



# Article 1

## Concord Middle School Building Project



# Introductions

- Dr. Laurie Hunter, Superintendent of Schools
- Dawn Guarriello, AIA CMSBC Co-Chair
  - Licensed Professional School Architect
  - 25+ years experience designing Public Schools in MA
- Pat Nelson MEd., CMSBC Co-Chair
  - Director of Concord Children's Center
  - 20 +years experience in education
  - Member, Willard School Building Committee



# Building Committee

**Dawn Guarriello**, Co-Chair

**Pat Nelson**, Co-Chair

**Alexa Anderson**, School  
Committee Representative

**Court Booth**, School  
Committee Representative

**Heather Bout**, Community  
Volunteer

**Justin Cameron**, CMS  
Principal

**Frank Cannon**, Community  
Volunteer

**Stephen Crane**, Town  
Manager

**Peter Fischelis**, Community  
Volunteer

**Jon Harris**, Concord Budget  
Director

**Russ Hughes**, Facilities  
Manager CPS/CCHS

**Laurie Hunter**,  
Superintendent of Schools

**Matt Johnson**, Concord  
Select Board

**Amanda Kohn**, Concord  
Sustainability Director

**Charlie Parker**, Community  
Volunteer

**Chris Popov**, Community  
Volunteer

**Matt Root**, Community  
Volunteer

**Jared Stanton**, Assistant  
Superintendent of Finance  
and Operations CPS/CCRSD



# How Did We Get Here?



# Current Conditions

## Sanborn

- Opened in 1964 as a Junior High
  - 58 years old
- 84K square feet on 31 acres
- Modular classrooms added in 2004 to address overcrowding

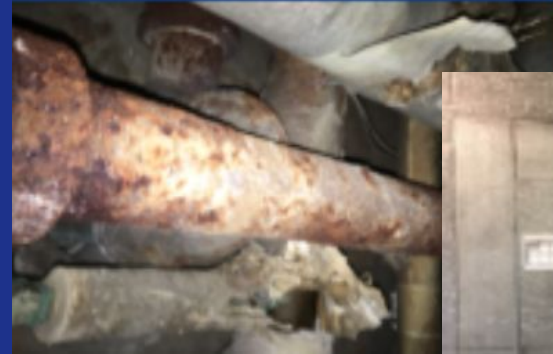
## Peabody

- Opened in 1970 to address overflow
  - 52 years old
- 56K square feet on 8 acres
- Originally designed as open concept elementary school



# Current Conditions

- Outdated infrastructure
  - Pipes, septic, roof
- Aging equipment
  - Unreliable, discontinued parts
- Operational inefficiencies
  - 548K/year duplicative costs
- Overcrowding
  - Modular classrooms for decades
- Environmentally unsound





# Cost of Delay or Inaction

Required costs, repairs, capital investments:

- Duplicative annual costs
- Immediate Repairs
- Risk of capital repairs at any given time
  - Plumbing, Septic, HVAC, Roof

Lost educational opportunities for students:

- Space does not support innovative educational vision and instructional approaches
  - Team Teaching
  - Hands-on Learning
- Potential for large-scale educational interruptions
  - Building closures due to unexpected remediation, or necessary capital repairs, etc.



# Establishment of Need

Based on the poor conditions at the CMS buildings, a Facilities Planning Committee formed in 2016

- 15 community members
- Engagement with Finegold Alexander Architects to answer the following questions:
  - Cost to remain in buildings indefinitely
  - Options and costs to renovate either building
  - Options and costs to build new building





# 2018 Conclusions

## Finegold Alexander Findings

1. Peabody and Sanborn Conditions are Deteriorated and Obsolete.
2. The result is a sub-optimal educational experience.
3. To remain in current buildings for 10 years or more would require significant investment.
4. The cost to renovate would be similar to that of new construction and would entail higher long-term maintenance costs.

➤ **Based on Finegold Alexander analysis, the CMS Facilities Planning Committee and the Concord School Committee recommended proceeding with a new building on the Sanborn site.**



# 2019 Town Meeting Decision

- In April 2019, conducting a feasibility study was approved by well over  $\frac{2}{3}$  of the participants
- At this same Town Meeting, an amendment was approved
  - The CMS building would be Net Zero Ready and all electric
- The Town Meeting was followed by a ballot vote in June
  - 1513 votes were cast
    - 1313 in favor
    - 200 opposed



# The Concord Middle School Building Committee is Born



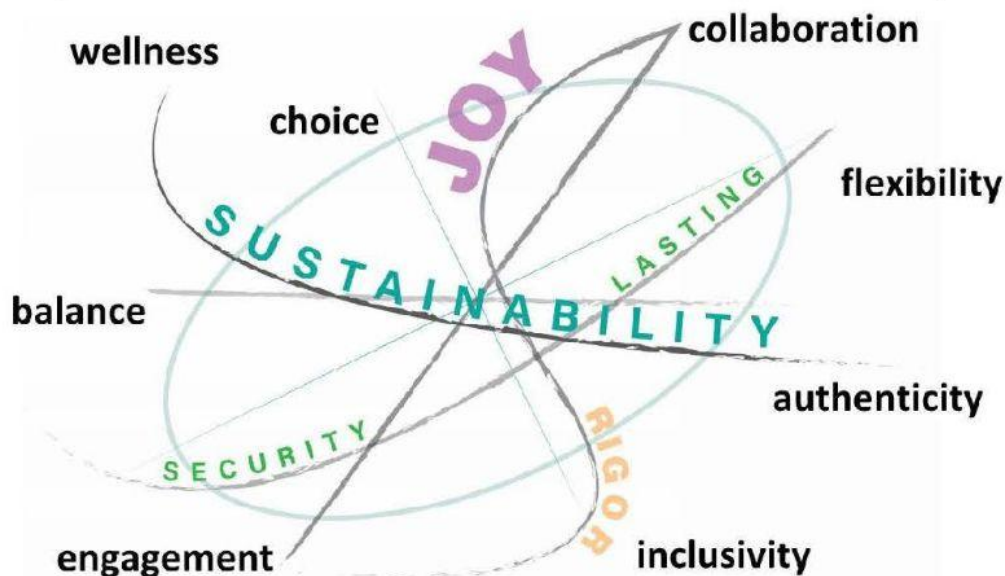
# Project Goals

- Consolidate two middle school populations into a single learning facility that supports the collaborative and innovative learning environment we believe will equip students with the skills necessary for their future success in high school and beyond
  - Team Teaching
- Design a building that represents Concord's commitment to sustainability
  - Net Zero Ready
  - All-electric
  - LEEDv4 Silver Certifiable
- Consider and be mindful of impact to taxpayers
  - Total project cost goal of \$80-100M



# Educational Goals

Vision: Eight Core Principles





# Educational Goals: The Details

## Collaboration

- Furniture and Spaces designed for the full range of experiences and modes to prepare students to be effective adults

## Flexibility

- Various room sizes with ability to combine or divide spaces to support multiple teaching models and learning styles
- Design that facilitates future expansion

## Wellness

- Sustainable, high performance school with care applied to comfort, acoustics, natural light and connection to the outdoors
- School for the whole person

## Inclusivity

- Barrier free design
- Zoning for after hours and community use
- Auditorium and cafeteria that can hold the entire school
- Effective and intuitive circulation for connection and communication

## Authenticity

- Real and warm materials (wood)
- Connection to nature

## Choice

- Allow for teacher and student autonomy
- Balance stands with latitude to create individual pathways to success

## Balance

- Technology / Craft
- Teacher-led / Student-led
- Indoors / Outdoors
- Independent work / Group work

## Engagement

- Spaces for hands-on innovation, creativity and joyful learning
- Green building that becomes a teaching tool
- One special defining campus feature



# Feasibility Study

JAN '20- MAY '21 (APPROX. 11 MONTHS)

PLUS A 6 MONTH COVID PAUSE + RESTART

Feasibility Study Charge: Analyze **alternative concepts** for construction of a middle school on the Sanborn site and choose a **preferred concept**

## 1a. Educational Visioning and Programming

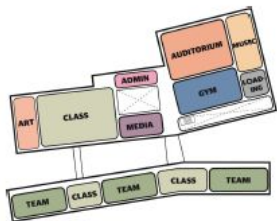
## 1b. Evaluation of Site Conditions & Requirements

(Site Survey, Geotech, Phase 1- Environmental Assessment)

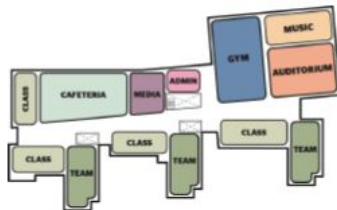
## 2. Develop Conceptual Design Options

Conceptual Site and Building Plans, Building Materials/Massing, All-electric or Gas, Target EUI, Furniture, Fixtures, Equip Goals, Security Goals, Project Budget, Construction Delivery Method,

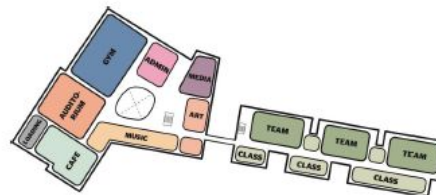
OPTION 1: DOUBLE BAR



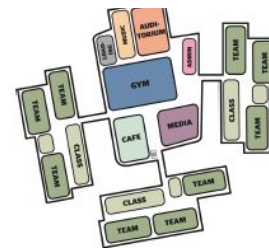
OPTION 2: PODS



OPTION 3: TREETOP TEAMS



OPTION 4: PINWHEEL





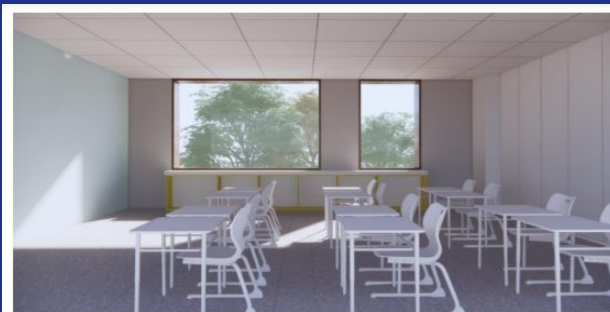
# Schematic Design (SD)

MAY '21- NOV '21  
(APPROX. 7 MONTHS)

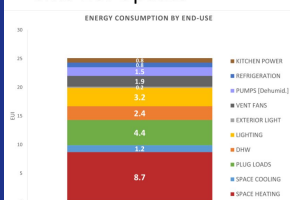
Schematic Design Charge: Develop a **schematic design** with **sufficient detail** to establish the **scope and budget** for the proposed project

## Develop Schematic Design on Preferred Option

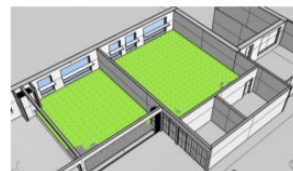
SD Floor Plans, Site Plans, Specifications, Materials, Mechanical Systems, Detailed Costs, Energy Model (EUI update), Solar Strategy



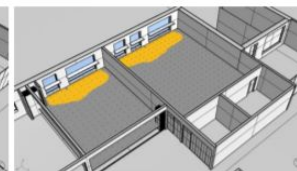
### CMS EUI Update



25  
EUI



Design Option 1 - South Classroom: 98 1% SDA



Design Option 1 - South Classroom: 13 9% ASD





# Building Layout and Design



## ILLUSTRATIVE SITE PLAN





### "Public" Wing

- School use only during school hours
- Community use after hours

MAIN  
ENTRY



	Classroom
	Team Commons
	Special Education
	Vocation/Tech Classroom
	Administration
	Guidance
	Nurse
	Media Center
	Auditorium
	Music
	Art
	Physical Education
	Cafeteria

## GROUND FLOOR PLAN

### "Academic" Wing

- 3 stories
- Houses majority of classrooms



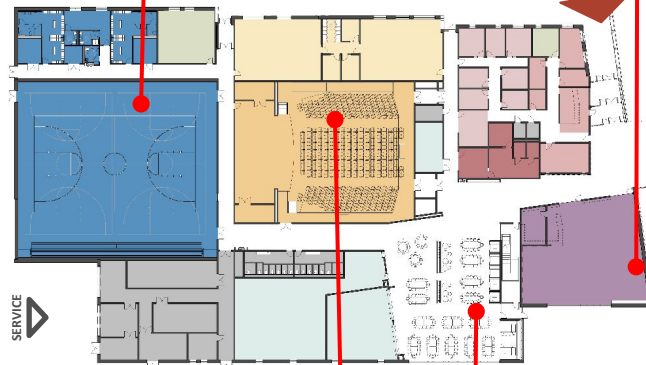
## GYM

- 1 MIAA Court
- 2 large practice courts
- All-school assembly
- Proximate to parking
- Separate entrance

## MEDIA CENTER

- Equal size to existing middle school libraries combined
- Located in the heart of the school
- View into the forest

MAIN  
ENTRY



## AUDITORIUM

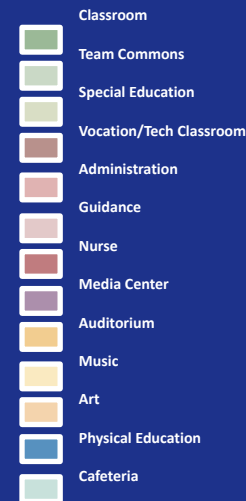
- 420 seats
- Traditional sloped seating

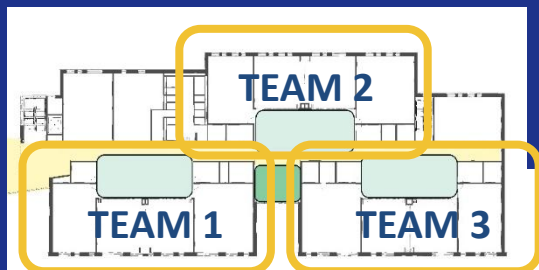
## CAFETERIA

- Scramble servery
- Mix of seating types
- One grade level / lunch
- View into the forest

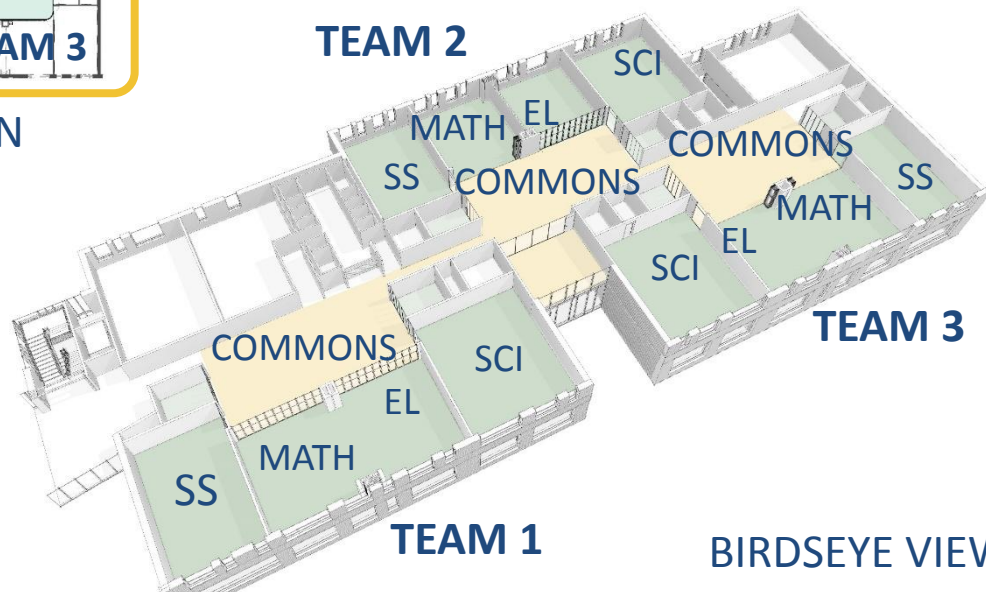
## ACADEMIC WING

- 1 grade level per floor
- 3 Teams per grade level
- Integrated SPED spaces
- Spaces for differentiation





FLOOR PLAN



BIRDSEYE VIEW

# TYPICAL ACADEMIC WING





**FRONT ELEVATION**



**BIRDSEYE RENDERING**



## EXTERIOR RENDERING OF ENTRY AND COMMUNITY WING







## EXTERIOR RENDERING OF ENTRY AND ACADEMIC WING







**RENDERING OF NATURAL AMPHITHEATER**



INTERIOR RENDERING OF ENTRY AREA



RENDERING OF TEAM COMMONS





RENDERING OF CAFETERIA



# Sustainability

EUI Goal, Net Zero Readiness, All-Electric Systems



# Concord's Sustainability Goals



**Built Environment-** Concord's buildings and solid waste system minimize Greenhouse Gas (GHG) emissions and are resilient to a changing climate.



**Energy -** Concord's electricity is 100% carbon-free, reliable and affordable.



**Mobility-** Everyone has access to zero carbon transportation options to commute and get around Concord.



**Natural Resources-** Concord's natural resources are enhanced and supported to provide resilience benefits to the community and to maximize biodiversity and carbon sequestration.



**Preparedness-** Concord's critical infrastructure is designed to reduce emissions and be prepared for projected climate impacts.



# Building Project Sustainability Goals

The Sustainability Subcommittee established six high level sustainability goals for the Design and Construction Teams:

1. Deliver a Healthy Indoor Environment
2. Inspire a Passion for Learning
3. Achieve High Performance Energy Efficiency[1] (EUI of 25 or better)
4. Reduce Embodied Carbon During Construction
5. Be All-Electric<sup>1</sup>
6. Be Solar<sup>1</sup> and Storage Ready\*



\*The Sustainability Sub-Committee is committed to Net Zero Energy and is working with the CMLP to develop a Zero Energy Building strategy with the CMS.

[1] Goal aligns with the Town Meeting Amendment to the funding article for the design of the new CMS.



# Sustainability in the Design



- Comply with the Energy Zero Code Version 2.0 with modifications
- Predicted Energy Use Intensity (EUI) of 25 or better
- Reduce Embodied Carbon - target a 20% reduction compared to an equivalent baseline
- Fully electric - using no fossil fuels (except emergency generator)
- Solar Ready: Infrastructure for roof and parking canopy PV arrays
- LEEDv4 Silver Certifiable - Focused resources on in-field verification and Net Zero Energy details





# Sustainability in the Design



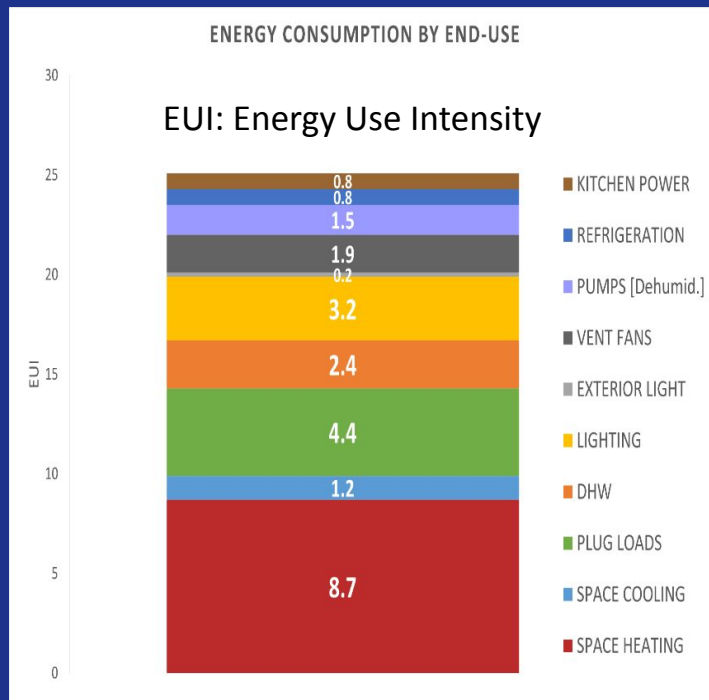
- Robust and airtight building enclosure
- High efficiency air source heat pumps for heating/cooling
- Building orientation optimized for solar
- All-electric kitchen
- Plug load management
- High efficiency energy recovery ventilator for ventilation



The CMS project is targeting an EUI of 25 or better. The lower the EUI is, the more energy efficient is the building.

For context, the EUI of the existing Sanborn building is about 135.

# Projected EUI



Target:

25  
EUI



# Community Engagement



# Community Engagement

Extensive communication with the community includes

- 8 Community Forums during Feasibility and Schematic Design\*
- 13 Coffees & Info Sessions 11/1 - 12/16/21, more to come
- Listening Sessions and Discussions with over 20 local groups

Concord Select Board

Concord Finance Committee

Commission on Disability

Rotary Club of Concord

Bruce Freeman Rail Trail

Climate Action Advisory Network

Concord Carlisle Youth Basketball

Concord Association of Music

SEPAC

Town Staff

Council on Aging

Concord Business Partnership

Elementary PTGs

Tax Relief Committee

Concord Recreation Dept

Preschool PTG and Parents

Concord School Committee

Fire Department

League of Women Voters

PEG Access Advisory Board

CMS PTG

Committee Chairs Breakfast

Concord Carlisle Youth Soccer

Other committee liaisons

*\* Many Forums and Information Sessions were also hosted prior to the Feasibility and Schematic Design Phase.*



# Community Engagement

## Additional engagement included

- 55 public meetings of the full CMSBC
- 52 public meetings of 4 subcommittees of the CMSBC
- Dedicated, comprehensive CMS Building Project website
  - Information also published to Town of Concord website
- Communications
  - Inbound
    - 300+ emails sent to the committee
  - Outbound
    - Email distribution lists
    - Dedicated CMSBC social media (Twitter, Facebook, Instagram)
- Community survey (Approximately 1,500 respondents)
- Building Committee Reports published to local media



# Project Cost



# Construction Budget

01 Nov 2021 – Schematic Design Reconciled Estimate    \$82,512,622

12 Nov 2021 – CSMBC Value Management accepted    -\$ 912,147

19 Nov 2021 – CSMBC Value Management accepted    -\$ 827,988

02 Dec 2021 – CSMBC Value Management accepted    -\$ 0

*VM Subtotal*    *-\$ 1,740,145*

**Final Schematic Design Construction Budget    \$80,772,477**



# Total Project Budget

## Schematic Design Construction Budget

**\$80,772,477**

Architecture & Engineering

\$ 8,095,500

OPM & Administration

\$ 4,503,580

Furniture & Technology

\$ 2,625,000

**Subtotal**

**\$15,224,080**

Soft Costs

Construction Contingency

\$ 4,038,624

Owner's Contingency

\$ 761,204

**Subtotal**

**\$ 4,799,828**

Contingencies

**Total Project Cost**

**\$100,796,385**

Bidding Contingency

\$2,019,312\*

**Motion Amount at Special Town Meeting**

**\$102,816,000**

*\*At the request of the Select Board an additional bidding contingency of 2.5% (\$2,019,312) was added to the project. This contingency is over and above the industry standard of 5% and would only be used in the event that bids exceeded \$81MM and the contingency could only be applied at the bidding stage.*





# Comparables

We are not proposing a school with any extraordinary features or amenities.

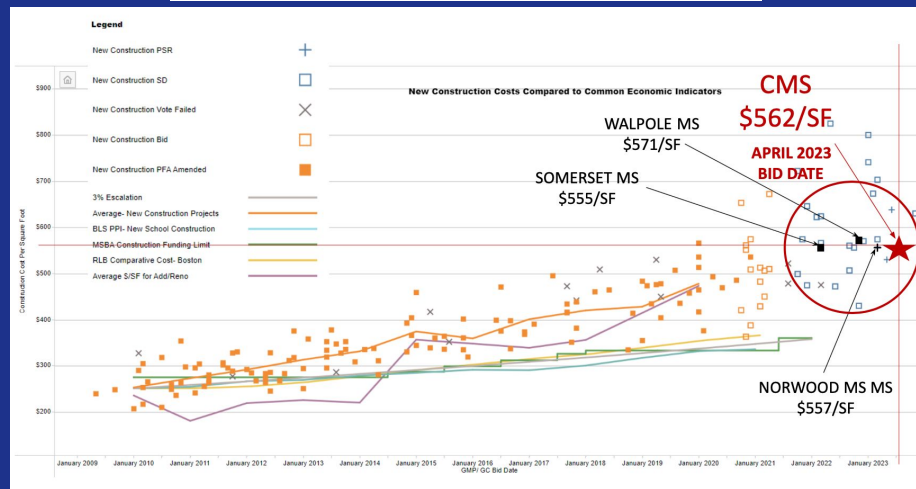
Towns with comparable square foot costs (\$550-600):

- Walpole - Middle
- Somerset - Middle
- Norwood - Middle

Towns with significantly higher cost per square foot costs:

- Wellesley (\$703)- Elementary
- Medfield (\$673) - Elementary
- Stoneham (\$741) - High School

## MSBA Chart of New Construction Costs



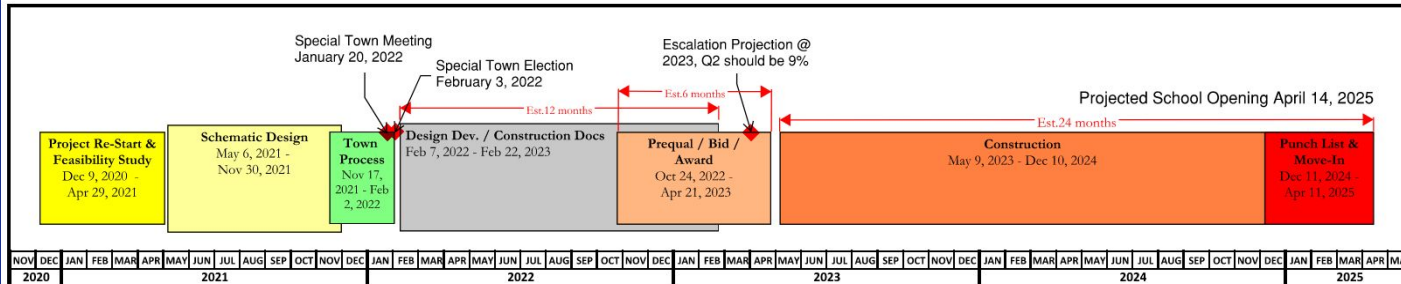


# Logistics

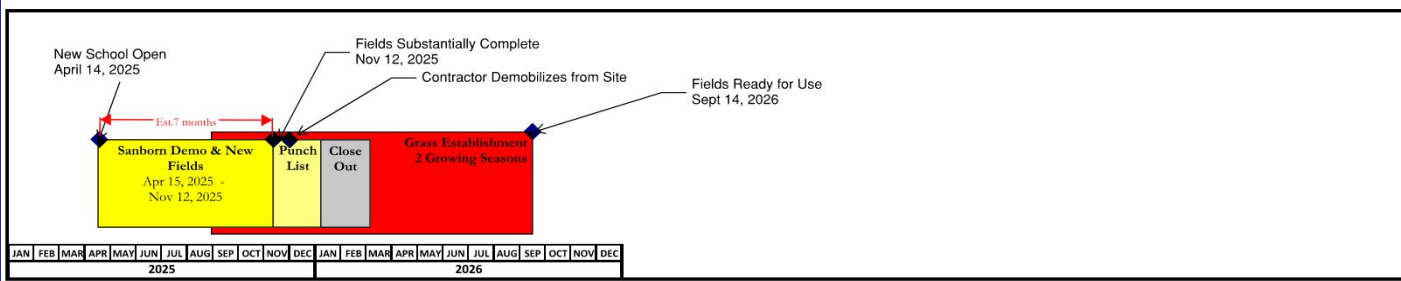


# Schedule

## PHASE 1 - NEW SCHOOL DESIGN & CONSTRUCTION



## PHASE 2 - SANBORN DEMO & NEW FIELDS



**\*\*APRIL 2025 MOVE IN TO NEW BUILDING\*\***

DD-CD PHASES  
FINISH DESIGN  
2/22-2/23 (12 MO)

CONTRACTOR BIDS  
DUE- 4/23 (2 MO)

CONSTRUCTION  
5/23-4/25 (24 MO)

MOVE IN DATE  
4/25

DEMO SANBORN +  
CONSTRUCT FIELDS  
4/25-11/25 (7MO)



# Important Dates

January 20: Special Town Meeting

- Concord-Carlisle High School
  - Extensive COVID mitigations
  - Fully accessible
  - Childcare provided

February 3: Ballot Vote

- Regular polling facility



# Thank You

More information:

<https://www.cmsbuildingproject.org/>

Contact us at:

[msbc@concordps.org](mailto:msbc@concordps.org)

Follow us on:

Instagram: [@cmsbcinconcord](#)

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