



# City of Emeryville

CALIFORNIA

## MEMORANDUM

**DATE:** October 5, 2021

**TO:** Christine Daniel, City Manager

**FROM:** Mohamed Alaoui, Public Works Director

**SUBJECT:** Discussion on Allowing Development Bonus Points for Mass Timber Framing in Construction

### RECOMMENDATION

Staff recommends that the City Council consider this report and provide comment and direction as appropriate.

### BACKGROUND

In a motion on July 12, 2021, the Sustainability Committee referred this proposal to City Council for discussion and consideration of action. The Committee is recommending that, in order to promote the use of mass timber in construction, the City Council consider initiating an amendment to the Planning Regulations to add a category for mass timber construction as a new "Community Benefit" under the Development Bonus system. The recommendation is described in more detail below.

### DISCUSSION

Mass timber construction, in contrast to light-frame wood construction, is built using a category of engineered wood products, which are typically thick, compressed layers of wood formed through the use of lamination, fasteners, or adhesives. Mass timber products are engineered for high strength ratings, like concrete and steel, but are significantly lighter in weight and use renewable materials. Mass timber is an umbrella term for engineered wood products including cross-laminated timber (CLT), laminated veneer lumber (LVL), and glue-laminated (glulam) beams, among others.

The 2021 International Building Code (IBC) added important changes in material technologies and their expanded use on 'tall wood buildings,' which use mass timber in structural elements. However, the 2021 IBC will not be proposed for adoption into California Building Code (CBC) Title 24 and become effective until January 1, 2023. In order to accelerate the inclusion of these technologies, several state agencies (the Office of the State Fire Marshal, California Buildings Standards Commission, Division of the State Architect, and Department of Housing and Community Development) proposed for adoption Tall Wood/Mass Timber building standards for early use. On November 5, 2020, the California Building Standards Commission voted to include the new standards in the 2019 California Building Standards Code as an Intervening Code Supplement, which was published on December 31, 2020, with an effective date of July 1, 2021.

The adopted standards are detailed in Attachment 1, “California Building Standards Commission Information Bulletin 20-04 (Revised).” Depending on the type of construction and building occupancy, buildings up to 18 stories in height may be built with mass timber framing. Attachment 2, “Tall Wood Buildings in the 2021 IBC,” provides technical detail on this technology and allowable uses.

Notably, the Office of the State Fire Marshal was active in the proposal to adopt these standards into the CBC. Chief Mike Richwine, California State Fire Marshal, summarized the reasons for his agency’s support:

*“The early adoption of mass timber codes can be a benefit to California in many ways, but I would like to highlight three of those advantages in this proposal. Number 1, it has the potential to increase the market demand for mass timber production in California to meet the needs of the construction industry. Number 2, it will increase the pace and scale of our wildland fire prevention and forest management goals of treating 500,000 acres per year by thinning the forest of smaller diameter trees that can be used in the production of cross laminated timber and other mass timber assemblies. And while wood products provide the benefit of storing carbon, another benefit or advantage is that mass timber construction can also help reduce the carbon footprint of concrete and steel production.”*

The potential economic benefits of improved wildfire prevention and job development in California are substantial. In addition, the environmental and climate impacts of increased responsible forest management including carbon storage and reduced heat, combined with a reduction in the use of steel and concrete in construction, can be significant. Table 1, below, shows the environmental impact of concrete and steel as compared to wood in construction<sup>1</sup>:

Environmental impact compared to wood:	Embodied energy	Negative climate impact	Negative impact on air quality	Negative impact on water	Resources consumed by weight	Waste produced
METAL	+53%	+23%	+74%	+247%	+14%	-21%
CONCRETE	+120%	+50%	+115%	+114%	+93%	+37%

Given these benefits, the Sustainability Committee has recommended that the City of Emeryville promote the use of mass timber in construction. The Committee recommends that the City Council consider initiating an amendment to the Planning Regulations (per Section 9-7.1303(b) of the Planning Regulations) to add a category for mass timber

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<sup>1</sup> <https://www.ecohome.net/guides/1010/how-wood-structures-compare-to-steel-and-concrete/>

construction as a new “Community Benefit” under the Development Bonus system at Section 9-4.204.

Under this system, projects that seek development bonuses for height, floor area ratio (FAR), and/or residential density must earn bonus “points” proportionate to the amount of bonus being requested. Projects seeking the maximum bonus must earn 100 points, while projects seeking a lesser bonus must earn fewer points. Half of the bonus points must come from providing affordable units in the project and the other half must come from other community benefits. Currently, there are six categories of community benefits as listed in Table 9-4.204(c): (1) Public Open Space, (2) Zero Net Energy, (3) Public Improvements, (4) Utility Undergrounding, (5) Additional Family Friendly Units, and (6) Small Business Assistance Funding. In addition, there is a provision for a “Flexible Community Benefit” for an undefined community benefit proposed by the applicant, which must be approved by the City Council. The Sustainability Committee proposes to add a seventh category of community benefits to Table 9-4.204(c) for “Mass Timber Construction”. An applicant whose project required development bonus points could earn up to 50 points by committing to use this type of construction. This would provide an incentive to developers to use mass timber construction at no cost to the City and without requiring amendments to the building code, because the California Building Code has already been amended to include it.

If the Council elects to initiate such a change to the Planning Regulations, it will be scheduled for a public hearing before the Planning Commission, who will review it and make a recommendation to the Council. The item will then come back to the Council for a public hearing on adoption of a proposed ordinance amending the Planning Regulations to add mass timber construction as an additional category of community benefits in Table 9-4.204(c).

## **FISCAL IMPACT**

This report is for discussion purposes only and has no fiscal impact on the City’s operations.

## **STAFF COMMUNICATION WITH THE PUBLIC**

This proposal was discussed at a meeting of the Sustainability Committee on July 12, 2021.

## **CONCLUSION**

Staff recommends that the City Council consider this report and provide comment and direction as appropriate.

**PREPARED BY:** Nancy Humphrey, Environmental Programs Supervisor

**APPROVED AND FORWARDED TO THE  
CITY COUNCIL OF THE CITY OF EMERYVILLE:**



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Christine Daniel, City Manager

**ATTACHMENTS:**

- Attachment A: California Building Standards Commission Bulletin 20-04 (Revised)
- Attachment B: Tall Wood Buildings in the 2021 IBC