



THE MILLER HULL PARTNERSHIP, LLP

MASS TIMBER EXPERTISE

The Miller Hull Partnership, LLP

With the firm's establishment in the Pacific Northwest, Miller Hull has been designing and building in the heart of timber country for over forty years.

Environmentalism, resource efficiency and performance-driven design shaped the early ethos of the firm—and timber has played an important role manifesting that vision.

The scale of our work has been conducive to the use of light wood framing coupled with a post-and-beam typology where longer spans or larger expanses of glazing were desired. Some of the earliest design recognition for the firm came from braced timber frame structures with earth-sheltered roofs, designed to perform and deliver occupant comfort using passive solar principles. As early single-family residential designs gave way to larger public buildings, we began to include steel braces and moment frames to handle larger wind and seismic loads.

Every timber building is a hybrid structure to some degree, leveraging concrete and steel elements to enhance the structural function of the wood. Concrete offers advantages in contact with the earth and providing thermal mass; steel is an essential component to add strength to concrete and lateral resistance to longer-span timber framing. When used intentionally to provide structural functions beyond the capacity of wood, concrete and steel elements are indispensable to efficiently direct gravity loads to the earth through wood decking, beams, and columns.

As our understanding and appreciation of timber grows, we recognize a new frontier for advancing regional sustainability through timber construction – reckoning with the environmental impact of forestry practices and supply chains behind the timber elements. Through the use of life cycle assessment tools, we are now keenly focused on quantifying the embodied carbon implications behind forest certification standards and practices that were previously intuitive. Twenty years ago, Miller Hull pioneered the first all-FSC framing package for a public building on the Bainbridge Island City Hall; the Bullitt Center was the first Type-IV Heavy Timber structure permitted in Seattle in over 80 years, and was built with an all-FSC timber frame. The most recent link in this chain of timber projects with an intentional focus on sourcing practices are the Newhouse Building Replacement in Olympia, WA, the Redmond Public Library in Redmond, OR, and the Kendeda Center at Georgia Tech, our second all-FSC Living Building Challenge project.

This booklet documents the case for timber that Miller Hull has been building for over four decades, describing our experience with the nuances of sustainable timber design, empowered by continually-improving mass timber technologies. From built projects to finalist proposals, this collection of heavy timber designs is a vision for architecture that both celebrates the character and heritage of our home in the Pacific Northwest, and boldly looks to the future.

LEGACY

Miller Hull has been growing a culture of excellence in mass timber design for more than four decades. From early cabin projects to civic centers, the look and feel of wood and mass timber elements have been instrumental in the creation of memorable, warm spaces that have been regionally and nationally recognized.

As our design work with wood has evolved, the deep exploration of wood craftsmanship and the expressiveness of this natural material has been used to support our clients' goals in ways that are specific to each project. Our design solutions have also evolved with our increasing understanding of sustainable forestry, regional economic development, and the climate crisis. We treat wood as a material of great beauty and respect and not simply as a commodity for building.

Our mass timber projects are all collected online at www.woodworksinnovationnetwork.org/companies/580/miller-hull-partnership



1982 MERCY RESIDENCE
AIA Seattle Home of the Decade

1987 GORTON BOUNDS CABIN
AIA Seattle Honor Award

2000 BAINBRIDGE ISLAND CITY HALL
AIA COTE Top 10

1994 GIRVIN CABIN
AIA Seattle Honor Award

2006 TILLAMOOK FOREST INTERPRETIVE CENTER
Canadian Wood Council, Wood Design Merit Award

2007 BETHANY COMMUNITY CHURCH
Associate Builders and Construction of Western Washington, Eagle of Excellence

2009 NORTHWEST MARITIME CENTER
Woodworks, wood Design Citation Award

2009 THE WHARF AT POINT LOMA
AIA San Diego, Citation Award

2017 PIKE PLACE MARKETFRONT
AIA Honor Award for Regional and Urban Design

2013 BULLITT CENTER
AIA COTE Top 10

2018 DEL MAR CIVIC CENTER
Woodworks, Wood Design Citation Award

2019 KENVEDA BUILDING
AIA COTE Top 10

2022 HEALTH SCIENCES EDUCATION BUILDING, UNIVERSITY OF WASHINGTON
DBIA National Award of Merit for Educational Facilities

2025 REDMOND LIBRARY
DJC Oregon Top Projects

CLIMATE IMPACT

By 2030, every economic sector must reduce their greenhouse gas emissions by more than half to meet the climate action trajectory set out by the IPCC.

This path of action would ensure that global average temperatures do not rise 1.5°C above pre-industrial levels, and the ecosystems that sustain us are not irreversibly damaged. Along with preserving our natural carbon sinks—forests and its soils—long-lasting wood products such as Mass Timber, can act as temporary carbon stores and can save on potential carbon emissions. Carbon that would otherwise be released during a tree’s end of life (decomposition, fire, etc.), will be stored in wood products for the lifetime of the building. As the need for new buildings demand increasingly more material, choosing to use long-lasting wood products that are sustainably harvested helps to reduce overall carbon emissions. This represents an enormous potential to transform the building sector from a climate problem to a climate solution and can help our industry meet our IPCC goals.

Miller Hull uses life cycle assessment (LCA) tools such as Tally and EC3 in our mass timber design process to quantify the climate impact of wood. Along with Whole Building LCA analysis, we consider the entire life cycle of the individual wood product—from forest to landfill—through measuring factors like forestry practices, modes of transport, end of life treatment, and adhesive techniques. These LCA tools analyze the benefit of selecting responsibly-sourced mass timber structural schemes over primarily concrete or steel solutions and identify materials with the highest carbon emission potential throughout a building’s life. LCA tools improve how our industry understands mass timber design and how our work contributes to a changing climate.

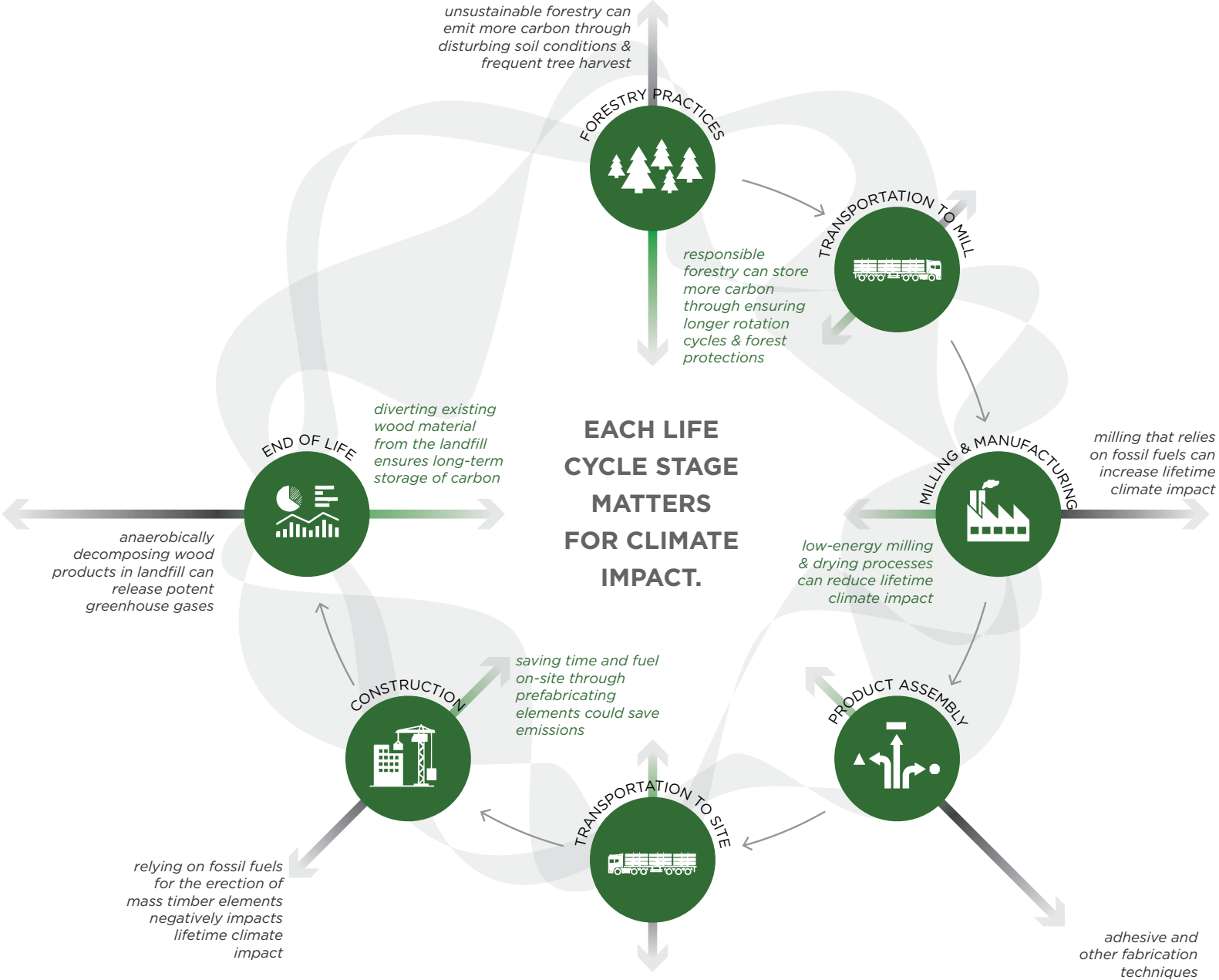
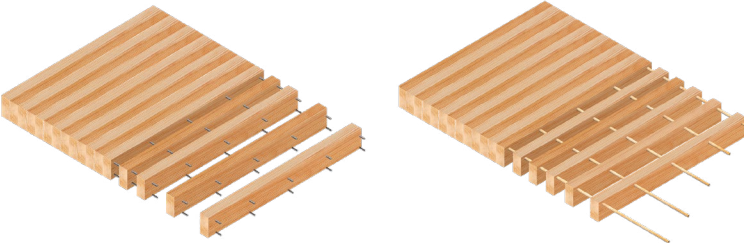


image credit: The Miller | Hull Partnership, LLP

HEALTH

As long as chemicals of concern are carefully eliminated from mass timber elements, the use of wood in buildings can directly benefit occupant health by creating a biophilic environment with improved air quality. Biophilia is the innate connection humans have with nature; by deliberately using biophilic elements within buildings, we can stimulate health benefits for occupants. Research has revealed¹ that incorporating use of exposed wood can result in improved well-being, including reducing stress and lowering blood pressure.

However, to fully realize the beneficial potential of mass timber elements for human health, we must address and eliminate chemicals of concern within the mass timber supply chain, especially in elements which require adhesives. Formaldehyde and bisphenol A (BPA) are two examples of chemicals within timber adhesives that can cause adverse health effects. At this time, the mass timber industry has yet to develop a truly formaldehyde-free adhesive. Both formaldehyde and BPA are classified as carcinogens, with the ability to cause long-lasting human health effects both immediate and hereditary. The negative health effects caused by these chemicals of concern primarily burden those who manufacture the adhesives, craftspeople who install mass timber products, and building occupants who breathe the air from these adhesive-bound wood elements. Because of these concerns, mass timber elements that don't use adhesives, like nail laminated timber (NLT) or dowel laminated timber (DLT), are better for human and environmental health until the industry can remove the chemicals of concern from their supply chain.



NLT and DLT mass timber floor panels avoid the use of adhesives. Image credit: Thinkwood.

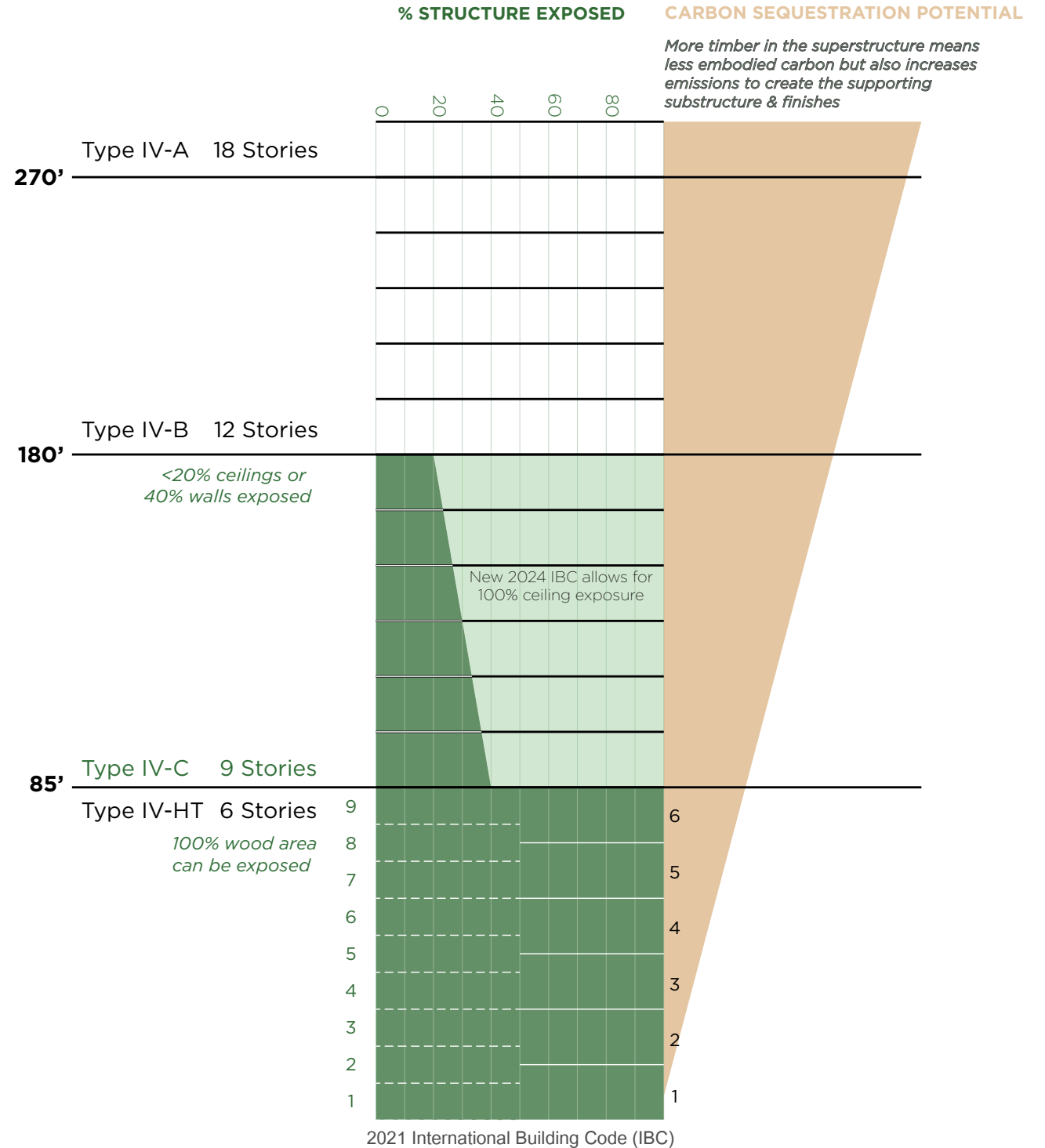
¹Burnard, Michael, & Andreja Kutnar. (2015). Wood and human stress in the built indoor environment: a review. *Wood and Science Technology*.



BUILDING CODE

The building codes in the United States are lagging other countries and do not fully capture the performance capabilities of mass timber construction. However, industry-wide, it is understood that mass timber is a viable construction material with well-documented structural and fire-safety performance. The 2021 International Building Code (IBC) created three new construction Types—IV-A, IV-B, and IV-C—that allow the use of mass timber or noncombustible materials in buildings up to 18, 12, and 9 stories, respectively.¹ U.S. states in the west (WA, OR, CA) were early adopters of these new construction types and have continued to support mass timber as a safe and reliable structural building material.

Per code, there is a tradeoff between building height and level of concealment of structure. At 18 stories, the code requires the entire structure to be concealed with a fire-proof material. Alternatively, many projects are using a performance-based method for superstructure entitlement, using Engineering Judgments to allow for greater expose of tall wood structures. With the complexity associated with designing a code-compliant timber building, and the likely desire to expose as much wood as possible, it is highly recommended to bring a fire protection engineer on to the design team early on in the design process.

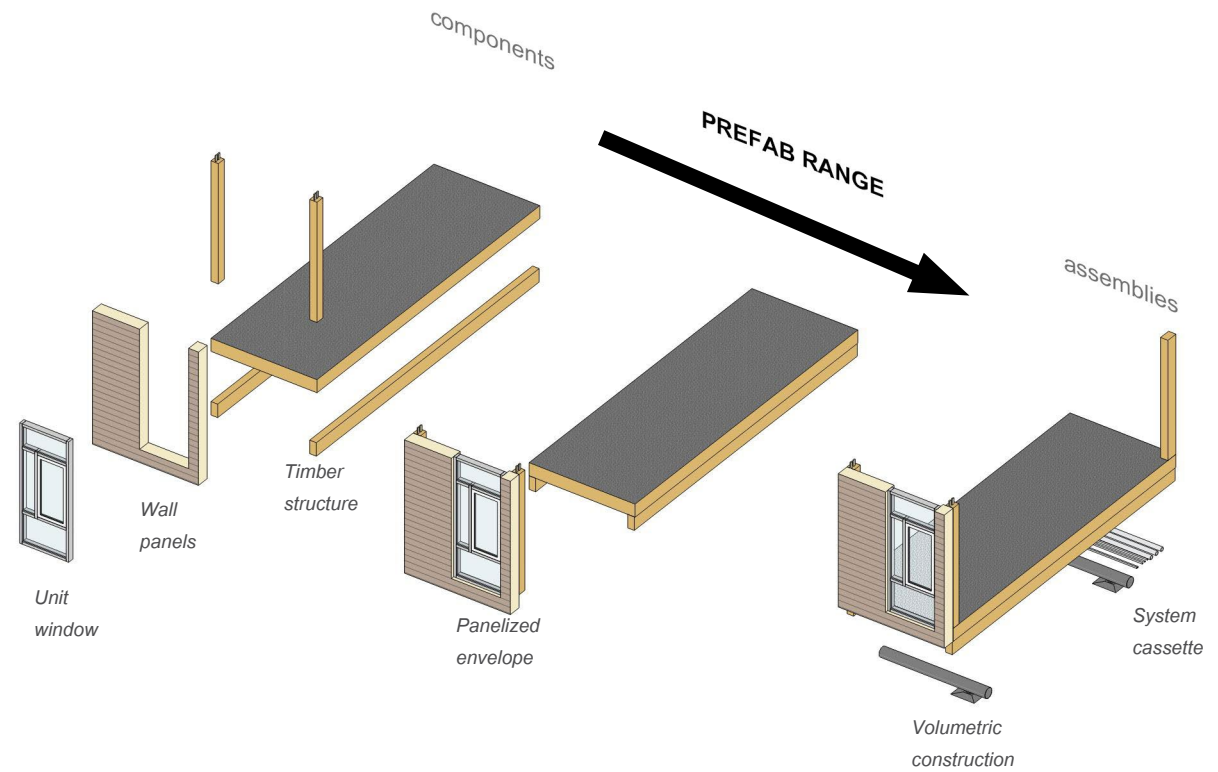


1. www.woodworks.org/resources/status-of-building-code-allowances-for-tall-mass-timber-in-the-ibc/

CONSTRUCTABILITY

The potential for speed and efficiency in the construction of the superstructure is central to the appeal of mass timber as a structural material. From more traditional glulam post and beam structures with rapid on-site erection, to modular, volumetric CLT assemblies with shop-fabricated elements, mass timber construction processes often save time in the field and can reduce the superstructure erection schedule. However, moisture mitigation is a key consideration during construction which is even more significant for mass timber designs, which requires a well-thought-out and implemented water management plan by the general contractor.

One of the key enablers of mass timber construction is a collaborative and detail-oriented pre-construction coordination phase. Bringing a general contractor or a mass timber design assist contractor on board early in the design process is highly recommended. More general contractors are bringing mass timber expertise in-house and are self-performing the work, including custom fabrication capabilities. The main reason for a traditional GC to bring the mass timber scope in-house is to allow the GCs to remain agnostic about the fabricators and timber suppliers for as long as possible; this can avoid potential supply chain delays due to material shortage or machinery failure from a proprietary product in an emerging market.



FORESTRY CONSIDERATIONS

Forests cannot be reduced to the value of a carbon sink—they are complex ecosystems that support biodiversity, prevent natural disasters by providing erosion control, and provide a source of livelihood for many communities dependent on the timber economy. While it is difficult to holistically quantify the consequences of driving up demand for mass timber within our region, we recognize that in order to truly become a valuable solution, mass timber buildings must rely on wood from sustainably managed forests. **A mass timber building that causes the conversion of forest land to non-forest uses, or irreversibly destroys an old-growth habitat is not sustainable.**

Within the building industry, rigorous third-party forestry certification is one of the strongest tools that we can leverage to ensure that mass timber buildings support the development of a sustainable timber supply chain. Beyond ecosystem benefits and respect for indigenous communities, the Forestry Stewardship Council (FSC) certification system provides provisions such as increased stream buffer distances and longer rotation cycles that carry an additional climate benefit.

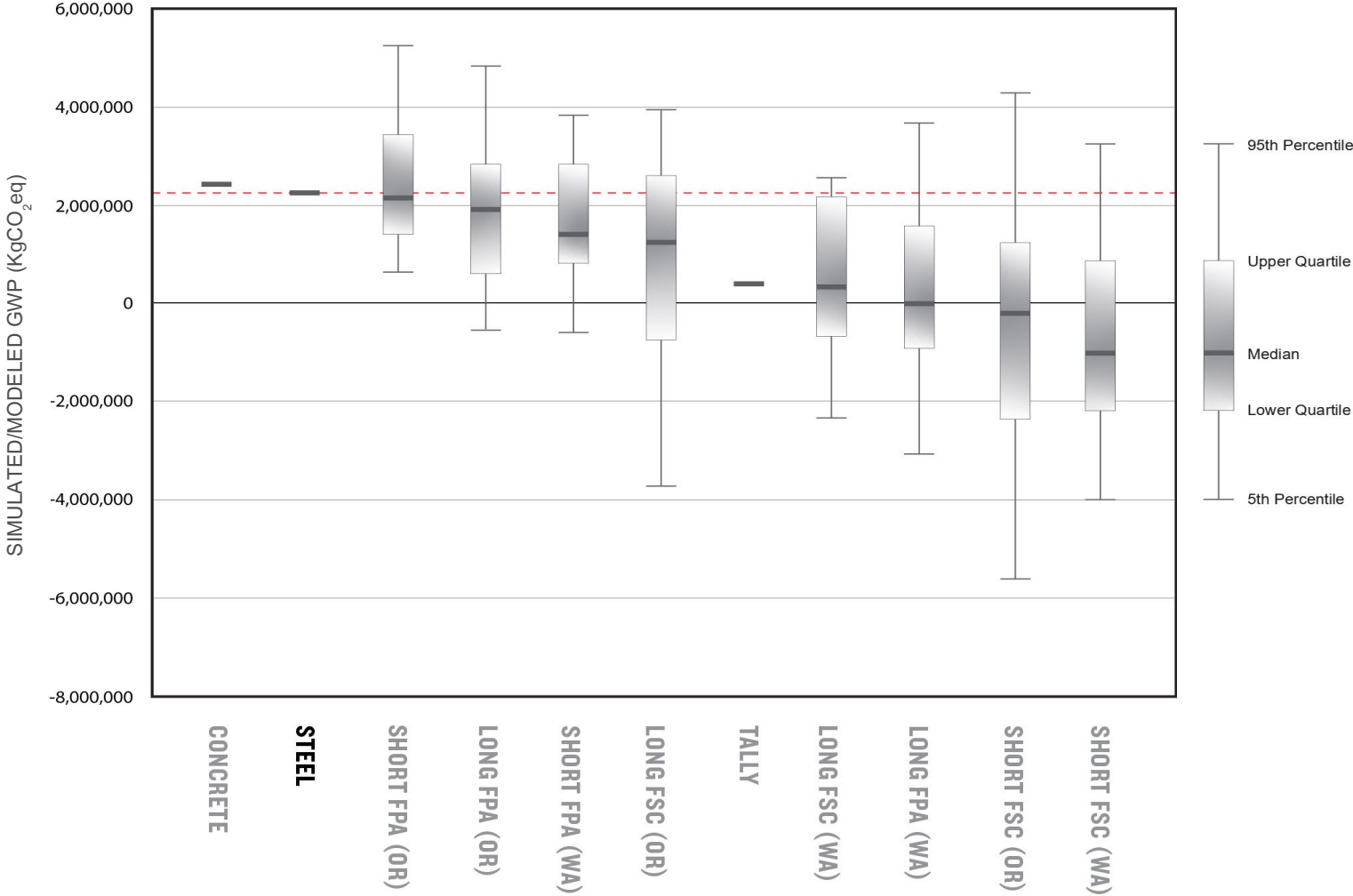
FIBER EFFICIENCY

Fiber refers to the strands of material that make up wood. Fibers are oriented in a single direction, creating a resilient, flexible structure. Depending on the type of construction, fibers used in engineered wood may be oriented in parallel with one another, such as in glue-laminated timber (GLT), allowing for long structural spans, or fibers may be oriented in perpendicular layers, such as cross-laminated timber (CLT), allowing for shorter, extremely rigid structures.

Fiber efficiency is the consideration of fiber orientation. Designing with mass timber from the outset of a project will always be more efficient and cost-effective than trying to integrate mass timber during the project. This is because mass timber and fiber orientation have distinct design considerations that are not a direct translation from steel or concrete structural considerations.

MASS TIMBER SOURCING OPTIONS

CLT & GLULAM



Comparing the global warming potential of a structurally equivalent mass timber, steel, and concrete building for a 6-story lab project in San Diego. Mass timber sourcing options (displayed as a box and whisker plot) were developed using WBLCA forestry factors that allow us to compare the carbon impacts of different forestry management practices.







NEWHOUSE REPLACEMENT BUILDING

Gross area	59,000 SF
Location	Olympia, WA, USA
Mass timber used	Acoustic Dowel-Laminated Timber
Wood used	PEF Doug Fir DLT from Washington
Status	Construction, est. 2024
Delivery method	Construction Manager/General Contractor
Construction type	Type III-B
Height	54'
Certification	LEED Platinum

In this transformative civic project that replaces a storied legislative building with its modern-day counterpart, Miller Hull set out to achieve net zero-readiness through the use of locally-sourced lumber. This hybrid part-steel part-timber design includes the use of dowel-laminated timber, a game-changing product created by FSorb in which the acoustic materials are embedded into the wood itself, resulting in neat wooden strips beautifully threaded over one another. However, throughout the team's analysis of the dowel laminated timber, we realized that the acoustic insert actually contained formaldehyde. Over the course of eight months, we worked with StructureCraft to develop an economic and healthy solution that is formaldehyde free, the first Red List and VOC-free acoustic product in the market.

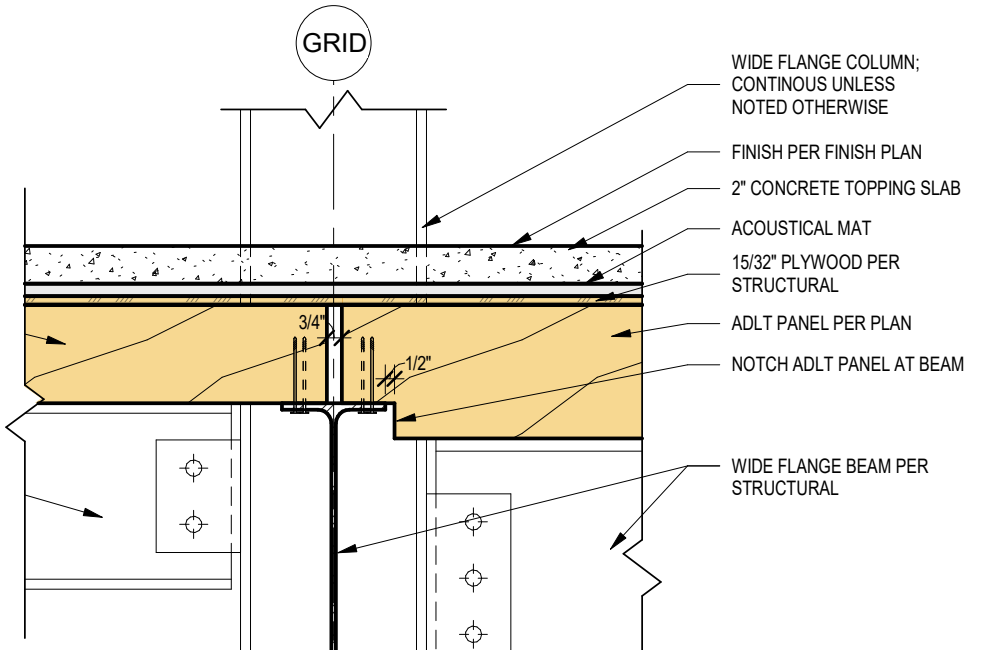
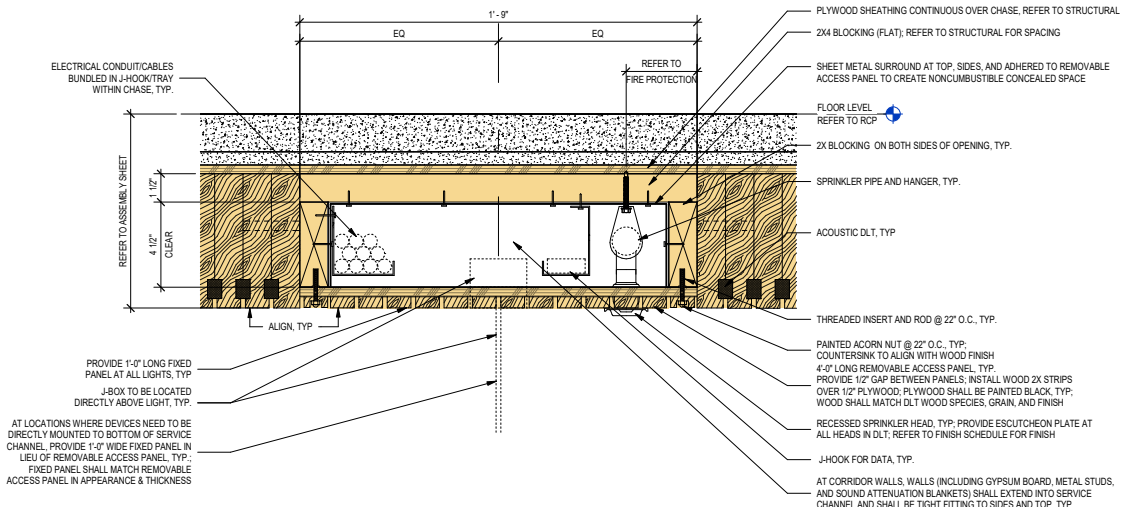
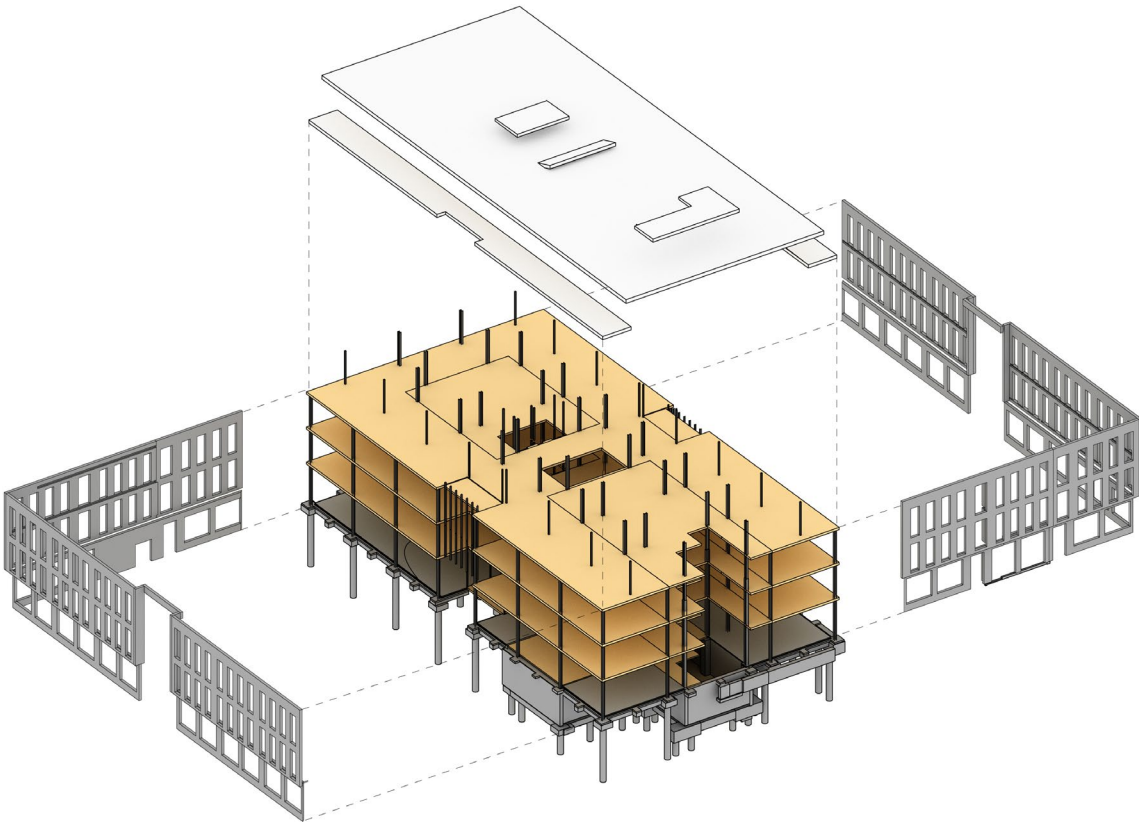
DECISION DRIVERS

● Primary ● Secondary ● Not considered

					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION



NEWHOUSE CONSTRUCTION DETAILS







REDMOND PUBLIC LIBRARY

Gross area	38,000 SF
Location	Redmond, OR, USA
Mass timber used	Acoustic Dowel-Laminated Timber/Glue-Laminated Beams
Wood Used	PEFC SPF DLT from British Columbia, Doug Fir GLB from Oregon
Status	Construction, est. 2024
Delivery method	Construction Manager/General Contractor
Construction type	Type V-B
Height	36'
Certification	LEED Platinum, Targeting ILFI Zero Carbon

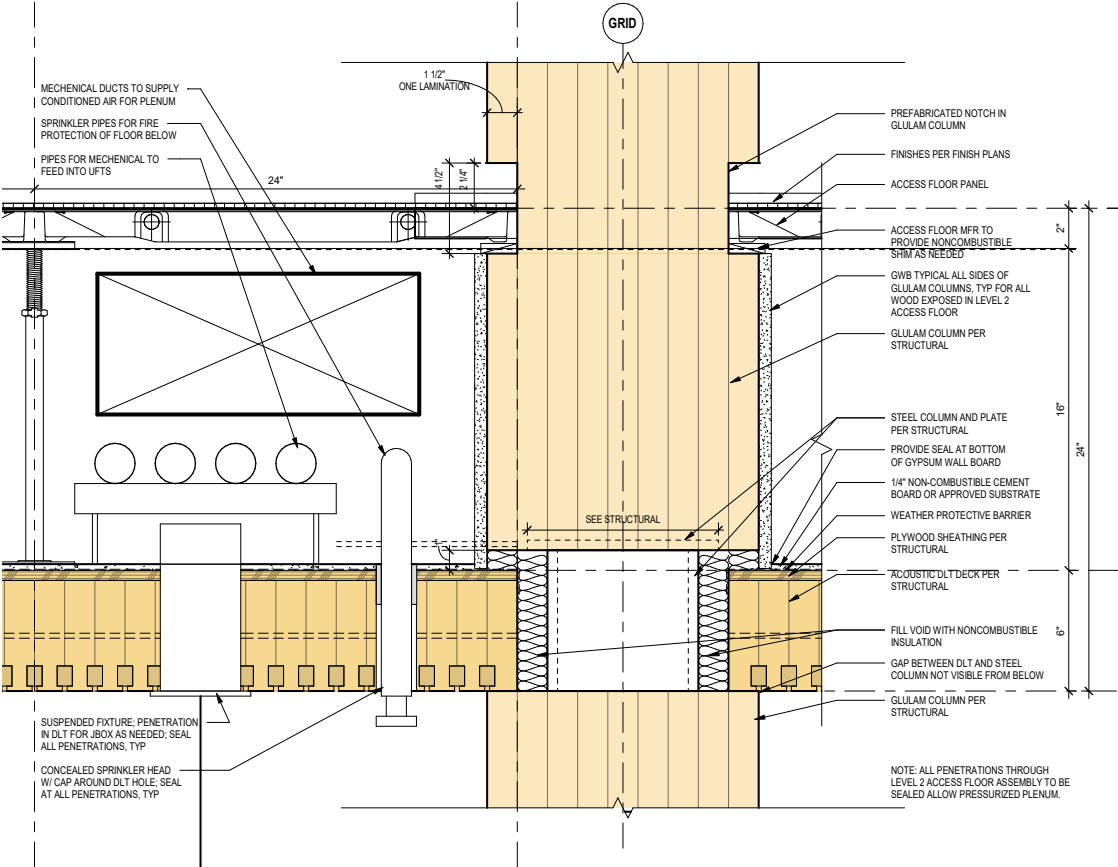
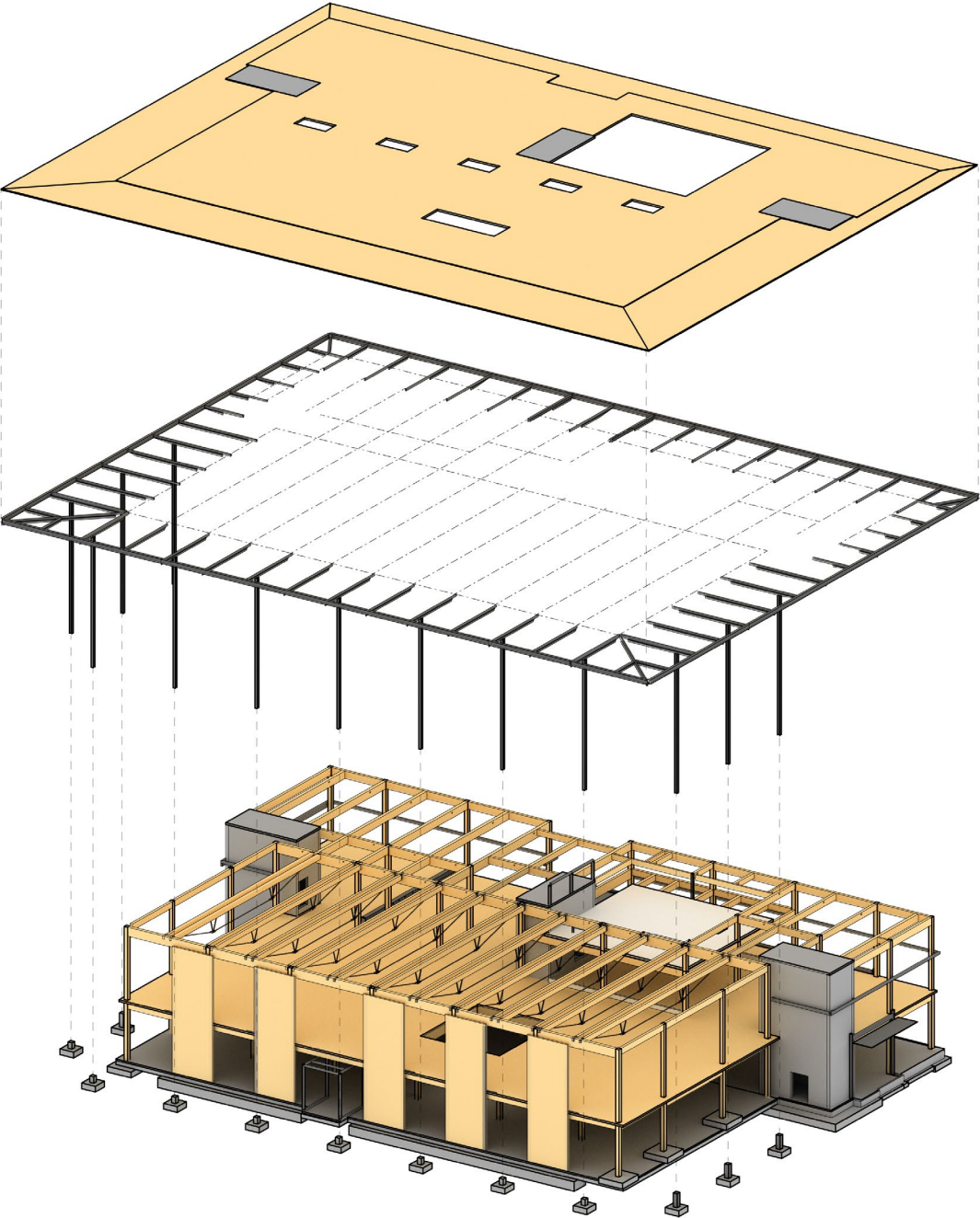
A new kind of library paired with meaningful sustainability, the interior environment of the Redmond Library will evoke beauty and warmth with exposed regionally-sourced mass timber that reflects the traditional heavy timber used in the region. During production, the total mass of wood used is estimated to offset as much as 50% of the carbon penalty from the other materials. Additionally, acoustic dowel laminated timber (ADLT) will provide structural flooring without requiring glue that impacts indoor air quality. Acoustic fabric within the ADLT will allow about 80% of the ADLT to remain exposed without requiring drop ceilings for acoustic absorption. GLB columns and beams will also be found throughout the building, including 65-foot GLB and steel cable trusses supporting the roof, creating large collaborative spaces.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION



REDMOND LIBRARY CONSTRUCTION DETAILS



STEVENS RANCH PUBLIC LIBRARY

Gross area	95,000 SF
Location	Bend, OR, USA
Mass timber used	Acoustic Dowel-Laminated Timber/Glue-Laminated Beams
Wood Used	PEFC SPF DLT from British Columbia, Doug Fir GLB from Oregon
Status	Construction Docs, est. 2025
Delivery method	Construction Manager/General Contractor
Construction type	Type III-A
Height	55'
Certification	Targeting LEED Gold, Targeting ILFI Zero Carbon

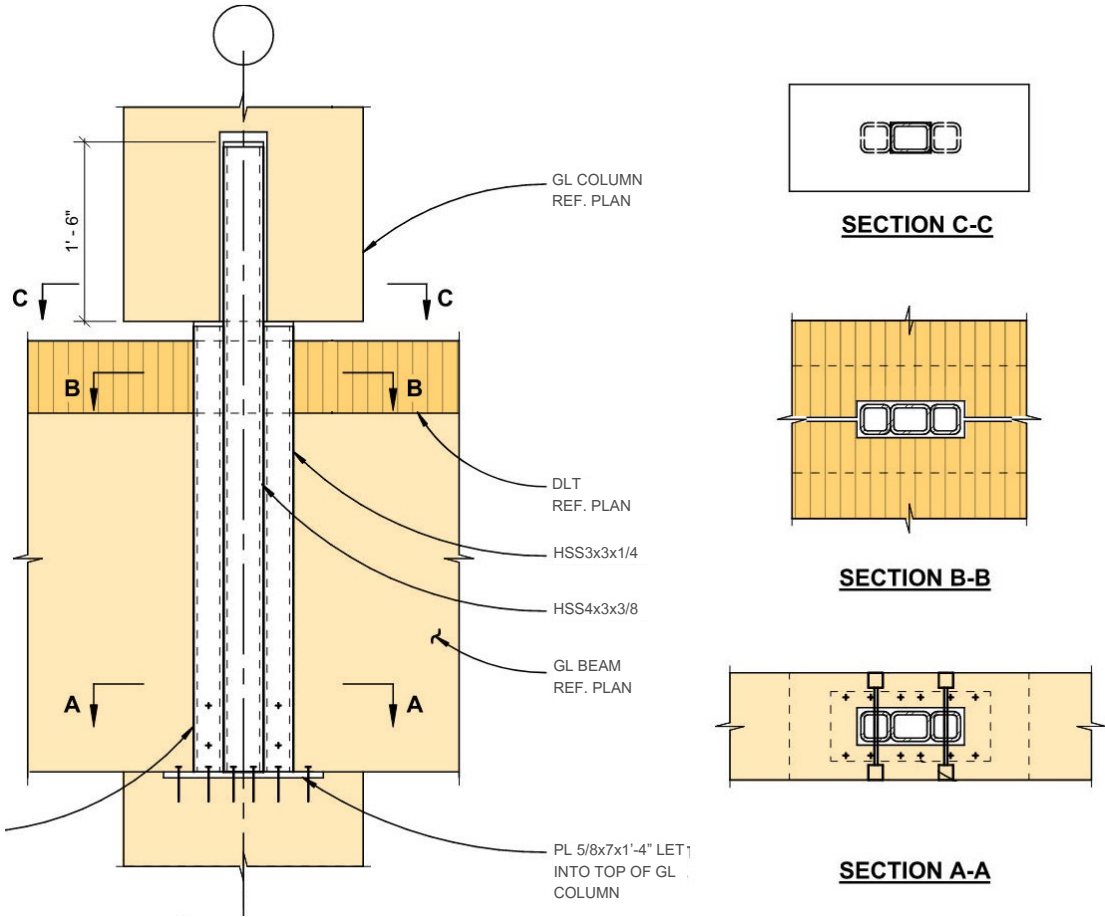
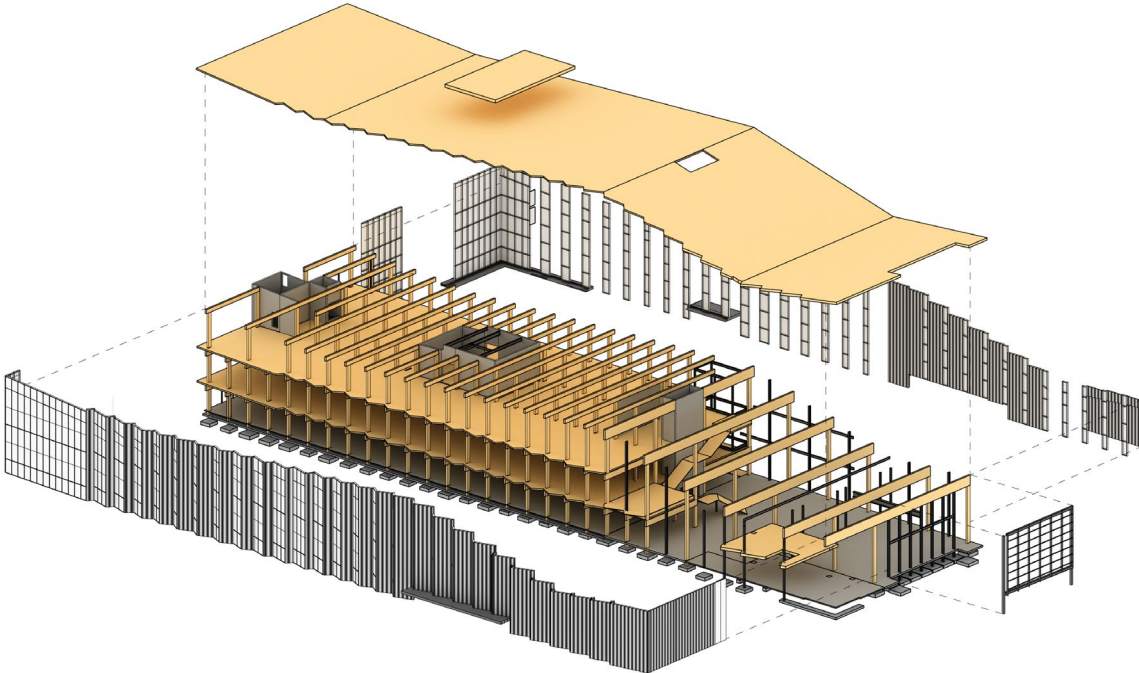
Steven's Ranch Library will soon become the crowned jewel of a new neighborhood slated to incorporate single and high density residential development that includes commercial spaces, schools, and neighborhood parks. Designed to incorporate the use of mass timber, the library will boast a 50% lower carbon footprint vs its concrete or steel alternative and is targeting LEED Platinum certification. Within the library, floors will be made of ADLT (acoustic dowel-laminated timber) and GLB columns and beams.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION



STEVENS RANCH CONSTRUCTION DETAILS



THE KENDEDA BUILDING FOR INNOVATIVE & SUSTAINABLE DESIGN

- Gross area **37,000 GSF**
- Location **Atlanta, GA, USA**
- Mass timber used **Nail-Laminated Timber/Glue-Laminated Beams**
- Wood used **FSC and salvaged souther yellow pine from Georgia & Florida**
- Status **Completed construction 2019**
- Delivery method **Construction Manager/General Contractor**
- Construction type **Type III-B**
- Height **45'**
- Certification **Living Building Challenge Certified, LEED Platinum**

The Kendeda Building is Georgia Tech's first timber building since its earliest load-bearing masonry and timber structures from the 1880s. Mass timber was selected for its significantly smaller embodied carbon footprint, compared to concrete and steel systems. Glue-laminated queen post trusses with steel bottom chords are used to achieve the spans required by the larger spaces in the building where timber alone would be challenging. This hybrid approach reduces the quantity of wood required, while making routing of building services more efficient.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

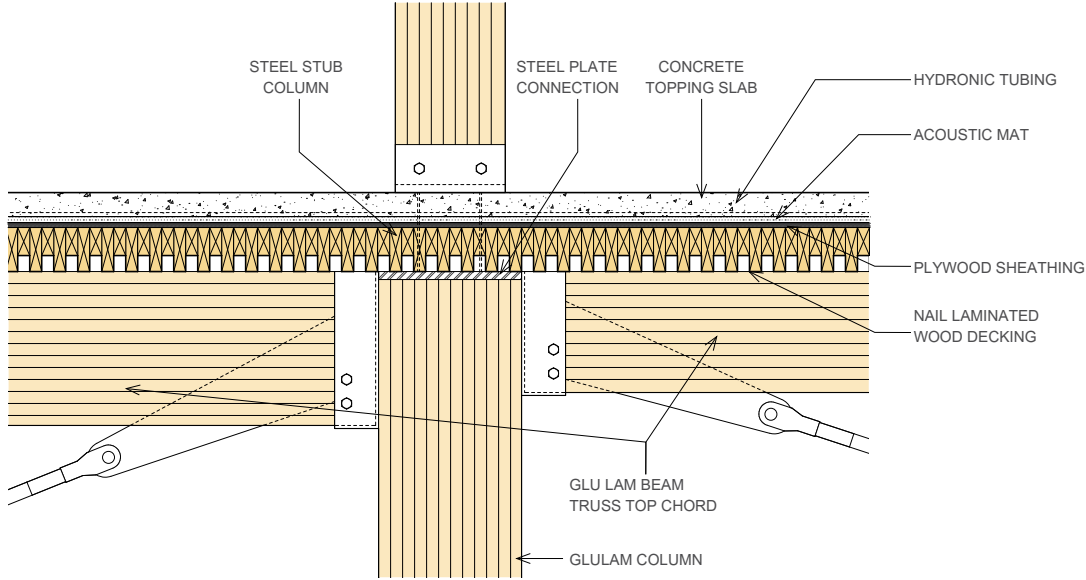
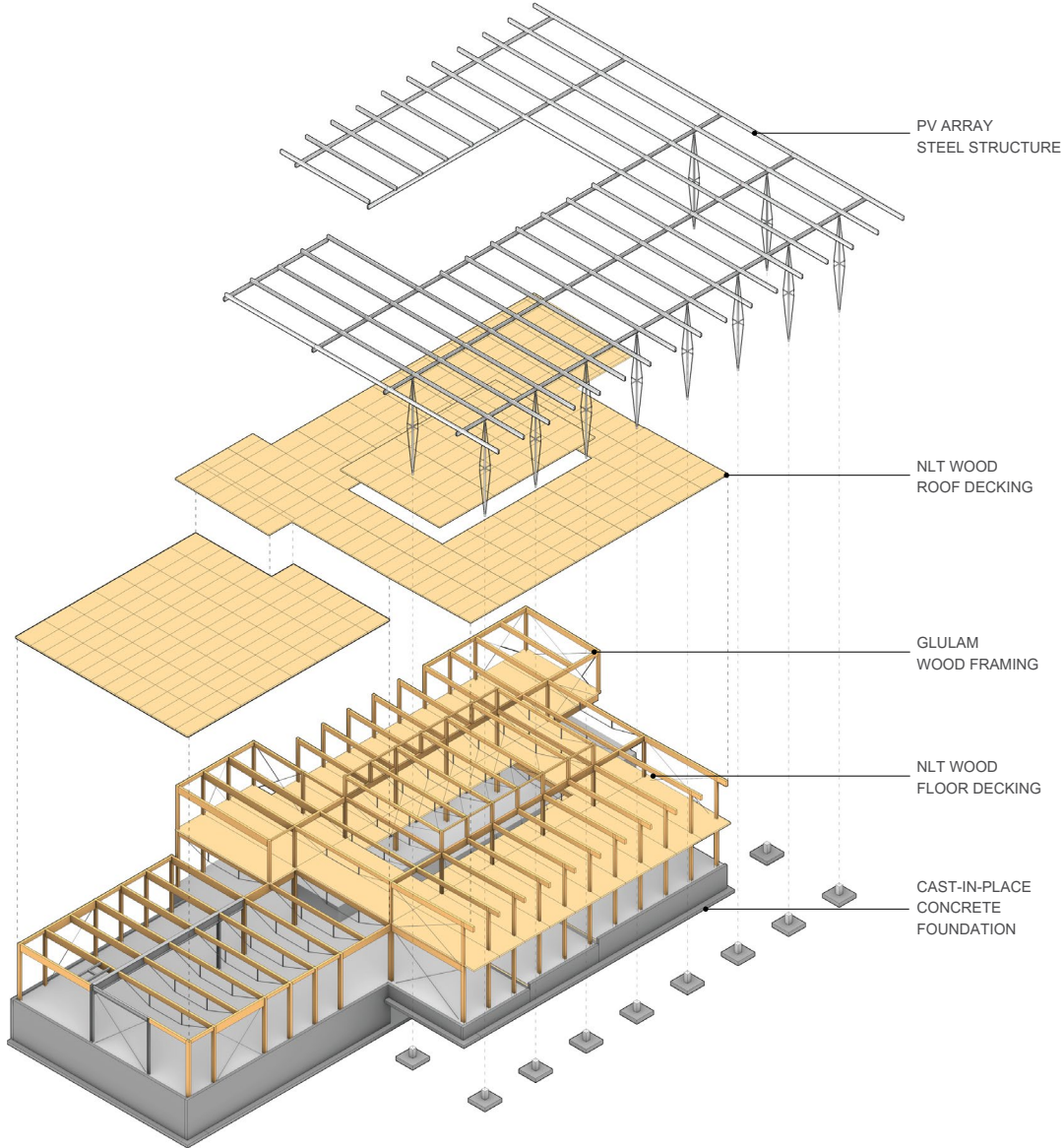
					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION



KENDEDA BUILDING CONSTRUCTION DETAILS

The gravity and lateral elements are fully exposed, allowing the building to be a teaching tool and defining the character of the interior environment.

The nail-laminated wood decking was panelized off-site and craned into place. Twenty-five thousand linear feet of 2-by-4 material was salvaged from Atlanta's Lifecycle Building Center, which sourced the lumber from discarded film sets. The decking was assembled by apprentices hired through local nonprofit Georgia Works!, providing valuable trade skills to individuals facing chronic homelessness. Off-cuts from the new lumber were assembled into the seat steps that descend the three tiers of the atrium. In addition to the structural timber, wood salvaged from trees felled on campus was used for counter tops and furniture.



THE BULLITT CENTER

Gross area	50,000 GSF
Location	Seattle, WA, USA
Mass timber used	Nail-Laminated Timber, Glue-Laminated Beams, Solid heavy timber
Wood used	FSC Douglas fir from Washington
Status	Completed construction 2013
Delivery method	Construction Manager/General Contractor
Construction type	Type IV-HT
Height	81'
Certification	Living Building Challenge Certification

Above the second floor, the Bullitt Center is constructed with heavy timber framing, recalling Seattle's history of heavy timber warehouses. 100 percent of the wood used is Forest Stewardship Council (FSC) certified, ensuring it came from a responsibly managed forest. For the structural timbers, the project relied on glued-laminated timbers made by Calvert Glulams in Vancouver, WA. Each 6" x 14" beam and 10" x 10" column is comprised of smaller planks, which were glued together.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION

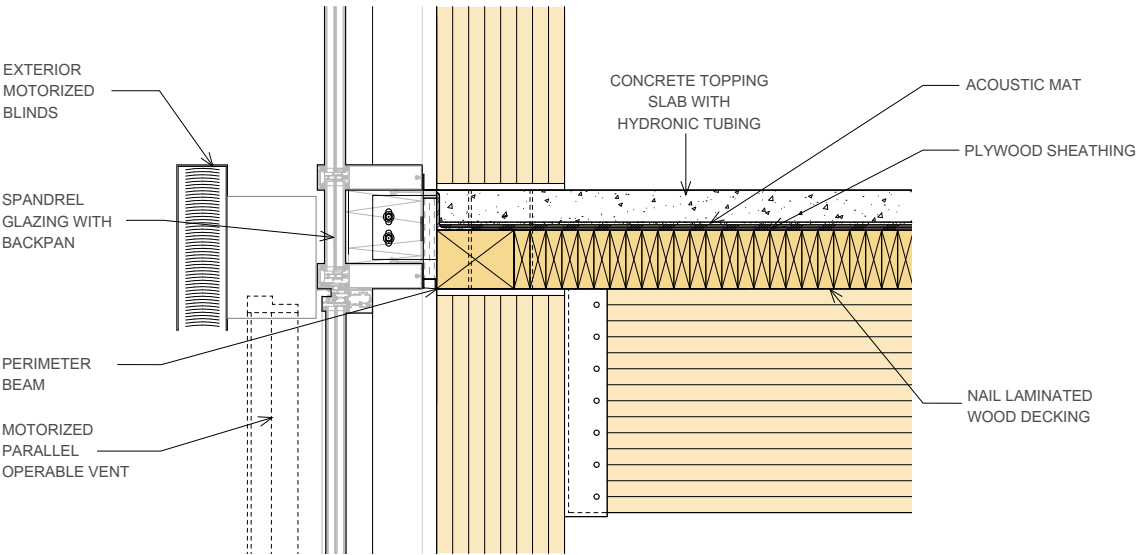
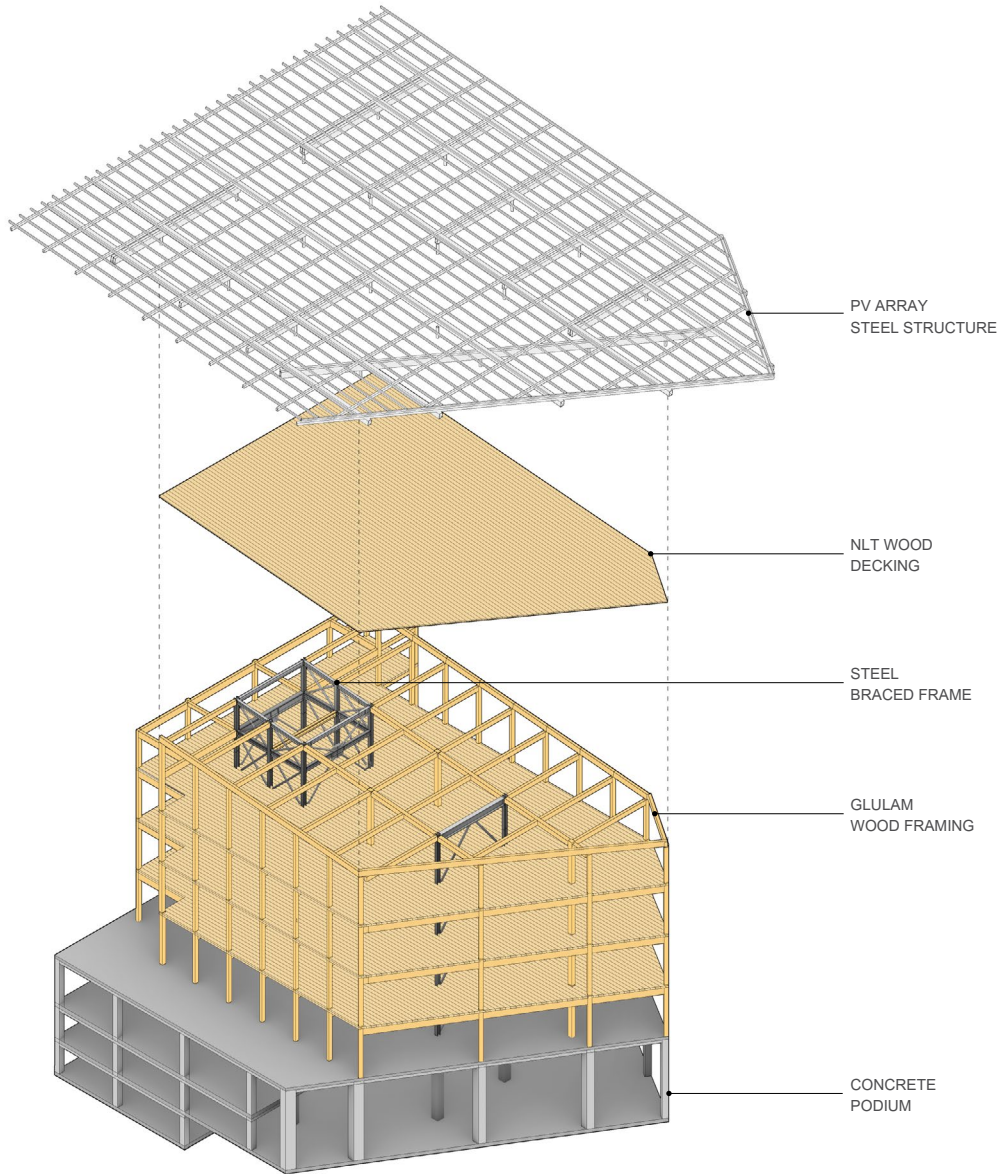


BULLITT CENTER CONSTRUCTION DETAILS

One of the virtues of a heavy timber structural system is the fire proofing inherent in the sheer size of the wood members.

Were there ever to be a fire in the building, the timber chars and burns slowly allowing plenty of time for occupants to vacate and the fire department to arrive. The steel connections that hold the timbers together are a potential weak point, because steel when heated begins to soften and, if not protected in some way, will fail.

One method of protecting a steel connection is to conceal it within wood; another method is to leave the connection exposed, but paint it with a fireproof coating. Both are expensive and time consuming. The third option, and the one we selected, is to design the connector in a way that the main girders bear directly on the timber columns that support them. In the event of a fire, even if the steel is weakened by heat, we still have timber bearing on timber. Each of the four beams passes through the bucket connection and has about three inches of material bearing directly on the column below.



MATT'S PLACE

Gross area	1,500 GSF
Location	Spokane, WA, USA
Mass timber used	Cross-Laminated Timber
Status	Completed 2023
Delivery method	Negotiated GC, pre-selected fabrication
Construction type	Type V
Height	30'
Certification	Targeting ILFI Zero Carbon

Matt's Place Foundation is a charity that seeks to provide housing and support to those burdened with ALS (amyotrophic lateral sclerosis.) Started by former marine Matthew Wild who was diagnosed with ALS himself, the organization is devoted to restoring dignity to ALS sufferers by providing opportunities for accessibility, independence, and autonomy through technology and housing.

But the design and construction of housing would be expensive, especially if delivering a series of homes, which is what the foundation intended to do. The first two Matt's Place houses were built using conventional methods and materials, but the organization needed a more economical, scalable, and rapidly deployable solution for future homes. So, Miller Hull teamed with other leaders in the field of prefabrication, mass timber production, engineering, and construction to design and deliver multiple homes to help the Foundation fulfill their mission.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION

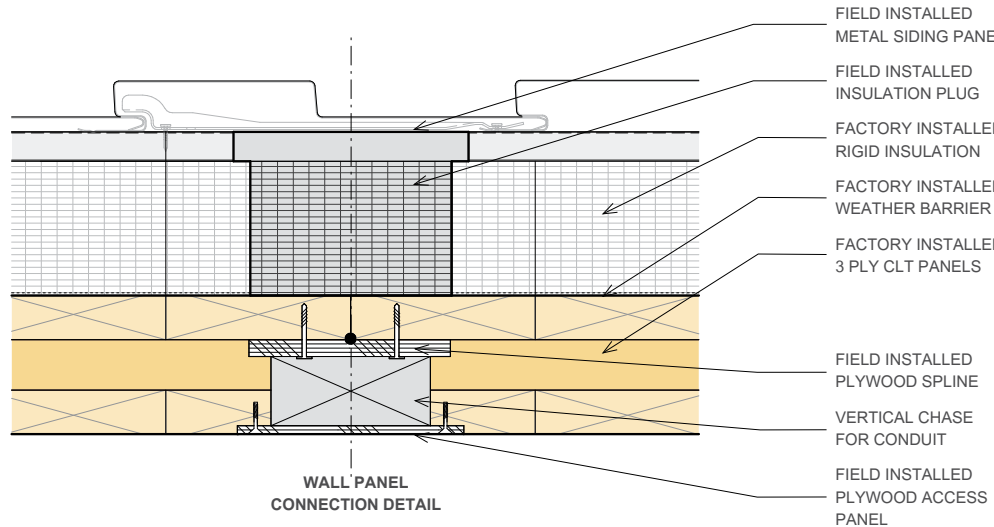
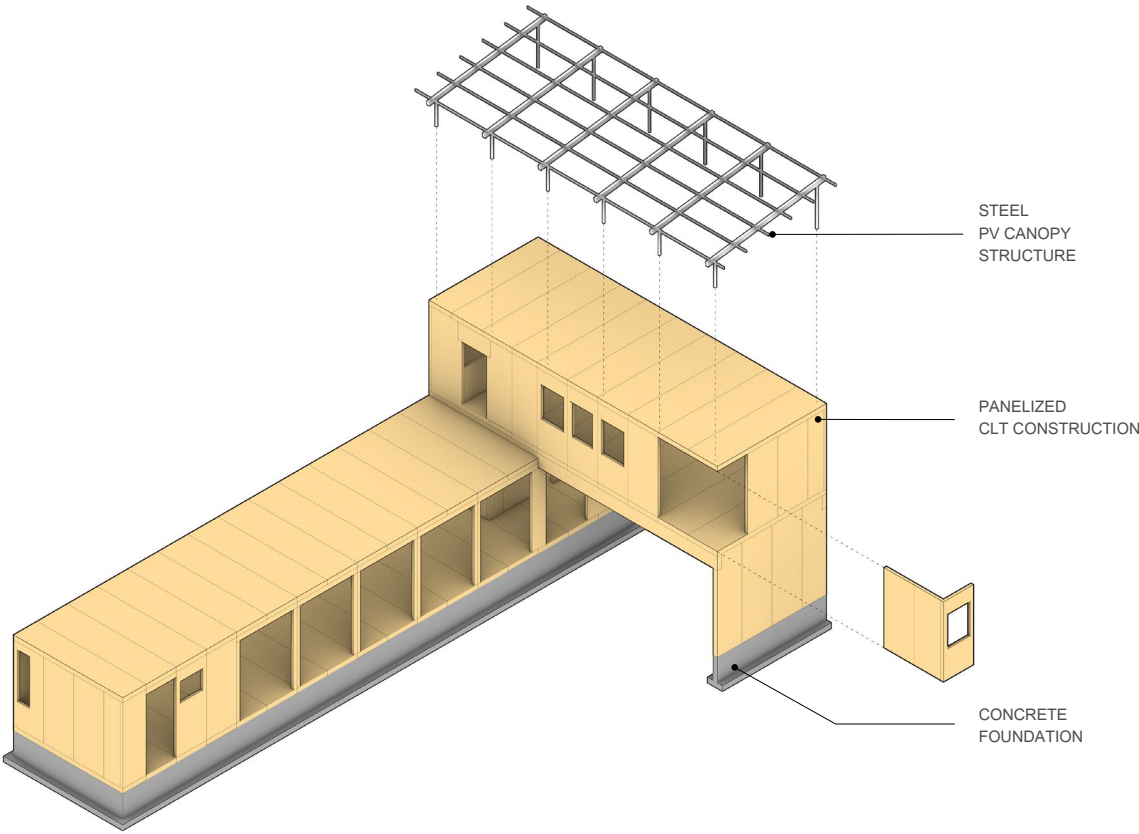


MATT'S PLACE CONSTRUCTION DETAILS

The organization needed a more economical, scalable, and rapidly deployable solution for future homes.

These two realities are often at odds with one another – having a prefabricated home that is also sensitive and immediately responsive – but Miller Hull led the design team through a series of planning sessions that resulted in a number of breakthroughs and innovations. Module-to-module joints are designed to simultaneously accommodate pressure-fit weather barrier joints on the exterior face and structural splines along the centerline. Wiring and plumbing chases are located the interior face of the joint and are accessible for future access from the interior. This integrated joint allows for an exposed cross-laminated timber (CLT) interior finish with fully recessed junction boxes and outlets, which provide greater wheelchair clearances on the interior.

Pushing the boundaries of accessible design and testing new methods of construction for future dwellings, the design of Matt's Place delivers prefabricated, modular, mass-timber components to the site while meeting the needs of a family dealing with the extraordinary demands that an ALS diagnosis brings.



UNIVERSITY OF WASHINGTON HEALTH SCIENCES BUILDING

Gross area	97,000 GSF
Location	Seattle, WA, USA
Mass timber used	Cross-Laminated Timber
Wood used	Sourced from Washington
Status	Completed construction 2022
Delivery method	Progressive design/build
Construction type	Type III-B
Height	72'
Certification	Targeting LEED Gold and Fitwel Certification

The UW Health Sciences Education Building will spark innovation and creativity with a diversity of environments that encourage collaboration where Health Science School students learn from each other how to be part of high-performing health delivery teams. This building intends to enhance the student experience through the inclusion of CLT in floor and roof assemblies, which intentionally brings warmth to the learning environment.

Health Sciences Education Building is targeting CLT assemblies for above-grade floors and roofs. This is a decisive design move, that has become a signature architectural and structural element in the building. Additionally, the inclusion of CLT offers the project a chance to directly support the local and regional timber economy of the Pacific Northwest.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION

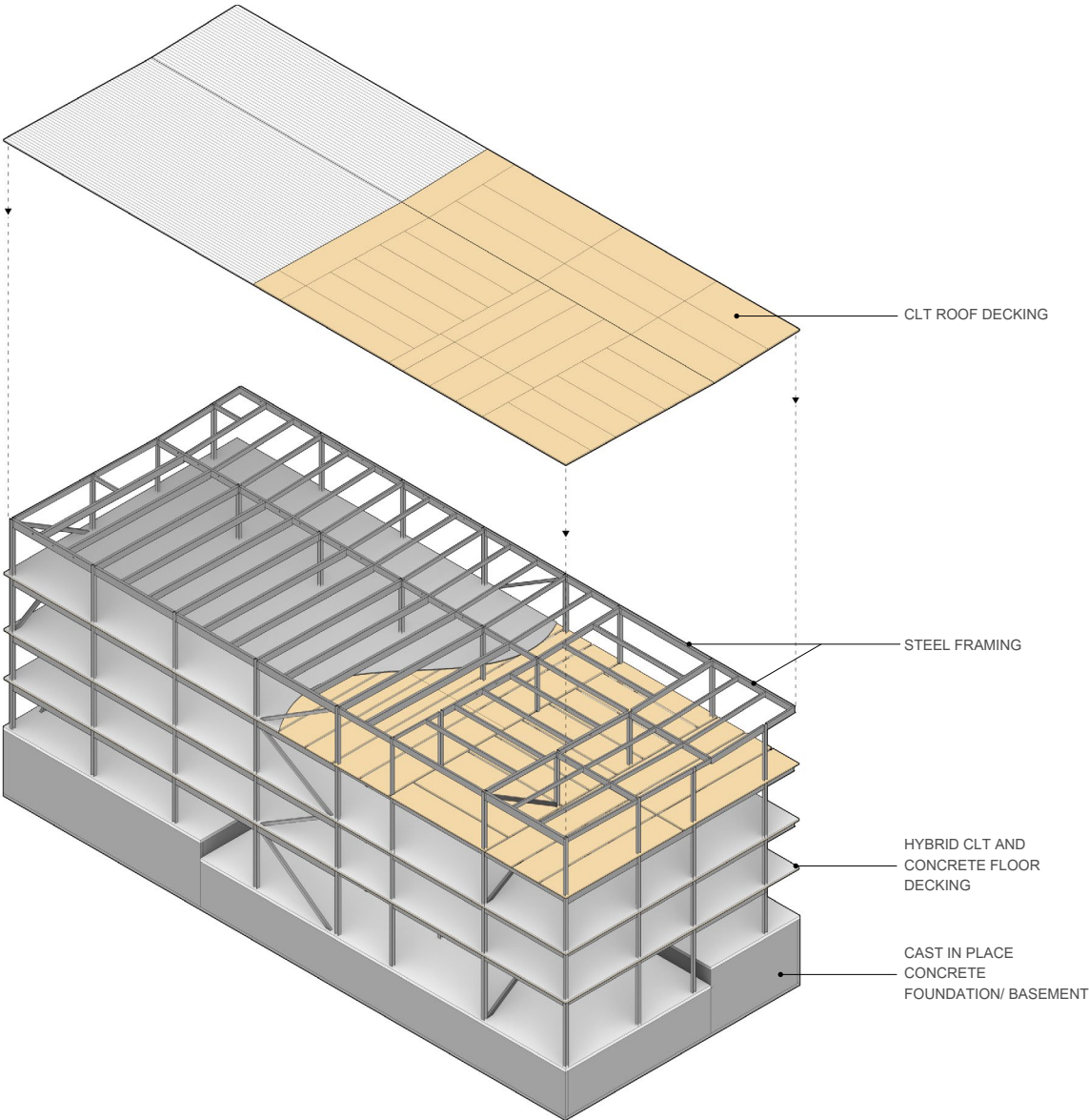


HEALTH SCIENCES CONSTRUCTION DETAILS

The use of CLT in this project was made possible in part by utilizing two grants.

The Wood Innovations Grant Program jointly offered by the USDA and USFS granted the project \$220,000 for the opportunity to study the vibration characteristics of mass timber floor systems. The building was designed in partnership with the UW CEE's Structural Research Laboratory and KPFF using the U.S. Mass Timber Floor Vibration Design Guide, and vibration performance will be measured to validate or refine the model calibration suggestions in the Guide.

The Mass Timber University Grant Program offered by the U.S. Endowment for Forestry and Communities has generously granted the project \$100,000 to promote the construction of mass timber buildings at institutions of higher learning across the United States. The Health Sciences Education Building demonstrates the climate-smart and biophilic advantages of building with timber to universities nation-wide.



PIKE PLACE MARKETFRONT

Gross area	210,000 GSF
Location	Seattle, WA, USA
Mass timber used	Glue-Laminated Beams, Tongue & Groove Decking
Status	Completed construction 2017
Delivery method	Construction Manager/General Contractor
Construction type	Type V-B
Height	30'
Certification	LEED Gold

Pike Place MarketFront adds 50 vendor stalls, 40 low-income and senior apartments, commercial, retail and office space, public restrooms and 300 underground parking spaces to Seattle’s Pike Place Market Historic District. The project draws contextual inspiration from the simple utilitarian character of the existing market, and the heavy timber elements and cast in place structure found throughout. This historic precedent, combined with timber’s carbon offsetting potential, footprint, abundant local sourcing, and speed of erection made it an easy choice for the project team.

DECISION DRIVERS ● Primary ● Secondary ● Not considered

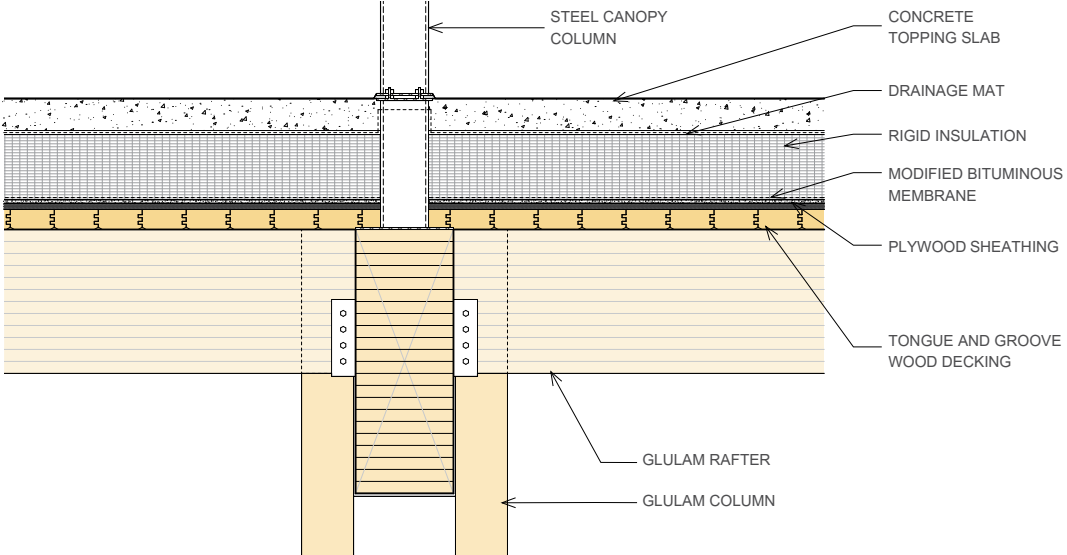
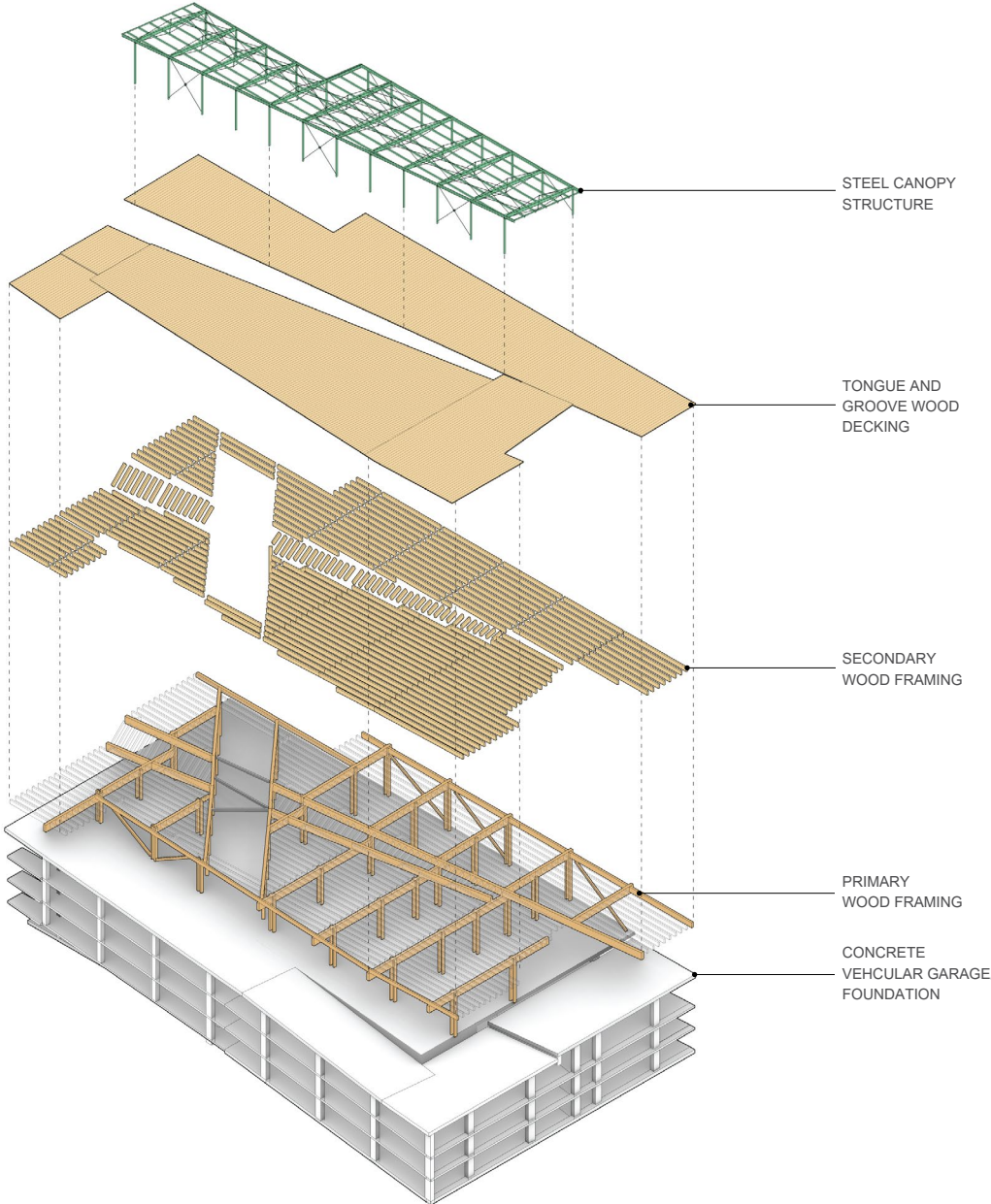
					
CARBON SEQUESTRATION	BEAUTY	CONSTRUCTION SCHEDULE	LOCAL ECONOMY	OCCUPANT HEALTH	CERTIFICATION



PIKE PLACE CONSTRUCTION DETAILS

While timber is typically used to support gravity loads of the building, the structural engineer designed composite timber and steel framing members to manage portions of the building's lateral loads.

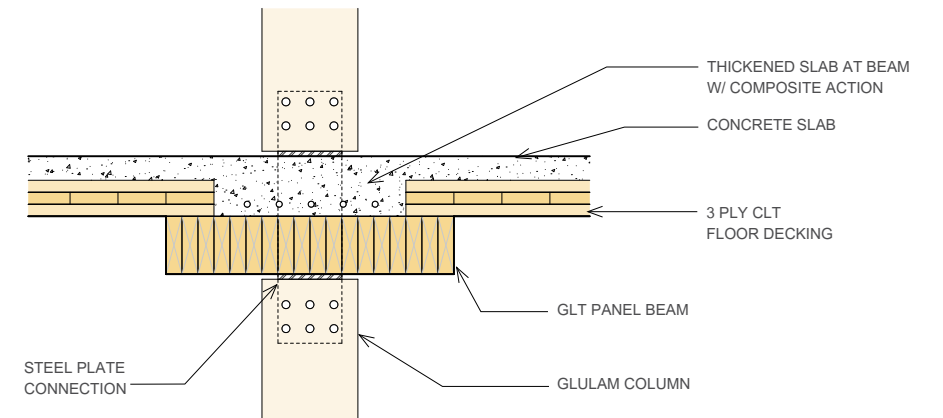
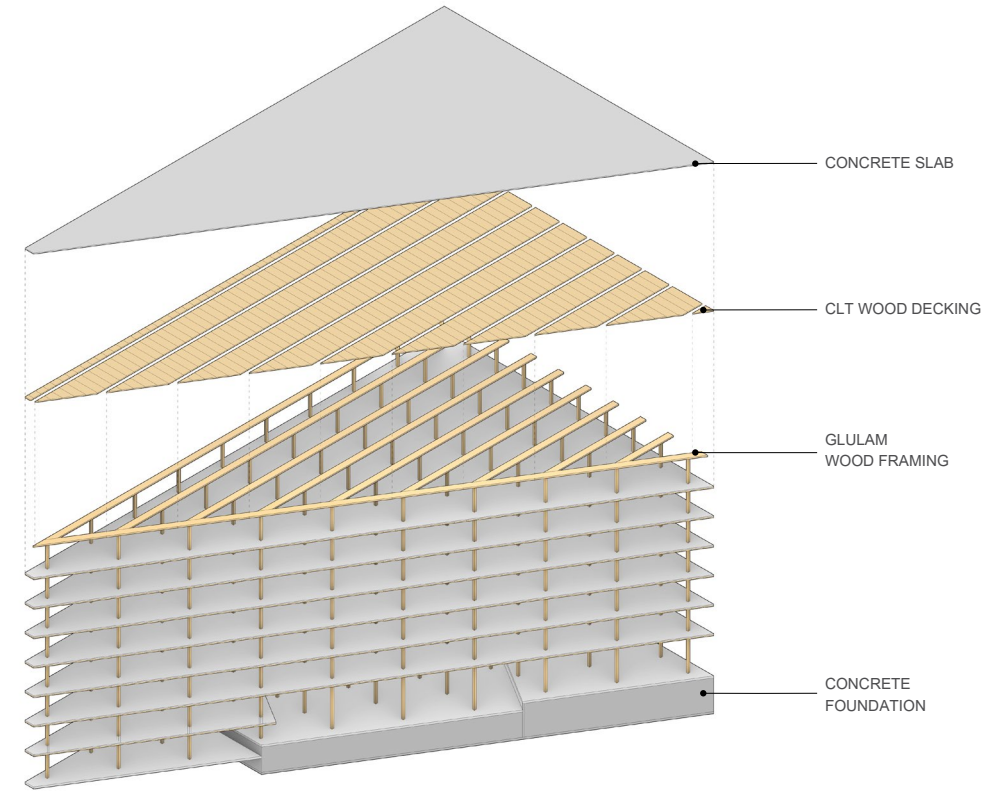
The monumental structure enclosed by a timber framed glazing system creates a vibrant Producers Hall housing a brewery, chocolatier and biscuit shops and a future tapas bar while preserving historic views through the building of the Puget Sound from Western Avenue. The natural beauty of the exposed timber columns, beams and decking constitute the primary material finishes in the space eliminating the need for added finishes.



SINKING SHIP

Gross area **165,000 SF**
 Location **Seattle, WA, USA**
 Mass timber used **Cross-Laminated Timber, Glue-Laminated Timber**
 Status **Unbuilt, designed 2017**
 Construction type **Type IV-B**
 Height **130'**

Sinking Ship is a conceptual proposal for a mixed-use, mass timber tower over below grade parking. The proposal considered two options. The highest and best use of the site required a Type-IV B construction and included ground level commercial with seven floors of office and two floors of residential above. A smaller Type-IV-C project would have been eight floors of office over ground floor commercial.



DECISION DRIVERS

● Primary ● Secondary ● Not considered



CARBON SEQUESTRATION



BEAUTY



CONSTRUCTION SCHEDULE



LOCAL ECONOMY



OCCUPANT HEALTH

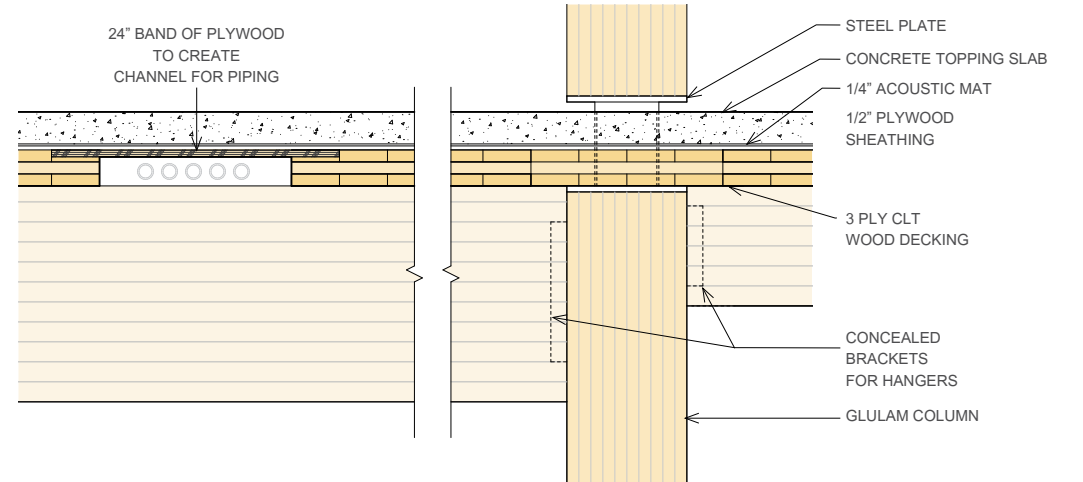
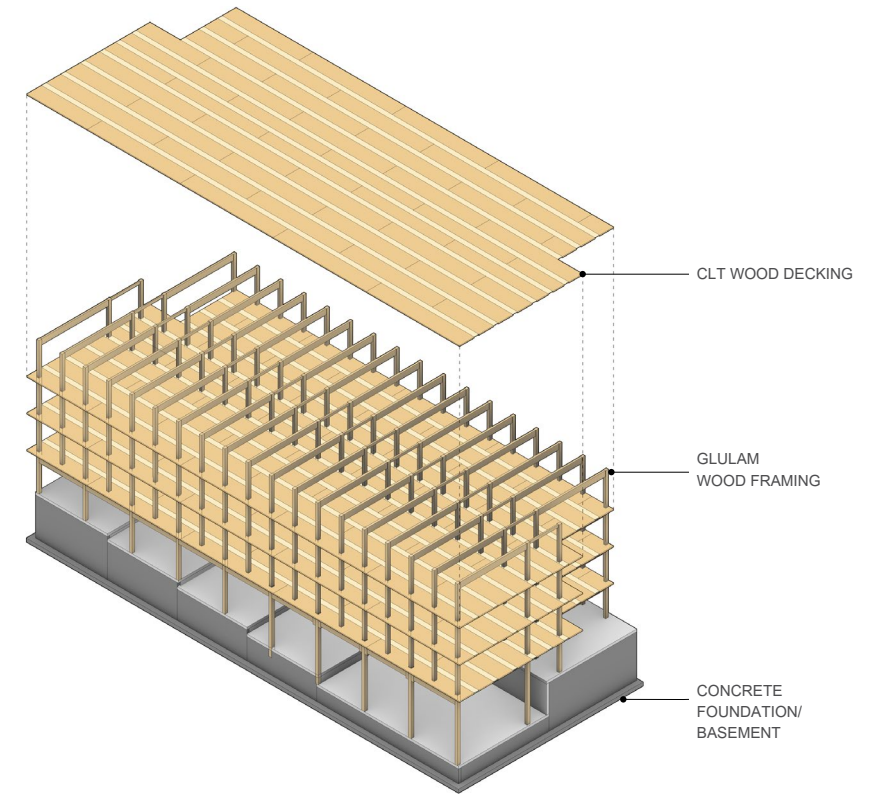


CERTIFICATION

OSU CASCADES

Gross area **60,000 SF**
 Location **Bend, OR, USA**
 Mass timber used **Cross-Laminated Timber/Nail-Laminated Timber**
 Status **Unbuilt, designed 2015**
 Construction type **Type IV-HT**
 Height **75'**

The team embraced mass timber as a core strategy of sustainability and carbon reduction set out in Anderson and Bowes 2. The timber system relies on glulam beams and columns with our 30-by-10-foot planning module. A thin cross laminated timber (CLT) and concrete composite deck assembly capitalizes on the ability to span between beams. With a lighter weight than steel or concrete systems, the exposed timber structure is a signature feature of our Academic Building 2 (AB2) design, providing warmth and beauty in all learning environments. CLT and concrete composite slab spans without beams in one direction, and allows for contained HVAC within the glulam framing bay.



DECISION DRIVERS

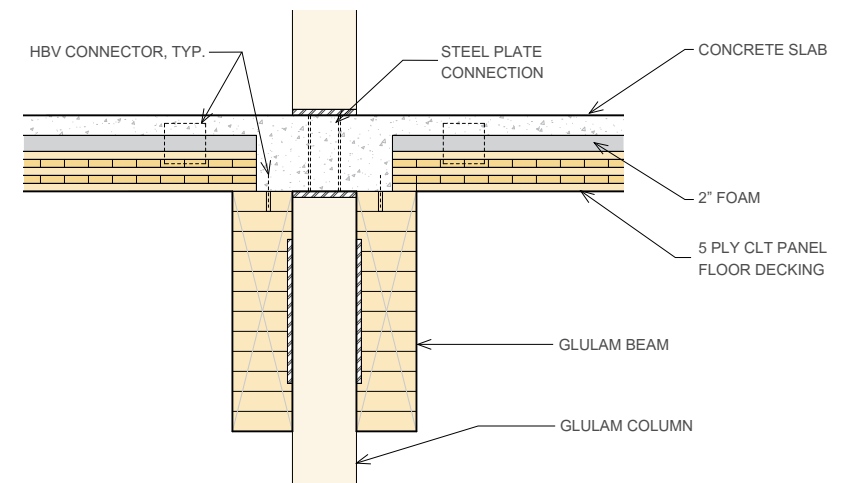
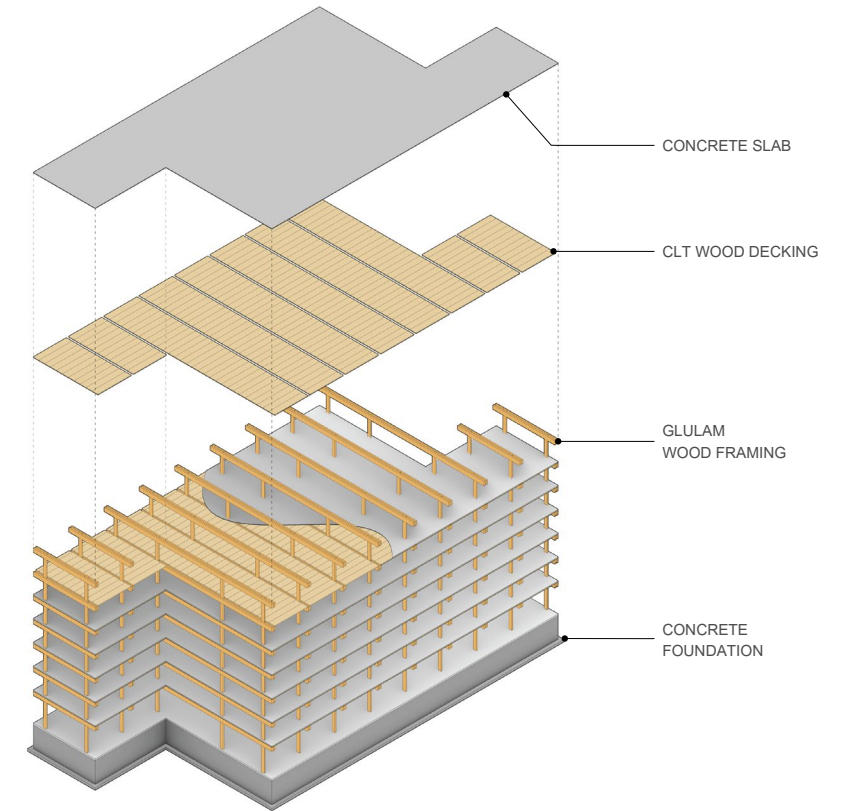
● Primary ● Secondary ● Not considered

- 
 CARBON SEQUESTRATION
- 
 BEAUTY
- 
 CONSTRUCTION SCHEDULE
- 
 LOCAL ECONOMY
- 
 OCCUPANT HEALTH
- 
 CERTIFICATION

USDA TALL WOOD COMPETITION

Gross area **85,000 SF**
 Location **Spokane, WA, USA**
 Mass timber used **Cross-Laminated Timber/Glue-Laminated Timber**
 Status **Unbuilt, designed 2015**
 Construction type **Type IV-HT**
 Height **160'**
 Certification **LEED Gold**

Tall Wood was a design entry and finalist in the 2015 U.S. Tall Wood Building Competition. The competition was sponsored by a partnership between the U.S. Department of Agriculture (USDA), the Softwood Lumber Board, and the Bi-national Softwood Lumber Council. The 14-story, 85,000-square-foot timber high-rise proposed for a site on the Washington State University Spokane campus. The tower is envisioned as one component of a multi-phased, mixed-use, multiple building development. The tower is composed of residential functions, including 88 one-bedroom apartments and a ground-floor learning space, home to the Timber Technology and Innovation Center.









DECISION DRIVERS

● Primary ● Secondary ● Not considered



GLOSSARY

TERM	DEFINITION	SOURCE	IMAGES
Glulam Beam (GLB)/Glulam	Glue-laminated wood is often used as straight or curved structural beams, called Glulam Beams. Member depths can range from 6” to 72”.	thinkwood.com	 <p data-bbox="2123 389 2432 414">Glulam Beam (GLM)/Glulam</p>
Glue-Laminated Timber (GLT)	Made with dimensional lumber that is placed on edge and then is fastened with glue, turning the lumber into a single structural element. Commonly used for long spans with fibers that run parallel in a single direction. Similar to Glulam, except typically for floor panels.	thinkwood.com	 <p data-bbox="2123 552 2446 576">Glue-Laminated Timber (GLT)</p>
Nail-Laminated Timber (NLT)	Made with dimensional lumber that is placed on edge and then is fastened with nails or screws, turning the lumber into a single structural element, typically for floor panels with no glue.	thinkwood.com	 <p data-bbox="2123 730 2446 755">Nail-Laminated Timber (NLT)</p>
Dowel-Laminated Timber (DLT)	Made with dimensional lumber that is placed on edge and then is fastened with dowels, turning the lumber into a single structural element, typically for floor panels with no glue. Acoustic DLT has a slot routed out of the lumber with acoustic strips.	thinkwood.com; naturallywood.com	 <p data-bbox="2123 901 2472 925">Dowel-Laminated Timber (DLT)</p>
Cross-Laminated Timber (CLT)	Engineered wood made by gluing together usually three, five, or seven layers of solid sawn-lumber, each layer oriented perpendicular to the adjacent layer.	thinkwood.com	 <p data-bbox="2123 1104 2459 1128">Cross-Laminated Timber (CLT)</p>
Mass Ply Panel (MPP)/Veneer-Laminated Timber (VLT)	An engineered wood product made of veneer/plywood layers that are glued and pressed together in 1” thick increments. Similar to cross-laminated timber	frereswood.com	 <p data-bbox="2123 1307 2459 1364">Mass Ply Panel (MPP)/Veneer-Laminated Timber (VLT)</p>
Global Warming Potential (GWP)	A measurement technique of how much energy the emissions of 1 ton of a particular gas will absorb over a time period, in comparison to carbon dioxide. The larger the GWP, the more the gas warms the Earth’s atmosphere.	epa.gov	
Whole Building Lifecycle Analysis (WBLCA)	WBLCA is a systematic assessment of analyzing all the inputs, outputs, and environmental impacts of a product, system, or building over its lifetime, including through the extraction of raw materials, manufacture, construction, use, and disposal.	epa.gov	



THE MILLER HULL PARTNERSHIP

MASS TIMBER EXPERTISE
VERSION 2.3 | 2026.03

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