

ATTACHMENT NO.: IX-A

Approval of the District HVAC Project

Potential motion:

Approve the District HVAC Project Proposal for Years 1-5

Recommended action:

Approve the motion.

At the Facilities meeting, the committee reviewed the HVAC proposal that Greg Stahler had provided along with recommendations from the heating and cooling study that was conducted. The committee reached consensus and directed Greg to begin design work on the proposed years 1 and 2 which addressed the ventilation, filtration and relief systems of Capron, Manchester, the Middle School, Poplar Grove, and the Upper Elementary. The committee further discussed the possibility of accelerating years 3-5 up into a three-year plan so that ESSER funds could be used to accomplish the project by Sept. 1, 2024. The projects that would be addressed in years 3-5 would be: building management systems, school office VRF systems, and electrical supplies. At the meeting, a concern was raised about the current piping in each building for our HVAC systems, but in clarifying the situation, small portions of piping near univents may need to be replaced, not the entire piping system of each building. Financially, all 5 years would be able to be covered in three years through our ESSER funding and potentially would still leave money available.

Capron Elementary School

Description	Quantity	Unit Cost (2021)	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
Existing / Replacement Equipment										
Boilers (B-1, B-2)	2	---	---	50	24	---	---	---	---	---
Boilers (B-3)	1	---	---	50	24	---	---	---	---	---
Unit Heater	1	\$10,000	\$10,000	20	0	---	---	\$10,000	---	---
Classroom Unit Vents	22	\$10,000	\$220,000	20	0	\$220,000	---	---	---	---
Fan Coils	2	\$5,000	\$10,000	?	?	---	---	\$10,000	---	---
Controls (Existing units)	15	\$3,000	\$45,000	---	---	\$45,000	---	---	---	---
Electrical	1	\$30,000	\$30,000	---	---	\$30,000	---	---	---	---
New Equipment / Systems										
Relief Systems	24	\$5,000	\$120,000	---	---	\$120,000	---	---	---	---
Building Management System	1	\$30,000	\$30,000	---	---	---	---	\$30,000	---	---
Rooftop Units	2	\$150,000	\$300,000	---	---	---	\$300,000	---	---	---
VRF System (Office Areas)	1	\$40,000	\$40,000	---	---	---	---	\$40,000	---	---
Electrical	1	\$30,000	\$30,000	---	---	---	\$15,000	\$15,000	---	---
Window A/C Units				---	---	---	---	---	---	---
CUV Condenser Units	22	\$5,000	\$110,000	---	---	---	---	---	\$110,000	---
Total			\$945,000		---	\$415,000	\$315,000	\$105,000	\$110,000	\$0

Manchester Elementary School

Description	Quantity	Unit Cost (2021)	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
Existing / Replacement Equipment										
Boilers (B-1 / B-2)	2	---	---	50	24	---	---	---	---	---
Unit Heaters	2	\$15,000	\$30,000	20	0	---	---	---	\$30,000	---
AHU (Gymnasium)	1	\$60,000	\$60,000	40	0	---	---	\$60,000	---	---
Classroom Unit Vents (CUV-1, CUV-2)	9	\$10,000	\$90,000	20	0	\$90,000	---	---	---	---
Classroom Unit Vents (CUV-3)	1	\$10,000	\$10,000	20	7	---	---	---	\$10,000	---
Controls (Existing units)	18	\$3,000	\$54,000	---	---	\$54,000	---	---	---	---
Electrical	1	\$20,000	\$20,000	---	---	\$20,000	---	---	---	---
New Equipment / Systems										
Classroom Unit Vents (CUV)	4	\$15,000	\$60,000	---	---	---	\$60,000	---	---	---
Relief Systems	9	\$5,000	\$45,000	---	---	\$45,000	---	---	---	---
Building Management System	1	\$20,000	\$20,000	---	---	---	\$20,000	---	---	---
Office VRF system	1	\$40,000	\$40,000	---	---	---	---	\$40,000	---	---
Condensing Unit (Gymnasium)	1	\$40,000	\$40,000	---	---	---	---	---	\$40,000	---
Electrical	1	\$30,000	\$30,000	---	---	\$10,000	\$10,000	\$10,000	---	---
Window A/C Units										
CUV Condenser Units	13	\$5,000	\$65,000	---	---	---	---	---	\$65,000	---
Total			\$564,000		---	\$219,000	\$90,000	\$110,000	\$145,000	\$0
			(Rounded \$1,000)							

North Boone Middle School

Description	Quantity	Unit Cost 2021	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
Existing / Replacement Equipment										
Boilers (B-1 / B-2)	2	---	---	50	24	---	---	---	---	---
Unit Heaters	2	\$10,000	\$20,000	20	0	---	---	\$20,000	---	---
AHU (Gymnasium)	2	\$60,000	\$120,000	40	15	---	---	---	---	\$120,000
AHU (Tech Room)	1	\$60,000	\$60,000	20	8	---	---	\$60,000	---	---
Condensing Unit (CU-1)	1	\$40,000	\$40,000	20	8	---	---	---	---	\$40,000
Classroom Unit Vents (CUV-1)	26	\$10,000	\$260,000	20	5	\$260,000	---	---	---	---
Classroom Unit Vents (CUV-2) Science	2	\$15,000	\$30,000	25	12	---	---	---	---	\$30,000
Electrical	1	\$30,000	\$30,000	---	---	\$30,000	---	---	---	---
New Equipment / Systems										
Relief Systems	26	\$5,000	\$130,000	---	---	\$130,000	---	---	---	---
Building Management System	1	\$30,000	\$30,000	---	---	---	---	---	\$30,000	---
Office VRF system	1	\$40,000	\$40,000	---	---	---	---	\$40,000	---	---
Rooftop Units (Gymnasium)	2	\$160,000	\$320,000	---	---	---	---	---	\$320,000	---
Controls	1	\$30,000	\$30,000	---	---	---	\$30,000	---	---	---
Electrical	1	\$40,000	\$40,000	---	---	---	\$40,000	---	---	---
Window A/C Units										
CUV Condenser Units	28	\$5,000	\$140,000	---	---	---	---	---	\$140,000	---
Total			\$1,290,000			\$420,000	\$70,000	\$120,000	\$490,000	\$190,000

Poplar Grove Elementary School

Description	Quantity	Unit Cost 2021	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
Existing / Replacement Equipment										
Boilers (B-1)	1	---	---	50	25	---	---	---	---	---
Boilers (B-2)	1	\$90,000	\$90,000	20	8	---	---	---	---	\$90,000
Boilers (B-3)	1	---	---	40	40	---	---	---	---	---
Classroom Unit Vents (CUV-1)	8	\$10,000	\$80,000	20	0	\$80,000	---	---	---	---
Classroom Unit Vents (CUV-2)	4	\$10,000	\$40,000	20	8	---	---	---	\$40,000	---
RTU's	7	\$20,000	\$140,000	20	8	---	---	---	\$140,000	---
AHU's (Gymnasium)	2	\$70,000	\$140,000	40	0	---	---	\$140,000	---	---
Condensing Units (CU)	3	\$5,000	\$15,000	20	8	---	---	---	\$15,000	---
Building Controls (Existing units)	15	\$2,000	\$30,000	---	---	\$30,000	---	---	---	---
Electrical	1	\$10,000	\$10,000	---	---	\$10,000	---	---	---	---
New Equipment / Systems										
Relief Systems	8	\$5,000	\$40,000	---	---	\$40,000	---	---	---	---
Condensing Unit (Gymnasium)	2	\$20,000	\$40,000	---	---	---	---	\$40,000	---	---
Electrical	1	\$10,000	\$10,000	---	---	\$10,000	---	---	---	---
Window A/C Units										
CUV Condenser Units	8	\$5,000	\$40,000	---	---	---	---	---	\$40,000	---
Total			\$675,000			\$170,000	\$0	\$180,000	\$235,000	\$90,000

Upper Elementary School

Description	Quantity	Unit Cost 2021	Total	Estimated Useful Life	Remaining Useful Life	Mechanical Replacement / Upgrade Timeline				
						Year 1	Year 2	Years 3-5	Years 6-10	Years 11-20
Existing / Replacement Equipment										
Boilers (B-1 / B-2)	2	\$125,000	\$250,000	40	15	---	---	---	---	\$250,000
AHU (Art Rooms) AHU-1	1	\$15,000	\$15,000	40	15	---	---	---	---	\$15,000
AHU (Gymnasium) (AHU-2)	1	\$140,000	\$140,000	40	15	---	---	---	---	\$140,000
AHU (Classroom Addition) (AHU-4)	1	\$100,000	\$100,000	40	15	---	---	---	---	\$100,000
AHU (Offices) (AHU-5)	1	\$65,000	\$65,000	40	15	---	---	---	---	\$65,000
RTU (Classroom Addition) RTU-1	1	\$75,000	\$75,000	20	5	---	---	---	\$75,000	---
Condensing Units (Art Rooms) (CU-1)	1	\$10,000	\$10,000	20	0	---	---	\$10,000	---	---
Condensing Units (Offices) (CU-2)	1	\$80,000	\$80,000	20	0	---	---	\$80,000	---	---
New Equipment / Systems										
Building Management System	1	\$240,000	\$240,000	---	---	---	---	---	\$240,000	---
<i>Window A/C Units</i>										
RTU	1	\$170,000	\$170,000	---	---	---	---	---	\$170,000	---
Chiller	1	\$330,000	\$330,000	---	---	---	---	---	\$330,000	---
Coils (4) / Pumps (1) / Piping	1	\$120,000	\$120,000	---	---	---	---	---	\$120,000	---
Electrical	1	\$30,000	\$30,000	---	---	---	---	---	\$30,000	---
Total			\$1,625,000			\$0	\$0	\$90,000	\$965,000	\$570,000