

WESTWOOD ELEMENTARY SCHOOLS BUILDING PROJECT COMMITTEE
Westwood, Massachusetts

SUSTAINABILITY SUBCOMMITTEE MEETING MINUTES

June 2, 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: Ken Aries, Brian Bayer, John Cummings, Nancy Hyde, Lemma Jn-baptiste, and Anthony Mullin. Ex-officio members Julie Gervais and Tom Philbin were also present. Mr. Mullin left the meeting at 9:34am. 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

Presentation and Selection of Sustainable Design Options for Recommendation to the School Building Committee

Mrs. Plotkin introduced Rob Fitzgerald of Dore and Whittier.

Mr. Fitzgerald stated that a number of consultants on the call, representing The Green Engineer, a sustainability design consulting firm; G-G-D (Garcia, Galuska, and DeSousa), an engineering design firm; Thornton Tomasetti, a structural engineering company, and Ameresco, a renewable energy company.

Mr. Fitzgerald made a presentation on sustainability for the subcommittee's review.

Summary of Last Meeting

- 20% above new energy code to achieve 2% points from MSBA remains the priority
- Majority appear in favor of a net-zero energy approach, as it aligns with Town priorities. The Subcommittee would like to see a payback analysis.
- Explore the use of timber to reduce embodied carbon, but focus on operational carbon
- Explore costs of captured water for irrigation
- Would like additional information on full air conditioning vs. partial air conditioning and displacement and dehumidification ventilation; and to visit schools
- Would like additional information from work completed on daylight studies
- Review occupancy schedule relative to energy model
- Town PV Array: Anticipate 2MW; Ameresco and Dore and Whittier will communicate/coordinate

Recent Decisions

- LEED v4: Need 20% above new energy code, or 35% above current code
- Energy Model Analysis found that achieving this in the baseline project would have been marginal without taking additional measures
- As a result, Dore and Whittier has integrated the following in the baseline project costs, which were previously included in Tier 2:
 - Electrical: Provide enhanced lighting network controls with feedback mechanisms. Provide plug load sub-metering with additional outlets in each classroom, kitchen, cafeteria, gym, and library that would allow for 75% of outlets to be shut off with occupancy sensor.

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

- Infiltration: .08 cfm/sf at 75Pa, in lieu of .4: Essentially meeting Passive House standards. Will require blower door tests, IR analysis, enhanced scrutiny by exterior envelope commissioning agent during and after construction. While this will be addressed in soft costs, additional specifications and requirements would be included for contractor to ensure super tight envelope.
- Window to wall ratio: change from 30% to 25%
- Roof R-value: Change from R-40 ci to R-60 ci

Mr. Mullin asked who made some of the decisions. Mr. Fitzgerald responded that some of the decisions were made to get to the 20% above current code for additional reimbursement points. Mr. Mullin stated that he was concerned about a very dark school building.

Current Decision Points

Baseline: Natural gas heating system, displacement ventilation throughout, with air-conditioning in the administration and special education spaces. Using Option 7 as an example, \$83M project cost estimate.

- Tier-1: Fossil fuel-free: Use centralized municipal water-source heat pump: Add \$1.1M; or
- Tier-2: Fossil fuel-free: Use Geothermal heating system: Add \$3.5M
- Alternate Structural Frame Analysis: Use timber-frame construction in lieu of steel frame (carbon)
 - Add \$300K for partial entry (Entry, limit corridor, cafeteria)
 - Add \$2M for classroom wings
- 100% air conditioning: Add \$1.3M
- Rainwater harvesting for irrigation: Add \$200K

Maximum possible total: \$90.3M

Philbin: Capital costs; not life cycle? Fitzgerald; Correct

Tier-1 vs. Tier-2: Heating/Cooling Systems

Tier-1: Municipal Water Source Heat Pump System

- Aligns with Westwood Resiliency and Sustainability Comprehensive Plan draft
- Lower upfront cost, but less energy-efficient and more maintenance over lifespan
- Uses significant amount of municipal water and chemical treatment

Tier-2: Geothermal Source Heat Pump System

- Aligns with Westwood Resiliency and Sustainability Comprehensive Plan draft
- Higher upfront cost, but more energy-efficient and less maintenance over lifespan
- Less moving parts and equipment
- Requires test wells and mini-study to determine feasibility

Mr. Bayer cautioned that data on operating costs will be key to moving forward and asked Mr. Fitzgerald when this information is expected. Mr. Fitzgerald responded that a lifecycle costs analysis is done during the schematic design phase. While some information may be available for June 12, it won't be a full study. Mr. Bayer would like some concept of the initial annual savings to form decision-making.

Mrs. Plotkin said that she is unable to make a decision without known costs. This was the consensus among members of the Subcommittee as well. Mrs. Plotkin stated that it all comes down to costs and that the information is unavailable. She would like to align with the Resiliency Plan. If cost were not an issue, she would recommend Tier-2, as it is clearly the most environmentally friendly. However, if the costs are

so high and the operating costs not significant enough to cover capital, the Subcommittee needs to have that conversation.

Mr. Fitzgerald stated that it was not possible to get into that level of detail due to working on seven options. He again stated that that level of work is typically done during the schematic design phase. Through the current process, Dore and Whittier has been trying to get an understanding of what to begin studying in the next phase. Now, with a design option selected, a sustainability option can be determined. This will be looked at early on.

Mrs. Plotkin asked if the objective is to reach a “not to exceed” number that is required in the Preferred Schematic Report (PSR). Mr. Fitzgerald responded that it is.

Mrs. Plotkin then explained the concept to the Subcommittee: The PSR requires a “not to exceed” cost. While this is not locked, the MSBA would not be pleased if Westwood were to exceed. They would like the Town to pick an outside number for the project and focus at coming at or under that number. She further stated that, the real question for the Subcommittee seems to be: Is there comfort in going with a not-to-exceed number of \$90.3M for the project as the maximum possible total.

Mrs. Hyde stated that Westwood cannot be alone in having a plate full of options and needing to meet the deadline. It takes time to fairly evaluate this process and others must have gone through the same exercise and deliberation. She further stated that she would hate to eliminate options for consideration based purely on what is provided at the meeting. She recommended remaining flexible going into schematic design as that is the responsible thing to do. If options are removed now, it would eliminate possibilities that earlier that may not have been eliminated had more information been available at the time.

Mrs. Plotkin asked about recommending a not-to-exceed number of \$90.3M. There was consensus that this number works so long as it allows the Subcommittee to continue studying all possible options.

Approval of Recommended Sustainable Design Options to the School Building Committee

Mrs. Hyde made a motion to proceed with further analysis in the schematic design period on energy options provided by Tier-1, Tier-2, Alternate Structural Frame Analysis, 100% air conditioning, and Rainwater Harvesting for Irrigation, with the understanding that this creates an upper limit of \$90.3M in project costs, with a further understanding that the expected overall project costs of \$90.3M to be adjusted downward during the course of schematic design work and analysis. Seconded by Mr. Cummings.

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

Vote: 7-0-0.

Result: Approved

Mr. Ruoff of The Green Engineer shared the LEED Checklist. He stated that it would continue to be refined as the design moves forward. There are some specific questions for the Town on what its priorities are.

Mr. Philbin was recognized. He shared information on potential Shuttleworth/Hanlon School construction synergies:

- The proposed system will generate enough electricity on-site to support a Net-Zero designation for the new school. This system is a lower cost alternative to an on-site rooftop of parking canopy design. In addition to the annual energy savings, the Town is saving approximately \$1.5M in construction costs by avoiding the need to install a rooftop solar array.
- Tree clearing for a Solar PV project is required; 2.3 acres of tree-clearing savings for the new school would be a \$25K cost-savings.
- Ameresco will be constructing an access road from Gay Street into the parcel. Approximately 700 feet of this road may be used by the Town's new construction team, an estimated savings of \$40K.

The project timeline is over the next couple of months. Mrs. Hyde confirmed that it does not need to go to Town Meeting. The solar project would go through the Select Board and Planning Board process where there will be opportunities for public discussion. It is not a Town Meeting decision.

Action Items

Approval of May 1, 2020 Subcommittee meeting minutes

Mr. Aries motioned to approve the subcommittee meeting minutes of May 1, 2020. Mr. Cummings seconded.

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

Vote: 7-0-0.

Result: Approved

New Business

Mr. Cummings asked if this was the end of this subcommittee. Mrs. Plotkin responded that it was not. The Sustainability Subcommittee will continue as actual choices and recommendations need to be made. Cummings: Is this the end of this committee?

Mr. Fitzgerald asked if an evaluation matrix would be beneficial. Mrs. Plotkin agreed that it would.

Adjournment

Mrs. Hyde motioned to adjourn. Mr. Cummings seconded.

Mrs. Plotkin	Aye
Mr. Aries	Aye
Mr. Bayer	Aye
Mr. Cummings	Aye
Mrs. Hyde	Aye
Mrs. Jn-baptiste	Aye

Vote: 6-0-0.

Result: Approved

The meeting adjourned at 9:38am.

List of Documents and Exhibits Used at Meeting

- Daylighting slideshow provided to Dore and Whittier by Lam Partners, dated April 2020
- Subcommittee meeting minutes of May 1, 2020
- Sustainability slideshow presentation by Dore and Whittier, date June 2, 2020