



Request for Architectural/Engineering/Planning Services

Sesquicentennial Hall

State Project No. 17H1X
January 2018

Architectural/Engineering/Planning Consultant Requirements

This request provides architectural/engineering/planning (AEP) resources to complete the project phases indicated below for **State Project No. 17H1X – Sesquicentennial Hall at the University of Wisconsin-Platteville** (see attached for further detail).

Pre-Design	Preliminary Design	Final Design	Bid Documents	Construction Administration
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Consultants should submit their qualifications in the form of a qualification questionnaire demonstrating specific expertise and experience in the design and coordination of higher education engineering laboratory and classroom buildings as part of a design team. Work includes project area surveys, acquiring field data, and verifying site conditions to assure accurate development of design and bidding documents.

The consultant(s) will participate in a highly interactive campus planning process by meeting with appropriate campus staff, including UW-Platteville College of Engineering, Mathematics and Science faculty and campus Facilities Management staff to develop Program Statement, Preliminary Design, and Final Design documents. Working in collaboration with the campus project team, the consultant will be responsible for program development, verification, and documentation; developing and documenting design alternatives with corresponding construction cost estimates and construction schedules for each design alternative; and determining and documenting any project work dependencies for selected design alternatives.

The design consultant(s) will provide pre-design services through construction administration services as indicated in the Division of Facilities Development (DFD) *Policy and Procedure Manual for Architects/Engineers and Consultants*, the *Guide for Developing Program Statements for Projects Requiring Enumeration*, and the *DFD Contract for Professional Services*. These services may be contracted through multiple contracts or contracts with multiple parts and project-specific review/approval/authorization milestones as determined by the needs of the project. Authorization for subsequent services will be issued in writing upon satisfactory performance and completion of contracted services and deliverables.

Pre-Design Services: In addition to the requirements for pre-design through construction in the DFD *Policy and Procedure Manual for Architects/Engineers and Consultants*, the following addition and clarifications should be noted:

- Produce a Program Statement document with narrative descriptions of each project component and implementation phase, executive summary, detailed construction cost estimates, detailed life cycle costing estimates, full schematic building level floor plans for each level impacted by the project, two-dimensional elevations and color renderings of selected components, and three-dimensional color renderings of selected project areas. The narrative descriptions must include functions, occupant capacity/limits, building/structure and site infrastructure requirements, proposed materials, and applicable building code impacts. The executive summary will summarize all planning findings, project goals and principles, key recommendations, and an implementation plan.

Preliminary and Final Design Services: In addition to the requirements for preliminary design through construction in the DFD *Policy and Procedure Manual for Architects/Engineers and Consultants*, the following additions and clarifications should be noted:

- The design consultant(s) will work with DFD and the appropriate campus staff to review the Program Statement, Preliminary Design, and Final Design documents. The design consultant(s) will attend a design review meeting at each of the Preliminary Design and Final Design review stages. The reviewers will provide written comments to the DFD Project Manager based on the documents, and discuss the comments with the design consultant(s). The design consultant(s) are required to provide written responses to the DFD Project Manager.
- Cost Estimating: Provide conceptual construction cost estimates for all design alternatives and provide detailed construction cost estimates for selected design alternative. All detailed cost estimates for selected design alternative must provide clear construction cost detail with a dated reference for ease of future cost escalation. All project cost components, not within the construction costs, such as basic and additional design services, project management fees, design contingency, project contingency, movable and special equipment, escalation factors, must be detailed clearly and separately from the construction cost estimates.

Note included in the scope of services: Note that per the DFD *Policy and Procedure Manual for Architects/Engineers and Consultants*, the following services will not be included in the scope of services:

- Preparation of a Wisconsin Environmental Protection Act (WEPA) Type [I or II or III] Environmental Impact Statement will be contracted separately by the campus.

Architectural/Engineering/Planning Consultant Requirements

All graphics must be grayscale compatible without losing meaning, distinguished characteristics, or legibility.

All final documentation must be provided electronically via download link, USB flash drive, or optical disc (CD or DVD) in Adobe Acrobat PDF format. All narrative text and cost estimate documentation shall also be provided in an unlocked, editable file format for future use and presentation outside of the A/E Services. Text shall be provided in rich text format (*.RTF) or Microsoft Word XML document format (*.DOCX) and cost estimates provided in Microsoft Excel XML workbook format (*.XLSX). All graphics, images, maps, plans, renderings, models, and documentation will become the property of the university/state.

Additional References: The following documents are available for reference through the following links:

2015 Academic Buildings Feasibility Study Volumes 1 & 2 (12L1K)

https://www.uwplatt.edu/files/planning/12l1k_uw_platteville_academic_buildings_feasibility_study_volume_1_of_2_final_1-9-2015.pdf

https://www.uwplatt.edu/files/planning/12l1k_uw_platteville_academic_buildings_feasibility_study_volume_2_of_2_final_1-9-2015.pdf

2011 Comprehensive Campus Master Plan (10F1F)

<http://www.uwplatt.edu/planning/2011-master-plan>

Architectural/Engineering/Planning Basic Services

ID	Y/N?	Description	Comments and Clarification Notes
1	<input checked="" type="checkbox"/>	Scope, Concept, Programming, and Pre-Design	
1.1	<input checked="" type="checkbox"/>	<u>Programming & Program Verification</u>	<i>1.1 Review, verify, and fully develop program and project design concepts as initiated and documented under 12L1K Academic Buildings Feasibility Study for a mechanical engineering building. Include design for a data center. Pre-design will include the investigation of adding additional laboratory space in lieu of faculty offices and some classrooms that appears in the original study.</i>
1.2	<input checked="" type="checkbox"/>	<u>Design Concept</u>	
2	<input checked="" type="checkbox"/>	Preliminary and Final Design	
2.1	<input checked="" type="checkbox"/>	<u>Site/Survey</u>	<i>2.2.1 includes the central utility plant. 2.2.2 includes chilled water, domestic water, electrical power, natural gas, sanitary sewer, storm water sewer, steam and condensate return, and telecommunications. 2.3.4 includes during construction period.</i>
2.1.1	<input checked="" type="checkbox"/>	Site/Existing Conditions	
2.1.2	<input checked="" type="checkbox"/>	Existing Land Use	
2.1.2.1	<input checked="" type="checkbox"/>	<i>Topography/Drainage</i>	
2.1.2.2	<input checked="" type="checkbox"/>	<i>Vegetation/Landscaping</i>	
2.1.2.3	<input checked="" type="checkbox"/>	<i>Subsurface Conditions</i>	
2.1.2.4	<input checked="" type="checkbox"/>	<i>Construction Staging/Occupancy of Site During Construction</i>	
2.1.2.5	<input checked="" type="checkbox"/>	<i>WEPA – Environmental Impact Determination and Coordination</i>	
2.2	<input checked="" type="checkbox"/>	<u>Utilities/Infrastructure</u>	
2.2.1	<input checked="" type="checkbox"/>	Existing: capacity and condition of existing lines and equipment	
2.2.2	<input checked="" type="checkbox"/>	Proposed central and site utility systems	
2.2.3	<input checked="" type="checkbox"/>	Maintaining utility services and infrastructure during construction	
2.3	<input checked="" type="checkbox"/>	<u>Transportation/Circulation</u>	
2.3.1	<input checked="" type="checkbox"/>	Vehicular/Bicycle/Pedestrian	
2.3.2	<input checked="" type="checkbox"/>	Parking	
2.3.3	<input checked="" type="checkbox"/>	Service/Loading/Unloading	
2.3.4	<input checked="" type="checkbox"/>	Access to Site	
2.4	<input type="checkbox"/>	<u>Existing Building Conditions</u>	
2.4.1	<input type="checkbox"/>	Conditions of Existing Building Spaces as necessary for design	
2.4.2	<input type="checkbox"/>	Condition of Existing Infrastructure and Equipment	
2.4.3	<input type="checkbox"/>	Demolition Planning/Phasing	
2.4.4	<input type="checkbox"/>	Hazardous Materials: Asbestos/Lead-based Paint/Soil Contamination	
2.5	<input checked="" type="checkbox"/>	<u>Occupants/User Activities</u>	<i>2.6.8 Independent 3rd Party Commissioning</i>
2.5.1	<input checked="" type="checkbox"/>	Space Tabulation	
2.5.2	<input checked="" type="checkbox"/>	Room Data Sheets	
2.6	<input checked="" type="checkbox"/>	<u>Building Systems</u>	
2.6.1	<input checked="" type="checkbox"/>	Structural Systems	
2.6.2	<input checked="" type="checkbox"/>	Mechanical Systems/HVAC	
2.6.2.1	<input checked="" type="checkbox"/>	<i>Environmental Control</i>	
2.6.3	<input checked="" type="checkbox"/>	Electrical/Lighting	
2.6.3.1	<input checked="" type="checkbox"/>	<i>Lighting Design</i>	
2.6.3.2	<input checked="" type="checkbox"/>	<i>Fire Alarm</i>	
2.6.3.3	<input checked="" type="checkbox"/>	<i>Telecommunications Systems</i>	
2.6.3.5	<input checked="" type="checkbox"/>	<i>Access Control</i>	
2.6.4	<input checked="" type="checkbox"/>	Plumbing	
2.6.5	<input checked="" type="checkbox"/>	Fire Protection Systems	
2.6.6	<input checked="" type="checkbox"/>	Signage	
2.6.7	<input checked="" type="checkbox"/>	Other Systems	
2.6.8	<input checked="" type="checkbox"/>	Commissioning (Level 1)	
2.7	<input checked="" type="checkbox"/>	<u>Cost Estimating</u>	<i>2.9 includes the Sustainable Facilities Standards Checklist items applicable to the project. 5.1 and 5.3 Please see <https://www.wisconsin.edu/capital-planning/reference/deliverables/> for more detailed AutoCAD and geospatial data definition requirements. 5.2 Includes performance test data, list of normal and alarm set points, and contact information for responsible parties. 5.4 Includes all newly installed components, include list of all input/output control points and custom software with programming requirements needed to maintain and/or field-modify newly installed systems. 5.5 Includes contact information for responsible parties and date of warranty expiration.</i>
2.8	<input checked="" type="checkbox"/>	<u>Constructability</u>	
2.9	<input checked="" type="checkbox"/>	<u>Accessibility</u>	
2.10	<input checked="" type="checkbox"/>	<u>Sustainable Facilities and Energy Conservation</u>	
2.11	<input checked="" type="checkbox"/>	<u>Equipment Layout</u>	
2.12	<input checked="" type="checkbox"/>	<u>Campus Technical Review</u>	
3	<input checked="" type="checkbox"/>	Bid Documents (see contract for details)	
4	<input checked="" type="checkbox"/>	Construction Administration (see contract for details)	
5	<input checked="" type="checkbox"/>	Post-Construction Deliverables	
5.1	<input checked="" type="checkbox"/>	<u>As-Built Record Drawings</u>	
5.2	<input checked="" type="checkbox"/>	<u>Commissioning Details</u>	
5.3	<input checked="" type="checkbox"/>	<u>Facilities Site Plan</u>	
5.4	<input checked="" type="checkbox"/>	<u>Operations and Maintenance Manuals</u>	
5.5	<input checked="" type="checkbox"/>	<u>Warranty Details</u>	

Architectural/Engineering/Planning Supplemental Services – Board of Regents Ranking Criteria Responses

ID	Y/N?	Description	Comments and Clarification Notes
A			
Scope, Concept, Programming, Pre-Design			
A.1	<input type="checkbox"/>	<u>Master Planning</u>	
A.2	<input type="checkbox"/>	<u>Blocking and Stacking Diagramming</u>	
A.3	<input type="checkbox"/>	<u>Scope Definition</u>	
A.4	<input type="checkbox"/>	<u>Space Needs Analysis</u>	
A.5	<input type="checkbox"/>	<u>Site Evaluation</u>	
A.6	<input type="checkbox"/>	<u>Market Study</u>	
A.7	<input type="checkbox"/>	<u>Space Utilization Analysis</u>	
B			
Preliminary and Final Design			
B.1	<input checked="" type="checkbox"/>	<u>Site/Survey</u>	<i>B.1 Includes Geotechnical Survey and Report. Please see <https://www.wisconsin.edu/capital-planning/reference/deliverables/> for more detailed AutoCAD and geospatial data definition requirements. All buildings, site improvements, and site utilities within the designated project area, including those not impacted by project construction. Reference known elevation datum and include attributes for input or transfer to campus GIS mapping.</i>
B.1.1	<input type="checkbox"/>	Easements	
B.1.2	<input checked="" type="checkbox"/>	Zoning Approval Efforts	
B.1.3	<input type="checkbox"/>	Floodplain Restrictions	
B.1.4	<input type="checkbox"/>	Landholdings/Ownership/Boundaries	
B.2	<input type="checkbox"/>	<u>Utilities/Infrastructure</u>	
B.2.1	<input type="checkbox"/>	Energy Modeling	
B.3	<input type="checkbox"/>	<u>Existing Facilities Survey</u>	
B.3.1	<input type="checkbox"/>	Facility Condition Assessment	
B.3.2	<input type="checkbox"/>	Document Existing Conditions	
B.3.3	<input type="checkbox"/>	Concealed Conditions	
B.3.4	<input type="checkbox"/>	Building Code Analysis	
B.3.5	<input type="checkbox"/>	Phasing Options and Analysis	
B.3.6	<input type="checkbox"/>	Adjacency Analysis and Matrix	
B.4			
Facility Specialties			
B.4.1	<input type="checkbox"/>	Acoustics	<i>B.5 includes selection, recommendation, specification, and/or systems furniture layout if project ends up with faculty offices.</i>
B.4.2	<input type="checkbox"/>	Specialty Lighting	
B.4.3	<input type="checkbox"/>	Video Surveillance	<i>B.5.3 Fixed equipment would include engineering laboratory equipment.</i>
B.5	<input type="checkbox"/>	Furniture and Equipment	
B.5.1	<input type="checkbox"/>	Design Standards to Follow	
B.5.2	<input checked="" type="checkbox"/>	Furniture Design Services	
B.5.3	<input checked="" type="checkbox"/>	Fixed Equipment	
B.5.4	<input checked="" type="checkbox"/>	Movable Equipment	
B.5.5	<input type="checkbox"/>	Art Selection Assistance	
B.6			
Universal Design			
B.7	<input type="checkbox"/>	Historic Preservation	
B.7.1	<input type="checkbox"/>	Historic Structure Report (HSR)	
B.7.2	<input type="checkbox"/>	Historic Preservation Plan (HPP)	
B.7.3	<input type="checkbox"/>	Wisconsin Historical Society Approval for Building Concept	
B.8	<input type="checkbox"/>	Presentations	
B.8.1	<input type="checkbox"/>	Formal Presentation(s)	
B.8.2	<input type="checkbox"/>	Presentation Materials	
B.8.3	<input checked="" type="checkbox"/>	Facilitate on Campus Design Document Review	
C			
Specialty Bidding Services (Post-Bid Analysis, etc.)			
D			
Construction Administration			
D.1	<input type="checkbox"/>	<u>Additional Construction Administration Services</u>	
E			
Miscellaneous			
E.1	<input type="checkbox"/>	<u>Wayfinding</u>	<i>E.3 Formal presentations of design solution alternatives and cost-benefit analysis to the UW-Platteville general population may be required, as well as preparation and development of presentation materials for the Board of Regents and State Building Commission. F Includes Benchmark Facility Tours,</i>
E.2	<input type="checkbox"/>	<u>LEED™</u>	
E.3	<input checked="" type="checkbox"/>	Commissioning (Level 2 + Envelope)	
E.4	<input checked="" type="checkbox"/>	<u>Renderings, Models, and Mock-Ups</u>	
E.5	<input type="checkbox"/>	<u>Building Information Modeling</u>	
E.6	<input type="checkbox"/>	<u>Measured Drawings Beyond Project Area</u>	
E.7	<input type="checkbox"/>	<u>Post Occupancy Evaluation</u>	
F			
Other (Please Specify)			

Major Project Request

2017-19 Biennium

Agency

University of Wisconsin

Institution

Platteville

Project Title

Sesquicentennial Hall

Project No.

17H1X

Project Request

The UW System requests enumeration of \$55,189,000 (\$54,602,000 General Fund Supported Borrowing and \$587,000 Program Revenue Supported Borrowing) to construct a new mechanical and industrial engineering building at UW-Platteville.

Project Description and Scope

This project constructs a new 47,513 ASF/ 76,900 GSF academic engineering facility on a surface parking lot directly across the street from and east of Engineering Hall to provide instructional laboratory suites (~26,340 SF); project and research laboratories (~4,000 SF); and general assignment classrooms (~3,450 SF), including those configured and equipped for active learning. The campus data center will also be relocated into this building from the basement of Gardner Hall and a new surface parking lot will be constructed to replace the one serving as the site for this building. The following spaces and quantities will be included in this project:

SPACE TYPE	SF
Classrooms, Collaboration, and Study Space	6,450
Instructional/Project/Research Laboratories	30,340
Offices, Support, and Storage Space	7,923
Campus Data Center	2,800
TOTAL	47,513

The new facility will provide adequate space to resolve demonstrated quantitative and qualitative space shortages in Ottensman Hall. Approximately 19,700 SF of computing, dry, and wet instructional and project laboratory space will be relocated from Ottensman Hall to the new facility because the existing space cannot be effectively renovated to accommodate the engineering program. These spaces include laboratories for computer aided engineering, mechanical systems, metallurgy and materials, thermo science, and thermal systems. The new facility will be constructed with adequate structural bay sizing and floor to floor clearance necessary for the engineering laboratories and mediated general assignment classrooms. An additional ~15,000 SF of new laboratory space will be constructed for specialized computing, equipment and service, manufacturing, machine shop/project making, and research lab space that does not exist on campus. The new campus data center will provide adequate cooling and ventilation for the servers, workstations, uninterruptible power supplies, and other computing equipment as well as being located within the building with appropriate fire protection, electrical capacity and distribution, and environmental/flood protection measures.

At the completion of this project, approximately 25,000 SF in Ottensman Hall will be vacated and made available for reallocation for other departments on campus. More than 73,000 SF of space deficiencies have been identified across campus, primarily those 28 departments operating in the four relic and former residence hall facilities (Brigham Hall, Gardner Hall, Royce Hall, and Warner Hall) planned for eventual demolition due to their poor functional and physical condition assessments. Campus space planning initiatives have determined that these 28 departments will all eventually relocate to a renovated Ottensman Hall once the science, technology, engineering, and mathematics (STEM) academic programs currently housed there are relocated to adequate facilities.

Background

UW-Platteville is a STEM-focused campus, with 58% of graduates earning a degree in those fields. The mechanical engineering program alone accounts for 12% of the overall enrollment. Since the inception of the Tri-State Initiative in 2005, campus enrollment has been increasing at a steady pace. Headcount enrollment has grown by almost 40%, from 6,415 in Fall 2005 to 8,967 in Fall 2015. The enrollment has more than doubled since 2003 to a high point of 1,044 majors in Fall 2013. This growth within mechanical engineering and all other engineering programs on campus is projected to continue.

Major Project Request

2017-19 Biennium

The campus is integral in consistently providing skilled graduates, particularly engineers, to meet the increasing needs of Wisconsin industry. Job placement and hiring of UW-Platteville engineering graduates by Wisconsin employers is substantial. The engineering programs are currently served by two buildings, Engineering Hall (108,500 GSF constructed in 2009) and Ottensman Hall (168,829 GSF constructed in 1965). The mechanical engineering program is housed in the basement level of Ottensman Hall within spaces that have not been significantly upgraded since the building was originally constructed. Engineering Hall, designed to complement and not replace Ottensman Hall, is fully utilized and is not able to accommodate the quantitative or specialized functional space needs to support the significant and sustained growth of the mechanical engineering program.

Analysis of Need

Ottensman Hall does not have adequate structural bay spacing or floor to ceiling clearance to house modern STEM disciplines. The structural bays are 20-feet by 27-feet and 27-feet by 27-feet with a 13-foot 4-inch floor to ceiling clearance. A modern STEM facility would be constructed with dimensions based on multiples of 11-feet deep and up to 35-feet wide to accommodate standard equipment and furnishings and typical laboratory configurations, and floor to ceiling height clearances of 18 to 20-feet on the first floor and 14 to 16-feet on all other floors to accommodate building infrastructure and still allow mediated instructional spaces. Renovating this building for more infrastructure intensive laboratory needs would compromise ceiling heights, inhibit future flexibility, create the need for excessive fittings that would result in higher pressure drops and fan energy consumption, force service access of piping and terminal units to be located directly over laboratory spaces, and cause extremely congested use of additional vertical shafts. The added vertical shafts would be expensive to create and would reduce usable square footage, lowering building efficiency to an unacceptable level.

This facility also does not have enough physical space to accommodate the specialized laboratory needs of the industrial and mechanical engineering programs. Space utilization analysis reveals that the mechanical engineering instructional laboratories are well utilized, averaging ~27 hours per week and two laboratories reached 40 and 53 hours of scheduled instruction per week. This intensive use profile is further amplified by the unique specialized equipment and machinery used in the spaces. There is a limit to the number of students that can safely and functionally access the rapid prototyping machines, three-dimensional printers, metal shop machinery, and industrial/advanced manufacturing simulation units.

Due to the structural limitations and condition of the building infrastructure, this facility is planned to be reallocated to less intensive academic and student support services uses once the academic programs can be housed in appropriate STEM facilities and this building can be completely renovated. The mechanical, electrical, telecommunications, and plumbing systems are all obsolete and nearing the end of their useful lives. Some of the specialized equipment critical to teaching is housed in basement spaces that do not comply with current codes for occupancy due to lack of ventilation and proper emergency egress. To meet the undergraduate research and experiential project-based pedagogy space needs, modular research and project spaces will be shared by faculty and students. This arrangement creates future flexibility to respond to changing program needs.

The Gardner Hall basement provides an inadequate data center location due to lack of appropriate fire suppression systems, adequate ventilation and cooling systems, undersized electrical capacity and distribution, and lack of environmental/flood control. Water infiltration into the data center space nearly shut it down twice in the past few years. The data center space was not designed for its current use, resulting in congested work and equipment operating space, which contributes to the high temperatures within this location.

Alternatives

The Academic Buildings Feasibility Study (12L1K) completed in 2015 explored multiple alternatives to address the space shortages identified in the 2010-11 Space Utilization Study and Campus Master Plan. The feasibility study ultimately recommended a five phase implementation plan that balances programmatic priorities, projected incremental enrollment growth, funding realities, existing space use, and existing building conditions. This project implements Phase I of the recommended approach which culminates in the full renovation of Ottensman Hall and the razing of the four relic and former residence halls (Brigham Hall, Gardner Hall, Royce Hall, and Warner Hall) in Phase V.

Major Project Request

2017-19 Biennium

Project Budget

Construction Cost:	\$	41,795,000
A/E Design Fees:	\$	3,477,000
Other Fees:	\$	476,000
DFD Management Fees:	\$	1,839,000
Contingency:	\$	4,180,000
Movable/Special Equip.:	\$	3,422,000
	\$	<u>55,189,000</u>

Funding Source

General Fund Supported Borrowing	\$	54,602,000
Program Revenue Supported Borrowing	\$	587,000
Building Trust Funds	\$	0
Gifts and Grants	\$	0
Program Revenue Cash	\$	0
	\$	<u>55,189,000</u>

Fee Impact

None, not applicable.

Impact on Operating Budget

	FTE	Cost
Custodial Staff	2.00	\$ 80,000
Maintenance Staff	0.50	\$ 26,000
Supplies		\$ 20,000
Utilities		\$ 181,000
	2.50	\$ <u>307,000</u>

It is estimated that an additional \$307,000 will be required annually to support the completion of this project for staffing, supplies and equipment, and energy bills. Adequate and appropriate operational budget sources have been identified and internally allocated/committed to support this proposed project.

Project Schedule

A/E Selection:	Jan 2018
Design Report:	Jan 2019
Bid Date:	Jul 2021
Start Construction:	Sep 2021
Substantial Completion:	Jul 2023
Final Completion:	Dec 2023

Project Delivery

At the present time, it is anticipated that the standard state project delivery process will be used.

Previous Action

09/21/2017
2017 Wisconsin Act 59

The State of Wisconsin enumerated the project as requested and included it in the 2017-19 biennial budget bill.