

| SMMA

Lexington High School

MEP Systems &
Sustainable Design
Focus Group – Mtg #1

01.25.2024

*Setting the benchmark for future projects in
the Commonwealth, and across the
country, for innovative design, efficiency,
sustainability, and positive impact for the
community.*



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Meeting #1 Agenda

- » Welcome & Introductions
- » Overview of the Focus Group Process & Milestones
- » Sustainability Givens
 - MSBA Green School Policy
 - Massachusetts Specialized Code
 - Lexington Integrated Design Policy
- » Goals & Aspirations Discussion - Listening
- » Next Steps

Welcome & Introductions



Team Intro

SMMA



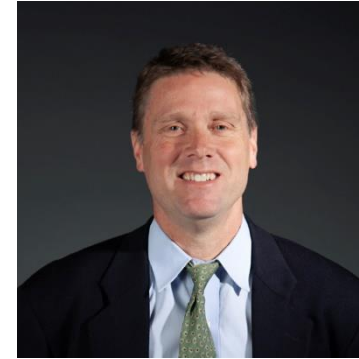
Lorraine Finnegan,
AIA, LEED AP, MCPPO
Project Manager



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AIA, ALEP, LEED AP BD+C, MCPPO
Project Architect



Martine Dion,
FAIA, LEED AP BD+C
Director of Sustainability



Andy Oldeman,
PE, CEM, LEED AP
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Anthony Jimenez,
PE
Electrical Engineer

THORNTON
TOMASETTI



Rebecca Rahmlow,
AIA, NCARB, LEED, AP BD+C, CPHC, ENV SP, LFA
Project Manager for Sustainability



Vamshi Gooje,
LEED AP BD+C, BEMP, CEM
Principal in Charge for Sustainability

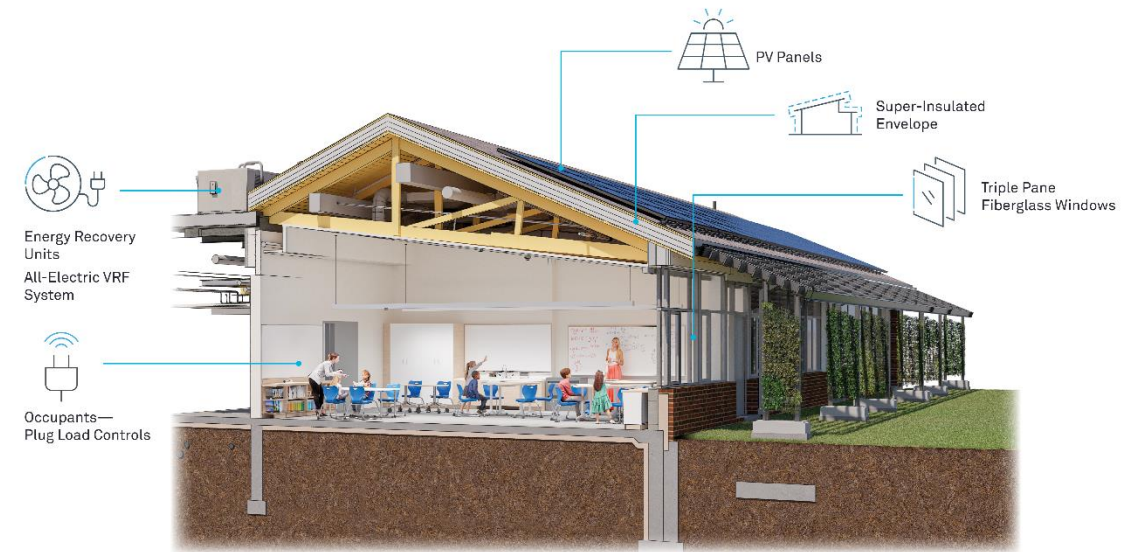
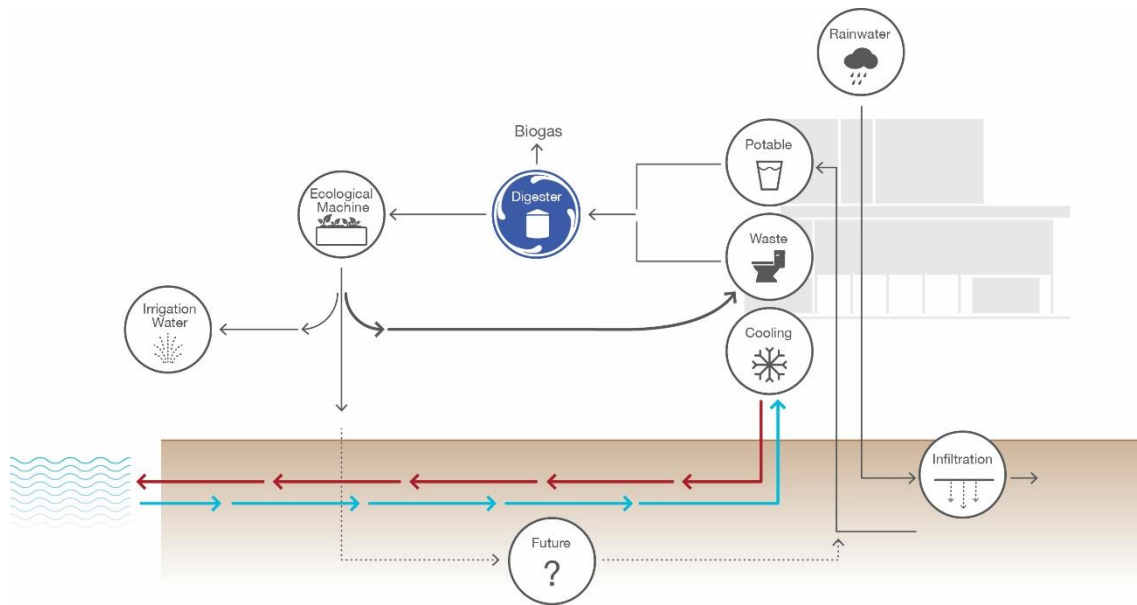
Focus Group Intro

- Cynthia Arens, Sustainable Lexington Committee Chair
- Susan Barrett, Town Transportation Manager
- Chris Bouchard, Project Engineer
- Philip Coleman
- Julie Hackett, Superintendent of Schools
- Wendy Heiger-Bernays, Board of Health Chair
- John Himmel, PBC Chair
- Lin Jensen, Support/Resident
- Vincent Lerow, AV Technician
- Tine McBride, Support/Resident
- Asa Mele, Student
- Shawn Newell, Assistant Director of Facilities
- Glenn Parker, Appropriation Committee Chair
- Maggie Peard, Town Sustainability and Resilience Officer
- Dave Pinnsonnault, Director of Public Works
- Todd Rhodes, Sustainable Lexington Committee Vice Chair
- Mark Sandeen, Select Board
- Sophie Shaw, Student
- Nancy Sofen, Tree Committee
- Bernardo Streithorst, Student
- Jillian Tung, Board of Health
- Dan Voss, Sustainable Lexington Committee
- Dave Wininger, Digital Learning Coach

Overview of Focus Group Process & Milestones

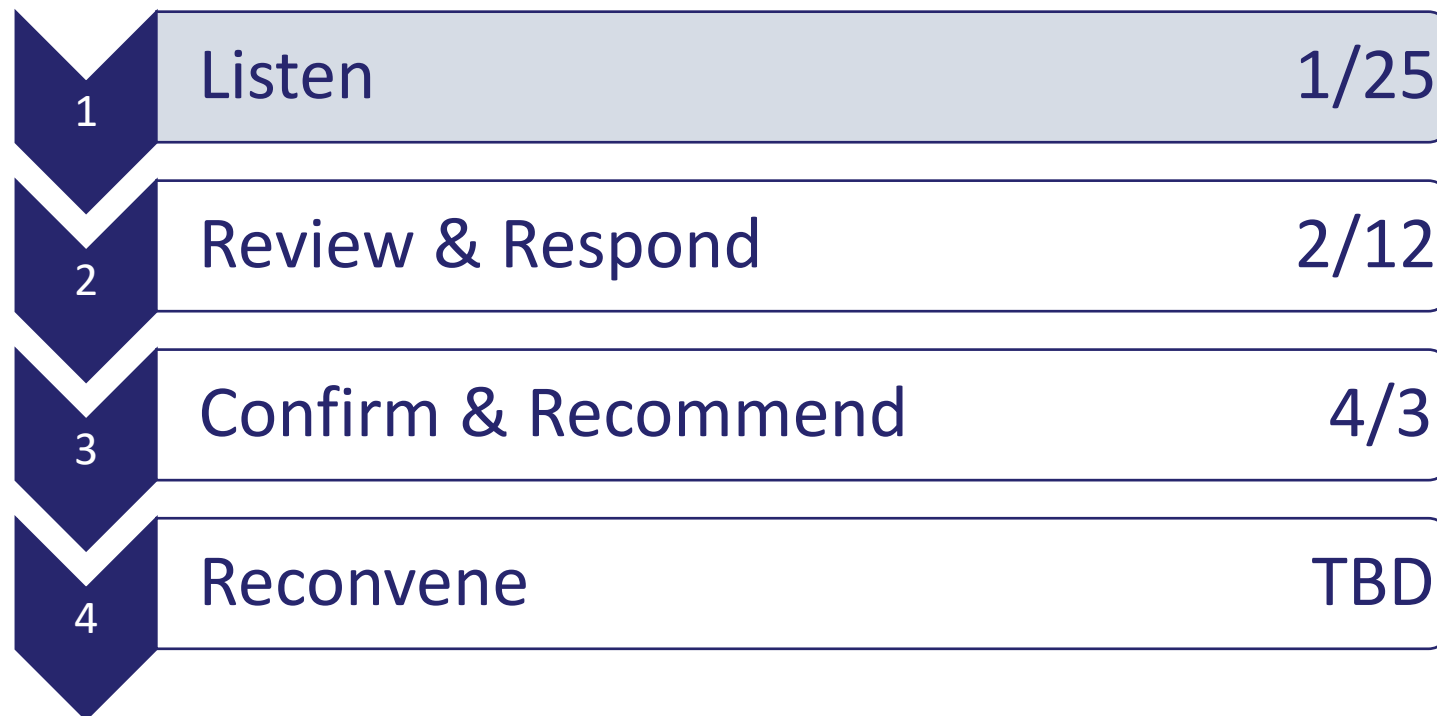
Focus Group Objective

Review preferred MEP systems, sustainable design features, healthy materials, environmentally friendly design and renewable opportunities



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What is “PDP”?

In the Preliminary Design Program:

...the District and its team collaborate with the MSBA to

- Document their educational program*
- Generate an initial space summary*
- Document existing conditions*
- Establish design parameters*
- Develop and evaluate alternatives*
- Recommend the most cost effective and educationally appropriate preferred solution*

Sustainability Givens



Sustainability Givens

MSBA Green School Policy

Massachusetts Specialized Code

Lexington Integrated Design Policy

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MSBA Green School Policy

Base

- LEED Silver
- Stretch Energy Code
- MEP/BE/Ongoing LEED Commissioning
- 3 LEED MR/IEQ points

4% Additional Reimbursement

- Specialized Stretch Code (3%)
- 5 LEED MR/IEQ points

Sustainability Givens

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Sustainability Givens

Massachusetts Specialized Code

1. Full Compliance with the Standard Stretch Energy Code
2. 3 Pathways:
 - **All-Electric HVAC and DHW Pathway**
 - (2) Fossil Fuel Heating Pathways:
 - Electrification of Heating Readiness
 - Renewable Energy

Sustainability Givens

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Sustainability Givens

Lexington Integrated Design Policy

SBC voted 9/14/23

- LEED Gold minimum
 - Target Platinum
- All-electric heating and cooling Systems
- Resilience:
 - Level 2 (field house/gym)
 - Level 3 (remainder)

PBC Recommendations

- EUI 25% or 30% > ASHRAE 90.1-2019
- Net Zero Energy
- Optimize Renewables on-site
- Battery Storage Analysis

Integrated Design Policy and LEEDv4 Tracking Sheet

Lexington Integ. Design Policy	MSBA Green Policy Mandated												LEXINGTON INTEGRATED DESIGN POLICY	
		Scorecard Tracking (DRAFT)						Decision Milestones (DRAFT)					Additional Decision Milestones (DRAFT)	
		Yes	TBD (?)	No			Credit Type	PDP	PSR	SD	DD	Comments	Comments	
		7	1	4	Water Efficiency		12							
		Y			Prereq	Outdoor Water Use Reduction	Required	●	●					
	●	Y			Prereq	Indoor Water Use Reduction	Required	●	●			Required by MSBA Standard low-flow fixtures - No Decision Required		
		Y			Prereq	Building-Level Water Metering	Required	●	●					
		2			Credit	Outdoor Water Use Reduction	2	●	●			Required for Gold Standard low-flow fixtures - No Decision Required		
		4	1	2	Credit	Indoor Water Use Reduction - 40% goal (Platinum)	7	●	●	●	●	Required for Gold (30%) - Standard Low flow fixtures Required for Platinum (40%) - additional strategies		
				2	Credit	Cooling Tower Water Use	2							
	●	1			Credit	Water Metering	1	●	●	●		Required for Gold Standard meters - No Decision Required		

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		Scorecard Tracking (DRAFT)						Decision Milestones (DRAFT)					Additional Decision Milestones (DRAFT)
		Yes	TBD (?)	No			Credit Type	PDP	PSR	SD	DD	Comments	Comments
		27	4	0		31							
	●	Y			Prereq	Fundamental Commissioning and Verification	Required	● ●		●	●	MSBA required and funded Included in PSR and SD scope (Specs) MSBA only hire Cx Agent in DD Must meet MA Stretch Energy Code (C408)	
	●	Y			Prereq	Minimum Energy Performance	Required	●	●			MSBA requires Minimum Stretch Code (Standard) Specialized Code: MSBA Policy offer's Specialized Stretch Code (additional 3% Standard meters - No Decision Required)	SBC confirmed EUI target < 25 and NZE 9/14/2023
		Y			Prereq	Building-Level Energy Metering	Required	●	●				
		Y			Prereq	Fundamental Refrigerant Management	Required	●	●			Design specifications and documentation - no decision required	
LEX Required	●	6			Credit	Enhanced Commissioning	6	● ●		●	●	MSBA required and funded - MEP, BE Cx and On Going Cx (6 pts) Required for Gold Included in PSR and SD scope (Specs) MSBA only hire Cx Agent in DD	
LEX Required	●	16			Credit	Optimize Energy Performance	16	●	●	●	●	Required for Gold MSBA requires compliance to Stretch Code minimum All-electric heating and cooling supports attaining 16 pts EACP pilot 95 for possible additional point	SBC confirmed EUI target < 25 and NZE All-electric heating and cooling system Specialized Stretch Code Pathway (Lexington's preference for GSHP assumed)

Integrated Design Policy and LEEDv4 Tracking Sheet

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		Scorecard Tracking (DRAFT)							Decision Milestones (DRAFT)					Additional Decision Milestones (DRAFT)
		Yes	TBD (?)	No				Credit Type	PDP	PSR	SD	DD	Comments	Comments
LEX Required		1			Credit	Advanced Energy Metering	1	<div></div>		<div></div>			Required for Gold LEED v4 requires 3 yrs of data storage - automatically meets Lexington IDP 2 yrs requirement	Lexington requires for 2 years energy meter data storage (automatically achieves LEED v4/v4.1).
LEX Required		2			Credit	Demand Response	2	<div></div>		<div></div>	<div></div>		1 point required for Gold (+1 point for Platinum) Decision for engaging with Demand Response Program with Utility - PSR/SD	
LEX Required			3		Credit	Renewable Energy Production - v4.1Green energy Credit	3	<div></div> <div></div>	<div></div>	<div></div>			Pending Solar PV System Size and Ownership - project may qualify under this credit of the Green Power credit	Lexington requires minimum 10% and maximize onsite renewables. Project targeting NZE and 100% renewable energy Decision: confirm Solar PV approach: Ownership or PPA by end of SD (or prior)
			1		Credit	Enhanced Refrigerant Management	1	<div></div>		<div></div>			Pending final HVAC system	
		2			Credit	Green Power and Carbon Offsets - v4.1Green energy credit	2	<div></div> <div></div>	<div></div>	<div></div>			Pending Solar PV Size and Ownership (PPA) - project may qualify under this credit of the Renewable Energy Production	Lexington requires minimum 10% and maximize onsite renewables. Project targeting NZE and 100% renewable energy Decision: confirm Solar PV approach: Ownership or PPA by end of SD (or prior)
LEX IDP Req		-			LEX_2	Utilize energy storage when cost effective to lower peak demand charges and integrate with onsite solar. Evaluate and report on options for campus micro-grids.			<div></div>					SBC confirmed battery storage.
LEX IDP Req		-			LEX_3	Evaluate and present options for achieving net zero energy use.			<div></div>	<div></div>				SBC confirmed NZE Whole Building Air Filtration Testing: 0.25 cfm/SF required by Stretch Code (C406) - NZE level target to be determined in PDP (or PSR)
LEX IDP Req		-			LEX_3	All electric, zero emissions on site design (excluding fuel for emergency backup power generators). Backup fossil fuel heating systems will require specific approval.			<div></div>	<div></div>				SBC confirmed NZE and battery storage. Back up fossil fuel emergency generator to be discussed PDP/PSR

Goals & Aspirations Discussion



Next Steps



What to Expect in Meeting #2

Objective: The design team will speak on the topics below as well as the priorities brought up by the focus group today

Topics

- Lexington Public Schools experience with systems – best practices and lessons learned
- All-electric MEP systems
- Renewable Energy
- Net-Zero Energy
- Exterior Materials & Massing/Orientation
- Embodied Carbon
- Healthfulness
 - Interior materials
 - Indoor air quality
 - Access to daylight & outdoors
- Sustainable Sites

When & Where?

February 12th, 1-3 PM

Estabrook Auditorium, Cary Memorial Building

