

Draft Minutes Energy Committee January 12, 2021

1. Dick Kline opened the meeting at 1:08 pm. In attendance were Seth Beaver, Spencer Ervin, Barbara Grove, Dick Haden, Dick Kline, Pete Lane, Roy Manno,, and Ed Plasha. The agenda was corrected because George Alexander, Lyn Beck, and Ben James were unable to attend the meeting..
2. The minutes of the meeting of December 8, 2020, previously distributed, were approve.
3. Updates from Dick. Roy Manno, recently appointed Director of Facilities will be attending our meetings. Dick has asked Pete Lane to serve as Nominations Officer to recommend a slate of Energy Committee Officers to serve beginning on July 1, 2021.If you are interested in serving with Pete on a nominating committee,, please let Dick know. Dick Has sent a letter to Seth Beaver, which is intended to reinforce our strong desire that revitalization negotiations keep in mind the existential nature of climate issues.
(ATTACHMENT 1)
4. Dick Haden reported on heat pump options
(ATTACHMENT 2)

5 Energy Display Status. Barbara Grove is preparing a short statement for the Chronicle about the large energy saving in using LED or CFL in light fixtures.

5. Staff Director's Report Seth Beaver. The Energy Committee's letter has been forwarded to Joyce Lenhardt, Scott Pusy and others. Seth expects them to report back as part of the development process.

6. Before adjournment at 1:48 pm Dick thanked Pete Lane for implementing Zoom for the meeting.

In attendance were Seth Beaver, Spencer Ervin, Barbara Grove, Dick Haden, Dick Kline, Peter Lane, Roy Manno, and Ed Plasha

NEXT MEETING FEBRUARY 9 AT 1 PM

Dear Seth,

We believe that now is the time to insert our considerations for the Mott and Woolman concepts before these concepts are frozen and we are faced with the awkward alternatives of increased initial cost vs non-optimum concepts that will increase our operating costs for decades. This is much more than "just" putting in solar panels or deferring them. It involves positioning the units to take advantage of both heating in winter and cooling in the summer. Then it entails proper treatment of the roof and placement of the windows. This can be done in a very tasteful and efficient way.

We recommend that we continue on with the present conceptual drawings but then in addition develop an alternate concept that includes proven energy conservation techniques. We know that Climate Control issues are real and they are here to stay. Crosslands can get in the lead with our Mott and Woolman designs. We should take advantage of the fact that we are developing new facilities in the Mott and Woolman areas.

The attached sheets describe the approach we believe we should take. Our architectural firm should take the lead and develop alternate concepts backed up by analysis to point the way for an intelligent and low-cost design.

Seth mentioned that a next step might be to devote a meeting to explore Climate Control options. That's a good approach. We should do this as soon as Lenhardt Rodgers is ready.

Sincerely,

Dick Kline

DICK KLINE

January 4, 2021

Steps for Designing an Efficient Climate Control System

at Mott and Woolman

This alternate conceptual design will be constructed using proven systems and hardware. It provides a design that will be consistent with the Nation's (and the World's) need to use energy wisely. We and those that follow us at Crosslands are going to live with the concept that we define. That design should strengthen our marketing position and place Crosslands in the leadership of this increasingly existential feature of our lives.

Here's the steps that we recommend. We invite Lenhardt Rodgers Architecture to recommend modifications and enlargements to this list that in their opinion will lead to a better result:

1. Perform Preliminary (and crude) heat load analysis on current construction site concepts
2. Define an alternate thermally efficient concept for both construction sites. This alternate conceptual design will be constructed using proven systems and hardware. It should provide a design that will be consistent with the Nation's trend to more efficient Climate Control.
3. For this design, optimize orientation of buildings considering heating and cooling sun angles
4. Optimize roof and overhangs for sun and winter conditions. Then consider windows and their best locations.

5. Consider solar tubes for increased natural lighting and minimize window size on non-solar exposure sides .
6. Determine thermal insulation requirements
7. Consider solar cell application integral to roof (more attractive and may reduce initial cost.)
8. Define thermal coatings for roof surfaces not covered by solar cells with low absorptance and high emittance
9. This should define the smallest heat pump unit sizes (lowest cost and lowest energy usage)
10. Evaluate single heat pump units vs. individual units for each residence
11. Select system to pressurize hallways in Woolman to keep disease from spreading from unit to unit and as a safety measure from underground car exhaust.
12. Compare cost (recurring cost should be considerably less than baseline conceptual design and far more efficient. Use \$0.09/kWh electrical cost rate for cost analysis which is more realistic than the current artificially depressed rate.

Important Note: Procurement of the Mott and Woolman site projects represents the largest Crosslands capital expenses in the foreseeable future. It takes on added importance because it will lead to future capital investment on campus during our "revitalization". This demands that the procurement be done carefully and with the proper degree of formality. Accordingly, the procurement specifications of both sites must be thoroughly prepared and introduced to potential

bidders. Our Architectural/Prime Contractor should define the recommended procurement process with an agreed upon milestone to be established by the COR and signed off by the Crosslands CEO and Lenhardt Rodgers President.

At least two construction bidders must be obtained through a formal bidding process including a Best and Final procedure to help select the most attractive proposals.

ATTACHMENT 2

Dick Haden reported to the committee two items:

- Dick Kline, along with other Committee members, developed a request to Seth Beaver and the Revitalization Task Force, asking that a side-by-side comparison of the plans for Woolman replacement structure and New Units at the Mott Center location be conducted now, before plans are settled.
- The two cases to be involved are a case with best sustainable design and a case meeting budget limits. Doing this comparison now allows an analysis of initial cost and expected benefit, including "carbon footprint" and operational savings for each case. Seth Beaver has received the proposal and has passed it along to the Architectural firm and Sustainability Consultant.
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- Dick mentioned that he has been working with Ben James to get an estimate of current Crosslands electrical demand and an analysis of how demand varies with ambient air temperature. This study will enable better estimates of savings vs. cost for HVAC (Heating, Ventilation, Air Conditioning) replacements. The literature reports substantial savings for GSHP (Ground Source Heat Pump) systems compared with ASHP (Air Source Heat Pump) systems, especially in colder climates, often justifying the higher initial cost for engineering and installation.

Sent from Mail for Windows 10

REPORT FROM BEN JAMES

Dick,

I apologize for not being available for today's energy meeting.

.. to help our energy committee this month."

I will follow this email with comments which you might attribute to myself.

Best,

Dick

I have not been able to maintain an appropriate enthusiasm among the members of the Climate Resilience working group during our corona virus lockdown, I am hopeful for the future. I have been regularly involved with the All Kendal Residents Climate Initiative and am excited about how that group can help us this year. I am attending two seminars on ways to accomplish "Greening of our Campus" with George Alexander being one of the co-chairs of that activity group. I have also joined George's KCC climate action long range planning committee.

I have been working with Dick Haden on gathering details of the Crosslands independent living heating and A/C equipment details so that we can build a model of energy use and better understand how much is independent living and how much is the Center/Firbank/Audland. This should help us strategize on ways to meet our goals.

George's presentation during the seminar yesterday highlighted that at KCC, we consume 80% of our energy as electricity or natural gas. To reach our goal of 50% reduction of fossil fuel consumption by 2030, we need to be cutting our overall energy use by 5% each year. We still have to figure out what to do this year to accomplish that.

Let me know if there is something I need to do to help our energy committee this month.