WESTWOOD ELEMENTARY SCHOOLS BUILDING PROJECT COMMITTEE
Westwood, Massachusetts

MEETING MINUTES

August 25, 2020

Attendance and Call to Order
The meeting, held remotely[1] , was called to order at 8:04am by Chair Maya Plotkin. Also present on the video conference were: Brian Bayer, Allison Borchers, Christopher Coleman, Sarah Cronin, John Cummings, Charles Donahue, Pam Dukeman, Abby Hanscom, Nancy Hyde, Lemma Jn-baptiste, Carol Lewis, Michelle Miller, Anthony Mullin, Emily Parks, and Kate Scales. Ken Aries, Josepha Jowdy, and Amanda Phillips were absent. Allison Borchers, Carol Lewis, and Michelle Miller left prior to adjournment. 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 School Building Committee. Members of the public were able to view a live stream of the meeting via the Internet at www.westwood.k12.ma.us/live. Westwood Media Center also recorded the meeting for later broadcast on their platforms.

Chair's Report

Overall Project Update
The Massachusetts School Building Authority's (MSBA) Facility Assessment Subcommittee took place early this month, where they reviewed the site plan. Mrs. Plotkin reported that they were happy with the design. The subcommittee had some questions which the team fielded expertly.

Westwood is on the agenda for the MSBA Board Meeting tomorrow where they will, hopefully, officially approve the Preferred Schematic Report. Nancy Hyde, Emily Parks, Maya Plotkin, and the teams from Compass and Dore and Whittier will be in attendance.

Following the Board Meeting, the project will move into schematic design. Community forums will be held in the fall to solicit feedback and suggestions.

Geothermal Test Well Update
A single geothermal test well was drilled and has been successfully installed. It began its two to three day process yesterday. Once testing is complete, results will be assessed. Neighbors have been notified and updated.

Westwood Media Center Dedication Video
Mrs. Plotkin reported that she was approached by Westwood Media Center about producing a video dedicated to the building project, which would capture the process from design to opening. Mrs. Plotkin believes that this would be a good idea and wanted to bring it to the Committee for feedback.

Mrs. Hyde believes that the Permanent Building Committee should be included as they oversee the project from the Town's standpoint. Mrs. Plotkin will coordinate with John Cummings, a member of the Permanent Building Committee; and also advise Westwood Media Center that the Committee wishes to proceed with the video project.

Discussion Items
Mrs. Plotkin reported that the Sustainability Subcommittee met to discuss three issues:

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

- HVAC system
- 100% air conditioning vs. partial air conditioning and dehumidification
- Rainwater cistern irrigation

The Sustainability Subcommittee has made recommendations for each. Mrs. Plotkin then recognized Rob Fitzgerald, Project Manager at Dore and Whittier, who presented.

Mr. Fitzgerald provided an overview on what was discussed at the Sustainability Subcommittee meetings:

1. Priority: 20% above new energy code to achieve 2% points from MSBA
2. Heating/Cooling System Options:
    a. Baseline: Natural gas
    b. Tier-1: Water source heat pump with supplemental electric boiler
    c. Tier-2: Ground source heat pump (Geothermal)
    d. Tier-3: Ground source heat pump (Geothermal) with supplemental electric boiler, less wells
3. 100% air conditioning vs. partial air conditioning and dehumidification ventilation
4. Rainwater cistern irrigation

Update on the Geothermal Test Well:

- Test well completed with no issues, faster than expected (600-feet in one day)
- Vibration levels measured were low
- Granite encountered 10-feet below grade
- Water yield: approximately 5-10 gallons per minute

Implications for design:

- Rock has higher conductivity than soil. Granit is, therefore, good
- Once thermo-conductivity test is completed next week, the well will be covered
- Approximately 70 wells are anticipated 25-feet apart
- Three to four months for drilling (with two drill rigs)
- Can be done at beginning, during, or end of construction (non-critical path item)

Lifecycle Cost Analysis Summary

A summary of the analysis was presented. Some highlights include:

- Code Baseline (Natural Gas)
    - EUI: 32.1
- Base Design (Natural Gas)
    - EUI: 29.2
    - Annual maintenance cost: $130,279
    - 20-year exterior equipment replacement cost: $919,850
    - Combined expense savings: $11,313
    - Total life-cycle savings: $1,856,606
- Tier-1
    - EUI: 26.8
    - Total life-cycle savings: ($685,229)
- Tier-2
    - EUI: 20.1
    - Annual maintenance cost: $121,079
    - 20-year exterior equipment replacement cost: $0
    - Combined expense savings: $9,144
    - Total life-cycle savings: ($2,307,572)

- Tier-3
    - EUI: 22.8
    - Total life-cycle cost savings: ($2,396,360)

Sustainability Subcommittee recommends a fossil fuel-free approach:

- Additional capital cost is a worthwhile investment
- Consistent with Westwood's commitment to sustainability and resiliency
- Life of the building decision
- Statewide direction is fossil fuel-free
- Opportunity for net-zero energy
- Reduction in global greenhouse gas emissions

<u>Sustainability Options: HVAC System and 100% Air Conditioning vs. Partial Air Conditioning and Dehumidification</u>

Tier 1 vs. Tier 2 – Heating and Cooling Systems

Tier 1: Municipal Water Source Heat Pump System

Pros:

- Aligns with Westwood Resiliency and Sustainability Comprehensive Draft Plan
- Lower upfront cost

Cons:

- Less energy efficient than Tier-2 system, resulting in:
    - May require increased electrical service capacity
    - More solar energy required for Net-Zero Energy (NZE)
    - Increased generator size required
- Need supplemental electric boiler due to heat rejection
- More mechanical equipment visible exterior than Tier-2
- Higher HVAC sound levels at building exterior vs. Tier-2
- More maintenance; moving parts, vs. Tier-2

Tier-2: Geothermal Source Heat Pump System

Pros:

- Aligns with Westwood Resiliency and Sustainability Comprehensive Draft Plan
- More energy efficient than Tier-1 system, resulting in:
    - Likely decrease in electrical service capacity vs. Tier-1
    - Less solar energy required for NZE
    - Smaller generator size required
- Less mechanical equipment visible and building exterior
- Lower HVAC sound levels at building exterior vs. Tier-1
- Less annual maintenance: Fewer moving parts vs. Tier-1

Cons:

- Higher upfront cost

Sustainability Options: Rainwater Cistern Irrigation
Rainwater cistern irrigation would cost $140k

- Utilizing native plants and water efficient irrigation methods can minimize the need for excessive water
- Harvesting rain water: Effective and educational for a small area
- The heaviest rain events in spring vs. Most need for irrigation is during July/August. The tank can never be large enough to meet peak demands
- Supplemental water necessary to meet irrigation needs.
- Cistern/tank water needs treatment to potable water standards. Increased annual operating and maintenance costs
- Will not achieve payback
- Potential for increased cost due to possible ledge
- 40,000 gallon tank
- Ten to twelve-feet below grade
- Annual water savings: 595,000 gallons
- 15% of water demand met

Recommendation from the Sustainability Subcommittee

1. Priority: 20% above new energy code to achieve 2% points from MSBA--$83.3M
2. Heating/Cooling System Options:
    a. Tier 2: Ground source heat pump (Geothermal): Add $3.5M; or
    b. Tier-3: Ground source heat pump (Geothermal) with supplemental electric boiler, less wells—Add $3.5M
3. 100% air conditioning vs. partial air conditioning and dehumidification ventilation--$1.3M

Revised project cost estimate: $88.1M Total

Mrs. Plotkin shared that the additional costs for acoustics in Tier-1 were a concern for the Sustainability Subcommittee as the compressors used are very large units that would be placed on the roof or near the building. A lot of work would be needed to counteract the noise that they generate. Mr. Fitzgerald shared that the additional acoustical and structural reinforcement would cost approximately $400k over the $1.1M.

Mr. Bayer wished to reiterate the importance of going with one of these options versus a fossil fuel option as it is more efficient and provides greater flexibility as the Town continues to acquire more renewable energy resources. Mrs. Plotkin agreed, adding that, since the Town is seeking to install a solar array on adjacent property, the potential energy costs could be net-zero.

Mr. Cummings added that there is currently legislation being proposed that would move all municipal buildings to fossil fuel-free systems. This would be in line with that.

Mrs. Plotkin then reported that the Subcommittee recommended full air conditioning as it is anticipated that the new school would be used far more often than the current building. Mrs. Hanscom added that, from an Americans with Disabilities Act perspective, 100% air conditioning provides the district with greater flexibility with a variety of classrooms and locations for students to access and she strongly supports it.

Mrs. Plotkin then reported that the rainwater cistern would not generate enough to supply water during the months when it is truly needed. The benefit did not justify the cost. Mr. Lin added that, at the time of the initial proposal, not enough information was known about the ledge. Knowing what is known now, the cost would likely be significantly higher.

Revised Property Line
Mr. Fitzgerald showed a slide of the Shuttleworth and Hanlon School properties.

Shuttleworth

- Area 1: Approximately 9.5 acres of school property
- Area 2: Approximately 11.25 acres of PV array
- Area 3: Approximately 16.75 acres remaining
    - Total: 37.5 acres

The existing Hanlon School property is approximately 8.6 acres.

The total of all areas is approximately 45.6 acres.

Mr. Fitzgerald reported that the Hanlon School is situated on the Hanlon School property and abuts the Shuttleworth property, which is dedicated to municipal or school use. Area 1 is where the new building would be located; Area 2 is where the Town is planning to build its PV solar array; and Area 3 would remain untouched. The Town Planning Department has indicated that having a combined property would assist in the permitting process of both projects.

Chin Lin, Project Manager at Compass Project Management, reported that the Town Planner's opinion is that since the Town owns both properties, this would merely be a relocation from the current property line to the proposed property line. It would simplify the permitting process. Town Bylaws do not require this being taken to Town Meeting.

Mrs. Hyde cautioned that she does not believe this is ready for a vote as the Select Board remains in discussions on the solar array. It was decided that the vote would be tabled.

Action Items

Approval of Sustainability Subcommittee Recommendations for (1) HVAC System; (2) Air Conditioning; and (3) Rainwater Cistern Irrigation

Mr. Bayer made a motion to approve the Sustainability Subcommittee's recommendations of Tier-2 or Tier-3 for HVAC, 100% air conditioning, and to not more forward with the rainwater cistern irrigation system. Seconded by Ms. Parks.

Roll-call vote:

Mr. Bayer	Yes
Ms. Borchers	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mrs. Lewis	Yes
Mrs. Miller	Yes
Mr. Mullin	Yes
Ms. Parks	Yes
Mrs. Scales	Yes

Mrs. Plotkin	Yes

Vote: 16-0-0

Result: Approved (Unanimous)

Approval of Additional Geotechnical Engineering, Testing for Soil for Drainage, and Environmental Testing Proposal

Mr. Fitzgerald stated that borings done in earlier phases provided an initial idea of soil conditions. These new borings are to confirm and attempt to locate ledge. Mr. Lin expanded further, stating that this is a combination of two pieces of work: to get a better idea on the shape of the bedrock and to reduce any risk moving forward. There is a recollection by some of oil tanks being removed from the property at one time, but there is no paperwork trail. This work will also attempt to confirm their removal.

Mr. Cummings made a motion to approve the Geotechnical proposal for $41,690; broken down into $34,900 for tasks 1 through 6 as outlined in the proposal; $3,490 for the Dore and Whittier administrative cost; and $3,300 for the survey required to do that work. Seconded by Ms. Parks.

Roll-call vote:

Mr. Bayer	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mr. Mullin	Yes
Ms. Parks	Yes
Mrs. Scales	Yes
Mrs. Plotkin	Yes

Vote: 13-0-0

Result: Approved (Unanimous)

Mr. Cummings made a motion to approve Amendment 5 with a not-to-exceed cost of $16,500. Seconded by Mr. Donahue

Roll-call vote:

Mr. Bayer	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mr. Mullin	Yes
Ms. Parks	Yes

Mrs. Scales	Yes
Mrs. Plotkin	Yes

Vote: 13-0-0

Result: Approved (Unanimous)

Approval of Engineering Cost for Revised Lot Line for the Hanlon School Lot
Tabled.

Approval for Payment of Invoices
Mr. Cummings made a motion to approve payment of invoices totaling $64,670 for the period ending July 31, 2020, as recommended by Compass Project Management. Seconded by Mr. Donahue.

Roll-call vote:

Mr. Bayer	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mr. Mullin	Yes
Ms. Parks	Yes
Mrs. Scales	Yes
Mrs. Plotkin	Yes

Vote: 13-0-0

Result: Approved (Unanimous)

Approval of July 23, 2020 Meeting Minutes
Mr. Cummings made a motion to approve the meeting minutes of July 23, 2020. Seconded by Mr. Donahue.

Roll-call vote:

Mr. Bayer	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mr. Mullin	Yes

Ms. Parks	Yes
Mrs. Scales	Yes
Mrs. Plotkin	Yes

Vote: 13-0-0

Result: Approved (Unanimous)

Acceptance of July 8, 2020 Sustainability Subcommittee Meeting Minutes
Mr. Donahue made a motion to accept the July 8, 2020 Sustainability Subcommittee meeting minutes. Seconded by Mr. Cummings.

Roll-call vote:

Mr. Bayer	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mr. Mullin	Yes
Ms. Parks	Yes
Mrs. Scales	Yes
Mrs. Plotkin	Yes

Vote: 13-0-0

Result: Approved (Unanimous)

New Business
There was no new business.

Adjournment
Mr. Donahue made a motion to adjourn the meeting. Seconded by Ms. Parks.

Roll-call vote:

Mr. Bayer	Yes
Mr. Coleman	Yes
Mrs. Cronin	Yes
Mr. Cummings	Yes
Mr. Donahue	Yes
Mrs. Dukeman	Yes
Mrs. Hanscom	Yes
Mrs. Hyde	Yes
Mrs. Jn-baptiste	Yes
Mr. Mullin	Yes

Ms. Parks	Yes
Mrs. Scales	Yes
Mrs. Plotkin	Yes

Vote: 13-0-0

Result: Approved (Unanimous)

The meeting adjourned at 9:12am.

List of Documents and Exhibits Used at Meeting:

- Draft meeting minutes of July 23, 2020
- Letter from Dore and Whittier to M. Plotkin, dated August 19, 2020, re: Amendment #4 (Professional geotechnical engineering services as well as associated professional surveying services)
- Letter from Dore and Whittier to M. Plotkin, dated August 21, 2020, re: Amendment #5 (Professional Geotechnical Engineering Services relative to environmental investigation and exploration)
- Letter from Dore and Whittier to M. Plotkin, dated August 19, 2020, re: Amendment #6 (Professional surveying services related to preparing an Approval Not Required plan)
- Presentation slides drafted by Dore and Whittier, dated August 25, 2020
- Sustainability Subcommittee meeting minutes of July 8, 2020
- Vendor Invoice Package for period ending July 31, 2020