smma

Advisory Team – Sustainability & MEP Systems 3

Project Name:	Medford High School	Project Number:	25100
RE:	Advisory Team - Sustainability & MEP Systems	Meeting Date:	03/10/2026
Prepared by:	Brenda Lam	Meeting Number:	03
Distribution:	Attendees		

Owner

- ☑ Libby Brown, *SBC Member, Architect at Goody Clancy*
- ☑ Suni Dillard, *Medford Resident, Sustainability Leader at HMFH Architects*
- ☑ Austin Ditz, *Medford Resident, Solar Project Manager*
- ☑ Audrey Feitor, *Medford High School Teacher*
- ☑ Jenny Graham, *Chair of SBC, Vice Chair of School Committee*
- ☑ Chris Hogan, *Medford Resident*
- ☑ Elisabeth Krautscheid, *Medford Resident, MassSave Decarbonization Program*
- ☑ Ken Lord, *MPS Chief Operating Officer*
- ☑ Sarah Michelman, *Medford Resident, Sustainable Design Consultant at The Green Engineer*
- ☐ Nicole Morell, *SBC Member*
- ☑ Jessica Parks, *Medford Resident, MIT Energy Efficiency Project Manager*
- ☑ Brenda Pike, *City of Medford Climate Policy Planner*
- ☐ Luke Preisner, *SBC Member*
- ☐ Chris Richard, *Medford Resident, Senior Project Superintendent at Turner*
- ☑ Paul Ruseau, *SBC & School Committee Member*
- ☑ Nathan Scott, *Medford Resident, Capital Construction at Tufts University*

SMMA & Consultants

- ☑ Martine Dion, *Director of Sustainable Design*
- ☑ Brenda Lam, *Sustainable Design Project Coordinator*
- ☐ Helen Fantini, *Project Manager*
- ☑ Matt Rice, *Principal-in-Charge, Architect*
- ☐ Abigail Ransmeier, *Head of Research*
- ☑ Soala Ajienka, *Architectural Designer*
- ☑ Jamay Li, *Architectural Designer*
- ☑ Emily Ehlers, *Mechanical Engineer*
- ☑ Andrew Barros, *Electrical Engineer*
- ☐ Anthony Jimenez, *Electrical Engineer*
- ☐ Sarah Long, Interior Designer
- ☑ Ellen Swanson, Structural Engineer

- ☑ James Job, *Plumbing & Fire Protection Engineer*, AKAL Engineering
- ☐ Tommaso Bitossi, Transsolar

Leftfield

- ☑ Jen Carlson, *Project Director*
- ☑ Matt Gulino, *Project Manager*
- ☐ Adele Sands, *Educational Liaison*

Item No.	Action	Discussion
03.01	Record	**Meeting #3 Agenda** • Welcome & introductions • Timeline Update: Project has now concluded the PDP Phase of the Feasibility Study and has now emerged in the PSR Phase of Feasibility ○ Each team will produce a set of recommendations for the full SBC to review and approve. Whilst there is overlap in topics discussed, it is important that there are no duplicates in recommendations • Life Cycle Cost Analysis (LCCA) Overview • Advisory Team Recommendation Development • Next Steps
03.02	Record	**LCCA Overview** SMMA provided an overview of the 50-year LCCA, which is required in the Schematic Design phase per the MSBA. The analysis will include a whole-building model with 3 mechanical system options, comprehensive of the facility's high efficiency enclosure and electrical energy efficiency measures. Cost escalation is included as part of the LCCA analysis. SMMA provided examples of LCCA results from other high school projects. Once the design team conducts the LCCA and understands the energy cost savings with the

		preferred mechanical system, the design team will analyze the operational (energy) and embodied carbon in terms of total carbon of the proposed project versus the existing building. The design team is looking for feedback on either a 30-year versus 60-year analysis is preferred for the project. The design team is engaging with utility to understand incentives for the project in the early design phase.
03.03	Record	**Overview of Advisory Team Recommendation Development** • List of Suggestions and Comments, has been shared with the Advisory team in advance of the meeting • Recommendations (Givens, in green): Aspects that are inherently going to be represented within the project, identified in the Ed Plan, during Programming Meetings and other For a of discussions • Recommendations (Needs Further Discussions or Review, in yellow): Aspects that warrant further discussion before taken forward to the building committee, or will end up shifting across to being a Red Light Item. • Recommendations (Has challenges/tradeoffs & Requires further discussion, in red): No items are yet designated as red and during the course of discussions, suggestions may well be moved over. Looking for advisory team to identify any items that may be challenging
03.03	SMMA will provide for a LEEDv5 Gold and Platinum assessment	**Topics and Discussion** 1. **LEEDv5, Codes & Certification Strategy:** ○ The Project is pursuing LEEDv5 Silver minimum, as required by the MSBA. SMMA explained that a higher level of LEED does not provide additional MSBA incentives. Additional MSBA incentives are provided with a design meeting the MA Stretch Code for an additional 3% incentive and achieving the LEEDv5 IAQ and Materials & Resources credits (5 points) for an additional 1% incentive. ○ The LEEDv5 SD phase Commissioning (Cx) requirement is not funded under MSBA's Cx scope (starting at DD). MSBA mentioned that upfront budget "expenses" categories inherent to the project funding may be used. The OPM is to recommend/direct to these fund categories. SMMA reached out to GBCI for a retroactive SD Cx at DD, however they will not allow the proposed retroactive measure. ○ Demand Response engagement conversations are ongoing with the City of Medford Energy Manager and with the utility company <u>Comments/Discussion:</u> ○ The SBC has identified a climate goal that advances Medford's climate goals and achieves LEEDv5 certification to meet the Paris Climate Accord's 2030 and 2050 targets. SMMA is looking for direction from the Advisory Group on the LEEDv5 certification level. ○ The Advisory Team needs more information to understand the difference between LEEDv4 and LEEDv5 and if LEEDv5 Platinum is achievable, as LEEDv5 Platinum is more stringent than under LEEDv4. The Advisory Team mentioned that higher LEEDv5 certification (from Silver) will mean more capital expense for the project. Silver is minimum for MSBA funding. SMMA will provide for a LEEDv5 Gold and Platinum assessment (per SBC's aspiration), showing additional criteria, criteria nuances from LEEDv4, and costs impacts. ○ Comment about how climate impacts are evaluated. Design team advised that the LEED Assessment will provide items that would present additional costs, and the design team would also identify the climate impacts. How is climate change cost being looked at? ○ Comment to conduct embodied carbon analysis with a 30-year timeframe. ○ Comment that Cx often takes much longer than what MSBA pays for as Cx occurs much later to ensure that the building is functioning as designed, and looking at the cost of CxA longer. The design team mentioned that MSBA typically funds on-going Cx. ○ Comment that if Cx is done incorrectly, then costs would be accounted for based on when and how Cx was performed. The design team mentioned an opportunity for post-occupancy incentives as part of the utility program. ○ Comment about community resilience and relationship to the Fells, while meeting the LEEDv5 goal, is part of the discussion. 2. **Climate Resiliency & Site Environmental Performance:**

- The design is supportive of prioritizing design approaches leaning into active systems, as a highly insulated and airtight enclosure is a given. Passive strategies are part of the design discussion.
- Hydrology (Green Score) and impervious are to be discussed further at the Site, Safety, Security Advisory Team, as they are looking at stormwater reduction strategies and treatment. Green Roofs, Site Constraints, Courtyard/Outdoor Classroom Access, and Fells Access discussion to be further considered.

Comments/Discussion:

- Question: if carports and solar installation count against impervious surfaces? The design team stated that canopies remain as an impervious surface. Carports provide shade and support heat island reduction.
- Comment about stormwater reduction and treatment to avoid Mystic River watershed pollution, currently part of the teaching curriculum. The design team mentioned that stormwater will be treated on-site. The discussion is part of the Site, Safety and Security Advisory Group.
- Question if green roofs required additional structure and have add to the teaching curriculum. The design team mentioned that additional structure is required for a green roof and it is important to look at those locations and cost considerations, as well as the balance between the roof space required for HVAC and Solar PV.
- Comment about the overall long-term site resiliency relative to climate change readiness.

3. **Energy Systems, Electrification & HVAC Strategy:** The design provided an overview of the mechanical systems givens.
   - Teacher-level thermal comfort to avoid uncomfortable classrooms to be further discussed. Overall schedule provided to facilities, and system resets itself to save energy.
   - MSBA Heat Pump projects: Ongoing OPM engagement with grant providers and utilities programs to optimize incentives and funding.
   - The EV readiness is ongoing, more discussion required:
     - Base EV charging stations installation per LEED (10% of parking spaces) and Stretch Code requirement for readiness (10-20% to be confirmed)
     - City undergoing discussion about bus vendor/contract status.
     - Most HS students bike, walk or take the MBTA bus. School buses are mainly used for MS and ES.
     - EV bus chargers are larger than car EV chargers, aspect of space requirement, timing of charging.
     - Major impact on electrical service sizing
   - Kitchens have been confirmed during programming to be all-electric. Fossil fuel needs in the science labs for experiments to be further discussed during SD programming. SMMA noted that utility incentives programs will be negatively impacted if the site has a gas line. Further information will be provided following upcoming meeting with the utilty (National Grid)
   - Solar PV and battery storage:
     - Solar PV readiness minimum is required by code.
     - The Medford Solar PV Policy enforcement was mentioned to be exempt for municipal buildings. SMMA would like a confirmation by the City of Medford/SBC.
     - While the installation of PV is not required, it will provide for considerable long term energy costs savings benefits. Solar PV and battery storage preliminary assessments will be conducted in the upcoming design phases.
     - Battery storage, does not affect LEED, and requires further discussion. SMMA clarified that the Wakefield Memorial HS battery storage system was provided as a micro-grid through the municipal utility, but not part of WMHS project. Medford's utility is National Grid. A battery storage system would likely be associated with the Solar PV system (owned or PPA contract)

Comments/Discussion:

- Goal is for teachers to be able to see and have temperature control. Advisory group mentioned the improved highly insulated enclosure will support better thermal comfort. Looking to hear about best practices (4 degree range adjustment vs. full control).
- Request for design team to provide guidance and best practices on similar municipal building and level of controllability.

		○ Comment that a bus electrification plan is being assessed to understand the charging infrastructure needs. ○ Comment about Solar PV and systems early procurement and/or strategies to lock in incentives such as 179D, IRA, etc. SMMA mentioned those programs, as well as the MA SMART and AEC programs will be tracked and discussed as part of the LCCA and solar PV assessment. **4. Embodied Carbon, Materials & Circularity:** ○ The design team stated that life-cycle assessment (embodied carbon modeling), healthy materials, low-carbon materials are givens. SMMA mentioned that Red List Materials will be included as well. ○ Materials circularity principles to be further discussed as it requires more research and requires procurement assessment and planning. ○ Advisory Group participant presented a preference for a 30 yrs. LCCA. To be confirmed/recommended to SBC. **5. Healthfulness, Indoor Environmental Quality & Environmental Literacy:** ○ The design team mentioned daylight studies, acoustic comfort, IAQ strategies, and environmental literacy are inherent to design. ○ Biophilic elements to support wellness require further research for opportunities with the design options and plans. This comment will be copied into the Exterior and Interior Design Advisory Group discussion ○ Red List Free and Red List Approved materials optimization will be further researched as the interior design progresses. ○ Vocational programs and hands-on learning to be further discussed with Chapter 74 instructors during SD programming. ○ Visual contrast and sensory overload challenges to be discussed with the Exterior and Interior Design Advisory Group. <u>Comments/Discussion:</u> ○ Design team will be conducting daylighting study on major spaces, looking at optimizing daylighting and controlling glare, while the large scale daylight modeling will take place as part of the LEEDv5 daylighting criteria. **6. Operations, Maintenance, Commissioning & Long-Term Performance:** ○ The design team mentioned that there will be an effort to narrow down the 29 PDP concepts to a smaller (4-5) set of options. The Solar PV assessments will be conducted on the preferred reno/add and preferred new construction, with consideration to the HVAC roof areas associated with the 2-3 types of heat pump systems. ○ Further discussion to clarify reimbursement variations by community/scope and what is eligible, and other financial steps to lock-in future benefits. <u>Comments/Discussion:</u> ○ Federal and state programs to be reviewed for future benefits, as the discussion has potential opportunity to affect PPA versus owning solar.
03.04	SMMA	Next Steps • Meeting #4, September 2026 • The Advisory Team will reconvene in September at the beginning of the SD phase to review the recommendations from this discussion as well as documentation of the Preferred Schematic Design, and finalize the list of recommendations that will be shared back to the full building committee.