



**VIRTUAL/TELECONFERENCE
MASS TIMBER TASK FORCE
Virtual, 4822 Madison Yards Way, Madison
Contact: Brad Wojciechowski (608) 266-2112
January 20, 2023**

The following agenda describes the issues that the Task Force plans to consider at the meeting. At the time of the meeting, items may be removed from the agenda. Please consult the meeting minutes for a record of the actions of the Task Force.

AGENDA

10:00 A.M.

OPEN SESSION – CALL TO ORDER – ROLL CALL

- A. Adoption of Agenda (1-2)**
- B. Approval of Minutes of August 16, 2022 (3)**
- C. Introductions, Announcements and Recognition**
- D. Reminders: Scheduling Concerns**
- E. Administrative Matters**
 - 1) Department, Staff and Task Force Updates
- F. Administrative Rules Matters – Discussion and Consideration**
- G. Presentation: Baker’s Place Mass Timber Project – Madison, WI (4-11)**
- H. Alternative Procedures for Design of Mass Timber Tall Buildings – Discussion and Consideration (12)**
 - 1) Developing Content for Alternative Procedures for Mass Timber Guidebook (13-22)
 - 2) Relating Mass Timber to Other Alternative Building Procedures
- I. Public Comments**

ADJOURNMENT

NEXT MEETING: TBD

MEETINGS AND HEARINGS ARE OPEN TO THE PUBLIC, AND MAY BE CANCELLED WITHOUT NOTICE.

Times listed for meeting items are approximate and depend on the length of discussion and voting. All meetings are held virtually unless otherwise indicated. In-person meetings are typically conducted at 4822 Madison Yards Way, Madison, Wisconsin, unless an alternative location is listed on the meeting notice. In order to confirm a meeting or to request a complete copy of the board’s agenda, please visit the Department

website at <https://dsps.wi.gov>. The board may also consider materials or items filed after the transmission of this notice. Times listed for the commencement of disciplinary hearings may be changed by the examiner for the convenience of the parties. Requests for interpreters for the hard of hearing, or other accommodations, are considered upon request by contacting the Affirmative Action Officer , or reach the Meeting Staff by calling 608-267-7213.

**VIRTUAL/TELECONFERENCE
MASS TIMBER TASK FORCE
MEETING MINUTES
AUGUST 16, 2022**

PRESENT: Justin Gavin, Laura Hasburgh, Jason Korb, Marco Lo Ricco, Richard Paur, Erich Roden

EXCUSED: Michael Mazmanian, John Peronto, Alexander Timmer

STAFF: Brad Wojciechowski, Executive Director; Joseph Ricker, Legal Counsel; Erik Hansen, Consultant, Building Systems-Senior; Jason Hansen, Consultant, Building Systems-Adv; Garry Krause, Bureau Director, Safety and Buildings; Kimberly Lee, Consultant, Building Systems-Senior; Branden Piper, Administrator, Division of Industry Services; Kimberly Wood, Program Assistant Supervisor-Adv.; and other Department Staff

CALL TO ORDER

Richard Paur, Chairperson, called the meeting to order at 9:01 a.m. A quorum was confirmed with six (6) members present.

ADOPTION OF AGENDA

MOTION: Laura Hasburgh moved, seconded by Jason Korb, to adopt the Agenda as published. Motion carried unanimously.

APPROVAL OF MINUTES OF JUNE 30, 2022

MOTION: Erich Roden moved, seconded by Laura Hasburgh, to approve the Minutes of June 30, 2022 as published. Motion carried unanimously.

ADMINISTRATIVE RULE MATTERS

Presentation: David Barber, Overview of Performance-Based Fires Safety Design and Aspects Specific to Mass Timber Construction

MOTION: Jason Korb moved, seconded by Laura Hasburgh, to acknowledge and thank David Barber, for appearing before, and presenting to the Mass Timber Task Force. Motion carried unanimously.


ADJOURNMENT

MOTION: Laura Hasburgh moved, seconded by Jason Korb, to adjourn the meeting. Motion carried unanimously.

The meeting adjourned at 10:57 a.m.

**State of Wisconsin
Department of Safety & Professional Services**

AGENDA REQUEST FORM

1) Name and title of person submitting the request: Brad Wojciechowski		2) Date when request submitted: 01/10/2023 Items will be considered late if submitted after 12:00 p.m. on the deadline date which is 8 business days before the meeting	
3) Name of Board, Committee, Council, Sections: Mass Timber Task Force			
4) Meeting Date: 01/20/2023	5) Attachments: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6) How should the item be titled on the agenda page? Presentation: Baker's Place Mass Timber Project, Madison, WI	
7) Place Item in: <input checked="" type="checkbox"/> Open Session <input type="checkbox"/> Closed Session	8) Is an appearance before the Board being scheduled? <i>(If yes, please complete Appearance Request for Non-DSPS Staff)</i> <input checked="" type="checkbox"/> Yes Jim Smith, Intuitive Codes and Consulting <input type="checkbox"/> No	9) Name of Case Advisor(s), if applicable: <Click Here to Add Case Advisor Name or N/A>	
10) Describe the issue and action that should be addressed: <Click Here to Add Description>			
11) Authorization			
			01/10/2023
Signature of person making this request			Date
Supervisor (Only required for post agenda deadline items)			Date
Executive Director signature (Indicates approval for post agenda deadline items)			Date
Directions for including supporting documents: 1. This form should be saved with any other documents submitted to the Agenda Items folders. 2. Post Agenda Deadline items must be authorized by a Supervisor and the Policy Development Executive Director. 3. If necessary, provide original documents needing Board Chairperson signature to the Bureau Assistant prior to the start of a meeting.			

BAKERS PLACE

MADISON · WI

Mass Timber Overview

WI Mass Timber Task Force



Bakers Place

- Located at 849 East Washington Ave, Madison WI
- 14 floor building of residential over mixed used and parking podium
- Type IV-B construction to the 2021 IBC
- Early works underway
- Permit submission in February



Bakers Place - Project team

- Developer – The Neutral Project
- Architects – Michael Green Architecture and Angus-Young
- Structure – Equilibrium
- Fire and code – Arup
- Contractor - CD Smith



Bakers Place – Building Description

- Building of three volumes ranging in height from 9 to 14 floors
- Renovation and refurbishment of existing old bakery two floor building
- 206 residential units, ~9,000 sf of commercial space
- Design incorporates LEED certification and passive design principals



Bakers Place – Building Description

- 152' in height, 11 floors of mass timber Type IV-B construction
- 3 floors of Type IA mixed use and parking
- Type IV-B part comprises CLT floors, glulam beams, steel columns
- Concrete and steel construction for stair and elevator shafts
- Non-combustible exterior walls



Bakers Place - Compliance

- Variance approved by City of Madison to use the 2021 ICC suite of codes (IBC, IFB, IMC etc)
- Variance discussed with City of Madison to increase the exposed area of timber to ~ 60%, based on fire testing and approved 2024 IBC change
- Variance for exposed timber not supported. Application to State being prepared
- Precedence of Ascent Tower not considered



WI Mass Timber Task Force


Thank you for your time

Questions and discussion



**State of Wisconsin
Department of Safety & Professional Services**

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4) Meeting Date: 01/20/2023	5) Attachments: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6) How should the item be titled on the agenda page? Alternative Procedures for Design of Mass Timber Tall Buildings – Discussion and Consideration	
7) Place Item in: <input checked="" type="checkbox"/> Open Session <input type="checkbox"/> Closed Session	8) Is an appearance before the Board being scheduled? <i>(If yes, please complete Appearance Request for Non-DSPS Staff)</i> <input type="checkbox"/> Yes <Appearance Name(s)> <input type="checkbox"/> No	9) Name of Case Advisor(s), if applicable: <Click Here to Add Case Advisor Name or N/A>	
10) Describe the issue and action that should be addressed: 1) Developing Content for Alternative Procedures for Mass Timber Guidebook 2) Relating Mass Timber to Other Alternative Building Procedures			
11) Authorization			
		01/10/2023	
Signature of person making this request		Date	
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An Alternative Procedure for Structural Analysis and Design of Mass Timber Tall Buildings

6-30-2022

An Alternative Procedure for Structural Analysis and Design of Mass Timber Tall Buildings
2022 Edition

A consensus document developed by the Wisconsin Mass Timber Task Force

Task Force Active Members:

Richard Paur, Chairperson

Justin Gavin

Wisconsin Department of Safety and Professional Services Representative

Laura E. Hasburgh

Jason P. Korb

Marco T. Lo Ricco

Michael C. Mazmanian

John L. Peronto

Erich J. Roden

Alexander R. Timmer

DRAFT

DRAFT

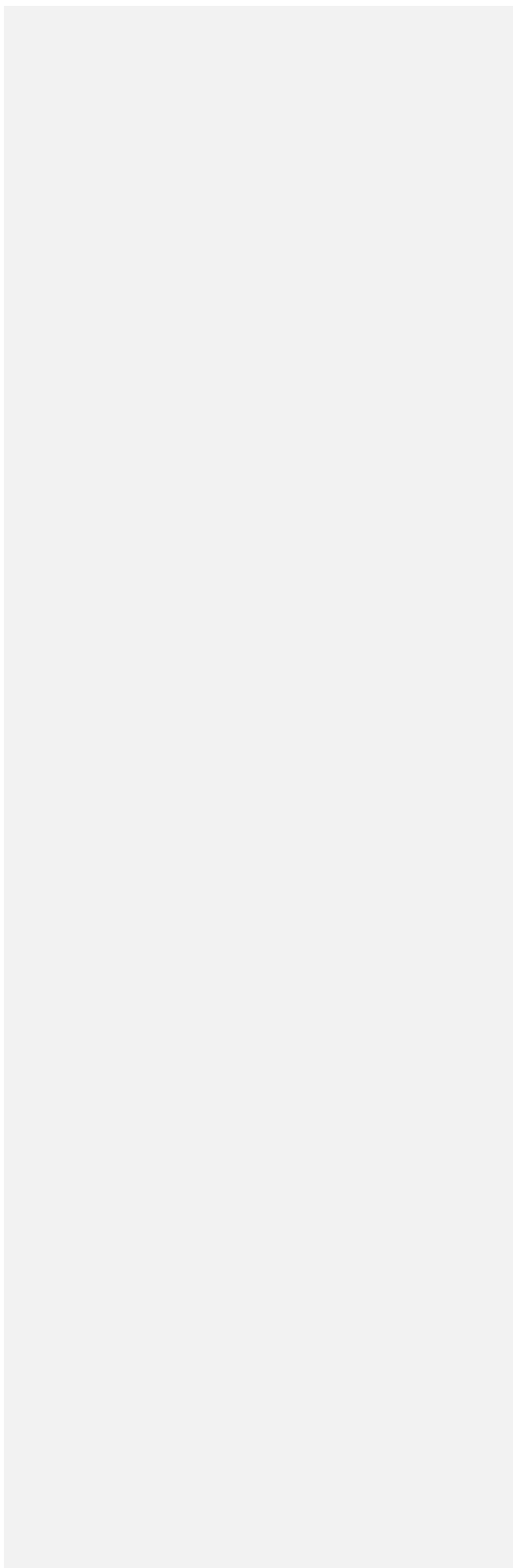


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About the Mass Timber Task Force

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1. Intent, Scope, and Justification, [Methodology?]

1.1 Intent

The intent of the guidebook is to allow design professionals to work with a broader range of technology to facilitate the guidelines of Mass Timber approvals in a performance-based approach. The alternative building materials described in this guidebook must provide the equivalent level of safety provisions as it relates to the Wisconsin Commercial Building Code or the International Building Code. This guidebook is to provide the framework for building code officials to identify procedures more accurately for alternative building materials.

Goal of performance expectations. Including peer review. Define who is qualified for peer reviews and provide the framework.

Durability

1.2 Scope

The scope of the guidebook is designed for Type IV Tall Mass Timber buildings and other alternative construction materials used in residential and commercial buildings. The performance of these buildings must apply regardless of construction or structural materials.

~~Scope. May not want to limit to just Mass Timber. Performance has to apply regardless of construction materials or structural materials.~~

1.3 Justification

The Wisconsin Commercial Building Code (CBC) and the International Building Code (IBC) have provisions for alternative building materials. The utilization of alternative building materials is contingent on approvals from the Wisconsin Department of Safety and Professional Services (DSPS). This guidebook is not creating new processes, it is simply codifying practices that have been used prior to the establishment of the Task Force.

2. Analysis and Design

2.1 Fire Rating Requirements

This guidebook shall through third party testing require to display equal or better than other alternative material encapsulation techniques. The [testing] of fire ratings for the encapsulation of Mass Timber or alternative materials used for these buildings shall have no degradation to the structure of the materials.

Commented [WBD1]: Delete: manual
Replace with guidebook

2.1.1 **Sacrificial layer** - of the encapsulation materials. For the purposes of the guidebook, the structural design of the building is beyond the char layer as defined in the International Building Code or the Wisconsin Commercial Building Code. You need to provide a bit more protection.
[KA Input]

Commented [WBD2]: Need to define more protection

Commented [WBD3R2]: UL Rating for engineers to have a reference to what we are looking for.

Commented [WBD4R2]: Mr. Korb. KA will look into this.

2.1.1 **Sacrificial layer** - of the encapsulation materials. For the purposes of the guidebook, the structural design of the building is beyond the char layer as defined in the International Building Code or the Wisconsin Commercial Building Code (KA input – prescribed char rate is 1.5 in/ HR. Samples tested at FPL charred at rates between 1.29 and 1.31 in/ hr – can this count as extra protection? Species previously untested must pass their own 2 or 3 hour test.)

2.1.2 Two Areas of Fire Rating

Minimum fire resistance (2-3 hours) primary and secondary structure.
Clearly well codified.

The area of exposed areas

IBC limits 2.1.3 Meet code minimum or higher objectives.

a.

2.2 Fire Consultant

2.2.1 Qualification selection. Previous Mass Timber experience. When do we want to require a fire consultant. Limit on number of stories. It is KA recommendation to require a fire engineer for a structure over twelve stories that is not fully encapsulated.

Commented [WBD5]: Type IV buildings as described above?

i. Scope of fire consultant. - Fire protection of connections. Concealed systems. Gypsum. Smoke evacuation (KA recommendation – smoke evacuation is in HVAC engineer's scope). May require of testing. They review and or review of the test. Criteria or beta testing of what would qualify fire consultant

ii. Specify of the test we want to take place. Their role is to make sure the test gives results that the designer can utilize. Experts appropriate test how/when/where

iii. Marco Lo Ricco

1. Fire endurance

2. When fire endurance calculations suffice or when fire testing is required. Endurance calculations may be used for fire endurance. Trying to address calculations or testing is needed.

2.3 Fire rating documentation and justification

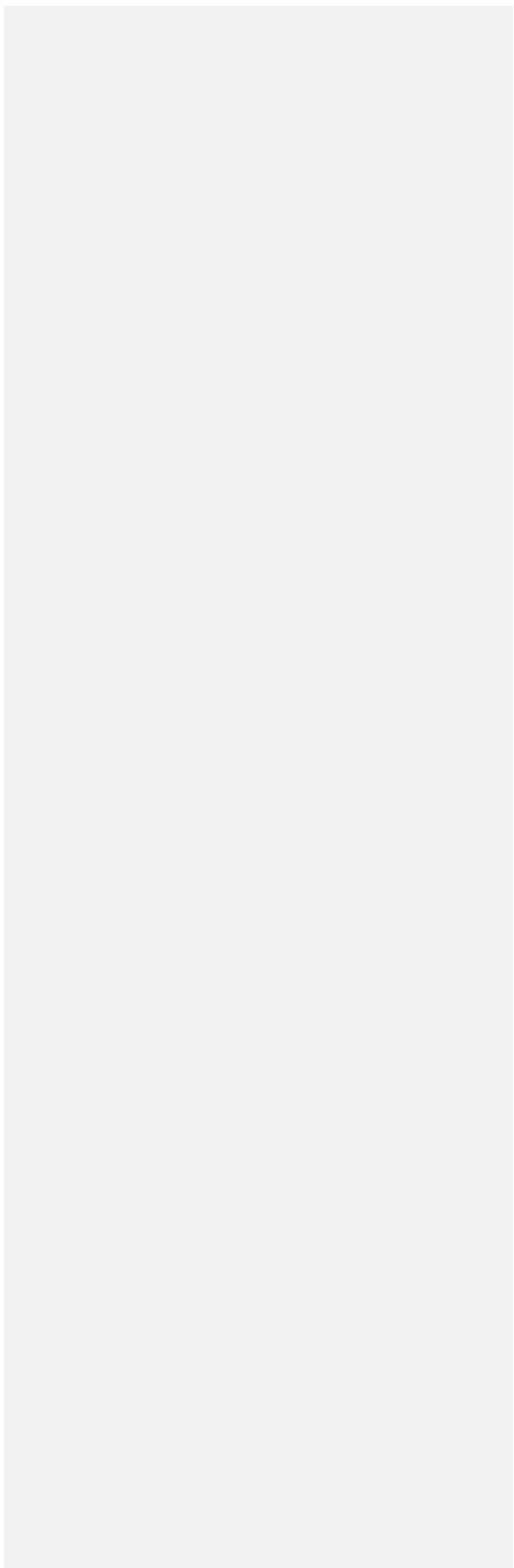
- i. Until such time as it is formally adopted by the IBC the documentation provided - just as important as the plan. Project by project basis.
- ii. Envision you have your structural package. Specific char calculations. Heat effected zone. Mass Timber additional fire test. Documentation for any additional testing codified limits. CLT or floor system. Prg 320 correct glue. Review from fire consultant. Unique connectors for testing and data in the package.

2.4 Peer Review

2.4.1 Qualifications and selections

- . Performance based approach. To verify prescriptive limitations. Requirements are peer review acting on behalf of the building owner. Due diligence for beyond code. Acting on part of city or building officials reviewing on their behalf. Foreign to DSPS practices. Contract that out? Would have to go through a petition. Special inspections – On the ownership team to run. The reviewer would not be from the state – independent reviewer. (For discussion – the EOR for Ascent performed the Sis. Pros and cons?) It could be a different structural firm outside the state. State could create the committee. Expertise – Not an additional ask for the plan review. Special inspections, the building owner/reviewer. The building official reviews and approves - selected Joe Ricker
 - 0. We do have to remember work within the rules we do have. Existing systems or legislative action.
- i. Korb
 - 0. Peer review seems excessive. Everyone will have opinions. The data must speak for themselves.
 - 1. Lo ricco
- . Prescriptive measures are approved. We do not need peer review. Peer review intended for performance-based route. More general approach.
 - 0. Roles
 - 0. Peer review
 - Technical. Review responsibilities
 - Building Officials - Enough data, qualified, threshold for substantial evidence. Standard of care. Justifying analysis
 - 1 example: Exposed area. 18 story timber structure. Fully encapsulated. How much exposure would trigger a peer review. May be based on occupancy.
 - 1. For areas outside the code. Needs to have some technical judgment in concert with the building review with the engineers. Backstop for building official for technical knowledge on the job.
 - 2. Mazmanian
 - a. Common practice? Always the option to use this approach for comfort. Always thresholds in the code. If you can use the codified approach, then it is not needed. If you exceed requirements, you must use a performance based approach should have a peer review is required.
 - b. Where to draw that line.

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3. Construction

3.1 Gypsum detailing requirements

- i. Has a lot more that is codified? General requirements. Sealant. ASPM requirements. Specific materials for fire protection. Gypsum must be met. 2 years ago implemented. Special inspections required based on building officials. Who is appropriate qualifications? Daily/monthly/yearly reports. Up to the special inspector to work with owner, contractor.
- ii. Korb
 1. Prohibition of concealed spaces 4HT has been removed. – **(KA comment – concealed spaces language in the IBC and its commentary are not in agreement. For discussion.)** gypsum detailing
 - a. Lean on prescriptive method. **(KA comment – gypsum detailing requirements have been defined by Fire Design Specification for Wood Construction – Wood Products Council.)**

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