



Town of Concord

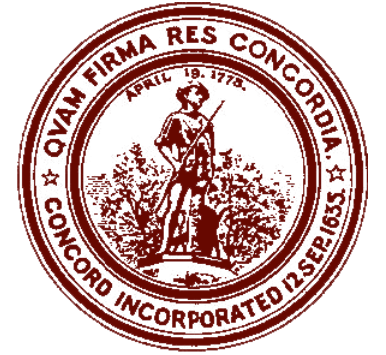
# Concord Middle School

Middle School Building Committee

08.05.2021

**EWING  
COLE** | SMMA

# Project Goals Recap



Total Project Cost Range per RFS **\$80-\$100 M**  
Total Project Cost maximum currently estimated **\$102 M**



Replace two middle schools with **one combined middle school**, grades 6-8



Design enrollment **700 Students**



**Team Teaching** Model, meet **Ed Plan**



Design for **Net Zero Energy**

**Primary Goal:**  
Consolidate two middle school populations **into a single, 21<sup>st</sup> century learning facility** that will serve the community for generations.



# Cost Management

Concord Middle School

# Cost Saving Due-Diligence ● To Date

## Building Envelope

- Compact and Linear Footprint
- Commitment to Masonry exterior
- Commitment to “typical” and durable interior building materials
- 25% Window to Wall Ratio down from 30% in original FS estimate

## Square-footage

- Compact and Linear Footprint
- Scheduling analysis during Feasibility, right-sized number and quantity of rooms  
(e.g. Smaller Dining area and Media Center than MSBA typical)
- Maker Space and Alt PE / Occupational Therapy space removed by CPS to lessen increase by Community requested square-foot increases to gym and auditorium
- Gym: Efficiencies through detailed discussion of requirements



# Cost Saving Due-Diligence ● To Date

## Sustainability

- LEED certifiable and EZ Code with exceptions to be reviewed in lieu of Passive House; no formal certifications being pursued

## Building Components

- No lockers (note: tile will need to be added in its place)

## Building Systems

- Flexible sprinkler pipe connections
- Variable Refrigerant Flow (VRF) system
- No natural gas for science labs or kitchen

## Site Design

- Removed lower fields from project scope
- Fire Department agreed that fire lane on south side of building is not required due to sprinkler, proposed footprint, egress, etc.

## Project Delivery Method

- Design Bid Build in lieu of CM at Risk

# Cost Saving Due-Diligence ● On-going

## Sustainability

- Reviewing number of EV charging (and readiness) stations

## Building Envelope

- Will continue to be refined until bid!!

## Square-footage

- Gross area will continue refinement through Schematic Design
- Most efficient layout in Auditorium being studied
- Working with CMS Admin, Teachers and Staff to refine all classrooms, work rooms and storage areas

## Building and Site Materials, Components, etc.

- Continued development of materials
- Continue review of operable wall quantity, type, location
- No roof-top outdoor classroom (instead: outdoor classroom “ready”)
- Locate mechanical equipment to require minimal or no acoustic screening

# Currently Known Cost Risks

Market Conditions

Unforeseen site conditions

Septic System design requirements



## FLOOR PLAN AND MASSING UPDATES



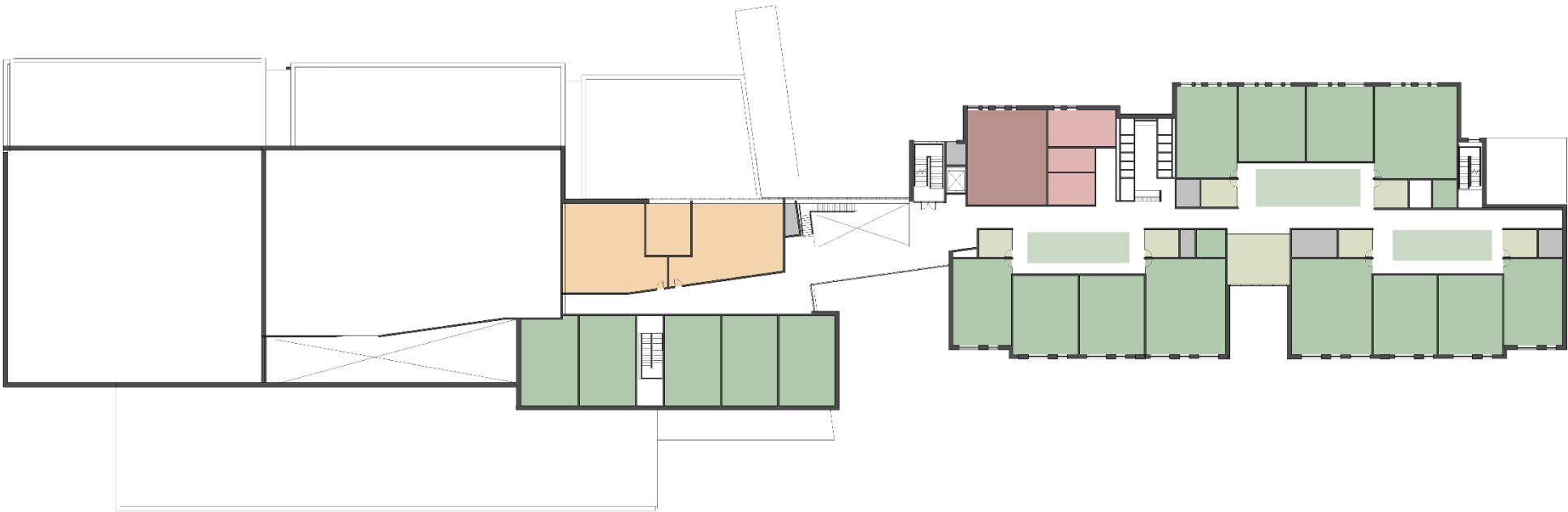






GROUND FLOOR PLAN

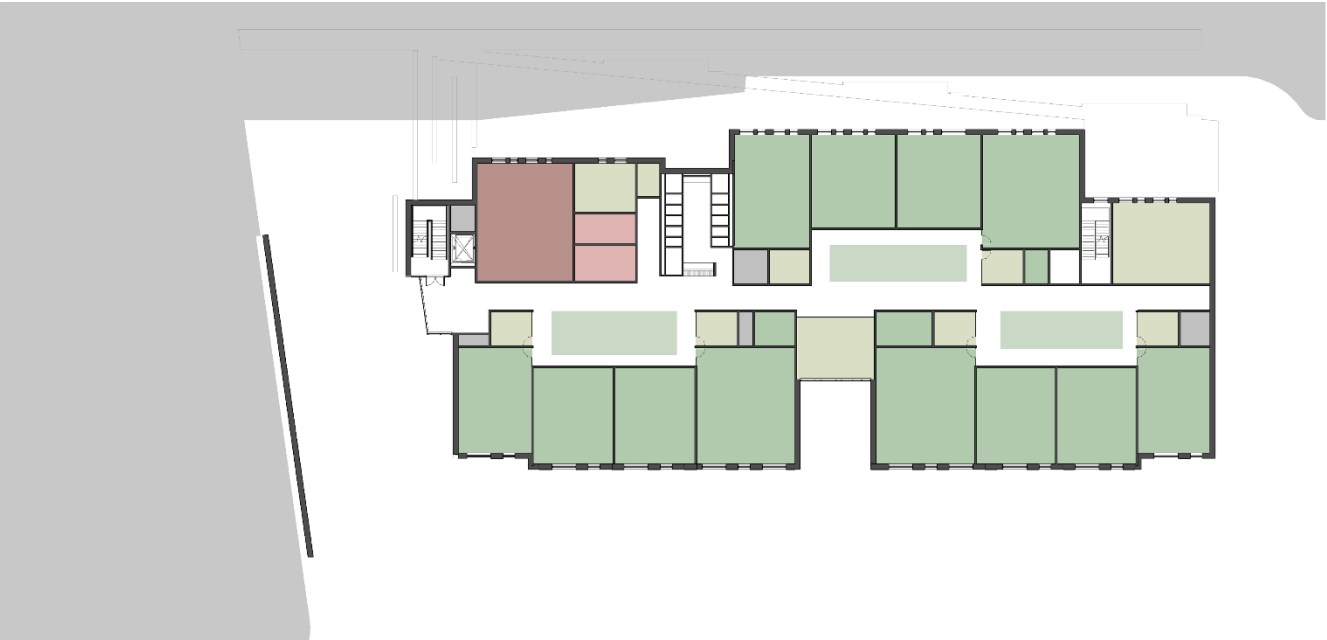
- Classroom
- Team Commons
- Special Education
- Vocation/Tech Classroom
- Administration
- Guidance
- Nurse
- Media Center
- Auditorium
- Music
- Art
- Physical Education
- Cafeteria



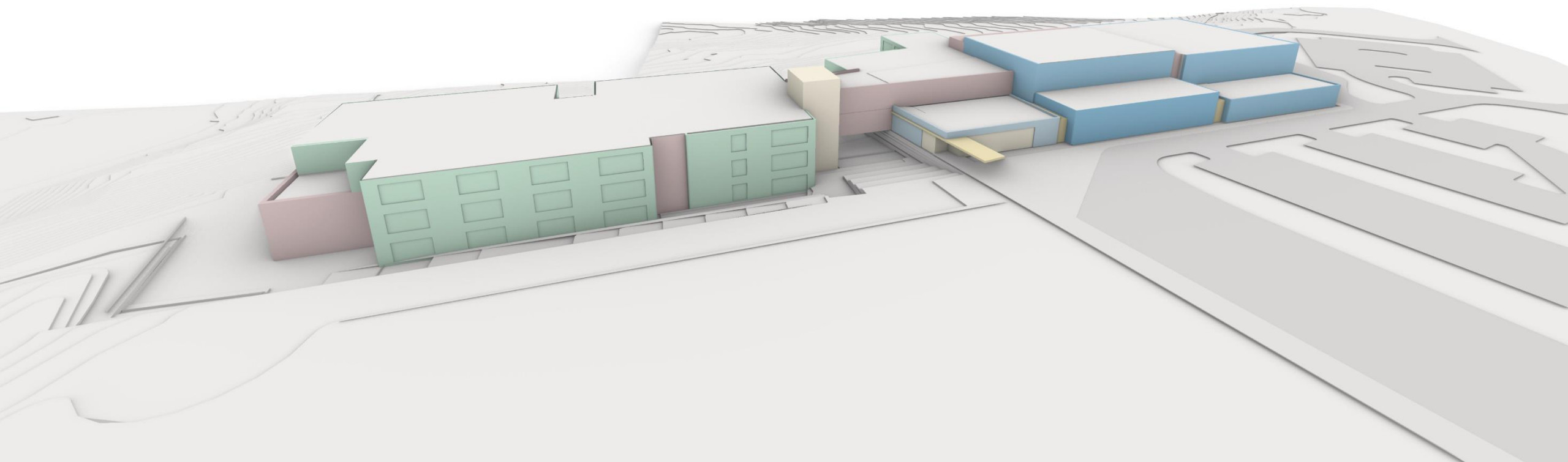
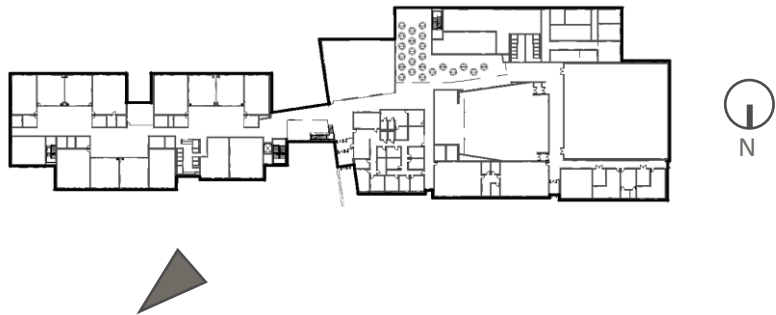
UPPER-LEVEL PLAN

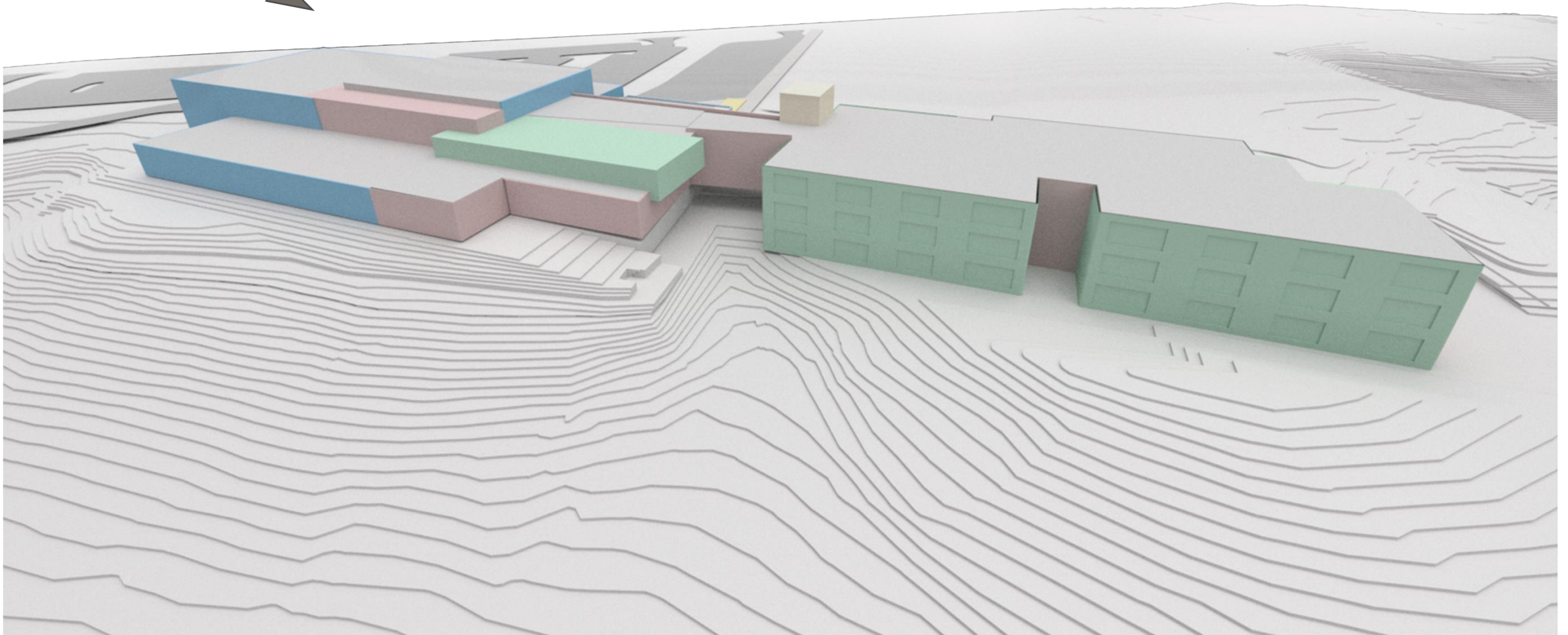


- Classroom
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LOWER-LEVEL PLAN



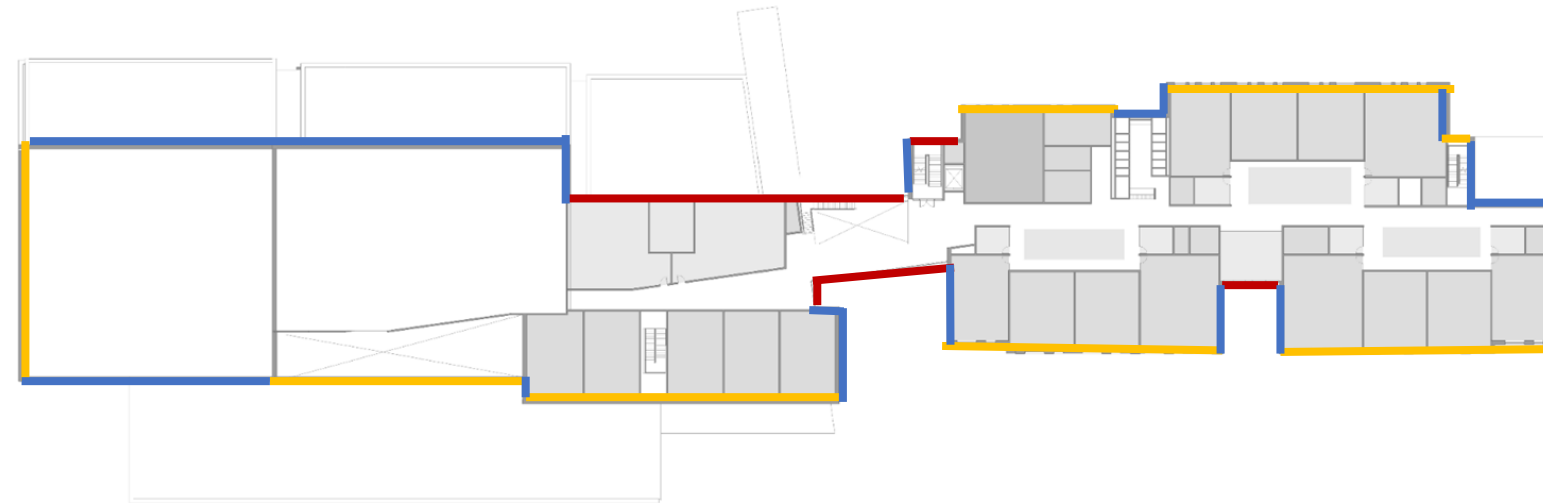


MASSING CONCEPT

# BUILDING ENVELOPE PARAMETERS

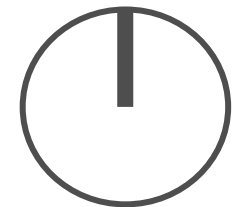
## Design a building envelope that supports the mission of the school and the community

- Meets the budget parameters by minimizing surface area and adhering to the 75% masonry and 25% glass
- Meet the energy performance ratios of 25% glazing and lighting distribution criteria
- Create the finest experience for the students and teachers
- A building envelope that fosters a sense of Joy within the building
- Provide a welcoming, appropriately scaled building exterior the community can be proud of
- Design a building exterior that integrates the landscape of the site and recalls natural elements
- Design a building exterior that is respectful of the traditions of Concord



## PRELIMINARY GLAZING WALL RATIOS

- ALL MASONRY —
- 5-10 % GLAZING —
- 25-28 % GLAZING —
- 30-80 % GLAZING —



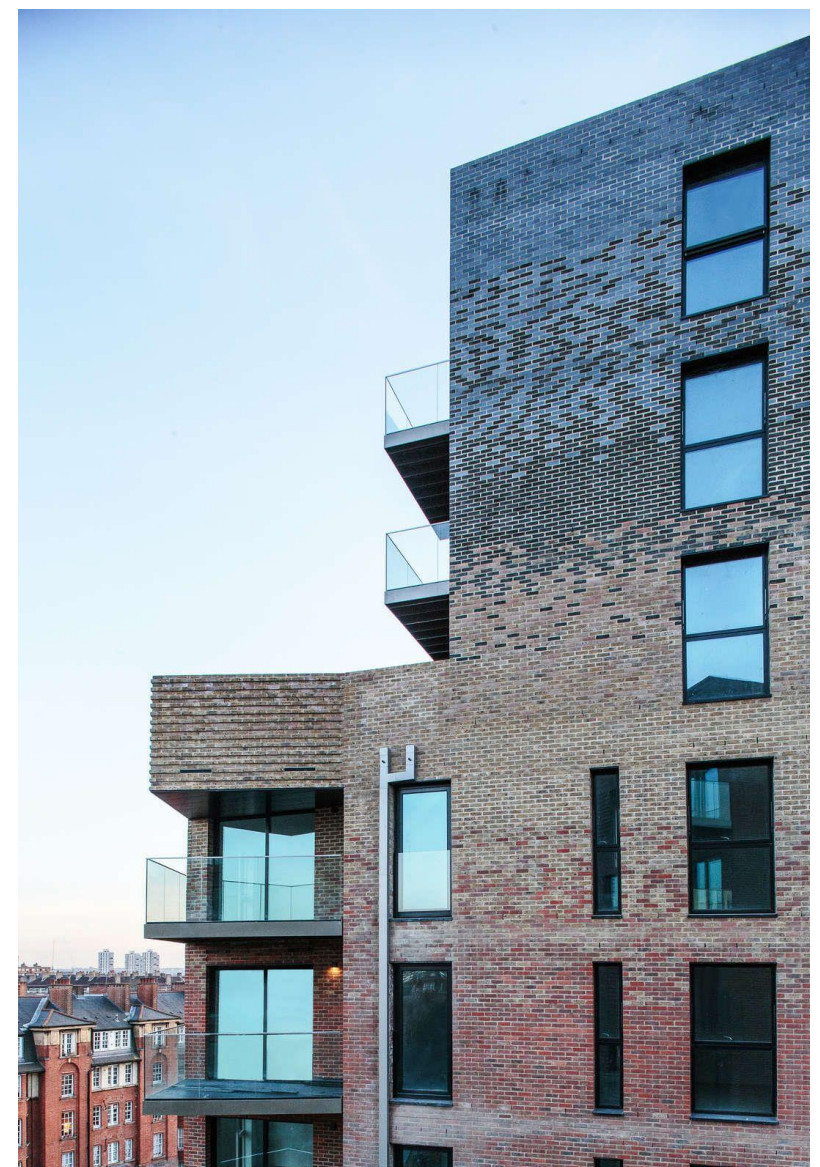


## CLASSROOM WINDOW AND ELEVATION STUDIES

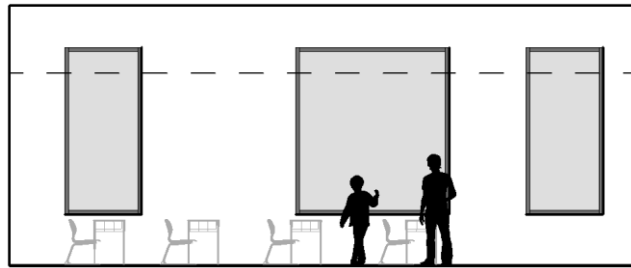
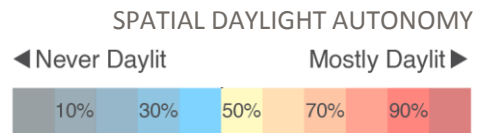
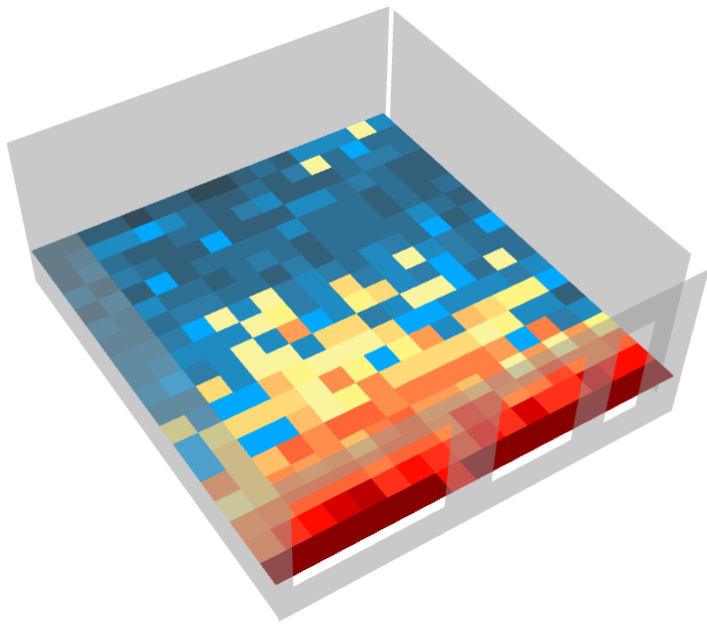












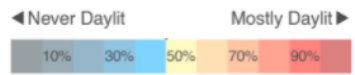
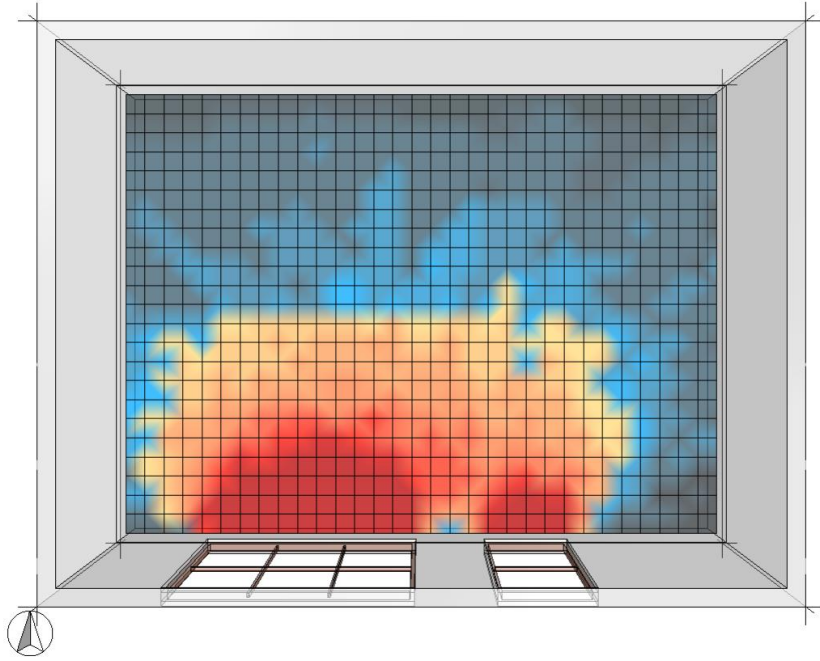
INTERIOR ELEVATION

## DAYLIGHTING, GLARE, AND HEAT GAIN

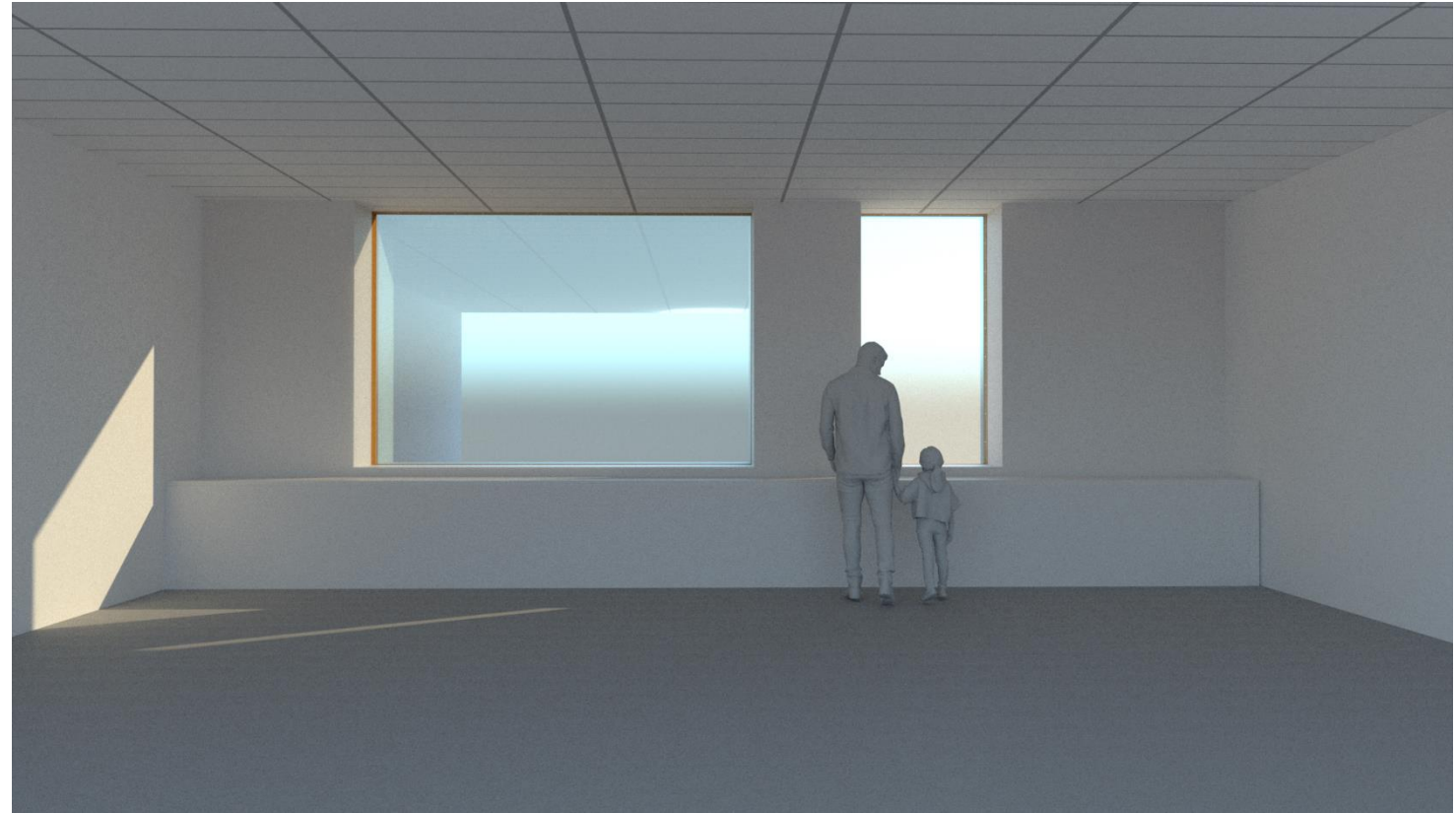








sDA 35%







CLASSROOM STUDY 1





CLASSROOM STUDY 1







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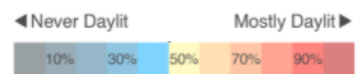
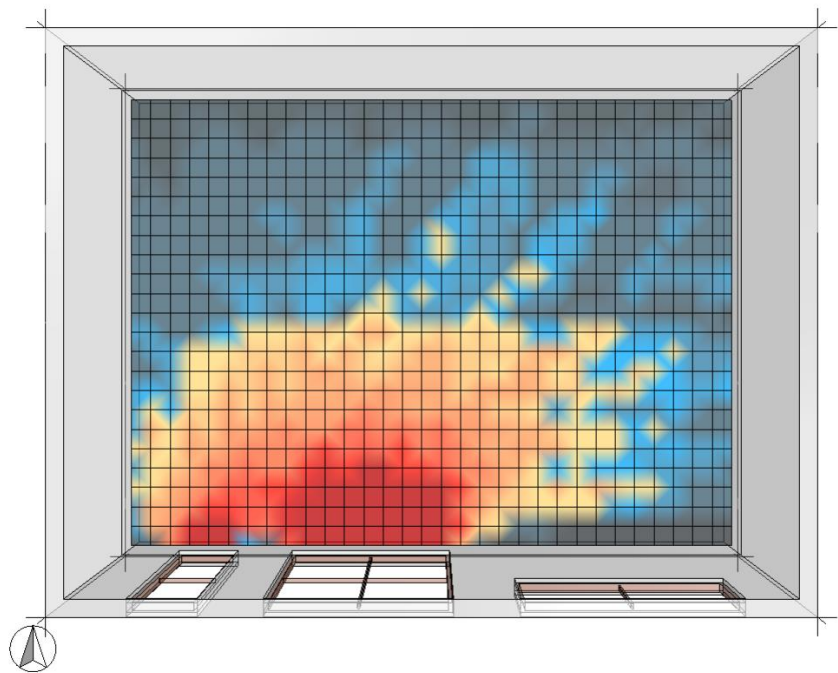
CLASSROOM STUDY 1







CLASSROOM STUDY 1



sDA 35%

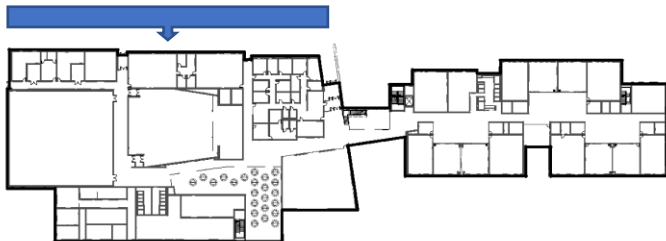






CLASSROOM STUDY 2





CLASSROOM STUDY 2





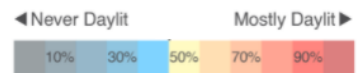
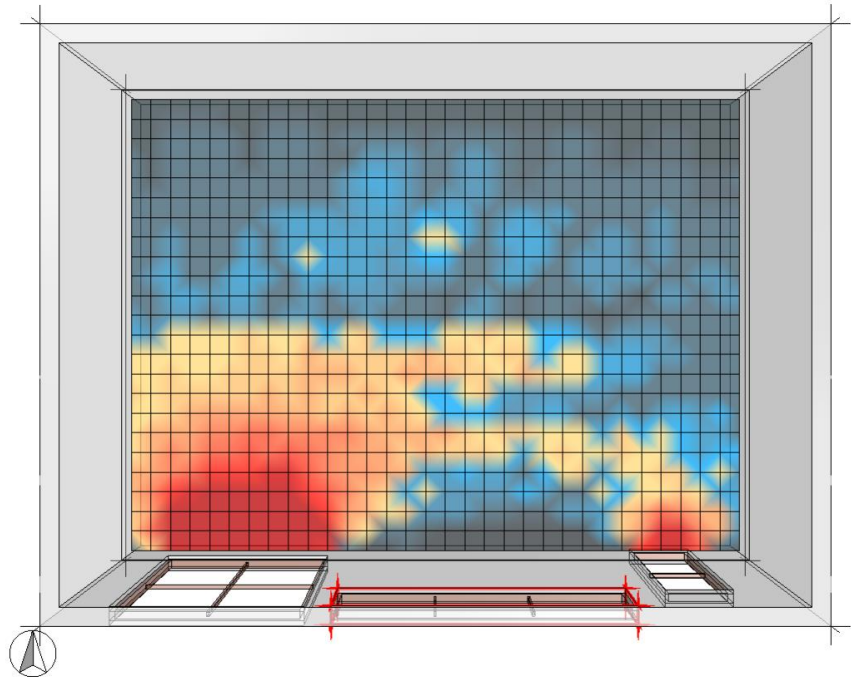








CLASSROOM STUDY 2



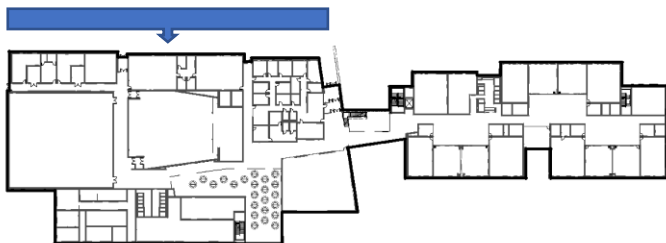
sDA 35%











CLASSROOM STUDY 3











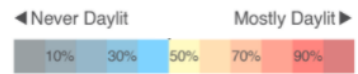
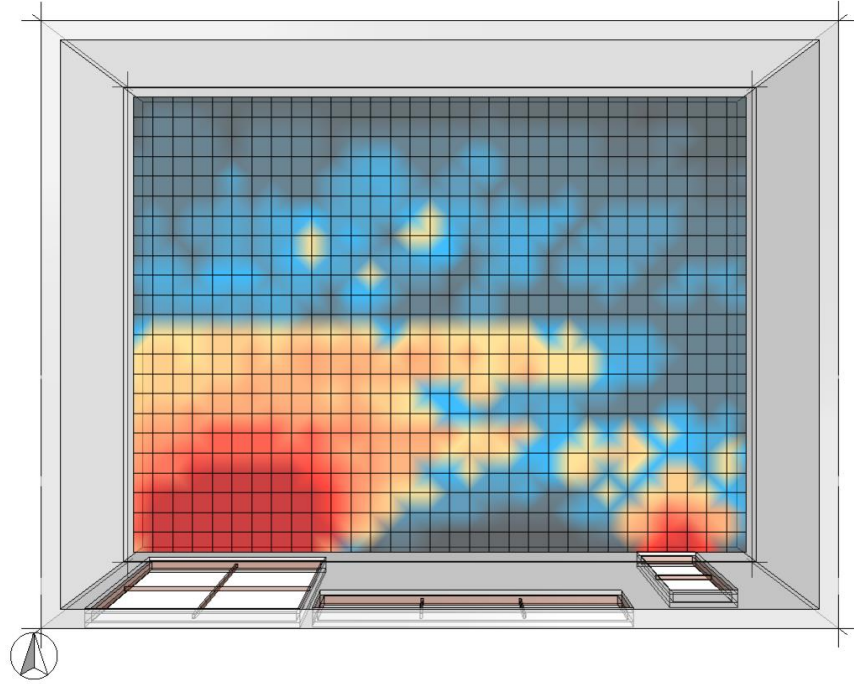


CLASSROOM STUDY 3



5 AUGUST 2021

CONCORD MIDDLE SCHOOL



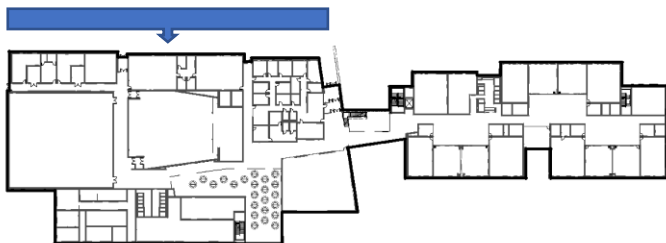
sDA 36%











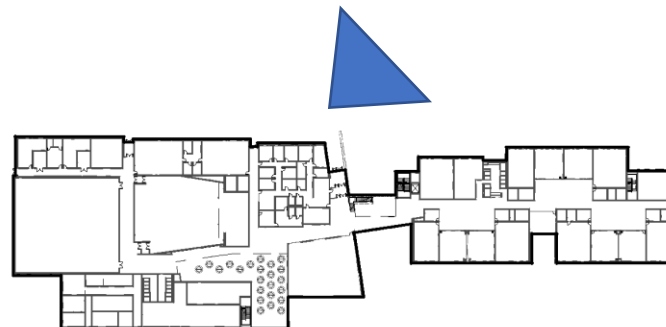












CLASSROOM STUDY 4

5 AUGUST 2021

CONCORD MIDDLE SCHOOL

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EAST AND WEST ELEVATIONS



EAST ELEVATION

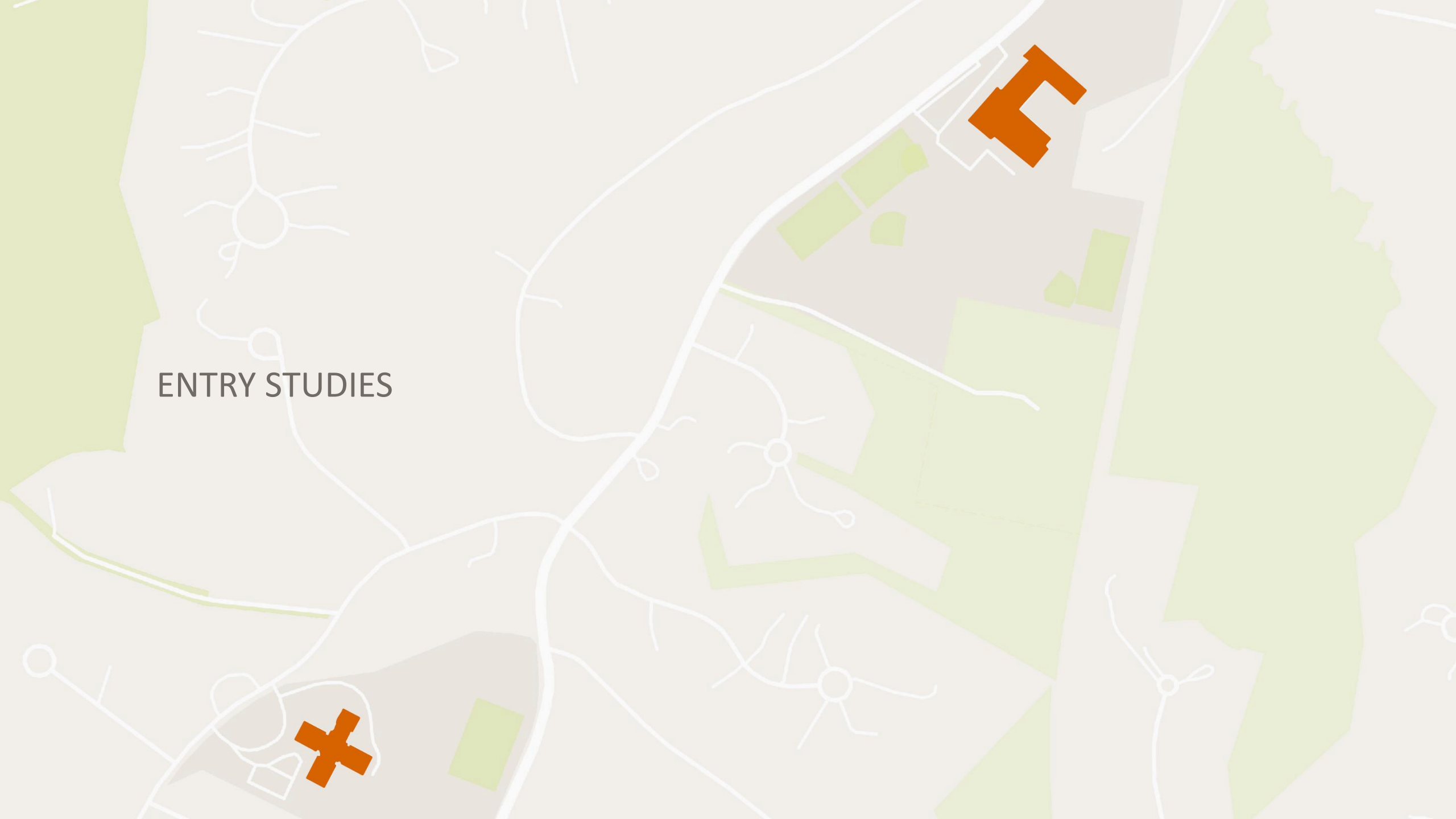






WEST ELEVATION

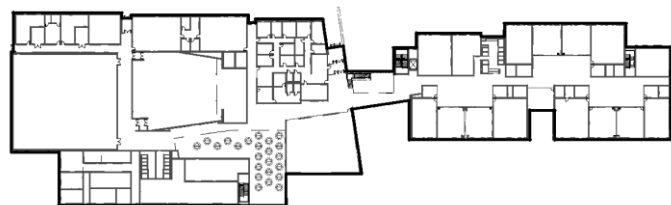
ENTRY STUDIES







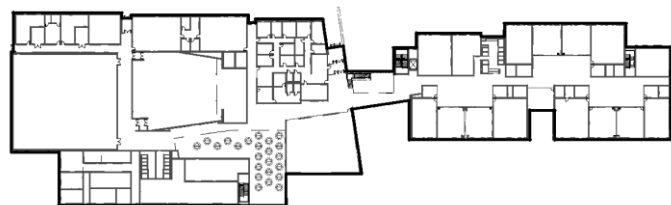
























ENTRY STUDY 3

5 AUGUST 2021

CONCORD MIDDLE SCHOOL

The background is a stylized map. It features green areas representing parks or fields, white lines representing roads and paths, and several orange markers. One orange marker is a large 'X' in the bottom left, and another is a large 'F' in the top right. The text 'THANK YOU' is centered on the left side.

THANK YOU

Next CMSBC meeting Friday, August 27, 2021