

SMS Building Committee

Ai3 Architects, LLC CGA Project Management

January 3, 2022

architects V



SMS | Project Timeline

| | 2021 | 20 | 22 | 2023 | 20 | 24 |
|--|---|---------------------------|---|---|---|----|
| ONDJFMAM 100% Design Submission | JJJASON Development n to the MSBA | DJFMAMJ | JASONDJFMA | M J J A S O Septer New S Middl Op | N D J F M A M J nber 2024 Somerset le School pening | |
| | Design Development | Construction Documents | Bidding & Contractor Mobilization | | Construction | |
| Project Scope & Budget Agreement MSBA/District Project Funding Agreement MSBA/District | 5 months | 7 months • • | 7 weeks Cost Estimating & MSBA Submi • 60% Construction Docur • 90% Construction Docur • 100% Construction Docu Continued design developmen FF&E programming & mock-up Continued meetings with Admi • Working Group • School Building Committ • Police & Fire • Technology | issions ments ments iments nt & coordination os in. & District tee | 21 months | |
| SINCE SCHOOL | | | MAAB Site & Building | | | |

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SMS | Construction Document Milestones

| December | January | February | March | April | M |
|--|--|--|--|--|--------------------------------------|
| SBC Meeti Jan. 3, 20 | ng 22 Feb. 10 & | SBC Meeting <i>14, 2022 (TBD)</i> 60% to MSBA <i>Feb. 18, 20</i> | SBC Meeting 222 March 7, 2022 (TBD) | SBC Meeting May 2, 202 | 2 90% to M 2 <i>May 6,</i> |
| | Working Working Group Group | Working Group Gro | ing Sup Group | SBC Meeting April 25, 2022 (TBD) | |
| Start of 60% CD's | | 90% CD's | | | • 100% CI |
| • | Cost | t Estimating | • • | Cost Estimating | |
| MassSave / Energy Analysis Discussion Liberty & N.Grid Andelman & Lelek | FF&E Pro 2-3 ma 2-3 ma FF&E Mock-ups FF&E Mock-ups FF&E Morking Exter Colo MSBA Design S Kitchen Layout R Working Group Me Irrigation Loading Dock Phasing Plans | Working optims MAAB Variance Submission ire & Police (TBD) Generator List AED/Blood Trauma Location Emergency Staging ior Finishes & r.Palette iotatus Meeting eting | Pre-Qualifica Filed subcon General cont Zoning & Varia Application P | tions tractors tractors ance rep. Abri: 18-22 Abri: 18-22 Abri: 18-22 | |



SMS | Construction Document Milestones

| December | January | Febru | lary | March | ٦ ا | April | | M |
|--|---|---|------------------------------|-----------------------------|--------------------------------------|--------------------------------------|--|----------------------------|
| SBC Meeti Jan. 3, 20 | ng 122 Feb. 10 & | SBC Meeting <i>14, 2022 (TBD)</i> | 60% to MSBA: Feb. 18, 202 | 2 SBC Meeting March 7, 2 | 022 (TBD) | SB A | C Meeting <i>1ay 2, 2022</i> | 90% to MS May 6, |
| | Working Working Group Group | Working Group | Workin Grau | g Wa | orking oup | SBC Meet April 25, 2022 (T | ing BD) | |
| Start of 60% CD's | • • • • • • | | 90% CD's | | | | | • • 100% CE |
| • | Cost | Estimating | | | | Cost Estimating | | |
| Existing & New Documentation | FF&E Pro 2-3 mo | gramming | Working Group | Round 2 BD | Fin c | al Sign-off | | |
| MassSave / Energy Analysis Discussion Liberty & N.G.id Andelman & Lelek | FF&E Mock-ups | MAAB Vari Submission ire & Police (TB Generator List | iance n D) | | Qualifica ed subcon eneral con | | | |
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| | MSBA Design S Kitchen Lavout P | tatus Meeting | Brea | | | Brea | | |
| | Working Group Me Irrigation Loacing Dock Phasing Plaas | ting | W i n t e r Feb. 21-25 | | | S p r i n g | April. 18-23 | |



Example FF&E Documentation



Equipment Lists



Presentation Boards







| PLE | | | | | | |
|-------|-------|-------------|-----|----------|----------|-------|
| Item# | Notes | # of Rms | Qty | Unit \$ | Total \$ | Area# |
| 42454 | | I | 6 | \$129.00 | \$774.00 | 25 |
| 42527 | | 1 | 1 | \$512.00 | \$512.00 | 25 |
| 42529 | | 1 | 1 | \$68.00 | \$68.00 | 25 |
| | 1.5 | | | | | |

Ai3 Architects LLC/Integrated Contract Design, Inc. FF&E Programming Document

5





60% Construction Documents

- Refined site and landscaping plans and details
- Continued coordination and integration of building systems
- Final sizing and coordination of steel and superstructure
- Integration of furniture, fixtures, and equipment
- Integration of technology and security systems
- Continued energy review and analysis
- Review of color palette and interior finishes
- Integration of signage
 - School history, pride, and sustainability
 - Branding and wayfinding
 - Accessibility and Room ID's
- Refinement of major design features and detailing throughout

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SOMERSET MIDDLE SCHOOL Path to Net Zero Energy

Options reviewed at July 26, 2021 School Building Committee Meeting

| | | Option 1 | Option 2 | |
|---|-------------------------------------|--------------------------------------|--|--------|
| - | Building Design & Exterior Envelope | Current Design Approach | Implement Architectural changes | Imp |
| | Mechanical System | VAV High efficiency, exceeds code | Change from VAV to all-electric VRF | High e |
| | Energy Use Intensity (EUI) | 30.0 - 35.0 | 25.0 | |
| | Mass Save Utility Incentive Program | Path 2 | Path 1 | |
| | | | | |
| | | | | |
| | | | | |

Option 3

olement Architectural changes

VAV

efficiency, exceeds code

25.0 - 30.0

Path 1

RECOMMENDED

SOMERSET MIDDLE SCHOOL Energy Analysis / EUI

Project Site EUI Targets

The following chart shows the General Baseline, Proposed Building with Code Performance, Proposed Building with Energy Conservation Measures, Proposed Building with Additional Measures and the Target EUI for Somerset Middle School. This project is pursuing the Path 1 incentive track, which has a maximum target EUI of 25. A general description of each of the scenarios is listed below for reference.



Proposed Building with Additional Measures

Developed assuming the same conditions as Proposed Building with Energy Conservation Measures plus the following: 5% reduction in assumed fan power for roof top units; 70% effective exhaust air energy recovery enthalpy wheels (in lieu of 65% effectiveness); night setback heating temperature setpoint of 60°F (in lieu of 65°F); LPD of 0.40 W/sf (in lieu of 0.45 W/sf).

Initial Projected Site EUI

Results of the initial analysis based on the DD set and a significant number of assumptions show the new Somerset Middle School with a projected site EUI of 26.7.⁵ The breakdown of the EUI by end use is shown in the pie chart below.



Energy Analysis / EUI

Project Site EUI Targets

The following chart shows the *General Baseline, Proposed Building with Code Performance, Proposed Building with Energy Conservation Measures, Proposed Building with Additional Measures* and the *Target EUI* for Somerset Middle School. This project is pursuing the Path 1 incentive track, which has a maximum target EUI of 25. A general description of each of the scenarios is listed below for reference.



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Goals & Steps to Achieve 25 or lower EUI

- 5% reduction in assumed fan power for roof top units
- 70% effective exhaust air energy recovery enthalpy wheels
- Night setback heating temperature setpoint of 60° F
- Lighting Power Density (LPD) of 0.40 W/sf
- Plug load confirmation
- Proposed usage schedules

oof top units y enthalpy wheels oint of 60° F f





















Signage | Secondary

Main Level Floor Plan





Signage | Tertiary

Main Level Floor Plan



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60% CD's

Zone Reflected Ceiling Plans



| | arc | hitects | | ij |
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| | 526 Boston Po | et.Rd | | Wayland, MA |
| | 508.358.0790 | | | www.alGarchitects.com |
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60% CD's Exterior Elevations



60% CD's

Exterior Sunshade Details





MIDDLE SCHOOL

Typical Roof Details







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60% CD's

Student Storage Details



















60% CD's

Science Classroom Enlarged Plans and Interior Elevations

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| Somerset, Massachusetts |
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2 MAILBOX PLAN DETAIL 3' = 1'-0'







At the next SBC Meeting

February 10, 2022 (tentative)

- Phasing Plans
- Irrigation Approach
- Loading Dock / General Receiving
- Site Signage
- Value Engineering review and approval

February 14, 2022

- Approval of Proprietary items
- Approval of 60% Construction Document submission to the MSBA