

Williamsburg Energy Committee Minutes for August 24, 2021

Members Present: Neal Anderson, Dick Guzowski, Jim Piermarini (Chair)

Others Present: Mimi Kaplan

Called to Order: 5:30 PM

Minutes: Minutes from meetings of July 20, July 26, and August 4, 2021 approved.

Energy Considerations for Public Safety Complex: Piermarini reported that he delivered the recommendations at the Public Safety Complex Committee's August 11 meeting. (An outline of the notes for his presentation are attached as an appendix to these minutes). He also reported that architect Kevin Chrobak responded in writing on August 12, stating that

"We're going to integrate many of the recommendations into the design development estimate as alternate costs. As discussed last night, we are totally up against rising costs since the initial estimates. Those will be sent over to our estimator in about a week and a half. We hope to have revised numbers in the first week of September or thereabouts. I would hope that we can then start to pin down the design fully and get up to speed on construction documents."

Guzowski raised the question of the Energy Committee's role after the estimates have been received, and whether concerns about added expenses alluded to in the architect response stem from the budget being fixed. The Energy Committee is in agreement on need to determine next steps and to stay in close contact with the Public Safety Complex Committee and their process going forward.

Municipal Building Energy Audit/EV Review: Piermarini reported that the energy audit of town buildings is scheduled for tomorrow, and that Joe Palange from Commonwealth Electric was selected by National Grid to perform the audit. The foci of the audit will include insulation and building envelope considerations, as well as potential for EV charging stations.

Green Communities Grants: Kaplan informed the committee of a new round of Municipal Energy Technical Assistance Grant opportunities from DOER/Green Communities. Piermarini suggested possibility of using Green Communities funds to address issues discovered in municipal building audits. Kaplan provided the committee with more information about the process, and the committee discussed potential needs for assistance. The committee also discussed possibilities of applying for grant funds to explore feasibility of microgrids, community solar, and clean energy resiliency at critical municipal facilities.

Other Business: The committee discussed the need to update the Energy Committee web page on the town web site, which will be undertaken as a fall project, and also the possibility of broadening the committee's scope to include aspects of sustainability beyond energy.

Adjourned: 6:32 PM.

Next Meeting: TBD as members' fall schedules become more clear.

Appendix

Notes for Energy Committee's presentation to Public Safety Complex Committee at that committee's meeting on August 11, 2021

PLANS

- Roof - what is insulation? Assume spray foam. R50 is recommended (7")
- Slab insulation - with slab heated, R15 is recommended. Slab edge insulation is important.
- Wall insulation - R-value spec provided is good (4" of closed cell foam, R28) . Yet the inclusion of an interior vapor retarder, as noted, is not recommended. It's presence provides a double vapor barrier (closed cell foam is also a vb), which may trap moisture , leading to a range of issues. Insulation between bays and admin areas?
- Garage doors - Spec states aluminum with insulated glass. I'd like to review a spec sheet. To achieve the ' industrial look' intended in Kevin's note, better insulated, and less glazed doors may be viable with cost savings associated with it. (ie Four panel horizontally opening bay doors can contain more insulation, require less maintenance and are easier to open manually.)

MECHANICALS

- Great to hear an electric VRF is spec'd.
- Interested if there is an air to water heat pump for the slab radiant, that can also provide the heating/cooling for administrative areas? Has this been considered?
Recommended to review this option with the mechanical contractor.
A Haydenville based local HVAC company, Western MA Heating and Cooling, (new division off of Moran) has ample experience with air to water heat pumps. Mass Save rebates are substantial for these systems. Entirely eliminating ALL use of fossil fuels is a pursuit the WEC strongly encourages per 2030/2050 goals.

Ventilation - no reference to ventilation . What is spec'd?

PV - What is the incremental cost of making the building 'PV ready?' When considering incremental cost of making the building PV ready, take into account the following:

1. It is likely that the PV panels could be installed in the next five years. Financial incentives at the state and federal level will likely continue, and the Town could fundraise if necessary to finance. In a worst case scenario if the Town cannot purchase the system, it would be

possible to install panels with a power purchase agreement (although in that case the Town would not see all of the financial benefits of owning).

2. It is important to consider the lifecycle costs of the building. Once PV is installed the electric costs will decrease substantially and be much lower over time than without PV, and the Town may also see savings from net metering credits. The system could also possibly power an EV charging station.
3. PV plus battery storage (for which there are substantial state incentives) would make the building more resilient to natural hazards and loss of power. The building could be an additional (or primary) emergency center for the Town.

EV - Consult with local utility on Electric Vehicle Charging Station programs and funding.

Wood framing with 2" X 8" 16" on center with a 'truss bearing elevation' of 18' 8" (north, east and west elevations.) results in walls with excessive thermal bridging and resulting heat loss.

Recommendation: Steel framework with exterior applied Structural Insulated Panels (SIP's)

Ceiling height: It appears that a ceiling height of approximately 18 feet (truss bearing elevation) is maintained throughout the building resulting in an excessive volume of air which must be heated and cooled and which will thermally stratify. High ceilings are also noisy, require more lighting and are more difficult to maintain.

Recommend lower ceilings in administrative area.

Windows: "Window head" indicated as 14 feet resulting in high thermal loss especially on the North Elevation. High windows will necessitate some form of internal shades (thermal recommended) to control excessive heat gain and summer and heat loss in the winter. Will also be required for privacy issues.

Recommended: Lower ceilings and reduced glazing in exterior walls especially in the North Elevation.

Roofing: Large south facing shed roof has potential for future solar panels but... Plywood, petroleum based ice shield and shingles are not as sustainable as 50 year recyclable steel roofing.