

**DESCRIPTION OF INTERIM CAPITAL PROJECT FOR CONSIDERATION**

March 1, 2018

**USC AIKEN**

**PROJECT NAME:** Penland HVAC Replacement

**REQUESTED ACTION:** Establish Project (Phase I)

**REQUESTED ACTION AMOUNT:** \$22,500 (1.5%)

*Internal Projected Cost: \$1,500,000*

**BOARD APPROVAL RECEIVED:** December 19, 2017

**PREVIOUS CHE ACTIONS:** N/A

**DESCRIPTION:**

MUSC requests to establish a project to replace a significant portion of the HVAC system in the Penland Administration Building on the Aiken campus. Issues have increased related to moisture and humidity in the building. The Penland Administration building is the oldest building on campus, built in 1973, and is approximately 58,447 SF. It houses Admissions, the Center for Student Achievement, Business Services, Career Services, Economic Development Partnership, Financial Aid, Human Resources, Math Lab, and Records. Approximately 100 faculty and staff and 675 students on accommodated in this building on a regular basis.

The scope includes replacing four air handlers and installing limited new variable air volume (VAV) units. The existing ductwork, controls, piping, and fire alarms will remain at this time. Due to the necessity of maintaining building operations during construction temporary equipment will be installed, and the cost is included in this project. No additional space will be added.

This project was identified as a priority during the most recent CPIP submission, and is included as priority number one for 2018-19. The renovation was originally planned to be more comprehensive and total \$4 million. There has been a decrease in scope between the time the CPIP was submitted and request to establish the project. The scope has been reduced to align with the available institutional funding and address the main air handlers which would cause the building to be inhabitable should they fail. Should additional funds materialize in the future, the scope will be increased to address the HVAC ductwork, update thermostatic controls, install VAVs, update the fire alarm system and sprinkler system. The source of funds for this project are fully collected and are institutional funds, which accumulate from tuition and fee revenues and sales and service activities. There is no uncommitted balance. Over the next five years, USC Aiken has committed a total of \$6.3 million for four projects including this renovation.

**E&G MAINTENANCE NEEDS:**

The current condition of the building is a 69, and has maintenance needs of \$3.7M. The HVAC system is original to the building and has reached the end of its useful life. This project will address a portion of the University's maintenance needs addressed in the 2017 Building Condition Survey which identified a total of \$7.2 million.

**ADDITIONAL ANNUAL OPERATING COSTS/SAVINGS:**

This project is expected to save \$2,000 per year in energy costs.

<b>Institution Name:</b>	<u>USC Aiken</u>	<b>Respondent:</b>	<u>C.B. "Chuck" Rhoden, Jr., AIA</u>
<b>Building Number:</b>	<u>903</u>		<u>Name</u>
<b>Building Name:</b>	<u>Robert E Penland Administration</u>	<b>Telephone:</b>	<u>(803) 920-6616</u>
<b>Location:</b>	<u>50801</u>	<b>E-Mail:</b>	<u><a href="mailto:chuck@rds-develop.com">chuck@rds-develop.com</a></u>
<b>Gross Square Feet:</b>	<u>58,447</u>		
<b>Year Const / Renov:</b>	<u>1973</u>		
<b>Replacement Cost:</b>	<u>\$12,314,185</u>		

**Comments:**

1. HVAC System requires to be upgraded and current building design does not allow an economical upgrade. 2. Posted evacuation route diagrams... need to be updated, oriented properly for safe and efficient exiting of the building. 3. Courtyard concrete walk, currently a tripping hazard. 4. PENLAND Bldg. is the introduction to the USC Aiken Campus... there is significant maintenance, upgrades and repairs need to the entry and courtyard to reflect the quality standards of USC.

Please do not enter data in the cells below this line. Begin data entry on Page 2.					
	System Avg. Score	Multiplier		System % of Building	Current % Value Bldg.
Foundation	1.000	1.000	x	0.13	= 0.1300
Exterior Walls	2.250	0.725	x	0.13	= 0.0943
Floor	1.667	0.867	x	0.07	= 0.0607
Roof	1.833	0.833	x	0.07	= 0.0583
Interior Walls	2.000	0.800	x	0.03	= 0.0240
Windows	2.600	0.620	x	0.02	= 0.0124
Doors	2.800	0.560	x	0.01	= 0.0056
Ceiling	2.250	0.725	x	0.03	= 0.0218
Heating	3.875	0.238	x	0.10	= 0.0238
Cooling	3.750	0.275	x	0.10	= 0.0275
Plumbing	1.889	0.822	x	0.08	= 0.0658
Electrical	2.500	0.650	x	0.08	= 0.0520
Elevators	1.667	0.867	x	0.01	= 0.0087
Safety	2.333	0.700	x	0.05	= 0.0350
Design Standards	2.000	0.800	x	0.09	= 0.0720
<b>Agency Rating:</b>				<b>1.00</b>	<b>0.692</b>

<b>Replacement Cost:</b>	\$12,314,185
<b>Building Condition:</b>	69
<b>Maintenance Need:</b>	\$3,727,592

Bldg. Avg. Grade	Condition Code	Condition Multiplier	Difference
1	Satisfactory	1.00	
2	Remodel A	0.8	-0.2
3	Remodel B	0.5	-0.3
4	Remodel C	0.2	-0.3
5	Replace	0.00	-0.2

Building Name: Robert E Penland Administration

Building Number: 903

Foundation 1 - 2 - 3 - 4 - 5	Rating
Cracked Walls	1
Foundation Settlement	1
Foundation Deterioration	1
Design Load	1
<b>Average</b>	<b>1</b>

Exterior Wall System 1 - 2 - 3 - 4 - 5	Rating
Physical Condition	3
Waterproofing	2
Caulking	4
Pointing	1
Code Compliance	2
Insulation	1
Maintainability	3
Painting	2
<b>Average</b>	<b>2.25</b>

Floor System 1 - 2 - 3 - 4 - 5	Rating
Structural Condition	2
Maintainability	2
Floor Finish	3
Vibration	1
Fire Rating	1
Design Load	1
<b>Average</b>	<b>1.6667</b>

Roof System 1 - 2 - 3 - 4 - 5	Rating
Physical Condition	3
Leaks	2
Drainage	2
Insulation	2
Fire Rating	1
Design Load	1
<b>Average</b>	<b>1.8333</b>

Interior Wall System 1 - 2 - 3 - 4 - 5	Rating
Physical Condition	2
Strength & Stability	2
Acoustical Quality	2
Appearance	2
Adaptability	2
Maintainability	2
<b>Average</b>	<b>2</b>

Window System 1 - 2 - 3 - 4 - 5	Rating
Physical Condition	2
Appearance	3
Functional Ability	2
Infiltration	3
Maintainability	3
<b>Average</b>	<b>2.6</b>

Age of Roof Cover:	12 yrs
Type of Roof Cover:	EPDM
Flat:	X
Pitched:	Black

Door System 1 - 2 - 3 - 4 - 5	Rating
Door Leaf	4
Frame	2
Hardware	4
Security	3
Fire Rating	1
<b>Average</b>	<b>2.8</b>

Ceiling System 1 - 2 - 3 - 4 - 5	Rating
Structural Condition	2
Accoustical	2
Accessibility	1
Appearance	4
<b>Average</b>	<b>2.25</b>

Heating System 1 - 2 - 3 - 4 - 5	Rating
Heating Capacity	3
Temperature Control	3
Noise Level	4
Air Circulation & Vent	5
Reliability	4
Reasonable Energy Consumption	5
Filtration	3
Humidity	4
<b>Average</b>	<b>3.875</b>
Age of System:	43 yrs
Heating Capacity-BTUs:	UNK

Cooling System 1 - 2 - 3 - 4 - 5	Rating
Cooling Capacity	4
Reasonable Energy Consumption	3
Temperature	2
Noise Level	3
Air Circulation & Vent	4
Reliability	5
Filtration	4
Humidity	5
<b>Average</b>	<b>3.75</b>
Age of System:	43 yrs
Cooling Capacity-Tons:	225

Plumbing System 1 - 2 - 3 - 4 - 5	Rating
Water Pressure & Supply Quantities	1
Sanitation Hazards or Cross Functions	1
Drain & Waste Function	2
Fixture Quantities	1
Fixture Types & Cond.	3
Wheel Chair Fixtures	2
Restroom Facilities	4
Roof Drainage	2
Site Drainage	1
<b>Average</b>	<b>1.8889</b>

Electrical System 1 - 2 - 3 - 4 - 5	Rating
Safety Conditions	2
Service Capacity	3
Panel Capacity	3
Convenience Outlets	3
Light Levels	2
Fixtures	3
Emergency Power	2
Exit Lighting	2
<b>Average</b>	<b>2.5</b>

Elevator System 1 - 2 - 3 - 4 - 5	Rating
Size & Number	1
Maintainability	2
Code Compliance	2
<b>Average</b>	<b>1.6667</b>

Safety Standards 1 - 2 - 3 - 4 - 5	Rating
Means of Egress	2
Fire Ratings	1
Extinguishing Systems	4
Detection & Alarm Sys.	3
Lighting Systems	3
Handicap Access	1
<b>Average</b>	<b>2.3333</b>

Design Standards 1 - 2 - 3 - 4 - 5	Rating
Flexible Design	2
Suitable for Present Use	3
Gross to Assignable Area	1
<b>Average</b>	<b>2</b>

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

(For Department Use Only)
SUMMARY NUMBER
FORM NUMBER

**PERMANENT IMPROVEMENT PROJECT REQUEST**

1. AGENCY  
 Code H29 Name USC Aiken  
 Contact Person Derek S Gruner Phone (803)777-1184

2. PROJECT  
 Project # \_\_\_\_\_ Name USC Aiken Penland HVAC Renovation  
 Facility # 903 Facility Name Robert E Penland Administration Building

County Code	02 - Aiken
New/Revised Budget	\$22,500.00

Project Type	3 - Repair/Renovate Existing Facilities/Systems
Facility Type	1 - Office/Administration

3. CPIP PROJECT APPROVAL FOR CURRENT FISCAL YEAR  
 CPIP priority number 1 of 2 for FY 18/19

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

Establish Project	<input checked="" 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 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.)

ACTION: Establish Project

DESCRIPTION: This project will replace a significant portion of the HVAC system in the Penland Administration Building. The project will replace the original four air handlers and install limited new variable air volume units which will provide reliability and maintain desirable humidity levels in the building. The existing ductwork, controls, piping and fire alarms will remain. The building will be required to remain occupied and operational throughout the project so the project includes the cost of providing temporary equipment to maintain operations.

JUSTIFICATION: The HVAC system is original to the building and has reached the end of its useful life. There have been increasing issues related to moisture and humidity in the building which a new air handlers will ameliorate. If the existing air handlers were to suddenly fail, the building, or a portion of the building, would be uninhabitable.

BUDGET: The total projected cost of this project is \$1,500,000 to be funded with USC Aiken Institutional Funds.

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 2019 Estimated Completion Date: August 2020  
 Estimated Expenditures: Thru Current FY: \$22,500.00 After Current FY: \$1,477,500.00

8. ESTIMATES OF NEW/REVISED PROJECT COSTS

<b>PROJECT #</b>	
------------------	--

- |                     |                                       |                        |                   |
|---------------------|---------------------------------------|------------------------|-------------------|
| 1. _____            | Land Purchase ---->                   | Land: _____            | Acres             |
| 2. _____            | Building Purchase ---->               | Floor Space: _____     | Gross Square Feet |
| 3. <u>22,500.00</u> | Professional Services Fees            |                        |                   |
| 4. _____            | Equipment and/or Materials ---->      | Information Technology | _____             |
| 5. _____            | Site Development                      |                        |                   |
| 6. _____            | New Construction ---->                | Floor Space: _____     | Gross Square Feet |
| 7. _____            | Renovations - Building Interior ----> | Floor Space: _____     | Gross Square Feet |
| 8. _____            | Renovations - Utilities               |                        |                   |
| 9. _____            | Roofing - _____ Roof Age              |                        |                   |
| 10. _____           | Renovations - Building Exterior       |                        |                   |
| 11. _____           | Other Permanent Improvements          |                        |                   |
| 12. _____           | Landscaping                           |                        |                   |
| 13. _____           | Builders Risk Insurance               |                        |                   |
| 14. _____           | Other Capital Outlay                  |                        |                   |
| 15. _____           | Labor Costs                           |                        |                   |
| 16. _____           | Bond Issue Costs                      |                        |                   |
| 17. _____           | Other: _____                          |                        |                   |
| 18. _____           | Contingency                           |                        |                   |


\$22,500.00 TOTAL PROJECT BUDGET

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:	_____
Cost Breakdown	
Design Services	\$ _____
Monitoring	\$ _____
Abate/Remed	\$ _____
Total Costs	\$ _____ 0.00

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) USC Aiken Institutional Funds		22,500.00	22,500.00 0.00 0.00		7201	98800100	3907	3907 3907
<b>TOTAL BUDGET</b>	<b>\$0.00</b>	<b>\$22,500.00</b>	<b>\$22,500.00</b>					

10. SUBMITTED BY:

 Director, Planning and Programming  
Signature of Authorized Official and Title

1/16/19  
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 H29 Name USC Aiken

2. PROJECT  
Project # \_\_\_\_\_ Name USC Aiken Penland HVAC 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) 2018-19	\$2000	\$	\$	\$ 2000.00
2) 2019-20	\$2000	\$	\$	\$ 2000.00
3) 2020-21	\$2000	\$	\$	\$ 2000.00

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

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

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>Energy Costs</u>	<u>2,000</u>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
TOTAL	<u>2,000</u>

8. If personal services costs or savings are reported in 7 above, please indicate the number of additional positions required or positions saved. \_\_\_\_\_

9. Submitted By: [Signature] Director, Planning and Programming                      1/16/19  
Signature of Authorized Official and Title                      Date

**PERMANENT IMPROVEMENT PROJECT INFORMATION FORMAT  
FOR PHASE I A&E PRE-DESIGN PROJECTS**

**USC Aiken Penland HVAC Renovation**

1. What is the internal projected cost of the project?

The total internal projected cost for this project is \$1,500,000.

2. What is/are the source(s) of funds to be used for A&E pre-design?

The source of funds for A&E pre-design are Institutional Funds.

3. What is your agency/institution's definition of the source(s) of funds used for the A&E pre-design? (Please be specific for each source and if there is a statutory authority authorizing the use of the funds for capital projects for the source, please cite the code section. If a source includes any type of fee, what is the fee called, what is the fee amount and when was it put in place?)

Institutional Funds are funds available to the University from a variety of sources including tuition and fees and sales and services activities.

4. What is the current fund balance of uncommitted funds in the source of funds for A&E pre-design?

USC Aiken currently has allocated \$1,500,000 for this project in their Five Year Plan. The current fund balance of uncommitted funds is zero.

5. What is the source(s) of funds to be used for construction?

\$1,500,000 of Institutional Funds

6. What is your agency/institution's definition of the source(s) of funds to be used for construction? (Please be specific for each if different from those in 3 above. If there is statutory authority authorizing the use of the funds for capital project, please cite the code section and if a source includes a fee, what is the fee called, what is the fee amount and when was it put in place?)

Institutional Funds are funds available to the University from a variety of sources including tuition and fees and sales and services activities.

7. What is the current fund balance of uncommitted funds in each source to be used for construction?

USC Aiken currently has allocated \$1,500,000 for this project in their Five Year Plan. The current fund balance of uncommitted funds is zero.

8. Will the use of any funds for A&E pre-design or for construction require an increase in any student fee or tuition?

No increase in student fees is required.

9. If the use of any funds for A&E pre-design or construction will require any student fee or tuition increase, please explain and include the amount of the fees annually or by semester, what the fee is called and when it was put in place.

The question is not applicable to this project.

10. What is the total square footage of the building to be renovated or constructed?

The total square footage of the Penland Building is 58,447.

11. If a portion of the building is to be renovated, what is the square footage of the portion that will be included in the renovation?

The new mechanical systems will serve the entire building.

12. What program(s) will use the space to be renovated/constructed?

Campus Administration and Academic Programs will use the space.

13. What is the current age of the building to be renovated?

The Penland Building was originally constructed in 1973.

14. What is the current age of the building system(s) to be renovated or replaced?

45 years

15. If any new space is being added to the facility, please provide demand/usage data to support the need.

No new space is being added to the facility.

16. If the A&E pre-design request is above 1.5% of the internal estimated cost of the project, what is the reason the amount exceeds 1.5%?

The A/E pre-design request is not above 1.5%.

17. What are the estimated numbers of students, faculty, staff and/or clients that are expected to use the space affected by the project or for the entire building? (Answer for as many as are applicable.)

Approximately 100 faculty and staff and 675 students are estimated to be accommodated in this building.

18. Has the project been included in a previous year's CPIP? If so, what was the last year the project was included and for which year, 1-5?

The project is included in Year 2 of the 2017 CPIP. It was listed as priority number 1 of 2. The project, as described in CPIP, was \$4,000,000 and included scope that is in addition to what is included in this project request.

19. What are the economic impacts of the project, including job creation and retention? If there are none, please explain.

This project will provide economic activity through the construction project itself. Construction creates and/or retains jobs in three ways: 1) it creates direct jobs that are involved in the construction project; 2) it creates indirect jobs through the manufacturing of building materials and systems and the provision of key services in areas like design professions, legal, and accounting services; and 3) it creates induced jobs in other service areas whereby income from the first two categories is spent on goods and services in other areas of the economy. It is estimated that this project will generate 30 jobs.



20. How will your agency/institution address and fund maintenance of this facility construction/renovation?

Maintenance will be funded from the Education and General Maintenance Reserve.

21. If your agency/institution has a deferred maintenance account, what is the name of the account and what is its current uncommitted balance?

Education and General Maintenance Reserve. At this time, there is no uncommitted balance in the E&G Maintenance Reserve Fund account after factoring in all planned projects. The E&G Maintenance Reserve Fund is replenished annually.

22. If how maintenance will be addressed and funded for this facility construction/renovation has not been determined yet, what steps are in place to begin to address how your agency/institution will fund maintenance to this and other agency/institution facilities?

The funding of maintenance is described in the answers to questions 20 and 21.