested?
 - a. 50
 - b. 45
 - c. 40
 - d. 35
- 3. If a design team wants to expose the ceiling side of mass timber panels for aesthetic reasons, where can acoustical components be installed?
 - a. On the sides of the assembly
 - b. Within the assembly
 - c. On top of the assembly
 - Acoustical components cannot be installed on panels with their undersides exposed
- 4. Which of the following are ways to improve acoustic performance in a mass timber floor assembly?
 - a. Add mass
 - b. Add decouplers
 - c. Both of the above
 - d. None of the above
- 5. In a mass timber floor/ceiling system, what is the purpose of placing underlayments and mats between the mass timber panel and concrete or gypsum-based topping?
 - a. Meet the required fire-resistance rating (FRR)
 - b. Increase energy efficiency and reduce heating/cooling costs
 - Break the direct connection between the structure/ceiling finish (the mass timber panel) and the top side finish (topping and/or finish floor
 - d. Make the concrete softer to walk on

- Which approach to concealing services such as electrical and plumbing also functions as an acoustic improvement.
 - a. Designing electrical and plumbing so they run between girders
 - b. Surface mounting electrical conduit and service lines
 - c. Building a chase wall in front of the mass timber wall
 - d. Running all electrical and plumbing services only in exterior walls
- 7. Under the 2021 IBC, designers can leverage mass timber construction for structures that are:
 - a. Up to six stories and 100 feet
 - b. Up to 18 stories and 270 feet
 - c. Up to 20 stories and 300 feet
 - d. Up to 25 stories and 350 feet
- 8. When mass timber elements require direct-applied noncombustible protection in Type IV-A and IV-B buildings, how much of the required fire-resistance rating is achieved with the noncombustible coverings?
 - a. One third
 - b. One half
 - c. Two thirds
 - d. Three quarters
- 9. What reference is available for those interested in comparing the acoustical performance of mass timber panel types and thicknesses?
 - a. 2021 International Building Code
 - Inventory of Fire Resistance-Tested Mass Timber Assemblies and Penetrations
 - c. Inventory of Acoustically-Tested Mass Timber Assemblies
 - d. Manufacturer Environmental Product Declarations
- 10. For a mass timber building to meet overall acoustic performance objectives, which of the following flanking paths must be considered:
 - a. Assembly intersections
 - b. Beam-to-column wall connections
 - c. MEP penetrations
 - d. All of the above

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What did they just call me? A "Contractor?"

10 Common Insurability Concerns when a Contract Refers to an Architect as a "Contractor."

BY: JAKE WINKLER, ACCOUNT EXECUTIVE, HOLMES MURPHY & ASSOCIATES

e are seeing a rise in frequency of Owners/Clients who are insisting on using a one-size-fits-all contract, regardless of the services performed. This is especially evident when an architectural firm is listed as a "Contractor" or "Subcontractor" in an agreement. This misidentification of an Architect should be a red flag, as it can create a great deal of additional (and potentially uninsurable) liability.

The first step when a contract arrives on your desk that lists you as a "Contractor" should be to send it back and request an agreement that is written for a professional service provider. You can recommend the use of your own firm's standard architectural agreement, preferably during the initial discussion with your proposal, that would better fit the services being performed. If the client does provide a professional service form, it may be best to use theirs, as it will likely lead to less arguments about modifications to the agreement.

If neither option above is available, it is time to perform a review and redline the contract. Below is a list of 10 common "Contractor" clauses that are not in alignment with your Consulting Services. While this list may not identify all insurability concerns in your specific agreement, it is a great place to start.

Certifications, Guarantees and Warranties

STRIKE these words. By agreeing to certify, guarantee or warranty, you are assuming a level of liability well beyond the standard of care. Most professional liability policies have explicit exclusions for this language. You are providing a professional service, not a physical product. Therefore, you are beholden to the standard of care, and statute of

repose, which is much different than product liability.

"Time is of the essence"

STRIKE this phrase. Time is of the essence language can do an Architect serious harm. This phrase could hold an Architect responsible for minor delays, even if it's outside of your control. This language could also heighten your standard of care. This can trigger your Professional Liability policies' contractual liability exclusion and result in an uncovered claim.

Jobsite Safety & Construction Means and Methods

The jobsite is under the control and supervision of the Contractor. Therefore, an Architect must not agree to be responsible, in any way, for jobsite safety or construction means and methods. STRIKE any contract clause that makes you responsible for losses, injuries, or exposure to illnesses that occur at the iobsite.

Indemnities ask you to "DEFEND"

Indemnification language in this type of contact commonly states, "Contractor shall indemnify, hold harmless, and defend..." While a defense obligation may be insurable within a Contractor's or Architect's general liability coverage, it can

cause insurability concerns with your firm's professional liability insurance. STRIKE any defense obligations that are not exclusively tied to your firm's general liability coverage. You can note to the Owner that your indemnity will allow for the reimbursement of reasonable attorney's fees, if the firm is found negligent.

Consequential and Liquidated **Damages**

STRIKE any references to these damages. If you do not have control over the schedule or the progress of the actual Contractor, why should the Architect be on the hook for financial impacts from their delays? While this may be common for a Contractor, since they are in control of the schedule and construction progress, it is not common or insurable for a Design Professional. Consequential damages could also lead to claim dollars that greatly exceed your fee or cost of repair.

Withheld (or Set-Off) Payments/Pay-when-paid

STRIKE these requirements. Keep an eye out for payment requirements such as "Only if Owner pays Contractor" or "If work is completed in a manner acceptable to the Owner." Withheld payments are not recoverable via professional liability insurance.

Insurance

Binding Arbitration

In many circumstances, Architects should avoid agreeing to binding arbitration as a dispute resolution method. Owners often believe binding arbitration is quicker and more cost-effective than other dispute resolution method; however, the data suggests this is not accurate. Arbitrators are not always required to follow prevailing legal processes and it can be difficult to find one knowledgeable about construction disputes, not to mention architectural design. In most scenarios, the preferred dispute resolution process for Architects is non-binding mediation, then litigation.

Insurance and Bonding Requirements

STRIKE any requirement to acquire a bond or work with a surety for a project. The insurance that an Architects purchases is quite different from the insurance a Contractor buys. This is due mostly to the focus of coverages being based on differing exposures. A bonding or surety requirement is not applicable to a design professional, nor is it typically obtainable.

Ownership of Documents

Unlike Contractors, the finished product for Architects are your documents. They are not a tangible product. It is important to maintain ownership of your documents. If you are unable to do so, make sure the agreement states that the documents may only be used with your consultation or at the Owner's/Contractor's sole risk. We

recommend also requiring payment in full prior to the release of the documents, as this may be your last piece of leverage.

Delivery of Goods, Products, Transfer of Risk and Title

An Architect provides a professional service to the client, not a product. When Owners use a form fit for someone delivering goods to a warehouse, this can be a red flag. STRIKE any ambiguities that are not related to the services you are providing.

If you feel overwhelmed after reading this article, I have great news! Most firms can lean on their Insurance Broker and Carrier to assist with reviewing contracts.

Your agreement may never be perfect. You may find yourself in a situation where you will have to make a business decision, whether to agree to a risk or turn down the business. When making this decision, it is especially important to know what risks you are agreeing to within the agreement.

Disclaimer

The information provided here was gathered with the help of AXA XL's Contract Guide. Our review or comments made regarding any contracts, agreements, or other legal documents is provided for your information only and should not be relied upon by any thirdparty for any purpose, including, but not limited to, as a comprehensive representation of your insurance exposures or coverage. The analysis provided herein is not a guarantee

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About the Author:



Jake Winkler is an Insurance Broker for Holmes Murphy & Associates that specializes exclusively with



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