

NCSU BROOKS HALL PHASE I RENOVATION

50 Pullen Road, Raleigh, NC 27605

SC0#22-25338-02A NCSU#20222002

11 05 24 - ADDENDUM 01

CHANGES TO THE PROJECT MANUAL

- PG. 55 of the Specifications is to be omitted. This was erroneously included.
- A request was made to consider an '1700 Composite Windows' from Interstate Building & Door Co. as a viable product for use in the project. As there is no specification for a composite window, this is not approved with no further action or instructions to Bidders. This will not be considered in place of 084113 Aluminum-Framed Entrances and Storefronts.

CHANGES TO THE PROJECT DRAWINGS

- M200 and M201 have been replaced as several duct sizes were missing.
- A0.2, A0.3, AB-1 have been issued in a 'flat' version for troubles with the file. No changes have been made to these sheets.

ANSWERS TO QUESTIONS RECEIVED TO DATE

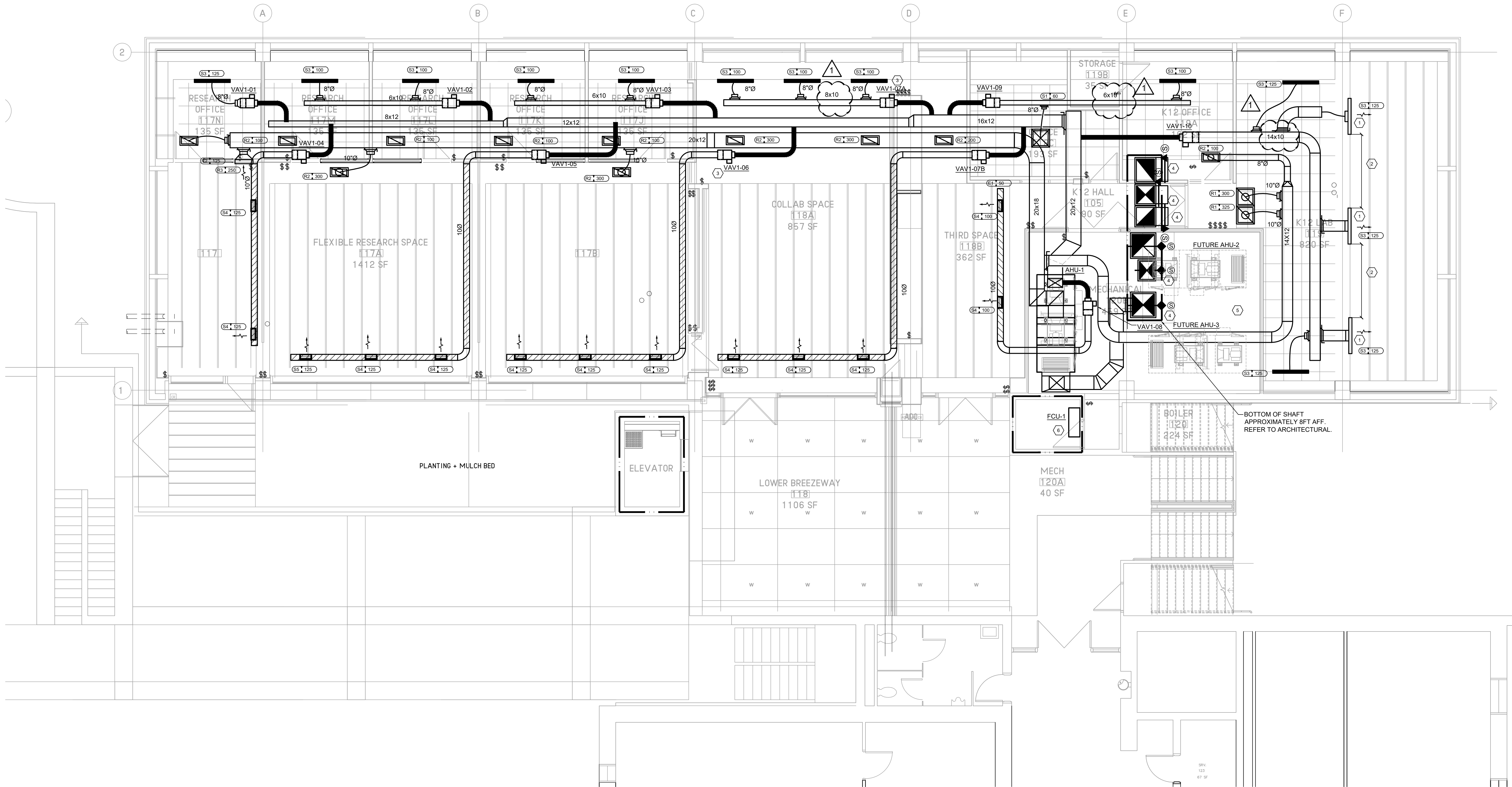
- Q: HVAC duct and pipe sizes are missing on M2.00 and M2.01.
A: See attached drawings for missing pipe and duct sizes. Piping sizes are listed on sheet M400. Runout sizes to VAV boxes shall be equivalent to the box inlet sizes.
- Q: Will adjacent floors be occupied during construction?
A: Yes.
- Q: Who has current HVAC Controls?
A: There are no existing HVAC controls to be interfaced with on this project.
- Q: Who has current Fire Alarm?
A: Existing Fire alarm is listed on sheet FA2.02 key note 1. Honeywell FCI E3.
- Q: Will any phasing be required, or do we get entire work space at one time?
A: Limits of Construction are noted on the drawings for a single phase project.
- Q: Will you be releasing a Plan Holder's List?
A: See attached. An updated, final version of this list will be released after the Pre-Bid Meeting on 11 12 24.
- Q: We would like to request a day/time for a sub walk sometime after the pre bid and at least a day prior to last question deadline.
A: This will be discussed at the Pre-Bid Meeting - a determination will be made by that time.
- Q: Doors will be required to be a wide stile door due to mortise style locksets being asked for.
A: This is acceptable.
- Q: The basis of design for the interior storefront calls out Tubelite INT45 framing, unfortunately none of the listed storefront manufacturers has a storefront with the same setup and none would meet the compliance requirements to be acceptable. The next closest thing that matches the Tubelite is Raco or Versatrac System and we do not install those systems.
A: Please propose an alternate product as a part of ADD ALT A3.

**NCSU BROOKS HALL PHASE I RENOVATION
50 PULLEN ROAD, RALEIGH, NC 27605**

SCO#22-25338-02A
NCSU#20222002

PLAN HOLDERS LIST [PREQUALIFIED/SUBMITTED A PLAN REQUEST/ASKED A QUESTION]

ACH Constructors
Bridgepoint General Contracting
Daniels & Daniels Construction
CMC Building Inc.
Consigli Construction
CT Wilson Construction
Lomax Construction Inc.
McKenna Construction
Messer Construction Co.
Monteith Construction
Riggs-Harrod Builders, Inc.
Riley Contracting Group
Salisbury & Moore
Shelco LLC
WC Construction
The Whiting-Turner Contracting Company
HBTECH
Mechworks Inc.
Interstate Window & Door



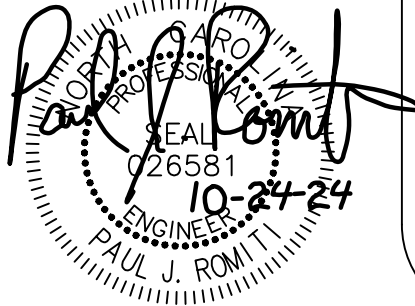
101 FLOOR 1 - MECHANICAL NEW DUCTWORK PLAN
SCALE: 3/16" = 1'-0"

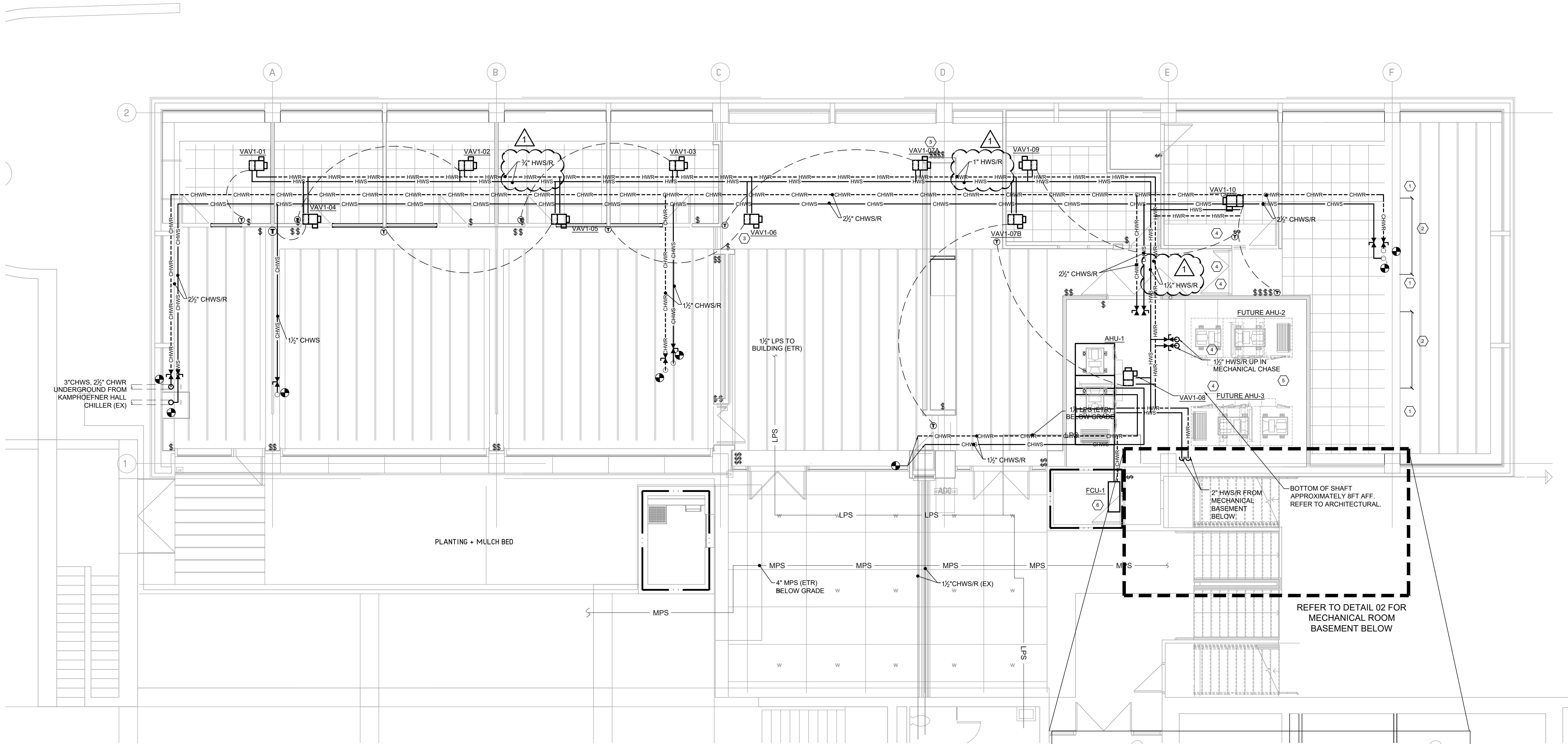
GENERAL NOTES:
1. CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZES OF ALL EQUIPMENT AND PIPING IN THIS SPACE PRIOR TO FABRICATION.

- KEYED NOTES
- 1 MOUNT SLOT DIFFUSER S3 IN SIDEWALL MIDWAY DOWN THE DEPTH OF THE BULKHEAD.
 - 2 EVENLY SPACE DIFFUSERS IN BULKHEAD FACE
 - 3 REFER TO ARCHITECTURAL PLANS FOR LOCATION 00 24X24 ACCESS DOOR. COORDINATE WITH GC FOR EXACT POSITIONING TO MAINTAIN FULL ACCESSIBILITY TO VAV BOX INCLUDING CONTROLS AND COIL CLEANING ACCESS DOOR. REFER TO DETAIL 06/M501 FOR ACCESS REQUIREMENTS.
 - 4 CAP DUCT AT AFTER FIRE SMOKE DAMPER FOR FUTURE CONNECTION.
 - 5 ALL MATERIALS INSTALLED IN MECHANICAL ROOM 104 SHALL BE PLENUM-RATED.

FIRE RATED WALL LEGEND	
	1 HR FIRE BARRIER
	2 HR FIRE BARRIER

1 ADDENDUM #1





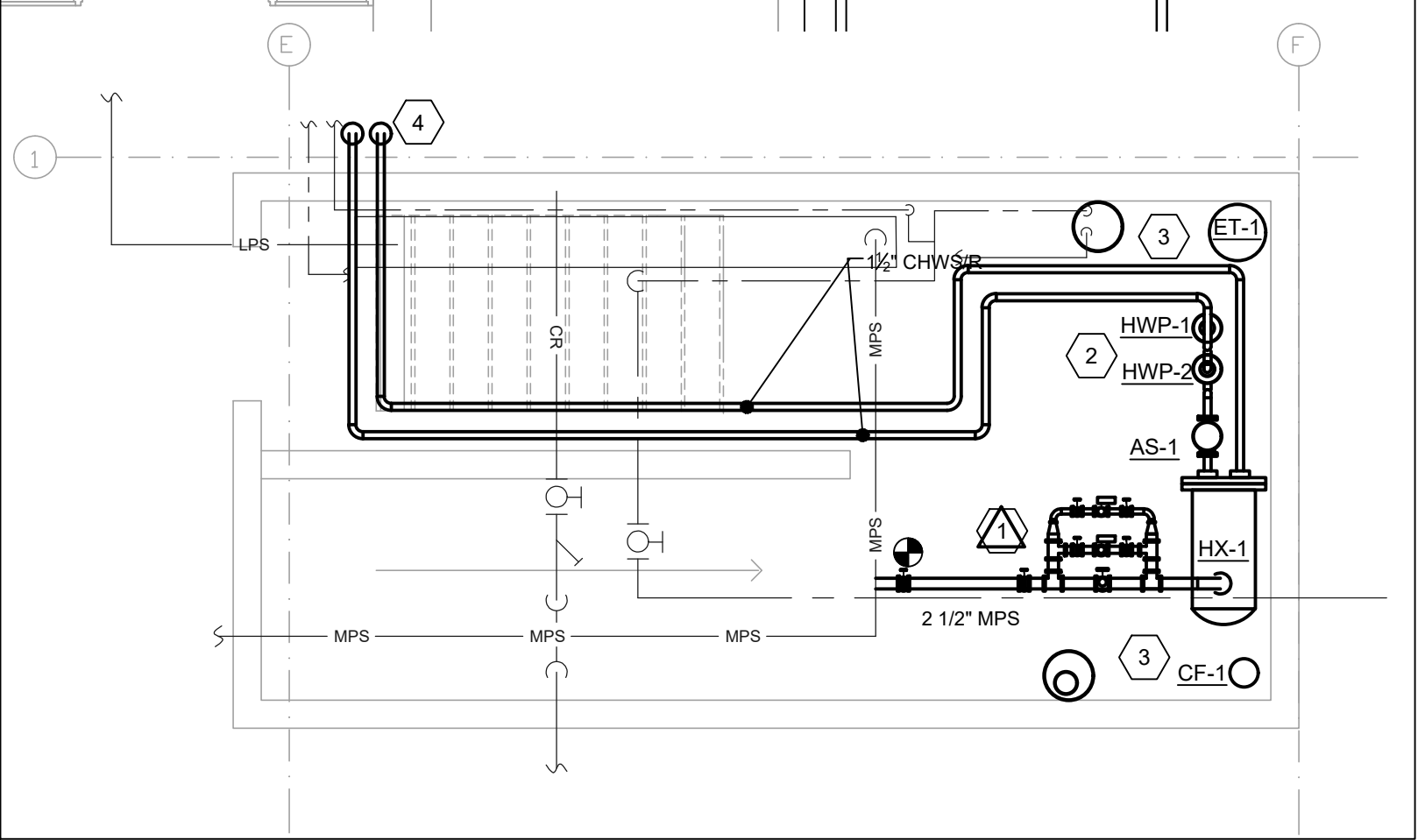
01 FLOOR 1 - MECHANICAL NEW PIPING PLAN
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZES OF ALL EQUIPMENT AND PIPING IN THIS SPACE PRIOR TO FABRICATION.

KEYED NOTES

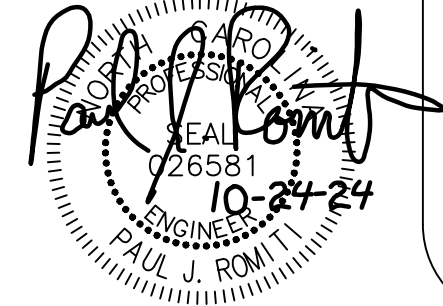
- 1 REFER TO DETAIL 03/M5.02 FOR DETAILED INSTRUCTIONS ON INSTALLATION OF HEAT EXCHANGER COMPONENTS.
- 2 REFER TO DETAIL 01/M5.02 FOR DETAILED INSTRUCTIONS ON INSTALLATION OF STACKED INLINE HOT WATER PUMPS
- 3 REFER TO PIPING SCHEMATICS, SHEET M4.00 FOR FURTHER INFORMATION ABOUT HOT WATER PIPING COMPONENTS.
- 4 TURN NEW 1/2" HWS/R UP INTO NEW MECHANICAL ROOM ABOVE.
- 5 ALL MATERIALS INSTALLED IN MECHANICAL ROOM 104 SHALL BE PLENUM-RATED.
- 6 INSTALL NEW TRANE FCD020 OR EQUAL COOLING ONLY 6,000 BTU 200CFM HORIZONTAL 120V CABINET FAN COIL UNIT ABOVE DOOR IN EQUIPMENT ROOM. ROUTE CONDENSATE BACK TO HUB DRAIN IN MECH 104.



02 MECHANICAL BASEMENT NEW PIPING PLAN
SCALE: 1/4" = 1'-0"

FIRE RATED WALL LEGEND	
	1 HR FIRE BARRIER
	2 HR FIRE BARRIER

1 ADDENDUM #1



Name of Project: NCSU Brooks Hall Renovations - Phase I			
Address: 50 Pullen Road, Raleigh NC			Zip Code 27605
Owner/Authorized Agent: David Hammock, PE	Phone # (919) 515 - 2030		E-Mail dhammoc@ncsu.edu
Owned By:	<input type="checkbox"/> City/County	<input type="checkbox"/> Private	<input checked="" type="checkbox"/> State
Code Enforcement Jurisdiction:	<input type="checkbox"/> City	<input type="checkbox"/> County	<input checked="" type="checkbox"/> State

CONTACT:					
DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	in situ studio	Zech Hoffman AIA	14288	(704) 301-4750	zech@insitudiostudio.us
Civil				()	
Electrical	Sigma Engineered Solutions	Reginald D Adams, PE	19658	(919) 840-9300	rdadams@sigmaes.com
Fire Alarm	Sigma Engineered Solutions	Reginald D Adams, PE	19658	(919) 840-9300	rdadams@sigmaes.com
Plumbing	Sigma Engineered Solutions	Paul J. Romili, PE	026581	(704) 301-4750	promili@sigmaes.com
Mechanical	Sigma Engineered Solutions	Paul J. Romili, PE	026581	(704) 301-4750	promili@sigmaes.com
Sprinkler-Standpipe					
Structural	Lynch Mykims Structural Engineers	Anna Lynch, PE	035055	(858) 245-5363	anna@lynchmykims.com
Retaining Walls >5' High					
Other					

(*Other* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ☐ New Building ☐ Addition ☒ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
☐ Phased Construction - Shell/Core- Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☒ Level II ☐ Level III
☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) 1955	CURRENT OCCUPANCY(S) (Ch. 3): Business
RENOVATED: (date) -	PROPOSED OCCUPANCY(S) (Ch. 3): Business

RISK CATEGORY (Table 1604.5): **Current:** ☐ I ☐ II ☒ III ☐ IV [ASSUMED, NO CHANGE]
Proposed: ☐ I ☐ II ☒ III ☐ IV

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☒ I-B ☒ II-B ☐ III-B ☐ V-B

Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☒ No ☐ Yes ☐ Class ☐ II ☐ III ☐ Wet ☐ Dry

Fire District: ☒ No ☐ Yes

Flood Hazard Area: ☐ No ☐ Yes

Special Inspections Required: ☐ No ☒ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.) [RF S010]

Revised 6/15/2020

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED * (W/ REDUCTION)				
Structural Frame, including columns, girders, trusses	0'	0		(existing)			
Bearing Walls							
Exterior							
North	n/a						
East	n/a						
West	n/a						
South	n/a						
Interior	n/a						
Nonbearing Walls and Partitions							
Exterior walls							
North	> 30'	0		(existing)			
East	> 30'	0		(existing)			
West	> 30'	0		(existing)			
South	0'	0		(existing - covered breezeway connection)			
Interior walls and partitions	n/a	0					
Floor Construction							
Including supporting beams and joists		0		(existing)			
Floor Ceiling Assembly		0		(existing)			
Columns Supporting Floors		0		(existing)			
Roof Construction, including supporting beams and joists		0		(existing)			
Roof Ceiling Assembly		0		(existing)			
Columns Supporting Roof		0		(existing)			
Shaft Enclosures - Exit	n/a						
Shaft Enclosures - Other		0					
Corridor Separation	n/a						
Occupancy/Fire Barrier Separation	n/a						
Party/Fire Wall Separation	n/a						
Smoke Barrier Separation	n/a						
Smoke Partition	n/a						
Tenant Dwelling Unit/ Sleeping Unit Separation	n/a						
Incidental Use Separation	n/a						

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Gross Building Area Table			
FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3 rd Floor	5431 SF [819 SF WORK AREA]	0 SF	5431 SF [819 SF WORK AREA]
2 nd Floor	5431 SF [819 SF WORK AREA]	0 SF	5431 SF [819 SF WORK AREA]
Mezzanine			
1 st Floor/Basement	5431 SF	360 SF	5791 SF
TOTAL			16653 SF [7429 SF WORK AREA]

Assembly	<input type="checkbox"/> A-1	<input type="checkbox"/> A-2	<input type="checkbox"/> A-3	<input type="checkbox"/> A-4	<input type="checkbox"/> A-5
Business	<input checked="" type="checkbox"/> X				
Educational					
Factory	<input type="checkbox"/> F-1 Moderate	<input type="checkbox"/> F-2 Low			
Hazardous	<input type="checkbox"/> H-1 Detonate	<input type="checkbox"/> H-2 Deflagrate	<input type="checkbox"/> H-3 Combust	<input type="checkbox"/> H-4 Health	<input type="checkbox"/> H-5 HPM
Institutional	<input type="checkbox"/> I-1 Condition	<input type="checkbox"/> 1	<input type="checkbox"/> 2		
	<input type="checkbox"/> I-2 Condition	<input type="checkbox"/> 1	<input type="checkbox"/> 2		
	<input type="checkbox"/> I-3 Condition	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
	<input type="checkbox"/> I-4				
Mercantile	<input type="checkbox"/>				
Residential	<input type="checkbox"/> R-1	<input type="checkbox"/> R-2	<input type="checkbox"/> R-3	<input type="checkbox"/> R-4	
Storage	<input type="checkbox"/> S-1 Moderate	<input type="checkbox"/> S-2 Low	<input type="checkbox"/>	<input type="checkbox"/> High-piled	
	<input type="checkbox"/> Parking Garage	<input type="checkbox"/> Open	<input type="checkbox"/> Enclosed	<input type="checkbox"/> Repair Garage	
Utility and Miscellaneous	<input type="checkbox"/>				

Accessory Occupancy Classification(s): Concentrated Assembly 17% , Storage 4%

Incidental Uses (Table 509): n/a

Special Uses (Chapter 4 – List Code Sections): n/a

Special Provisions: (Chapter 5 – List Code Sections): n/a

Mixed Occupancy: ☒ No ☐ Yes Separation: n/a Hr. Exception: n/a

☒ **Non-Separated Use (508.3)** - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} + \dots = \frac{\text{Actual Area of Occupancy C}}{\text{Allowable Area of Occupancy C}} \leq 1.00$$

Revised 6/15/2020

PERCENTAGE OF WALL OPENING CALCULATIONS			
FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

Emergency Lighting: ☐ No ☒ Yes

Exit Signs: ☐ No ☒ Yes

Fire Alarm: ☐ No ☒ Yes

Smoke Detection Systems: ☐ No ☒ Yes ☐ Partial _____

Carbon Monoxide Detection: ☐ No ☒ Yes

Life Safety Plan Sheet #: A0.3

- ☒ Fire and/or smoke rated wall locations (Chapter 7)
- ☒ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☒ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☒ Occupant loads for each area
- ☒ Exit sign locations (1013)
- ☒ Exit access travel distances (1017)
- ☒ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☒ Dead end lengths (1020.4)
- ☒ Clear exit widths for each exit door
- ☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☒ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☒ Location of doors with panic hardware (1010.1.10)
- ☒ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☒ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☒ Location of doors equipped with hold-open devices
- ☒ Location of emergency escape windows (1030)
- ☒ The square footage of each fire area (202)
- ☒ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

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STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 ⁴ AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}
1	Business - Higher Ed	5791 SF	23500 SF	14%	26790 SF
2	Business - Higher Ed	5431 SF	23500 SF	14%	26790 SF
3	Business - Higher Ed	5431 SF	23500 SF	14%	26790 SF

Frontage area increases from Section 5.6 are computed thus:

- Perimeter which fronts a public way or open space having 20 feet minimum width = $\frac{145 \cdot 111}{2}$ (F)
- Total Building Perimeter = $\frac{372 \cdot 68}{2}$ (F)
- Ratio (F/P) = 0.2325 (F/P)
- W = Minimum width of public way = '30' (W)
- Percentage of frontage increase $I_F = 100[F/P - 0.25] \times W/30 = 14\%$ (%)

Unlimited area applicable under conditions of Section 507.

Maximum building area = total number of stories \times building \times D (maximum 3 stories) (506.2).

The maximum area of open parking garages must comply with Table 406.5.4.

Frontage increase is based on the unsprinklered area value in Table 506.2.

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE ¹
Building Height in Feet (Table 504.3) ²	55' [B, NS, IIB]	38.75' [existing]	-
Building Height in Stories (Table 504.4) ³	3 [B, NS, IIB]	3 [existing]	-

¹ Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

² The maximum height of air traffic control towers must comply with Table 412.3.1.

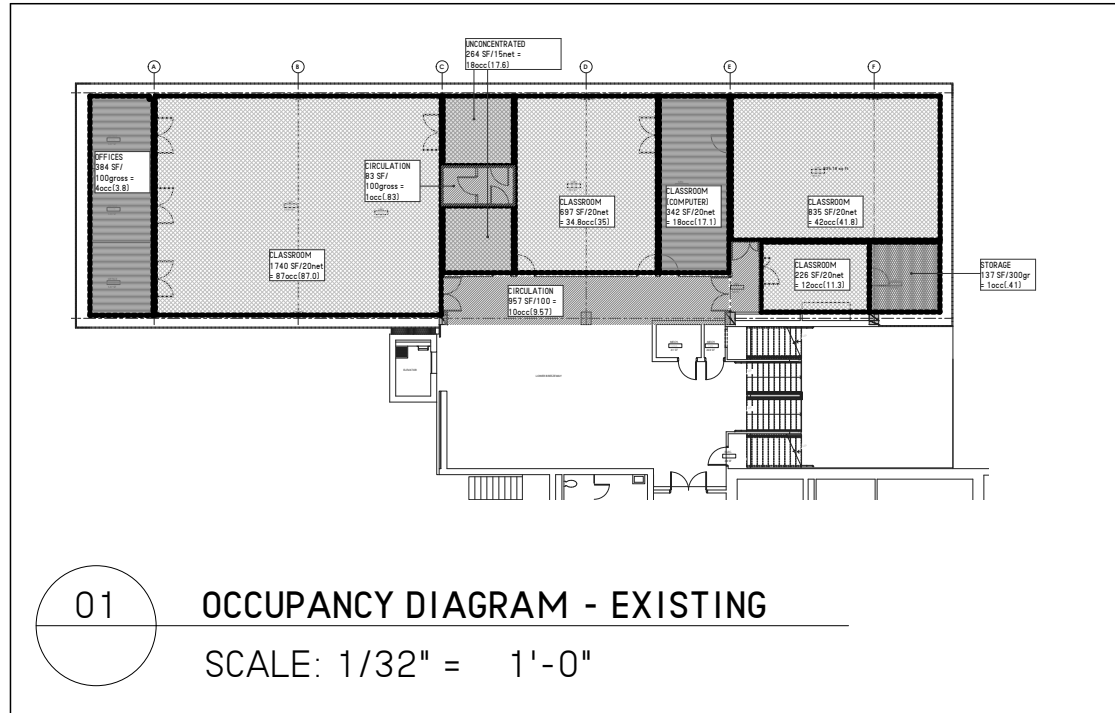
⁵ The maximum height of open parking garages must comply with Table 406.5.4.

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[illegible][illegible][illegible]

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

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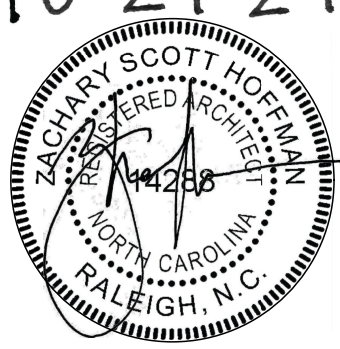
EXISTING OCCUPANCY	TYPE IIB CONSTRUCTION		ALTERATION LEVEL 2
	INTERIOR	B - Higher Ed	
3498 SF	classroom	20 net	182 occupants
264 SF	unconcentrated	15 net	18 occupants
384 SF	business (offices/wc)	100 gross	4 occupants
137 SF	storage	300 gross	1 occupants
1040 SF	circulation	100 gross	11 occupants
		TOTAL	216 occupants
			216 *20% increase: 259.2 occ

Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.

2018 NC BUILDING CODE - CHAPTER 29 - SECTION 2902.3.1 ACCESS.

The route to the public toilet facilities required by Section 2902.3 shall not pass through kitchens, storage rooms, or closets. Access to the required facilities shall be from within the building or from the exterior of the building. Routes shall comply with the accessibility requirements of this code. The public shall have access to the required toilet facilities at all times that the building is occupied.

Existing occupancy is increasing by 7 % and existing facilities will remain accessible - therefore no plumbing fixture changes are required.



ENERGY SUMMARY

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☐ No ☐ Yes (Provide code or statutory reference): _____

Climate Zone: ☐ 3A ☐ 4A ☐ 5A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(If "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)

Description of assembly: _____

THIS PROJECT IS AN ALTERATION LEVEL 2 OF AN EXISTING BUILDING AND DOES NOT ALTER THE EXISTING THERMAL ENVELOPE TO THE BEST OF MY KNOWLEDGE AND BELIEF. THE DESIGN OF THIS PROJECT COMPLIES WITH ENERGY REQUIREMENTS OF THE NORTH CAROLINA STATE EXISTING BUILDING CODE.

SIGNED:

NAME: ZACH HOFFMAN AIA #14288

Small heat gain coefficient:

projection factor: _____

Door R-Values: _____

Walls below grade (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Floors over unconditioned space (each assembly)

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Floors slab on grade

Description of assembly: _____

U-Value of total assembly: _____

R-Value of insulation: _____

Horizontal/vertical requirement: _____

slab heated: _____

2018 NC Administrative Code and Policies

Revised 6/15/2020

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_s) 1.1
Seismic (I_e) 1.25

Live Loads: Roof 20 psf
Mezzanine NA psf
Floor 80 psf

Ground Snow Load: 15 psf

Wind Load: Ultimate Wind Speed 120 mph (ASCE-7)
Exposure Category B

SEISMIC DESIGN CATEGORY: ☐ A ☒ B ☐ C ☐ D

Provide the following Seismic Design Parameters:

Risk Category (Table 1604.5) ☐ I ☐ II ☒ III ☐ IV

Spectral Response Acceleration S_s 0.155 %g S₁ 0.077 %g

Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F

Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data

Basic structural system NA ☐ Bearing Wall ☐ Dual w/Special Moment Frame

☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel

☐ Moment Frame ☐ Inverted Pendulum

Analysis Procedure: NA ☐ Simplified ☐ Equivalent Lateral Force ☐ Dynamic

Architectural, Mechanical, Components anchored? ☐ Yes ☒ No

LATERAL DESIGN CONTROL: NA Earthquake ☐ Wind ☐

SOIL BEARING CAPACITIES:

Field Test (provide copy of test report) NA psf

Presumptive Bearing capacity 1500 psf

Pile size, type, and capacity NA psf

2018 NC Administrative Code and Policies

Revised 6/15/2020

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone

winter dry bulb: _____

summer dry bulb: _____

Interior design conditions

winter dry bulb: _____

summer dry bulb: _____

relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System

Unitary

Description of unit: _____

REFER TO MECHANICAL DRAWINGS

Chiller

Size category. If oversized, state reason: _____

List equipment efficiencies: _____

2018 NC Administrative Code and Policies

Revised 6/15/2020

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive

Lighting schedule (each fixture type)

lamp type required in fixture

number of lamps in fixture

ballast type used in the fixture

number of ballasts in fixture

total wattage per fixture

total interior wattage specified vs. allowed (whole building or space by space)

total exterior wattage specified vs. allowed

Additional Efficiency Package Options

(When using the 2018 NCECC; not required for ASHRAE 90.1)

☐ C406.2 More Efficient HVAC Equipment Performance

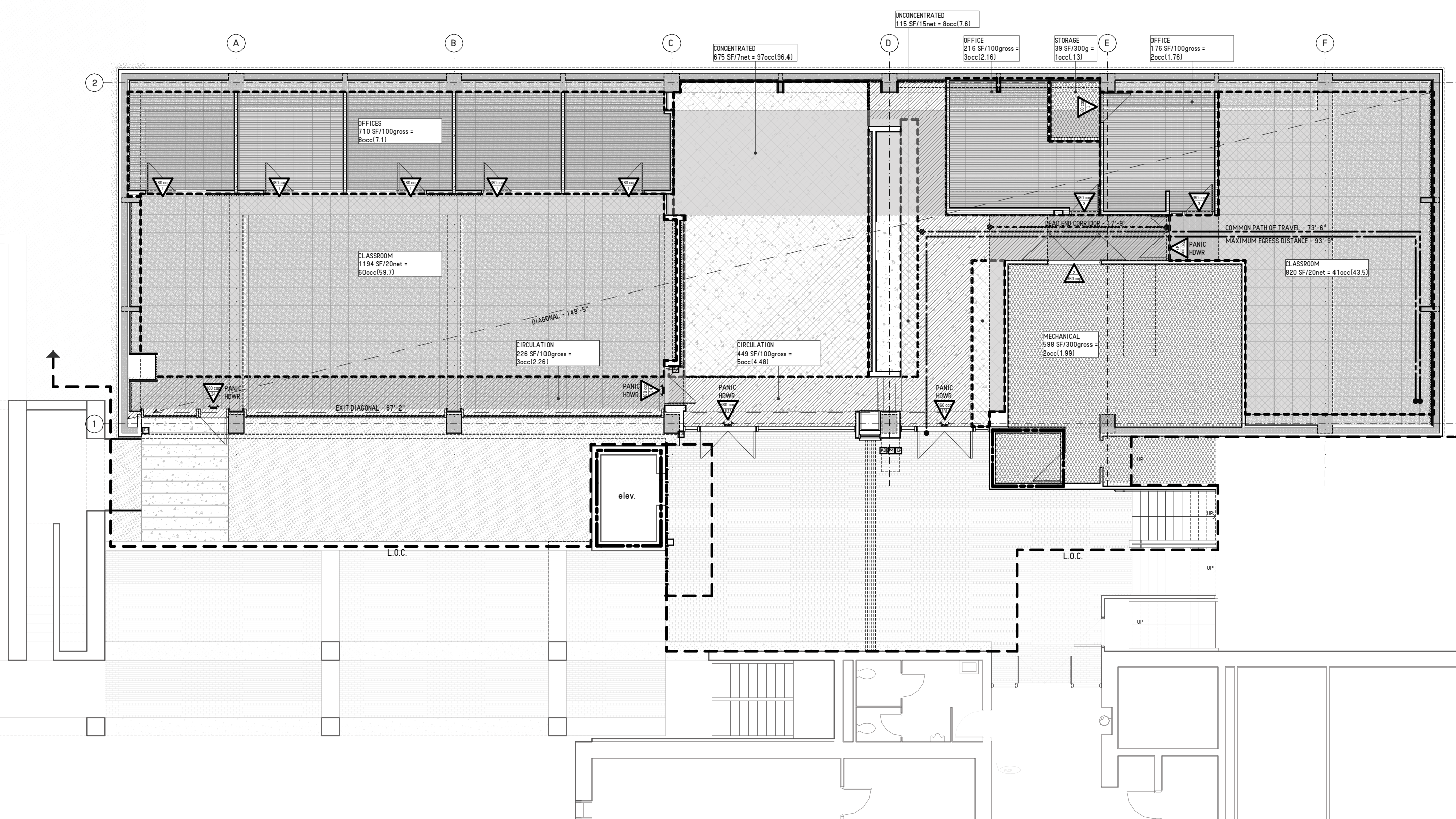
☐ C406.3 Reduced Lighting Power Density

☐ C406.4 Reduced Electrical System Capacity

REFER TO ELECTRICAL DRAWINGS

2018 NC Administrative Code and Policies

Revised 6/15/2020



01 LIFE SAFETY PLAN - FLOOR 1 BASEMENT

SCALE: 3/32" = 1'-0"

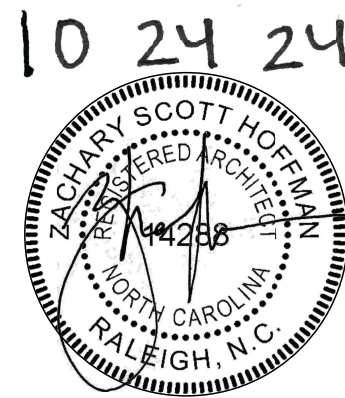
*REF A2.1 AND A2.2 FOR LIFESAFETY FOR UPPER FLOORS

INTERIOR	B - Higher Ed	TYPE IIB CONSTRUCTION	ALTERATION LEVEL 2
2065 SF	classroom	20 net	104 occupants
825	concentrated/unconcentrated	7/15 net	105 occupants
946 SF	business (offices/wc)	100 gross	13 occupants
39 SF	storage	300 gross	2 occupants
675 SF	circulation	100 gross	8 occupants
TOTAL			232 occupants

	concentrated assembly (7 net)		office - 100 gross
	business (100 gross)		areas discounted for circulation (100 gross)
	storage (300 gross)		exit signage
			fire extinguisher

Spaces with two exits, nonsprinklered	= maximum occupant load of 500
Occupant Load	= 242
Stair Width	= NA - No stairs in project scope
Required Exit Width	= 48.4" @ Doors
Exit Width Provided	= 180" @ Doors
Required Max Egress Distance	= 200'-0"
Actual Max Egress Distance	= 93'-9"
Max Common Path of Travel	= 75'-0"
Actual Common Path of Travel	= 73'-6"
Required Distance Between Exits	= 74'-3" [148'-5" divided by 2]
Actual Distance Between Exits	= 87'-2"

EXISTING BUILDING - ALL WORK ON THIS FLOOR (EXCEPT FOR MECHANICAL CHASE TO ROOF - SEE A2.1/2.2)
EXIT SIGN AT EACH DOOR
EXISTING ENVELOPE - 90% NO CHANGE, ENVELOPE CHANGES WILL MEET CURRENT ENERGY CODE
[3] NEW EGRESS DOORS



in situ studio

704 N Person St
Raleigh NC 27604
www.institutestudio.com

NC STATE UNIVERSITY
Structural
PME
Lynch Mykins
Sigma Engineered

Consultants

BD

10 24 24
zh + jk
scale as noted

SC0422-25338-02A
NSU BROOKS HALL RENOVATIONS - PHASE I
10 PULLEN ROAD
RALEIGH, NC 27605

APPENDIX B CONT'D + LIFE SAFETY

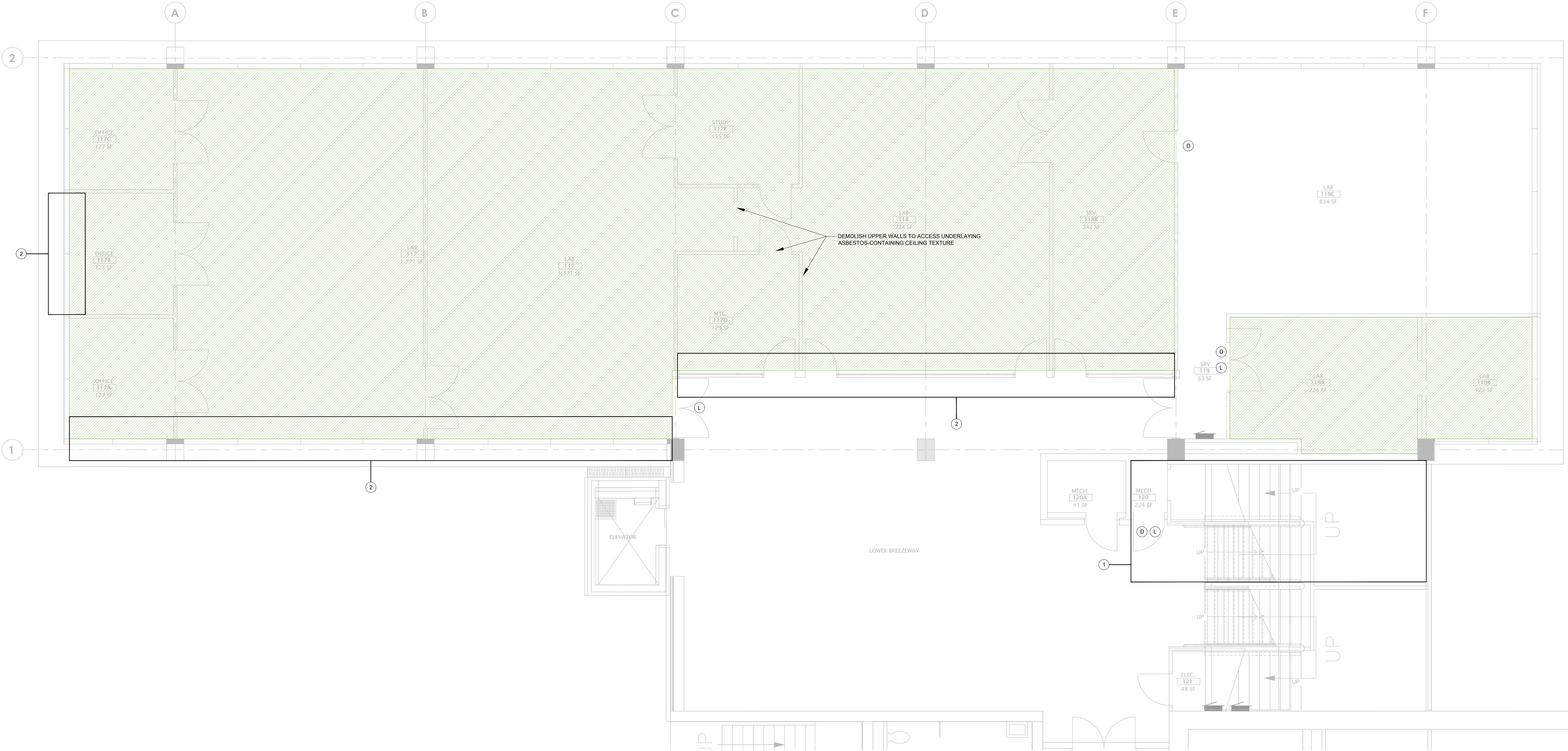
A0.3

GENERAL NOTES

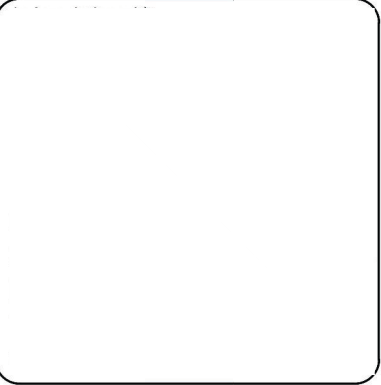
- THIS DRAWING ACCOMPANIES ASBESTOS ABATEMENT TECHNICAL SPECIFICATIONS.
- ASBESTOS ABATEMENT MUST BE PERFORMED INSIDE BOUNDARIES INDICATED ON THIS DRAWING.
- THE ABATEMENT CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING THE SITE PRIOR TO BIDDING TO CONFIRM THE SCOPE OF THE WORK. BOUNDARIES AND LOCATIONS ARE APPROXIMATE. ANY QUANTITIES LISTED BY THE DESIGNER IN THE PLANS AND SPECIFICATIONS ARE DONE SO AS APPROXIMATIONS. THE ACTUAL QUANTITIES OF ASBESTOS-CONTAINING MATERIALS TO BE ENCOUNTERED ARE THE RESPONSIBILITY OF THE ABATEMENT CONTRACTOR.
- ABATEMENT OPERATIONS WILL BE PERFORMED UTILIZING A NEGATIVE PRESSURE ENCLOSURE. THE ENCLOSURE SHALL CONSIST OF A 3-STAGE DECONTAMINATION UNIT, CRITICAL BARRIERS, POLYETHYLENE WALLS, POLYETHYLENE FLOORS (WHERE APPLICABLE) AND NEGATIVE PRESSURE AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS.
- FOLLOWING ABATEMENT OPERATIONS AND SUCCESSFUL VISUAL INSPECTION OF EACH CONTAINMENT, AGGRESSIVE TEM AIR CLEARANCE TESTING WILL BE PERFORMED AND SENT TO THE LABORATORY FOR ANALYSIS (24-HOUR TURNAROUND TIME).
- CONTRACTOR SHALL USE A "LOW" TO "NO" ODOR SOLVENT SUCH AS TWIN CHEMICAL EXTRA MAN LOW ODOR SOLVENT OR EQUIVALENT FOR REMOVAL OF ASBESTOS-CONTAINING FLOORING MASTIC. SOLVENT SHALL BE NEUTRALIZED PER MANUFACTURER DIRECTION PRIOR TO NEW FLOORING INSTALLATION. COORDINATION BETWEEN THE ABATEMENT CONTRACTOR AND FLOORING CONTRACTOR SHALL BE MADE IN ORDER TO ENSURE COMPATIBILITY OF THE MASTIC REMOVAL SOLVENT WITH NEW FLOORING ADHESIVE. REMOVE AND DISPOSE OF CARPETING.
- CONTRACTOR SHALL REMOVE OLD LIGHTS AND DUCTWORK WHERE NECESSARY TO ACCESS AND ABATE ASBESTOS-CONTAINING CEILING TEXTURE. CONTRACTOR SHALL CLEAN AND STORE LIGHTS FOR REUSE. CONDUIT SHALL BE UNSCREWED TO ALLOW ACCESS TO UNDERLYING CEILING TEXTURE. SECURE CONDUIT TO CEILING WHEN CLEANING IS COMPLETE. REMOVE PARTITION WALLS WHERE SHOWN ON THE DRAWINGS TO ACCESS AND REMOVE UNDERLYING ASBESTOS-CONTAINING CEILING TEXTURE.

LEGEND

- REMOVE AND DISPOSE OF APPROXIMATELY 5,700 SQUARE FEET OF ASBESTOS-CONTAINING CEILING TEXTURE FROM PLASTER SUBSTRATE WHERE SHOWN ON THE FIRST FLOOR.
- REMOVE AND DISPOSE OF APPROXIMATELY 871 SQUARE FEET ASBESTOS-CONTAINING CEILING TEXTURE FROM PLASTER SUBSTRATE, AND APPROXIMATELY 871 SQUARE FEET OF ASBESTOS-CONTAINING FLOOR TILE AND FLOOR TILE MASTIC WHERE SHOWN ON THE SECOND FLOOR.
- REMOVE AND DISPOSE OF APPROXIMATELY 871 SQUARE FEET ASBESTOS-CONTAINING CEILING TEXTURE FROM PLASTER SUBSTRATE, AND APPROXIMATELY 871 SQUARE FEET OF ASBESTOS-CONTAINING FLOOR TILE AND FLOOR TILE MASTIC WHERE SHOWN ON THE THIRD FLOOR.
- 1 REMOVE AND DISPOSE OF ASBESTOS-CONTAINING MUDDIED PIPE FITTINGS AND END CAPS (APPROXIMATELY 30 FITTINGS) AND APPROXIMATELY 30 SQUARE FEET OF ASBESTOS-CONTAINING CEILING TEXTURE FROM MECHANICAL ROOM.
- 2 REMOVE AND DISPOSE OF 20 WINDOWS WITH ASBESTOS-CONTAINING WINDOW GLAZING. COORDINATE WINDOW REMOVAL WITH ON SITE GC TO COVER WINDOW OPENINGS.
- D L APPROXIMATE LOCATION OF DECONTAMINATION UNIT AND LOAD-OUT.



Revisions		
No.	Date	Description



BROOKS HALL RENOVATION - PHASE 1
NCSU BUILDING NO. 011
SCO ID # 22-25338-02A
ARCHITECTURE
ASBESTOS ABATEMENT PLAN - LEVEL 1

PROJ. START DATE:	SCALE	AB-1
MCE PROJ. #	HORIZONTAL:	DRAWING NUMBER
DRAWN ACS	AS NOTED	REVISION
DESIGNED GEH	VERTICAL:	
CHECKED GEH	N/A	
PROJ. MGR. GEH		
STATUS:	JUNE 19, 2024	95% REVIEW