

**DESCRIPTION OF PERMANENT IMPROVEMENT PROJECT FOR CONSIDERATION**

March 2, 2023

**COLLEGE OF CHARLESTON**

**PROJECT NAME:** Berry Residence Hall and Honors Program Renovation  
**REQUESTED ACTION:** Increase Budget (Phase II)  
**REQUESTED ACTION AMOUNT:** \$22,425,000  
*Internal Projected Cost:* \$23,000,000  
**PRIOR CHE APPROVAL DATE(S):** 5/5/2022 (Phase I)

<b>Project Budget</b>	<b>Previous</b>	<b>Change</b>	<b>Revised</b>
Professional Service Fees	\$ 575,000	\$ --	\$ 575,000
Equipment and/or Materials	--	63,703	63,703
Renovations – Building Interior	--	8,425,565	8,425,565
Renovations – Utilities	--	2,804,418	2,804,418
Roofing	--	1,830,528	1,830,528
Renovations – Building Exterior	--	3,875,659	3,875,659
Other Permanent Improvements	--	1,198,267	1,198,267
Other: FFE, Permits, Inspections, Signage	--	1,926,860	1,926,860
Contingency	--	2,300,000	2,300,000
<b>Total</b>	<b>\$ 575,000</b>	<b>\$ 22,425,000</b>	<b>\$ 23,000,000</b>

<b>Source of Funds</b>	<b>Previous</b>	<b>Change</b>	<b>Revised</b>
Auxiliary Housing Revenues	\$ 475,000	\$ 18,525,000	\$ 19,000,000
Capital Improvement Project Funds	100,000	3,900,000	4,000,000
<b>Total</b>	<b>\$ 575,000</b>	<b>\$ 22,425,000</b>	<b>\$ 23,000,000</b>

**DESCRIPTION:**

College of Charleston is requesting a recommendation from the Commission on Higher Education to begin renovating Berry Residence Hall, which in addition to providing beds, houses honors program academic space on the first floor. The 34-year-old, 184,000-square foot facility provides 630 beds and has not been renovated in the past twenty years.

According to the college, the implementation will be completed in phases and the college anticipates project completion by the start of academic year 2025-26. In order not to displace students, renovations affecting residential portions will happen during summer terms. According to college staff, they have taken precautionary steps by adding bedrooms and increasing capacity at another residence hall to help students due to unforeseen circumstances. In addition, the college does not anticipate increasing the fees for students living in Berry Residence Hall as a result of this renovation.

This project was included in the university’s CIP submittal as a year one priority.

**SOURCE OF FUNDS:**

The following outlines the funding sources for the project:

- \$19,000,000 from auxiliary housing revenues; and
- \$8,000,000 from capital improvement project funds.

Because Berry Residence Hall serves as both residential and academic space, the college is funding the project with a combination of housing revenue and excess debt service. Auxiliary housing revenues are the

accumulation of housing revenue after accounting for debt and operational costs. As of January 19, 2023, this account had an uncommitted balance of \$24.3 million.

Capital improvement project funds are excess debt service. These are funds derived from student fees in excess of repayments for the college's education and general bonds. As of January 19, 2023, this account had an uncommitted balance of \$33.4 million. Currently, in-state students pay \$1,812 per year to fund debt service. This amount has not increased for the past four years.

**MAINTENANCE NEEDS:**

The college will continue funding operations and maintenance from student housing fees for this facility.

**ANNUAL OPERATING COSTS/SAVINGS:**

College of Charleston staff project annual savings of \$736,000 related to decreased utility and maintenance needs.



# **BERRY RESIDENCE HALL AND HONORS PROGRAM RENOVATION**

PERMANENT IMPROVEMENT PROJECT INFORMATION  
FOR **PHASE TWO** CONSTRUCTION BUDGET, **PROJECT H15-9678**

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## **REQUIRED DOCUMENTATION**

- Form A-1
- Form A-49
- Budget Summary and Details
- JBRC Questionnaire
- JBRC Roof Questionnaire and Narrative

## **SUPPLEMENTAL DOCUMENTATION**

- Executive Summary
  - Project Schedule
  - Project Narratives
  - Green Globes Narrative
  - Schematic Design Drawings
-

FOR DEPARTMENT USE ONLY	
CHE	_____
JBRC	_____
SFAA	_____
JBRC Staff	_____
ADMIN Staff	_____
A-1 Form Mailed	_____
SPIRS Date	_____
Summary	_____

(For Department Use Only)
<b>SUMMARY NUMBER</b>
<b>FORM NUMBER</b>

**PERMANENT IMPROVEMENT PROJECT REQUEST**

1. AGENCY Code H15 Name College of Charleston  
 Contact Person Michael Turner, Director of Facilities Planning, turnerm@cofc.edu Phone 843.953.2039

2. PROJECT Project # 9678 Name Berry Residence Hall and Honors Program Renovation  
 Facility # 006 Facility Name Berry Residence Hall

County Code	10 - Charleston
New/Revised Budget	\$23,000,000.00

Project Type	3 - Repair/Renovate Existing Facilities/Systems
Facility Type	4 - Housing/Food Service/Laundry

3. CPIP PROJECT APPROVAL FOR CURRENT FISCAL YEAR  
 CPIP priority number 2 of 35 for FY 22-23.

4. PROJECT ACTION PROPOSED (Indicate all requested actions by checking the appropriate boxes.)

Establish Project	<input type="checkbox"/>	Decrease Budget	<input type="checkbox"/>	Close Project	<input type="checkbox"/>
Establish Project - CPIP	<input type="checkbox"/>	Change Source of Funds	<input type="checkbox"/>	Change Project Name	<input type="checkbox"/>
Increase Budget	<input checked="" type="checkbox"/>	Revise Scope	<input type="checkbox"/>	Cancel Project	<input type="checkbox"/>

5. PROJECT DESCRIPTION AND JUSTIFICATION  
 (Explain and justify the project or revision, including what it is, why it is needed, and any alternatives considered. Attach supporting documentation/maps to fully convey the need for the request.)

(Description) Berry Residence Hall is a 183,514 six-level 630-bed residence hall constructed in 1989 (34 years old). The last significant renovation was in 2003. This project will address MEP issues, upgrade elevators, and replace roofs and windows. The ground floor will be renovated to centralize and expand Honors College classrooms, programming, and supporting administrative offices, releasing space elsewhere on campus. Student suites will be refreshed with new paint, flooring, lighting, millwork, plumbing fixtures, appliances, furniture, and signage. Floors two and three will house Honors College students. Floors four through six will house general student population. Distribution can change as the Honors College grows. Construction will be financed and implemented in four phases to allow the facility to be occupied during fall and spring semesters to maintain required bed space.

(Justification) The College used rating criteria of the (2020) CHE Building Condition Survey and rated this building with a CHEMIS Condition Code of 61 out of a possible 100 points. Prospective students and parents consider campus living environments to be among the top criteria in choosing a college or university This especially applies Honors housing. The College is falling behind in this extremely competitive field where students have many choices elsewhere.

(Alternatives Considered) Considering there are no alternate housing locations for this quantity of students, the only alternative would be to repair issues slowly while residents are in place. This will cause serious infrastructure disruptions, noise, and construction dust, all of which would be detrimental to the student living and studying experience. The result would be increased cost, longer duration, and damaged student/parent/College relations.

6. OPERATING COSTS IMPLICATIONS  
 Attach Form A-49 if any additional operating costs or savings will result from this request. This includes costs to be absorbed with current funding.

7. ESTIMATED PROJECT SCHEDULE AND EXPENDITURES  
 Estimated Start Date: June 2022 Estimated Completion Date: July 2026  
 Estimated Expenditures: Thru Current FY: \$2,000,000.00 After Current FY: \$21,000,000.00

8. ESTIMATES OF NEW/REVISED PROJECT COSTS

<b>PROJECT #</b>	9678
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1. \_\_\_\_\_ Land Purchase ---->
  2. \_\_\_\_\_ Building Purchase ---->
  3. 575,000.00 Professional Services Fees
  4. 63,703.00 Equipment and/or Materials ---->
  5. \_\_\_\_\_ Site Development
  6. \_\_\_\_\_ New Construction ---->
  7. 8,425,565.00 Renovations - Building Interior ---->
  8. 2,804,418.00 Renovations - Utilities
  9. 1,830,528.00 Roofing - 20 Roof Age
  10. 3,875,659.00 Renovations - Building Exterior
  11. 1,198,267.00 Other Permanent Improvements
  12. \_\_\_\_\_ Landscaping
  13. \_\_\_\_\_ Builders Risk Insurance
  14. \_\_\_\_\_ Other Capital Outlay
  15. \_\_\_\_\_ Labor Costs
  16. \_\_\_\_\_ Bond Issue Costs
  17. 1,926,860.00 Other: FFE, Permits, Inspections, Signage
  18. 2,300,000.00 Contingency
- \$23,000,000.00 TOTAL PROJECT BUDGET

Land: \_\_\_\_\_ Acres  
 Floor Space: 183,514 Gross Square Feet  
 Information Technology \$63,703.00  
 Floor Space: \_\_\_\_\_ Gross Square Feet  
 Floor Space: \_\_\_\_\_ Gross Square Feet

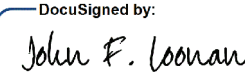
ENVIRONMENTAL HAZARDS	
Identify all types of significant environmental hazards (including asbestos, PCB's, etc..) present in the project and the financial impact they will have on the project.	
Type:	_____
<u>Cost Breakdown</u>	
Design Services	\$ _____
Monitoring	\$ _____
Abate/Remed	\$ _____
Total Costs	\$ <u>0.00</u>

9. PROPOSED SOURCE OF FUNDING

Source	Previously Approved Amount	Increase/Decrease	Original/Revised Budget	Transfer to/from Proj. #	Rev Object Code	Treasurer's ID Number	Rev Sub Fund	Exp Sub Fund
(0) CIB, Group			0.00 0.00		8115		3043	3043
(1) Dept. CIB, Group			0.00 0.00		8115		3143	3143
(2) Institution Bonds			0.00 0.00					3235
(3) Revenue Bonds			0.00 0.00					3393
(4) Excess Debt Service			0.00 0.00					3497
(5) Capital Reserve Fund			0.00 0.00		8895		3603	3603
(6) Appropriated State			0.00 0.00		8895	68800100	1001	3600
(7) Federal			0.00 0.00			78800100		5787
(8) Athletic			0.00 0.00			88800100		3807
(9) Other (Specify)								
Aux. Housing Revenues	475,000.00	18,525,000.00	19,000,000.00		8214	98800100	4238	3907
Capital Improvement	100,000.00	3,900,000.00	4,000,000.00		8214	98800100	4910	3907
Project Fund (CIPF)			0.00					
<b>TOTAL BUDGET</b>	<b>\$575,000.00</b>	<b>\$22,425,000.00</b>	<b>\$23,000,000.00</b>					

DocuSigned by:

10. SUBMITTED BY:

  
 \_\_\_\_\_  
 2A42872317CF4ED... n Loonan, CFO / EVP for Business Affairs  
 cial and Title

\_\_\_\_\_  
 January 19, 2023  
 Date

11. APPROVED BY:

(For Department Use Only)

\_\_\_\_\_  
 Authorized Signature and Title

\_\_\_\_\_  
 Date

**ADDITIONAL ANNUAL OPERATING COSTS / SAVINGS**  
**RESULTING FROM PERMANENT IMPROVEMENT PROJECT**

1. AGENCY Code H15 Name College of Charleston

2. PROJECT Project # 9678 Name Berry Residence Hall and Honors Program Renovation

3. ADDITIONAL ANNUAL OPERATING COSTS / SAVINGS. (Check whether reporting costs or savings.)

COSTS                       SAVINGS                       NO CHANGE

4.

TOTAL ADDITIONAL OPERATING COSTS / SAVINGS				
Projected Financing Sources				
(1)	(2)	(3)	(4)	(5)
Fiscal Year	General Funds	Federal	Other	Total
1) FY 25-26	\$	\$	\$ (735,962.00)	\$ (735,962.00)
2) FY 26-27	\$	\$	\$ (758,041.00)	\$ (758,041.00)
3) FY 27-28	\$	\$	\$ (780,782.00)	\$ (780,782.00)

5. If "Other" sources are reported in Column 4 above, itemize and specify what the other sources are (revenues, fees, etc.).  
 N/A.

Notes for Above: Figures based upon enclosed Green Globes summary. 3% escalation applied to FY26-27 & FY 27-28.

6. Will the additional costs be absorbed into your existing budget?  YES                       NO  
 If no, how will additional funds be provided?

N/A

7. Itemize below the cost factors that contribute to the total costs or savings reported above in Column 5 for the first fiscal year.

<u>COST FACTORS</u>	<u>AMOUNT</u>
1. <u>Decreased maintenance and repair costs</u>	<u>(\$77,220.00)</u>
2. <u>Decreased building systems utility costs</u>	<u>(557,991.00)</u>
3. <u>Decreased water/sewer consumption</u>	<u>(100,751.00)</u>
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
TOTAL	<u>(\$735,962.00)</u>

8. If personal services costs or savings are reported in 7 above, please indicate the number of additional positions required or positions saved. None

9. Submitted By: John F. Loonan                      hn Loonan                      January 19, 2023  
DocuSigned by:                      O / Executive VP for Business Affairs  
2A42872317CF4ED...                      Signature of Authorized Official and Title                      Date



## EXECUTIVE SUMMARY

Prepared For: Compass 5 Partners / HLC

Project Name: College of Charleston - Berry Hall Addition & Renovations

Location: Charleston, SC

Estimate Date: 12/22/2022

Project Area: 175,500 SF

Revised Date: \_\_\_\_\_

Project # 22374

Palacio Lead Contact: Kaye A. Smith

Project Phase: Schematic Design

Project

Description: Interior Renovations to Honors College

### CONSTRUCTION COST SNAPSHOT

PROJECT TYPE	AREA	UNIT	COST/SF	TOTAL
Honors College Renovations	15,350	SF	\$39.87	\$2,675,560
Renovations to Residential Suites (light)	136,686	SF	\$24.00	\$3,594,455
Renovations to Residential Suites (reconfigure lobby, misc.)	21,830	SF	\$85.00	\$1,855,550
<b>SUBTOTAL</b>				<b>\$8,125,565</b>

### Deferred Maintenance List

1	Exterior Windows	\$3,450,000
2	ADA	\$725,659
3	Roofing	\$1,830,528
4	Elevators	\$487,500
5	Mechanical	\$1,386,649
6	Fire & Life Safety	\$710,767
7	Electrical - new ceiling lighting	\$1,417,770

### TOTAL ESTIMATED CONSTRUCTION COST

**\$18,134,437**

### ESTIMATE ASSUMPTIONS

Anticipated Bid Date: 2nd Quarter 2023 (Add 1.5% per quarter for market escalation beyond this point)

CM-at-Risk delivery method

Receiving bids from at least four (4) qualified general contractors

CM-at-Risk will receive bids from at least three (3) qualified subcontractors per trade.

Most of the bidders will be from the local market (within 1 hour driving distance)

Phased work, some areas performed during summer break.



# PALACIO

Name: College of Charleston - Berry Hall Addition & Renovations

Location: Fayetteville, NC

Date: 12/22/2022

Area (SF): 15,350

Revised Date: \_\_\_\_\_

ESTIMATE SUMMARY			
DESCRIPTION		SUBTOTAL	COST/SF
01	GENERAL TRADES	\$76,574	\$4.99
01	DEMOLITION	\$105,783	\$6.09
03A	CONCRETE(patch & repair exist.)	\$19,976	\$1.15
03A	SUPERSTRUCTURES	\$94,493	\$5.44
04A	MASONRY	\$150,251	\$8.65
05A	STRUCTURAL AND MISCELLANEOUS STEEL	\$64,777	\$4.22
06A	ROUGH CARPENTRY	\$63,703	\$4.15
06B	CABINETRY AND CASEWORK	\$69,843	\$4.55
07A	ROOFING AND ACCESSORIES	\$69,843	\$4.55
07B	WATERPROOFING AND SEALANTS	\$37,454	\$2.44
07D	EXTERIOR WALL CLADDING	\$43,748	\$2.85
08A	GLASS ASSEMBLIES	\$52,804	\$3.44
08B	PASSAGE DOOR ASSEMBLIES	\$108,218	\$7.05
09A	DRYWALL ASSEMBLIES	\$166,548	\$10.85
09A	ACOUSTICAL CEILINGS	\$102,136	\$5.88
09D	HARD TILE	\$20,000	\$12.50
09E	RESILIENT FLOORING AND CARPET	\$96,404	\$5.55
09F	PAINTING & WALL COVERING	\$54,646	\$3.56
10A	SPECIALTIES	\$63,703	\$4.15
11B	EQUIPMENT	\$17,370	\$2.56
12A	FURNISHINGS	\$23,040	\$3.50
14A	ELEVATORS	\$0	\$0.00
21A	FIRE PROTECTION SYSTEMS	\$0	\$0.00
22A	PLUMBING	\$192,796	\$12.56
23A	HVAC	\$0	\$0.00
26A	ELECTRICAL	\$0	\$0.00
31A	SITWORK	\$0	\$0.00
	<b>SUBTOTAL</b>	<b>\$1,694,105</b>	
10%	DESIGN/MARKET CONTINGENCY AS %	\$169,410	
10.5%	ESCALATION AS %	\$177,881	
3%	CM CONTINGENCY AS %	\$50,823	
LS	GENERAL REQUIREMENTS	\$480,000	
0.15%	PERMITS	\$2,541	
1.00%	BONDS AS %	\$16,941	
1.20%	INSURANCE AS %	\$20,329	
3.75%	CONTRACTOR FEE AS %	\$63,529	
	<b>TOTAL ESTIMATED CONSTRUCTION COST</b>	<b>\$2,675,560</b>	<b>174.30</b>

# PALACIO

Name: College of Charleston - Berry Hall Addition & Renovations

Location: Fayetteville, NC

Date: 12/22/2022

Area (SF): 136,686

Revised Date: \_\_\_\_\_

ESTIMATE SUMMARY			
DESCRIPTION		SUBTOTAL	COST/SF
01	GENERAL TRADES	\$0	\$0.00
01	DEMOLITION	\$143,520	\$1.05
03A	CONCRETE	\$0	\$0.00
03A	SUPERSTRUCTURES	\$143,520	\$1.05
04A	MASONRY	\$143,520	\$1.05
05A	STRUCTURAL AND MISCELLANEOUS STEEL	\$68,343	\$0.50
06A	ROUGH CARPENTRY	\$61,509	\$0.45
06B	CABINETRY AND CASEWORK	\$273,372	\$2.00
07A	ROOFING AND ACCESSORIES	\$0	\$0.00
07B	WATERPROOFING AND SEALANTS	\$34,172	\$0.25
07D	EXTERIOR WALL CLADDING	\$0	\$0.00
08A	GLASS ASSEMBLIES	\$0	\$0.00
08B	PASSAGE DOOR ASSEMBLIES	\$273,372	\$2.00
09A	DRYWALL ASSEMBLIES	\$0	\$0.00
09A	ACOUSTICAL CEILINGS	\$239,201	\$1.75
09D	HARD TILE	\$82,012	\$0.60
09E	RESILIENT FLOORING AND CARPET	\$546,744	\$4.00
09F	PAINTING & WALL COVERING	\$102,515	\$0.75
10A	SPECIALTIES	\$68,343	\$0.50
11B	EQUIPMENT	\$20,503	\$0.15
12A	FURNISHINGS	\$27,337	\$0.20
14A	ELEVATORS	\$0	\$0.00
21A	FIRE PROTECTION SYSTEMS	\$0	\$0.00
22A	PLUMBING	\$1,332,689	\$9.75
23A	HVAC	\$0	\$0.00
26A	ELECTRICAL	\$0	\$0.00
31A	COMPLETE SITEWORK (plaza, rear, st. philips street & ramp)	\$0	\$0.00
	<b>SUBTOTAL</b>	<b>\$3,560,670</b>	
10%	DESIGN/MARKET CONTINGENCY AS %	\$356,067	
8%	ESCALATION AS %	\$284,854	
2%	CM CONTINGENCY AS %	\$71,213	
LS	GENERAL REQUIREMENTS	\$960,000	
0.15%	PERMITS	\$5,341	
1.00%	BONDS AS %	\$35,607	
1.20%	INSURANCE AS %	\$42,728	
3.75%	CONTRACTOR FEE AS %	\$133,525	
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$5,450,005</b>	<b>39.87</b>



## PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

1. Provide the total projected cost of the project. Attach a summary of the costs prepared during the A&E pre-design phase to support the total cost.

The total projected cost is \$23,000,000, based upon the attached cost estimate. Construction will be financed and implemented in four phases to allow the facility to be occupied during fall and spring semesters to maintain required bed space. Anticipated expenditures are \$2M in FY2022-23, \$10M in FY2023-24, \$6M in FY2024-25, and \$5M in FY2025-26.

2. Identify the source(s) of funds for construction. If any private or federal funds are included, attach a letter guaranteeing the availability of the funds.

Capital Improvement Project Funds (CIPF): Revenues generated by the Capital Improvement Fee that exceed current annual debt service.

Housing Revenue Fund (HRF): Revenues generated by student housing fees.

3. Describe and define each fund source to be used for construction. Cite any statutory authority, including the code section other provision of law for use of the funds for permanent improvement projects. If the source includes any fee, provide the name of the fee, the fee amount, the frequency of collection and when the fee was first implemented.

Capital Improvement Project Fund (CIPF): Revenues generated by the Capital Improvement Fee that exceed current annual debt service related to bonds issued under S.C. Code of Laws Section 59-130 Article 5. The College charges a universal Capital Improvement Fee as part of our full tuition/fee structure. The current fee is \$906 per student, per semester. \$622 of the \$906 is currently pledged for debt service. The balance of the fee, \$284 per student, per semester is used to fund ongoing capital projects and maintenance. The College, with appropriate approvals, established the Capital Improvement Fee in fiscal year 1971-72.

Housing Revenue Fund (HRF): College of Charleston Campus Housing is a self-supporting auxiliary enterprise. Housing revenue is generated primarily through the Student Housing Fee, paid per-semester by students who reside in on-campus housing. The [Student Housing Fee](#) varies based on amenities, condition, and age of the College's 13 residence halls and 24 historic student residences. The College, with appropriate approvals, established the Student Housing Fee in fiscal year 1971-72. The revenues are used solely for the operation, maintenance, renovation, repair, and debt service of this specific auxiliary enterprise per Section 117.11 - X90-General Provisions of Statutes at Large, General and Permanent Laws – 2015, from the Acts and Joint Resolutions of the General Assembly of the State of South Carolina.

The Statute states, "117.11. (GP: Fixed Student Fees) During the current fiscal year, student fees at the state institutions of higher learning shall be fixed by respective Boards of Trustees as follows: (1) Fees applicable to student housing, dining halls, student health service, parking facility, laundries, and all other personal subsistence expenses shall be sufficient to fully cover the total direct operating and capital expenses of providing such facilities and services for their expected useful life except those operating or capital expenses related to the removal of asbestos."



## PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

## 4. Provide the current uncommitted balance of funds for each source described above.

As of January 19, 2023, the uncommitted balance of the Capital Improvement Project Fund is \$33,403,458. This figure INCLUDES internally held CIPF funds for Year One CPIP projects AWAITING State approvals. This figure EXCLUDES committed CIPF funds for Year One CPIP projects that RECEIVED phase one and/or phase two State approvals.

As of January 19, 2023, the uncommitted balance of the Housing Revenue Fund is \$24,289,286. This figure INCLUDES CARES Act funding and internally held HRF funds for Year One CPIP projects AWAITING State approvals. This figure EXCLUDES committed HRF funds for Year One CPIP projects that RECEIVED phase one and/or phase two State approvals.

## 5. If institution or revenue bonds are included as a source, provide when the bonds were issued. If not issued yet, provide when the bond resolution is expected to be brought for State Fiscal Accountability Authority approval.

Not applicable

## 6. If a student fee is used to fund debt service, provide the current amount of the fee collected annually or by semester. Specify which.

Capital Improvement Fee: The College charges a universal Capital Improvement Fee as part of our full tuition/fee structure. The current fee is \$906 per student, per semester. \$622 of the \$906 is currently pledged for debt service. The balance of the fee, \$284 per student, per semester is used to fund ongoing capital projects and maintenance. The College, with appropriate approvals, established the Capital Improvement Fee in fiscal year 1971-72.

Student Housing Fee: Housing revenue is generated primarily through the Student Housing Fee, paid per-semester by students who reside in on-campus housing. The [Student Housing Fee](#) varies based on amenities, condition, and age of the College's 13 residence halls and 24 historic student residences. The College, with appropriate approvals, established the Student Housing Fee in fiscal year 1971-72. The revenues are used solely for the operation, maintenance, renovation, repair, and debt service of this specific auxiliary enterprise.

## 7. Indicate whether or not the use of any funds for construction will require an increase in any student fee or tuition. Describe any increase in student fees effected in prior years that has contributed to the availability of these funds.

Student fees and/or tuition will not increase to support this project.



PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

8. If the project qualifies for the JBRC policy requirement to meet the LEED certification/Green Globes certification as the conservation measure, please attach the findings of a cost-benefit analysis showing the anticipated energy savings over the life of the project. Additionally, attach the checklist of items to be included to achieve LEED points or a description of the energy measures to achieve LEED.

Please see attached.

9. If the project does not qualify for the JBRC policy requirement to meet the LEED certification/Green Globes certification as the construction measure, provide what savings/conservation measures will be implemented within the project. Explain the energy savings measures to be implemented as part of this project. If there are no energy savings measures included, state that and explain why.

Not applicable.

10. Provide the projected date (month and year) for execution of the construction contract.

May 2023.

11. Provide the projected date (month and year) for completion of construction.

June 2026. (Residential suites must remain available for occupancy throughout the project to maintain required bed space. Therefore, construction will be financed and implemented in four phases.)

12. Describe the programs that will use the constructed or renovated space.

The ground floor will be renovated to centralize and expand Honors College classrooms, programming, and supporting administrative offices, including the Faculty Fellow Program, Advising Center, Nationally Competitive Awards, and Undergraduate Research and Creative Activities. Technology-rich learning spaces will support the Honors College curriculum and the collaborative, innovative, and entrepreneurial work of honors students and faculty. Comfortable public space will be created for presentations, receptions, workshops, and other events. The renovation and consolidation will release space elsewhere on campus to higher and better use. Floors two and three will house Honors College students. Floors four through six will house general student population. Distribution can change as the Honors College grows.

13. Provide the total square footage of the building to be renovated or constructed.

183,514gsf of the building will be renovated. No new construction is planned.

14. If a portion of the building is to be renovated, provide the square footage of the portion that will be included in the renovation.

Not applicable. The entire building will be renovated.



PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

15. Provide the current age of the building and building systems to be renovated or replaced.

Berry Residence Hall was constructed in 1989 (34 years-old). The last significant renovation was in 2003. This project will address MEP issues, upgrade elevators, and replace roofs and windows. First-floor Honors College facilities will be reconfigured. Student suites will be refreshed with new paint, flooring, lighting, millwork, plumbing fixtures, appliances, furniture, and signage.

16. If any new space is being added to the facility, provide demand and usage data to support the need.

Not applicable.

17. Provide an estimate of the numbers of students, faculty, staff and clients that are expected to utilize the space associated with the project or building.

The project will directly benefit 514 general population student residents, 96 honors student residents, 600 honors non-resident students and 12 faculty/staff. The project will indirectly benefit the entire CofC community of 10,677 students, 847 faculty, 865 staff, clients, visitors, parents, and potential students who may attend meetings and seminars in the facility.

18. If the construction cost increased significantly from the internal estimate and/or from the total estimated cost provided on the CPIP (30% or more), provide what factors caused the cost to increase.

Not applicable.

19. If the contingency is more than 10%, explain why.

Not applicable.

20. If funds are being transferred from another project, provide the current status of the project from which funds are being transferred.

Not applicable.

21. Indicate whether or not the project has been included in a previous year's CPIP. If so, provide the last year the project was included and year for which it was proposed.

The project is listed as priority 2 of 9 in Year One, and 2 of 35 overall in the FY2022-23 CPIP.



PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

22. Provide the economic impact of the project or project request, including job creation and retention. If there is no economic impact, provide an explanation.

The project will require the services of electrical engineers/consultants, CAD/BIM operators, and general installation labor, all of which employ individuals throughout the Lowcountry and State. As the Honors College grows, they anticipate hiring additional permanent faculty and staff.

23. Discuss how maintenance of this facility construction/renovation will be addressed and funded.

Operation and maintenance of the building will continue to be funded by Student Housing Fees as part of the College's overall operations and maintenance of this self-supporting auxiliary enterprise. Campus Housing has wholly and partly funded O&M staff, but also pays College of Charleston Facilities Management for parts/labor from E&G funded staff as well as outsourced services.

24. Provide the name of any account from which costs of deferred maintenance are addressed and its current uncommitted balance. Indicate the sources used to fund the account.

Since Campus Housing is a self-supporting auxiliary enterprise, all deferred maintenance expenses are funded by Campus Housing Revenues derived from student housing fees.

As of January 19, 2023, the uncommitted balance of the Housing Revenue Fund is \$24,289,286. This figure INCLUDES CARES Act funding and internally held HRF funds for Year One CPIP projects AWAITING State approvals. This figure EXCLUDES committed HRF funds for Year One CPIP projects that RECEIVED phase one and/or phase two State approvals.

25. If funding for maintenance of this facility construction/renovation has not yet been determined, discuss the steps that have been taken to address and fund maintenance of this and other facilities owned or managed by the agency or institution.

Not applicable.

**TO BE PROVIDED FOR HIGHER EDUCATION PROPOSALS**

1. Indicate whether or not the use of any funds for construction will require an increase in any student fee or tuition. Describe any increase in student fees effected in prior years that has contributed to the availability of these funds.

Student fees and/or tuition will not increase to support this project.



## PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

2. If the use of any funds for construction includes any student fee, provide the name of the fee, the fee amount, the frequency of collection and when the fee was first implemented.

Capital Improvement Fee: The College charges a universal Capital Improvement Fee as part of our full tuition/fee structure. The current fee is \$906 per student, per semester. \$622 of the \$906 is currently pledged for debt service. The balance of the fee, \$284 per student, per semester is used to fund ongoing capital projects and maintenance. The College, with appropriate approvals, established the Capital Improvement Fee in fiscal year 1971-72.

Student Housing Fee: Housing revenue is generated primarily through the Student Housing Fee, paid per-semester by students who reside in on-campus housing. The [Student Housing Fee](#) varies based on amenities, condition, and age of the College's 13 residence halls and 24 historic student residences. The College, with appropriate approvals, established the Student Housing Fee in fiscal year 1971-72. The revenues are used solely for the operation, maintenance, renovation, repair, and debt service of this specific auxiliary enterprise.

3. Provide a five-year history of each component within the institution's tuition and fee structure designated or utilized for permanent improvements. Identify the tuition or fee component per student, per semester; the total revenue collected during the academic year; and the fund balance at fiscal year end, all delineated by academic year. Include a projection for the ensuing academic year, and any future academic years in which the fee is projected to increase. Use the following format in responding to this question and provide as many tables as are necessary to promote a clear understanding of the relationship of tuition and fee revenue designated by the institution for permanent improvements, maintenance and other facility-related expense, including debt service.

Fee Source or Name: Capital Improvement Fee

Applicable to This Project? Yes

Description: The College charges a universal Capital Improvement Fee as part of our full tuition/fee structure. The current fee is \$906 per student, per semester. \$622 of the \$906 is currently pledged for debt service. The balance of the fee, \$284 per student, per semester is used to fund ongoing capital projects and maintenance. The College, with appropriate approvals, established the Capital Improvement Fee in fiscal year 1971-72.



## PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

Academic Year	Amount per student per semester	Total Revenue Collected During Academic Year	Amount Expended for Permanent Improvements	Fund Balance at Year End
2014-15	\$781	\$16,373,664	\$18,232,613	\$24,474,046
2015-16	\$804	\$16,872,882	\$18,950,594	\$22,591,548
2016-17	\$804	\$16,857,187	\$2,982,111	\$40,622,374
2017-18	\$844	\$16,946,522	\$13,002,962	\$46,408,902
2018-19	\$878	\$17,490,474	\$23,854,812	\$40,086,721
2019-20	\$906	\$17,577,045	\$12,491,349	\$45,398,410
2020-21	\$906	\$17,214,707	\$4,166,984	\$58,446,133
2021-22	\$906	\$18,429,505	\$35,447,929	\$41,949,625
2022-23*	\$906	\$17,456,179	\$36,403,417	\$23,002,387

\*Projection

## Capital Improvement Fee Chart Notes:

1. Revenues reflect funds generated by the Capital Improvement Fee portion of the student bill.
2. Revenues include funds returned to the CIPF from projects closed in that fiscal year.
3. Expenditures reflect funds used for debt service and amounts used to cash-fund projects.
4. Fund Balances have NOT been reduced to reflect amounts committed for Year One CPIP projects, nor phases of which, pending final State approval.

**COLLEGE OF CHARLESTON**

Capital Improvement Fee Trended Data

As of September 21, 2022

	2018-19 Actual	2019-20 Actual	2020-21 Actual	2021-2022 Actual	2022-2023 Projected
Capital Improvement Fee (Included in Tuition & Fees)- Per Semester	\$ 878	\$ 906	\$ 906	\$ 906	\$ 906
Capital Improvement Fee Pledged to Outstanding Bond Issues	\$ 483	\$ 483	\$ 483	\$ 622	\$ 622
Revenue Generated from Capital Improvement Fee	\$ 17,490,474	\$ 17,577,045	\$ 17,214,707	\$ 18,429,505	\$ 17,456,179
Capital Improvement Fee Revenue Pledged	\$ 9,621,753	\$ 9,370,544	\$ 9,177,377	\$ 12,652,486	\$ 11,984,264
Academic and Administrative Facilities Revenue Bonds Debt Service	\$ 9,184,009	\$ 7,146,690	\$ 7,976,954	\$ 10,026,482	\$ 10,619,338
CIPF (Excess Capital Improvement Fee)	\$ 8,306,465	\$ 10,430,355	\$ 9,237,753	\$ 8,403,023	\$ 6,836,841

Note: Pledged portion of fee increased to \$622 upon issuance of Series 2021B bonds.



## PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

Fee Source or Name: Student Housing Fee  
Applicable to This Project? Yes

Description: Student Housing Fee: Housing revenue is generated primarily through the Student Housing Fee, paid per-semester by students who reside in on-campus housing. The [Student Housing Fee](#) varies based on amenities, condition, and age of the College's 13 residence halls and 24 historic student residences. The College, with appropriate approvals, established the Student Housing Fee in fiscal year 1971-72. The revenues are used solely for the operation, maintenance, renovation, repair, and debt service of this specific auxiliary enterprise.

Academic Year	Amount per student per semester	Total Revenue Collected During Academic Year	Amount Expended for Permanent Improvements	Fund Balance at Year End
2014-15	Varies	\$24,247,404	\$9,119,266	\$9,716,598
2015-16	Varies	\$24,880,534	\$11,080,525	\$11,560,377
2016-17	Varies	\$26,790,482	\$9,305,437	\$16,716,189
2017-18	Varies	\$25,657,657	\$6,884,090	\$22,077,809
2018-19	Varies	\$26,403,729	\$7,695,350	\$24,618,747
2019-20	Varies	\$21,224,214	\$6,610,689	\$29,090,052
2020-21	Varies	\$16,315,303	\$5,299,965	\$31,848,836
2021-22	Varies	\$26,828,441	\$22,812,858	\$15,978,009
2022-23*	Varies	\$26,007,300	\$8,150,000	\$13,058,961

\*Projection

#### Housing Revenue Fund Notes:

- 2020-21 actual revenue excludes CARES Act and other COVID funding.
- Amounts included in "Total Revenue Collected during Academic Year" include funds returned to the Housing Revenue Fund from projects being closed in the fiscal year.
- "Amount Expended for Permanent Improvements" includes transfers to debt service for payment of outstanding bond issues.
- Identify any other funds not specifically designated that may be utilized or redirected for permanent improvements, maintenance and other facility-related expense, including debt service. Provide a five-year history of total collections, by fund; amounts applied to or for permanent improvements, maintenance and other facility-related expense, including debt service; and the fund balance at fiscal year end, delineated by academic year. Include a projection for the ensuing academic year, and any future academic years in which the revenue is projected to increase. Describe any portion of the source that originates from any tuition or fee component. Include all permanent improvements without regard to Joint Bond Review Committee or State Fiscal Accountability approval requirements. Use the following format in responding to this question and provide as many tables as are necessary to provide a complete and comprehensive response for each fund.



## PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR  
PHASE II CONSTRUCTION BUDGET

**Fund Source or Name:** Capital Renewal Fund  
Applicable to This Project? No

**Description:** The Capital Renewal Fund is financed by E&G operational surplus funds. Unused E&G operational funds are swept at the end of each fiscal year and placed in the College's General Fund. After new fiscal year operating budgets and nonrecurring expenditures are determined, E&G operational surplus funds are deposited into the Capital Renewal Fund annually. Like the Capital Improvement Project Fund, only E&G capital improvements may be funded from the Capital Renewal Fund.

Academic Year	Total Revenue Collected During Academic Year	Portion Collected From Tuition or Fee Revenues	Amount Expended for Permanent Improvements	Fund Balance at Year End
2014-15	\$0	\$0	\$0	\$0
2015-16	\$2,430,544	\$0	\$88,457	\$2,342,087
2016-17	\$6,311,051	\$0	\$107,404	\$8,545,734
2017-18	\$2,676,304	\$0	\$640,000	\$10,582,038
2018-19	\$0	\$0	\$1,034,386	\$9,547,652
2019-20	\$0	\$0	\$1,222,142	\$8,325,510
2020-21	\$0	\$0	\$5,412,244	\$2,913,266
2021-22	\$4,000,000	\$0	\$6,349,576	\$563,690
2022-23*	\$4,000,000	\$0	\$4,000,000	\$563,690

\*Projection

5. Describe the fund sources reflected above that will be utilized to support the project that is the subject of this Phase I proposal.

Capital Improvement Project Fund (CIPF): Revenues generated by the Capital Improvement Fee that exceed current annual debt service related to bonds issued under S.C. Code of Laws Section 59-130 Article 5. The College charges a universal Capital Improvement Fee as part of our full tuition/fee structure. The current fee is \$906 per student, per semester. \$622 of the \$906 is currently pledged for debt service. The balance of the fee, \$284 per student, per semester is used to fund ongoing capital projects and maintenance. The College, with appropriate approvals, established the Capital Improvement Fee in fiscal year 1971-72.

Housing Revenue Fund: College of Charleston Campus Housing is a self-supporting auxiliary enterprise. Housing revenue is generated primarily through the Student Housing Fee, paid per-semester by students who reside in on-campus housing. The [Student Housing Fee](#) varies based on amenities, condition, and age of the College's 13 residence halls and 24 historic student residences. The College, with appropriate approvals, established the Student Housing Fee in fiscal year 1971-72. The revenues are used solely for the operation, maintenance, renovation, repair, and debt service of this specific auxiliary enterprise per Section 117.11 - X90-General Provisions of Statutes at Large, General and Permanent Laws – 2015, from the Acts and Joint Resolutions of the General Assembly of the State of South Carolina.



December 19, 2022

*Via Email*

Maryellyn Cannizzaro – President & CEO  
Compass 5 Partners LLC

**subject: Response to JBRC Questionnaire**  
Berry Residence Hall and Honors Program Renovation  
80-A St Philip Street, Charleston, SC 29424  
COFC Project No: H15-9678-ML  
BEE Project No. 22066

Dear Ms. Cannizzaro:

Please accept the following responses to the Joint Board Review Committee (JBRC) questions that are typically required on State projects. These responses are an enclosure to the Design Narrative being provided to Compass 5 Partners LLC for College of Charleston.

**B. Replacement Roof**

1. Identify the type of new roof proposed and how and why the roofing material was selected. Agencies are expected to provide a letter on the A/E firm's letterhead with the Phase Two construction budget request detailing the roofing choices considered, why the chosen roof system was selected, and why the other options are not recommended. The letter should ensure the A/E has considered and provided recommendation regarding all major roofing types, including but not limited to the below. A summary is provided for each roof system option, but a more detailed summary can be provided upon request.
  - a. Built-Up Roofing (BUR) Membrane System: **BEE: Gravel/aggregate surfacing is no longer permitted by IBC in hurricane-prone regions, and hot asphalt is not desired in heavily trafficked, downtown area at the college dormitory.**
  - b. Metal Roofing System: **BEE: Based on the deck type, assembly and roof configuration shown in the written summary and schematic design drawings, metal roofing systems are not viable option for the low-sloped Roof Areas A, C and D due to existing assembly, configuration, and cost.**
  - c. Modified Bitumen Roofing System: **BEE: Recommended Three-Ply Modified Bitumen System based on the specific facility and our 35 + years of designed roof replacements in S.C., a multi-ply roof assembly is the best performing, most cost-effective option for this facility.**

**The Owner is familiar with this roof type for inspection, maintenance, and repairs. Temporary repair materials and equipment are readily available.**





- d. Thermoset (EPDM) Roof Membrane System: BEE: Based on the deck type, assembly, and roof configuration, as well as a general life cycle cost for these systems, we do not recommend a thermoset (EPDM) roof system. Roof top has significant mechanical equipment with regular maintenance and single-ply more prone to damage and slipping.
  - e. Thermoplastic Roofing Membrane (PVC & TPO) System: BEE: Based on the deck type, assembly, and roof configuration, as well as a general life cycle cost for these systems, we do not recommend a thermoplastic (PVC and TPO) single-ply roof system. Roof top has significant mechanical equipment with regular maintenance and single-ply, more prone to damage and slipping.
  - f. Garden “Green” Roofing System: BEE: Based on the existing assembly shown in the attached written summary and schematic design, and extensive cost increase (4x), a vegetative or garden roof is not a viable option.
  - g. Spray Polyurethane Foam (SPF) System: BEE: We do not consider sprayed in place polyurethane foam a viable option for this facility in this region due to the environmental restrictions, limited contractor base and susceptibility to damages due to wildlife/foot traffic.
  - h. Shingle Roofing System: BEE: Based on the deck type, assembly, roof configuration, and slope restrictions shown in the attached written summary and schematic design, shingle roofing systems are not viable options.
2. If the current roof system failed prior to warranty expiration and the planned roof replacement is of the same type, explain what factors will ensure the roof system will not prematurely fail again.
    - a. BEE: All low-sloped Roof Areas A, C and D (less Area B) are original to the facilities construction in 1988. Roof Area B not in scope.
    - b. The steep-sloped metal roofs, above the low-sloped roof to make building appear to have a metal roof, Areas A, B, C and D are original to the building, in poor condition with corrosion and rusting of panels.
  3. Specify the lengths and types of warranties to be provided on the new roofing system. Agencies are expected to require that roofs be warrantied for no less than 20 years, both for materials and workmanship. Generally, workmanship warranties of this length can be obtained through authorized contractors meeting the manufacturer’s standard of installation.
    - a. BEE:
      - 1) We will include a manufacturer’s 20-year, NDL, material and workmanship warranty required by the State.
      - 2) We will also include an independent, material and workmanship three (3) year Contractor’s Warranty, which will be required.



4. Explain how roof inspections and preventive maintenance are performed to ensure compliance with warranty terms. Include the frequency and scope of inspections and preventive maintenance.
  - a. BEE: A maintenance plan will be recommended in accordance with the manufacturer's literature as well as bi-annual inspections to ensure roof is performing as it should. Bi-annual inspections to be completed by College of Charleston with warranty notifications of any issues/items covered under warranty and maintenance by College of Charleston as needed to maintain the warranty and address non roof related issues (items not covered by warranty).
5. Agency confirms that it will adhere to the Licensing Laws of Title of 40 of the South Carolina Code of Laws as Amended, the standards of Responsibility set forth in the Consolidated Procurement Code and Regulations, and the procedures and requirements for determining contractor responsibility set forth in the Manual for Planning and Execution of State Permanent Improvements when awarding a contract with the goal of selecting a contractor whose professional credentials, financial capability, experience, and reputation provide reasonable assurance that the contractor will be able to perform its warranty obligations for the duration of the warranty.
  - a. BEE: Project will be designed, bid, awarded, and administered under the OSE requirements for CM at Risk.
  - b. Roofing consultant has specified approved manufacturers for the roofing assembly whose history, experience, and reputation indicate that those manufacturers or any successors in interest are likely to maintain their existence and abilities to perform under the warranty for its duration.
    - 1) BEE: Specific to the low-sloped Roof Areas A, C and D, we will list the below three manufacturers that have proven history, experience, and reputation in past projects and are likely to maintain their existence and abilities to perform under the warranty for its duration.
      - a) Johns Manville
      - b) Soprema
      - c) Siplast
6. Asbestos testing will be completed by the College of Charleston and the appropriate abatement specifications included, if needed. We are SCHDEC licensed asbestos inspectors and project designers.

If you have any questions or comments, please do not hesitate to respond to this email or give us a call at 843-735-5199.



Sincerely,  
The Building Envelope Group

A handwritten signature in blue ink, appearing to read "Richard L. Cook, Jr.", written over a horizontal line.

**Richard L. Cook, Jr.**  
Managing Partner/Principal  
Fellow, IIBEC (FIIBEC)  
Registered Building Envelope Consultant (RBEC)  
Registered and Certified Roof Consultant (RRC)  
Registered Roof Observer (RRO)  
Registered Waterproofing Consultant (RWC)  
Registered Exterior Wall Consultant (REWC)  
Registered Exterior Wall Observer (REWO)  
CCS, CCCA, CDT; The Construction Specifications Institute  
LEED® Accredited Professional, US Green Building Council  
SC ACEM SC Accredited Commercial Energy Manager  
Certified Solar Roofing Professional™ (CSRPs™), RISE™

Sincerely,  
The Building Envelope Group

A handwritten signature in blue ink, appearing to read "Codee Goff", written over a horizontal line.

**Codee Goff**  
Project Manager/Partner  
Registered Roof Observer (RRO)  
Registered Exterior Wall Observer (REWO)  
CDT, The Construction Specifications Institute

ajm

Enclosure: Preliminary Drawings



# College of Charleston

## Berry Residence Hall and Honors Program Renovation Charleston, SC

### Phase I Report

State Project Number: H15-9678-ML

December 22, 2022

**MEP | FP: Engineers:**

DWG Consulting Engineers  
1009 Anna Knapp Blvd, Suite 200  
Mt. Pleasant, SC 29464  
843-849-1141 p

**Civil & Structural Engineers:**

ADC Engineering  
1226 Yeamans Hall Road  
Hanahan, SC 29410  
803-566-0161 p

**Cost Estimating:**

Palacio Collaborative  
128 Millport Circle, Suite 200  
Greenville, SC 29607  
864-940-2590 p

**Roofing/Building Envelope:**

The BEE Group  
1226 Yeamans Hall Road, Suite C  
Hanahan, SC 29410  
843-991-7042 p

**Landscape Architect:**

ADC Engineering  
1226 Yeamans Hall Road  
Hanahan, SC 29410  
803-566-0161 p

**Sustainability & Commissioning:**

Whole Building Systems  
26 Bee Street  
Charleston, SC 29403  
843-637-3358 p



COMPASS 5 PARTNERS, LLC  
1329 STATE STREET CAYCE, SC 29033

with 803-765-0838 P

**hord | coplan | macht**

WWW.COMPASS5PARTNERS.COM

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## Executive Summary

**College of Charleston**  
**Berry Residence Hall and Honors Program Renovation**  
**Charleston, SC**  
Project Number: H15-9678-ML

**Executive Summary**

The Berry Residence Hall is a 175,500 square foot, six story, residence hall with supporting meeting, dining and related support spaces. It was constructed in 1988 on the College of Charleston campus in Charleston. Following limited selective abatement, this project includes 136,686 square feet of renovation across all floors as well as replacement of four roof areas and limited repair to the exterior skin. Limited window repair and possible limited window replacement are included. Additionally, this project includes significant deferred maintenance renovation to mechanical, electrical and plumbing systems. The first floor is reconfigured from the lobby to the north to create Administrative Areas for the Honors College, Classrooms and related support spaces. The entry lobby will be opened to the second floor and a communicating staircase will be added. These projects support the College of Charleston goal to 'encourage students to live on campus. Beyond being convenient, living on campus can help students succeed both academically and emotionally in the fast-paced college environment' while optimizing academic support and instructional space, encouraging interdisciplinary collaboration and providing focused student space in alignment with the College of Charleston strategic plan. This report includes a cost estimate, anticipated schedule and schematic plans/narratives for the renovations.

**Overall Project Scope**

-A two story lobby with communicating staircase will be developed in the existing Loggia and lobby entrance along the west and south side of the existing building. While not required, this project will pursue certification as Two Green Globes Certification for Sustainable Interiors through the GBI Institute.

-The First Floor north of the existing lobby will be reconfigured to create Honors College Administrative and Support Offices and related spaces to include four flat/flex classrooms.

-Renovation on the Second through Sixth Floors includes reconfiguration of common areas around the elevator core and renewal of finishes, bathrooms, kitchenettes and related work interior to the residential suites.

-CM-R Thompson Turner Construction anticipates a construction across all four summer phases with an extended construction duration for the Honors College components. The total construction schedule is anticipated for 21 months with a total project cost of \$2,675,560 for the Honors College and \$15,458,878 million for the Renovations and Deferred Maintenance.

**Project Schedule**

Thompson Turner Construction has been engaged as the CM-R construction manager. It is anticipated that the Berry Hall will remain occupied during the typical academic calendar for the duration of the project.

December 2022:	A/E Submit Draft Phase I for approval to begin Phase II
April 2023:	SFAA Phase II approval April 2023-October 2023
	Design Dev./Construction Doc./OSE/Owner review (8 months)
May 2023:	Early Release Packages: Roofing, Boilers and related Mechanical
May & November 2023:	CM-R Award Sub-Contracts
May 2023-August 2025:	Construction



**COMPASS 5 PARTNERS, LLC**

1329 STATE STREET CAYCE, SC 29033

803-765-0838 P

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Schedule



# College of Charleston Berry Residence Hall Preliminary Schedule Narrative

## **Phase 1: May 2023 – Aug. 2023**

Duration: 3mo

1. Roofing & Exhaust Fan Replacement

## **Phase 2: May 2024 – August 2025**

Duration: 15mo

1. 1<sup>st</sup> Floor Honors & Front Entrance
2. Second Floor Core Space
3. Fire Alarm Control Panel & devices
4. Fire Sprinkler

## **Phase 3: May 2024 – August 2024**

Duration: 3mo

1. 4<sup>th</sup> - 6<sup>th</sup> Floor - Demo ductwork, toilet fixtures, casework (inc. bathroom) light fixtures, flooring
2. 4<sup>th</sup> - 6<sup>th</sup> Floor – Ductwork Install, sheet rock repair, flooring, casework, plumbing fixtures, light fixtures, & paint
3. Fire Alarm Device Swap
4. 5<sup>th</sup> & 6<sup>th</sup> Core Spaces Renovations

## **Phase 4: May 2025 – August 2025**

Duration 3mo

1. 2<sup>nd</sup> – 3<sup>rd</sup> Floor – Demo Ductwork, plumbing fixtures, casework (inc. bathrooms), light fixtures flooring
2. 2<sup>nd</sup> – 3<sup>rd</sup> Floor – Install ductwork, sheetrock repair, light fixtures, flooring, casework, plumbing fixtures, paint
3. 2<sup>nd</sup> – 3<sup>rd</sup> Floor – Fire Alarm device swap
4. 3<sup>rd</sup> – 4<sup>th</sup> Core Space Renovations



Architectural Narrative

**College of Charleston**  
**Berry Residence Hall and Honors Program Renovation**  
**Charleston, SC**  
Project Number: H15-9678-ML

**Summary – Partial Renovation to the Berry Residence Hall**

The Berry Residence Hall is a 175,500 square foot, six story, residence hall with supporting meeting, dining and related support spaces. It was constructed in 1988 on the College of Charleston campus in Charleston. The original cast-in-place reinforced concrete structure was designed by Stevens and Wilkinson of Columbia. The building had a major dining renovation in 2003 designed by Neal Stevenson Architects. Centrally located, Berry Hall is one of the largest residence halls on campus and primarily house first year students. The primary building occupancy is Residential (R-2) with limited areas of Business (B) and Assembly (A-3).

Following limited selective abatement, this project includes 136,686 square feet of renovation across all floors as well as replacement of four roof areas and limited repair to the exterior skin. Limited window repair and possible limited window replacement are included. Additionally, this project includes significant deferred maintenance renovation to mechanical, electrical and plumbing systems. The first floor is reconfigured from the lobby to the north to create Administrative Areas for the Honors College, Classrooms and related support spaces. The entry lobby will be opened to the second floor and a communicating staircase will be added. Exterior improvements are limited to the reconfiguration of the accessible ramp into the building and related work associated with the newly created two story lobby. Finishes will be replaced throughout residence hall suites where bathroom and kitchenette casework and fixtures/fittings will be replaced. Supporting spaces around the core elevator area will see limited reconfiguration and renewal on the residence hall floors 2-6. See Engineering Narratives for scope of supporting civil, site, structural, roof, exterior skin, mechanical, electrical and plumbing and fire protection systems. AV/IT infrastructure and equipment will be updated and integrated across the project areas.

The architectural systems will include all materials, finishes, substrates and workmanship complete to provide all items as shown on the architectural drawings. The architectural systems will be designed in accordance with the requirements of the International Building Code – 2018 Edition, the International Existing Building Code 20185 and all state and local codes. Architectural work shall be designed to comply with the requirements of the current American’s with Disabilities Act (ADA) and ANSI 117.1.

**Exterior Architecture**

The first floor entry sequence will include a newly reconfigured accessible ramp connected through a new aluminum/glass storefront airlock entry along the south side of the existing entry lobby. The intent of the new entry is to prepare for the future Conference Addition on the north side of the existing lobby. The existing structure is a reinforced concrete frame with two

way slabs. The south and west façades will see limited reconfiguration to include the expansion of window areas that enhance the newly created double height entry lobby. Four roof areas will be replaced and the exterior skin will see limit repair and renovation. See Roof narrative and Exterior Skin narrative.

### **Interiors Overview**

This renovation project renews and enhances one of the largest residence halls on the College of Charleston campus in a central location at the corner of St Philip Street and Calhoun Street.

#### **First Floor Demolition**

A double height lobby will be created on the south and west sides of the building through the demolition of two suites on the second level. Demolition will allow for the reconfiguration of the north end of the floor plate for the new Honors College Administrative areas and related Classrooms.

#### **Second through Sixth Floor Demolition**

Interior demolition includes limited reconfiguration of areas surrounding the elevator core on each floor to create better utility of the common areas. Additionally, existing casework and fixtures in suite bathrooms and kitchenettes will be demolished and replaced.

#### **First Floor Renovation**

The new west and south facing lobby will allow for better access and circulation while enhancing exterior views. The first floor includes the development of the Honors College Offices, Classrooms and supporting spaces. Enhanced acoustical strategies will be employed to provide sound control in Classrooms and supporting spaces. Ceilings will be a combination of acoustic lay-in and acoustic drywall soffits/panels. Interior finishes will include, luxury vinyl tile, epoxy terrazzo tile, rubber base, paint, interior wood panels in feature areas and integrated acoustic panel finishes where display screens are installed.

All new hollow metal frames will be welded in order to meet the required performance standards. Doors will be flush panel stained wood doors with integrated glazing to match the building standards. Rated glass doors, new handrails will be selected to match the character of the existing building while being fully compliant with current codes.

#### **Second through Sixth Floor Renovation**

The renovations will allow for reconfigured and enhanced program areas around the elevator core to include the floor kitchen, laundry and study/recreational spaces. Existing shafts and hoods will be retained to support the mechanical venting requirements for the stove and dryers. The second floor includes renovation to enhance support spaces for the future Conference Center development. The residential suites include replacement of bathroom and kitchenettes while updated finishes and lighting. A 'Miracle Method' type spray epoxy will be used on bathroom floors, shower inserts and related ceramic tile surfaces. Closet casework will be added. Enhanced acoustical strategies will be employed to provide sound control between common areas and residential suites. Ceilings will be a combination of acoustic lay-in and

acoustic drywall soffits/panels. Ceiling areas will be reworked where ductwork is planned for replacement.

Glazed aluminum window systems will be used in Study Rooms along interior open areas. Interior finishes will include luxury vinyl tile, limited ceramic tile, epoxy terrazzo tile, rubber base and paint.

All new hollow metal frames will be welded in order to meet the required performance standards. Any new doors will be flush panel stained wood doors with limited integrated glazing to match the building standards as appropriate. Rated glass doors and hardware will be selected to match the character of the existing building while being fully compliant with current codes.

### **Sustainable Design Overview**

While this project does not meet the minimum thresholds that require sustainability certifications, the College of Charleston has opted to pursue Two Green Globes for Sustainable Interiors Certification.

### **Abatement of Hazardous Materials**

Bulk analysis results of some existing suspect materials in the subject areas to be impacted by the proposed addition have been collected during previous investigations by College of Charleston personnel. Any limited containment and abatement strategies are to be confirmed.

Demolition of items shall be coordinated with the general demolition requirements of the project areas. The successful abatement contractor will be required to fully acknowledge, sign and abide by College of Charleston and OSHA policies that address potential hazardous material exposure especially for items that may not have been previously surveyed.

Roof & Exterior S in Narrative

# Roof Budget Summary



## Berry Residence Hall and Honors Program Renovation

Owner Project Number: H15-9678-ML

BEE Project Number: 22066

Base Bid work includes complete removal of existing roof systems down to the structural deck for Roof Areas A, C and D for approximately 280 squares. Roof replacement includes minor deck repairs, rough carpentry, roof insulation, including taper, and a three-ply modified bitumen roof system. All associated sheet metal components and accessories are included.

Subtotal for Base Bid Work		\$1,211,000
Overhead (10%)	\$121,100	
Subtotal		\$1,332,100
Profit (10%)	\$133,210	
Subtotal		\$1,465,310
Contingency (10%)	\$146,531	
Subtotal		\$1,611,841
Material Contingency (5%)	\$80,592	
Subtotal		\$1,692,433
Allowance	\$2,500	
Subtotal		\$1,694,933
<b>Total for Base Bid Work</b>		<b>\$1,694,933</b>

Alternate Number 1 work includes removal and replacement of standing seam metal roof components, and accessories, directly over framing for approximately 194 squares, as well as maintenance repairs and modifications to underlying framing for metal roofs for Roof Areas A, B, C and D. Also provide new bird netting below/beneath the metal roof panels.

Subtotal for Alterante Number 1		\$606,250
Overhead (10%)	\$60,625	
Subtotal		\$666,875
Profit (10%)	\$66,688	
Subtotal		\$733,563
Contingency (10%)	\$73,356	
Subtotal		\$806,919
Material Contingency (5%)	\$40,346	
Subtotal		\$847,265
<b>Total for Alternate Number 1 Work</b>		<b>\$847,265</b>

<b>TOTAL BUDGET SUMMARY</b>		<b>\$2,542,198</b>
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## SECTION 01 11 00

### SUMMARY OF WORK

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. The building will remain completely functional during the construction work and fully protected at all times. All ingress/egress to facility and pedestrian walkways must be maintained with overhead protection when construction is occurring at/over these areas.
- B. Protect roof system, mechanical equipment and adjacent surfaces from construction, traffic, and work at all times.
- C. Base Bid work includes complete removal of existing roof systems down to the structural deck for Roof Areas A, C and D for approximately 280 squares. Roof replacement includes minor deck repairs, rough carpentry, roof insulation, including taper, and a three-ply modified bitumen roof system. All associated sheet metal components and accessories are included.
  - 1. Demolition of the existing building envelope (roofing, waterproofing, fenestrations and exterior walls) system(s) down to the deck in accordance with Section 02 04 00, Cutting and Patching and Section 02 05 00, Demolition and Removal.
  - 2. Asbestos abatement of non-friable asbestos containing roofing materials (ACRM) in accordance with Section 02 82 16, Engineering Control of Non-Friable Asbestos Containing Roofing Materials. TBD. College of Charleston to have tested.
  - 3. Minor deck repairs in accordance with Section 03 60 01, Concrete Grout Repair.
  - 4. Modifications and repairs to metal form deck systems in accordance with Section 05 31 23, Metal Roof Deck Repair.
  - 5. Rough carpentry in accordance with Section 06 10 00, Rough Carpentry.
  - 6. Minor metal roof repairs in accordance with Section 07 41 03, Metal Roof Repairs.
  - 7. Roof membrane, insulation, membrane flashings, associated components and accessories in accordance with Section 07 55 37, Roof Replacement Modified Bitumen Sheet Roofing System.
  - 8. Sheet metal, components, and accessories in accordance with Section 07 60 00, Sheet Metal.

**Summary of Work  
01 11 00-1**

**22066**

9. Optional pre-manufactured accessories specified or as required to complete the work in accordance with Section 07 72 00, Roof Accessories.
  10. Replacement of sealant systems from the roofing and sheet metal in accordance with Section 07 92 00, Sealants for Roofing and Sheet Metal.
- D. Alternate Number 1 work includes removal and replacement of standing seam metal roof components, and accessories, directly over framing for approximately 194 squares, as well as maintenance repairs and modifications to underlying framing for metal roofs for Roof Areas A, B1, C and D. Also provide new bird netting below/beneath the metal roof panels.
1. Architectural standing seam metal roof system in accordance with Section 07 41 05, Architectural Standing Seam Metal Roofing.
- E. Adhere to all safety and security requirements and procedures of the Owner.
- F. Unit Prices and Allowance are included in accordance with this specification section and are to be included in the Base Bid.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 11 00

Exterior Work:

- A. Provide exterior wall survey to include the below.
  1. Mapping out all known/reported interior leaks and/or moisture issues.
  2. Develop current exterior elevations based on available drawings, updated with all terminations, fenestrations, and penetrations.
  3. Map out all major deficiencies/cracks/damages/deterioration
  4. Provide representative photographs of various conditions.
  5. Provide written summary with specific conclusions recommendations, and preliminary cost estimates
  
- B. Exterior wall scope of work will include the following specific to the exterior walls and fenestrations.
  1. Remove and replace all exterior sealant joints, including the perimeter of all fenestrations.
  2. Modify/remove gaskets at all windows/storefronts and wet seal/wet glaze metal to glass terminations.
  3. Random repairs/repainting to exterior walls.
  4. Select window replacement may be required.
  5. Extent of any thru wall flashing replacement/addition or significant crack/brick repairs is unknown but may be required.

  
Civil & Site Narrative



**College of Charleston Berry Hall**

**Phase 1 – Narrative**

**December 22, 2022**

**Site**

The proposed work includes the modification of the St. Philip Street entrance to allow ADA access. This work will include the demolition of the existing pavements at the south end of the entrance and the southern half of the existing brick steps.

New work will include the installation of three new brick columns to match the existing column but at a lower height. The first column will act as a divider between the existing steps and a new ramp. The new ramp will have brick soldier pavements to mimic the brick steps and tabby pavement that slopes up at 8%. A new stainless-steel ADA-compliant hand railing will be in the middle of the ramp. The top of the ramp will be flanked by two new lower brick columns with top elevations to match the new column at the street. Between the two new columns to the left and also on the right, between the new column and the existing taller column will be an 18 inch seat wall to separate the difference in grades and to create a feeling of enclosure. New pavements will match the existing pavements with oyster shell tabby finish and brick header bands.

All new work will slope to St. Philip Street at approximately 1% slope to drain. No new drainage structures will be required.

**Landscape**

Existing plantings will remain with the exception of the plantings along the building foundation facing the entrance from St. Philip Street. These plantings will be removed and replaced with lower growing plantings to allow the feeling of more space.

Benches and landscape pots will be added adjacent to the new plantings to give additional seating to the space.

**Permitting**

As it is currently understood, the project **disturbs less than 0.1 acres** and is **not within a half mile** of a receiving waterbody.

City of Charleston MS4: In accordance with Section 4.5 of SWDSM, the project does not meet the threshold for requiring MS4 coverage. Therefore, does not require the submittal of a Construction Activity Application.

City of Charleston SPA (Special Protection Area): In accordance with Section 3.6 of SWDSM, the project can avoid additional stormwater management requirements if the project values spent over the last 5 years are

less than 50% of the total facility and land value. Additionally, if the project cost is more than 50% of the facility and land value it may qualify for the implementation of runoff reduction practices (disconnected downspouts, rain garden, infiltration, rain barrels, etc.) only by limiting new impervious area to less than 500 square feet.

SCDHEC-CSWP: In accordance with the CGP the project does not meet the threshold for requiring a submittal to obtain NPDES coverage. Therefore, does not require the submittal of a Notice of Intent nor a Notification Form.

OCRM-CZC: Similarly, the project does not meet the threshold for requiring a submittal to obtain Coastal Zone Consistency Certification.

City of Charleston TRC – Depending on the valuation of the project cost compared to the value of the facility and the land, the project may not be required to submit through the TRC approval process. This status is still to be finalized.

SCDOT Encroachment Permit – The tie in and connection of the new access steps and ramp will likely require an encroachment permit to be issued by SCDOT.

  
Structural Narrative



## **Structural Design Narrative for Berry Hall Renovation**

### **College of Charleston 12-20-22**

#### **General:**

The structural elements of the Phase 1 Berry Hall Renovations involves roof steel repair and creating the two story clear lobby area. All structural renovations will follow the IEBC. The extent of the structural renovations will fall short of requiring a full code structural upgrade.

#### **Existing Conditions:**

Berry Hall was designed in 1988 as a multi-story cast in place concrete dorm building. The floors and flat roof area are composed of two way, flat, 7 inch thick concrete slabs bearing on concrete columns and concrete walls. The existing foundation is pile supported. The roof has an extensive system of steel framed mansard roof structures above the flat concrete roof. The mansard roof structures are not critical to the waterproof enclosure and are visual in nature for the building and act as screening for the HVAC equipment mounted on the flat roof area. The mansard roofs are framed with wide flange steel frames spaced at each building frame line with light gage purlins spanning between frames supporting the metal roof panels. There are diagonal angle braces in the plane of the roof at various locations.

#### **Proposed Renovations:**

There are two structural areas involved in the Phase 1 part of the project: repairing the mansard roof steel and creating a two-story lobby area.

1. The repair of the roof steel involves repairing or replacing any rusted or damaged steel members and cleaning and recoating the remaining steel that is part of the mansard roof structure. An initial inspection of the mansard roofs indicate that all steel has some degree of rust but that most of the rust is currently surface rust while some members have extensive rust even to the point of rusting through the section. None of the wide flange frame members have more than surface rust. The diagonal angle braces have surface rust but also have damage as it relates to the splice in the length of the angle. The splice has essentially failed allowing significant deflection in the angle brace. This deflection makes the brace action ineffective. The splices can be repaired in place with new welded plate elements on all legs of the angle, not just one leg. The light gage purlin system is where the more severe rusting occurs. Several purlin members are rusted through and require replacement as it is difficult to cover plate light gage purlin material. The extent of the mansard roof system can be seen from building plans as well as Google images.

Photos are attached as part of this narrative to illustrate the various conditions of the mansard roof. The following outlines the repairs required.

- a. Clean (sandblast) and recoat all wide flange steel frames. There are an estimated 60 wide flange frames with 40 being full frames with two sided roof areas and 20 half frames with single sided roof areas. There is an attached drawing showing the roof frame configurations.
  - b. Clean and recoat all existing light gage Cee and Zee purlins. At the two sided roof areas there are a total of 12 purlins between each pair of frames. At the single sided roof areas there are 6 purlins between each pair of frames. It is estimated that there are 24 bays of 12 purlins and 24 bays of 6 purlins. Each bay is approximately 22 feet long.
  - c. Replace purlins that have rusted through. It is estimated that 80 purlins need to be replaced.
  - d. The cross bracing angles need to have the splice on each replaced with a field welded plate on each leg of the angle. Then the cross brace angles need to be cleaned and recoated. It is estimated that there are 28 pairs of cross brace angles.
  - e. Alternatively, if the standing seam roof panels are being replaced then it may be more economical to simply replace all the purlins with new purlins versus cleaning and coating in place. It is recommended that if new purlins are used, then they should be galvanized for longer life and reduced maintenance.
2. The creation of a two-story lobby area will require demolition of the second-floor slab in the area between existing column grids Q and S and between 12 and 19. The 6 exterior columns along the front of the lobby at column line S would result in a two story column that will need to be stiffened by the addition of reinforcing and concrete on two sides of the column. A 6" thick layer of concrete would be added to two sides of the column with each side receiving two rows of #3 epoxied dowels spaced 6" OC into the existing and extending into the new concrete along with 8#5 vertical bars for the two-story height and a perimeter #4 tie spaced 6" OC.





MEP | FP Narrative



## **BERRY RESIDENCE HALL OSE PHASE 1 MEPFP SCHEMATIC DESIGN**

### **GENERAL**

#### *Fire-caulking*

It's expected that a single fire-caulking contractor shall be responsible for all fire caulking throughout the project for MEP and general use. An allowance shall be included for fire-caulking existing to remain items where the scope quantity is unclear until construction begins.

### **ELECTRICAL**

#### *Codes & Design Standards:*

- International Building Code (IBC) 2021 Edition
- International Fire Code (IFC) 2021 Edition
- Americans with Disabilities Act (ADA)
- ANSI/ASHRAE/IES 90.1-2007 Energy Standard for Buildings
- Electronics Industry Association/ Telecommunications Industry Association (EIA/TIA)
- Illuminating Engineering Society of North America (IESNA)
- International Energy Conservation Code (IECC) 2009 Edition
- National Electrical Code 2020 (NFPA 70)
- National Fire Alarm Code 2019 (NFPA 72)

#### *Lighting*

Lighting shall be replaced in full in the area of work.

Lighting fixtures shall be LED throughout. General common spaces, offices and classrooms shall contain 2x4 lighting fixtures. Suspended linear lighting fixtures will be provided in the lobby and conference/gathering areas. Decorative pendant fixtures will be located in the main entry. Linear lighting or recessed cans will be provided in recessed soffits. The public restrooms will be provided with downlights and wall-mounted vanity lights over mirrors. The first floor conference and gathering rooms shall include decorative pendant type fixtures. The mechanical room, Electrical room, IT room and janitor closets will contain linear LED strip type fixtures hanging from the exposed ceilings.

Exterior wall-mounted lights will be provided for aesthetic and egress purposes along the entry doorways. Façade lighting will be provided as desired to promote the architecture of the building.

In the suites, recessed lighting shall be provided. In the bathrooms, light fixtures shall be replaced in same location as existing. In the Living rooms, lighting shall be added where there currently is none. In the bedrooms, each side shall be provided with lights, separately controllable from their side of the room by their beds/desks.

#### *Lighting Controls*

Automatic lighting controls must be provided for this building to meet requirements of the International Energy Conservation Code. Occupancy sensors and photocells for daylight harvesting shall be provided in the classrooms, offices and common spaces where required. Corridor lighting control will be constant on; however, will be dimmed after hours to conserve energy. Bathroom lighting will be controlled via occupancy sensors and manual wall mounted override switches.



Exterior wall mount lighting fixtures will be turned on by a photocell and turned off with an adjustable time clock via the lighting control panel.

#### Power

Disconnects/motor starters will be provided within sight of the associated HVAC equipment.

Duplex receptacles will be provided in the offices/administrative areas. Classrooms shall be provided with receptacle coverage along all walls with a minimum of six receptacles. Additional duplex general purpose receptacles shall be provided throughout the entry and Corridors at approximately 25' on center. Provide two duplex receptacles (each on dedicated circuits) in the IT rooms.

All receptacles will be specification grade and all wire will be installed in metal conduit except exterior below grade wire will be in PVC conduit with RMC elbows.

Provide a dedicated 20 amp, 120V circuit for a bed shakers in each ADA room.

#### Fire Alarm

The fire alarm system shall be demolished and replaced in full. The new fire alarm system shall be a voice evacuation system. The new panel is shall be placed in the front entry vestibule. This replacement shall occur during the Summer 2024, such that as spaces get renovated, they can be added to the new panel.

Phasing of the fire alarm change-out shall be important. The new fire alarm panel will be backwards compatible such that the old devices will be compatible with the new panel. While the replacement is on-going, new devices shall be programmed to simulate a horn sound, instead of the voice messages. The areas of renovation will be compartmentalized such that noise migration between acoustical compartments doesn't cause confusion. Once all the devices have been replaced at the end of summer 2025, the system shall be re-programmed to deliver voice messages.

The scope of this work shall be:

1. The existing fire alarm annunciation and initiation devices shall be removed.
2. All new conduit and devices shall be installed in the building for fire alarm voice evacuation.
3. Generally speaking, ceiling mounted speaker strobe annunciation devices shall be provided since they provide better acoustic output. They shall be colored white, with the 'Alert' identification on them.
4. A transponder unit shall be provided on each floor and 120-volt power shall be provided to it.
5. All new voice evacuation cabling shall be installed in conduit. Conduit shall be concealed above ceilings and walls to the greatest extent possible.
6. A Smoke detector tied to the fire alarm system shall be provided in each suite.
7. A mass notification speaker strobe device shall be provided in each room at 177 cd output. The speakers shall be capable of providing 520 Hz tone during fire alarm.
8. Provide a fire alarm relay in each ADA room for bed shaker.

AED cabinets shall be connected to the fire alarm system.

Fire Alarm Devices in the existing to remain spaces on the first floor shall be replaced since the system is changing from horns to speakers.



Pull stations will be located along the path of egress. Duct detectors will be provided in the supply and return air ducts of the HVAC system. Smoke detectors will be provided as required in elevator lobbies, elevator shafts and machine rooms for elevator recall operation. Heat detectors will be provided in mechanical spaces and janitor closets. Flow and tamper switches will be provided in conjunction with the sprinkler system.

Fire smoke dampers shall be provided with JCI compatible smoke detector and relay that communicates to the fire alarm system.

#### Telecommunications

The IT rooms will be provided with Telephone Backboard (TBB) on all walls which will be 8'h x 4'w x ¾"d plywood back board with two coats of fire retardant paint. A 6"x12" grounding bus bar with predrilled holes will be provided at each TBB with a dedicated #6 ground wire routed to the main electrical ground. Two 4" sleeves will be provided between IT rooms.

Two voice/data outlet boxes will be provided for offices, conference rooms and administration workspaces. The classrooms will contain four data outlets. Data outlets will be provided for mechanical controls in the Mechanical Rooms, estimated to be provided on each floor. Ceiling mounted Wi-Fi access points will be located throughout the building to provide 100% coverage.

A 4" x 18" cable tray will run the length of the first-floor corridor. A 1" conduit will be provided from each outlet box to within 6" the cable tray. Sleeves will be provided for penetration of fire-rated walls where needed to continue the routing of the cable tray. The existing communication service conduits in the first floor IT room will be extended as necessary to the location of the main telecommunications room on the first floor.

The CofC IT department shall be coordinated with in all IT related issues including the dimensions of the IT rooms and data drop locations.

#### Audio/Visual System:

Rough-In connections for TV outlets will be provided in the lobby/common spaces and conference rooms. Power and data for projectors in the lecture spaces will be provided along with speaker system rough in as necessary. Coordination will be required with CofC faculty and staff to determine the full scope of A/V requirements.

#### Security System:

Rough-In connections for door access controls will be provided at main entrance, side doorways and IT rooms. Power over Ethernet cameras will be provided at the exterior of the building and in the courtyard, lobby and applicable corridors. The main doorways entering the building from the exterior shall be provided with lock-down capability. Coordination will be required with CofC Public Safety department to determine the full scope of access control and camera locations.



DAS System:

Two prices shall be provided for the emergency radio system:

- Allowance for third party testing to determine if the system is required
- Cost for a full DAS system

A cost shall be provided for a cell phone repeater system to be added if DAS system is required to be provided.



## HVAC

Existing System: The existing Dedicated Outdoor Air Units, chillers, and chilled water piping shall remain. The existing suite fan coil units shall be replaced in full. All existing ductboard in the building shall be replaced with metal duct, sealed and insulated.

### Rooftop Piping Manifold :

The (4) existing air cooled chillers shall be manifolded together to create a full chiller plant up on the roof. This will provide for increased redundancy in the system and increased diversity. The control of existing constant speed pumps in the chillers shall be modified to run as constant speed primary loops, and new secondary building loop pumps shall be provided up on the roof to run as variable speed secondary. The new pumps shall be inline, fully redundant, with TEFC motors to handle exterior conditions. They shall be sized for approximately 540 gpm and 60' head. VFD's shall be provided for the pumps in NEMA 4X enclosure. A bypass shall be created at the connections to existing piping to create the primary-secondary loop interface. Shut-off Valves shall be provided at connections to each of the (4) existing loops in order to segment the building for maintenance purposes. See attached sketch which indicates preliminary routing and sizing. The new piping shall be schedule 40 steel with Mega-Press fittings for 4" and smaller, and welded fittings for the 6" pipe.

Chilled water piping shall be insulated with 3" cellular glass insulation. Aluminum jacketing shall be provided on the exterior piping up on the roof.

Roof supports shall be provided at approximately 5' intervals for pipe support. These supports shall be seismically rated and shall be installed in conjunction with the roof replacement.

### Ventilation Ductwork:

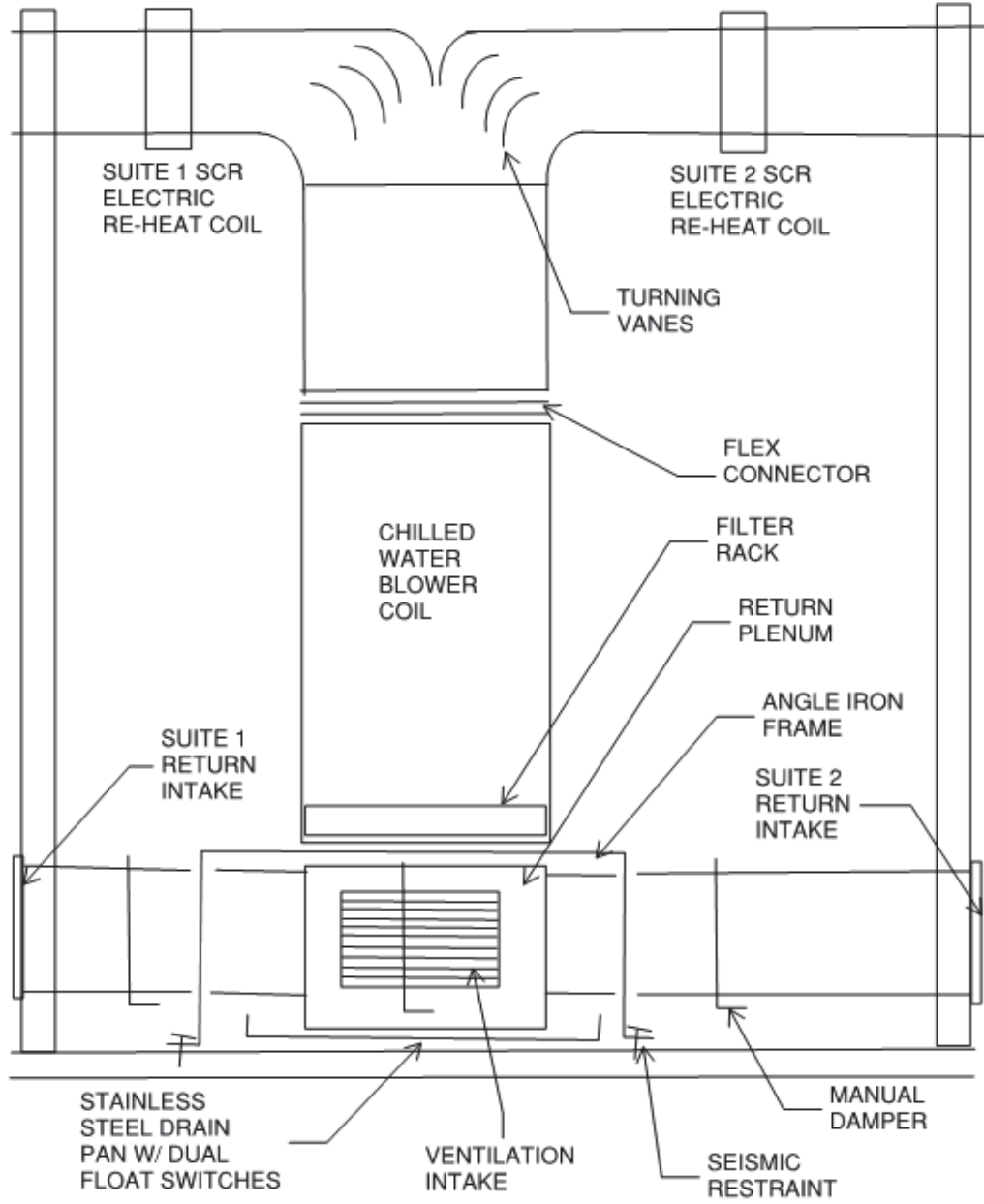
Existing supply air from the (4) rooftop Dedicated Outdoor Air Units shall be replaced in full since it is ductboard. The new duct shall be galvanized sheetmetal, sealed per SMACNA standards, and insulated with 2.2" ductwrap. The preliminary sizes are indicated on the rooftop mechanical sketch.

### Bathroom Exhaust Fans:

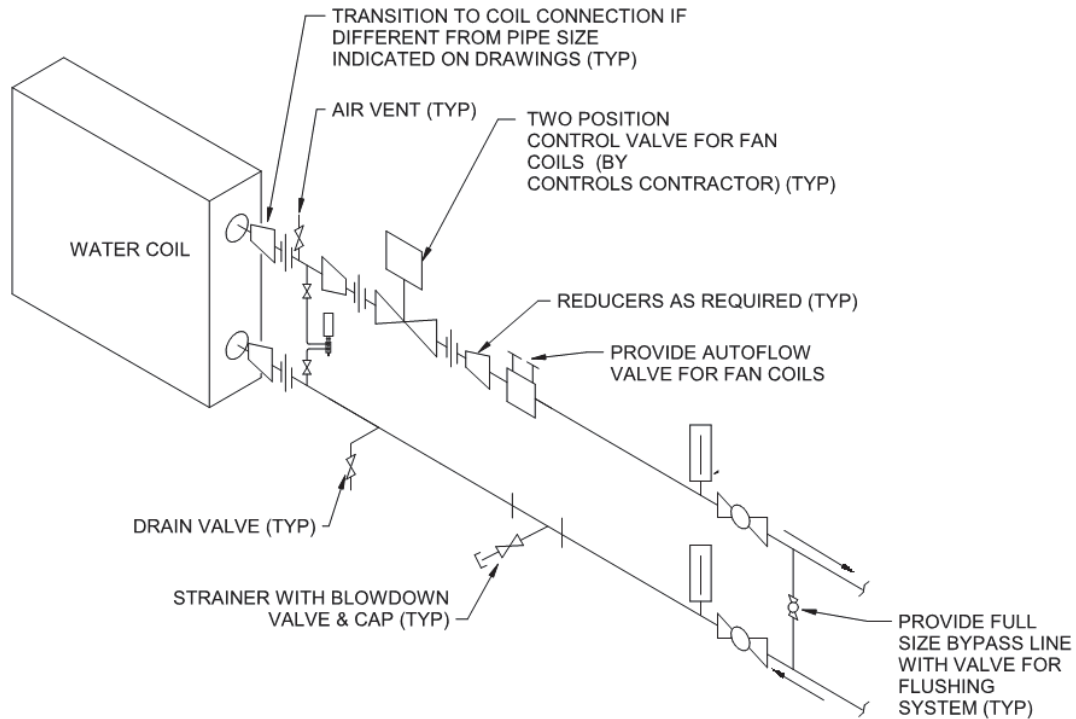
Rooftop exhaust fans shall be demolished and replaced in kind. There are approximately (42) rooftop exhaust fans that shall be replaced. The curbs and fans shall be replaced simultaneously when the roof gets replaced. The fans shall connect to existing ductwork. The fans are approximately 400 cfm each.

### Suite Fan Coil Units:

The existing suite fan coil units shall be demolished and replaced. They shall be replaced with a chilled water blower coil. The new blower coil will still serve (2) suites like existing, however, the blower coils shall be provided with SCR electric re-heat coils to give individual control for each suite. The blower coils shall run constantly in order to maintain ventilation humidity levels, and the re-heat shall modulate to maintain space temperature. The return shall be fully ducted to each suite. The existing chilled water piping shall remain, however, the piping package shall be replaced including shut off valves, strainer, control valve, autoflow balancing valve, air vent, drain, flex connectors. See detail sketch below for additional information. Based on as-built drawings, there are approximately (110) blower coils that shall be replaced including some for the core of the upper floors. They range in size from 1.0 ton to 3.5 tons.



*Suite Blower Coil Airside Detail Sketch*



*Suite Blower Coil Piping Package Detail Sketch*

First Floor HVAC :

A chilled water air handler with SCR electric VAV terminal units shall be provided to serve the first floor. It's estimated that the unit will be approximately 18,000 cfm and 50-60 tons. The unit will have electric pre-heat for freeze protection, a chilled water cooling coil, plenum fan with VFD for variable speed control, demand control ventilation, economizer. The unit shall be slab mounted on the ground of the first floor with a louver to exterior for outside air intake. The location of this mechanical room will require further coordination as there isn't an immediately clear location that would be large enough. Ideally, the mechanical room would be on the East side of the building such that a louver could be installed through the exterior wall for outside air intake without causing aesthetic concern. It's estimated that approximately 25 VAV zones shall be provided for the first floor.

4" chilled water shall be routed from the rooftop chilled water plant down to the first floor air handler. This line would be sized large enough to handle the future Honors College Conference Room and Event Space Addition. However, the existing chiller capacity does not appear to be large enough to handle this addition. An additional chiller would need to be installed on the roof and connected into the existing plant in order to condition this addition. The roof over this addition is likely also not an option since the plan would be to have a rooftop deck. If the deck were excluded, then rooftop equipment directly over the space could potentially be a more cost-effective option.



Controls:

The following is a summary of items that shall be included in the controls system by CMI.

- Connection to the new domestic water heaters through Bacnet card
- Adding a status signal to the existing Domestic Water Booster pump
- Full controls for the first floor unit AHU(s) and VAVs.
- Status and alarm on the laundry exhaust fans.
- Incorporation of primary/secondary piping systems with pressure sensor, VFD's, and 2-way control valves.
- First Floor AHU chilled water coil shall be a Pressure Independent control valve to maintain better control of the system.

Two options shall be priced for control of the suites:

Base Bid shall be to have a controller for each of the electric re-heat coils, and a remote space sensor in each suite. This would give individual control to each of the suites, but there would not be remote access and control capabilities from the campus DDC system.

The second option would be to have a unit controller and ethernet connection provided for each blower coil unit. This would be connected to the campus DDC controls system and give remote monitoring and control capabilities. A remote space sensor would once again be provided in each suite for individual suite control.

In either situation, the suite occupants would not have access to adjust the temperature setpoint.



## **PLUMBING:**

### Codes & Design Standards:

- Americans with Disabilities Act (ADA)
- International Building Code (IBC) 2021 Edition
- International Energy Conservation Code (IECC) 2009 Edition
- International Plumbing Code (IPC) 2021 Edition

The plumbing system on the first floor shall be modified to account for the revised floor plan. New restrooms shall be provided on the first floor per the architectural drawings. New water closets on the first floor shall be flush valve type with hard-wired sensor activation. New lavatories on the first floor shall

On the upper floor cores, the following plumbing modifications shall be made to account for the change in floor plan. The new fixtures shall connect to the nearest existing piping of adequate size:

- (4) new washing machine boxes on each floor in the modified laundry rooms
- (2) new single stall restrooms each floor
- New kitchen shall include ADA compliant kitchen sink with garbage disposal.

New water closets on the first floor and public spaces of the upper floors shall be flush valve type with hard-wired sensor activation. New lavatories on the first floor and public spaces shall be hard-wired sensor activated faucets.

In the residential suites of the upper floors, the plumbing lines shall be existing to remain. The sinks and toilets of the suites shall be replaced, along with their angle shut-off valves. The residential water closets shall be flush tank type. The residential lavatories shall be manual activation, vandal resistant.

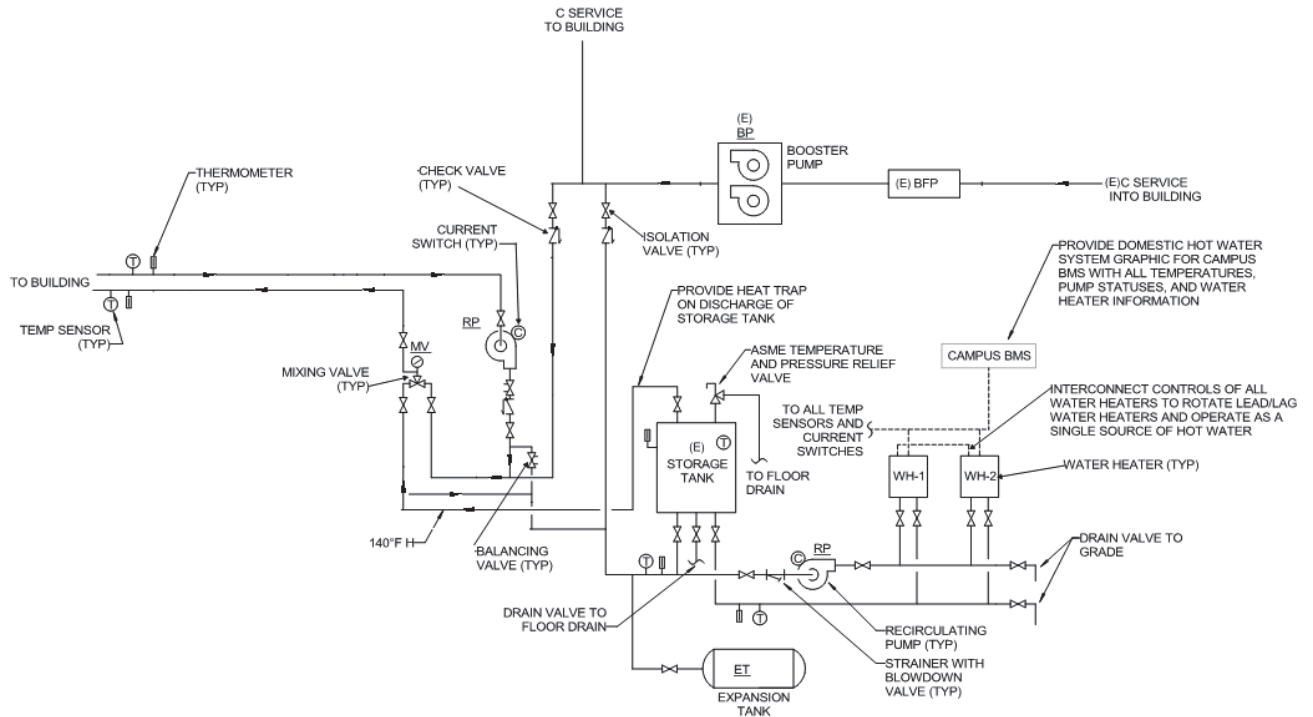
Where fixtures are replaced in the same location as existing such as in the residential suites, all appurtenances such as drain lines, mixing valves, ADA insulation, angle stop valves, supply tubing, etc. shall be replaced in full.

### Domestic Water System

Piping shall be Type L copper pipe with Pro-Press fittings. Cold water piping shall be insulated with flexible elastomeric insulation, and hot water piping shall be insulated with fiberglass insulation with all service jacket.

The existing gas-fired water heater shall be demolished and removed. It shall be replaced with (2) 650 MBH water heaters that will provide 50% redundancy and greater turn-down. The existing hot water storage tank shall remain. A 2-hr fire barrier shall be constructed around the hot water plant. A new building re-circulation pump shall be provided. A new hot water storage tank re-circulation pump shall be provided. A new master mixing valve shall be provided. The new water heaters shall be installed on seismic rated concrete housekeeping pads. Condensate shall discharge to the nearest floor drain and shall utilize a condensate neutralizer kit. The new water heaters shall be provided with bacnet card and shall connect to the CMI DDC controls system. The water heaters shall be direct vented. A plenum shall be provided on the existing intake louver which the water heater intakes shall be connected to. New Flues shall be provided up to the roof. The new flues shall be 6", Category IV Polypropylene. The flues





*Hot Water Plant Detail Sketch*

Thermostatic mixing valves shall be provided at all sinks and lavatories to reduce the concern of scalding.

#### Sanitary sewer System

New sump pumps and discharge piping shall be provided for the elevators. The sump pumps shall include oil sensing technology, which shall shut down and alarm when oil is sensed. Discharge from the sump pumps shall be 2", discharged to exterior of building on grade.

Schedule 40 PVC shall be used for both underground and aboveground sanitary and waste piping.

Floor drains with trap primer valves shall be provided in the public restrooms.

#### Storm Drainage System

Where the roofs are being replaced, roof drains shall be replaced one for one in existing locations. New roof drains shall connect to existing piping.

It's expected that offsets and modifications in the storm drain piping will be required where the floor plan is changing on the first floor and in the upper floor core spaces. Where new storm drain piping is required to account for change in floor plan, schedule 40 PVC shall be used for both underground and aboveground piping.

The existing drain lines shall be cleared and camera'd to verify no blockages exist at conclusion of work.



## **FIRE PROTECTION:**

### **Codes & Design Standards:**

- International Building Code (IBC) 2021 Edition
- International Fire Code (IFC) 2021 Edition
- NFPA 13, 2019 Edition
- NFPA 14, 2019 Edition
- NFPA 24

The sprinkler system shall be modified to provide coverage to the modified floorplan of the building per NFPA 13, 2019. The first floor system and inner core of the upper floors shall be removed and replaced since the layouts of those spaces are changing dramatically. The piping in the suites shall remain, but the sprinklers heads shall be replaced.

Existing fire pump, standpipes, fire department connection, and riser assembly shall remain. New flow switches and tamper switches shall be provided and connected to the new fire alarm system.

A fire flow test and current fire pump test will be performed/provided to confirm pressure requirements. Hydraulic calculations will be provided by the installing contractor. The fire protection system will be designed in accordance with NFPA 13, 2019 edition. Black steel schedule 40 pipe will be used for pipes 2" and smaller, while schedule 10 will be allowed for pipes larger than 2".

Sprinkler heads in occupied spaces shall be concealed type, with flat cover plates colored white. The mechanical spaces will be provided with upright heads. Exposed piping in finished areas will be painted to match architectural features.

The office areas, residential suites, and classrooms will be Light Hazard. The Storage, Mechanical, and Electrical Rooms shall be Ordinary Hazard 1.

The fire sprinkler system seismic restraints shall be designed with a minimum component importance factor of 1.5 as designated by the IBC.





# Lochinvar®

HIGH EFFICIENCY BOILERS & WATER HEATERS

## ARMOR® CONDENSING WATER HEATER

Submittal Sheet

AWH-Sub-06

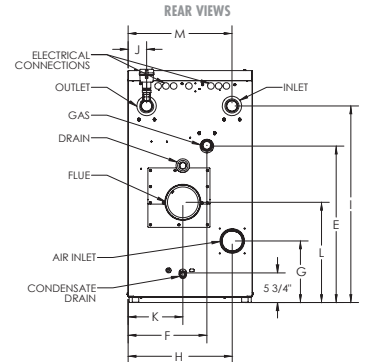
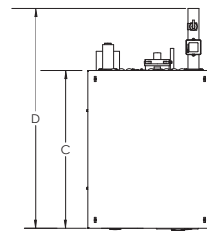
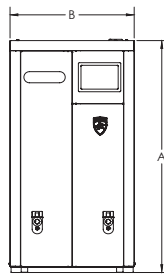
### ARMOR CONDENSING WATER HEATER / 400,000 TO 4,000,000 BTU/HR

Job Name: CofC Berry Hall  
 Location: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Agent/Wholesaler: \_\_\_\_\_  
 Contractor: \_\_\_\_\_

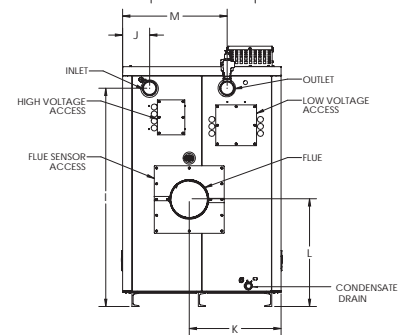
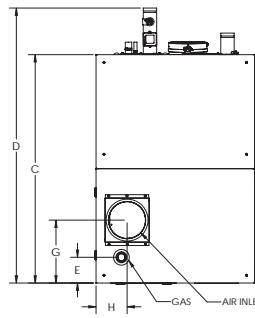
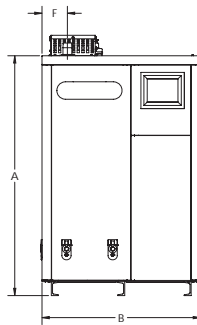
Model No. \_\_\_\_\_  
 Type Gas \_\_\_\_\_ Btu/Hr Input \_\_\_\_\_  
 Recovery Rate in GPH \_\_\_\_\_ @ \_\_\_\_\_ °F Rise  
 Equipment Tag(s):  
 WH-1,2

**NOTES:**

MODELS 400-1000



MODELS 1250-4000



Model Number	Btu/Hr Input	Thermal Efficiency	GPH 100°F Rise
AWH0400NPM	399,000	99%	479
AWH0500NPM	500,000	99%	600
AWH0650NPM	650,000	98%	772
AWH0800NPM	800,000	98%	950
AWH1000NPM	999,000	98%	1,187
AWH1250NPM	1,250,000	98%	1,485
AWH1500NPM	1,500,000	98%	1,782
AWH2000NPM	1,999,000	98%	2,375
AWH3000NPM	3,000,000	98%	3,564
AWH4000NPM	4,000,000	98%	4,752

Model Number	A	B	C	D	E	F	G	H	I	J	K	L	M	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Ship Wgt. (lbs.)
AWH0400NPM	45"	24"	30-1/2"	42-1/2"	29-3/4"	20-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1"	2"	4"	4"	326
AWH0500NPM	45"	24"	30-1/2"	42-1/2"	29-3/4"	20-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1"	2"	4"	4"	333
AWH0650NPM	45"	24"	41"	53"	30-1/2"	15-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1-1/4"	2"	4"	6"	424
AWH0800NPM	45"	24"	41"	53"	30-1/2"	15-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1-1/4"	2"	4"	6"	433
AWH1000NPM	45"	24"	48"	62"	30-1/2"	15-3/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1-1/4"	2-1/2"	6"	6"	494
AWH1250NPM	51-1/2"	34"	49"	59"	5-1/2"	5-1/2"	13-1/2"	6-3/4"	46-3/4"	5-3/4"	19-3/4"	23"	22-1/2"	1-1/2"	2-1/2"	8"	8"	1,519
AWH1500NPM	51-1/2"	34"	52-3/4"	62-3/4"	4-1/2"	4-1/2"	13-1/2"	6-3/4"	46-3/4"	5-3/4"	19-3/4"	23"	22-1/2"	1-1/2"	2-1/2"	8"	8"	1,672
AWH2000NPM	51-1/2"	34"	65-1/2"	75-1/2"	7"	5-3/4"	14-3/4"	7-1/4"	46-3/4"	6-3/4"	18-3/4"	23"	22-1/2"	1-1/2"	2-1/2"	8"	8"	1,931
AWH3000NPM	67-1/4"	48-1/4"	79-3/4"	93-3/4"	4-3/4"	6-3/4"	17-3/4"	8-3/4"	60-1/4"	8-1/2"	25-1/2"	29-1/2"	40"	2"	4"	10"	10"	3,147
AWH4000NPM	67-1/4"	48-1/4"	96"	110"	5"	7-1/2"	17-3/4"	8-3/4"	60-1/4"	8-1/2"	25-1/2"	29-1/2"	40"	2-1/2"	4"	12"	12"	3,694

Change 'N' to 'L' for LP gas models. No deration on LP models. Performance data is based on manufacturer test results.



## Standard Features

- › Up to 99% Thermal Efficiency
- › Modulating Burner Turndown Ratio
  - 10:1 Turndown AWH0400NPM-AWH1000NPM
  - 5:1 Turndown AWH1250NPM-AWH4000NPM
- › ENERGY STAR Rated
- › CON-X-US Remote Connect
- › Indoor/Outdoor Convertible
- › Direct-Spark Ignition
- › Low NOx Operation
- › Sealed Combustion
- › Low Gas Pressure Operation
- › Vertical & Horizontal Vent Termination
- › Category IV Venting up to 150 Feet
- › PVC, CPVC, Polypropylene, or AL29-4C Vent Mat'l
- › ASME Stainless Steel Heat Exchanger
  - Gasketless Design
  - 160 psi Working Pressure
- › Stainless Steel or All Bronze Circulating Pump
- › On/Off Switch
- › Adjustable High Limit with Manual Reset
- › High & Low Gas Pressure Switches w/Manual Reset (AWH1250 - 4000)
- › Flow Switch
- › Inlet & Outlet Temperature Sensors
- › ASME Temperature & Pressure Relief Valve
- › Zero Clearance to Combustible Material
- › Approved for Combustible Floor Installation
- › 1 Year Warranty on Parts
- › 5 Year Limited Warranty (see warranties for details)

## Standard Pumps, All Bronze

- › AWH0400-0650 / 1/2 HP, 120V, 1 PH, 60 Hz
- › AWH0800-1000 / 3/4 HP, 120V, 1 PH, 60 Hz
- › AWH1250-1500 / 1 HP, 120V, 1 PH, 60 Hz
- › AWH2000 / 2 HP, 208V, 3 PH, 60 Hz
- › AWH3000 / 5 HP, 208V, 3 PH, 60 Hz
- › AWH4000 / 5 HP, 480V, 3 PH, 60 Hz

## Optional Equipment

- Audible Alarm
- High & Low Gas Pressure Switches w/Manual Reset (AWH0400-1000)
- Condensate Neutralization Kit
- SMART TOUCH™ PC Software
- Modbus or BACnet/MSTP Communications
- BMS Gateway to LonWorks or BACnet
- IP Indoor to Outdoor Kits
- Outdoor to Indoor Kits (AWH1250-4000)
- Stack Frame (AWH0400-1000)

## Codes & Registrations

ASME Certified, "HLW" Stamp ANSI Z21.10.3/CSA Certified

## SMART TOUCH™ Features

- › SMART TOUCH™ Operating Control
  - Full-Color Touchscreen LCD Display
  - Built-in Cascading Sequencer for up to 8 Water Heaters
  - Building Automation Integration with 0-10 VDC Input
  - Password Security
  - Low Water Flow Safety Control & Indication
  - Inlet & Outlet Temperature Readout
  - Freeze Protection
  - Service Reminder
  - Time Clock
  - Data Logging
  - Hours Running
  - Ignition Attempts
  - Last 10 Lockouts
  - Programmable System Efficiency Optimizers
  - Night Setback
- Water Heater Pump Control
- Building Recirculation Pump Control
- › High Voltage Terminal Strip
  - 120V/1PH/60 Hz (AWH0400-1500)
  - 208V/3PH/60 Hz (AWH2000-3000)
  - 480V/3PH/60 Hz (AWH4000)
- › Low Voltage Terminal Strip
  - 24 VAC Auxiliary Device Relay
  - Auxiliary Proving Switch Contacts
  - Alarm on Any Failure Contacts
  - Pump Contacts
  - Runtime Contacts
  - Tank Thermostat Contacts
  - Tank Sensor Contacts
  - Cascade Contacts



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Lochinvar.com



LOW LEAD CONTENT

HLW

Green Globes Narrative

**College of Charleston Berry Hall Renovation  
Sustainability Narrative  
Provided by: Whole Building Systems, LLC  
December 22, 2022**

The renovation of the Joe E. Berry Residence Hall on the campus of the College of Charleston in South Carolina is seeking Two Green Globes for Sustainable Interiors from the Green Building Initiative. To achieve this goal, the Architect has retained Whole Building Systems to provide sustainability consulting. During the first phase of the project, Whole Building Systems will create a draft Green Globes Survey and Checklist based on design narratives from, and integrated design meetings with the Owner, Architect, Engineers, and other contributors such as the Commissioning Authority. WBS will also produce a Life Cycle Cost Analysis (LCCA) to demonstrate the lifetime savings of the project based on its sustainable design and construction.

From the early phases through final construction documents, an integrated design approach will be undertaken where all the key stakeholders will meet to determine the most sustainable and cost-effective approach. At a minimum, the project will include replacing some of the existing MEP systems with high efficiency HVAC, LED lighting, and plumbing fixtures that conform to WaterSense standards. The project will also employ commissioning services for quality control from design through construction and will include Indoor Air Quality testing prior to occupancy. The General Contractor will be required to follow best practices for protecting building materials and providing records for construction waste diversion and recycling.

An emphasis on Sustainable Materials selection will be a focus to conform to Green Globes guidance to provide superior Indoor Environmental Quality (IEQ). WBS will work with the team to specify and document the selection of materials with Environmental Product Declarations (EPD) and Volatile Organic Compounds (VOC) limits. Ventilation and filtration will meet or exceed ASRHAE standards. Lighting and thermal design will factor in student activities and tasks to provide a productive and comfortable environment to study and live.

## Project Checklist for Green Globes for Sustainable Interiors

Date: December 20, 2022

PROJECT MANAGEMENT		Maximum Points: 50	Expected Points	Applicable Points
1.1	<b>Integrated Design Process (IDP)</b>	20		
1.1.1	Integrated Design Meetings	6	6	6
1.1.2	IDP Performance Goals	11	10	11
1.1.3	IDP Progress Meeting for Design	3	3	3
1.2	<b>Environmental Management During Construction</b>	10		
1.2.1	Building Materials and Building Envelope	2	2	2
1.2.2	IAQ During Construction	8	8	8
1.3	<b>Environmental Purchasing</b>	10	5	10
1.4	<b>Commissioning</b>	30		
1.4.1	Commissioning Requirements	24	22	24
1.4.2	Training	3	3	3
1.4.3	Operations and Maintenance Manual	3	3	3
			62	70

ENERGY		Maximum Points: 300	Expected Points	Applicable Points
2.1	<b>Energy Metering</b>	65	10	45
2.2	<b>Building Envelope</b>	25	0	25
2.3	<b>Lighting</b>	95		
2.3.1	Lighting Power Density	40	0	40
2.3.2	Interior Automatic Light Shut-off Controls	30	10	30
2.3.3	Light Reduction Controls	25	10	25
2.4	<b>Daylighting</b>	30		
2.4.1	Controls for Daylighted Zones	30	0	30
2.5	<b>HVAC Systems Controls</b>	35		
2.5.1	Automation System	15	10	10
2.5.2	Domestic Hot Water Heaters	20	10	10
2.6	<b>Plug Loads</b>	50		
2.6.1	Plug Load Inventory	16	0	16
2.6.2	Plug Load Limiting	12	6	12
2.6.3	Plug Load Management	22	0	8
			56	251

WATER		Maximum Points: 90	Expected Points	Applicable Points
3.1	<b>Plumbing Fixtures</b>	54	32	36
3.2	<b>Residential &amp; Commercial Food Service Fixtures &amp; Equipment</b>	20		
3.2.1	Path A: Residential Plumbing Fixtures	20	17	20
3.2.2	Path B: Commercial Food Service Equipment	20	0	0
3.3	<b>Water Intensive Applications</b>	16		
3.3.1	Laboratory and Medical Equipment	7	0	0
3.3.2	Laundry Equipment	4	0	4
3.3.3	Special Water Features	2	0	0
3.3.4	Metering	3	0	0
			49	60

MATERIALS & RESOURCES		Maximum Points: 250	Expected Points	Applicable Points
4.1	<b>Interior Fit-Outs (including Finishes and Furnishings)</b>	60		
4.1.1	Path A: Performance Path for Interior Fit-outs	60	0	0
4.1.2	Path B: Prescriptive Path for Interior Fit-outs	50	35	50
4.2	<b>Minimized Use of Interior Materials</b>	10	0	10
4.3	<b>Deconstruction and Disassembly</b>	60	0	60
4.4	<b>Waste</b>	80		

Project in Concept/SD at current time

Goals will be documented in OPR

Meetings will be documented

Requirement will be included in Sust. Specifications

IAQ Testing / SI Specs to include SMACNA IAQ for Buildings under construction

Energy Star Equip/ Need copy of CoFC policy for environmental purchasing

Commissioning of HVAC, lighting controls, domestic hot water, FP and all standard inspections

Cx will verify Owner training is conducted by GC and subs

WBS will provide a Systems Manual to Owner at conclusion of project

Building level metering for Electricity / MDP and electrical great other than poss. some subpanels are not in scope

TBD

Dependent on extent of lighting replacement

Poss. 10% auto controlled - First Floor and upper floor common spaces - Suites will not include sensors

TBD - no occ. sensors in suites - possible dimming applications in suites

Photocell control of daylighting is not planned for this project

Yes, building will have xx controls - Primarily dorm rooms - no need for independent control of interior zones

Gas water heater to be replaced - specify low Nox burners and intermittent electrical lighters

Check on inventory list, no plug load monitoring, occupants cannot view plug load profiles

Energy Star Equip /

Dorm suites are shared/load sensing plug strips not practical

Toilets, urinals, faucets being replaced and will be WaterSense / Showers fixtures not in scope

Plumbing fixtures being replaced will be WaterSense / Dishwashers will be energy star / clothes washers?

NA

NA

waiting on information

NA

NA

## Project Checklist for Green Globes for Sustainable Interiors

4.4.1	Construction and Operational Waste	80	80	80	Waste and recycling requirements will be included in Sust Spec and coordinated with Owner
4.5	Building Service Plan	20	0	20	Requesting Campus Preventative Maintenance Plan
4.6	Reuse of Non-structural Elements	20	0	20	TBD
			115	240	

EMISSIONS AND OTHER IMPACTS		Maximum Points: 40	Expected Points	Applicable Points
5.1	Integrated Pest Management	10	0	10
5.2	Leak Detection in Commercial Refrigeration	20	0	0
5.3	Janitorial Equipment	10	10	10
			10	20

	Need a copy of CoFC's Pest Management Policy
	NA
	DWG confirmed mechanical ventilation in Jan closets

INDOOR ENVIRONMENT		Maximum Points: 250	Expected Points	Applicable Points
6.1	Ventilation	30		
6.1.1	Ventilation Air Quantity	15	15	15
6.1.2	CO2 Sensing and Ventilation Control Equipment	15	15	15
6.2	Source Control of Indoor Pollutants	80		
6.2.1	Volatile Organic Compounds (VOCs)	60	60	60
6.2.2	Moisture & Vapor Control Methods	10	5	10
6.2.3	Ventilation & Physical Isolation for Specialized Activities	10	0	0
6.3	Lighting	52		
6.3.1	Daylighting	22	3	22
6.3.2	Lighting Design	30	0	30
6.4	Thermal Comfort	40		
6.4.1	Thermal Comfort Design	18	18	18
6.4.2	Thermal Comfort Strategies	22	0	17
6.5	Acoustic Comfort	48		
			116	187

	Yes, project will comply with G2.1
	DOAS serving First Floor (high occupancy) is being replaced and will have DCV
	Sust. Spec will require VOC limits
	Materials and finishes to be mold resistant / check on location of floor drains
	NA
	DF to be calculated / Shades/blinds in living areas
	To be calculated/determined
	Will comply with ASHRAE 55
	TBD in future meetings

Expected Points	Applicable Points
408	828

**TOTAL:** 49.28%

# SUSTAINABILITY COST BENEFIT ANALYSIS

W B S C C B A C C E B  
H F R C A A S  
T I  
G G G

## RESULTS

According to our analysis, the project would provide the University with a net payback of \$5,999,422 over the thirty-year period following it being built based on total annual savings of \$215,733.

G C T LEED G G G

## NOTES

T

E S

T

OB

W B S  
M SC



S  
C B A O

C C B H  
D  
C L G G  
B A W B S

A E C S

C C  
R F  
G G NCD R O S A  
A T F F

E D C S  
G G A C C  
E M  
F B C I  
D S R  
O R BOD C D A  
F T HVAC BAS L C  
S M C R

I E C C  
H C E

T C C

O C S S

B A B O C A C C  
B S U C  
W S  
B M

30 Year Baseline Cost \$ 22,078,850

C B E O C A C C  
B S U C R  
W R  
B M R  
C E I R

30 Year Proposed Cost \$ 15,214,904

S E

S  
C B A O

C C B H  
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C L G G  
B A B W B S

S A

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C GBI C  
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B E A E S T F W  
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SCE O W W S M CB ECS U A M  
C S C W S A S U A M  
O S C S L B N L  
S NCBC

# S U S D

C C B H

D  
C L G G  
B A W B S  
B

# D

**Total Building Area** **175,500 gsf**

R H D  
H E  
R  
R

**Notes**

T T E S M

# E S C

**Construction Cost Budgets**

**Budget Figures**

R H B  
H C B

**Total \$ 15,930,000**

**4.5% Hard Cost Premium for Efficient Systems**

**\$ 716,850**

**Notes**

D U

LEED G G T  
WBS  
D S  
D B S

# U C E

**Energy** **kBtu** **kWh** **Cost**

M E U B  
E U B

*Savings (25% per USGBC report)* 4,315,195 1,264,711

*Cx Savings (15% per LBNL Report)*

**Water** **Gals/gsf** **Gallons** **Cost**

M W U  
W U

*Savings (11% per USGBC report)* 4.6 803,088

# S U S D

D  
C L  
B A  
B

C C B H

G G

W B S

Maintenance	\$/gsf	Cost
M M C		
M M C		
Savings (20% per USGBC report)	\$ 0.09	\$ 15,444

**Total Annual Savings** **\$ 228,798**

**Notes**

M E S T F

W

M CBECs GSF L

M ASUM A M O

C S C C C M E S

G E S O

S L B N L

NCBC

E W W C

C D E S C SCE O N

W C

W S I C M

T E W USGBC R

# SUSTAINABILITY COST BENEFIT ANALYSIS

College of Charleston – Berry Hall Renovation

## PORTFOLIO MANAGER ASSUMPTIONS AND RESULTS

### PROPERTY USE DETAILS

These figures were derived from a mix of original project drawings from 1988, renovation drawings from the early 2000's, and program information provided by the design team. They may not precisely match the categories listed in the Phase I Submission as Energy Star has different space type categories sets than what is listed in the drawings.

Some spaces, including the Hungry Cougar café and the retail space on the first floor, were included within the Energy Star model but are not specifically within the scope of the project. These spaces were included in the benchmarking as they may be affected by deferred maintenance work planned in the project and to ensure a more accurate overall energy use baseline for the facility.

Assumptions about hours, users, computers, etc. were inferred from project descriptions and program and default assumptions built into Energy Star. Student and staff counts are based on reasonable interpretation of drawings, not code allowable occupancy which is typically much higher than actual use.



Whole Building Systems  
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[843.259.1303](tel:843.259.1303)

# SUSTAINABILITY COST BENEFIT ANALYSIS

## College of Charleston – Berry Hall Renovation

▼ **Residence Hall/Dormitory Use** / [Edit Name](#)
Delete

Residence Hall/Dormitory refers to buildings associated with educational institutions or military facilities which offer multiple accommodations for long-term residents.

Gross Floor Area should include all space within the building(s), including bedrooms, common areas, food service facilities, laundry facilities, meeting spaces, exercise rooms, health club/spas, lobbies, elevator shafts, storage areas, and stairways.

Property Use Detail	Value
★ Gross Floor Area	* 151,103 <input style="width: 80px;" type="text"/> Sq. Ft. ▼
★ Number of Rooms	307 <input style="width: 80px;" type="text"/> <input type="checkbox"/> Use a default
Computer Lab	Yes ▼
Dining Hall	No ▼
★ Percent That Can Be Heated	All of it - 100% ▼ <input type="checkbox"/> Use a default
★ Percent That Can Be Cooled	All of it - 100% ▼ <input type="checkbox"/> Use a default

★ This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

This is the primary use of the property. Any space not included in the calculations for the other uses below was assigned as Residence Hall/Dorm.



# SUSTAINABILITY COST BENEFIT ANALYSIS

## College of Charleston – Berry Hall Renovation

▼ **College/University Use** / [Edit Name](#)
Delete

College/University refers to buildings used for the purpose of higher education. This includes public and private colleges and universities.

Gross Floor Area should include all space within the building(s), including classrooms, laboratories, offices, cafeterias, maintenance facilities, arts facilities, athletic facilities, residential areas, storage rooms, restrooms, elevator shafts, and stairways.

Property Use Detail	Value
Gross Floor Area	<input style="width: 100%; border: 1px solid #ccc;" type="text" value="15,330"/> <span style="float: right; border: 1px solid #ccc; padding: 2px 5px;">Sq. Ft. ▼</span>
Weekly Operating Hours	<input style="width: 100%; border: 1px solid #ccc;" type="text" value="60"/>
Enrollment	<input style="width: 100%; border: 1px solid #ccc;" type="text" value="120"/>
Number of Full-Time Equivalent (FTE) Workers	<input style="width: 100%; border: 1px solid #ccc;" type="text" value="10"/>
Number of Computers	<input style="width: 100%; border: 1px solid #ccc;" type="text" value="20"/>
Grant Dollars	<input style="width: 100%; border: 1px solid #ccc;" type="text"/>

This use covers the Honors College spaces that are primarily a mix of classrooms and offices.



# SUSTAINABILITY COST BENEFIT ANALYSIS

## College of Charleston – Berry Hall Renovation

▶ **Restaurant Use** / [Edit Name](#)
Delete

Restaurant refers to buildings used for preparation and sale of ready-to-eat food and beverages, but which do not fit in the fast food property type. Examples include fast casual, casual, and fine dining restaurants.

Gross Floor Area should include all space within the building(s), including kitchens, sales areas, dining areas, offices, staff break rooms, and storage areas. Gross Floor Area should *not include* any outdoor/exterior seating areas, but the energy use of these outdoor areas should be reported on your energy meters.

Property Use Detail	Value
Gross Floor Area	* <input style="width: 100%;" type="text" value="7,753"/> <span style="float: right; border: 1px solid #ccc; padding: 2px;">Sq. Ft. ▼</span>
Weekly Operating Hours	<input style="width: 100%;" type="text" value="84"/>
Number of Workers on Main Shift	<input style="width: 100%;" type="text" value="8"/>
Number of Computers	<input style="width: 100%;" type="text" value="8"/>

This is the Hungry Cougar café on the first floor. This is not within the scope of the renovation but may be affected by deferred maintenance work planned for the facility.



# SUSTAINABILITY COST BENEFIT ANALYSIS

## College of Charleston – Berry Hall Renovation

▼ Retail Store Use <a href="#">Edit Name</a>		Value	Delete
Property Use Detail			
★ Gross Floor Area	<input type="text" value="1,314"/> Sq. Ft. ▼		
★ Weekly Operating Hours	<input type="text" value="65"/> Use a default <input checked="" type="checkbox"/>		
★ Number of Workers on Main Shift	<input type="text" value="1.31"/> Use a default <input checked="" type="checkbox"/>		
★ Number of Open or Closed Refrigeration/Freezer Units	<input type="text" value="0"/> Use a default <input checked="" type="checkbox"/>		
Length of All Open or Closed Refrigeration/Freezer Units	<input type="text" value="0"/> Ft. ▼ Use a default <input checked="" type="checkbox"/>		
★ Number of Walk-in Refrigeration/Freezer Units	<input type="text" value="0"/> Use a default <input checked="" type="checkbox"/>		
Area of All Walk-in Refrigeration/Freezer Units	<input type="text"/> Sq. Ft. ▼		
★ Single Store	Yes ▼ <input type="checkbox"/> Use a default		
★ Exterior Entrance to the Public	Yes ▼ <input type="checkbox"/> Use a default		
Number of Computers	<input type="text" value="0.26"/> Use a default <input checked="" type="checkbox"/>		
Number of Cash Registers	<input type="text" value="0.39"/> Use a default <input checked="" type="checkbox"/>		
Cooking Facilities	No ▼		
★ Percent That Can Be Heated	All of it - 100% ▼ <input type="checkbox"/> Use a default		
★ Percent That Can Be Cooled	All of it - 100% ▼ <input type="checkbox"/> Use a default		
★ This Use Detail is used to calculate the 1-100 ENERGY STAR Score.			

This represents the 1<sup>st</sup> floor retail space. This is not within the scope of the renovation but may be affected by deferred maintenance work planned for the facility.



# SUSTAINABILITY COST BENEFIT ANALYSIS

## College of Charleston – Berry Hall Renovation

### BASELINE AND 25% ENERGY IMPROVEMENT RESULTS COMPARISON

Note that WBS took these raw energy results of the “Median Property” and applied cost data from published Dominion Energy average utility rates as published by the SC Energy Office in June 2022 to determine total costs and expected savings, which explains why these figures do not precisely line up with estimated savings and paybacks elsewhere in this report.

#### Metrics Comparison for Your Design and/or Target

Metric	Design Project	Design Target*	Median Property*	Property Measurement in Use
ENERGY STAR score (1-100)	<a href="#">Not Available</a>	<a href="#">Not Available</a>	50	<a href="#">Not Available</a>
Source EUI (kBtu/ft²)	<a href="#">Not Available</a>	159.9	213.2	<a href="#">Not Available</a>
Site EUI (kBtu/ft²)	<a href="#">Not Available</a>	73.8	98.4	<a href="#">Not Available</a>
Source Energy Use (kBtu)	<a href="#">Not Available</a>	28,062,450.0	37,416,600.0	<a href="#">Not Available</a>
Site Energy Use (kBtu)	<a href="#">Not Available</a>	12,945,585.0	17,260,780.0	<a href="#">Not Available</a>
Energy Cost (\$)	<a href="#">Not Available</a>	311,436.44	415,248.59	<a href="#">Not Available</a>
Total GHG Emissions (Metric Tons CO2e)	0.0	936.8	1,249.1	<a href="#">Not Available</a>

\* To perform calculations for your design target, we use the fuel mix that you've entered for your design energy estimates. If you have not entered estimated design energy, we'll use the average for your state. To perform calculations for the national median, we will assume the fuel mix and operational details of your property measurement in use, if available. Otherwise, we will use your design estimates.

Civil/Site Plans



Architectural Plans

DESIGN/CONSTRUCTION CODES AND STANDARDS

- REBECCA DEBONIS, LICENSED ARCHITECT
1. International Building Code (IBC), 2018 Edition
2. International Fire Code (IFC), 2018 Edition
3. International Energy Conservation Code (IECC), 2018 Edition
4. International Fuel Gas Code (IFGC), 2018 Edition
5. International Mechanical Code (IMC), 2018 Edition
6. International Plumbing Code (IPC), 2018 Edition
7. Section 508.3
8. International Property Maintenance Code (IPMC), 2018 Edition
9. International Sign Code (ISC), 2018 Edition
10. International Stormwater Management Practices Code (ISMP), 2018 Edition
11. State Fire Marshal's Code (SFC), 2018 Edition
12. State Fire Marshal's Code (SFC), 2018 Edition
13. State Fire Marshal's Code (SFC), 2018 Edition
14. State Fire Marshal's Code (SFC), 2018 Edition
15. State Fire Marshal's Code (SFC), 2018 Edition
16. State Fire Marshal's Code (SFC), 2018 Edition
17. State Fire Marshal's Code (SFC), 2018 Edition
18. State Fire Marshal's Code (SFC), 2018 Edition
19. State Fire Marshal's Code (SFC), 2018 Edition
20. State Fire Marshal's Code (SFC), 2018 Edition

ZONING CERTIFICATION

I hereby certify that the use, location, height, area, and other characteristics of the proposed project are in accordance with the zoning ordinance of the City of Charleston, South Carolina, and that the project has been determined to be a permitted use under the zoning ordinance.

Signature: \_\_\_\_\_ Date: 12-22-2022
Project Name: Berry Residence Hall and Honors Program Renovation
Address: 80A St Philip Street, Charleston, SC 29403

EROSION AND SEDIMENT REDUCTION/STORMWATER MANAGEMENT

Design and construction shall conform to the requirements of the South Carolina Stormwater Management Manual (SCSM) and the National Best Management Practices (NBMP) manual. The project shall implement the following measures to prevent erosion and sedimentation during construction:

TABLE 3. BASIC BUILDING CODE INFORMATION

Table with 2 columns: Code Name and Code Section. Includes codes such as IBC 2018, IFC 2018, IECC 2018, IFGC 2018, IMC 2018, and IPMC 2018.

TABLE 3E CODE INFORMATION FOR ADDITIONS, ALTERATIONS, OR CHANGE OF OCCUPANCY TO AN EXISTING STRUCTURE

TYPE OF PROJECT: Alteration (Type 1)
METHODOLOGY: Alteration Level 1, minor including reworking (Ch. 7)
Change of Occupancy: Yes

TABLE 3F BUILDING HEIGHT & AREA - EXISTING

Table with 4 columns: Area, Height, Volume, and Notes. Shows existing building footprint and volume.

TABLE 3G BUILDING DESIGN FOOTPRINT LANDING

Table with 4 columns: Area, Height, Volume, and Notes. Shows design footprint and volume for the proposed addition.

TABLE 3H GENERAL PROTECTION REQUIREMENTS

Table with 2 columns: Requirement and Status. Lists various safety and protection requirements.

TABLE 7 THE MOST RESTRICTIVE RATING OF BUILDING ELEMENTS

Table with 4 columns: Building Element, Rating, and Notes. Lists building elements like walls, floors, and roofs with their respective ratings.

TABLE 8 STRUCTURAL BRISKENESS INFORMATION

Table with 4 columns: Building Element, Rating, and Notes. Lists structural elements like columns and beams with their respective ratings.

TABLE 9 PLUMBING INFORMATION

Table with 4 columns: Building Element, Rating, and Notes. Lists plumbing elements like pipes and fixtures with their respective ratings.

TABLE 10 ELECTRICAL INFORMATION

Table with 4 columns: Building Element, Rating, and Notes. Lists electrical elements like wiring and panels with their respective ratings.

TABLE 11 MECHANICAL INFORMATION

Table with 4 columns: Building Element, Rating, and Notes. Lists mechanical elements like HVAC and plumbing with their respective ratings.

TABLE 12 MECHANICAL INFORMATION

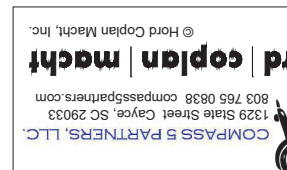
Table with 4 columns: Building Element, Rating, and Notes. Lists mechanical elements like HVAC and plumbing with their respective ratings.

TABLE 13 MECHANICAL INFORMATION

Table with 4 columns: Building Element, Rating, and Notes. Lists mechanical elements like HVAC and plumbing with their respective ratings.

TABLE 14 MECHANICAL INFORMATION

Table with 4 columns: Building Element, Rating, and Notes. Lists mechanical elements like HVAC and plumbing with their respective ratings.



COMPASS 5 PARTNERS, L.L.C.
129 State Street, Suite 200, Charleston, SC 29403
803.765.0838
compass5partners.com

COLLEGE of CHARLESTON
Berry Residence Hall and Honors Program Renovation
80A St Philip Street, Charleston, SC 29403

SCHEMATIC REVIEW (NOT FOR CONSTRUCTION)
2022 COMPASS 5 PARTNERS, L.L.C.
Internal Project Number: 220003



















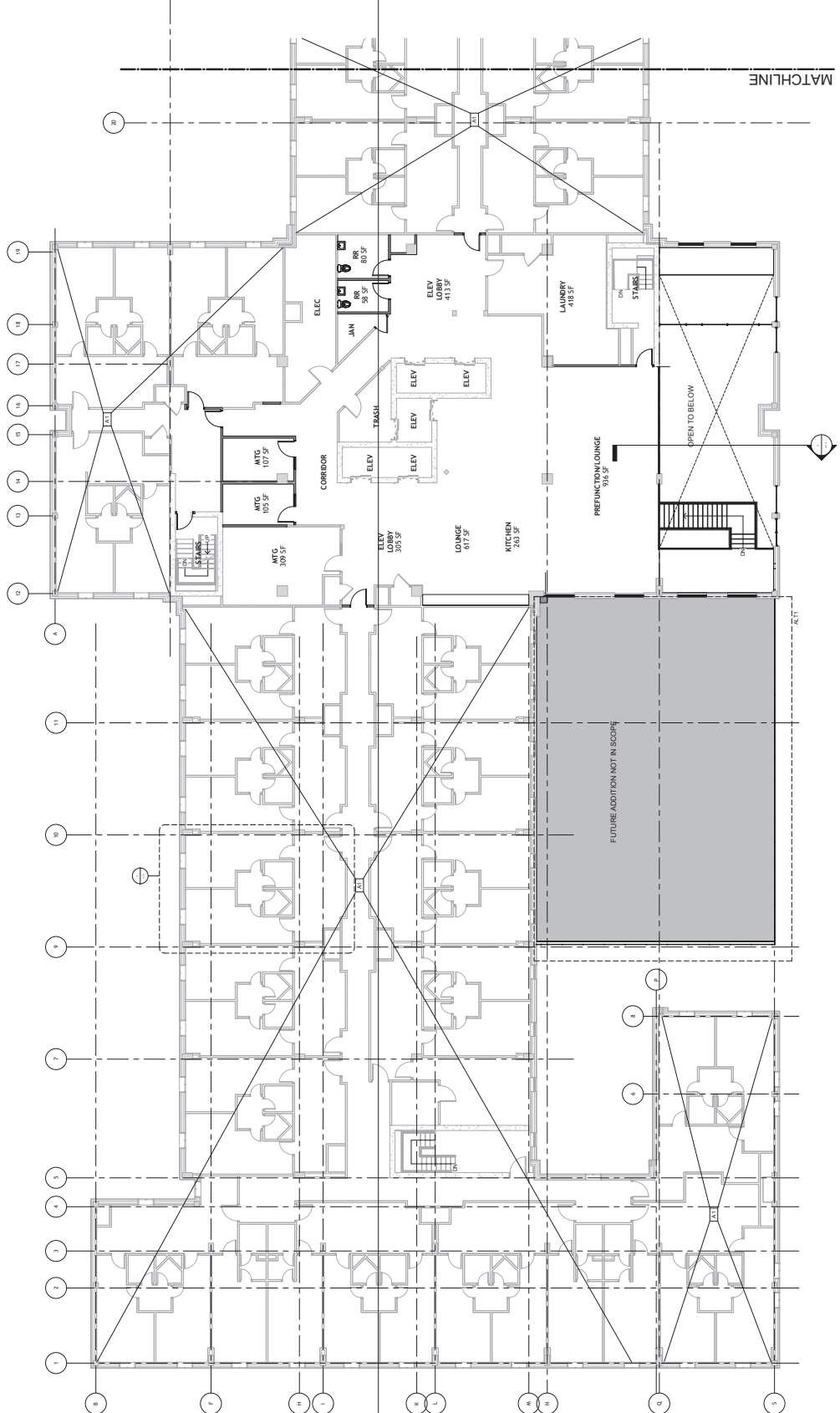
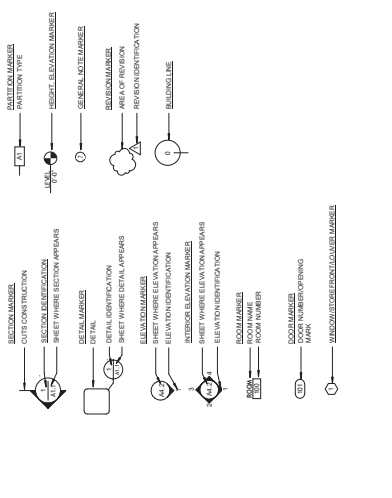




**KEYNOTES**

1. NOT TO SCALE

- GENERAL PLAN NOTES**
1. FIELD VERIFY EXISTING OR CURRENT CONSTRUCTION AND RECORD CONDITIONS PRIOR TO THE START OF NEW CONSTRUCTION.
  2. DIMENSIONS SHOWN IN PLACE OF FINISHED DIMENSIONS SHALL BE THE FINISHED DIMENSIONS UNLESS NOTED OTHERWISE.
  3. ALL DIMENSIONS SHALL BE TO FACE UNLESS NOTED OTHERWISE.
  4. ALL DIMENSIONS SHALL BE TO FACE UNLESS NOTED OTHERWISE.
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  30. ALL DIMENSIONS SHALL BE TO FACE UNLESS NOTED OTHERWISE.



**SECOND FLOOR PLAN**

DATE: 10/20/2022  
 DRAWN: [Name]  
 CHECKED: [Name]

NO. REVISION / ISSUE DATE

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 Internal Project Number: 00000.00

Schematic Design (NOT FOR CONSTRUCTION)

Berry Residence Hall and Honors Program  
 Renovation  
 ColC Project H15-9678-ML  
 30A St. Philip Street Charleston, SC

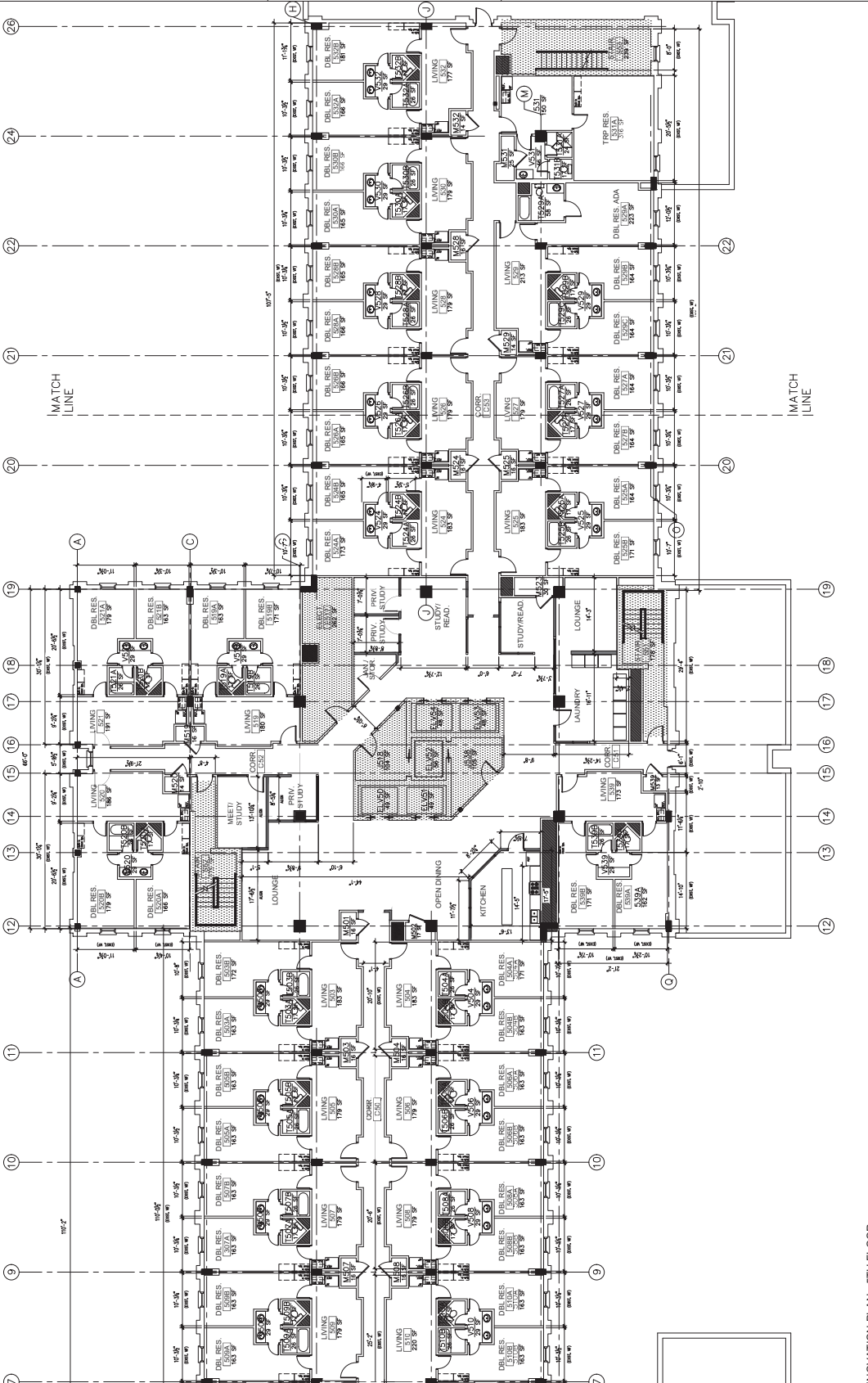
COLLEGE of CHARLESTON

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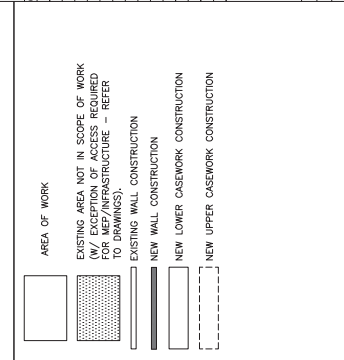
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**COLLEGE of CHARLESTON**  
 Berry Residence Hall and Honors Program Renovation  
 80A St Philip Street Charleston, SC

**SCHEMATIC REVIEW**  
 (NOT FOR CONSTRUCTION)

Internal Project Number:	220003
No.	Revision/Issue
Date	
<b>RENOVATION PLAN</b>	
<b>(5TH &amp; 6TH FLOOR SIM)</b>	
DATE:	12.22.22
DRAWN:	JGB
CHECKED:	MEC
<b>A104</b>	

**RENOVATION PLAN - 5TH FLOOR**  
 (SCOPE INCLUDES 5TH AND 6TH FLOOR. 6TH FLOOR SIMILAR. V.F. COORDINATE WITH ENLARGED PLANS FOR ALL TYPICAL SPACES)



**KEYED RENOVATION NOTES**

1. ADJUST MP TO ACCOMMODATE DIMER UNITS.
- 2.

- GENERAL RENOVATION NOTES**
- A. WHERE EXISTING RATED WALL ASSEMBLIES ARE MODIFIED TO ALLOW FOR NEW WORK THEY SHALL BE RECREATED TO MATCH RATED ASSEMBLY OR EXISTING WALL ASSEMBLIES SHALL BE REPAIRED OR REPLACED TO MAINTAIN LISTED SPECIFICATIONS.
  - B. CO-ORDINATE WITH ALL EQUIPMENT VENDORS, FOR ALL LOCATIONS WHERE EQUIPMENT SHALL BE RELOCATED TO MAINTAIN LISTED SPECIFICATIONS FOR REQUIRED COORDINATION DRAWINGS AND A/V/T COORDINATION.
  - C. PROVIDE A MINIMUM 16 GAUGE SHEET METAL BEGGING FOR ALL WALL PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND A/V/T DOCUMENTS. REMAIN ARE NOT TO BE DISTURBED OR PENETRATED.
  - F. DO NOT SCALE DRAWINGS. USE DIMENSIONS ONLY.
  - G. DOOR FRAMES MOUNTED IN STUD FRAMED GLASSUM WALLS ARE LOCATED 4" OUTSIDE FROM CORNER TO OUTSIDE FACE OF FRAME (PRESS NOTES).
  - H. "PROVIDE" AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS SHALL BE UNDERSTOOD TO MEAN TO INCLUDE FURNISH, INSTALL, AND FINISH COMPLETE AND READY FOR USE.
  - I. "ALIGN" AS INDICATED ON THE DRAWINGS SHALL BE UNDERSTOOD TO MEAN THE WALLS OR COLUMNS INDICATED.
  - J. REFER TO SPECIFICATIONS, AS WELL AS DRAWINGS SHEETS ILLUSTRATING "ALIGN" FOR ADDITIONAL DETAILS AND NOTES.
  - K. EXISTING SPRAY PRE-RESISTIVE MATERIAL TO BE PATCHED/HELLED AS REQUIRED DUE TO WORK OF OTHER TRADES OR DAMAGES FROM DEMOLITION, COMPLETE TO MATCH EXISTING.
  - L. PROVIDE NEW FINISHES THROUGHOUT SCOPE OF WORK TO INCLUDE THE FOLLOWING:
    - L.A. NEW FINISH FLOOR AND BASE COMPLETE, UNO.
    - L.B. NEW ROUGH AND IMPERFECT METHOD IN RESPECT TO GLET AND FINISH.
    - L.C. NEW FINISH GIB CEILING IN RES. SUITES.
    - L.D. NEW FINISH WALLS AND CEILING COMPLETE.
    - L.E. NEW CASEWORK AS SHOWN.
    - L.F. PROVIDE UPPER AND LOWER PLAM CASEWORK IN ALL UPPER SUITES.
    - L.G. MICROWAVE SHELF, ADJUST ELECTRICAL AS NEEDED TO ACCOMMODATE MICROWAVE AND NEW REFRIGERATOR.
    - L.H. PROVIDE 4" X 6" X 1/2" GIBSET SYSTEM IN EACH RESIDENT ROOM.







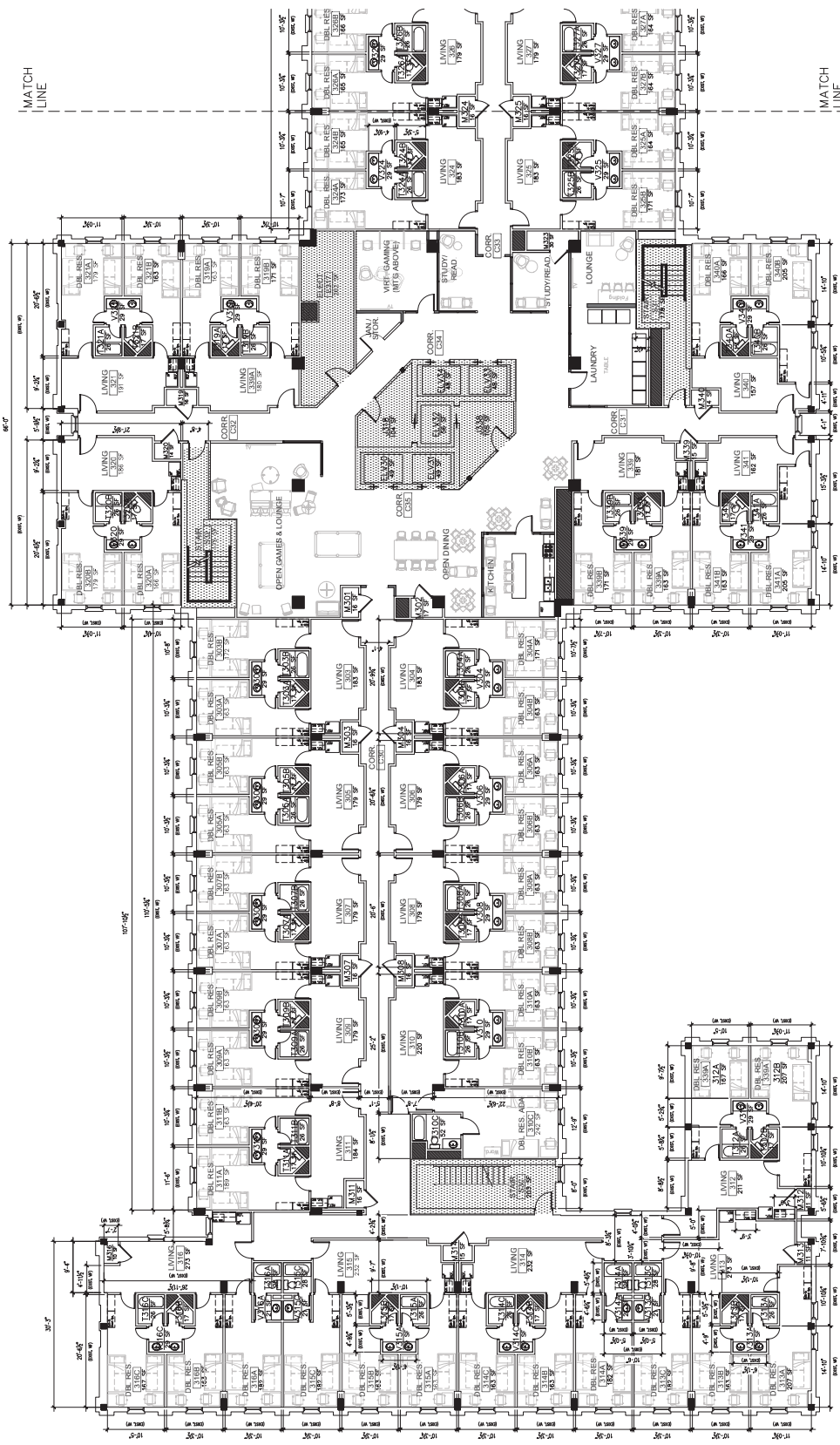
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**SCHEMATIC REVIEW**  
 (NOT FOR CONSTRUCTION)

2022	Compass 5 Partners, L.L.C.	220003
Internal Project Number:		
No.	Revision/Issue	Date
PARTIAL FURNITURE PLAN - NORTH (3RD & 4TH FLOOR SIM) FOR REFERENCE ONLY		
Drawn:	12.22.22	A723.1
Checked:	MEC	



ST. PHILIP STREET

SCALE: 1/8" = 1'-0"

(A1) PARTIAL FURNITURE PLAN - THIRD FLOOR NORTH  
 (SCOPE INCLUDES 3RD AND 4TH FLOOR. 4TH FLOOR SIMILAR. VIF. COORDINATE WITH ENLARGED PLANS FOR ALL TYPICAL SPACES.)

**AREA OF WORK**

- EXISTING AREA NOT IN SCOPE OF WORK (W/ EXCEPTION OF ACCESS REQUIRED TO DRAWINGS)
- EXISTING WALL CONSTRUCTION
- NEW WALL CONSTRUCTION
- NEW LOWER CASEWORK CONSTRUCTION
- NEW UPPER CASEWORK CONSTRUCTION

DATE: 12/22/22  
 A723.1  
 Checked: MEC

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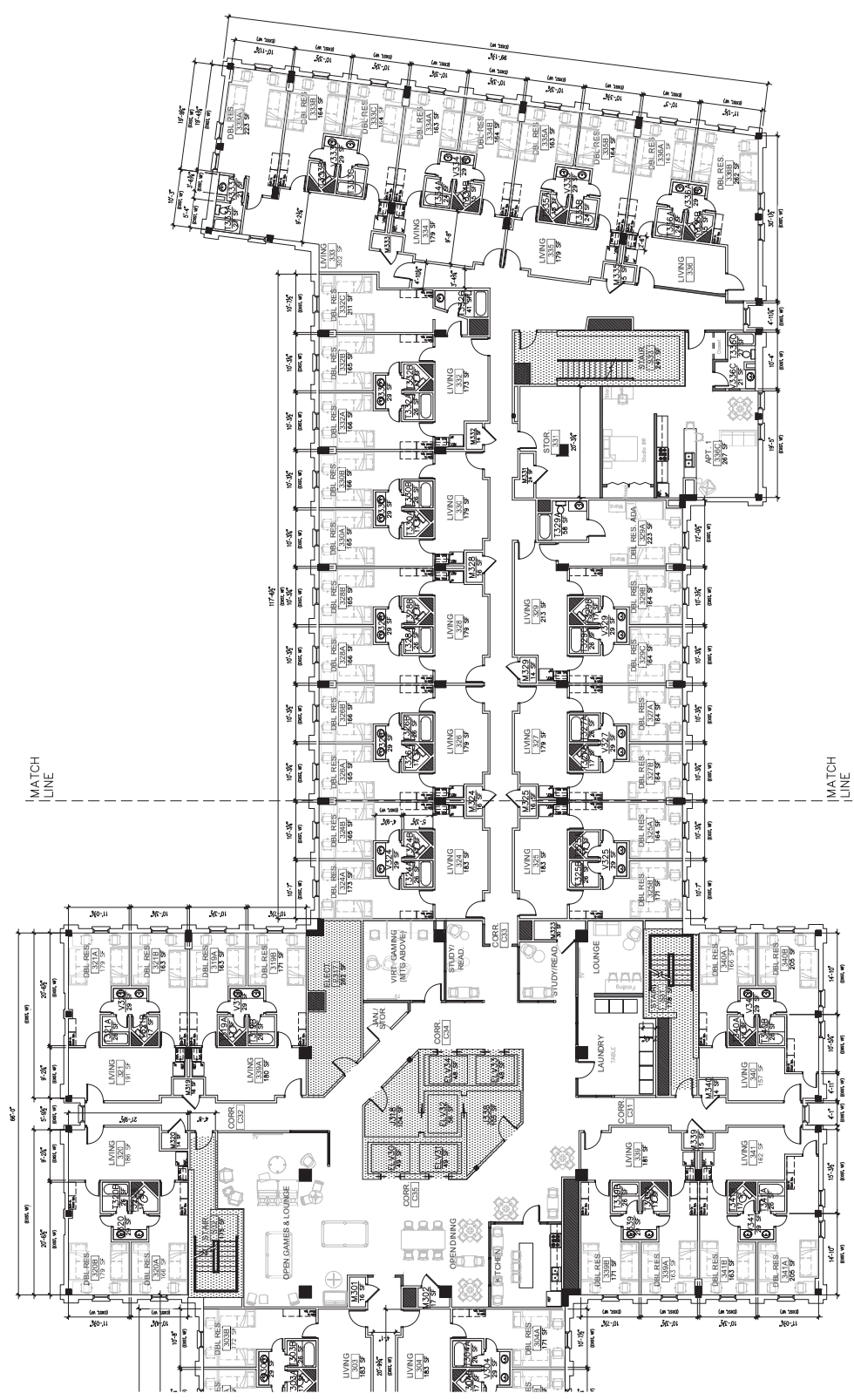
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**COLLEGE of CHARLESTON**  
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 80A St Philip Street Charleston, SC  
 CoFC Project H15-9678-ML

**SCHEMATIC REVIEW**  
 (NOT FOR CONSTRUCTION)

©2022 Compass 5 Partners, L.L.C.	Internal Project Number:	220003
No.	Revision/Issue	Date
PARTIAL FURNITURE PLAN - SOUTH (3RD & 4TH FLOOR SIM) FOR REFERENCE ONLY		
Drawn:	JGB	A723.2
Checked:	MEC	



SCALE: 1/8" = 1'-0"

**AREA OF WORK**

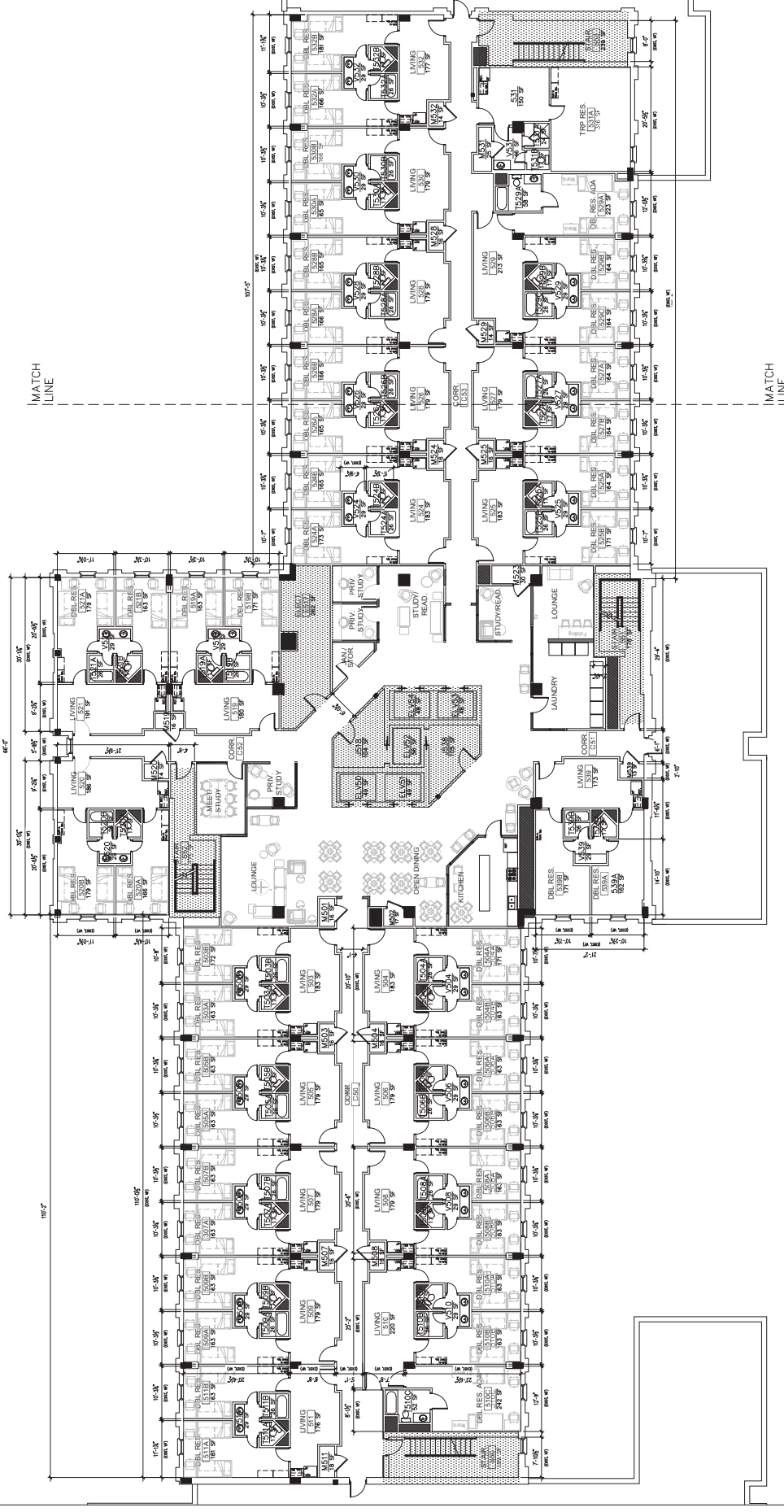
- EXISTING AREA NOT IN SCOPE OF WORK (W/ EXCEPTION OF ACCESS REQUIRED TO DRAWINGS)
- EXISTING WALL CONSTRUCTION
- NEW WALL CONSTRUCTION
- NEW LOWER CASEWORK CONSTRUCTION
- NEW UPPER CASEWORK CONSTRUCTION

ST. PHILIP STREET  
 PARTIAL FURNITURE PLAN - THIRD FLOOR SOUTH  
 (SCOPE INCLUDES 3RD AND 4TH FLOOR, 4TH FLOOR SIMILAR, VIF. COORDINATE WITH ENLARGED PLANS FOR ALL TYPICAL SPACES.)  
 (SCOPE INCLUDES 2ND AND 4TH FLOOR RESIDENT SUITES, 2ND FLOOR SIMILAR, VIF. COORDINATE WITH 2ND FLOOR PARTIAL RENOVATION PLAN - NORTH SHEET A102.)





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Internal Project Number:	Z202003
No.	Revision/Issue
Date	
FURNITURE PLAN (5TH & 6TH FLOOR SIM) FOR REFERENCE ONLY	
DMR:	12.22.22
Drawn:	JGB
Checked:	MEC
A724	



**FURNITURE PLAN - 5TH FLOOR**  
 (SCOPE INCLUDES 5TH AND 6TH FLOOR. 6TH FLOOR SIMILAR, V.F. COORDINATE WITH ENLARGED PLANS FOR ALL TYPICAL SPACES)



- AREA OF WORK**
- EXISTING AREA NOT IN SCOPE OF WORK (W/ EXCEPTION OF ACCESS REQUIRED TO DRAWINGS)
  - EXISTING WALL CONSTRUCTION
  - NEW WALL CONSTRUCTION
  - NEW LOWER CASEWORK CONSTRUCTION
  - NEW UPPER CASEWORK CONSTRUCTION

SCALE: 1/8" = 1'-0"



Code Tables



## DESIGN-RELATED CONSTRUCTION PERMITS / APPROVALS

The following is a list of permits and standards applicable to state construction projects. This is not intended to be a complete list and a permit or standard not listed here may still be applicable.

Agencies and A/Es should use this as a check list for each project by indicating the status of each required permit in the space provided. Include dates of submittal and/or approvals/anticipated approvals. This form may be submitted to OSE when this information is requested; however, it is required. If used, it must show only those permits relative to the project.

TYPE OF DEVELOPMENT	SC LAW / REGULATION	WHERE TO OBTAIN PERMIT/APPROVAL	STATUS
Air pollutant discharge	48-1-100; R61-62.1	SCDHEC - Air Quality Control	<u>N/A</u>
Ambulatory surgical facilities	R61-91	SCDHEC - Health Facilities Construction	<u>N/A</u>
Asbestos abatement	R61-86.1	SCDHEC - Air Quality Control	<u>N/A</u>
Building construction, Zoning	6-7-10; 6-9-110	Local Authority	<u>In Process</u>
Community residential care facilities	R61-84	SCDHEC - Health Facilities Construction	<u>N/A</u>
Construction in critical coastal areas	48-39-10, 130, 190	SCDHEC - OCRM	<u>N/A</u>
Construction in navigable waters	49-1-16	SCDHEC - Water Pollution Control	<u>N/A</u>
Dams and reservoirs	49-11-200; R72-1, 2, 3	SCDHEC - Water Pollution Control	<u>N/A</u>
Demolition of Real Property	R61-86.1	SCDHEC - Air Quality Control	<u>N/A</u>
Design Review Board (BARs, SC Dept Archives & History, etc.)	Various local	Various local	<u>In Process</u>
Educational facilities (K - 12)	59-23-210	SC Dept. of Ed. – Office of School Facilities	<u>N/A</u>
Elevators	41-16-90	SC Department of LLR	<u>N/A</u>
Fire Department (Local)	Various local	Servicing Fire Department	<u>N/A</u>
Fire Protection Sprinkler	40-10	State Fire Marshal	<u>TBD</u>
Fire suppression systems	R71-8303	State Fire Marshal	<u>TBD</u>
Floodplains, construction in	OSE Manual Chpt 5	Office of State Engineer	<u>N/A</u>
Food service establishments	R61-25	SCDHEC – Local County Health Dept.	<u>N/A</u>
Historical building rehabilitation	R12-125	Archives and History, Local Authority	<u>N/A</u>
Hospitals & infirmaries	R61-16	SCDHEC - Health Facilities Construction	<u>N/A</u>
Road encroachment, local	57-7-60	Local City or County Authority	<u>N/A</u>
Road encroachment, state	57-5-1080	Local SCDOT Maintenance Office	<u>N/A</u>
Sanitary sewer; treatment & disposal	R61-56, 57	SCDHEC – Domestic Wastewater	<u>N/A</u>
Storm water discharge, erosion and sediment control	R61-9; R72-100-108	SCDHEC – Water Pollution Control; State Engineer; Local Authority	<u>TBD</u>
Swimming areas, natural public	R61-50	SCDHEC – Water Supply Construction	<u>N/A</u>
Swimming pools, public	R61-51	SCDHEC – Water Supply Construction	<u>N/A</u>
Underground storage tanks	R61-92	SCDHEC – Groundwater Protection	<u>N/A</u>
Waste discharge (sewage, industrial waste, etc.)	48-1-100, 110; R61-9	SCDHEC – Water Pollution Control	<u>N/A</u>
Water supply	44-55-40; R61-57, 58	SCDHEC – Water Supply Construction	<u>N/A</u>
Wells, Underground injection	R61-71, 87	SCDHEC – Groundwater Protection	<u>N/A</u>

**TABLE 1 FLOOD HAZARD INFORMATION & FLOOD LOADS****FLOOD HAZARD AREA**Flood Map Information: Flood Zone: X (A Floodplain Permit is required for A and V Zones)Community Number: 455412 Panel Number: 0512KIs the Project Site in a 100-Year Floodplain? Yes  No Base Flood Elevation (NGVD or FIRM) N/A MSLDesign Flood Elevation (IBC 1612.3 and ASCE 24) N/A MSL**NON HIGH-VELOCITY WAVE ACTION**Elevation of Lowest Proposed Floor (ASCE 24, Chapter 2) N/A MSLDry floodproofing (ASCE 24) Yes  No **HIGH-VELOCITY WAVE ACTION**Elevation of bottom of Lowest Horizontal Structural Member of lowest floor N/A MSLFlotation resistant (ASCE 24) Yes  No Breakaway wall (ASCE 24) Yes  No 

IBC 1612 and SE-510, as applicable

<b>TABLE 2 SOILS &amp; SITE</b>	
<b>SOILS INVESTIGATION</b> (If required - IBC 1803.2)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b><u>SOILS CLASSIFICATION</u></b>	
Site Class (IBC 1613.2.2)	<u>TBD</u>
Classes Soil of Materials (UCS System) (IBC 1803.5.1)	<u>TBD</u>
Allowable Footing Bearing Pressure	<u>TBD</u> psf
<b>MINIMUM DESIGN SOIL BEARING LOAD</b> (IBC Table 1806.2)	<u>TBD</u> psf
<b><u>COMPACTION</u></b>	
Subgrade: <u>TBD</u> Percent	
Base: <u>TBD</u> Percent	
Other: _____ Percent	
<b>MINIMUM DESIGN SOIL LATERAL LOAD</b> (IBC 1610.1)	<u>TBD</u> psf
<b><u>FOOTINGS</u></b>	
Undisturbed footings	Yes <input type="checkbox"/> No <input type="checkbox"/>
Compacted Fill Material (IBC 1804.6)	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b><u>ELEVATIONS</u></b>	
Elevation of Water Table:	<u>TBD</u> MSL
Elevation of lowest footing:	<u>TBD</u> MSL
Elevation of lowest floor or basement:	<u>TBD</u> MSL

**NOTE:** Where a fire wall is necessary to separate buildings, each building is to be provided individual code criteria Tables 3 through 14. See IBC 503.1.2.

<b>TABLE 3 BASIC BUILDING CODE INFORMATION</b>		
<b>CONSTRUCTION CLASSIFICATION</b> (IBC 602)	Type: <u>II B</u>	
<b>OCCUPANCY CLASSIFICATION</b> (indicate all) (IBC 302 & 504.2)	<u>R2/B/A2&amp;3</u>	
<b>MOST RESTRICTIVE OCCUPANCY CLASSIFICATION</b> (IBC Tables 504.3, 504.4 & 506.2)	<u>A-2 (IBC Tables 504.3, 504.4 &amp; 506.2)</u>	
Does building require Incidental Use Area Separation? (IBC 509.1)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Mixed Occupancy (IBC 508)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Non separated (IBC 508.3)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Separated (IBC 506.2.2, 506.2.4 & 508.4)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2-way Communication Required (IBC 1009.6.5 & 1009.8)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Fire Apparatus Access and Water Line (IFC 503 & 507)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>OTHER FIRE PROTECTION SYSTEMS, DEVICES or FEATURES</b> If the building has any special or notable fire protection or safety feature or hazard the designers should list them here, describe the performance characteristics and refer to locations in construction documents. (e.g. fire extinguishers, smoke- evacuation/control/compartments - IBC 414.1.3.)		

<b>TABLE 3E CODE INFORMATION FOR ADDITIONS, ALTERATIONS, OR CHANGE OF OCCUPANCY TO AN EXISTING STRUCTURE</b>	
<b>TYPE OF PROJECT:</b>	
<input checked="" type="checkbox"/> Alteration (IEBC Chaps. 7, 8 &9) <input type="checkbox"/> Addition (IEBC Chap. 11) <input type="checkbox"/> Change of Occupancy (IEBC Chap. 10)	
<b>METHOD OF COMPLIANCE:</b> (Check only one Option and all items that apply under that Option.)	<input type="checkbox"/> <b>Option 1: Prescriptive Compliance Method (IEBC Chapter 5)</b>
	<input checked="" type="checkbox"/> <b>Option 2: Work Area Compliance Method (IEBC Chaps. 6-12)</b> <input checked="" type="checkbox"/> Alteration Level 1, minor including reroofing (IEBC Chap. 7) <input checked="" type="checkbox"/> Alteration Level 2, reconfigurations of space (IEBC Chap. 8) <input type="checkbox"/> Alteration Level 3, work area exceeds 50% (IEBC Chap. 9) Aggregate area of building: <u>183,513</u> SF Work area: <u>Level 1: 53,040, Level 2: 83,646</u> SF
	<input type="checkbox"/> <b>Option 3: Performance Compliance Method (IEBC Chap. 13)</b>
Original Building Code and Edition Applicable at time of Construction: <u>1988</u>	
Existing Sprinkler System?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Existing Fire Alarm System?	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Auto
Seismic Evaluation Required?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Major Facility Project? (See §48-52-810(10)(a))	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Change of Occupancy:</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Existing Occupancy Classification(s): <u>Business, Assembly (A-2 &amp; A-3), Residential (R-2)</u>	
New Occupancy Classification(s): <u>Business, Assembly (A-2 &amp; A-3), Residential (R-2)</u>	
<b>Historic Building (IEBC Chapter 12):</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Preservation <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Restoration <input type="checkbox"/> Reconstruction	

<b>TABLE 4 BUILDING HEIGHT &amp; AREA</b>				
<b><u>BUILDING HEIGHT</u></b>				
	<b>AS DESIGNED</b>		<b>AS ALLOWED BY IBC</b>	
	<b>In Feet</b>	<b>In Stories</b>	<b>In Feet</b>	<b>In Stories</b>
<b>IBC TABLE 504.3</b>	<u>72'-10"</u> Exist.	N/A	<u>75'</u>	N/A
<b>IBC TABLE 504.4</b>	N/A	<u>6</u>	N/A	<u>EXISTING</u>
<b>TOTAL HEIGHT</b> (including any Allowable Increase)	<u>72'-10"</u> Exist.	<u>6</u>	<u>75'</u>	<u>EXISTING</u>
<b><u>BUILDING AREA</u></b>				
<b>AREA LIMIT AS ALLOWED BY IBC TABLE 506.2</b> (area limitation for each story)			<u>Unlimited</u> SF	
<b>AREA INCREASES AS ALLOWED BY IBC SECTIONS 506.2 &amp; 506.3</b>			<u>N/A</u> SF (maximum modified area for each story)	
<b>EXPLANATION OF INCREASES:</b> <u>None needed, existing building built in 1988.</u>				
<b>AREA AS ALLOWED BY IBC</b>				
Story: <u>1-6</u>	<u>48,000</u>	SF (area this story)		
Story: _____	_____	SF (area this story)		
Story: _____	_____	SF (area this story)		
Story: _____	_____	SF (area this story)		
Story: _____	_____	SF (area this story)		
<b>TOTAL AREA OF BUILDING ALLOWED BY IBC</b> (sum of all stories)			<u>64,000</u> SF	
<b>AREA AS DESIGNED</b>			<b>ACCESSORY OCCUPANCY</b> (IBC 508.2 & Table 506.2)	
Story: <u>1 EXISTING</u>	<u>34,495</u>	SF (area this story)	_____	SF (area this story)
Story: <u>2 EXISTING</u>	<u>34,488</u>	SF (area this story)	_____	SF (area this story)
Story: <u>3-4 EXISTING</u>	<u>34,255 EA.</u>	SF (area this story)	_____	SF (area this story)
Story: <u>5-6 EXISTING</u>	<u>23,010 EA.</u>	SF (area this story)	_____	SF (area this story)
Story: _____	_____	SF (area this story)	_____	SF (area this story)
<b>TOTAL DESIGNED AREA OF BUILDING</b> (summary of all stories)			<u>183,513 Existing</u> SF	

<b>TABLE 5 BUILDING DESIGN OCCUPANT LOAD</b>					
		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>STORY</b>	<b>FUNCTION OF SPACE <sup>(1)</sup></b>	<b>FLOOR AREA <sup>(2)</sup> (NSF or GSF)</b>	<b>MAX AREA ALLOWED PER OCCUPANT <sup>(3)</sup> (NSF or GSF)</b>	<b>OCCUPANTS ON FLOOR FOR THIS FUNCTION <sup>(4)</sup></b>	<b>DESIGN OCCUPANT LOAD <sup>(5)</sup></b>
<u>1</u>	<u>Business</u>	<u>8,824 GSF</u>	<u>150</u>	<u>59</u>	
	<u>Assembly (A-3)</u>	<u>5,322 NSF</u>	<u>15</u>	<u>355</u>	
	<u>Assembly (A-2)</u>	<u>9,212 NSF</u>	<u>15</u>	<u>615</u>	
	<u>Residential (R-2)</u>	<u>4,102 GSF</u>	<u>200</u>	<u>21</u>	
	<u>Accessory (S-2)</u>	<u>2,726 GSF</u>	<u>300</u>	<u>9</u>	
<b>Subtotal Design Occupant Load for This Story</b>					<u>1,059</u>
<u>2</u>	<u>Residential (R-2)</u>	<u>27,931 GSF</u>	<u>200</u>	<u>140</u>	
	<u>Assembly (A-3)</u>	<u>1,839 NSF</u>	<u>15</u>	<u>123</u>	
	<u>Business</u>	<u>1,023 NSF</u>	<u>150</u>	<u>7</u>	
	<u>Accessory (S-2)</u>	<u>499 GSF</u>	<u>300</u>	<u>2</u>	
<b>Subtotal Design Occupant Load for This Story</b>					<u>272</u>
<u>3 - 4</u>	<u>Residential (R-2)</u>	<u>34,255 GSF</u>	<u>200</u>	<u>172</u>	
	_____	_____	_____	_____	
	_____	_____	_____	_____	
	_____	_____	_____	_____	
<b>Subtotal Design Occupant Load for This Story</b>					<u>344</u>
<u>5</u>	<u>Residential (R-2)</u>	<u>23,010 GSF</u>	<u>200</u>	<u>115</u>	
	_____	_____	_____	_____	
	_____	_____	_____	_____	
	_____	_____	_____	_____	
<b>Subtotal Design Occupant Load for This Story</b>					<u>115</u>
<u>6</u>	<u>Residential (R-2)</u>	<u>23,010 GSF</u>	<u>200</u>	<u>115</u>	
	_____	_____	_____	_____	
	_____	_____	_____	_____	
	_____	_____	_____	_____	
<b>Subtotal Design Occupant Load for This Story</b>					<u>115</u>
<b>TOTAL BUILDING DESIGN OCCUPANT LOAD</b>					<u>1,903 <sup>(6)</sup></u>
<b>FOOTNOTES:</b>					
1. Provide the complete name of the Function of Space using the left column of Table 1004.5 of the IBC <sup>(1)</sup>					
2. Design Area per each occupant of this Function on this Story in either Gross (GSF) or Net (NSF) Square Footage <sup>(2)</sup>					
3. Allowed Floor Areas in SF per Occupant per right column in Table 1004.5 of the IBC <sup>(3)</sup>					
4. Divide Column A (2) by Column B (3) for each function and enter result, rounded up to the nearest whole person <sup>(4)</sup>					
5. Subtotal all Column C values for this floor to yield the Design Occupant Load <sup>(5)</sup>					
6. Total Building Design Occupant Load –sum of all Column D value <sup>(6)</sup>					

<b>TABLE 6 GENERAL FIRE PROTECTION REQUIREMENTS</b>		
<b>SEPARATIONS</b>		
Fireblocking Required (IBC Section 718)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Draftstopping Required (IBC Section 718)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Smoke Control System Required (IBC Section 909)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Smoke Barriers Required (IBC Section 407 & 408)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Smoke Partitions Required (IBC Section 407)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Fire Partition Required (IBC Section 708)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Fire Barrier Required (IBC Section 707)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>ALARM &amp; DETECTION</b>		
Fire Alarm System Required (IFC Section 907)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Emergency/Voice Alarm Communications System Required (IFC Section 907.5.2.2)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Fire Command Center Required (IFC Section 508)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>SUPPRESSION</b>		
Standpipes Required (IFC Section 905)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sprinklers Required (IFC Section 903)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sprinklers Provided (_____)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Portable extinguishers required (IFC 906)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Other suppression systems required (IFC 904)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Smoke & heat vents required (IFC 910)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>OTHER: (Indicate other provided fire and life safety features not listed above, if any)</b>		
Emergency Responder Radio Coverage (IFC Section 510)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
_____		
_____		
_____		

<b>TABLE 7 FIRE RESISTANCE RATING OF BUILDING ELEMENTS</b>				
<b>BUILDING ELEMENT</b>	<b>RATING AS REQUIRED (in hours)</b>	<b>RATING AS DESIGNED (in hours)</b>	<b>TESTING AGENCY &amp; DESIGN NO. (UL, FM, etc)</b>	<b>DESIGNERS WALL / PARTITION KEY CODE</b>
Primary Structural Frame (IBC Table 601)	<u>0</u>	<u>0</u>	<u>N/A</u>	
Bearing Walls: (IBC Table 601)				
Exterior	<u>0</u>	<u>0</u>	<u>N/A</u>	<u>N/A</u>
Interior	<u>0</u>	<u>0</u>	<u>N/A</u>	<u>N/A</u>
Nonbearing Walls & Partitions (IBC Table 601, including footnote "d" & 602)				
Exterior	<u>0</u>	<u>0</u>	<u>N/A</u>	<u>TBD</u>
Interior	<u>0</u>	<u>0</u>	<u>N/A</u>	<u>TBD</u>
Floor Construction (IBC Table 601) (including supporting beams & joists)	<u>0</u>	<u>0</u>	<u>N/A</u>	
Roof Construction (IBC Table 601) (including supporting beams & joists)	<u>0</u>	<u>0</u>	<u>N/A</u>	
Fire Walls (IBC Section 706)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Fire Barriers (IBC Section 707)	<u>2</u>	<u>2</u>	<u>TBD</u>	<u>TBD</u>
Shaft Enclosures (IBC Section 713)	<u>2</u>	<u>2</u>	<u>U411</u>	<u>EXISTING</u>
Fire Partitions (IBC Section 708)	<u>1</u>	<u>1</u>	<u>TBD</u>	<u>TBD</u>
Opening & Protective Listing by Category (fire shutters, doors, etc. - IBC Section 716)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Others (as required by Designer)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

**TABLE 8 STRUCTURAL DESIGN INFORMATION****RISK CATEGORY** (IBC Table 1604.5): 2**LIVE LOADS**

Floor Live Load(s)

Occupancy/Use: Lobby Area  $F_{ll} = 100$  PSFOccupancy/Use: Dorm Rooms  $F_{ll} = 40$  PSFOccupancy/Use: \_\_\_\_\_  $F_{ll} =$  \_\_\_\_\_ PSFOccupancy/Use: \_\_\_\_\_  $F_{ll} =$  \_\_\_\_\_ PSF

Roof Live Load

 $R_{ll} = 20$  PSF

Ground Snow Load (IBC Figure 1608.2 or ASCE 7)

 $p_g = 5$  PSF**WIND LOADS**

Analysis Procedure (ASCE 7 or IBC 1609.6):

ASCE 7

Basic Design Wind Speed (IBC Fig's. 1609.3(1)-(4)):

 $V = 147$  MPH

Exposure Category (IBC 1609.4.3):

B

Internal Pressure Coefficient (ASCE 7):

 $GC_{pi} = 0.18$ 

External Pressure Coefficient (ASCE 7):

 $GC_p = 0.8$ 

Protection of Openings Required (IBC 1609.2):

Yes  No 

If "Yes", check one:

Impact Resistant Glazing Impact Resistant Covering **SEISMIC LOADS**

Seismic Importance Factor (ASCE 7 Table 1.5-2):

 $I_e = 1.00$ 

Site Class (IBC 1613.2.2):

D

Mapped Spectral Response Accelerations:

 $S_s = 1.349$  $S_1 = 0.396$ 

Design Spectral Response Acceleration Parameters:

 $S_{DS} = 1.079$  $S_{D1} = 1.22$ 

Seismic Design Category

(IBC Tables 1613.2.5, 1613.2.5.1 or 1613.2.5.2):

D

Basic Seismic Force Resisting System:

Concrete Shear Walls

Design Base Shear (ASCE 7 Chapter 12):

N/A

KIPS

Seismic Response Coefficient(s) (ASCE 7):

 $C_s = N/A$ 

Response Modification Factor(s) (ASCE 7):

 $R = 5$ 

Analysis Procedure:

ELFP**ARCHITECTURAL-MECHANICAL-ETC. LOADS**

Provide as applicable: architectural items, mechanical, plumbing, etc. (ASCE 7) \_\_\_\_\_

**SPECIAL LOADS**

Provide as applicable: abnormal items, moving loads, impact, hoisting, etc. (ASCE 7) \_\_\_\_\_

\*IBC Chapter 16 and ASCE 7 -- Information may be shown on initial Structural Sheet of the drawings or on Sheet with other code information. List floor design loads on structural plans.

**TABLE 9 PLUMBING INFORMATION**

**WATER SYSTEM:** Service Line Size: EXISTING \_\_\_\_\_ Inches  
Peak Flow: TBD \_\_\_\_\_ GPM Total Demand: TBD \_\_\_\_\_ No. Fixture Units

**SANITARY SEWER SYSTEM:** Loading: EXISTING \_\_\_\_\_ GPD  
Service Line Size: N/A \_\_\_\_\_ Inches Slope: N/A \_\_\_\_\_ min inches/ft

**MINIMUM PLUMBING FIXTURES REQUIRED BY OCCUPANCY** (IPC Section 403 & Table 403.1)All Occupancy Classification(s) (same as OSE Table 3): R-2 Residential, B- Business, A-2 & A-3 AssemblyTotal Building Design Occupant Load (same as OSE Table 6): 1,905**1.** Occupancy: B + S-2 (Acc. to B) Total Load for this Occupancy: 77 Male: 39 Female: 39Water Closets/ Urinals (IPC Section 424.2): MALE: 2.00 (# Urinals allowed -0.50) FEMALE: 2.00Lavatories: MALE: 1 FEMALE: 1.00Drinking Fountains 1.00Unisex Toilet 0.00Service Sink 1.00Other (list) \_\_\_\_\_ 0.00**2.** Occupancy: Assembly (A-2) EXIST Total Load for this Occupancy: 615 Male: 308 Female: 308Water Closets/ Urinals (IPC Section 424.2): MALE: EXIST (# Urinals allowed -0.67) FEMALE: EXISTLavatories: MALE: EXIST FEMALE: EXISTDrinking Fountains EXISTUnisex Toilet EXISTService Sink EXISTOther (list) \_\_\_\_\_ EXIST**3.** Occupancy: Assembly A-3 Total Load for this Occupancy: 478 Male: 239 Female: 239Water Closets/ Urinals (IPC Section 424.2): MALE: 2.00 (# Urinals allowed -0.67) FEMALE: 4.00Lavatories: MALE: 2.00 FEMALE: 2.00Drinking Fountains 1.00Unisex Toilet 0.00Service Sink 1

Other (list) \_\_\_\_\_ \_\_\_\_\_

**TOTAL BUILDING COUNT REQUIRED/PROVIDED (add all occupancies)**

<i>Note: Round up all numbers Whole numbers only</i>	REQUIRED		PROVIDED	
	Male	Female	Male	Female
Total Water Closets/ Urinals	_____ (# Urinals allowed _____)	<u>3</u>	_____ (# Urinals provided _____)	_____
Total Lavatories	_____	<u>1</u>	_____	_____
Total Drinking Fountains	_____	_____	_____	_____
Total Unisex Toilets	_____	_____	_____	_____
Total Service Sinks	_____	_____	_____	_____
Total Other (list): _____	<u>0</u>	_____	<u>N/A</u>	_____

**TABLE 9 PLUMBING INFORMATION**

**WATER SYSTEM:** Service Line Size: EXISTING \_\_\_\_\_ Inches  
 Peak Flow: TBD \_\_\_\_\_ GPM Total Demand: TBD \_\_\_\_\_ No. Fixture Units

**SANITARY SEWER SYSTEM:** Loading: EXISTING \_\_\_\_\_ GPD  
 Service Line Size: N/A \_\_\_\_\_ Inches Slope: N/A \_\_\_\_\_ min inches/ft

**MINIMUM PLUMBING FIXTURES REQUIRED BY OCCUPANCY** (IPC Section 403 & Table 403.1)

All Occupancy Classification(s) (same as OSE Table 3): R-2 Residential, B- Business, A-2 & A-3 Assembly

Total Building Design Occupant Load (same as OSE Table 6): 1,905

**1.** Occupancy: R-2 Total Load for this Occupancy: 735 Male: 368 Female: 368

Water Closets/ Urinals (IPC Section 424.2): MALE: EXIST (# Urinals allowed \_\_\_\_\_) FEMALE: EXIST

Lavatories: MALE: EXIST FEMALE: EXIST

Drinking Fountains \_\_\_\_\_ EXIST \_\_\_\_\_

Unisex Toilet \_\_\_\_\_ EXIST \_\_\_\_\_

Service Sink \_\_\_\_\_ EXIST \_\_\_\_\_

Other (list) \_\_\_\_\_

**2.** Occupancy: \_\_\_\_\_ Total Load for this Occupancy: \_\_\_\_\_ Male: \_\_\_\_\_ Female: \_\_\_\_\_

Water Closets/ Urinals (IPC Section 424.2): MALE: \_\_\_\_\_ (# Urinals allowed \_\_\_\_\_) FEMALE: \_\_\_\_\_

Lavatories: MALE: \_\_\_\_\_ FEMALE: \_\_\_\_\_

Drinking Fountains \_\_\_\_\_

Unisex Toilet \_\_\_\_\_

Service Sink \_\_\_\_\_

Other (list) \_\_\_\_\_

**3.** Occupancy: \_\_\_\_\_ Total Load for this Occupancy: \_\_\_\_\_ Male: \_\_\_\_\_ Female: \_\_\_\_\_

Water Closets/ Urinals (IPC Section 424.2): MALE: \_\_\_\_\_ (# Urinals allowed \_\_\_\_\_) FEMALE: \_\_\_\_\_

Lavatories: MALE: \_\_\_\_\_ FEMALE: \_\_\_\_\_

Drinking Fountains \_\_\_\_\_

Unisex Toilet \_\_\_\_\_

Service Sink \_\_\_\_\_

Other (list) \_\_\_\_\_

**TOTAL BUILDING COUNT REQUIRED/PROVIDED (add all occupancies)**

<i>Note: Round up all numbers Whole numbers only</i>	REQUIRED		PROVIDED	
	Male	Female	Male	Female
Total Water Closets/ Urinals	_____ (# Urinals allowed _____)	<u>3</u>	_____ (# Urinals provided _____)	_____
Total Lavatories	_____	<u>1</u>	_____	_____
Total Drinking Fountains	_____	_____	_____	_____
Total Unisex Toilets	_____	_____	_____	_____
Total Service Sinks	_____	_____	_____	_____
Total Other (list): _____	<u>0</u>	_____	<u>N/A</u>	_____

**TABLE 10 MECHANICAL INFORMATION****AIR COMFORT SYSTEMS**

Overall Thermal Transfer Value (OTTV):	<u>TBD</u>	BTU/(HR x °F x SF)
Building Cooling Load:	<u>450</u>	SF / Ton
Building Heating Load:	<u>N/A</u>	BTU/(HR x SF)

**OTHER LOADING FEATURES**

Glass:	U Factor: <u>N/A</u>	Window to wall ratio: <u>N/A</u>
Insulation Values:	Roof: <u>N/A</u>	Exterior Walls: <u>N/A</u>

Outside Air minimum while occupied:	<u>N/A</u>	CFM	<u>N/A</u>	Occupants
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**MECHANICAL SYSTEMS, SERVICE SYSTEMS & EQUIPMENT**

Briefly describe mechanical system: First floor is chilled water VAV Air handler with electric reheat VAV terminal units. Upper floors are chilled water blower coils with electric heating that provides zone control to each suite. (4) air cooled chillers and (4) Dedicated outdoor air units are existing to remain on the roof.

