



**Western  
Carolina**  
UNIVERSITY

**MOORE BUILDING  
RENOVATION**

PROGRAMMING KICKOFF

10/27/21





# AGENDA

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## INTRODUCTION

## PROJECT UPDATE

**Project Vision and Goals**

**Existing Conditions Analysis**

**Department Fit Analysis**

*Building Programming*

*Site Concepts*

*Space Fit/Stacking Concepts*

*Cost Modelling/Budget Confirmation*

*Recommendations*

## PROGRAMMING SESSIONS - *What to expect*

## END OF DAY WRAP UP

# Western Carolina University

## Jenkins Peer Architects

Rob Hsin, AIA LEED AP  
Project Manager

Taylor Jarrell, AIA LEED Green Associate  
Project Architect

Benjamin Benson, AIA LEED AP  
Principal in Charge

Ronna Emerling, AIA  
Project Architect

SUD ASSOC

MEP/FP

SKA

Structural

CDC

Civil

FLEMING

Envelope

RUTHERFORD

Cost

# PROJECT VISION AND GOALS



**History:** Celebrate one of the oldest remaining buildings on campus and WCU history.

**Cultural:** Student node, student centric, respect for local culture.

**Flexibility:** Flexible teaching and learning capabilities, adaptability for future change.

**Active Learning:** Classroom spaces that allow for multiple teaching styles including active engagement of students on multiple settings.

**Academic:** Building that focuses on teaching / learning.





# PROJECT VISION AND GOALS

## ACADEMICALLY CENTERED

- Create an Active learning environment
- Fosters collaborative learning and creativity
- Learning is not limited to classroom spaces, it extends throughout building and includes exterior
- Accommodates multiple teaching pedagogies

## DESIGN FOR FUTURE FLEXIBILITY & ADAPTABILITY

- Consider long term return on investment in addition to first time cost
- Teaching spaces that are flexible and adaptable for multiple pedagogies
- Technology and modernization that allow for adaptability
- Seamless integration of technologies

## HONORING HISTORY

- Capture the appreciation of Moore history while harnessing the future
- Respectful restoration and preservation of historic exterior and the historic interior parlor and fireplace

## DESTINATION

- Make Moore an Anchor destination
- Cultural node as a student destination
- Take advantage of location and views

## ACCESSIBILITY AND FUNCTIONALITY

- Ensure and reinforce pedestrian and vehicular connections to campus
- Intuitive wayfinding and clear organization
- Respect for budget and space utilization efficiencies

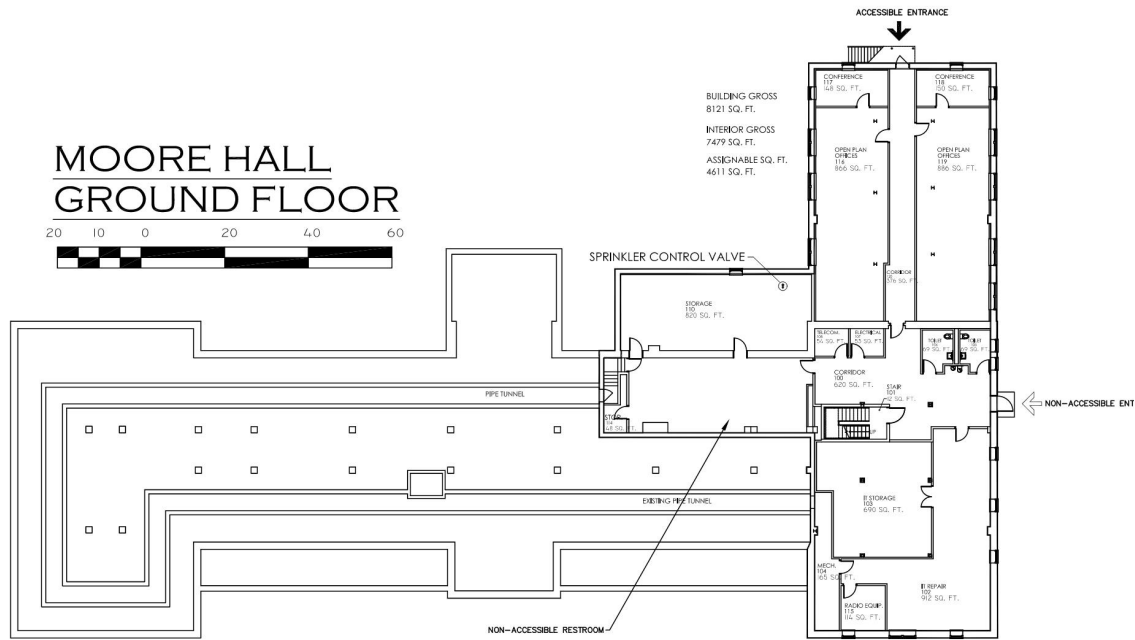




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## EXISTING CONDITIONS – BUILDING

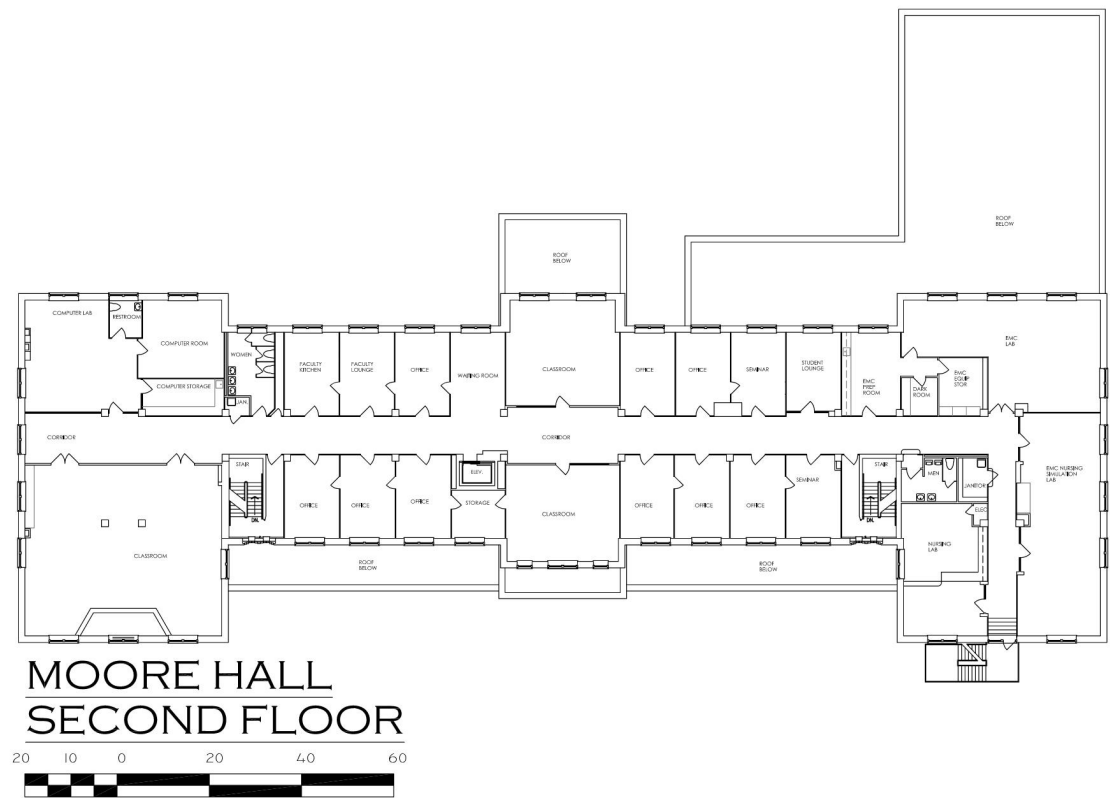


GROUND: 8,152 SF

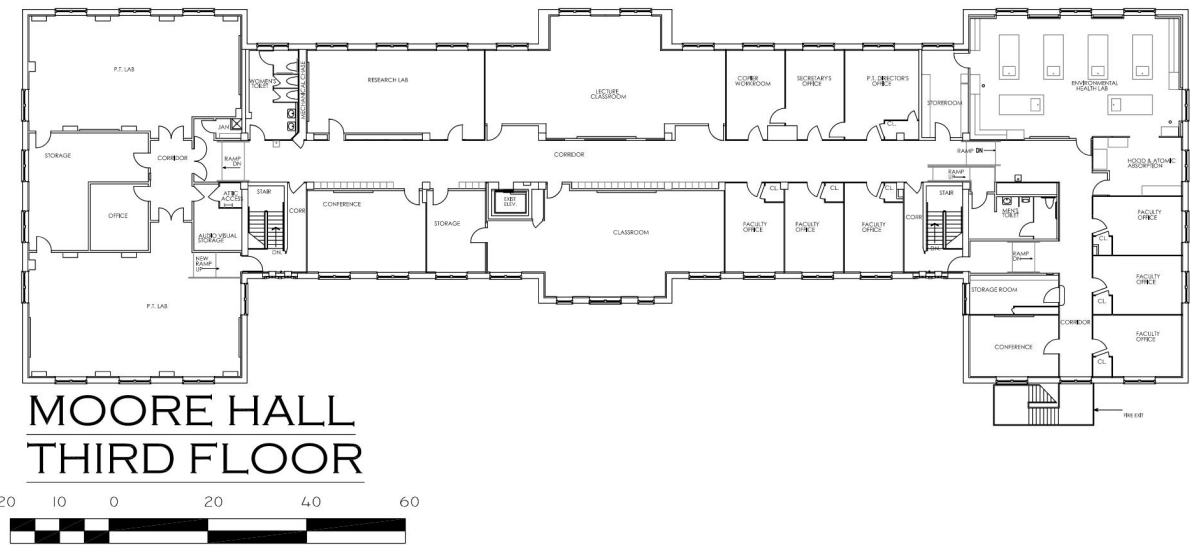
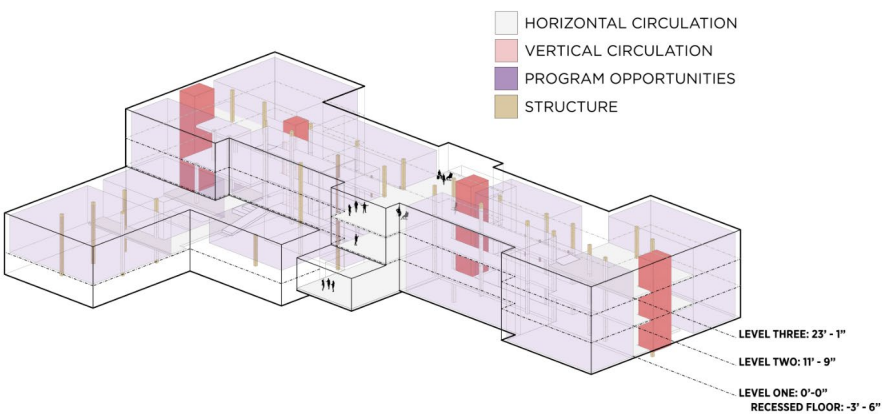


FIRST: 18,400 SF

# EXISTING CONDITIONS – BUILDING



SECOND: 14,149 SF



THIRD: 14,148 SF



# BUILDING CODE SUMMARY

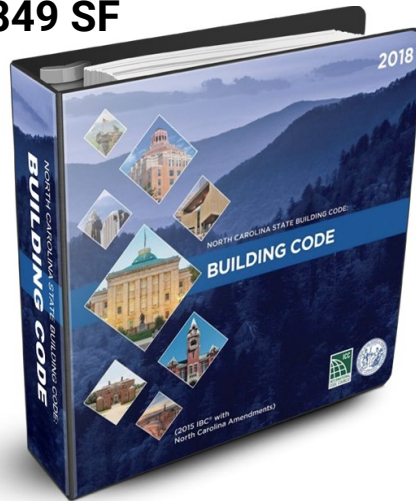
All floor plans of building with SF

Building section with floor to floor heights

## EXISTING

### ■ Full building square footage: 54,849 SF

- Ground: 8,152 SF
- Level 1: 18,440 SF
- Level 2: 14,149 SF
- Level 3: 14,148 SF



### ■ Height = 52'-1"

### ■ Steel columns and beams

### ■ Concrete floor structure and Wood

### ■ Wood rafters and steel girders for roof

### ■ Masonry wythe exterior bearing wall exceeds 2hr

### ■ Ground floor sprinklered

## CODE SUMMARY - Combination of 2018 NCBC and NC EBC

### Use and Occupancy

- Business Group B
- Assembly Group A3 - mixed use

### Construction Type IIIB

- Exterior bearing walls are 2 hr

**Building Height** = 75 ft allowable with sprinkler

### Allowable Area

- A3 Assembly = 28,500 SF with sprinkler.
- B Business = 57,000 SF with sprinkler

**Occupancy Separation** = 1hr with sprinkler

### Occupant Load

- Business at  $5800/100 = 58$ . Assembly A3 at  $8500/20 = 425$
- Total = 483

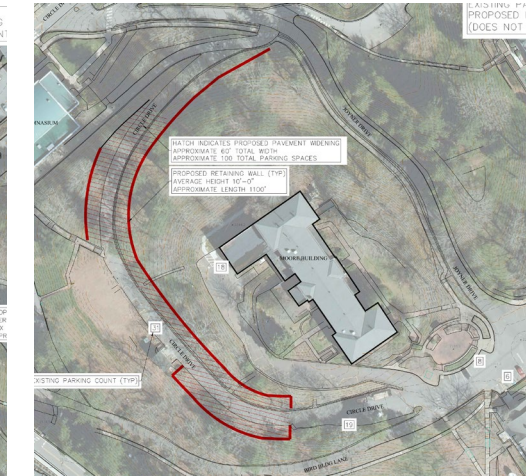
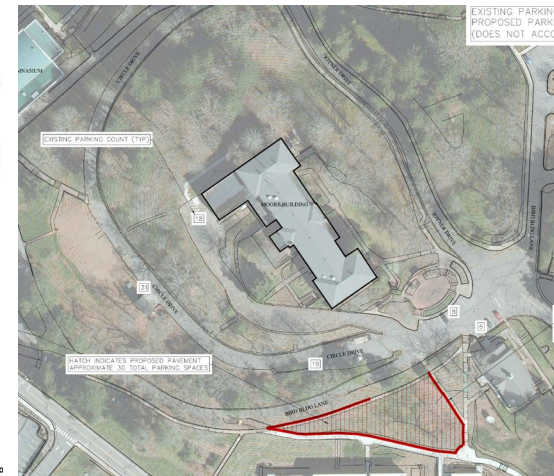
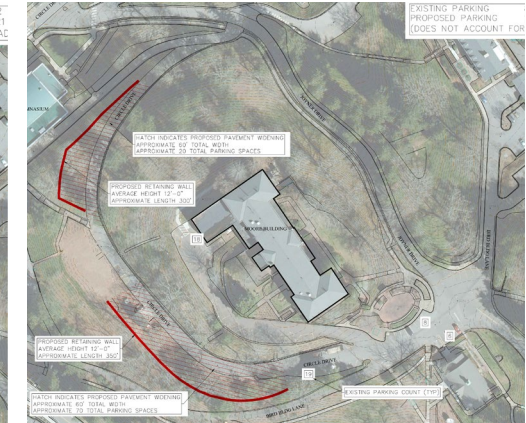
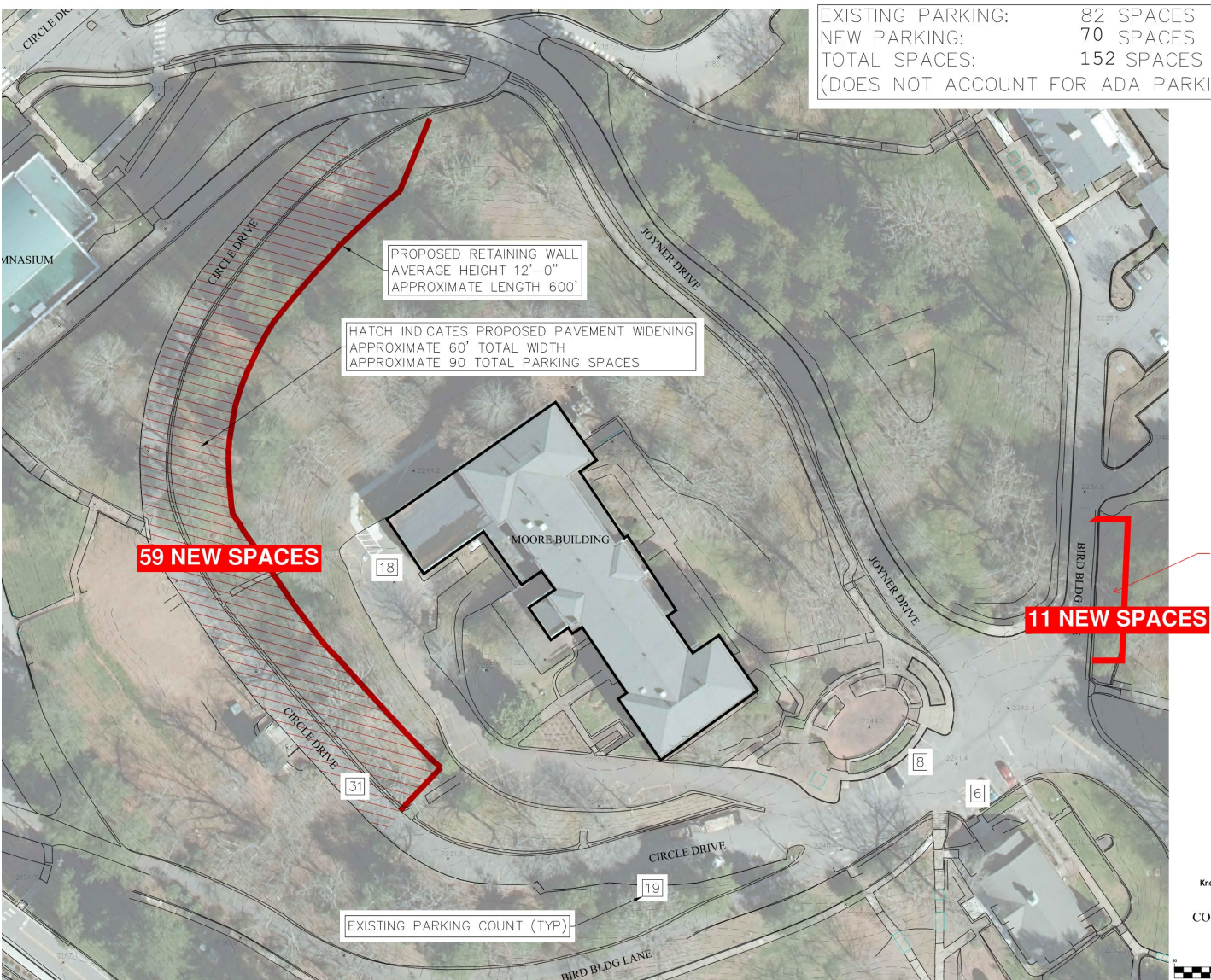
**Egress Stairs** = 2 with sprinkler

### Recommend IIIB, sprinklered

- Mixed Use - non separated (Assembly A3) OR
- Mixed Use - separated with 2hr separations for A3 to B



# EXISTING CONDITIONS ANALYSIS - PARKING





# EXISTING CONDITIONS ANALYSIS - ENVELOPE



Photo 4 – Steep-slope roof with asphalt shingle covering



Photo 11 – Delamination of adhesive used at lap splice



Photo 28 – Damaged coping stones at north elevation



Photo 45 – Downward deflection in steel lintel angle



Photo 30 – Decayed wood framing at canopy



Photo 25 – Missing conductor head to connect scupper to downspout

- Low roof replacement
- Gutter and downspout repairs
- Masonry repointing and repairs
- Wood detailing repairs
- Stone repointing and repairs
- Water intrusion repairs
- Window replacement
- Envelope is in decent condition for its age



# EXISTING CONDITIONS ANALYSIS - STRUCTURE

- No major issues with existing structural condition
- Building code upgrades are manageable and do not require serious intervention
- Some strengthening of structure may be required as design progresses to accommodate new infrastructure systems






# EXISTING CONDITIONS ANALYSIS - MEP/FP

- Plumbing – waste pipe repairs needed, all new restrooms needed
- Mechanical – central steam utilizing existing tunnels, new infrastructure and chillers needed
- Electrical – new transformers and electrical infrastructure needed
- IT – complete replacement of IT infrastructure
- Fire Protection – new sprinklering system to be added – complete modernization for Fire/Life Safety



# DEPARTMENT FIT ANALYSIS

MOORE BUILDING RENOVATION - DEPARTMENTS							
Project Number: 20WCU777							
Date: 02.24.2021							
PROGRAM	TOTAL EXISTING SF	TOTAL EXISTING STAFF COUNT	CURRENT LOCATION	ADJACENCY PROGRAM PREFERENCE?	PROJECTED GROWTH NEED SF (if available)	PROJECTED STAFF COUNT NEEDS (if available)	COMMENTS
Criminal Justice	3,628	17 full-time	BELK	two 48 seat classrooms (lecture)		02 full-time	No additional office space needed for projected growth; may require additional classroom space
English	6,558	40 full-time	COULTER	four 24 seat classrooms (BYOD); two 36 seat classrooms (lecture)		4003 full-time	BYOD = bring your own device e-classroom; future undergraduate enrollment growth may require additional classroom space
							both programs could make use of hoteling space for part-time/adjunct instructors (n=20)

PROGRAM	TOTAL EXISTING SF	TOTAL EXISTING STAFF COUNT	CURRENT LOCATION	ADJACENCY PROGRAM PREFERENCE?	PROJECTED GROWTH NEED SF (if available)	PROJECTED STAFF COUNT NEEDS (if available)	COMMENTS
Graduate School and Research	4,800	15 full-time	CAMP		none		Currently oversized; total space need = 2,500 SF
Undergraduate Research	none	2 full-time	no location (new)		500 SF	1	new program; considering location in BREESE
International Programs and Services (IPS)	3,600	7 full-time	CAMP	CCESL	none	0	Proposed relocation to BREESE; currently oversized (total space need = 1,100-1,500 SF); Co-location with CCESL not critical
Center for Community Engagement and Service Learning (CCESL)	950	5 full-time	BELK	IPS	300	0	Proposed relocation to BREESE; Community meeting/activity room envisioned (up to 2,000 sf); Requires convenient community access/parking; Co-location with IPS not critical

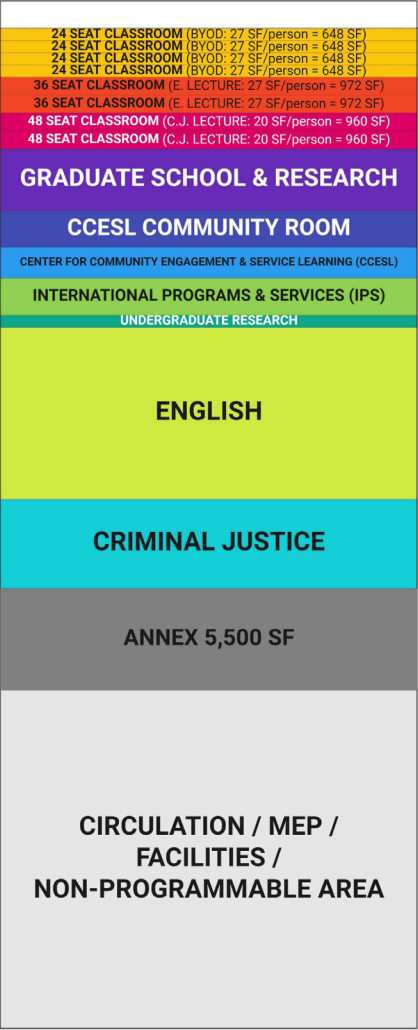


# DEPARTMENT FIT ANALYSIS

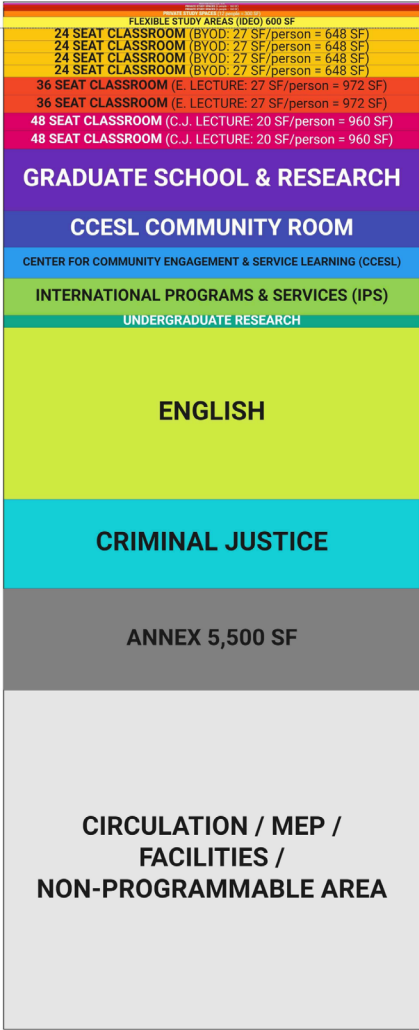
MOORE BUILDING FIT BOX			
BUILDING SF	55,500		
Department Program shown in chart			
Department Gross Factor (program/ 75)		6950	(11%) REMAINING
33% NON-PROGRAM/MEP/CIR	18315		
9% CJ	3628	4837	
17% ENG	6958	9277	
1% UG	500	666	
4% IPS	1500	2000	
3% CCESL	1250	1666	
4% CCESL COMMUNITY RM	2000	2000	
6% GRAD	2500	3333	
5% 24 CLASSROOM	648 SF x 4	2592	
4% 36 CLASSROOM	972 SF x 2	1944	
3% 48 CLASSROOM	960 SF x 2	1920	
89%		48550	

MOORE BUILDING FIT BOX   RECOMMENDATIONS			
BUILDING SF	55,500		
Department Program shown in chart			
Department Gross Factor (program/ 75)		354	(1%) REMAINING
33% NON-PROGRAM/MEP/CIR	18315		
9% CJ	3628	4837	
17% ENG	6958	9277	
1% UG	500	666	
4% IPS	1500	2000	
3% CCESL	1250	1666	
4% CCESL COMMUNITY RM	2000	2000	
6% GRAD	2500	3333	
8% 24 CLASSROOM	648 SF x 7	4536	
5% 36 CLASSROOM	972 SF x 3	2916	
3% 48 CLASSROOM	960 SF x 2	1920	
3% FLEX STUDY AREAS	600 SF x 3	1800	
1% PRIVATE STUDY / 12	300 SF x 2	600	
1% PRIVATE STUDY / 6	160 SF x 4	640	
1% PRIVATE STUDY / 3	80 SF x 8	640	
99%		55166	

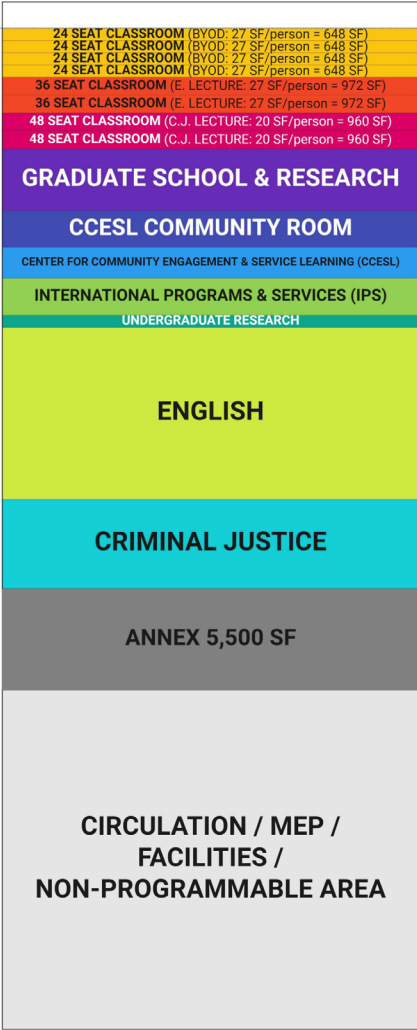
MOORE BUILDING FIT BOX



MOORE BUILDING FIT BOX | RECOMMENDATIONS



MOORE BUILDING FIT BOX | GROUP DISCUSSION





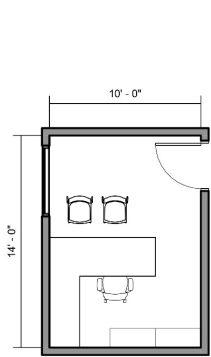




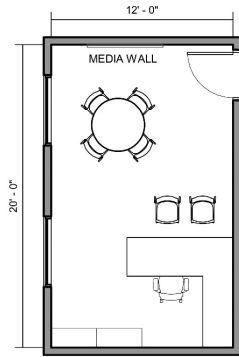
# PROGRAMMING SESSIONS



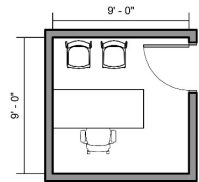
# OFFICE LAYOUTS



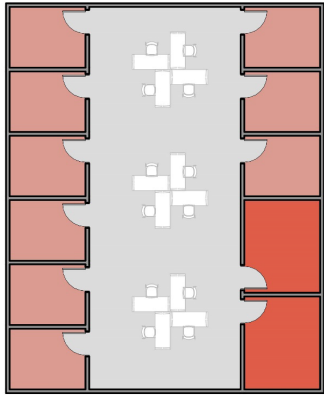
**TRADITIONAL OFFICE**  
120-140 SQFT.



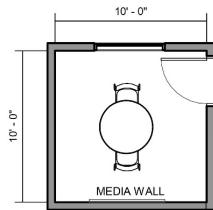
**TRADITIONAL DEPT. HEAD OFFICE**  
180-240 SQFT.



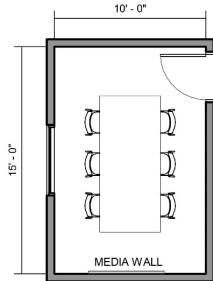
**SMALL OFFICE**  
80 SF



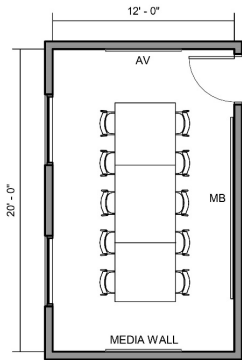
- CONFERENCE SPACE
- SMALL OFFICE
- OPEN OFFICE



**SMALL STUDY**  
2-4 SEATS  
60-120 SQFT.

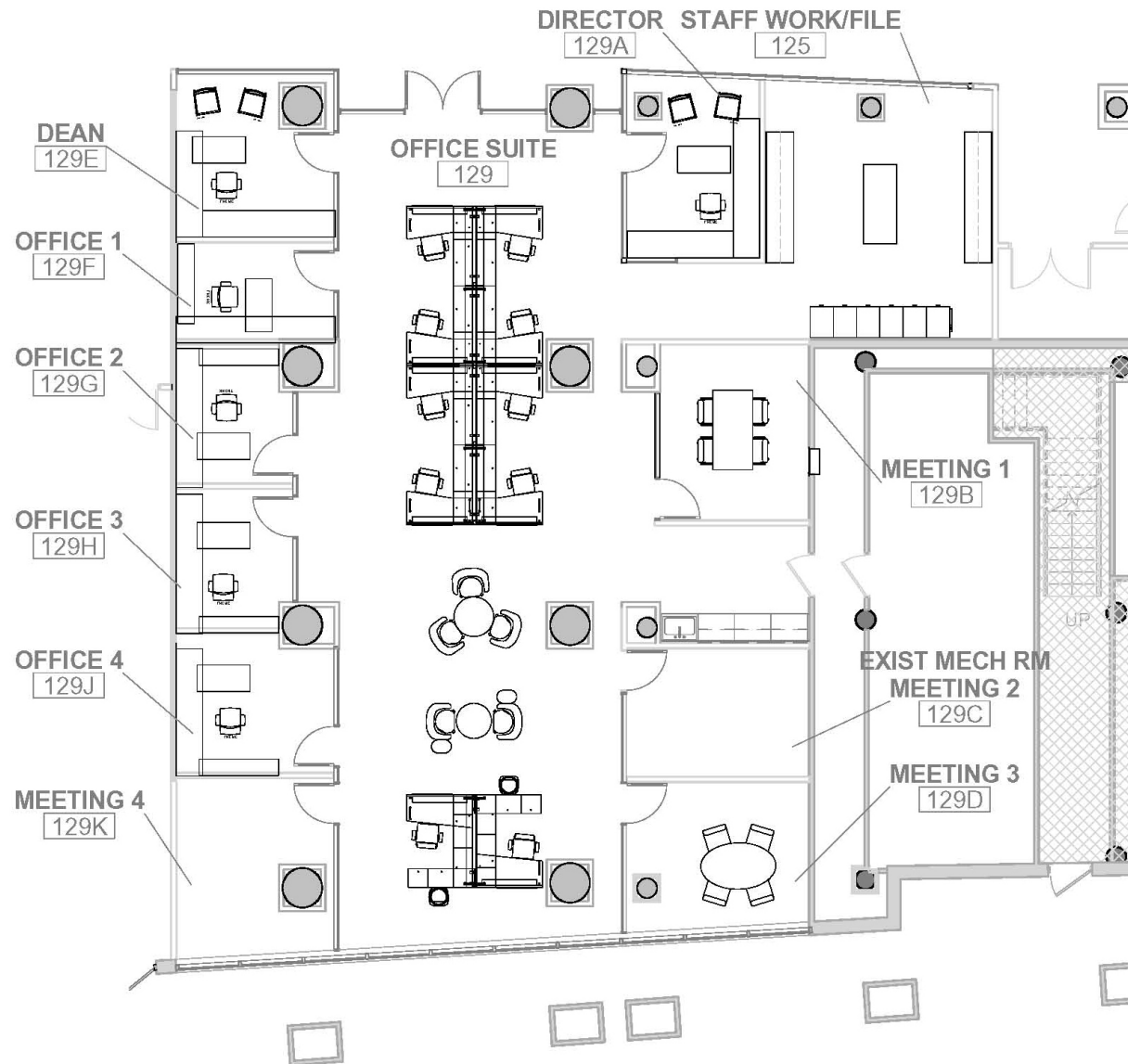


**MEDIUM STUDY**  
6-8 SEATS  
150-200 SQFT.



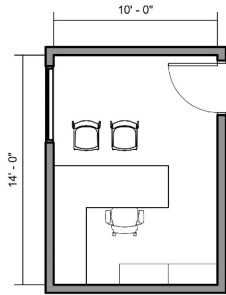
**LARGE STUDY**  
10+ SEATS  
220-280 SQFT.

# OFFICE LAYOUTS

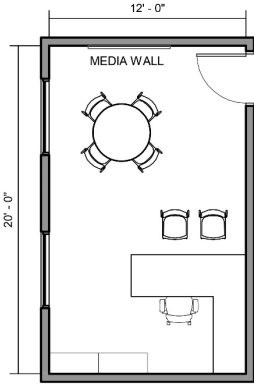




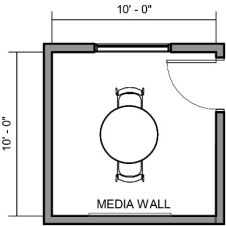
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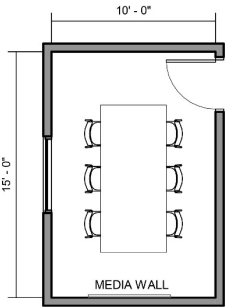
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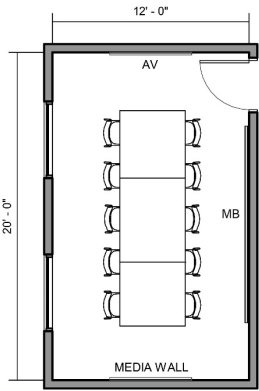
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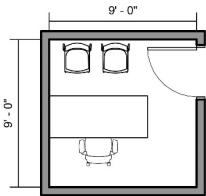
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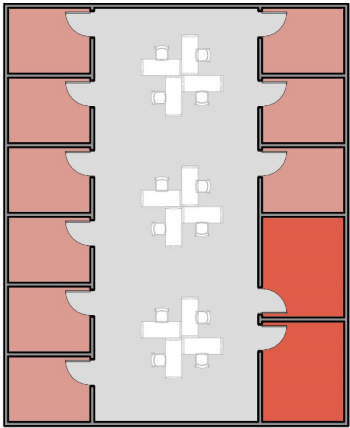
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**LARGE STUDY**  
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220-280 SQFT.

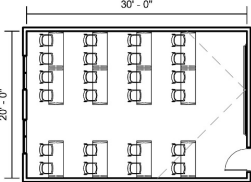
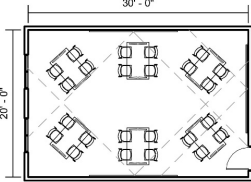
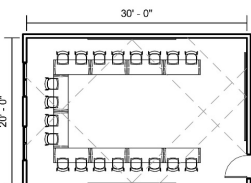
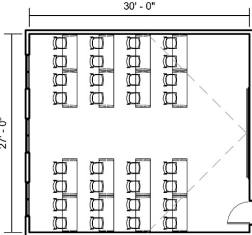
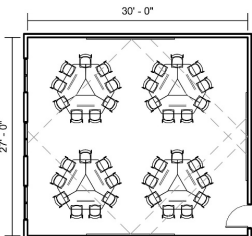
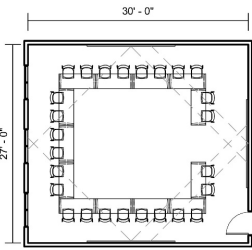
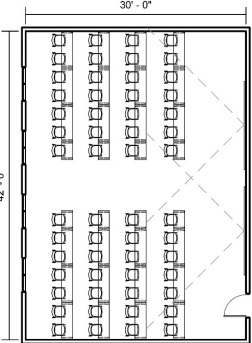
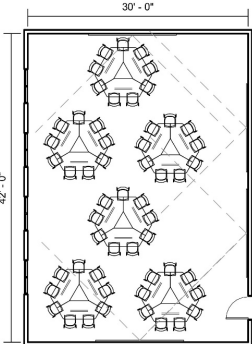
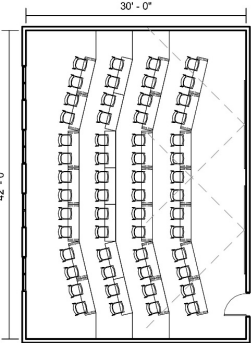
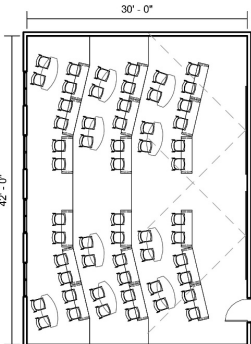


**SMALL OFFICE**  
80 SF



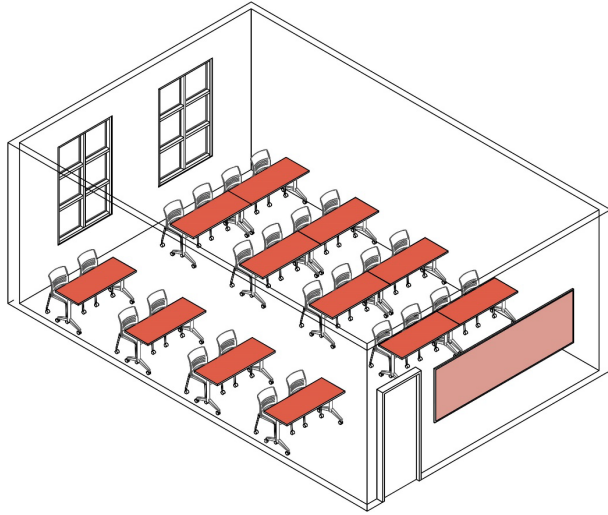
- CONFERENCE SPACE
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# CLASSROOM TYPOLOGIES

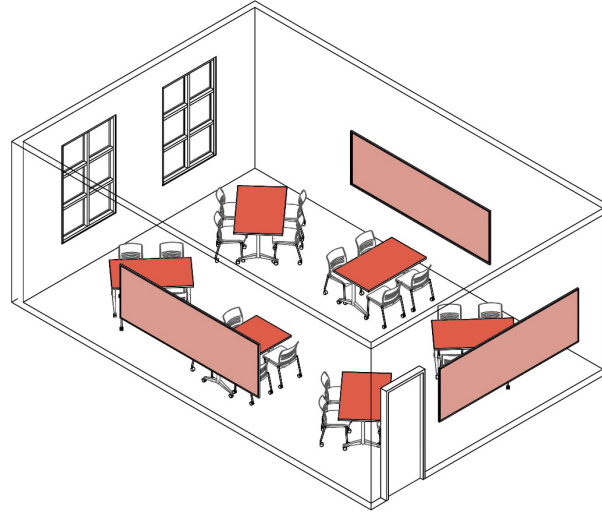
SMALL CLASSROOMS	MEDIUM CLASSROOMS	LARGE CLASSROOMS	
<div><p>30' - 0"</p><p>20' - 0"</p></div> <div><p>SMALL CLASSROOM - TRADITIONAL</p><p>500 - 700 SQFT (620) 27 SQFT/ STUDENT 19-26 STUDENTS (22)</p></div> <div><p>30' - 0"</p><p>20' - 0"</p></div> <div><p>SMALL CLASSROOM - COLLABORATIVE</p><p>500 - 700 SQFT (620) 27 SQFT/ STUDENT 19-26 STUDENTS (22)</p></div> <div><p>30' - 0"</p><p>20' - 0"</p></div> <div><p>SMALL CLASSROOM - CONFERENCE</p><p>500 - 700 SQFT (620) 27 SQFT/ STUDENT 19-26 STUDENTS (22)</p></div>	<div><p>30' - 0"</p><p>27' - 0"</p></div> <div><p>MEDIUM CLASSROOM - TRADITIONAL</p><p>750 - 900 SQFT (810) 24 SQFT/ STUDENT 28-38 STUDENTS (33)</p></div> <div><p>30' - 0"</p><p>27' - 0"</p></div> <div><p>MEDIUM CLASSROOM - COLLABORATIVE</p><p>750 - 900 SQFT (810) 24 SQFT/ STUDENT 28-38 STUDENTS (33)</p></div> <div><p>30' - 0"</p><p>27' - 0"</p></div> <div><p>MEDIUM CLASSROOM - CONFERENCE</p><p>750 - 900 SQFT (810) 24 SQFT/ STUDENT 28-38 STUDENTS (33)</p></div>	<div><p>30' - 0"</p><p>42' - 0"</p></div> <div><p>LARGE CLASSROOM - TRADITIONAL</p><p>1000-2000 SQFT (1260) 20 SQFT/ STUDENT 45-90 STUDENTS (63)</p></div> <div><p>30' - 0"</p><p>42' - 0"</p></div> <div><p>LARGE CLASSROOM - COLLABORATIVE</p><p>1000-2000 SQFT (1260) 20 SQFT/ STUDENT 45-90 STUDENTS (63)</p></div>	<div><p>30' - 0"</p><p>42' - 0"</p></div> <div><p>LARGE TIERED CLASSROOM - TRADITIONAL</p><p>1000-2000 SQFT (1260) 20 SQFT/ STUDENT 45-90 STUDENTS (63)</p></div> <div><p>30' - 0"</p><p>42' - 0"</p></div> <div><p>LARGE TIERED CLASSROOM - COLLABORATIVE/HYBRID</p><p>1000-2000 SQFT (1260) 20 SQFT/ STUDENT 45-90 STUDENTS (63)</p></div>



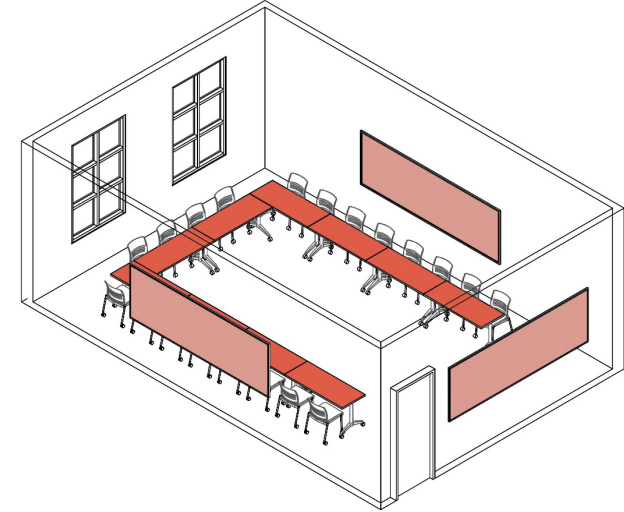
# CLASSROOM TYPOLOGIES



SMALL CLASSROOM - TRADITIONAL  
500 - 700 SQFT (620)  
27 SQFT/ STUDENT  
19-26 STUDENTS (22)

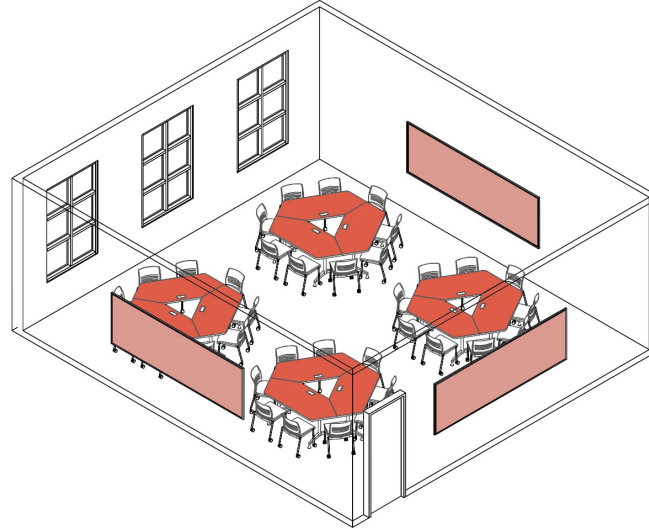


SMALL CLASSROOM - COLLABORATIVE  
500 - 700 SQFT (620)  
27 SQFT/ STUDENT  
19-26 STUDENTS (22)



SMALL CLASSROOM - CONFERENCE  
500 - 700 SQFT (620)  
27 SQFT/ STUDENT  
19-26 STUDENTS (22)

# CLASSROOM TYPOLOGIES

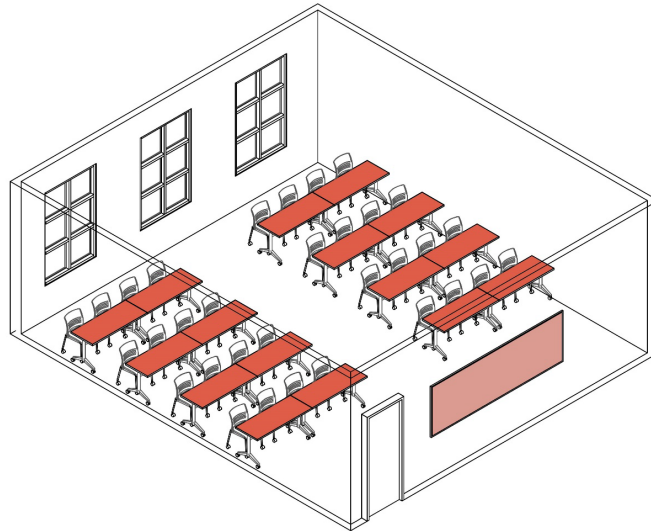


MEDIUM CLASSROOM - COLLABORATIVE

750 - 900 SQFT (810)

24 SQFT/ STUDENT

28-38 STUDENTS (33)

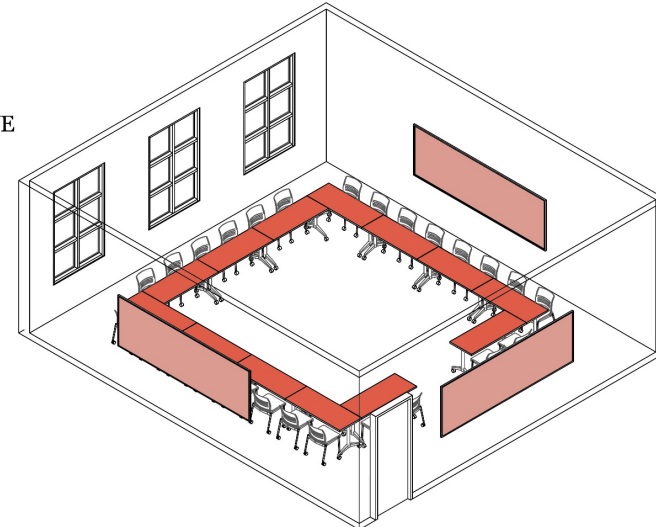


MEDIUM CLASSROOM - TRADITIONAL

750 - 900 SQFT (810)

24 SQFT/ STUDENT

28-38 STUDENTS (33)



MEDIUM CLASSROOM - CONFERENCE

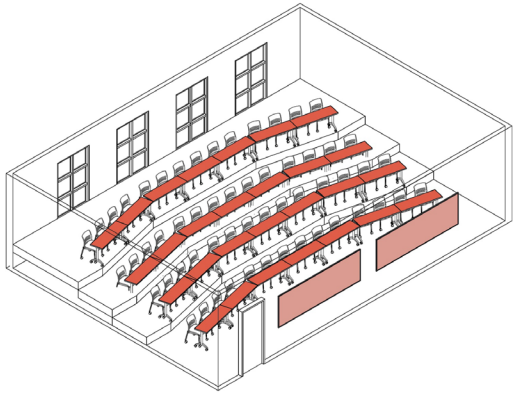
750 - 900 SQFT (810)

24 SQFT/ STUDENT

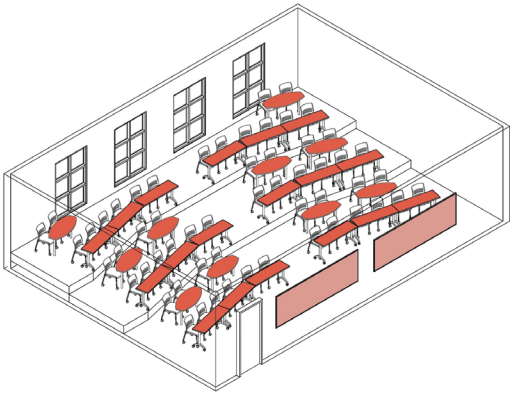
28-38 STUDENTS (33)



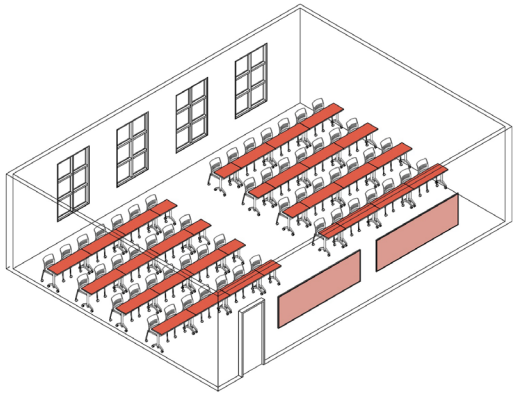
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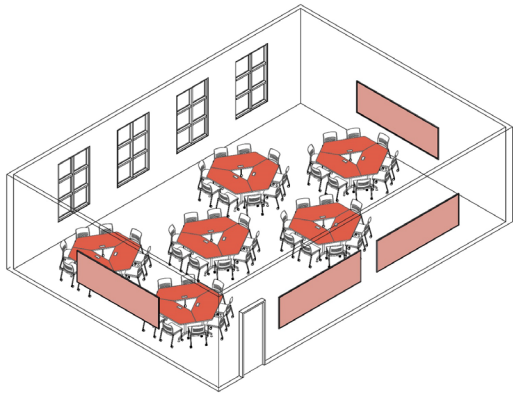
LARGE TIERED CLASSROOM - TRADITIONAL  
1000-2000 SQFT (1260)  
20 SQFT/ STUDENT  
45-90 STUDENTS (63)



LARGE TIERED CLASSROOM - COLLABORATIVE/HYBRID  
1000-2000 SQFT (1260)  
20 SQFT/ STUDENT  
45-90 STUDENTS (63)



LARGE CLASSROOM - TRADITIONAL  
1000-2000 SQFT (1260)  
20 SQFT/ STUDENT  
45-90 STUDENTS (63)

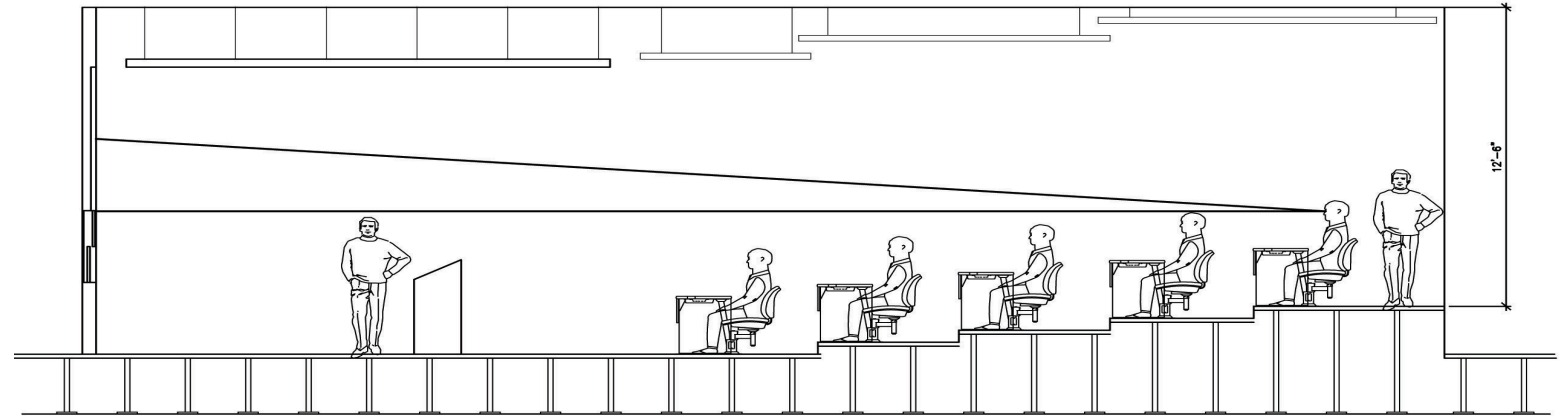


LARGE CLASSROOM - COLLABORATIVE  
1000-2000 SQFT (1260)  
20 SQFT/ STUDENT  
45-90 STUDENTS (63)

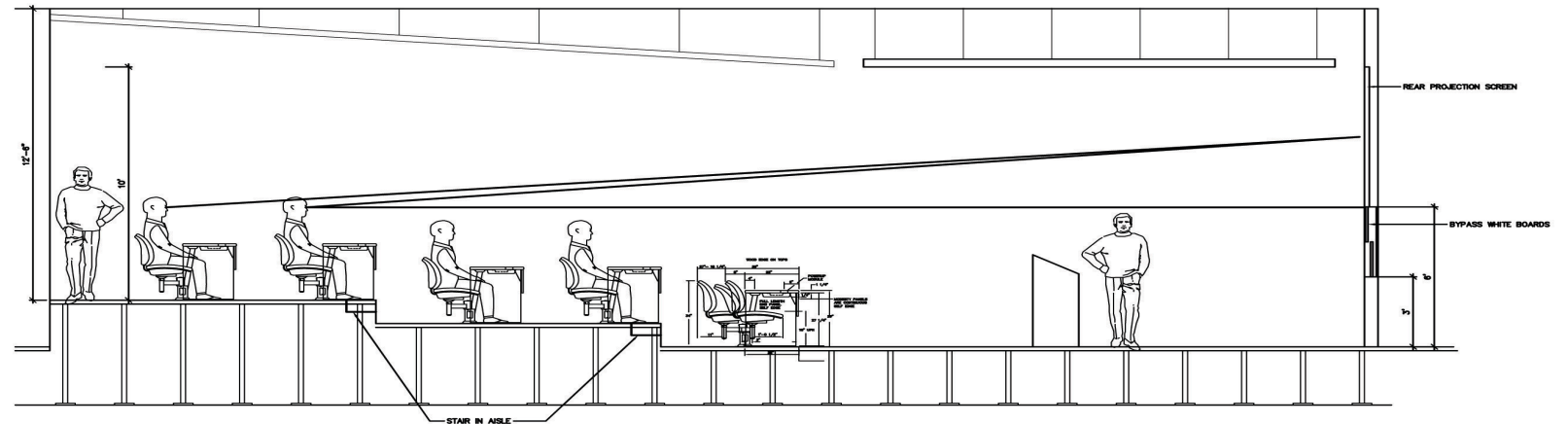
# METHODOLOGY

## Content | Learning Environments

Single Tier



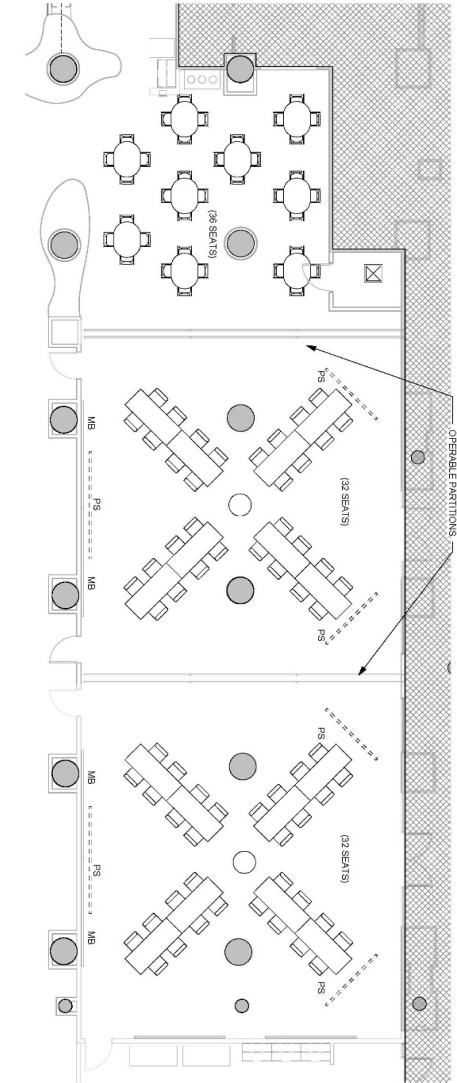
Double Tier





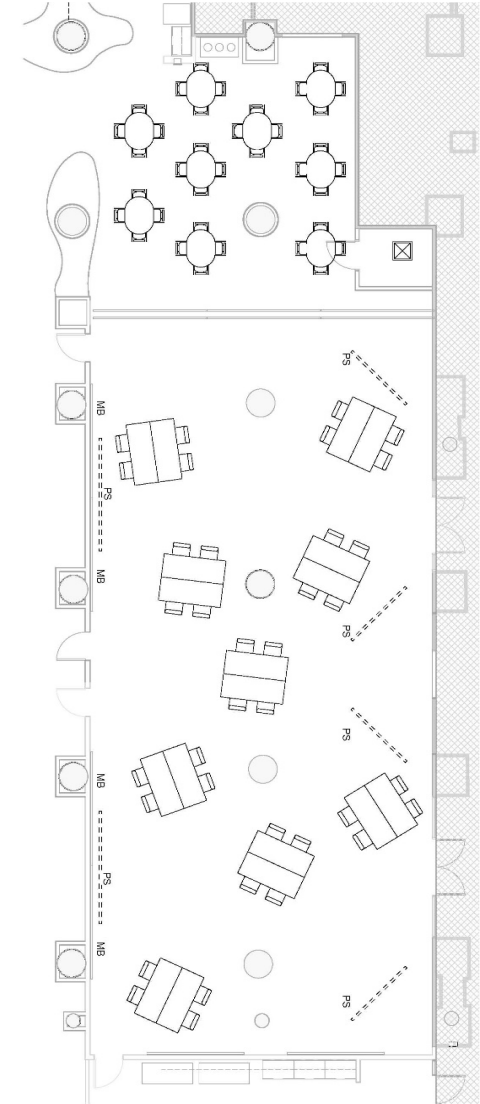
# METHODOLOGY

## Content | Learning Environments



# METHODOLOGY

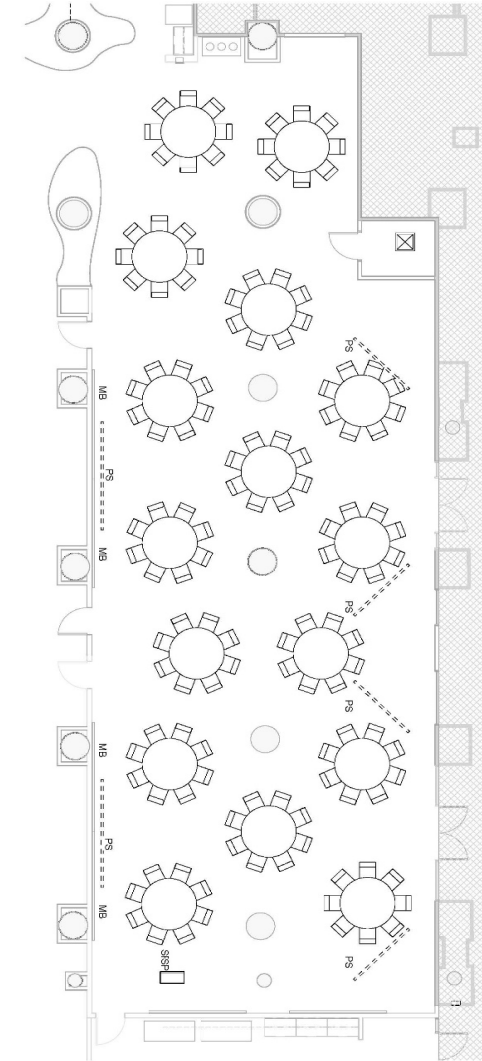
## Content | Learning Environments





# METHODOLOGY

## Content | Learning Environments





# METHODOLOGY

## Content | Learning Environments





# METHODOLOGY

## Content | Learning Environments



## Content | HVAC Challenges

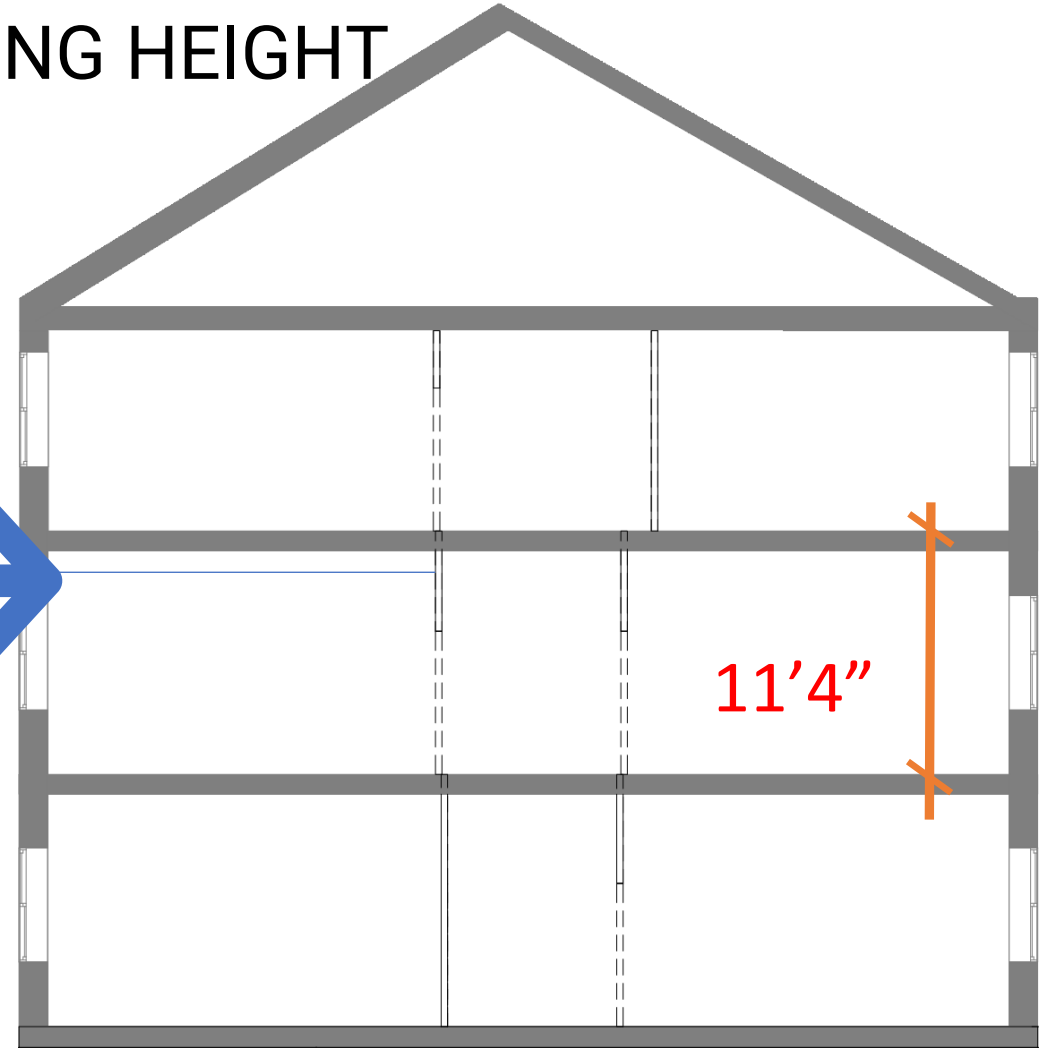
[illegible]



# METHODOLOGY

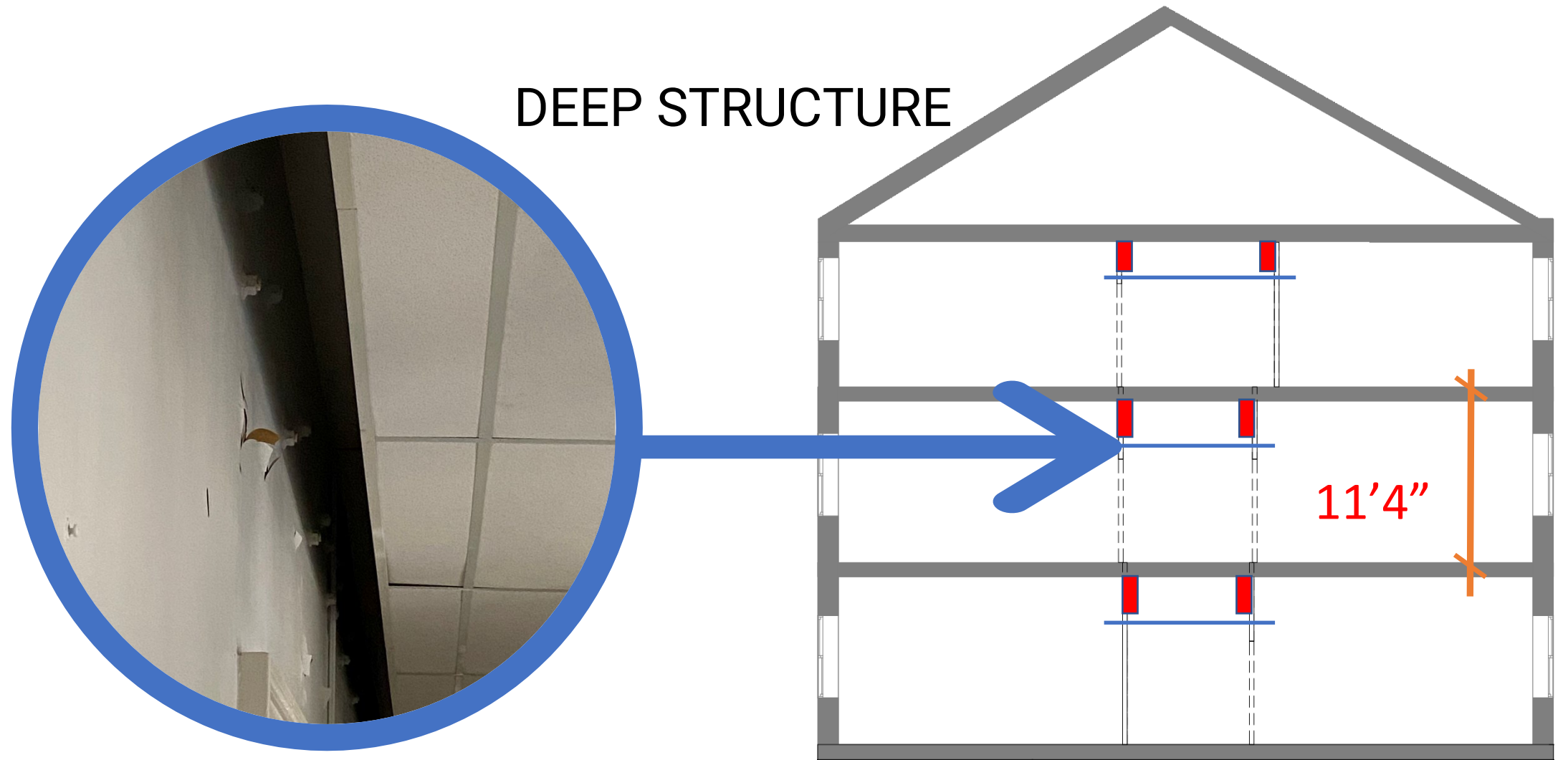
Content | HVAC Challenges

## LIMITED CEILING HEIGHT



# METHODOLOGY

Content | HVAC Challenges







# CASE STUDIES



# EXECUTION

CASE STUDY | AGNES SCOTT COLLEGE REBEKAH HALL | BUILT 1905



TRANSFORMATIONS



# EXECUTION

CASE STUDY | AGNES SCOTT COLLEGE REBEKAH HALL | BUILT 1905



BEFORE

TRANSFORMATIONS

Jenkins • Peer Architects



# EXECUTION

CASE STUDY | AGNES SCOTT COLLEGE REBEKAH HALL | BUILT 1905



FLEXIBLE LEARNING  
SPACE





# THOUGHT STARTERS