















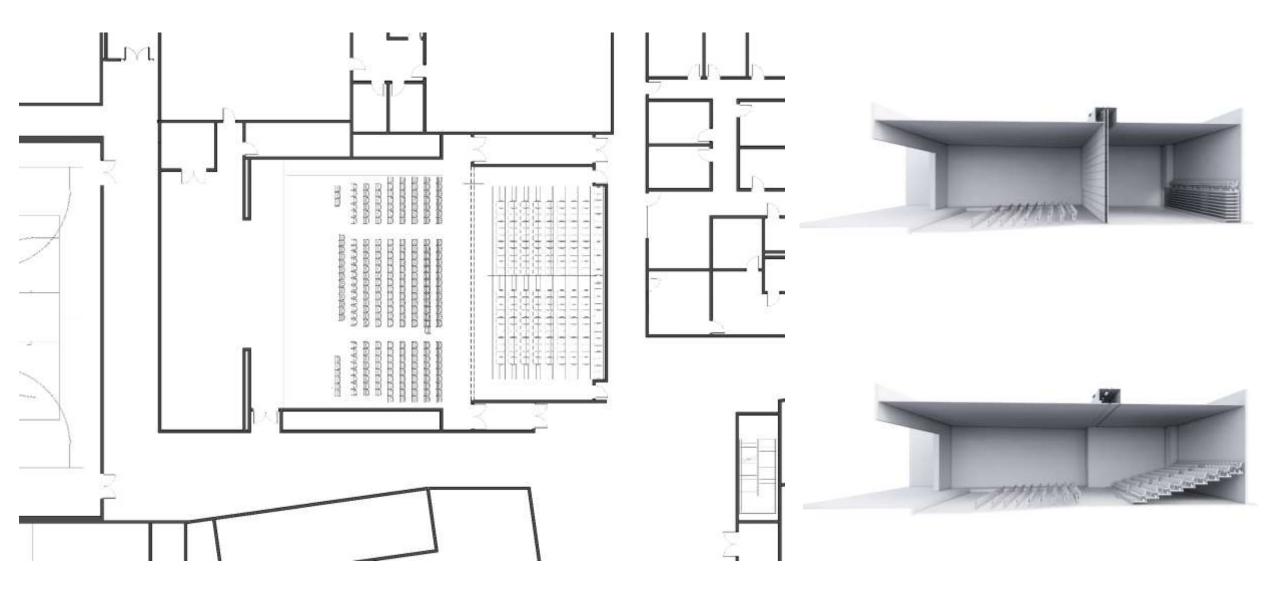
HYBRID SEATING AND DIVIDABLE SPACE

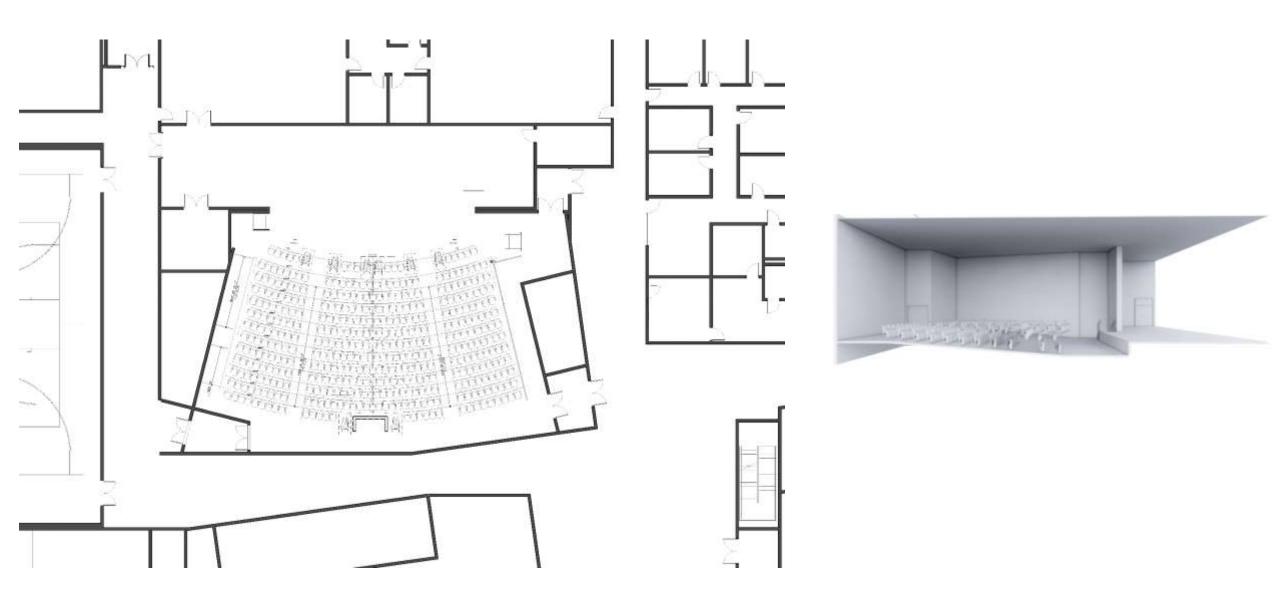




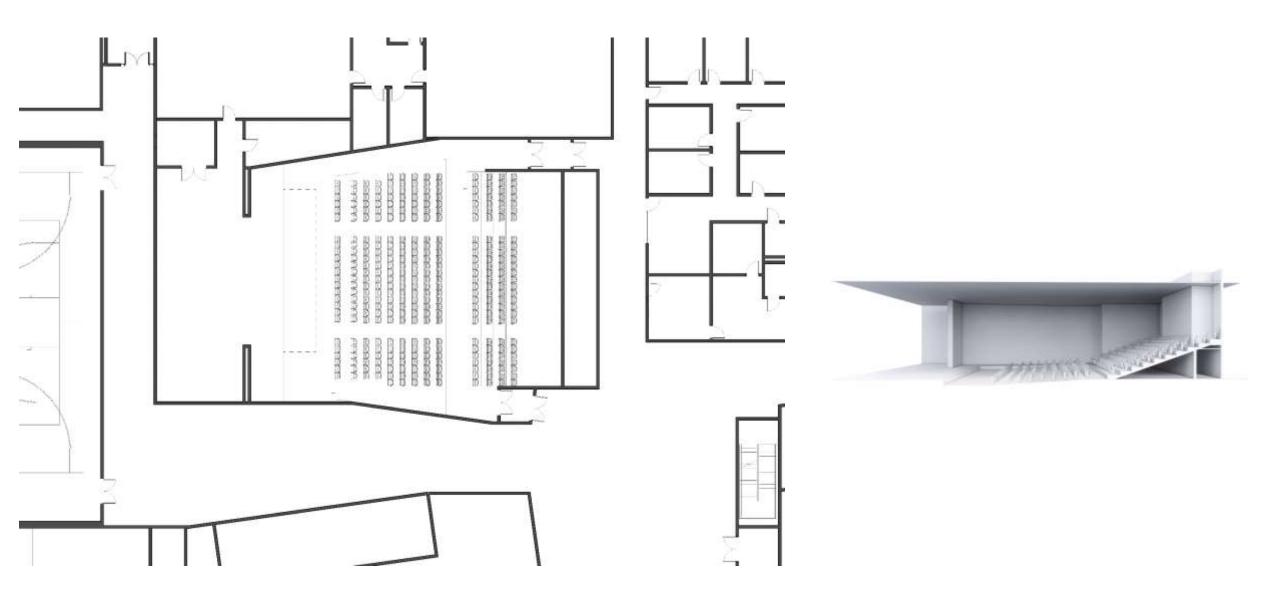








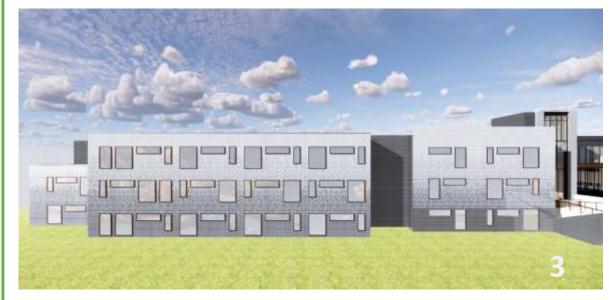
EWING SMMA



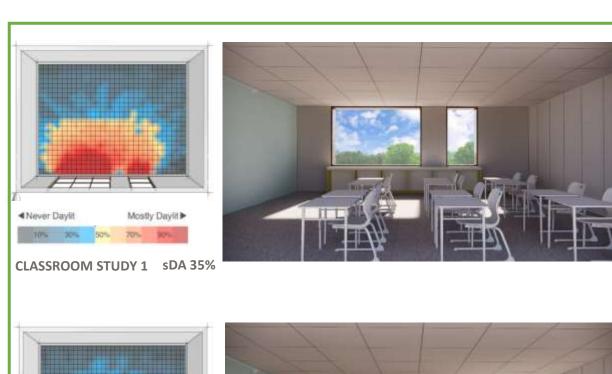


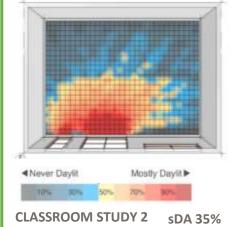




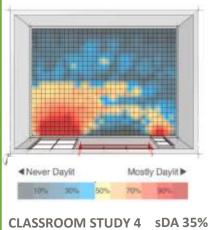




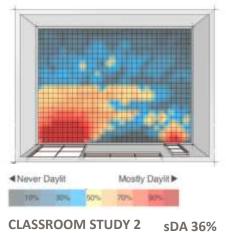
















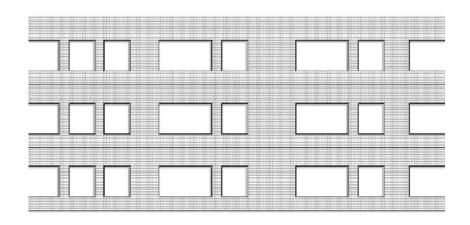


Spatial Daylight Autonomy (sDA) is a yearly metric that describes the percent of space that receives sufficient daylight. This analysis type is a precise metric that must meet the required parameters in order to determine the building's daylight performance. To elaborate, sDA (Spatial Daylight Autonomy) describes the percentage of floor area that receives at least 300 lux for at least 50% of the annual occupied hours on a horizontal work plane (30" above the floor, or desk height).

Annual Solar Exposure (ASE) refers to the percentage of space that receives too much direct sunlight (1000 Lux or more for at least 250 occupied hours per year), which can cause glare or increased cooling loads



CLASSROOM STUDY 1

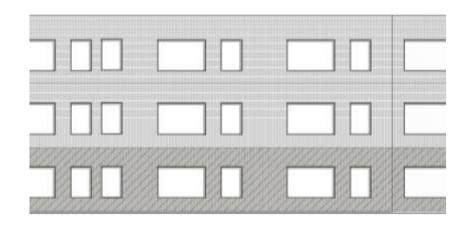


Glazing Area/Classroom: 128 SF

Wall Area/Classroom: 350

WWR: 36.6 %

NORTH ELEVATION



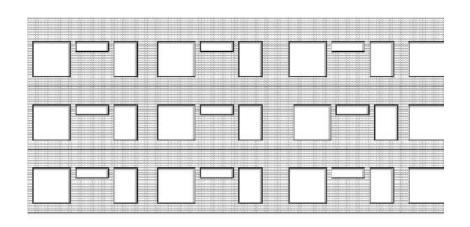
Glazing Area/Classroom: 108 SF

Wall Area/Classroom: 350

WWR: 30.8 %



EWING SMMA

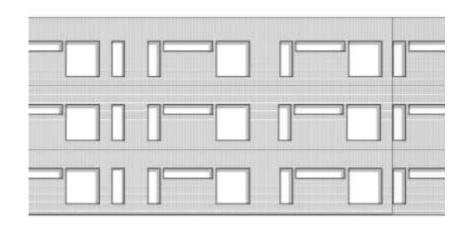


Glazing Area/Classroom: 128 SF

Wall Area/Classroom: 350

WWR: 36.6 %

NORTH ELEVATION



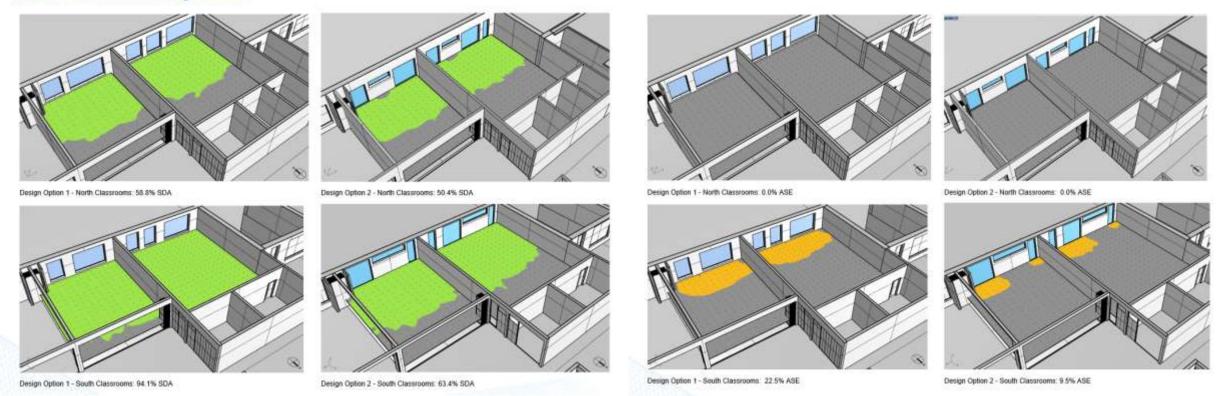
Glazing Area/Classroom: 108 SF

Wall Area/Classroom: 350

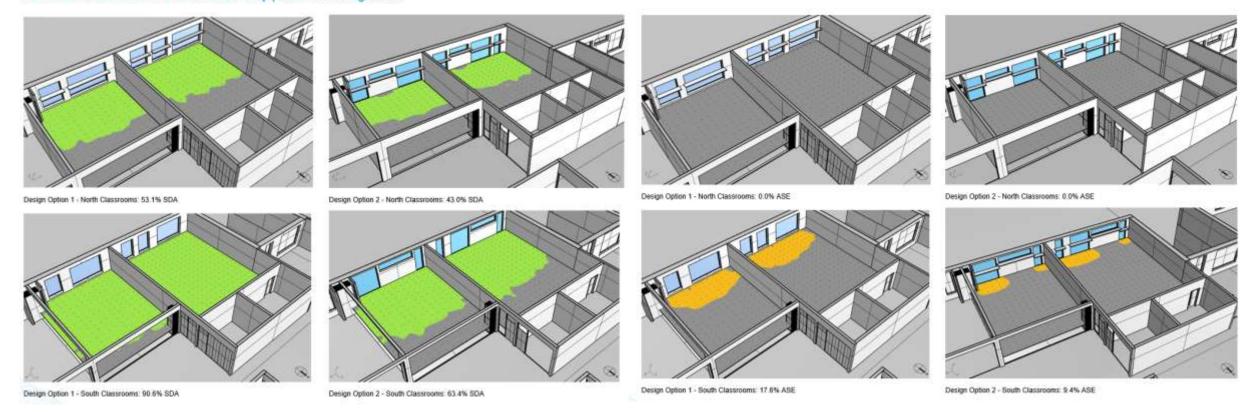
WWR: 30.8 %

Concord Middle School - SD Daylighting Study Report

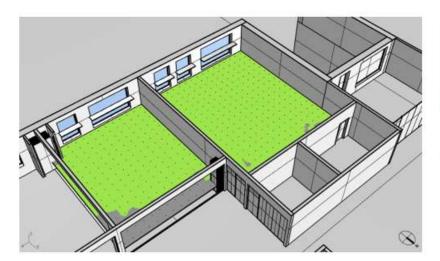
Scenario 1 - No sunshades, no light shelves



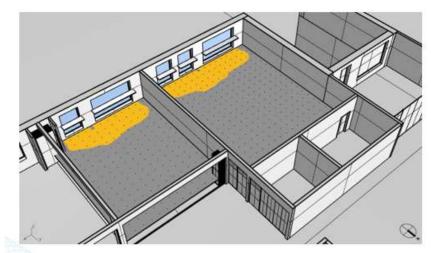
Scenario 2 - South Exterior Sunshades 24" deep | North Interior Light shelf



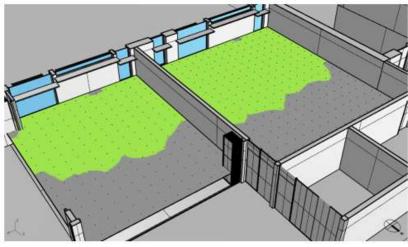
Scenario 3 - Ext. Sunshades 24" deep and interior light shelf 18" deep



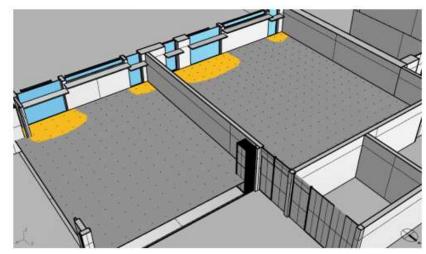
Design Option 1 - South Classrooms: 88.1% SDA



Design Option 1 - South Classrooms: 13.9% ASE



Design Option 2 - South Classrooms: 58.1% SDA

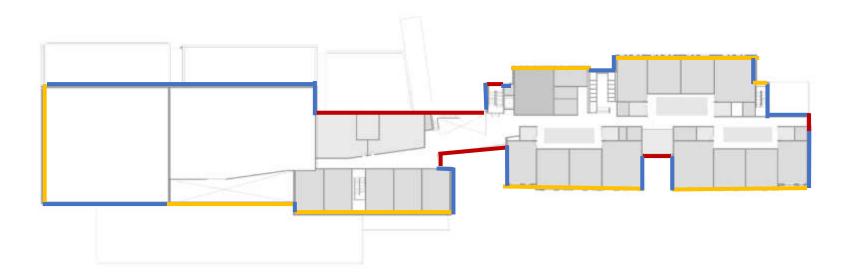


Design Option 2 - South Classrooms: 7.5% ASE

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
- Imagine a building envelope that fosters a sense of Joy within the building
- Provide a welcoming, human 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



OVERALL GLAZING RATION 25%





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AERIAL PERSPECTIVE



AERIAL PERSPECTIVE



ENTRY PERSPECTIVE







ENTRY PERSPECTIVE



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ENTRY PERSPECTIVE



19 AUGUST 2021 CONCORD MIDDLE SCHOOL EWING COLE SMMA





