Greenwich Board of Education Minutes of the GHS Front Entry Committee Meeting

DATE: November 17, 2021
LOCATION: Virtual via Google Meet
TIME: 8:00 am

Committee Members Present:
Stephen Walko - Chairman
Jake Allen- Vice Chairman
Maureen Bonanno-Secretary
Louis Contadino
Stephanie Cowie
Christina Downey (BOE)
Leslie Moriarty (BET)
Megan Galleta

Ex-Officio Members Present:
Tom Bobkowski (BOE - Central Office)
Craig Amundson (RTM)
Dennis Yeskey (P&Z)
Ralph Mayo (GHS Principal)
Lauren Rabin (Board of Selectmen)
Will Schwartz (DPW)
Dan Watson (BOE- Central Office)
Steven Swidler (BOE Staff)

Others Present:
David Stein (Silver Petrucelli)
Bob Banning (Silver Petrucelli)

Not Present:
Ashley Cole

- **Call to Order:** Meeting was called to order by Mr. Walko at 8:03 a.m
- **Silver Petrucelli Update on HVAC:**
    - S&P presented a graphic that compares the four systems that they have been evaluating. Mr. Stein stated that they connected with the engineer who recently did redesign work on the existing chiller at the school.
    - Mr. Banning noted that there were 3 goals for this week:
        - Further investigate the connection to the existing chilled water system;
        - Review the additional option that the Energy Conservation Group suggested;
        - Present a recommendation of the system.

- Mr. Banning noted that today's presentation was simplified from last week and includes 4 options:
  - Option 1: Will tie into existing infrastructure for hot water and chilled water. It would provide one air handling unit on the roof.
  - Option 2: Two 7.5 ton heat pumps.
  - Option 3: Two units that utilize gas fired heat. Heat pump style cooling.
  - Option 4: Hybrid solution recommended by the Energy Task Force. A small chiller that would provide hot and cold water.
- Initial costs: Units with hot water and chilled water coils are initially more expensive. Initial cost of the hybrid solution is the most expensive because it provides the same piece of air handling equipment as Option 1 but it adds the chiller component. Between the most expensive and the least expensive options, there is a $40-$50K delta.
- Maintenance: They determined that they can utilize both hot and cold water lines that are in the office area and would only need to increase the pumping capacity upstream. Does not require a change in pumps. GHS staff familiar with the technology. The heat pumps have slightly shorter life. Maintenance delta not much difference between the options.
- Operating Costs: The operating cost for Option 1 was reduced since they determined that they don't need to run chilled water from far away and they do not need to add a pump. The existing equipment will need to work a little harder. Adding 15 tons of cooling capacity to the existing1400 tons of capacity. The heat pumps are very efficient. System recommended by the energy group is slightly more efficient, however, they view all 4 as being highly efficient.
- Construction phasing: All electric options are the simplest to phase. With the gas fired solution, they need to make the gas tie in. Hot/chilled water solutions costs came down slightly as they determined that the tie ins are local. Construction Phasing is not a major player in the decision.
- Mr. Banning discussed 1 unit vs. 2 units. They were able to determine that with the hot and chilled water, these pieces of equipment are more expensive and they are physically longer in terms of footprint. The 7.5 ton unit is the same length as the 15 ton unit, about 10 feet in length. Therefore, to locate two of these units adjacent to the space will be challenging. Hooking up 2 units vs. 1 unit is also more challenging. Therefore, for Option 1, they recommended one unit. The radiant floor addition would provide some redundancy

- **Recommendation by Silver Petrucelli and Discussion:**
  - Mr. Banning stated that their recommendation is driven by the finding that the existing chilled and hot water system is capable of handling the space with minimal impact. Therefore, Option 1, which would provide a 15 ton system tied into the existing chilled and hot water system, is recommended.
  - Mr. Stein noted that they are veering away from Option 4 as it is an independent system and is a bit different than what the district currently has. Given the goal is to stay as carbon neutral as possible, with Option 1 they would be tying into existing infrastructure, the skill set is there to maintain it and it is very efficient.

- Mr. Stein stated that in all of the charts, the lower the bar the better. But in the order of magnitude, there is not much difference. Additionally, all 4 options can fit within the budget.
- Mr. Walko asked which option is emissions free and Mr. Banning noted that Option 4 and Option 2 would be emissions free as they are both using electricity to heat and cool. Option 1 using existing hot water distribution is fueled by gas boilers. Option 3 is burning gas so it has emissions.
- Ms. Moriarty asked if we are looking at just the energy footprint of our space and not the entire building since the existing chiller plant will be using the same amount of energy whether we use it or not, incrementally we are not adding any extra use of energy? Mr. Banning responded that the existing water distribution has the ability to serve the new vestibule. We will need to adjust the pumps to make them work a little harder so the upstream equipment will work a little harder. The chilled water plant has 1400 tons of capacity, our peak load is 15 tons, using around 1% of current capacity at peak.
- Mr. Stein noted that Option 4 is a carbon neutral system, but Option 1 is within a reasonable tolerance of 1% of energy consumption.
- Mr. Banning stated that if GHS is moving toward a carbon neutral approach, then the existing hot/chilled water system would need to be replaced with another type of infrastructure, however, if they are replaced with an infrastructure that is producing hot water and chilled water then Option 1 is perfectly meshed with that. If that is the solution for overall building, then we are better off with Option 1 because it will be using the existing main infrastructure.
- Mr. Contadino asked what the physical impact of having one large unit vs. two smaller units. Mr. Banning responded that all of the solutions can be hidden behind and will all be able to fit on the connector roof. Mr. Stein stated that architecturally, the only issue with Option 2 is the need to get piping from the administration area up into the unit so they may need to create soffits. Option 1 has a small challenge to hide the routing. Mr. Banning added that if we need to do the corridor, there will be additional equipment.
- Mr. Banning added that there would be no impact on the radiant floor, it will be a stand alone system with its own boiler to produce low temperature hot water. They will look into extending the chilled water for the connector to provide cooling and the architectural impacts that it will have.
- Mr. Walko stated that since we are building an open concept room and we are now discussing putting mechanicals through the space with soffits, he feels as though it is important to see renderings of the inside and outside, including the add alternates for the radiant heat and the hvac in the glass corridor.
- Mr. Contadino stated that regarding the soffits in the corridor they may be able to complement them with soft soffits somewhere else.
- Ms. Downey followed up on Steve's point noting that it is important to focus on the aesthetics and it would be helpful to see the renderings of all of the options.

- Mr. Walko added the BOE staff indicated that Option 1, using existing infrastructure, is the most favorable given that it was recently upgraded. From an overall maintenance and efficiency standpoint, Option 1 is preferable.
- Ms. Downey agrees that we should maximize efficiency but we should review all of the renderings to achieve an acceptable comfort level.
- Mr. Banning stated that there is already a 3-D model of Option 1 and they just need to confirm that they can come up with a simple solution for the piping.

- **Landscape Update:**
  - Mr. Stein stated that they will give an update after they get more information from the P&Z and Architectural Review Committee meetings.
  - Mr. Walko noted that he received an email from Vin Dimarco regarding bicycle safety and access and he will forward that to S&P.

- **Invoice Motion:**

Motion was made by Christina Downey and seconded by Jake Allen to approve Invoice 21-2401 from Silver Petrucelli for the schematic design and construction documents in the amount of $12,284.74. The motion was approved.
The Motion Passed 8-0-0

- **Moving Forward:**
  - Mr. Walko suggested the committee meet on Tuesday, November 23rd at 8am.
  - Mr. Walko reviewed the Hillside Traffic Study and is unclear how it pertains to this project. He also noted that he is still waiting to get the Master Facilities Plan as it pertains to GHS.
  - Mr. Walko noted that there are two P&Z meetings on November 17th: P&Z Appeals for variances for FAR and volume and the Architectural Review Committee.
  - Mr. Stein noted that they still need to hear back from the state on the reimbursement side. The paperwork was filed last week.

- **Approval of Minutes:**

Motion was made by Jake Allen and seconded by Leslie Moriarty to approve the minutes of the November 10th, 2021 meeting. The motion was approved.
The Motion Passed 8-0-0

- **Adjourn:**
  - The meeting was adjourned by Mr. Walko at 8:41 am.

Submitted by Maureen Bonanno on Nov 22nd, 2021