

WESTWOOD ELEMENTARY SCHOOLS BUILDING PROJECT COMMITTEE
Westwood, Massachusetts

SUSTAINABILITY SUBCOMMITTEE MEETING MINUTES

July 8, 2020

Attendance and Call to Order

The meeting, held remotely¹, was called to order 8:03am by Chair Maya Plotkin. Also present on the videoconference were: John Cummings, Nancy Hyde, Lemma Jn-baptiste, and Anthony Mullin. Ex-officio members Julie Gervais and Tom Philbin were also present. Ken Aries and Brian Bayer were absent. John Cianciarulo recorded the minutes.

Mrs. Plotkin recognized the live stream of the meeting which was provided for real-time, public access to the activities of the Sustainability Subcommittee. Members of the public were able to view a live stream of the meeting via the Internet at www.westwood.k12.ma.us/live.

Discussion Items

Mrs. Plotkin recognized Rob Fitzgerald of Dore and Whittier.

Timber-Frame Construction Design Options

Mr. Fitzgerald reviewed two types of carbon.

- Operational Carbon: Released through fossil fuels
- Embodied Carbon: Amount of carbon used to create a material
 - Responsible for almost half of total new construction emissions between now and 2050

Mr. Fitzgerald asked David Mentzer of Dore and Whittier to continue the presentation.

- Conventional Construction: Steel columns, beams, braces, and decking
- Mass Timber: Glue laminated columns, beams; timber decking

Mr. Mentzer outlined mass timber construction options.

- Partial
 - Level 1: Entry, primary circulation, gallery stair
 - Level 2: Gallery stair, portions of roof deck
- Comprehensive
 - Level 1: Classroom floor area
 - Level 2: Classroom floor area and roof deck

Mr. Mentzer continued the presentation by outlining the building code definitions and associated safety requirements.

Cost Estimates are \$25-\$35 per square foot.

- Increased coordination of exposed structure and components
- Finishes; less enclosure with finishes/more finish treatment of exposed systems
- Non-conventional construction type; labor force, sequencing, protection
 - Partial: \$300,000 (0.4% of construction cost)
 - Comprehensive: \$2,000,000 (2.9% of construction cost)
 - Combined: \$2,300,000

¹ Remote meeting held in accordance with Executive Order of Massachusetts Governor, March 12, 2020

Acoustics have three primary concerns:

1. Transmission: Noises between spaces (walls and ceilings)
 - a. Additional mass and isolation techniques are used to mitigate
2. Reflection/reverberation
 - a. Absorptive surfaces are used to mitigate
3. Mechanical

Mrs. Hyde asked if there is a way to vet the bidders' experience with timber-frame construction and not have to go with the lowest bid. Tim Bonfatti of Compass Project Management responded that while this could be a qualification in the specifications included in the bid, it would be difficult to pre-qualify the trade that would complete the work.

Mrs. Hyde also expressed concern about delays due to lack of experience in timber-frame construction. Mr. Cummings also cautioned that the Town had a negative experience with the timber ceiling at the public library.

Mrs. Plotkin stated that she is concerned about the list of issues that could be experienced during the process and that there are other sustainable options that could be pursued. Mrs. Gervais agreed.

Mrs. Hyde felt that it was great to examine timber construction, but felt that there was no compelling reason to move forward. Mrs. Plotkin agreed and asked whether any members of the subcommittee felt that timber should be included in the project, even if partially.

Mrs. Gervais asked if a decision on a limited, partial option could be made later. Mr. Fitzgerald indicated that it could.

The presentation continued with the decision points on timber framing and structural framing.

- Steel
 - Contributes to greenhouse gas emissions
 - Costs less than timber
 - Ease of procurement and familiarity of conventional builds
- Timber
 - Environmental Benefits
 - Greenhouse gas emissions, water use, waste reduction, total energy used in manufacturing, renewable building material, end-of-life re-use
 - Challenges
 - Cost: \$25-\$35/sf premium
 - Acoustics
 - Unfamiliar to many contractors in New England region

The partial would cost an additional \$300K with a 7% reduction in embodied carbon associated with the structure. The comprehensive and partial would cost an additional \$2.3M with a 75% reduction in embodied carbon.

Initial Discussion on Other Sustainable Design Options

Tiers 1 and 2

Life Cycle Cost Analysis

- Baseline: Natural gas heating system
- Tier-1: Fossil fuel-free: Water-source heat pump with supplemental electric boiler
- Tier-2: Fossil fuel-free: Geothermal heating system

All three systems include dehumidification ventilation and partial air conditioning in the administration and special education spaces.

Considerations and Direction for Design Team

- Add 100% air conditioning to each option?
- Add Tier-3: Geothermal with supplemental natural gas boiler to reduce number of wells?
- Window to Wall Ratio: New energy code uses 22% as baseline; project is currently at 25%.

Energy-use

Mr. Philbin asked for an energy consumption forecast for the building. Mr. Fitzgerald indicated that it is being studied and he will get the information to the Subcommittee.

Mr. Mullin asked what the question is for the Subcommittee. Mr. Fitzgerald responded that he is seeking confirmation that his team is on track and moving forward in the 25% window-to-wall ratio. That is the number that has been used. The Subcommittee has expressed concern about having a dark building. He further stated that it would not be dark, there just needs to be careful thought on how to take advantage of the daylight. Chin Lin of Compass Project Management stated that this would be part of the proposal.

The presentation concluded with occupancy use assumptions. The design team will confirm with the school district as this will impact life-cycle costs.

Action Items

Vote Regarding Timber-Frame Construction Recommendation

Mrs. Hyde made a motion not to proceed with consideration of timber frame construction on the partial or classroom basis as presented, but reserve the possibility of a limited inclusion of timber frame construction in the lobby area. Mr. Cummings seconded.

Mrs. Plotkin	Aye
Mr. Cummings	Aye
Mrs. Hyde	Aye
Mrs. Jn-baptiste	Aye
Mr. Mullin	Aye

Vote: 5-0-0.

Result: Approved

Approval of Minutes

Mrs. Hyde made a motion to approve the Sustainability Subcommittee meeting minutes of June 2, 2020. Seconded by Mr. Cummings.

Mrs. Plotkin	Aye
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Mr. Cummings	Aye
Mrs. Hyde	Aye
Mrs. Jn-baptiste	Aye
Mr. Mullin	Aye

Vote: 5-0-0.

Result: Approved

New Business

There was no new business.

Adjournment

Mrs. Hyde made a motion to adjourn. Mr. Cummings seconded.

Mrs. Plotkin	Aye
Mr. Cummings	Aye
Mrs. Hyde	Aye
Mrs. Jn-baptiste	Aye
Mr. Mullin	Aye

Vote: 5-0-0.

Result: Approved

The meeting adjourned at 9:13am.

Documents and Exhibits Used at Meeting

- Subcommittee meeting minutes of June 2, 2020
- Sustainability slideshow presentation by Dore and Whittier, dated July 8, 2020