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| <b>JOHN R. PIERCE SCHOOL – BROOKLINE, MA</b> | <b>MEETING MINUTES<br/>APPROVED 10/28/21</b> |
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| <b>PIERCE SCHOOL BUILDING COMMITTEE</b> |   | <b>October 14, 2021</b> |
|---|---|-------------------------|
| Location:                               |   | Online Zoom Meeting     |
| Time:                                   |   | 4:00 PM                 |
| <b>Name</b>                             | <b>Assoc.</b>   | <b>Present</b>          |
| Bernard Greene                          | Voting Member – Committee Co-Chair, Select Board                            | N                       |
| Helen Charlupski                        | Voting Member – Committee Co-Chair, School Committee                        | Y                       |
| Melvin Kleckner                         | Voting Member – Town Administrator  | N                       |
| Andy Liu                                | Voting Member – School Committee  | Y                       |
| Dr. Linus Guillory                      | Voting Member – Superintendent of Schools                                   | Y                       |
| Charlie Simmons                         | Voting Member – Director of Public Buildings                                | N                       |
| Daniel Bennett                          | Voting Member – Building Commissioner                                       | Y                       |
| Lesley Ryan-Miller                      | Voting Member – Pierce School Principal                                     | N                       |
| Carol Levin                             | Voting Member – Advisory Finance Committee                                  | N                       |
| Steve Heikin                            | Voting Member – Planning Board  | Y                       |
| Ken Kaplan                              | Voting Member – Building Commission   | Y                       |
| Aaron Williams                          | Voting Member – Pierce School Parent  | Y                       |
| Nurit Zuker                             | Voting Member – Pierce School Parent  | Y                       |
| Nancy O'Connor                          | Voting Member – Parks and Recreation Commission                             | N                       |
| Sam Rippin                              | Voting Member – Assistant Superintendent of School Administration & Finance | Y                       |
| Jamie Yadoff                            | Voting Member – Pierce School Principal                                     | Y                       |
| Melissa Goff                            | Non-Voting Member – Deputy Town Administrator                               | N                       |
| Michelle Herman                         | Non-Voting Member – Deputy Superintendent                                   | N                       |
| Tony Guigli                             | Non-Voting Member – Building Department Project Manager                     | Y                       |
| Matt Gillis                             | Non-Voting Member – School Department Director of Operations                | Y                       |
| Jim Rogers                              | LEFTFIELD   | Y                       |
| Lynn Stapleton                          | LEFTFIELD   | Y                       |
| Jen Carlson                             | LEFTFIELD   | Y                       |
| Matt Casey                              | LEFTFIELD   | N                       |
| Will Spears                             | MDS Architects  | Y                       |
| Amy Mackrell                            | MDS Architects  | N                       |
| Margaret Clarke                         | MDS Architects  | Y                       |
| Vinicius Gorgati                        | Sasaki  | Y                       |
| Carla Ceruzzi                           | Sasaki  | Y                       |
| Kate Tooke                              | Sasaki  | N                       |
| Tamar Warburg                           | Sasaki  | Y                       |

The meeting was called to order at 4:00 PM.

Sasaki presented an update that compares options through the lens of sustainability. Sasaki explained refinements made to the energy consumption per year (kBtu/yr) calculation, which now takes the size of the building into consideration. The new calculation is per square foot energy use multiplied by square feet for a total energy use over the course of the year (kBtu/ft<sup>2</sup>/yr). Using this calculation, without considering photovoltaics (PV), Option 1 consumes the most energy (4.7 M kBtu/yr), followed by Option 2b (4.4 M kBtu/yr), Option 3-bH ( 3.8 M kBtu/yr), with Option 3b using the least energy (3.0 M kBtu/yr).

### Energy Use Intensity Summary without PV (EUI 25 or below qualifies for MassSave incentives)

- PS Option 1 - EUI with the historic building is 25.6 kBtu/ft<sup>2</sup>/yr, new construction is 21.12 kBtu/ft<sup>2</sup>/yr, and A B is 23.54 kBtu/ft<sup>2</sup>/yr.
- Option 2B - EUI with the historic building is 25.44 kBtu/ft<sup>2</sup>/yr, new construction is 19.57 kBtu/ft<sup>2</sup>/yr, and A B is 24.67 kBtu/ft<sup>2</sup>/yr.
- PS Option 3B - EUI with new construction is 19.66 kBtu/ft<sup>2</sup>/yr and was determined to be most efficient.
- PS Option 3BH - EUI with the historic building is 27.46 kBtu/ft<sup>2</sup>/yr, and new construction is 19.68 kBtu/ft<sup>2</sup>/yr.

EUI with PV greatly reduces energy use for all options. With PV, Option 1 is down to 11 EUI, Option 2b to 16 EUI, Option 3b to 3 EUI, an Option 3b-H to 7 EUI. Sasaki determined Option 1 has less opportunity for renewables than other options.

Sasaki discussed embodied carbon and CO<sub>2</sub> emissions associated with sourcing new materials and construction of new portions of the building, and concluded that Option 1 has the lowest embodied carbon.

- Option 1 - 5.9 M | 323 steel/ concrete, 5 | 280 steel/timber
- Option 2b - 10.4M | 430 steel/concrete, 8.8 | 366 steel/timber
- Option 3b - 9.9M | 420 steel/concrete, 8.3 | 355 steel/timber
- Option 3b-H - 11.4 M | 430 steel/concrete, 9.8 | 377 steel/timber

A member of the committee asked if the cost of PVs were included in the estimates. The Project Team explained that the cost of PVs are included in the project and estimates at this time. It was noted that battery storage should be considered as part of the PV component. The Building Commissioner noted that there is no operational budget for maintenance of PVs over time and that leasing via a PPA may be the better option in this instance.

A member of the committee asked why the square footage of 3b-H is 30,000 sf less than that of 3b. MDS explained that while they are working to lower the square foot number as they develop the design, that the difference is also partially in the inefficiency in space required to attach the new portion of the building to the Historic Building.

Slides were presented regarding the total carbon emissions with consideration to building operation and embodied carbon, taking into consideration the embodied carbon from initial construction and periodic renovations (assumed every 20 years and assuming any upgrades would make the building more efficient) to determine the operational carbon during the life of the building. Factoring in the Brookline commitment to purchase all electricity from renewable sources by 2050, Option 1 was determined to be the most efficient despite rising steeply in the first 20 years due to the purchase of renewables. Option 3b was determined to be the second most efficient, followed by similar estimates for Option 2b and Option 3b-H.

Sasaki and MDS clarified that the analysis takes geothermal into consideration where likely given site constraints such as utilities, underground structures and the steep slope. MDS commented that they are exploring location options for geothermal and once a preferred solution is determined, the team will do more investigation into how much geothermal is feasible.

A member of the committee requested to see views of the massing from various angles as MDS has added rooftop equipment, the associated screens and based on feedback for option 3b, the program was adjusted to be pushed to the Harvard street side of the building and to the East so it appears to be only two floors on School street, which responds better to the height of residences along that street. The Design Team is continuing to finesse massing in all options to better respond to nearby buildings and enhance the approach to the building.

MDS presented an updated Decision Matrix based on feedback heard at the last meeting. The matrix is broken into priority topics, Pedagogy/Program, Town/Neighborhood Impacts, and Architectural. Each category within those topics is given a score from 1-5 based on the compliance to the criteria. Each category is prioritized as a portion of

100% and that percentage is the multiplier on that subset. Subtotals are provided for each overall category, and category subtotals are added into a Total Score for each option. The matrix was reviewed line by line.

A member of the committee commented that it's important to keep the historic building as part of the project because it is part of Pierce. They noted that it works better to have Pre-K in the Historic Building and that the ease of travel of the students is a priority that including the Historic Building could improve. Discussion among members of the committee about whether or not to include the Historic Building in the new design.

During the discussion, various categories in the Decision Matrix were revised and an updated matrix will be available by the next meeting where a conversation around this matrix will continue. The SBC added a meeting date on October 21<sup>st</sup>, ahead of the Community Forum scheduled for October 25<sup>th</sup> in order to discuss the metrics by which they would arrive at a single preferred solution and the presentation materials for the Community Forum.

The meeting adjourned at 5:45PM.