

Galvin Middle School, Canton, MA

School Committee Presentation
August 3, 2023



AGENDA:

1. Ai3 Introduction
2. Schedule Overview
3. Feasibility Study (PDP/PSR) & Schematic Design Requirements
4. PDP Activities & Milestones
 - a. Existing Galvin Building & Site Assessment and Investigation
 - b. Existing Elementary Schools Review
 - c. Educational Visioning & Programming
 - d. Grade Level Configuration
 - e. Auditorium vs. Cafetorium
5. Next Steps & What is Expected of School Committee

We know the Canton Community



Identified Galvin MS as the top priority

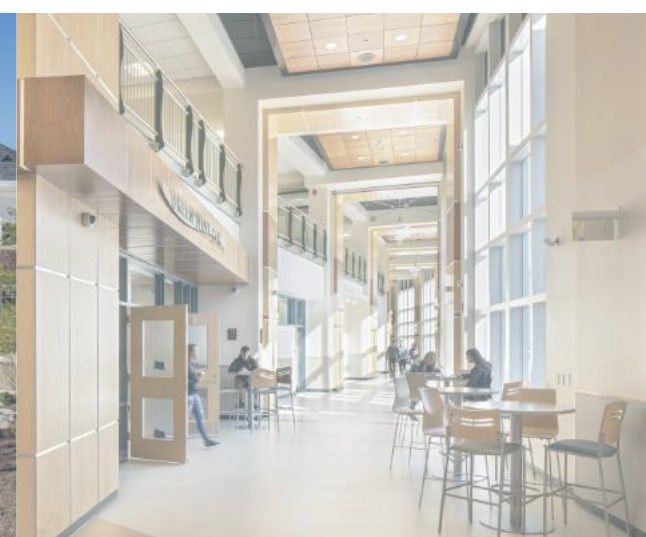
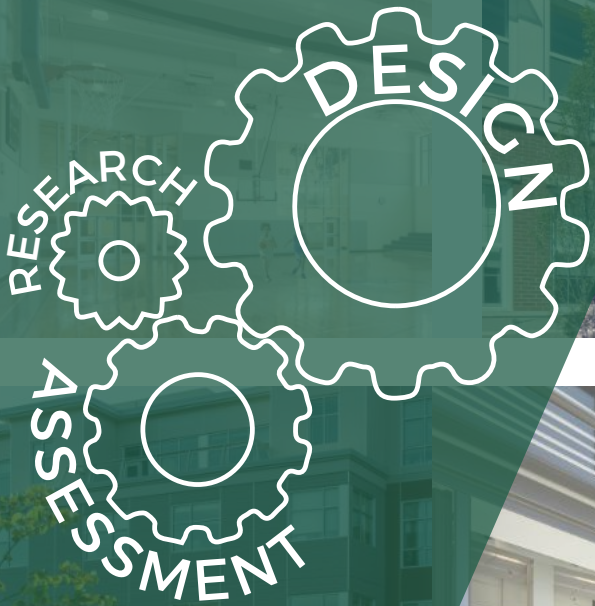


**LIVE
CONNECT
ADAPT** Focus on Schools
Community Connections
Sustainability

We commend Canton for its forward-thinking ideas and dedication to the Town and its students!

100% Focus on Education!

We are a unique firm specializing in educational design



Middle School Design Experience

25+

years designing innovative middle school environments

40+

partnerships with cities & towns across New England

4,000+

educators have shared their philosophies, challenges, & success stories with us

**Over
110,000**



Children have been educated in middle schools designed by **Ai3 Architects**



25+ Middle School Design Expertise

| MIDDLE SCHOOL PROJECT | GRADE CONFIGURATION | LOCATION | REPEAT CLIENT |
|---|-------------------------|----------------------|---------------|
| Yongsan (Seoul) Middle School | 6-8 before, 6-8 after | Seoul, South Korea | |
| Memorial Middle School | 6-8 before, 6-8 after | Hull, MA | ✓ |
| Lynnfield Middle School | 5-8 before, 5-8 after | Lynnfield, MA | ✓ |
| Wilson Middle School | 6-8 before, 5-8 after | Natick, MA | ✓ |
| Lincoln Middle School | 6-8 before, 6-8 after | Lincoln, RI | ✓ |
| Nathan Bishop Middle School | 6-8 before, 6-8 after | Providence, RI | ✓ |
| Woonsocket Middle @ Hamlet St. School | 6-8 before, 5-8 after | Woonsocket, RI | ✓ |
| Woonsocket Middle @ Villanove St. School | 6-8 before, 5-8 after | Woonsocket, RI | ✓ |
| Calcutt Middle School | 6-8 before, 5-8 after | Central Falls, RI | ✓ |
| Riverside Middle School | 6-8 before, 6-8 after | East Providence, RI | ✓ |
| Edward R. Martin Middle School | 6-8 before, 6-8 after | East Providence, RI | ✓ |
| Central Middle School | 6-8 before, 6-8 after | Quincy, MA | ✓ |
| Hingham Middle School | 6-8 before, 6-8 after | Hingham, MA | ✓ |
| South-West Middle School | 6-8 before, 5-8 after | Quincy, MA | ✓ |
| Fayerweather Street School | PK-8 before, PK-8 after | Cambridge, MA | |
| Christa McAuliffe School | 6-8 before, 6-8 after | Framingham, MA | |
| Valley Collaborative School | K-12 before, K-12 after | Billerica, MA | |
| East Bridgewater Middle/High School | 6-8 before, 7-12 after | East Bridgewater, MA | ✓ |
| Abington Middle/High School | 7-8 before, 5-8 after | Abington, MA | |
| Blessed Sacrament | PK-8 before, PK-8 after | Walpole, MA | |
| Beverly Middle School | 6-8 before, 5-8 after | Beverly, MA | ✓ |
| Central Falls Dual-Language School | K-6 before, PK-8 after | Central Falls, RI | ✓ |
| Kennedy Middle School | 5-8 before, 5-8 after | Natick, MA | ✓ |
| Somerset Middle School (in construction) | 6-8 before, 6-8 after | Somerset, MA | ✓ |
| Coakley Middle School (in construction) | 6-8 before, 5-8 after | Norwood, MA | ✓ |
| Whitman Middle School (in design) | 6-8 before, 5-8 after | Whitman, MA | ✓ |

Recent Success on Accelerated Schedules



Kennedy Middle School
Grades 5-8 | Natick, MA



Coakley Middle School
Grades 5-8 | Norwood, MA

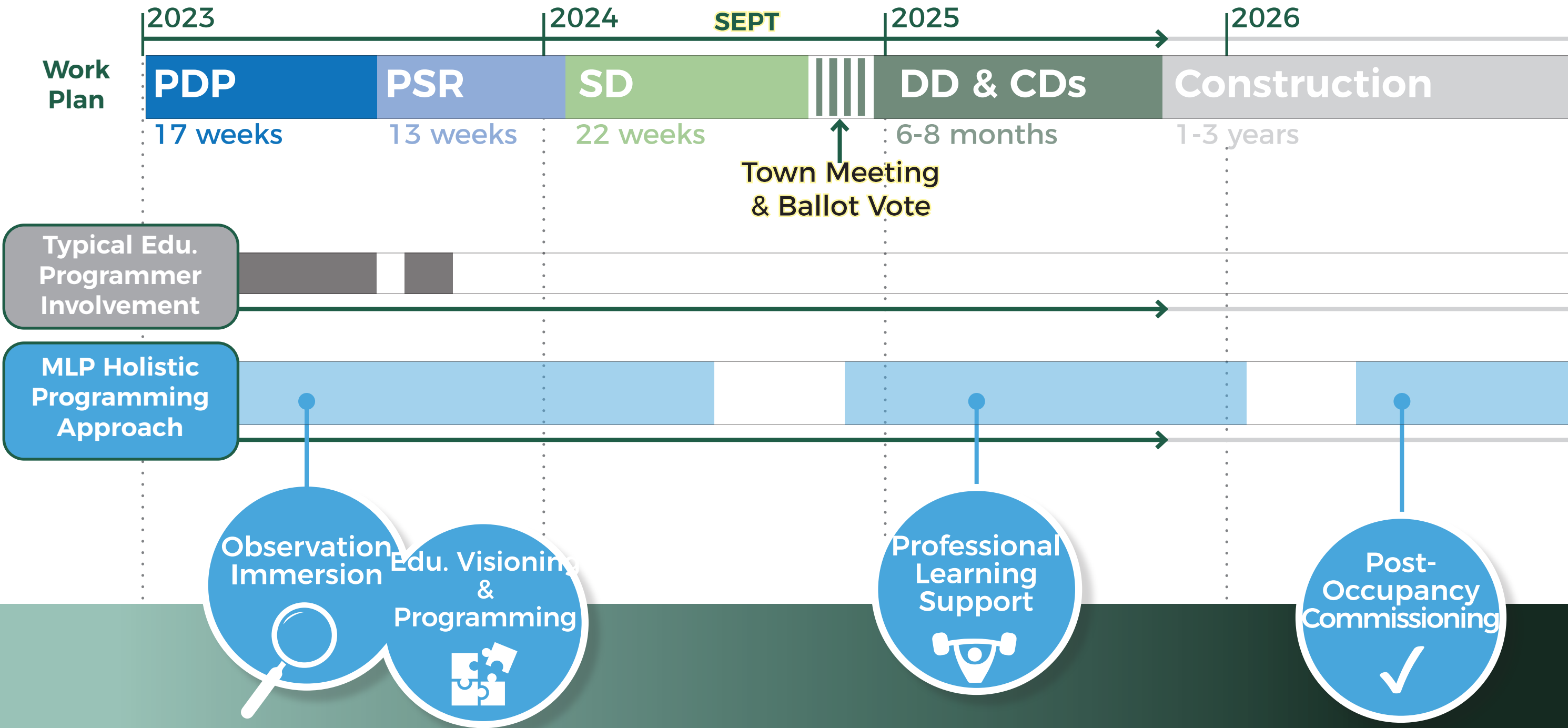


Galvin Middle School
Grades TBD | Canton, MA



Team members have **extensive experience**, including our 3 most recent middle schools

Educational Programming: Redefined



2023 | 2024 | SEPT | 2025 | 2026

Work Plan

PDP | **PSR** | **SD** | **DD & CDs** | **Construction**

17 weeks | 13 weeks | 22 weeks | 6-8 months | 1-3 years

Town Meeting & Ballot Vote

Typical Edu. Programmer Involvement

MLP Holistic Programming Approach

Observation Immersion

Edu. Visioning & Programming

Professional Learning Support

Post-Occupancy Commissioning

Educational Visioning




**Hands-on
Activities**




**Idea
Sharing**



**Team
Collab.**




...and students!

Observation Immersion: Game Changer

1 Observing the Existing Experience



2 Observing Best Practices



3 Implementing What We Learned



GAME CHANGER!

A holistic approach to Educational Planning

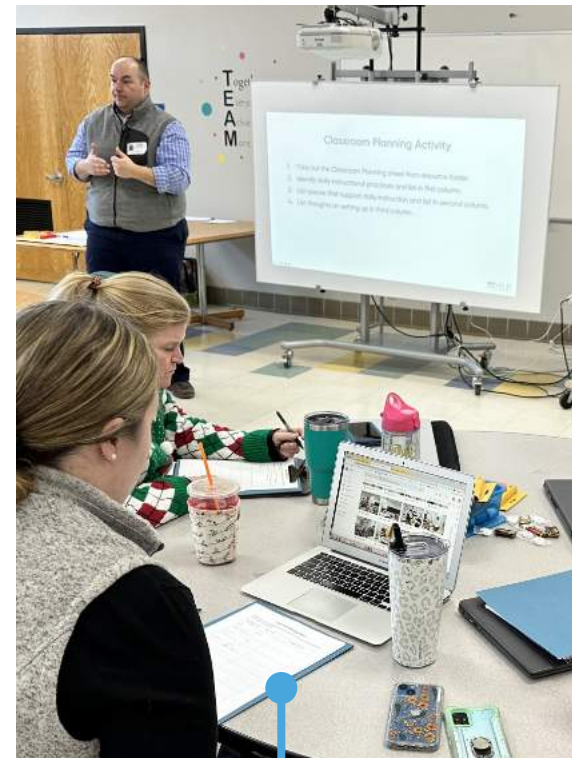
Professional Learning Support



Targeted Professional Development Days



Pre-Occupancy Experience Days



Learning Activity Modeling



Sandbox Classroom for Observation & Experimentation





Student-Centered
Design Concepts

Social-Emotional Learning



Student-Centered
Design Concepts

Learning Communities



Student-Centered
Design Concepts

Hands-on Collaboration



Student-Centered
Design Concepts

Classroom of the Future



Student-Centered
Design Concepts

Classroom of the Future



Student-Centered
Design Concepts

Socialization/
Student Commons



Student-Centered
Design Concepts

Socialization/
Learning Commons



Student-Centered
Design Concepts

Flexible Assembly Spaces



Student-Centered
Design Concepts

Auditorium Assembly Space



Student-Centered
Design Concepts

Professional Collaboration



Student-Centered
Design Concepts

Small Group Breakout Spaces



Student-Centered
Design Concepts

Spontaneous Learning



Student-Centered
Design Concepts

Outdoor Learning

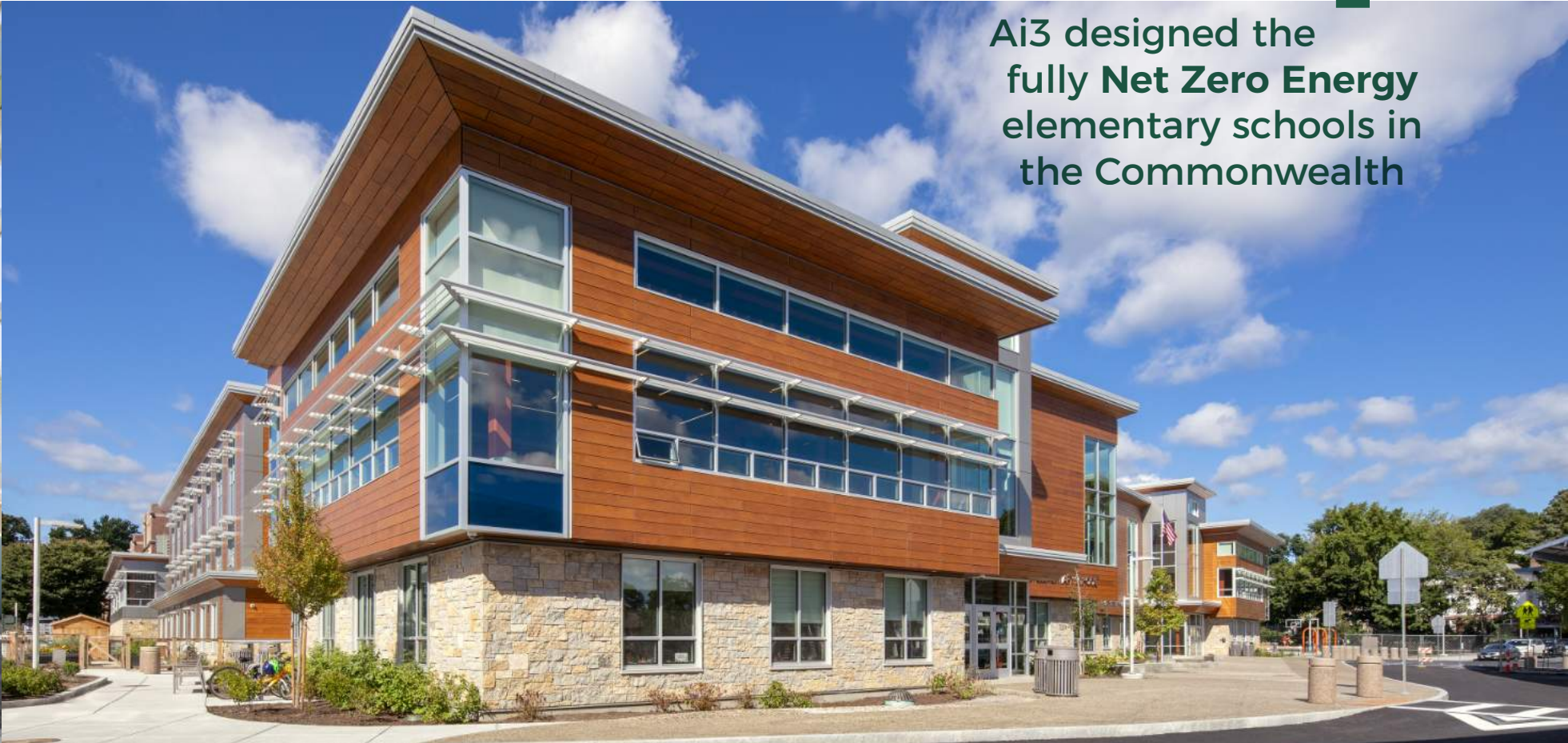
Sustainability & Zero Net Energy

Cunniff Elementary School
Watertown, MA - 2022
EUI = 23.1



TS

Hosmer Elementary School
Watertown, MA - 2022
EUI = 22.4



Ai3 designed the fully Net Zero Energy elementary schools in the Commonwealth

On track to be the nation's

1st Net Zero & LEED v4.1 Platinum High School

Optimally oriented with consideration of mitigating thermal loads on every facade

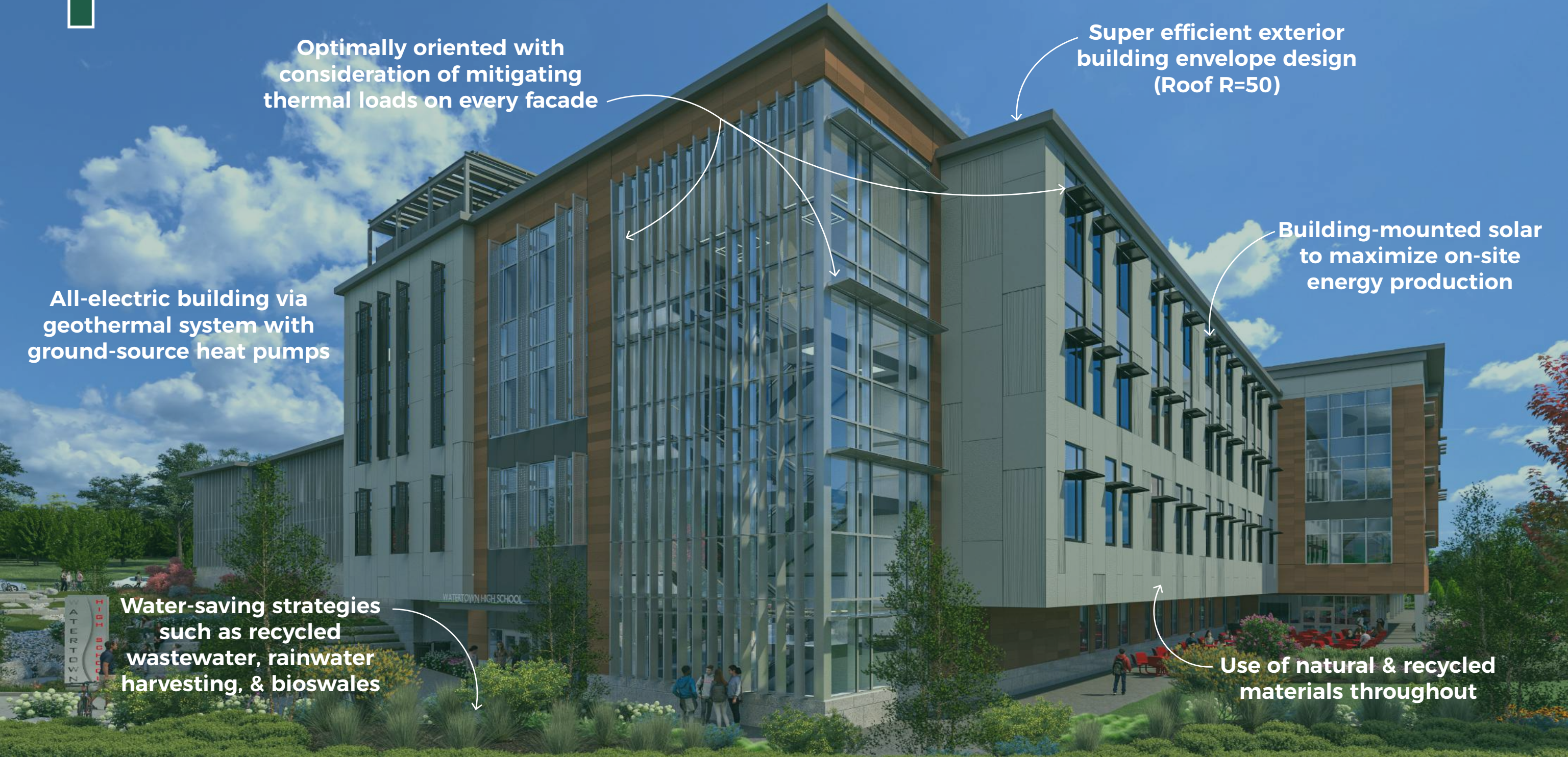
Super efficient exterior building envelope design (Roof R=50)

All-electric building via geothermal system with ground-source heat pumps

Building-mounted solar to maximize on-site energy production

Water-saving strategies such as recycled wastewater, rainwater harvesting, & bioswales

Use of natural & recycled materials throughout



A High-Performing Education



We are excited to engage the **Town of Canton's NEW Sustainability Committee** to discuss opportunities

Health & Wellness

Selecting interior finishes & furnishings to achieve LEED v4 credits (M&R c4, IEQ c2)

A healthy school environment improves well being & leads to greater productivity!



Ventilation
Indoor Air Quality
Thermal Comfort
Lighting & Views
Acoustic
Atmosphere

HEALTH

1

Minimize air recirculation when possible
Increase outdoor air into school environment
Proper MERV rating filtration

WELL BEING

2

UGUI Germicidal Irradiation
Maintain humidity levels between 40%-60%
Implement touchless controls

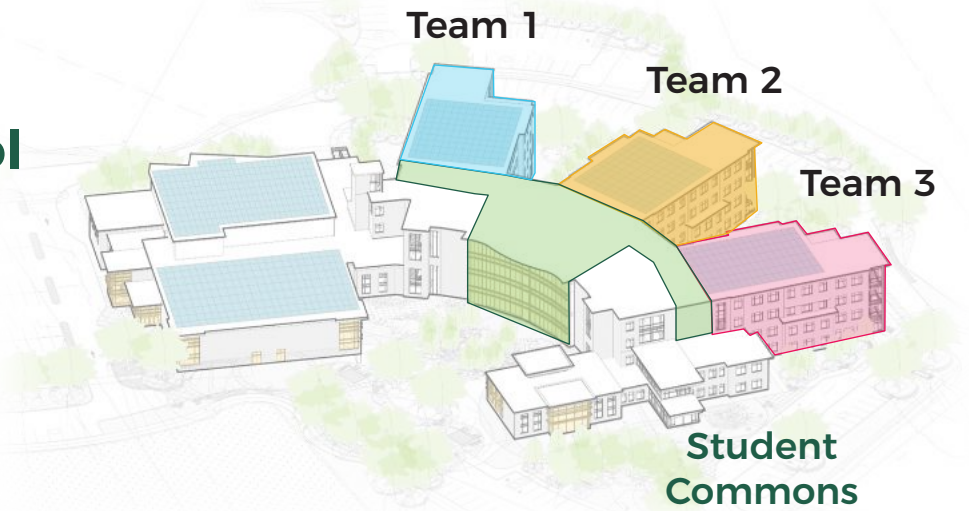
PRODUCTIVITY !!

3

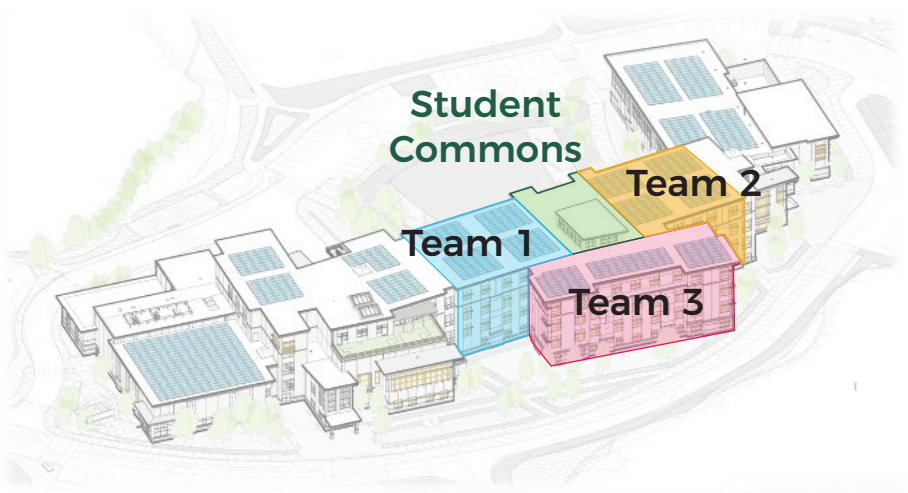


Grade Level (Re)Configuration

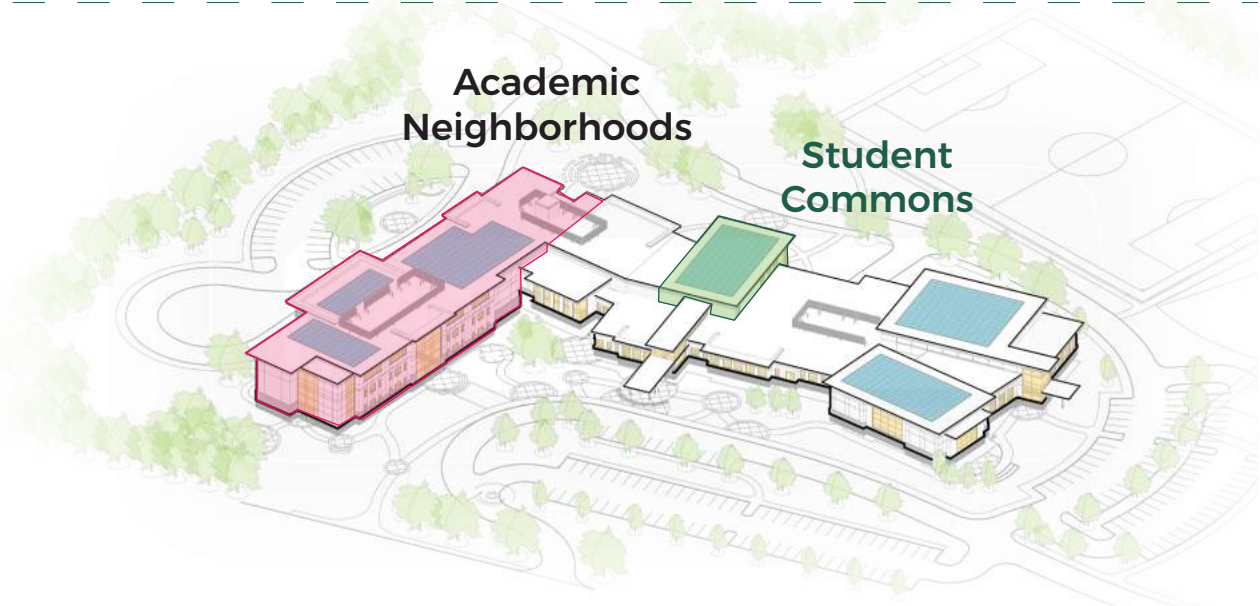
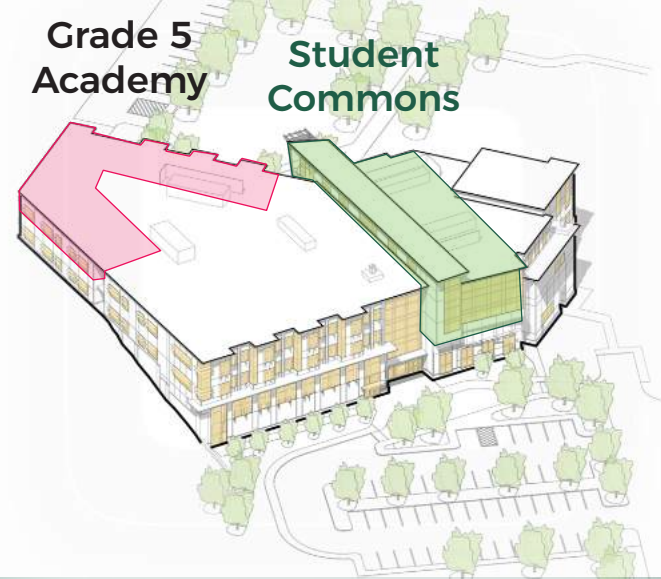
Beverly Middle School
235,509 sf
1,395 Students
Grades 5-8



Kennedy Middle School
182,195 sf
1,000 Students
Grades 5-8



South-West Middle School
95,732 sf
430 Students
Grades 5-8



Ai3 has assisted over 16 communities with grade-level reconfiguration decisions

Grade Level (Re)Configuration

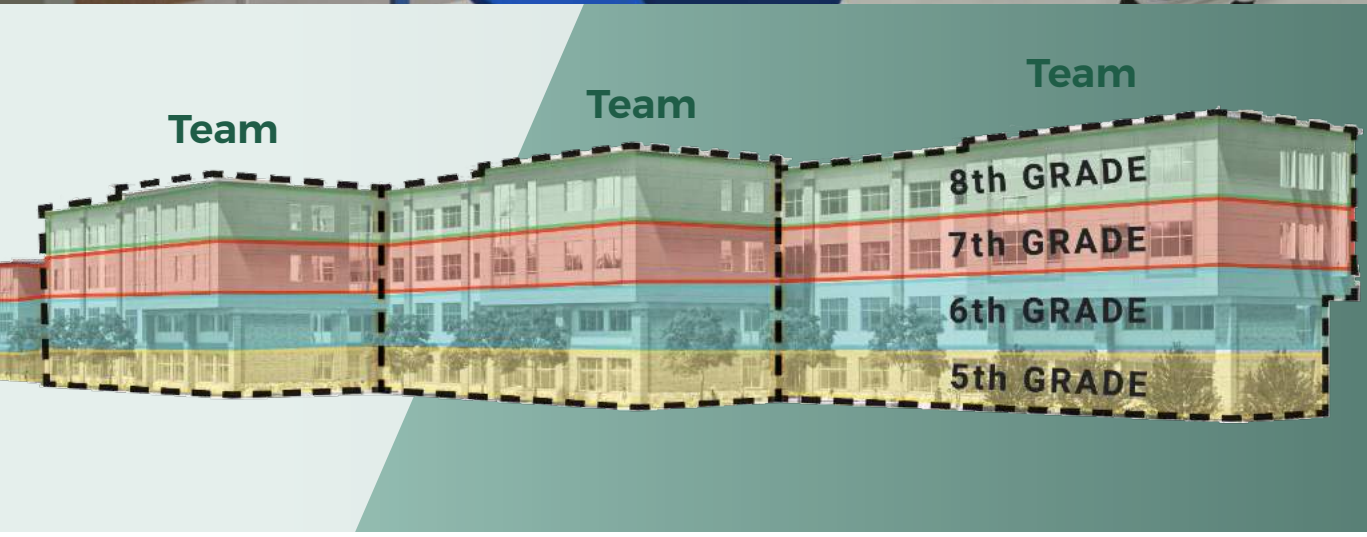
Case Study #1: Coakley Middle School, Norwood, MA | 1,070 students

Reconfig.
from
6-8 to 5-8

Relieved
Overcrowding
@ Elementary
Schools

Mentorship
Program
between
5th & 8th

Team
Teaching at
all levels w/
STEM



Replicates specialized & general support provided at the elementary schools

Engaging the Canton Community

Visit **www.menti.com** and enter code **8757 8412** to participate



Step 1

Locate your phone, tablet, or computer

Step 2

Visit this website: www.menti.com

Step 3

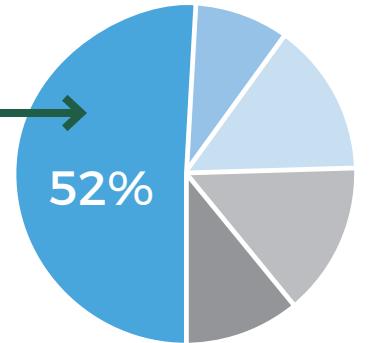
Enter code **8757 8412** & respond

— POLL CLOSES —
NOV. 21, 2022

Multiple Choice Question

Should the Town invest in an auditorium, include only the baseline "cafetorium," or the partially reimbursed "gymatorium" in the project?

- a) INVEST IN AN AUDITORIUM
- b) INCLUDE CAFETORIUM ONLY
- c) INCLUDE GYMATORIUM ONLY
- d) NO PREFERENCE
- e) UNSURE AT THIS TIME



✓ **AUDITORIUM**
CAFETORIUM
GYMATORIUM
NO PREFER.
UNSURE

Consensus is an organic outcome of engaging and listening to the community

Achieving Consensus in Canton



Canton
Community
Preservation
Committee

Canton
Sustainability
Committee

Canton
Diversity,
Equity, &
Inclusion

Canton
Farmer's
Market
(Fall Fest!)

Canton
Community
Tables Event
(CPS)

Canton
Garden Club

Canton
St. Gerard's
Kids Camp

Canton
Youth Soccer,
Softball, Bball,
Football,
Lax

Canton
Master Plan
Steering
Committee

Canton
Young
Entrepreneurs
Day

Canton
Town Select
Board

Canton
Commission
on Disability

Canton
Assoc. of
Parents &
Teachers
(CAPT)

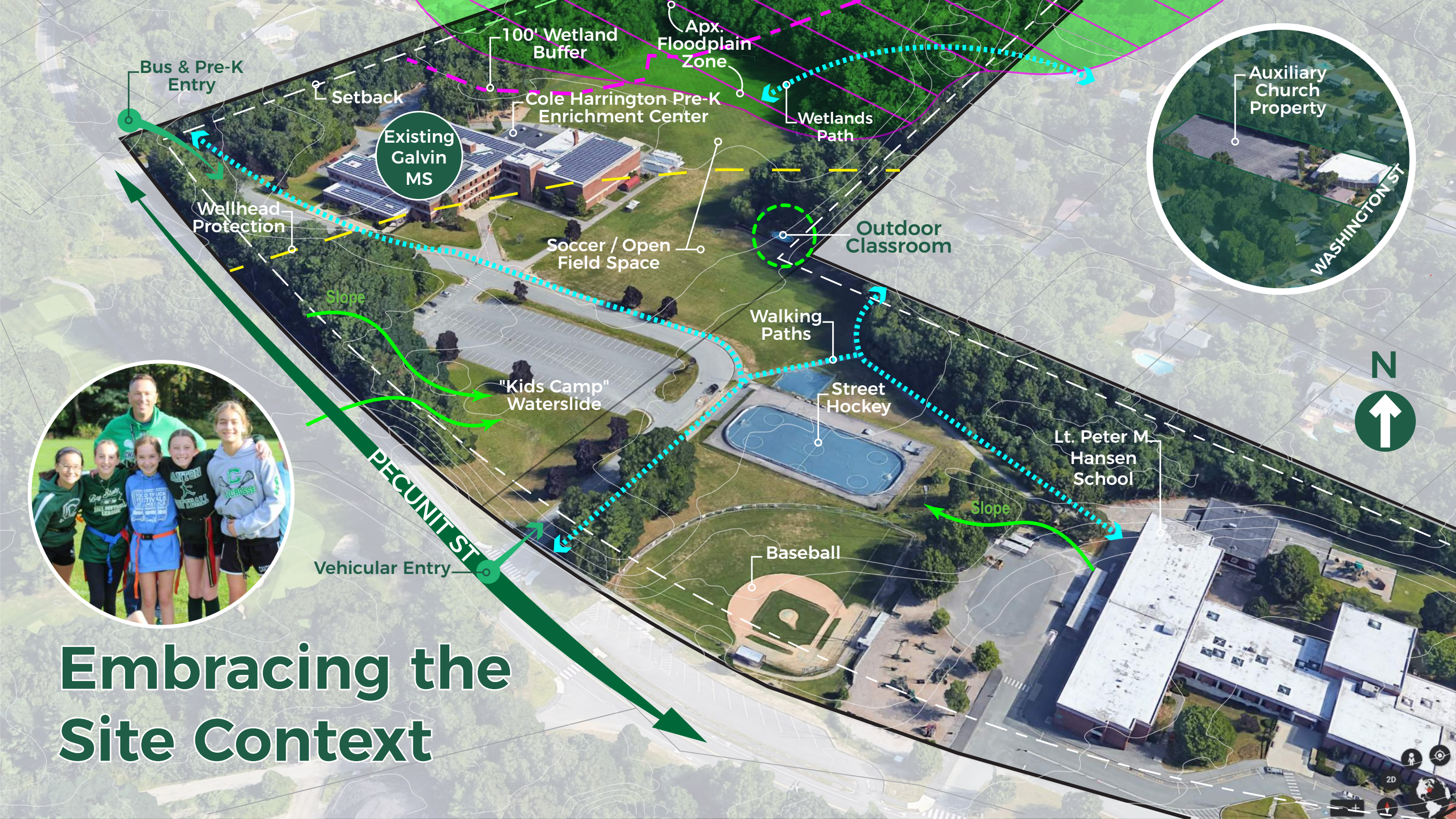
Canton
Taxpayers &
Constituents

Canton
School
Building
Committee

Canton
Public
Schools

We have a consistent track record of achieving community consensus

PROJECT SUPPORT!



Bus & Pre-K Entry

Setback

100' Wetland Buffer

Apx. Floodplain Zone

Cole Harrington Pre-K Enrichment Center

Wetlands Path

Existing Galvin MS

Wellhead Protection

Soccer / Open Field Space

Outdoor Classroom

Slope

Walking Paths

"Kids Camp" Waterslide

Street Hockey

Lt. Peter M. Hansen School

Vehicular Entry

PECUNIT ST

Baseball

Slope

Auxiliary Church Property

WASHINGTON ST



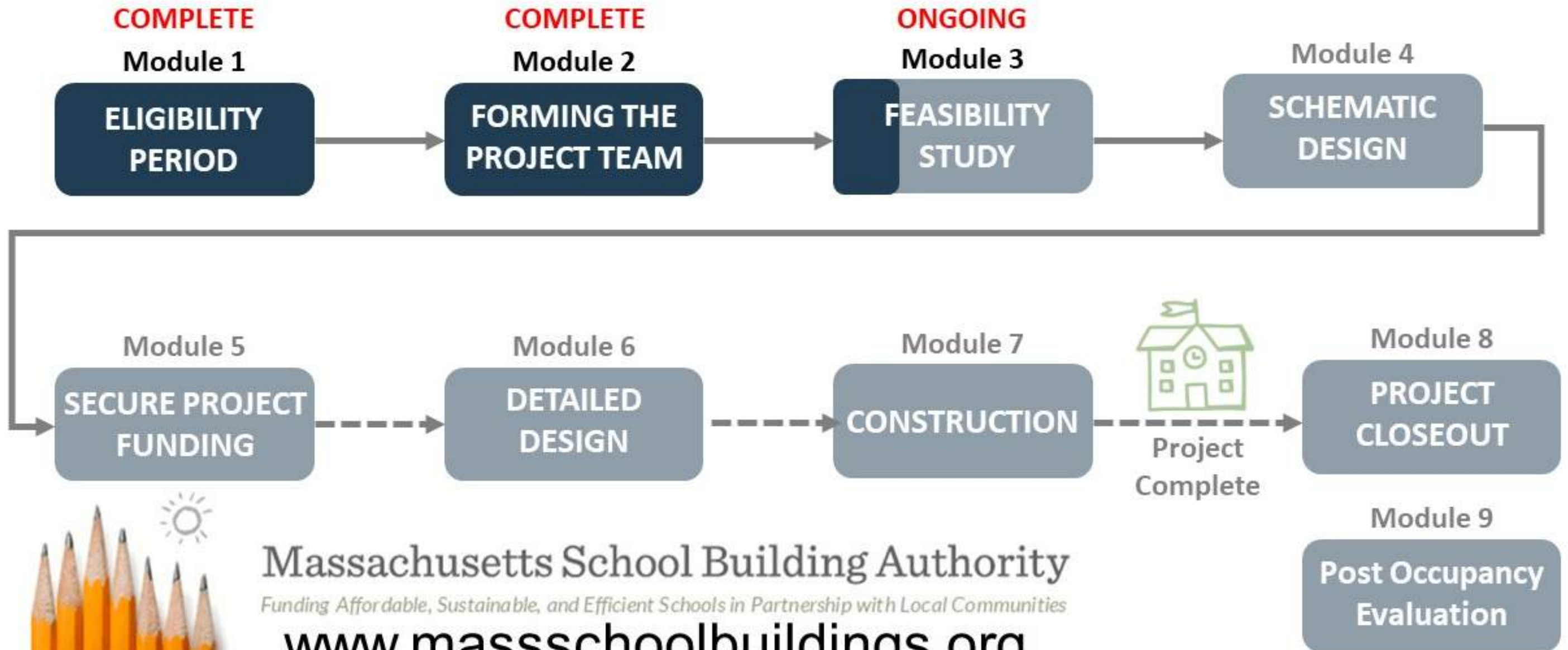
Embracing the Site Context



2D

PROJECT TIMELINE

MSBA Process



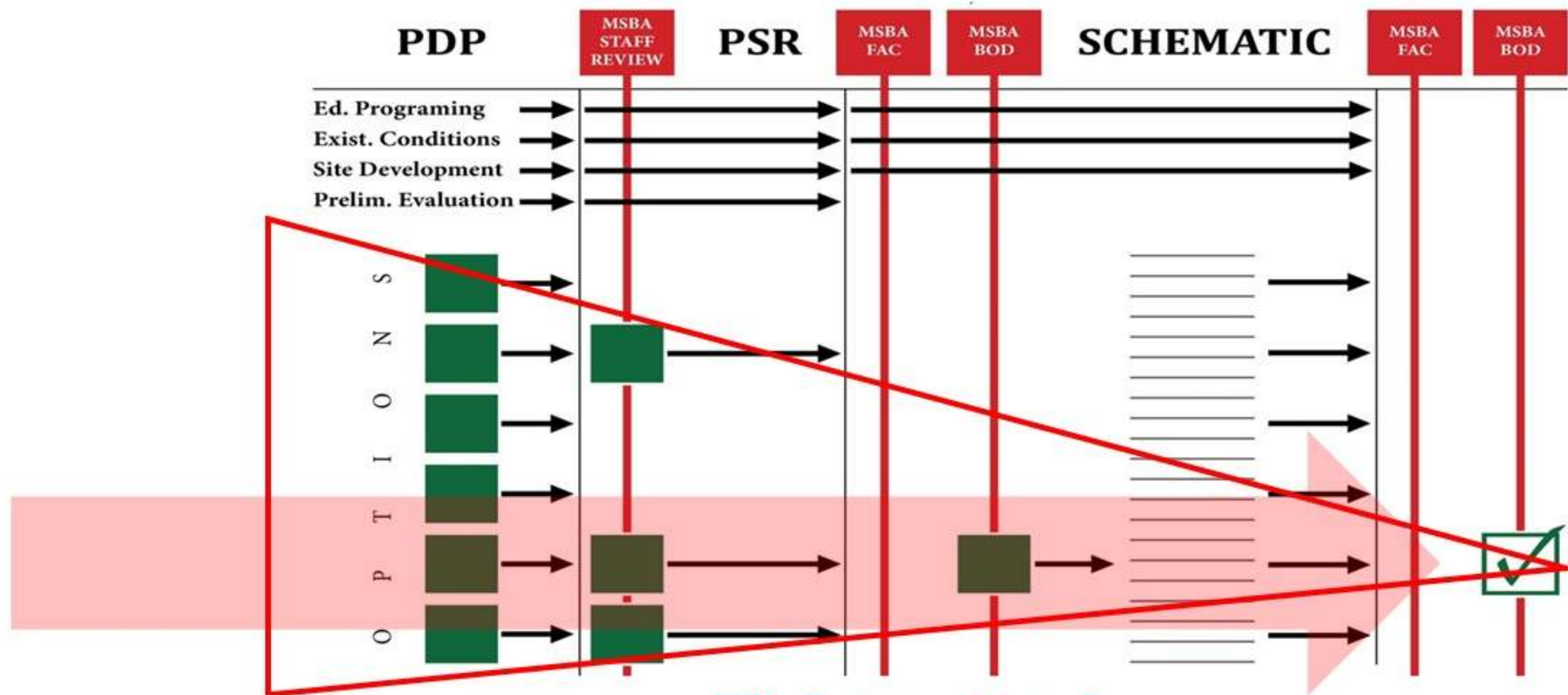
Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

www.massschoolbuildings.org

PROJECT TIMELINE

MSBA Process



PDP = Preliminary Design Program
 PSR = Preferred Schematic Report

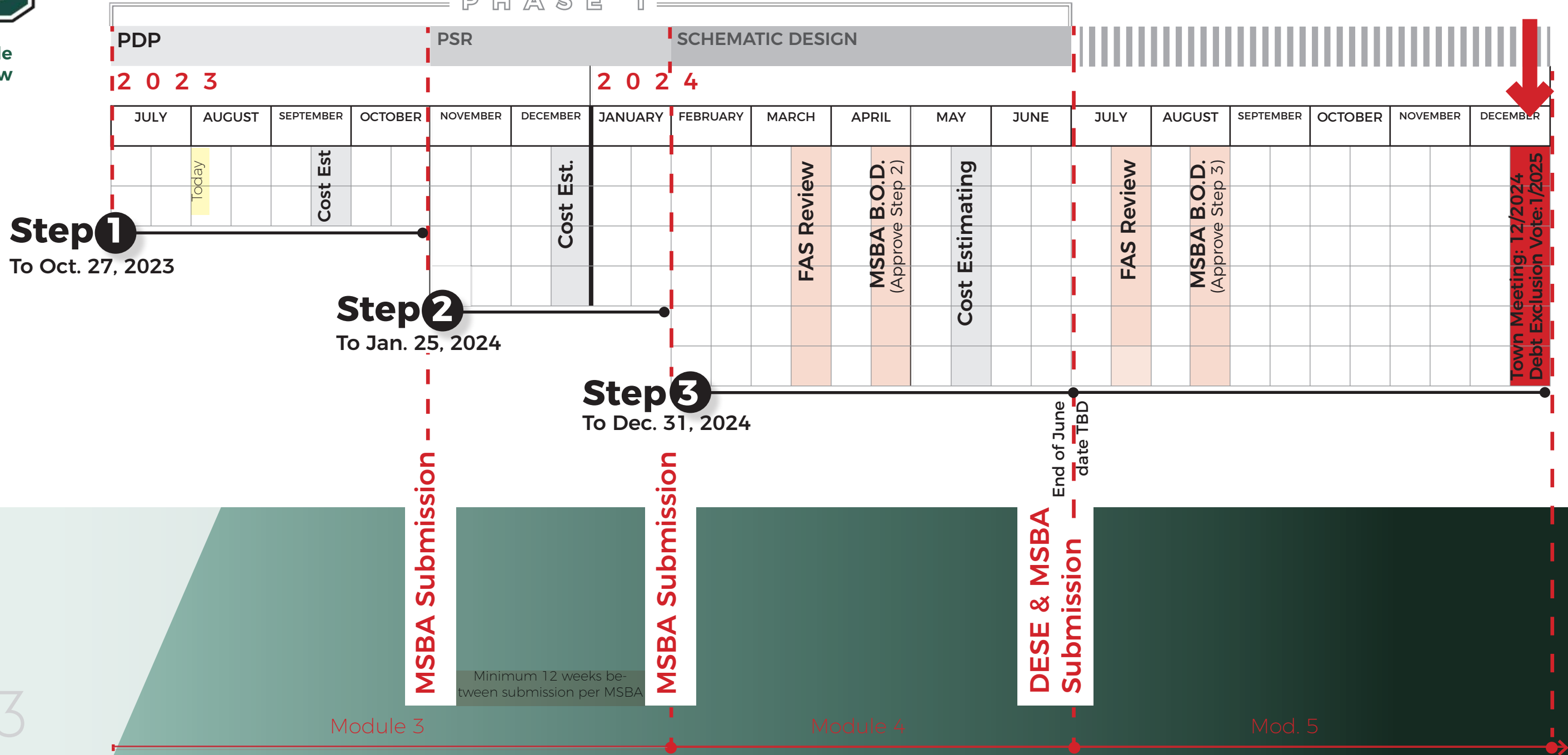




Project Schedule Overview

Galvin Middle School Project Schedule Overview

PHASE I



Module 3

Module 4

Mod. 5

Step 1

Preliminary Design Program (PDP)

OCT. 27
2023

MSBA Staff Review

- + Evaluation of Existing Conditions
- + Visioning & Educational Program
- + Initial Educational Space Summary
- + Evaluation of Existing Elementary Schools (Grade Configurations)
- Evaluation of Alternative Options

Step 2

Preferred Schematic Report (PSR)

JAN. 25
2024

MSBA Board of Director's Mtg.
April, 2024

- Final Evaluation of Existing Conditions
- Final Educational Program
- Development of Preferred Solution
- District Evaluation of Grade Configuration (6-8 vs. 5-8)
- Final Evaluation of Alternatives
District Selects **ONE** option

Step 3

Schematic Design Submission

JUN. 27
2024

MSBA Board of Director's Mtg.
August, 2024

- Final Design Program
- Site Evaluations
- Develop Exterior Design Aesthetic
- Development of Schematic Design Documents
- Independent Cost Estimates

Step 1 Preliminary Design Program

July - Oct 2023

2023 Notable Dates (Proposed):
 Aug. 3 // SC Meeting
 Sep. 28 // Draft Ed Program to SC
 Oct. 12 // SC VOTE on PDP
 Oct. 27 // **Submit PDP to MSBA**

- Completed ✓
- Initiated +
- Pending -

| | JUL | AUG | SEP | OCT |
|--|---|-------------|-------------|-------------|
| Evaluation of Existing Conditions | Existing Middle School Assessment, Testing & Investigation Activities | | | |
| | 7/1 | [Initiated] | | |
| | | 7/12 | [Initiated] | |
| | | 7/12 | [Initiated] | |
| | | 7/12 | [Initiated] | |
| | | 7/21 | [Initiated] | |
| | 7/10 | [Initiated] | | |
| | | 7/21 | [Initiated] | |
| | | 7/21 | [Initiated] | |
| | | 7/12 | [Initiated] | |
| | | | 9/12 | [Pending] |
| Educational Program & Visioning | Existing Site/Civil Analysis | | | |
| | 7/1 | [Initiated] | | |
| | | 7/21 | [Initiated] | |
| | | 7/14 | [Initiated] | |
| | | 7/27 | [Completed] | |
| Initial Educational Space Summary | Ed Visioning Session School Tours | | | |
| | | 8/2 | [Completed] | |
| | | | 8/21 | [Initiated] |
| | | | 9/6&11 | [Initiated] |
| Evaluation of Existing Elementary Schools (Grade Configurations) | Ed Visioning Session 02 | | | |
| | | | 8/18 | [Initiated] |
| | | | 8/18 | [Initiated] |
| | | | 9/12 | [Pending] |
| Evaluation of Alternative Building Options | Distribution of Grade Level Analysis | | | |
| | | 7/21 | [Initiated] | |
| | | 7/13 | [Initiated] | |
| | | 7/13 | [Initiated] | |
| Alternative Options (Matrix of Options) | | | | |
| Preliminary Cost Projections | | | | |
| Building Committee Vote of Options | | | | |
| | | | 9/2 | [Initiated] |
| | | | 9/10 | [Initiated] |
| | | | | Vote |

Aug. 30 // School Start

MSBA Submission

Review

Vote

Vote

Behind the Scenes...

Activity since Designer Selection Panel

// Initial proposed workplan developed

// Coordination begun with consultants for existing conditions assessments

// Wetlands delineation begun

// Coordination with educational programmer, Mike Pirolo

// Draft agendas and presentations for visioning kick-off + visioning sessions begun

// PDP Report template developed

// Table of Contents established

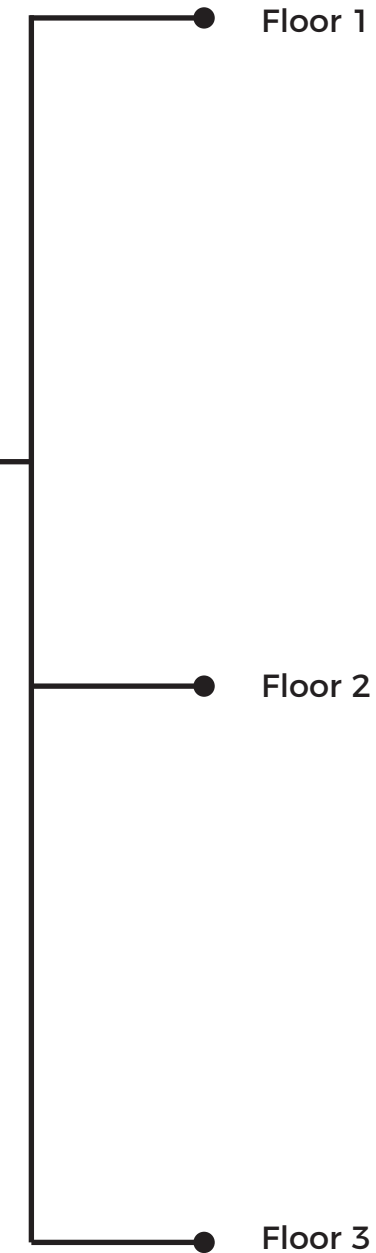
// Existing Conditions of Galvin Middle School & the three Elementary Schools Documented as 3D Revit Models

// Confirmation of building program meetings with Canton Middle & Elementary School Principals

// Existing conditions architectural assessment initiated

... plus, **continued accumulation** of documents & information

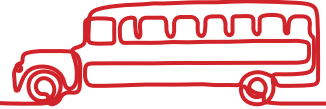
Galvin Middle School



Existing Building Assessments

Initial Observations following Site Visits by Professionals

SITE/CIVIL



- // Large percentage of parent drop-off compared to those who walk or bike
 - / Creates an issue of overflow stacking on Pecunit Street
- // Loading dock access is designed for box truck use only; no large deliveries
- // Snow removal is done by school facilities personnel, not DPW
- // Athletic fields are heavily used by the school and public.
- // Northern athletic field area does not drain well and is frequently soggy
- // Paved areas in poor condition, no infiltration or detention system observed, site doesn't meet current MA DEP stormwater standards
- // Minimal outdoor seating, dining, learning areas, trails or playgrounds

STRUCTURE



- // Existing two-way cast in place concrete slabs and columns are in fair condition
- // Exterior brick masonry exhibiting light cracking in various locations and movement along flashing, and rusting of exterior window lintels
- // Spalling, cracking, and deterioration of concrete at loading dock, exterior concrete ramps and exposed foundation walls
- // Concrete has failed at location of the railing posts at the exterior ramp
- // Moderate to heavy deterioration of metal handrails, stair grates, and loading dock.
- // No connections between the non-structural masonry walls and structure
- // Damage from moisture at base of exterior door frames in some locations
- // Exterior brick in fair condition

Existing Building Assessments

Initial Observations following Site Visits by Professionals

ARCHITECTURE



- // Flooring is primarily VCT (and VAT) in fair to poor condition, with prominent cracking, gaps, curving at seams, broken tiles, stains, and grime from adhesives
- // Rooms with carpets (library, select classrooms) is in poor condition with heavy wearing at high travel areas
- // Ceramic Floor tile is failing
- // Water stains and sagging at Acoustic Ceiling Tiles (ACT)
- // Noise control issues due to a lack of acoustic wall treatments or insulation
- // Classrooms lack amenities like casework, sinks, and technology
- // Insulation of exterior walls does not meet current MA Energy Code Req's
- // Solar panels cover approximately 75% of existing roof area

ADA & CODE COMPLIANCE



- // Ground level egress doors to the outside discharge to a non-compliant elevated platform
- // There are no ADA compliant sinks or drinking fountains
- // Non-compliant signage (room ID & wayfinding)
- // Door frame recesses (in brick walls) too deep to meet push/pull clearances
- // Stairways don't include compliant guardrails, handrails, stair rise and run dimensions, or safety striping
- // Non-compliant toilet room fixtures and maneuvering clearances
- // Protruding objects exist throughout the egress pathways (drinking fountains,
- // Classrooms that can only be accessed from the fire stairs
- // Classrooms without windows; no natural daylight

Existing Building Assessments

Initial Observations following Site Visits by Professionals

MECHANICAL/ELECTRICAL



- // Pneumatic system is original and antiquated, making it difficult to service/maintain
- // Existing hot water piping and terminal heating equipment is original.
- // Majority of the building is not air conditioned. Computer Lab has a ductless split system. Window AC units exist throughout the building for various spaces.
- // Classroom, Library Media Center, and Gym unit ventilators are noisy and past useful service life
- // Boilers are in good condition
- // Electric service, normal power, and emergency power systems are in poor condition and do not meet code
- // Lighting fixtures not energy efficient (predominantly fluorescent)
- // Fire Alarm system is non-compliant
- // Switching does not meet IECC

PLUMBING/FIRE PROTECTION



- // Majority of the case iron plumbing system is original to the building, fixtures are in fair to poor condition
- // Existing storm system drainage is cast iron w/ no overflow system at roofs
- // Downspouts discharge to grade, which can create slippery surfaces in winter
- // Various roof drains are unprotected and blocked by debris and or diverted by PV balast system
- // Central acid neutralization tank or chemical waste storage in school not accessible
- // Domestic water heaters are nearing thier life expectancy
- // The existing school doesn't contain an automatic sprinkler system

Existing Building Assessments

Initial Observations following Site Visits by Professionals

TECHNOLOGY



// Network cabling is outdated Category 5

/ An upgrade to Category 6A is recommended for improved speed to the desktop

// Data port availability acceptable, but not distributed in the classrooms. There is no data in the ceiling for wireless access points. This is not up to current design standards.

// The PA system is an outdated Rauland system and class rooms do not have emergency call buttons. New PA systems are IP/Ethernet based systems

// Master clock system problematic; time drift is a constant problem. Digital clocks are in use, but are not capable of displaying emergency messages.

// A video distribution system is not in use.

//The school does not have digital signage or a digital signage system in use.

// Classroom tech is not up to standards. Wireless devices are present but not ceiling mounted. PA speakers are not ceiling mounted. Interactive projectors are old and outdated. Projector audio is front of classroom based, not ceiling mounted. No voice lift systems are in use. Presentation cameras are old and outdated.

// CCTV system is a mix of analog and IP,. While coverage is adequate inside there is minimal coverage outside. There is no parking surveillance. Recording retention is below average. Resolution of some cameras is low.

// Security awareness of exterior doors is non existent during occupied times.

Educational Planning & Programming

Overview

PER
MSBA:

“

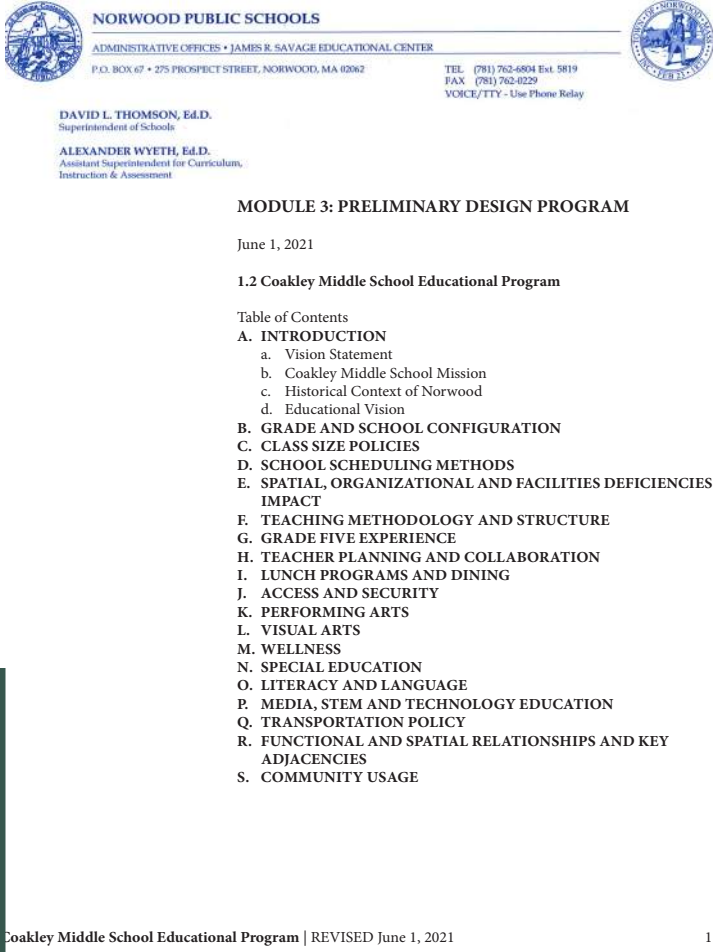
To ensure that school projects are responsive to the educational needs of a District, the MSBA requires the District to:
**1) document its educational program and
2) define proposed educational activities.**

Only then can the district work effectively with its designer, OPM, and local stakeholders **to develop, evaluate, and select a design** that supports its educational objectives/needs.

Establishing a comprehensive and thoughtful educational program also **helps to provide for future flexibility** to adapt to changes in programming or teaching methodologies over the useful life of the school.

”

**Recommend
establishing a
Working Group**



NORWOOD PUBLIC SCHOOLS
ADMINISTRATIVE OFFICES • JAMES R. SAVAGE EDUCATIONAL CENTER
P.O. BOX 67 • 275 PROSPECT STREET, NORWOOD, MA 02062
TEL (781) 762-6804 Est. 1819
FAX (781) 762-0229
VOICE/TTY - Use Phone Relay

DAVID L. THOMSON, Ed.D.
Superintendent of Schools
ALEXANDER WYETH, Ed.D.
Assistant Superintendent for Curriculum,
Instruction & Assessment

MODULE 3: PRELIMINARY DESIGN PROGRAM
June 1, 2021
1.2 Coakley Middle School Educational Program

Table of Contents
A. INTRODUCTION
a. Vision Statement
b. Coakley Middle School Mission
c. Historical Context of Norwood
d. Educational Vision
B. GRADE AND SCHOOL CONFIGURATION
C. CLASS SIZE POLICIES
D. SCHOOL SCHEDULING METHODS
E. SPATIAL, ORGANIZATIONAL AND FACILITIES DEFICIENCIES IMPACT
F. TEACHING METHODOLOGY AND STRUCTURE
G. GRADE FIVE EXPERIENCE
H. TEACHER PLANNING AND COLLABORATION
I. LUNCH PROGRAMS AND DINING
J. ACCESS AND SECURITY
K. PERFORMING ARTS
L. VISUAL ARTS
M. WELLNESS
N. SPECIAL EDUCATION
O. LITERACY AND LANGUAGE
P. MEDIA, STEM AND TECHNOLOGY EDUCATION
Q. TRANSPORTATION POLICY
R. FUNCTIONAL AND SPATIAL RELATIONSHIPS AND KEY ADJACENCIES
S. COMMUNITY USAGE

Coakley Middle School Educational Program | REVISED June 1, 2021 1

*Sample Educational Program for
Norwood Public Schools (60 pages)*

Canton Tours of Recent Projects



GATES MIDDLE SCHOOL
Scituate, MA



CHAPMAN MIDDLE SCHOOL
Weymouth, MA



NuVu - Innovation School
Cambridge, MA

NEXT UP:
KENNEDY MIDDLE SCHOOL NATICK
&
MIT LEARNING LABS CAMBRIDGE

Evaluation of Alternative Options

The PDP Submission will consider the following:

| # | Grades | Option for Consideration | Enrollment | GSF | Cost/SF (Renovation) | Cost/SF (Add/New) | Total Est. Cost |
|---|--------|--|------------------|-----|----------------------|-------------------|-----------------|
| 1 | 6-8 | BASE REPAIR | 766 (current) | | | | |
| 2 | 6-8 | ADDITION/RENOVATION | 760 | | | | |
| 3 | 6-8 | ADDITION/RENOVATION (w/ Auditorium) | 760 | | TBD | | |
| 4 | 6-8 | NEW CONSTRUCTION | 760 | | | | |
| 5 | 6-8 | NEW CONSTRUCTION (w/ Auditorium) | 760 | | | | |
| 6 | 5-8 | ADDITION/RENOVATION | 1020 | | | | |
| 7 | 5-8 | ADDITION/RENOVATION (w/ Auditorium) | 1020 | | | | |
| 8 | 5-8 | NEW CONSTRUCTION | 1020 | | | | |
| 9 | 5-8 | NEW CONSTRUCTION (w/ Auditorium) | 1020 | | | | |

Planning for Community Forums

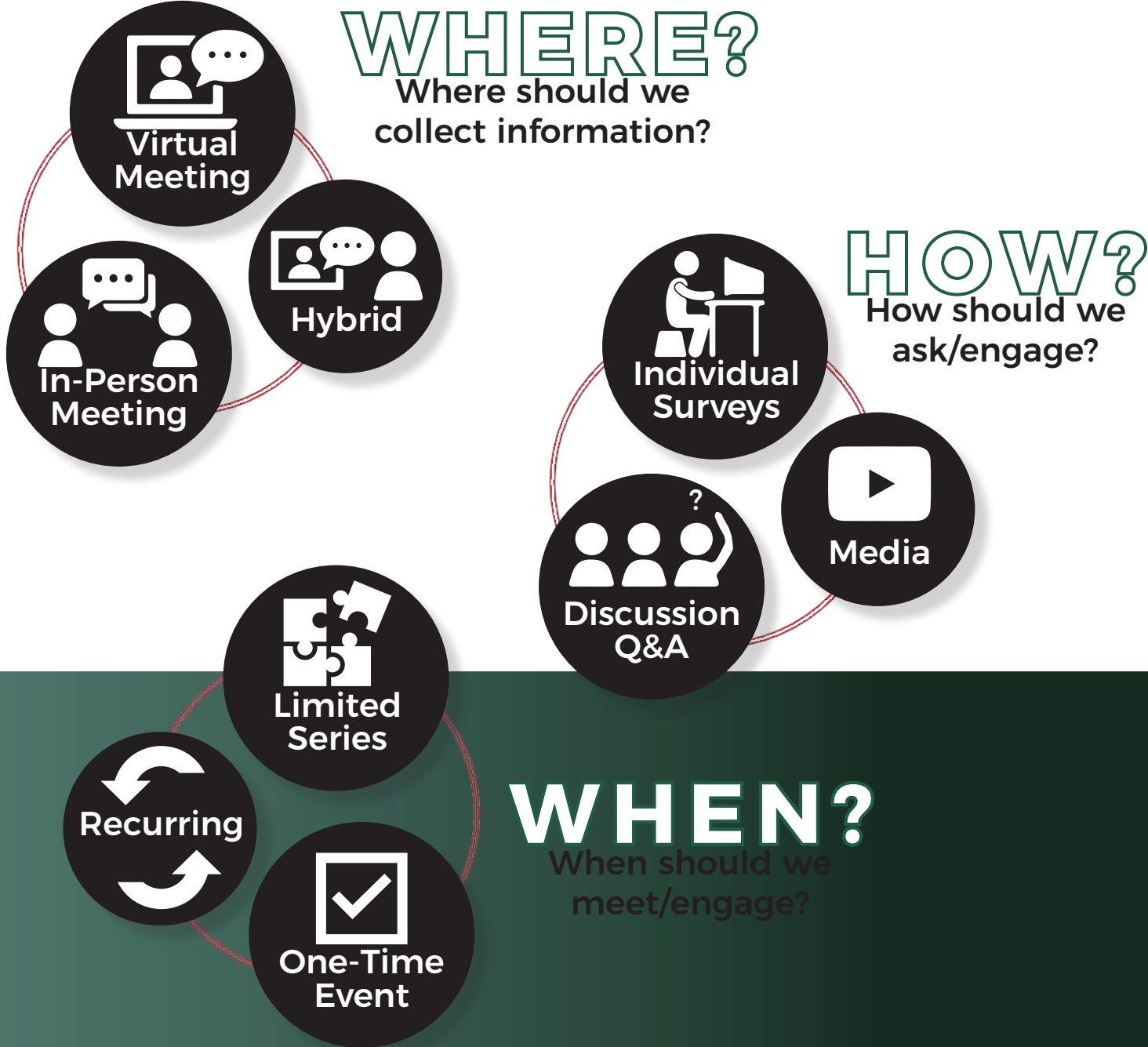
TBD: Proposed Date & Content

(After start of 2023-2024 school year)

SEP, OCT, NOV, & DEC 2023

Sample Agenda:

- // Introduction to Designer & OPM
- // Project Schedule Overview
- // PDP Activities & Milestones - Step 1
 - / Existing Conditions Analysis
 - / Educational Visioning
 - / Educational Planning & Programming
 - / Grade-Level Configuration
- // Next Steps/Upcoming Activities



Next Steps & What is Expected of the School Committee

Item 1

Upcoming Meetings

Educational Program

August 2, 3, 18, 21
September 6, 11, 14,
& w/o 18

School Committee

September 28 DRAFT Ed Program
October 12 Review & Vote

Item 2

Critical Votes

Submit PDP to MSBA

October

Grade Configuration

and

Auditorium or Cafetorium

December

Item 3

Community Engagement

Community Forums

September
October
November
December

Mi3
ARCHITECTS

