

Lexington High School

Facilities Assessment Subcommittee Presentation

01/15/2025



smma dw
DORE + WHITTIER

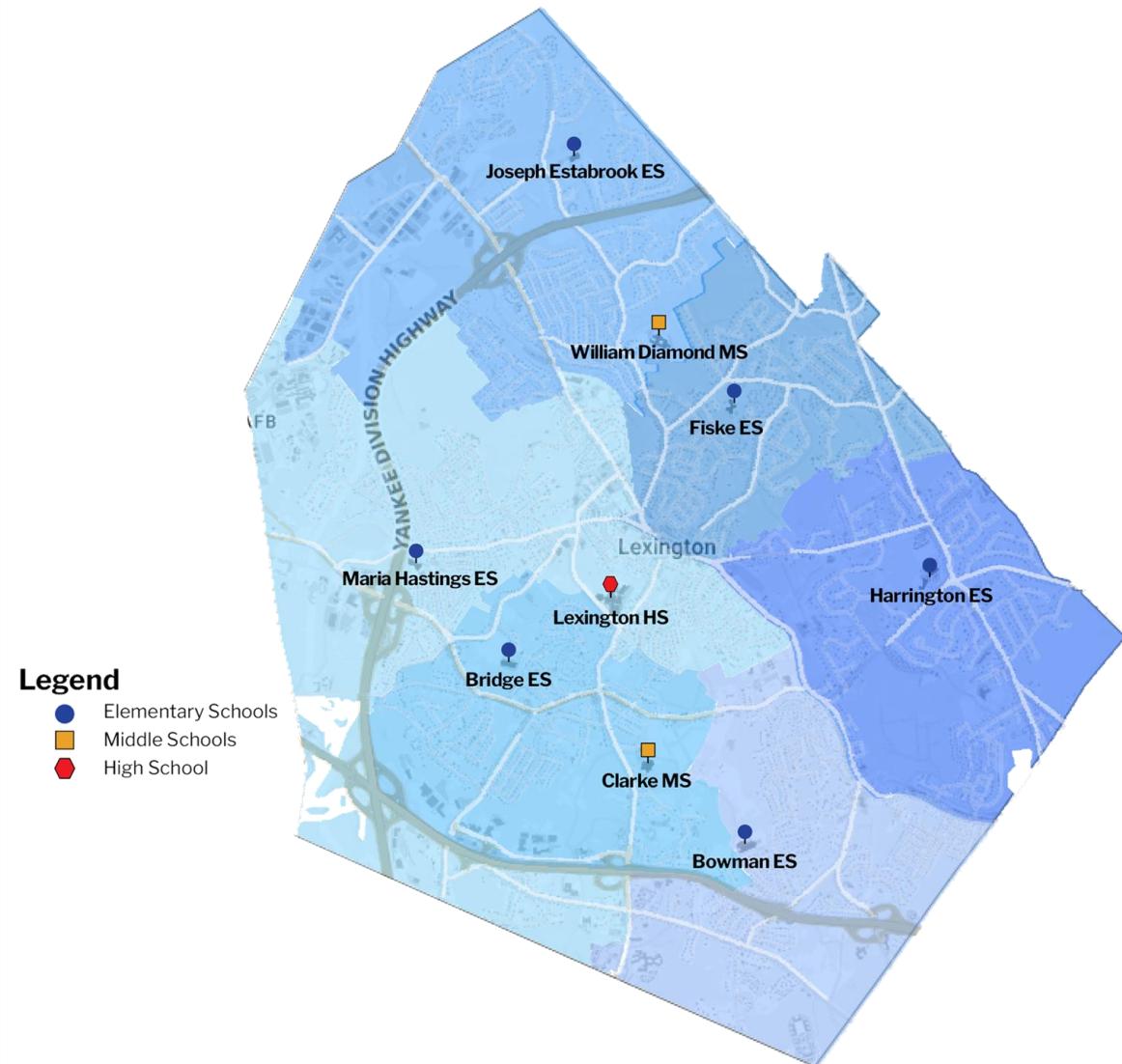
District Mission & Vision

“Joy in Learning; curiosity in life; and compassion in all we do”

1. Diversity, Equity & Inclusion
2. Redefining Success
3. Students as Active Agents
4. Authentic Learning
5. Community Partnerships

Project Vision – to create educational spaces that are:

- Flexible, inclusive
- Not based on traditional notions of student achievement
- Dynamic, interactive, and designed for learning that promotes deep inquiry
- Made for solving real-world problems and engaging in healthy debate
- Designed for partnership with community experts to promote contextualized learning and problem-solving



Existing Building Educational Deficiencies



Lexington High School, overcrowding in main hallway

- Undersized and Landlocked Classrooms
- Inadequate Science Facilities
- Lacking Spaces for Next Generation Curriculum with Differentiated Learning Environments, Proper Adjacencies, SPED Resources and Integrated Technology
- Disconnected Building Organization & Long Travel Distances
- Poor Common Areas for Students
- Upgrades to School Accessibility, Safety & Security Needed
- Substantial Remedial Construction Required to meet Codes, with Most Major Mechanical Systems Due for Replacement
- Low Sustainability and Poor Building Performance



Student Enrollment Considerations

Increase #of Students per Class and Classroom Utilization Rates		
# of Students per Class	Classroom Utilization Rate	Total # of Students
23	85%	2395
24	85%	2491
25	85%	2587
25	90%	2738

Increased Class Size: This would be across the board except in rooms that have identified capacities. E.g. special education, science labs where safety is a concern; science lecture/labs. In each of these cases, additional rooms would need to be added.

Utilization: It is industry standard to program a High School at 85%. One cannot simply translate an increased utilization rate to an increased number of students. Utilization is the percentage of time a room is used. The higher the rate, the reduced opportunity for students to be accepted into the desired classes. The higher the rate the more difficult it is for Administration to schedule the spaces.



Student Enrollment Considerations

Plus Expansion into Central Office Space

# of Students per Class	Classroom Utilization Rate	Total # of Students
24	85%	244

Central Office Retrofit: At this level of analysis this space has been calculated as general education classrooms only, although some of that space may need to be SPED or Admin space.

Plus Additional Expansion

# of Students per Class	Classroom Utilization Rate	Total # of Students
24	85%	256

Expansion Space: At this level of analysis this space has been calculated as general education classrooms only, although some of that space will most likely need to include SPED classrooms, Additional Dining and Media Center capacity and Admin space.



Key Components of the Educational Program

- Educational spaces that are right-sized and readily adaptable for growth and for future evolution of both curriculum and teaching/learning methodologies
- Integration of Special Education space (including LABBB), Student-Support Services, and affinity spaces throughout the school
- Classroom configurations that promote collaboration and diverse learning styles
- Adjacencies of different curricular areas for a wide variety of interdisciplinary learning
- Increased opportunities for Social and Emotional Learning, Wellness and Inclusion.
- Flexibility to organize the school in different ways:
 - i.e., Small learning communities, Schools within a School, Freshman Academy)
- Accessibility to and shared opportunities of Innovation Labs and Makerspaces
- Organizational and character-defining elements such as the Library, Student dining, Auditorium, and Outdoor student space similar to the existing LHS Quad



Student job shadowing at SMMA



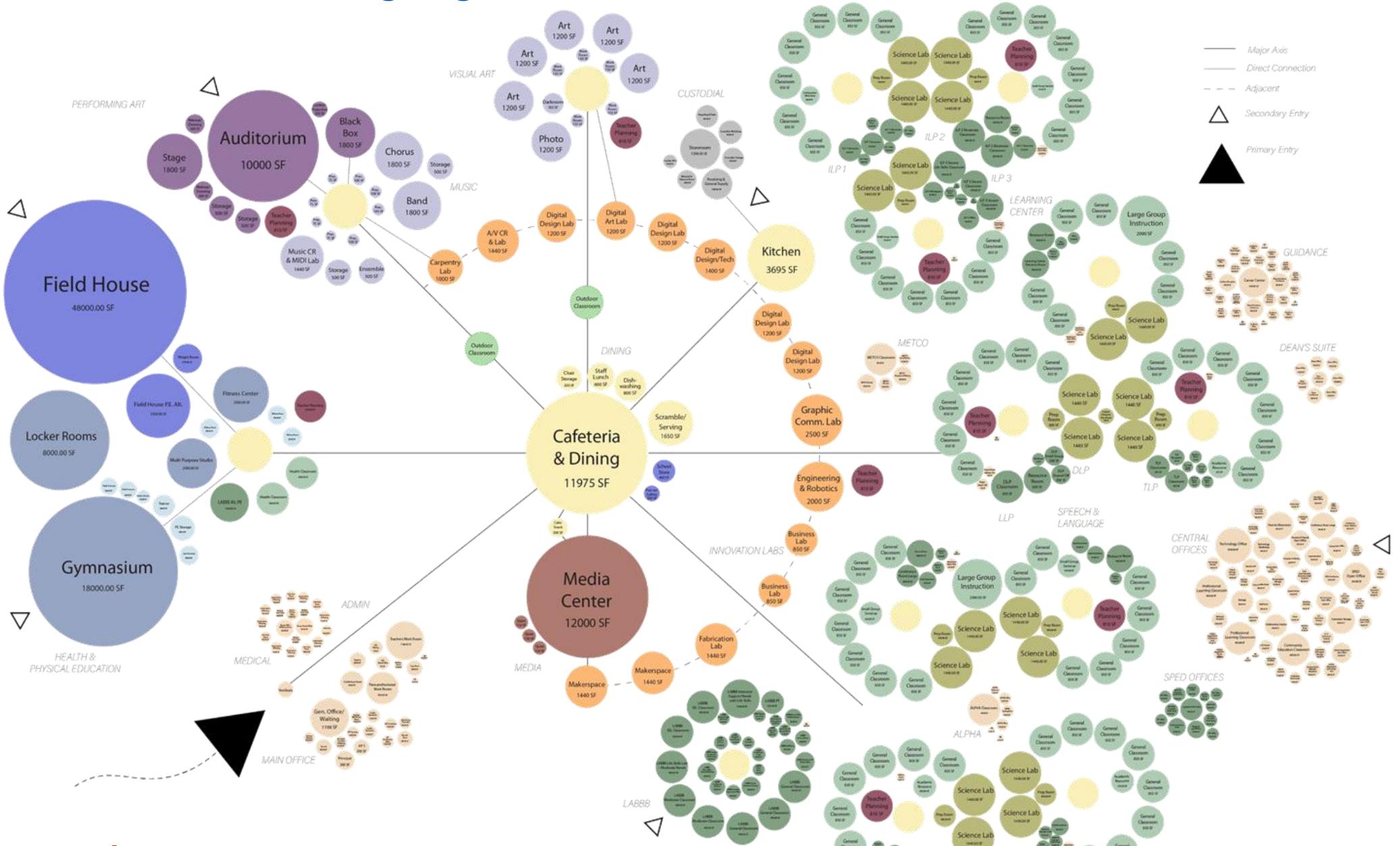
LHS Rock Room



The Quad



Educational Vision / Whole Building Diagram



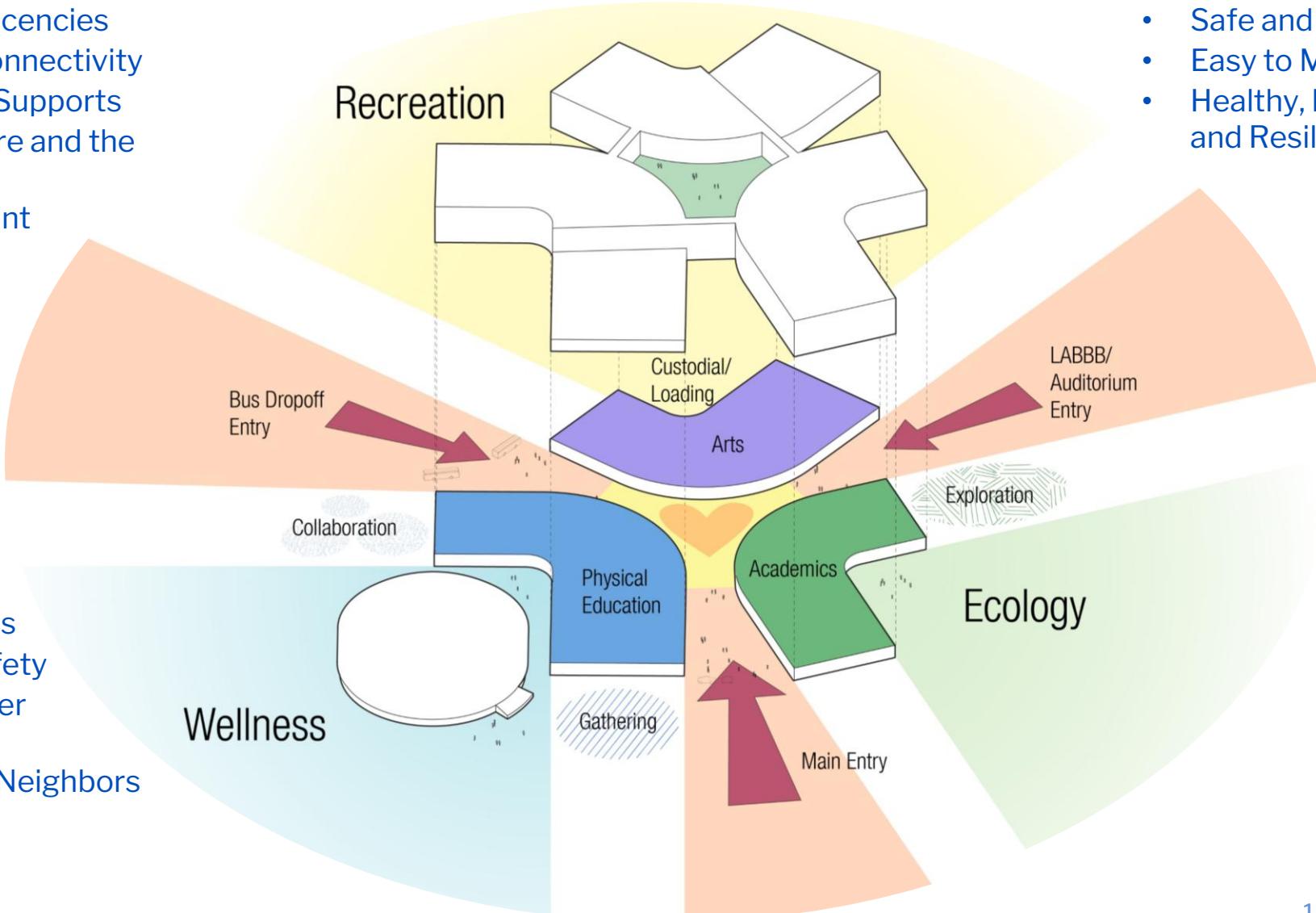
Architectural Vision / Balancing Differentiation and Connection

Educational Program Integration:

- Academic Neighborhoods
- Interdisciplinary Adjacencies
- Transparency and Connectivity
- Centralized Student Supports
- Connections to Nature and the Outdoors
- A School with a Vibrant Heart at its Center

Site Goals:

- Pedestrian-friendly Campus
- Improved Vehicular and Pedestrian Flows
- Enhanced Public Safety
- Improved Stormwater Management
- Mitigate Impacts to Neighbors



Facility Goals:

- Accessible
- Safe and Easily Secured
- Easy to Maintain
- Healthy, Energy Efficient and Resilient



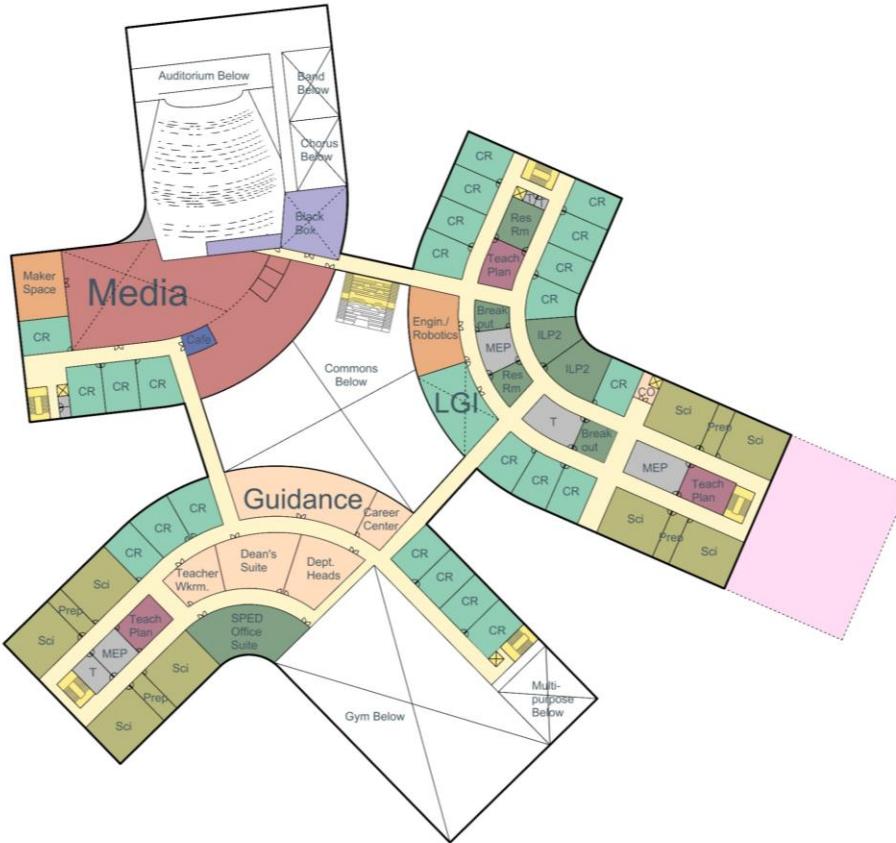
Program Plan Diagrams / Bloom



Program Plan Diagrams / Bloom



Level 1



Level 2

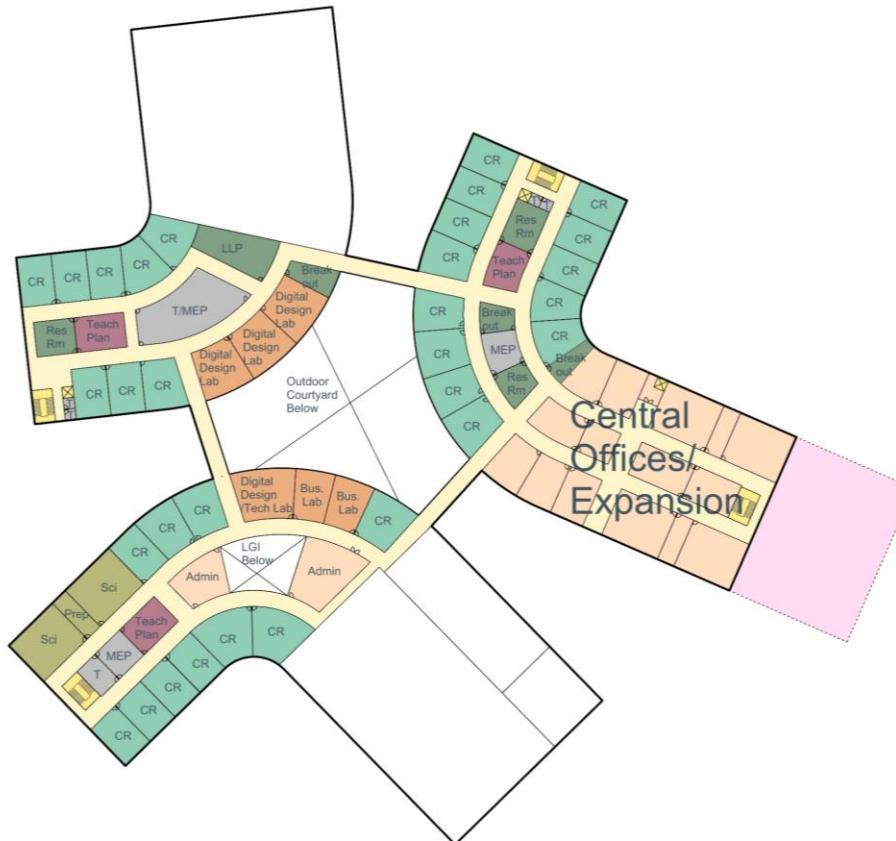
- | | |
|---|--|
| Core Academic
Science
Teacher Planning & Small Group
Admin, Guidance, ALPHA, METCO, Central Offices
Auditorium / Drama
Art & Music
Media Center
Vocation & Technology
Physical Education
Special Education
Medical
Kitchen, Restrooms, Custodial
Commons
Circulation
Vertical Circulation
Rooftop Open Space
Other
Expansion | |
|---|--|



Program Plan Diagrams / Bloom



Level 3



Level 4

- Core Academic
- Science
- Teacher Planning & Small Group
- Admin, Guidance, ALPHA, METCO, Central Offices
- Auditorium / Drama
- Art & Music
- Media Center
- Vocation & Technology
- Physical Education
- Special Education
- Medical
- Kitchen, Restrooms, Custodial
- Commons
- Circulation
- Vertical Circulation
- Rooftop Open Space
- Other
- Expansion



Three Siting Approaches Advantages / Disadvantages



Approach I: Phased in Place

- Builds on Top of Current Footprint, either as Add/Reno or all New Construction
- Highly Disruptive to Students and Staff
- Longer, Multi-Phase Construction
- Higher Cost due to Temporary Modular Classrooms
- Minimized Site Disturbance
- Article 97 Not Required

Approach II: Renovation and Addition, Partially on Fields

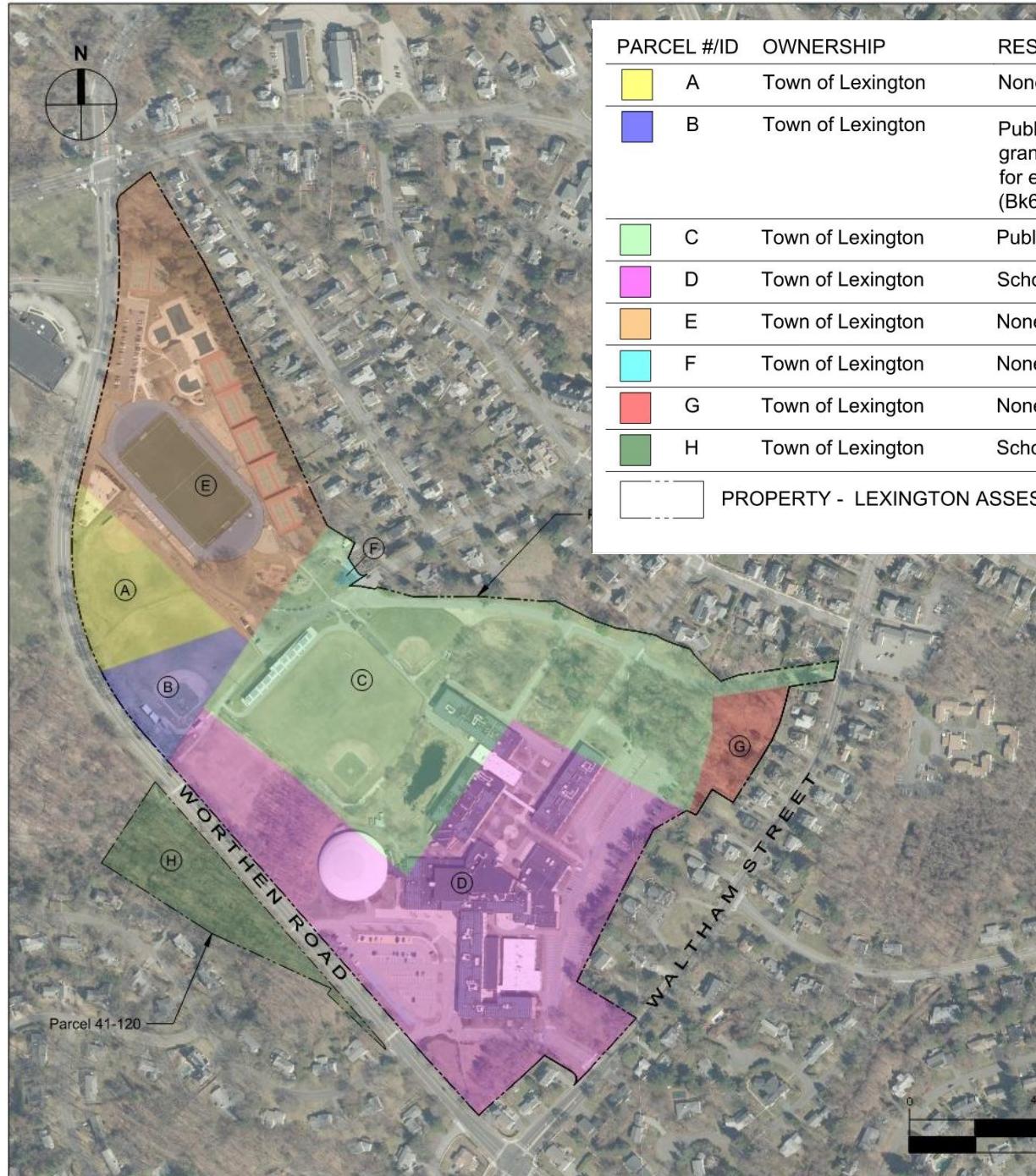
- Builds First on Fields, Then Connects Buildings G and J.
- Utilizes Phase I Construction for Swing Space
- Separates Some Fields from Center Recreation Facility
- Existing Structures Not Well Suited for Modern Classrooms
- Article 97 Required

Approach III: New Building on Existing Fields

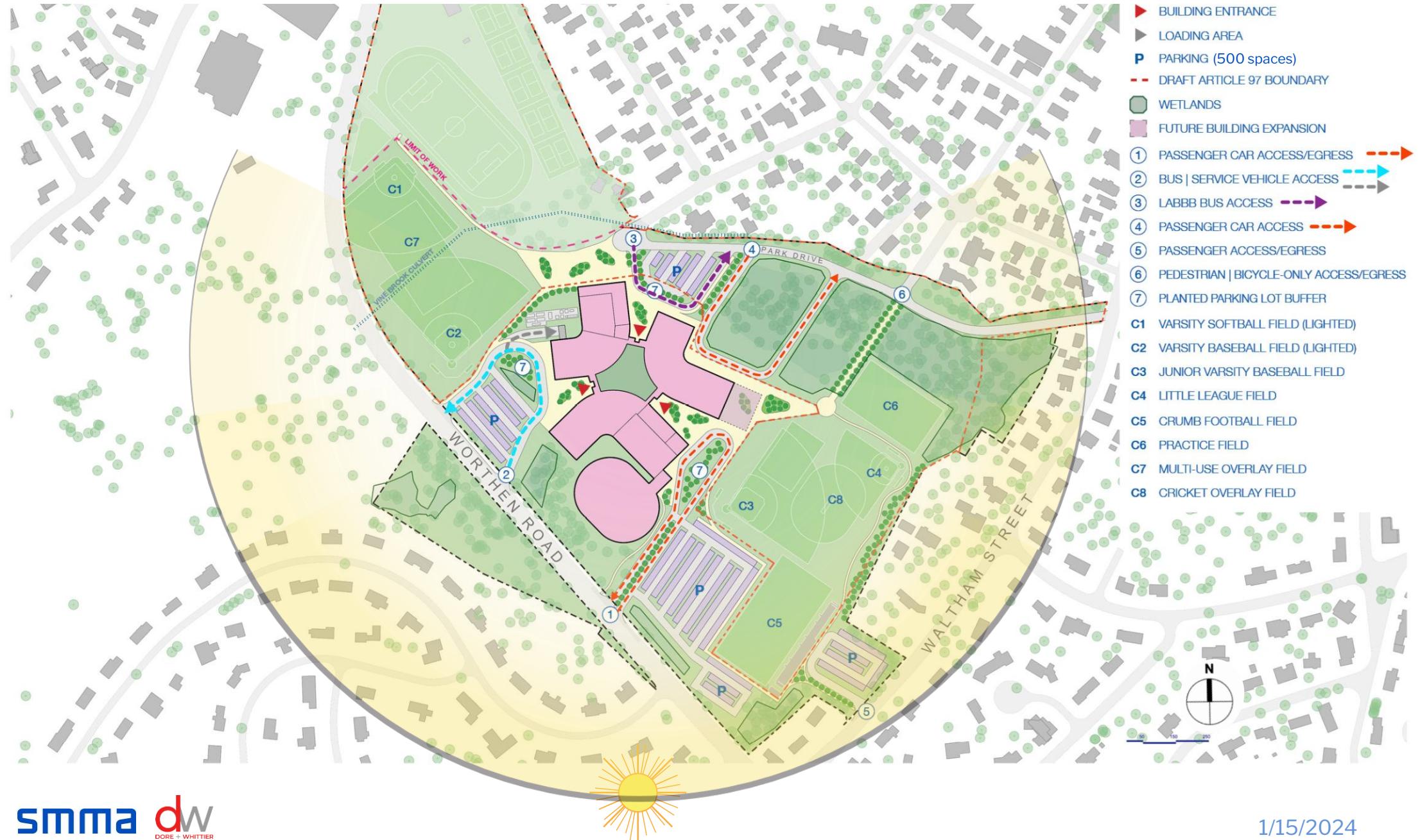
- Construction Free of Existing School minimizes disruption
- Efficient Building Construction in One Phase
- No Modulars
- Lower Cost
- Separates Some Fields from Center Recreation Facility
- Article 97 Required



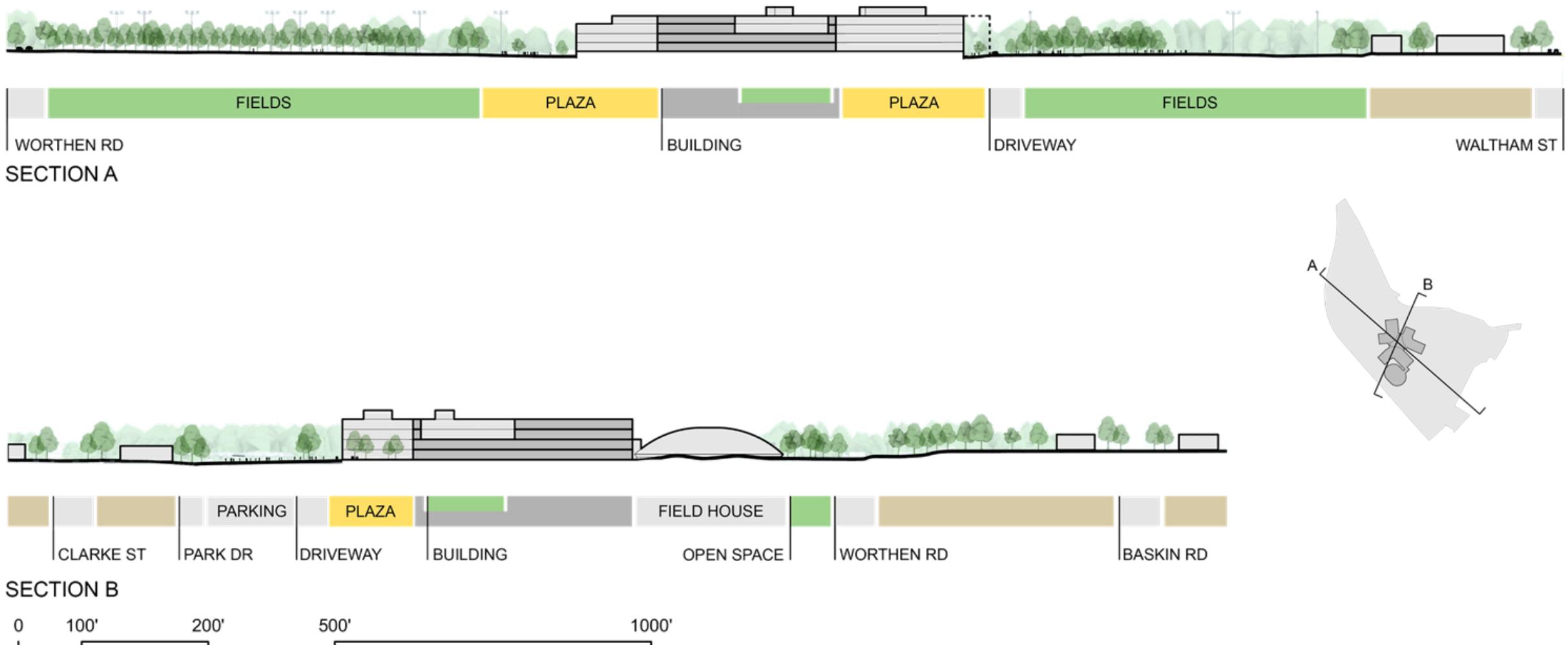
Site Use Restrictions



Site Plan



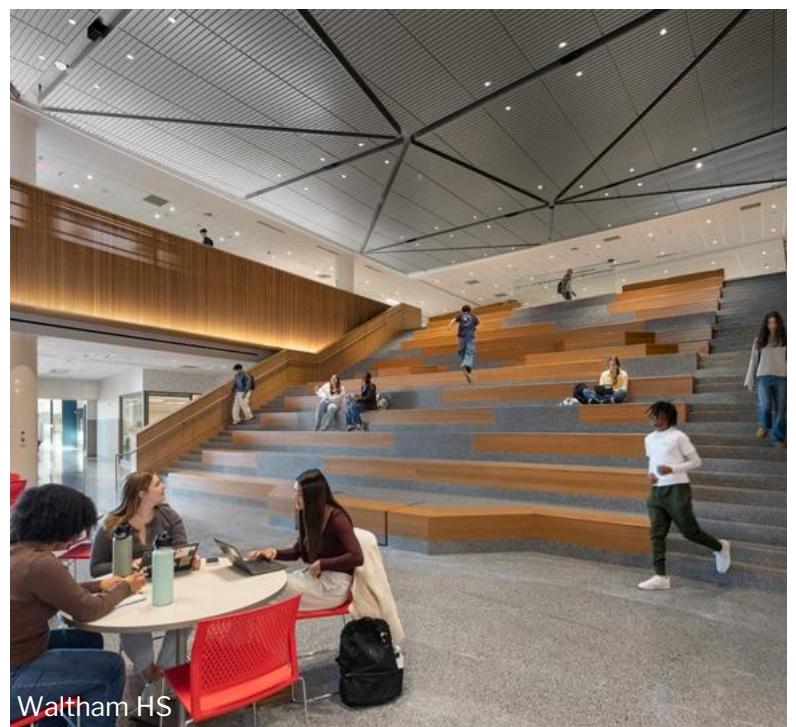
Site and Building Sections



Building and Site Relationship



Character of Interior and Exterior Spaces



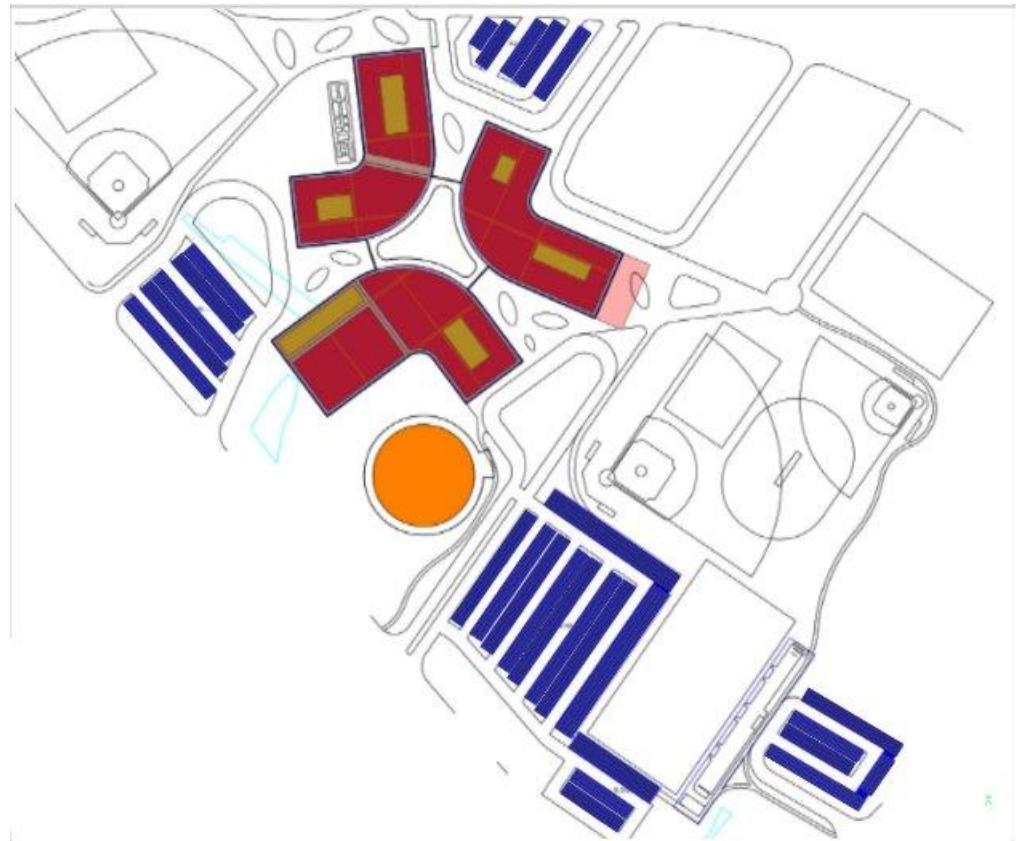
Variations from the MSBA Guidelines

	Existing	Proposed	MSBA	Variation	Comment
Core Academic Spaces	98,801	119,230	118,140	1,090	
Special Education	22,675	35,025	23,160	11,865	
Art & Music	12,186	15,350	5,425	9,925	
Vocations & Technology	4,271	17,720	24,480	(6,760)	
Health & Physical Education	24,234	33,250	29,612	3,638	
Media Center	8,912	13,890	14,869	(979)	
Auditorium/Drama	11,814	16,300	10,400	5,900	
Dining & Food Service	15,783	19,520	17,868	1,652	
Medical	856	2,100	1,810	290	
Administration & Guidance	15,970	17,170	7,464	9,706	
Custodial & Maintenance	3,502	3,722	3,421	301	
Other	31,146	59,666	0	59,666	
Total Building Net Floor Area	250,150	353,243	261,149	92,094	
Total Building Gross Floor Area	352,000	509,516	376,015	133,501	
Grossing Factor (GFA/NFA)	1.41	1.44	1.44	1.44	



Project Sustainability Givens

- **Lexington Integrated Design Policy (IDP)**
 - Net Zero Energy (NZE) and EUI 25
 - Solar PV System & Battery Storage
 - LEEDv4 Gold Certification (Platinum Aspiration)
 - Embodied Carbon Reduction Goal
 - Red List Materials
- **MA Specialized Energy Stretch Code**
- **EV Charging Stations Bylaw**
 - 4% installed
 - 50% readiness



C5.b Bloom Roof & Parking Spaces Only	
Estimated Annual Total Production (kWh)	3,694,383



Preliminary Costs of Options

Option (Description)	Total Gross Square Feet	Square Feet of Renovated Space (\$*/SF)	Square Feet of New Construction (\$*/SF)	Site, Building Takedown, Haz Mat Etc. (\$*)	Estimated Total Construction** (\$*)	Estimated Total Project Costs (\$)
Option 1 (Code Upgrade Option)	352,000 sf	352,000 sf \$ 610.00 \$/sf	- sf \$ - \$/sf	\$ 15,607,240	\$ 230,327,240 \$ 654.34 \$/sf	\$ 311,000,000
Option 2 (Addition Renovation Option B.1-Quad)	509,516 sf	120,970 sf \$ 812.72 \$/sf	388,546 sf \$ 1,001.99 \$/sf	\$ 65,057,143	\$ 552,692,015 \$ 1,084.74 \$/sf	\$ 713,000,000
Option 3 (Addition Renovation Option B.4-Figure 8)	509,516 sf	175,380 sf \$ 895.86 \$/sf	334,136 sf \$ 992.02 \$/sf	\$ 62,107,296	\$ 550,692,015 \$ 1,080.81 \$/sf	\$ 715,000,000
Option 4 (New Construction Option C.1d Branch)	509,516 sf	34,400 sf \$ 633.57 \$/sf	475,116 sf \$ 923.57 \$/sf	\$ 68,092,318	\$ 528,692,015 \$ 1,037.64 \$/sf	\$ 660,000,000
Option 5 (New Construction Option C.2b Braid)	509,516 sf	34,400 sf \$ 633.57 \$/sf	475,116 sf \$ 918.81 \$/sf	\$ 69,354,928	\$ 527,692,015 \$ 1,035.67 \$/sf	\$ 659,000,000
Option 6 (New Construction Option C.5b Bloom)	509,516 sf	34,400 sf \$ 633.57 \$/sf	475,116 sf \$ 926.59 \$/sf	\$ 67,658,339	\$ 529,692,015 \$ 1,039.60 \$/sf	\$ 662,000,000
Option 7 (New Construction Phased In Place D.2 Weave)	509,516 sf	34,400 sf \$ 633.57 \$/sf	475,116 sf \$ 1,000.33 \$/sf	\$ 67,625,452	\$ 564,692,015 \$ 1,108.29 \$/sf	\$ 734,710,000

* Marked Up Construction Costs

** Does not include Construction Contingency

*** District's Preferred Schematic



Community Outreach

2024

2025

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

Public
Mtg 3
3/06

Public
Mtg 4
5/02

Public
Mtg 5
6/06

Public
Mtg 6
8/14

Public
Mtg 7
9/18

Public
Mtg 8
10/30

Public
Mtg 9
TBD

Public
Mtg 10
TBD

Public
Mtg 11
TBD

Public
Mtg 12
TBD

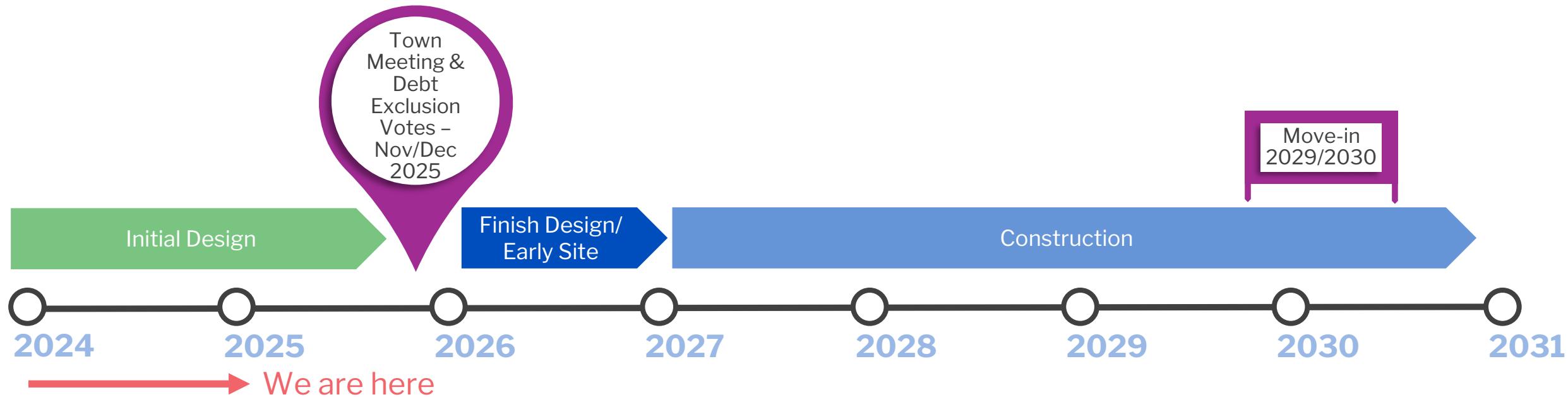
Public
Mtg 13
TBD



The project team has participated in over **154** public meetings to date. There have been **8** public community meetings, and **2** abutter meetings. In Schematic Design we anticipate monthly community and abutter meetings.

*figure above does not show 2 community meetings held in August and November of 2023





All dates after local vote in November / December 2025 are subject to change based upon the selected option.

Construction duration is shown to provide a potential range. Final duration will be determined toward the end of initial design.

Move-in date will be determined after an option is selected. Anticipated move-in currently shown in the range of 2029 to 2030



Thank you

smma

Preliminary Costs of Options

	B. Renovation & Addition		C. New Construction – On Fields			D. New Construction – Phased in Place
Alternative	B.1 Quad	B.4 Figure Eight	C.1d Branch	C.2b Braid	C.5b Bloom	D.2 Weave
Construction Cost School + Add/Reno FH + Central Office	\$552,692,015	\$550,692,015	\$528,692,015	\$527,692,015	\$529,692,015	\$564,692,015
Project Cost School + Add/Reno FH + Central Office	\$713,000,000	\$715,000,000	\$660,000,000	\$659,000,000	\$662,000,000	\$734,000,000
Construction Duration	6 Years	6.25 Years	4.5 Years	4.5 Years	4.5 Years	6.5 Years
# of Phases	4 + 1	5 + 1	1 + 1	1 + 1	1 + 1	4 + 1
Building Location	Existing Footprint	Existing Footprint	Fields	Fields	Fields	Existing Footprint
Modular Max Required	32	42	0	0	0	48



Wetlands



Add/Reno Field House Scope & Constructability

PSR Ground Floor Plan



Add/Reno Field House Scope & Constructability

Possible Consolidation of Ground Floor Plan



- Better access from both public entrance and internal PE areas may be possible by means of a shared, access-controlled corridor

