

Memo

To: Preservation Commission and Planning Board
333 Washington Street
Brookline, MA 02445

CC: Jennifer Dopazo Gilbert, Esq.
Law Office of Robert Allen, Jr., LLP
300 Washington Street
Brookline, MA 02445

From: Balfour, Welltower and Project Team
Date: October 23rd, 2020
Re: Balfour at Brookline Sustainability Update

This memorandum is an update to the original letters submitted to the Planning Board and The Green Caucus on June 5th, 2020 and Preservation Commission on August 13th, 2020. These documents are attached for reference. Welltower and the Project Team have continued to study and evaluate sustainability options for the Balfour at Brookline Senior Living Development. The Project Team is pleased to announce the following sustainability updates as a result of the Design Advisory Team review process, design evolution, and ongoing conversations with the town:

Renewable Energy

- Solar thermal will be used to heat the therapy pool thereby reducing the use of gas on the project. This addition results in a cost premium to the project with an estimated payback period of 70+ years; however, the Project Team has committed to the technology to demonstrate their commitment to sustainability.
- Roofs on the project will be solar ready.

Passive House Strategies

- The team has continued working with Petersen Engineers, a leader in Passive House design, to confirm the baseline building achieves current energy requirements and then evaluate ways to exceed those requirements by identifying additional Passive House and sustainable strategies to implement into the project.
- Passive House strategies being implemented into the project include increasing envelope air tightness with continuous mineral wool insulation, thermally broken Z-clips, varying thickness of insulation and reduced glazing ratios from Schematic Design.
- As a result of these strategies, the pEUI for the project is approximately 55 kBtu/square feet/year. The national median pEUI for senior living projects is 99 kBtu/square feet/year.
- Additionally, due to effective envelope design and mechanical systems, the project is performing 22% above building code energy use requirements.

Reuse of Materials

- As previously indicated, Old New England Granite has indicated an interest in the larger stone and granite pieces on site. In demolition, usable stone extracted from the project will be stockpiled separately. Old New England Granite will be given the opportunity to evaluate and remove any separated material deemed reusable.
- The Project Team is in coordination with Nor'east Architectural Antiques who has walked the site and demonstrated interest in several aspects of the project. Nor'east provided the following items for potential salvage and the Project Team will coordinate access to material:
 - Edwards Hall: Staircase, wood paneling, fireplace mantels, exterior doors, pine flooring and the rear fire escape.
 - Carriage House: Round window and cupola
 - Athletic Teams Room: Chimney topper
- Jarmak Lumber has committed to reclaiming any usable rough sawn joists from Edwards Hall. Coordination with perspective demolition contractors is ongoing to determine means and methods to separate the lumber from overall demolition.
- For materials that are not able to be reused within the project or salvaged through a specialized salvage contractor the material will be exported to a recyclable facility. On average, approximately 90% of material by weight would be taken to a recyclable facility.

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To: Jennifer Dopazo Gilbert, Esq.
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From: Balfour, Welltower and Project Team

Date: August 13th, 2020

Re: Balfour at Brookline Salvage Request from the Preservation Commission

Welltower and the project team are thankful for the opportunity to continue the dialogue with The Preservation Commission (the “Commission”) to identify opportunities for reuse, salvaging, and recycling of materials for the proposed Balfour at Brookline project. On Thursday July 9th, 2020, the project team met with members of the Commission and staff on site to walk through the existing buildings on the proposed project site. This memorandum is in response to the salvage request letter from the Commission dated July 28, 2020. Items listed in the report are included below for reference.

Edwards Hall: Granite step at stoop; wood paneling; strip hardwood flooring; and fireplace surrounds, wood, marble brick, tiles

Student Center: Granite porch edge, foundation, and column bases; limestone floor and wall cladding; wood paneling at lobby and auditorium; interior partitions of wood framing with glass lites; and aluminum handrails and brackets

Carriage House: Brick; and round decorative window

The following is provided in response to the Commission’s specific requests and is intended to supplement Welltower’s photographic mitigation proposal in connection with its pending applications to lift the stay of demolition on the various buildings at the project site:

Adaptive Reuse of Materials in Balfour at Brookline Project:

- Limestone cladding at the auditorium entrance will be evaluated for thickness and used as paving or stone edging where feasible.
- Granite elements and existing stone walls on site will be repurposed for proposed stone landscaping walls.
- The Edwards Hall Pergola will be evaluated to determine condition of the wood elements. Pending the condition of the wood, these elements will be reused as landscaping features in the project.
- Standard granite curb at existing entry will be reviewed for reuse as curb or paver edge on site.

Salvaging of Materials

- The project team has engaged in communication with Olde New England Granite, a supplier and installer of reclaimed granite and hardscape. Olde New England Granite has indicated interest in

reusing granite and hardscape items from the project site. HYM has consulted with a prospective demolition contractor who has indicated the granite will be sorted through the demolition process at which point Olde New England will evaluate, gather, and relocate materials that can be salvaged.

- The project team has engaged in communication with Bingham Lumber, a company that specializes in manufacturing recycled wood products. Bingham Lumber has indicated interest in salvaging wood flooring, fireplace mantles, wood paneling and other wood items for reuse. The project team is in process of scheduling a site visit for Bingham Lumber to evaluate the condition of wood throughout the property and whether there is an opportunity for reuse.

Recycling of Materials

- For materials that are not able to be reused within the project or salvaged through a specialized demolition contractor or manufacturer the material will be exported to a recyclable facility. On average, approximately 90% of material by weight would be taken to a recyclable facility.

We look forward to discussing this at the DAT meeting on August 19th and with the Commission at an upcoming meeting. Thank you.

Memo

To: Jennifer Dopazo Gilbert, Esq.
Law Office of Robert Allen, Jr., LLP
300 Washington Street
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From: Balfour, Welltower and Project Team

Date: June 5th, 2020

Re: Balfour at Brookline Sustainability

Welltower and the project team are thankful for the opportunity to continue the dialogue with The Green Caucus to share our continued sustainability efforts for our Balfour at Brookline project. It is important to note that upon its initial discussions with the town, Welltower committed to comply with the provisions of Article 21 (the No Fossil Fuel Bylaw) which was then pending at the Special Town Meeting. Welltower is a leader in sustainable technology and practices. In 2019 Welltower was named to the Dow Jones Sustainability Index for the second consecutive year and the Dow Jones Sustainability North America Index for the fourth consecutive year. This year Welltower was recognized as a global leader in sustainability performance by S&P Global. Welltower was included in the 2020 edition of “The Sustainability Yearbook”, one of the world’s most comprehensive publications on corporate sustainability.¹ Welltower understands that if successful at Town Meeting there will be a robust design review process and the Welltower/Balfour team looks forward to continuing this dialogue on sustainability and design.

¹ The following are some additional Environmental, Social and Governance (ESG) awards and other recent recognition for Welltower:

- Named to Fortune’s World’s Most Admired Companies list (highest ranking Healthcare aligned REIT).
- Named to top quintile of Newsweek’s inaugural America’s Most Responsible Companies list (ahead of all competitors).
- Named to Corporate Responsibility Magazine’s 20th Annual 100 Best Corporate Citizens ranking (ahead of HCP, Ventas, Prologis and JLL).
- 2020 named Energy Star Partner of the Year for the first time.
- Designated as a Global Real Estate Sustainability Benchmark (GRESB) Green Star for sustainability performance for fifth consecutive year.
- Named to the Bloomberg Gender-Equality Index.
- Achieved ISS-ESG Prime status.
- Garnered Highest Environmental and Social Quality Score Ratings by ISS.
- Recognized by FTSE for good since 2012

This memorandum is provided in response to ongoing email correspondence and a follow up to the virtual meeting with members of the Green Caucus. On Wednesday May 20th, 2020, the project team (architects, engineers, construction managers, Welltower representatives, Balfour's CEO and local counsel) met with Lisa Cunningham, Claire Stampfer, Kathleen Scanlon, Paul Saner and Andrew Fischer to discuss the sustainability commitments for the project and engage in a productive discussion around best building practices. In addition to complying with the No Fossil Fuel Bylaw (with the exception of the pool noted below) and LEED-NCv4 Gold certifiable the project team is excited to share research and sustainable strategies that are being implemented throughout the project.

Below you will see responses addressing specific questions from Green Caucus members that were raised on our Zoom meeting on May 20th. Additionally, the project team has included a summary of a call with Kent Gonzales regarding the Northland Newton Development at the request of Lisa Cunningham.

Sustainable Measures Committed To:

- LEED-NCv4 Gold Certifiability
- Electric Heating and Cooling
 - Non-Fossil Fuel heating and cooling.
 - High efficiency, heat recovery type air source heat pump heating and cooling
 - Heat Recovery Ventilation/Exhaust Systems
 - This system uses hot/cold air in the exhaust system to regulate the temperature of the incoming fresh air
 - Demand control ventilation for high, variable occupancy spaces
 - Automatic Temperature Controls for each space
 - The building will be computer modeled to show compliance with the new Mass IECC and stretch code requirements.
 - After construction, the mechanical systems will be commissioned to ensure that they are installed correctly to reach appropriate efficiency during operation.
- Lighting
 - High-efficient LED lighting throughout common and resident areas.
 - All exterior lighting shall be LED connected via time clock/photocell.
- Domestic Hot Water
 - High efficient central gas fired hot water heaters that are 95%+ efficient to be utilized for domestic hot water.
 - High efficient ECM (electronically commutated motor) pumps will be used on all domestic water equipment.
 - Low flow plumbing fixtures are being evaluated for the project.
 - Domestic hot water system will be fully recirculated to avoid dead ends and limit the amount of water wasted waiting for water to come to temperature.
 - Common area bathroom flush valves will utilize capacitors charged by city water pressure rather than line voltage or batteries for touchless flushing.
- Electric Cooktops in Units.
- Roof is designed to be solar ready.
- Site:
 - Commitment to 40% open space
 - Stormwater design that exceeds DEP requirements
 - Native plant species, bird friendly and pollinators for bees
- Transportation Measures:

- Balfour to provide 15% EV charging spaces in lieu of 2% required.
- Balfour to provide several electric vehicles for resident use with on staff drivers.
- Bicycle parking, showers for employees.
- Balfour will subsidize public transportation costs for employees.
- Balfour has committed to employee shuttles to nearest subway station for employees.

Passive House

- The team has hired Petersen Engineers, a leader in Passive House design, to evaluate the baseline building meeting current energy requirements and identify Passive House and sustainable strategies to implement into the project.
- Petersen is performing energy modeling to identify the impacts of Passive House strategies. Strategies such as increasing envelope air tightness, thermal breaks, varying thickness of insulation, thermal ratings of roofs, reduction in glazing, increased window performance and more elements are being broken out and modeled separately to determine itemized contributions to overall energy savings. As a result, the team will be able to see which items have the biggest savings in terms of energy performance and will evaluate how best to include in the project.

Northland Newton Development Call

- On Tuesday June 2nd, 2020, the project team spoke with Kent Gonzales regarding sustainability at the Northland Newton Development as requested by Lisa Cunningham. Kent was very helpful and sharing information from their journey on sustainability and Passive House. Here is what we found out about the Northland project:
 - Northland Newton Development uses natural gas in all of their retail and commercial kitchens.
 - Northland Newton Development has three pools, all are heated by natural gas.
 - Northland Newton Development emergency generator will utilize natural gas (versus oil).
 - While the Northland Newton Development has switched to electric water tanks in individual units, Northland is able to accomplish this due to increased electric utility cost which are passed on to the tenants (Balfour does not pass utility costs on to its residents) as well as the ability to keep the domestic hot water back up off of the generator (not possible in our project given the use).
 - Newton Northland is pursuing Passive House International (PHI) standards for only three out of eight of the project's buildings. Passive House allows portions of buildings to be excluded. Northland is excluding the retail portions of their project to meet Passive House.
 - The buildings at Northland that are able to achieve Passive House certification have flat and simple facades. The Balfour at Brookline team has worked hard to create a façade with articulation and details resembling the residential look and feel of the neighborhood. The detailing makes it much more difficult to achieve Passive House.

Commercial Kitchens

- The Green Caucus has requested the project team evaluate the use of electric/induction equipment in lieu of gas equipment in the commercial kitchen, although this is allowed under the Town's pending No Fossil Fuel Bylaw.
- The project team has engaged with Boston Showcase, a local commercial kitchen designer and supplier, to determine recent trends and feasibility of electric/induction kitchens. Gas has proven

to be the preferred commercial kitchen equipment as Boston showcase indicated less than 1% (over 1,000) of their kitchen projects in past 10 years have been installed with electric in lieu of gas. Electric equipment carries a cost premium that includes first costs, more expensive and frequent servicing, decreased lifespan resulting in more frequent replacement, and special cookware requirements.

- Electric ranges will be used in all residential unit kitchens resulting in 98% of the cooktops on this project being electric.
- We are thrilled with the Green Caucus's push on induction because it led us to research about induction that can be used for our buffet service. We are now committed to induction for various commercial kitchen and dining elements such as the buffet warmers.
- Discussions with the Green Caucus also made us look at making the commercial kitchens "induction ready". The project team proposes to supply gas equipment for current use and install conduit for future electrical equipment to allow for further study and conformance with future regulations so that the Project's commercial kitchen is "induction ready". The generator and electrical equipment will be sized to adequately support electrical equipment.
- The team also has health concerns with the use of induction stoves in the commercial kitchen which use electromagnetic fields.

Domestic Hot Water

- Gas is the most energy efficient system for the building's hot water system and is allowed under the proposed No Fossil Fuel Bylaw.
- As pointed out by The Green Caucus through email correspondence, a central electric hot water system is not a cost-effective solution for buildings over 10,000 square feet.
- The team evaluated a decentralized system to include electric water heaters in each residence. The results are as follows:
 - Balfour's operating model does not pass utilities to its residents. The net increase in utility bills would result in an additional \$75,000 - \$100,000 per year in utility bills.
 - The life span for electric water heaters in each of the 160 residences would be 8-10 years. The replacement of these units would be disruptive to the residents and would result in far more lifecycle waste than central HWHs. Central system tanks have a 10-year warranty and gas boilers typically last 15 years as they can be serviced as needed.
 - A central hot water system will be needed for common space and kitchen domestic hot water even if the residential units have individual hot water heaters.
 - Due to this being a senior living facility and recent COVID issues, hot water is required to run in the event of a power outage. This would result in the decentralized electric hot water tanks and heaters being placed on the emergency generator. The MEP consultant evaluated the increased loads and determined the size of the generator would have to double in capacity to dimensions of 40' long x 10' wide x 14' tall. This would result in excess noise, unsightly views and potential health concerns for neighbors as the generator needs to be tested weekly.
 - There is not sufficient space in the dwelling units to add a water tank closet.

Therapy Pool

- The project team will seek a waiver from the No Fossil Fuel Bylaw (if in effect at the time of the Building Permit) in order to heat the pool with gas.
- Medical professionals recommend the temperature for senior living therapy pools to achieve a temperature of 86-88 degrees.
- Project MEP engineers evaluated the load demand and increased building infrastructure requirements to achieve those temperatures.
- The project team did engage with a pool consultant and requested their input on switching from gas heating to electric heating at the pool.
- The consultant informed the team that there are operational challenges with the use of electric heaters including:
 - The life expectancy of electrical equipment is in the range of 3-5 years versus gas equipment that has a life expectancy in the 15+ years range
 - Gas is the most efficient fuel source to heat a pool especially in New England
 - Electric equipment results in much higher operational costs than gas.
- Solar thermal; however, will continue to be investigated by the team as an alternative energy source.

In conclusion, we thank the members of the Green Caucus for the information and time the members spent with the team discussing these items. We know that this dialogue will continue through the design review process. We hope that the Green Caucus will support the project and the efforts of the Welltower/Balfour team to date.