

PIERCE SCHOOL – Brookline, MA

SCHOOL COMMITTEE MEETING

Monday, November 22, 2021

Agenda

1. Preferred Schematic Review –
 - Option 3b-H (new construction attaching to a fully renovated Historic Building)
 - Educational Program
 - Urban Design and Landscape
 - Sustainability

2. Schedule Overview –
 - December 28, 2021 Submit Preferred Schematic Report (PSR)
 - January 19, 2022 Meeting with MSBA to review PSR
 - March 2, 2022 MSBA Board Meeting to move project to Schematic Design (SD)
 - June 27, 2022 Submit Schematic Design (SD) Report to MSBA
 - August 31, 2022 MSBA Board Meeting to approve SD
 - September 2022 Special Town Meeting and Debt Exclusion Vote
 - Spring 2024 Target for Construction Start Date
 - Fall 2026 New School Opens

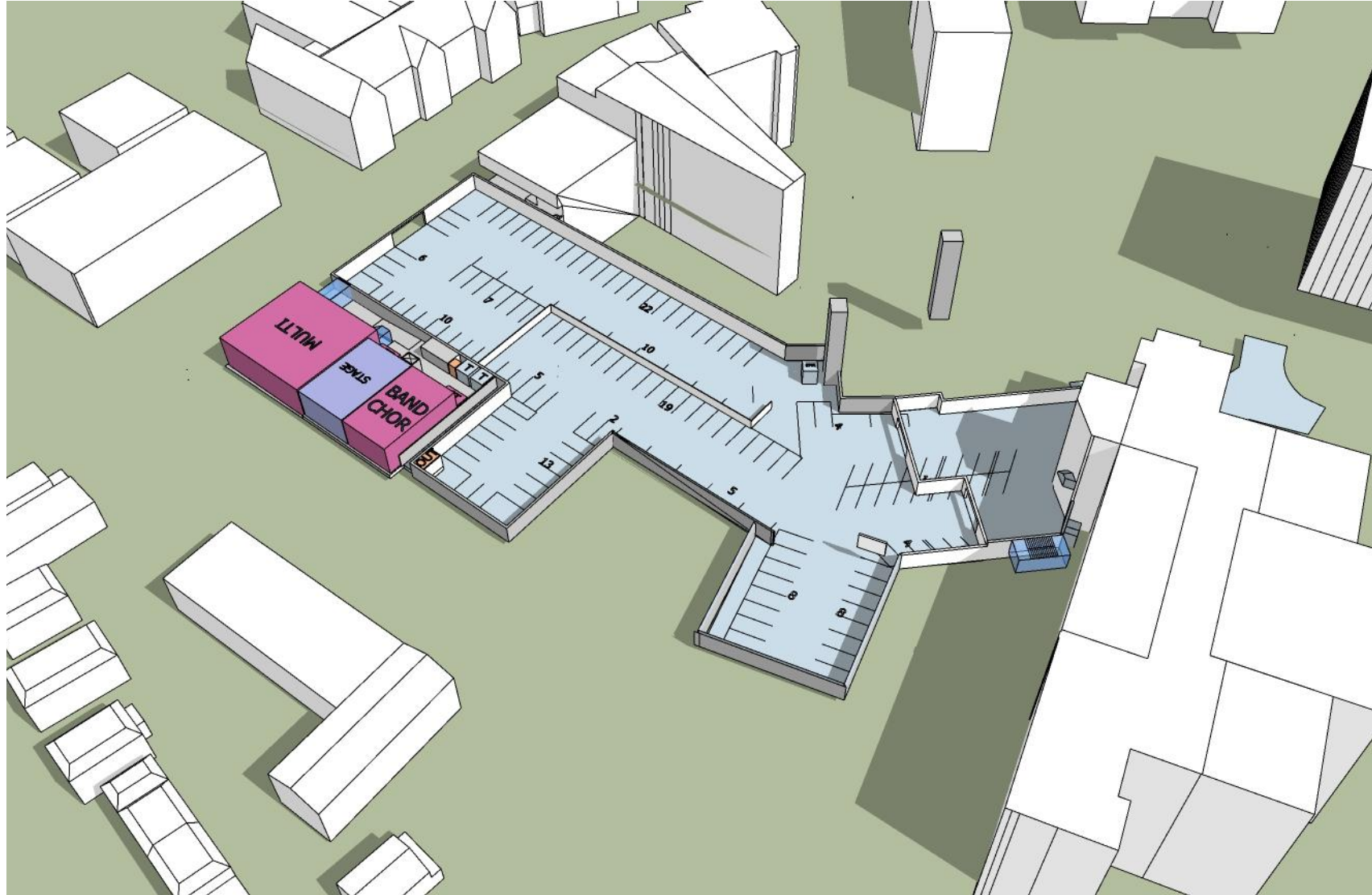
3. Upcoming Meetings –
 - Monday, December 6, 2021 – Pierce School Building Committee Meeting
 - Monday, December 13, 2021 - Pierce School Building Committee Meeting

Pierce School Committee 11/22/21



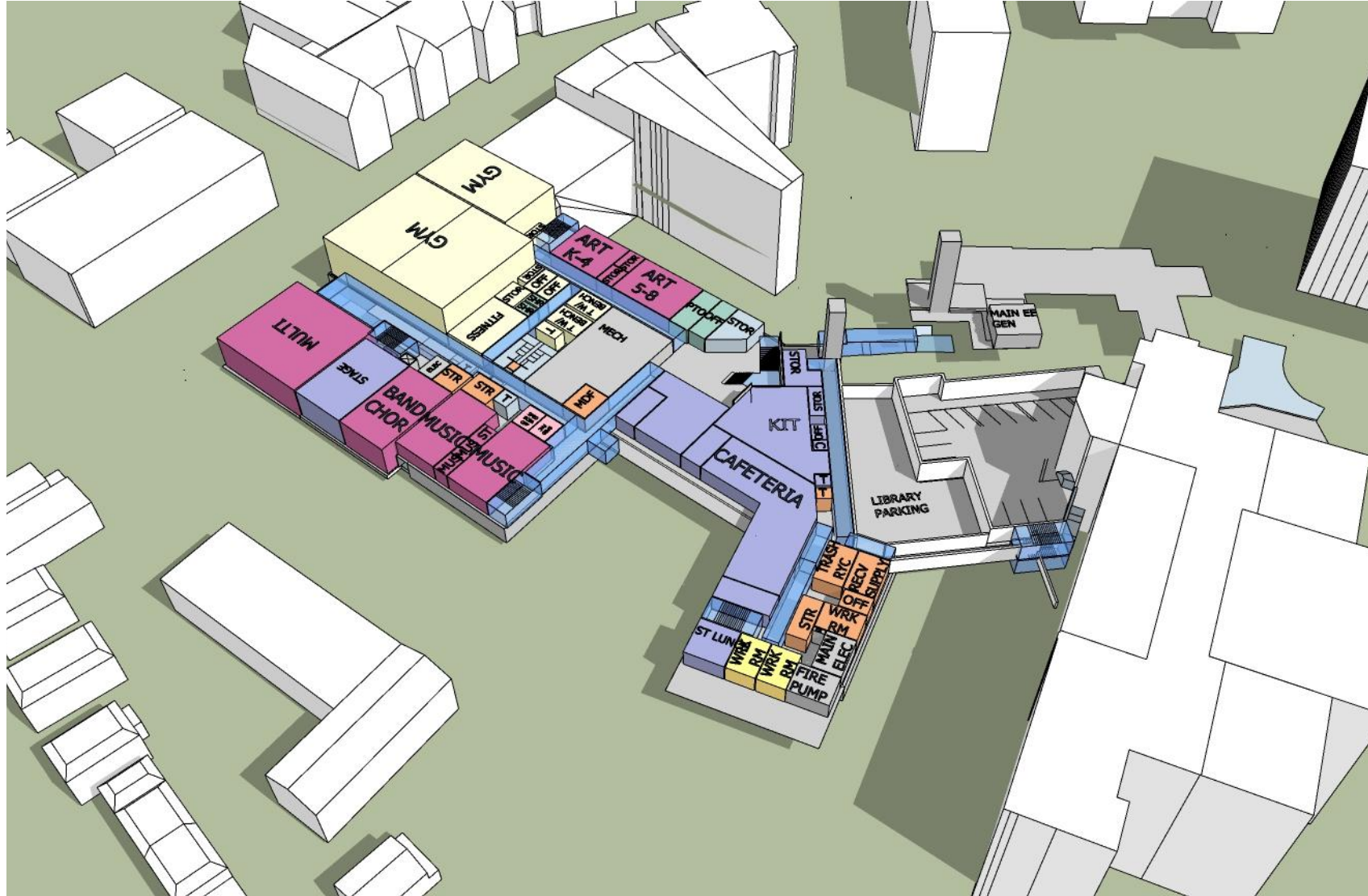
Educational Plan

1. Educational Plan



Level 0

1. Educational Plan



Level 1

1. Educational Plan



Level 2

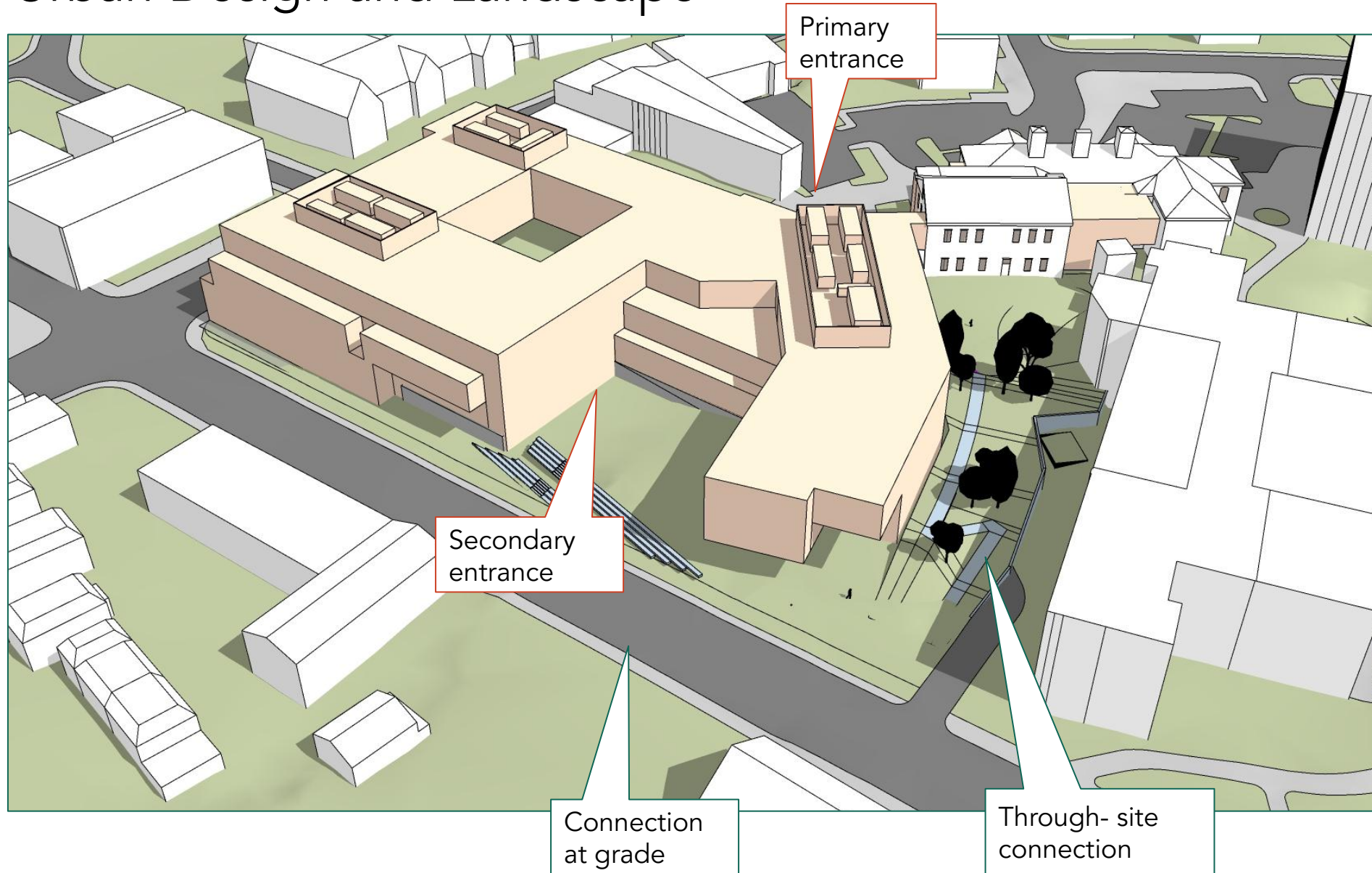
1. Educational Plan



Level 3

Urban Design and Landscape

2. Urban Design and Landscape



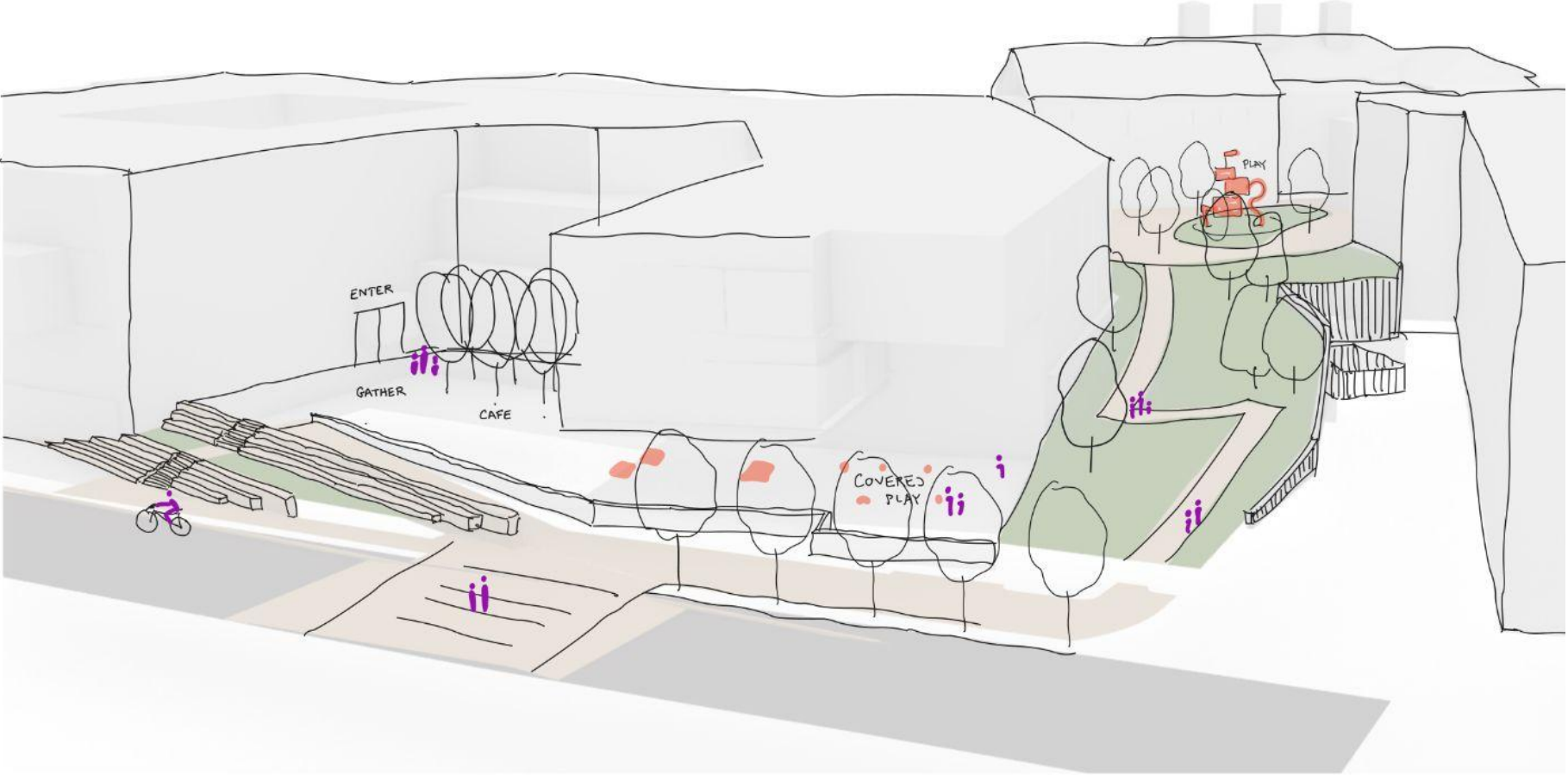
2. Urban Design and Landscape



2. Urban Design and Landscape



2. Urban Design and Landscape



Sustainability

Energy Use (EUI) without geothermal with and without PV

with PV

Whole Building EUI



Historic Building 27.46 kBTU/ft²/yr
New Construction 7.43 kBTU/ft²/yr

without PV



Historic Building 27.46 kBTU/ft²/yr
New Construction 24.44 kBTU/ft²/yr

EUI and Total Annual Energy Use without geothermal with and without PV



EUI: Energy consumption per square foot, per year

Lower = better

EUI 25 or lower for MassSave incentives

Total Energy consumption per year
(does not include Garage SF)

Lower = better

with PV

10.77 kBtu/sf/year

$10.77 \text{ kBtu/sf/yr} \times \text{SF } 180,672 = 1.95 \text{ M kBtu/yr}$

without PV

24.93 kBtu/sf/year

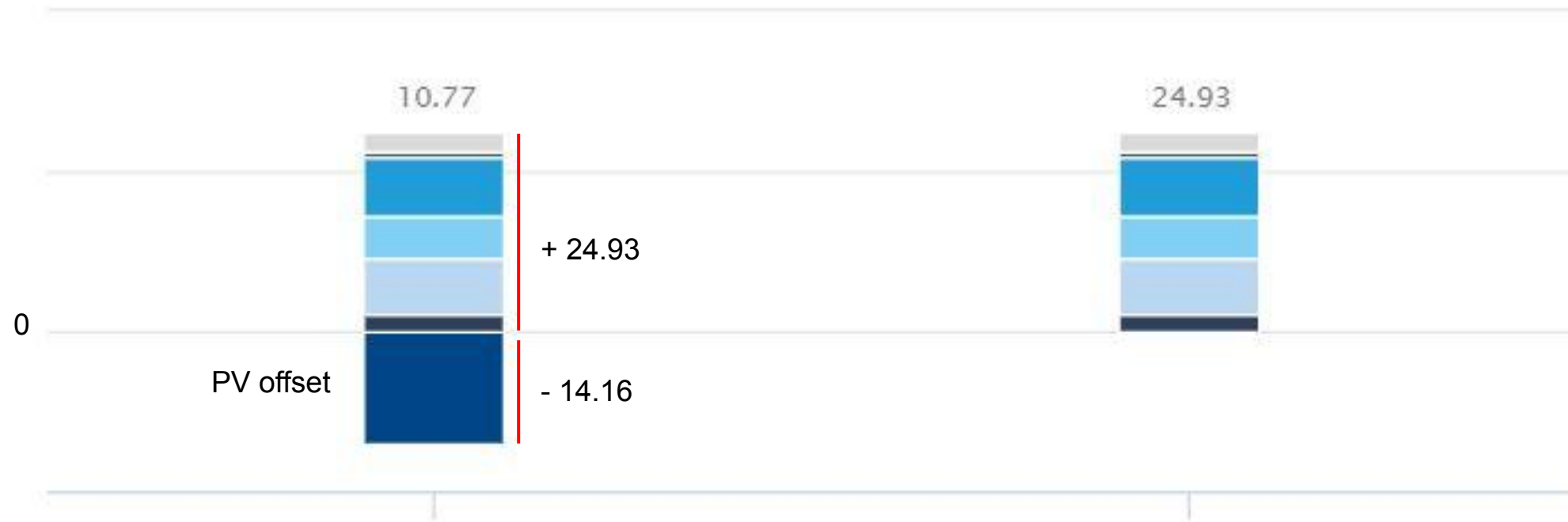
$24.93 \text{ kBtu/sf/yr} \times \text{SF } 180,672 = 4.50 \text{ M kBtu/yr}$

Impact of PV on Energy Use (EUI) without geothermal with and without PV

with PV

without PV

EUI Breakdown kBtu/ft²/yr



- PV Energy
- Cooling
- Fans
- Pumps
- Equipment
- Lighting
- Heating
- Hot Water

Energy Use

Option 3b-H



WITH GEOTHERMAL

EUI, kBTU/sf/year

Total Energy, M kBTu/yr

With PV

7

1.3

Without PV

20.98

3.8

WITHOUT GEOTHERMAL

EUI, kBTU/sf/year

Total Energy, M kBTu/yr

With PV

10.77

1.95

Without PV

24.93

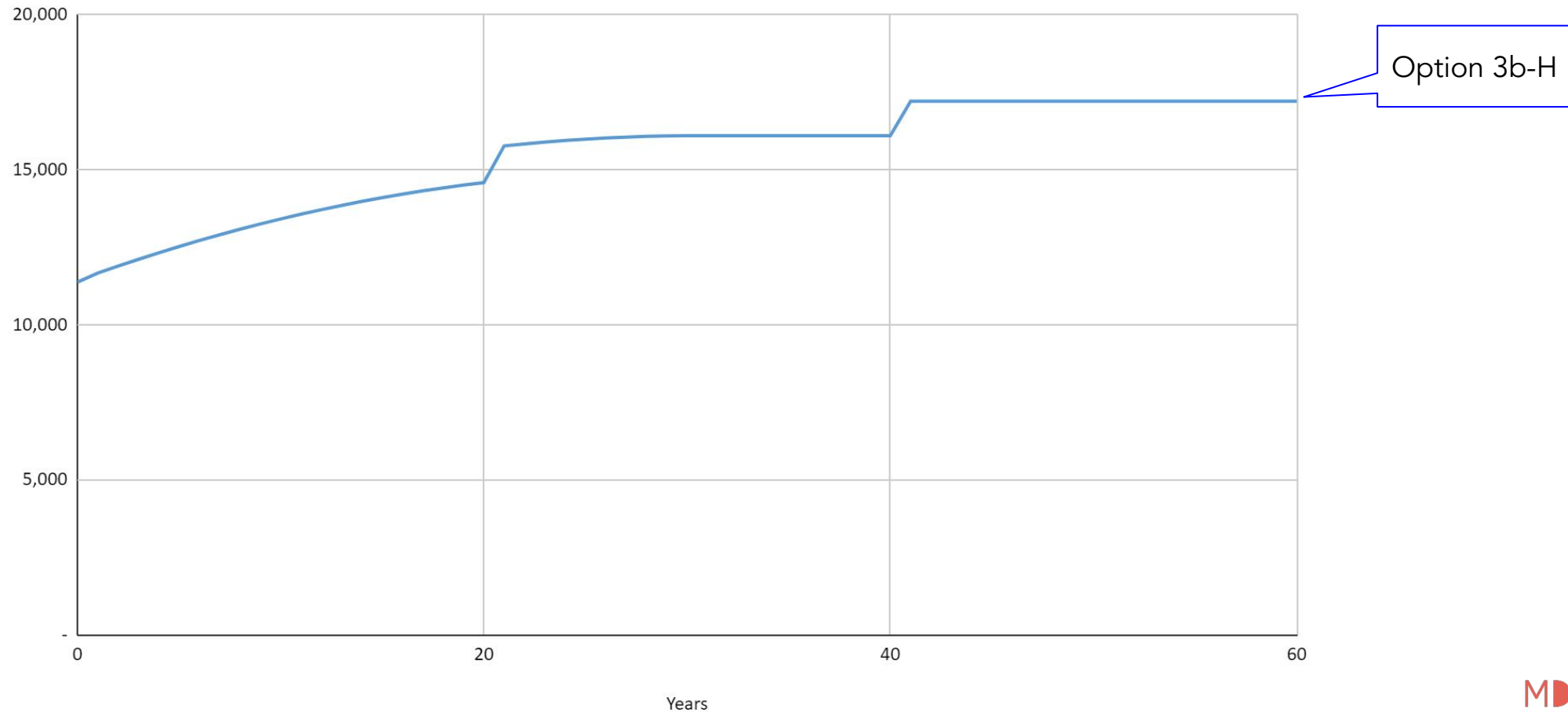
4.5

Total Carbon Emissions

Operation + Embodied Carbon

Life cycle includes embodied carbon from initial construction and periodic renovations (every 20 years)
and Operational Carbon during the lifespan of the building

Includes Brookline's commitment to green power purchase



John R. Pierce School

11/22/2021

