

**Residences at Bel Mont**  
Northland Residential Real Estate  
Project Team Response to Belmont EC Comments  
November 1, 2021

The Project team has reviewed comments provided by the Belmont Energy Committee in the *Belmont Energy Committee Comment Letter on the Application for Special Permit for the Residences at Bel Mont (McLean Hospital Zone 3)*, dated June 27, 2021. The team has provided the following responses to the items discussed in the *Comment Letter*. ‘Belmont EC Comments’ are copied and pasted directly from the original *Comment Letter*.

Topic	Belmont Energy Committee Comment	Project Team Response
<b>Heat Pumps</b>	<p>Consistent with Applicant’s embrace of heat pumps during the May 19<sup>th</sup> EC meeting:</p> <p>The Board should make the installation of EHP HVAC units a condition of its Special Permit and final certificate of occupancy for the entire development.</p>	<p>The Project is planning to install individual, high-efficiency air-source heat pumps in each unit of both Subdistricts A and B.</p>
<b>Solar Provisions</b>	<p>The Board should require the Applicant to maximize PV solar installations on both THs and APT buildings. To achieve this recommendation, Applicant should be called upon to:</p> <ol style="list-style-type: none"> <li>1. Integrate solar footprint into the design of all buildings, such that solar is included as among the primary rooftop objectives. (See Appendix A for details)</li> <li>2. Install solar on both the south- and west-facing roofs on all rental buildings to the extent that is feasible. We note that west-facing solar arrays are very effective in producing carbon-free energy during the late afternoon/early evening peak demand period in Massachusetts. (See Appendix B: on West-Facing PV).</li> </ol>	<p>Both the THs and APT buildings will be designed to be PV-ready, per EPA Renewable Energy Ready Homes (RERH) guidelines and as requested by the Town in the McLean District Zone 3 Overlay District language dated August 26, 2020.</p> <p>The EPA RERH requirements provide detailed prescriptive requirements that differ from those provided by the EC. The Project team recommends the following requirements be included in the EC PV-ready definition:</p> <ul style="list-style-type: none"> <li>• Conduct a shading study documenting impacts on proposed array location</li> <li>• Assess if proposed array location supports a solar resource potential of more than 75 percent of the optimal solar resource potential for the same</li> </ul>

	<p>3. Adopt a condo association bylaw affirmatively permitting solar on all THs, as a condition of building permit occupancy.</p> <p>4. Install rooftop solar on as many THs as reasonably possible, while the rest of the THs be made “solar ready.”</p> <p>5. Although we believe the foregoing solar provisions should be given priority, we note that the Board has asked that all THs and APTs be “solar ready.” We could not find a definition of “solar ready” in Belmont’s zoning by-law. We offer a definition for the Board to consider in <u><a href="#">Appendix A</a></u>.</p>	<p>location using the online RERH Solar Site Assessment Tool</p> <ul style="list-style-type: none"><li>• Provide code-compliant documentation of the maximum allowable dead load and live load ratings of the existing roof; recommended allowable dead load rating can support an additional 6 lbs/sq. ft. for future solar system.</li><li>• Install permanent roof anchor fall safety system for sloped roofs</li><li>• Install and label a 4’ x 4’ plywood panel area for mounting an inverter and balance of system components.</li><li>• Install a 1” metal conduit for the DC wire run from the designated array location to the designated inverter location (cap and label both ends).</li><li>• Install a 1” metal conduit from designated inverter location to electrical service panel (cap and label both ends).</li><li>• Install and label a 70-amp dual pole circuit breaker in the electrical service panel for use by the PV system (label the service panel).</li></ul> <p>Please visit <a href="http://energystar.gov/partner_resources/residential_new/related_programs/rerh">energystar.gov/partner_resources/residential_new/related_programs/rerh</a> for further details, specifications, and assessment tools.</p>
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<p><b>LEED and HERS Certifications</b></p>	<p>The Board should require third-party HERS rating by a HERS rater independent from Applicant’s project consultants.</p>	<p>All HERS Raters employed by NEI are certified via accredited Energy Rater Training organizations, all of which are accredited by Residential Energy Savings Network (RESNET).</p> <p>A minimum of 10% of all energy ratings completed by HERS Raters must be audited by the Energy Rater Training organization. The Rating Provider, following RESNET’s standards, establishes the timing by which these quality assurance requirements are completed. New Ecology has extensive experience working with project teams to ensure that projects meet their requirements from design through completion.</p>
<p><b>LEED and HERS Certifications</b></p>	<p>For LEEDS status, the Applicant should be asked to either obtain full LEEDS silver certification or undergo peer review of certifiability status by a third-party certifier selected by the Town and paid for by the Applicant.</p>	<p>The Project is designing buildings with both subdistricts to meet the requirements of LEED v4 Homes silver level of certifiability, as requested by the Town in the McLean District Zone 3 Overlay District language.</p> <p>The Project team will generate all documentation required to indicate compliance with LEED v4 Homes silver level of certification; the sole difference will be certification fees to USGBC.</p>
<p><b>Appliances</b></p>	<p>During the May 19<sup>th</sup> meeting with the EC, the consultant for the Applicant indicated that all units in the development (THs and APTs) would have induction electric stoves.</p> <p>1. The Board should make induction stoves a condition of occupancy for all units in the project.</p>	<p>The Project team is committed to the following:</p> <p>Subdistrict A: Induction stovetops to be included in design.</p> <p>Subdistrict B: Electric-resistance stovetops to be included in design.</p>

		<p>The application of induction stovetops within Subdistrict B is not desired by the project team due to cost premiums and the requirement of specialized pots and pans for tenant use.</p>
<p><b>Water Heating</b></p>	<ol style="list-style-type: none"> <li>1. Applicant should be asked to actively consider two alternative electric water heating systems identified by the EC: (i) central tankless electric water heaters (which have been used in other apartment buildings in Massachusetts (see Appendix C)) and (ii) a central heat pump water heater that is newly available from Mitsubishi, as was mentioned by the Applicant’s consultants during their presentation to the EC (see Appendix D).</li> <li>2. If the Applicant does not proceed with an electric water heating system for either the APT buildings or TH units, they should be asked to provide the Board with an economic life-cycle cost/benefit analysis of the foregoing systems versus proposed alternatives.</li> </ol>	<p>The project team is committed to including the following items in design:</p> <p>Subdistrict A</p> <ul style="list-style-type: none"> <li>• Air-source heat pump hot water heaters will be included in each TH unit.</li> </ul> <p>Subdistrict B</p> <ul style="list-style-type: none"> <li>• The project team is committed to exploring opportunities in the APTs that include either <ul style="list-style-type: none"> <li>○ Gas-fired central domestic hot water heating; or</li> <li>○ Electric-resistance domestic hot water heating with storage tanks</li> </ul> </li> </ul> <p>Central ASHP water heater such as one by Mitsubishi QAHV has not been installed in New England so far. Based on recent and current project experience, the technology is not mature enough yet to be adopted in multifamily buildings and maintenance/servicing capabilities of these systems is limited.</p>
<p><b>EV Provisions</b></p>	<p>The Applicant appeared to agree with the EC that it is most cost-efficient to wire all the indoor garage spaces during construction, as compared to retrofitting wiring later when the garage is constructed. Accordingly, the EC recommends that the Special Permit list as a condition of occupancy that:</p>	<p>The project team is committed to including the following items in design:</p> <p>Subdistrict A</p> <p>Each TH garage will include one (1) EV-charging station.</p> <p>Subdistrict B</p> <p>The Project plans to include EV chargers in 10% of all APT building sub-surface</p>

	<ol style="list-style-type: none"> <li>1. <u>all</u> APT <u>indoor</u> garage spaces be wired to be capable of hosting level 2 EV chargers, and</li> <li>2. 10% of all APT indoor spaces be fitted with actual EV chargers (note: Belmont Light incentives exist for these purchases).</li> </ol>	<p>parking spaces.</p> <p>The Project is willing to explore opportunities to expand the number of EV-charging spaces from 10% to 20%.</p>
<p><b>Requests for Clarification</b></p>	<p>The EC notes that lighting and appliances do not meet the LEEDS energy use reference standard. The Board should ask the Applicant to explain what design decisions led to the higher level of energy consumption in this category, and whether they would consider using more energy efficient alternatives to improve the building's performance.</p>	<p>The Project team is not aware of any non-compliant lighting and appliances, as all applicable appliances will be ENERGY STAR-rated and lighting will be LED throughout all buildings.</p> <p>Please provide referenced standard in EC comment.</p>
<p><b>Requests for Clarification</b></p>	<p>With respect to "Materials used in Construction," the LEED Checklists provided for Subdistrict A and B indicate that they are receiving only 1.5 out of a possible 6 points for "Environmentally Preferable Products." This category is intended to promote practices that minimize material consumption and help reduce the carbon dioxide (CO<sub>2</sub>) emissions associated with materials and construction processes throughout the whole lifecycle of a building. Such emissions will be responsible for almost half of total new construction emissions between now and 2050.</p> <ol style="list-style-type: none"> <li>1. The Board should ask the Applicant (i) whether the project team has calculated a lifecycle assessment (embodied carbon) of the materials being used for the project, (ii) what actions were taken to earn the 1.5 points in this category, and (iii) what other opportunities exist for the project to earn additional points and</li> </ol>	<p>The Project will pursue 1.5 out of a possible 4 points within the optional <i>Environmentally Preferable Products</i> credit and will assess product and material selection throughout the design process.</p>

	reduce the embodied carbon of the construction.	
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