3.1 DB70

1 Department: Tennessee Higher Education Commission
Institution: University of Memphis
Project: Central Plant and CFA Building Chillers and HVAC Repairs and Replacements
City/County: Memphis / Shelby

2 Fiscal Year: 2021/ 2022

3

		New		Reno/Maint
	Capital Outlay			
X	Capital Maintenance	0	Gross Sq.Ft.	n/a
	Disclosure	0	Net Sq.Ft.	0
	Designer Required	0.00	Cost/Sq.Ft.	0.00

4 Project Description:

Funds are provided for replacement and optimization of central plant chillers, balance of variable flow pumping campus wide, replacement of HVAC components in the Communication and Fine Arts building and all related work.

5

Estimated Building Construction Cost: #VALUE!

Total Project	This Request				
3,954,000	3,954,000	Building Construction			
0	0	Site & Utilities			
0	0	Built-in Equipment			
3,954,000	3,954,000	**Bid Target**			
396,000	396,000	Contingency:	10.02	10.02	percent
4,350,000	4,350,000	**MACC** (Maximum Allowable Construction Cost)			
346,748	346,748	Fee:	35/LogP-1.15=	7.97122814	Renovation
0	0	Movable Equipment			
175,000	175,000	first other	*commissioning*		
0	0	second other			
128,252	128,252	Administration & Miscellaneous			
5,000,000	5,000,000	**Total Cost**			

6 Funding Request:

THIS REQUEST		
5,000,000	5,000,000	STATE funds
0	0	FEDERAL funds
0	0	Local and Institutional Funds

7 Previous SBC Approved Funding:

	fund year	description
already approved for existing SBC project		
0	0	
plus This Request	0	
5,000,000	0	

8 SBC Action: If an existing project, SBC Project No.: NA

9 Designer: NA

3.2 Project Support Documentation Sheet 1

Institution: University of Memphis
Project: Central Plant and CFA Building Chillers and HVAC Repairs

A. Architectural Program Scope

Replace and optimize central plant chillers, balance variable flow pumping campus wide, replace HVAC components in Communication and Fine Arts to achieve humidity control.

B. Evidence of Physical Facility Need

The Chillers in the Central Plant are near the end of their life cycle. The oldest chillers will be replaced and others will be rebuilt. More efficient chillers are now available and the entire plant can be optimized. The campus underground chilled water lines will be evaluated for any leaking or poorly insulated areas, and the installed variable flow pumping systems in each building will be analyzed and reset for optimimum use with the new chillers. The CFA building needs a new chiller and air handler updates with humidity control to provide an environment that is conducive to fine arts display. The museum has issues with temperature and humidity swings and is not accredited to display traveling high impact fine arts, artifacts etc. which decreases cultural learning and awareness to our students.

C. Historical Profile

The existing chillers were installed as part of the CFC retrofit in the late 1990's and have been in continuous operation. The CFA buidling was constructed in 1983 and has not been totally renovated.

D. Summary Results and Date of Physical Facilities Survey

Current Physical Facilities Survey information indicates that these conditions are in the 60 to 70% range for conditions.

3.3 Project Support Documentation Sheet 2

Institution: University of Memphis
Project: Central Plant and CFA Building Chillers and HVAC Repa

E. Cost Basis for Construction Estimate and Other Costs

The project is based on information from suppliers for the retrofits.

F. Project Schedule

Recieve funding in summer of 2021, with designer selection and design through summer of 2022 and installation in fall and winter of 2022.

G Campus or Architectural Program Impact

The campus impact of a properly operating hvac system is paramount to daily achievement of instruciton goals. The chiller plant serves nearly every academic building with chilled water for air conditioning via underground piping and is the main source of cooling. Low flow or inadequate cooling cannot be tolerated. The impact of new equipment and balancing will be greater comfort, hvac control, humidity control and energy efficiency.