Wichita State University

ARCHITECTURAL PROGRAM

McKnight Art Center – Printmaking Ventilation Project

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PROJECT OVERVIEW

Accreditation visits identified addressing the ventilation deficiencies in the printmaking classrooms in McKnight Art Center as a priority in the program review. A study update was initiated in 2022 to identify options to improve the system.

The existing layout of the second-floor printmaking classrooms is not conducive to an efficient exhaust and ventilation system configuration. The classrooms will be reconfigured with new walls to provide a more efficient layout for equipment and printmaking processes. New ventilation (DOAS units and associated exhaust) will be provided to remove the contaminates in the space associated with the printmaking processes. The existing HVAC system serving the second floor is at the end of the equipment service life. It will be updated on the second floor to accommodate the remodeled configuration as well as addressing a deferred maintenance item for the building.

It is anticipated that the Printmaking equipment will need to be relocated during the project to an alternate location to ensure the continuity of the program during construction. This alternate location is still being determined.

The end result of this project will be improvement of the ventilation in the printmaking classrooms in the McKnight Art Center building while ensuring the health and safety of students and faculty in the classrooms and to meet the accreditation requirements for the Printmaking program. This project will also improve the current FCI of the building which is currently 0.61.

The anticipated total project cost is $2.05 million (construction cost of $1.6 million). Funding for the project is EBF funds and FY24 deferred maintenance funds. The project delivery method will be design-bid-build. The total project duration from design team selection to project completion is projected to be 16 months due to current long lead times for mechanical equipment.

STATEMENT OF NEED

The current printmaking studio in the School of Art, Design and Creative Industries occupies the second floor of McKnight North. In this studio, students and faculty routinely work with harsh chemicals necessary to discipline. These chemicals require ventilation for the health and safety of those working in the studio. This issue was brought to the attention of Wichita State when the University went through its initial accreditation visit with The National Association of Schools of Art and Design (NASAD) in 2011. For WSU to remain accredited by NASAD the printmaking studio must be properly ventilated. This renovation will simplify the layout of the printmaking studio and add the required ventilation to bring the studio up to health and safety standards.

CODE REQUIREMENTS

The usage and occupancy of the building will remain the same although the new wall configuration will require submission of an updated code plan as part of the project.

All portions of the building affected by this project will meet current State of Kansas codes which at the time of this document are based on the 2018 IBC, and include the ADA and other codes listed on the State of Kansas website.

STRUCTURAL SYSTEM

There are no planned modifications to the existing building structural system as part of this project.

BUILDING SYSTEMS

HVAC

Exhaust: The current HVAC system does not provide adequate ventilation for the 2nd floor printing department processes. It is proposed that new exhaust systems comprised of roof mounted exhaust fans be designed to exhaust the second floor in strategic locations. Interior to the building, new articulating snorkels, slotted hoods at countertops, hoods, and spray are proposed to exhaust fumes generated in the spaces.

Makeup Air: The new exhaust system will require conditioned makeup air to properly ventilate the spaces. Two new DX/Gas Dedicated Outdoor Air Units (DOAU) are proposed to cool, dehumidify, or heat 100% outdoor air and deliver the air to the spaces. The gas service for the building is proposed to be extended to the roof for connection to the DOAUs located there.

Comfort Cooling/Heating: The existing HVAC system serving the 2nd floor is proposed to be replaced to support the remodel. The penthouse mounted Multi-Zone Air Handling Unit (AHU) would be replaced and a new AHU with a pre heat coil, chilled water coil, and direct drive supply fans would be designed. The replacement system is proposed to be a VAV with Hot Water Terminal Reheat. New VAV boxes would be designed for zone level control of the 2nd floor. New VAV boxes would be designed to tie onto the existing zone ducts serving the 1st floor as well. No new ductwork on the 1st floor is planned at this time.

Plumbing

The existing water, waste, and vent infrastructure currently serving the 2nd floor is proposed to extend to new plumbing fixtures as required to support the printing department processes. It is not anticipated to replace the infrastructure of the building. No plumbing scope is proposed for the 1st floor except where required to support 2nd floor scope. Any replaced or new plumbing fixtures will follow WSU's standards.

Electrical

Power: It is proposed that the existing general purpose power systems serving the 2nd floor be replaced to support the remodel. This scope would include extension of the existing infrastructure to include convenience power for the remodeled spaces as well as connections to new mechanical or Owner specified equipment. It is not intended to replace the building's electrical infrastructure. No power scope is currently proposed for the 1st floor.

Lighting: It is proposed that the existing lighting for the 2nd floor be replaced with LED fixtures to support the remodel. The replacement systems would be specified per University standards and will provide proper lighting for the processes on the floor. No lighting scope is currently proposed for the 1st floor.

Telecommunications services will be "standard" for these spaces (hardwired connections where desired and wireless access throughout). Other low voltage systems such as audio-visual, CCTV, are still to be determined. All design and installation associated with these systems shall be coordinated with appropriate WSU Staff.

SPACE PROGRAM AND NEEDS

The concept plans illustrate the amount of space required for each process within the printmaking area. The existing second floor total area is 6,367 square feet. The remodel area is 5,578 square feet (the elevator, stairs and mechanical room are excluded).

DELIVERY METHOD

The project will utilize standard the design-bid-build process.

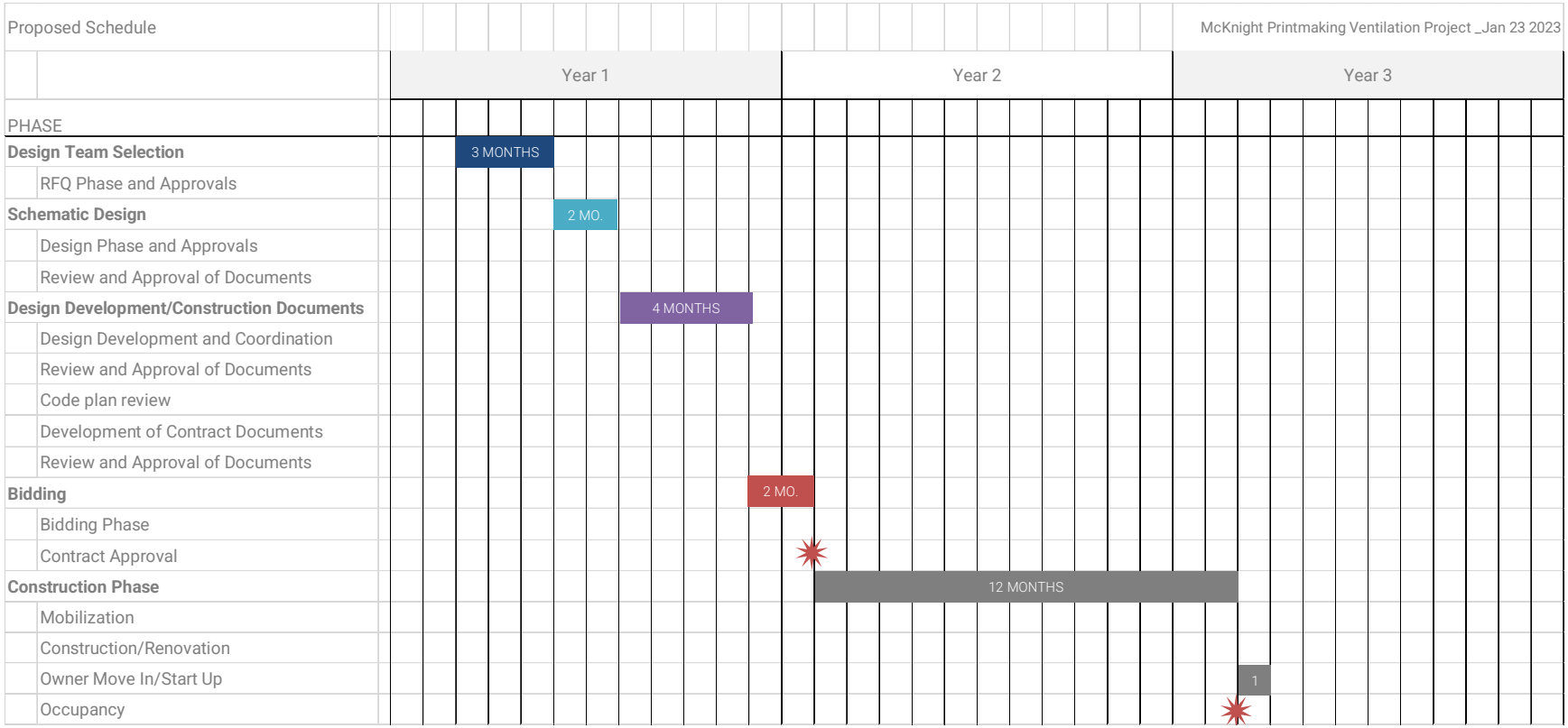
Project Budget

McKnight Printmaking Ventilation Project

Project Budget 2023 01 23

1.0 Construction Costs:	quant.	cost/ea	BUDGET
MEP system replacement			$1,400,000.00
Architectural renovations			$200,000
Subtotal Construction Contract			**$1,600,000**
2.0 Project Soft Costs:			
Fixtures, Furnishings & Moveable Equipment	0		$0
IT/Telecommunications			$40,000
Audio/Visual Technology	0		$0
Signage	0		$2,000
Equipment moving costs			$10,000
A/E and State Fees (incl. survey & geo.)			$188,000
Construction Testing & Commissioning		allowance	$25,000
Hazardous Material Analysis and Abatement		unknown	$0
Owner's Project Contingency		10%	$160,000
Misc Expenses		not included	$25,000
Subtotal Development Costs			**$450,000**
3.0 Summary:			
Construction Costs			$1,600,000
Project Soft Costs	28%		$450,000
Total Project Costs			**$2,050,000**

Project Schedule



Floor Plans

Printmaking Area, McKnight North, 2nd Floor – Current Layout

Printmaking Area, McKnight North, 2nd Floor – New Layout