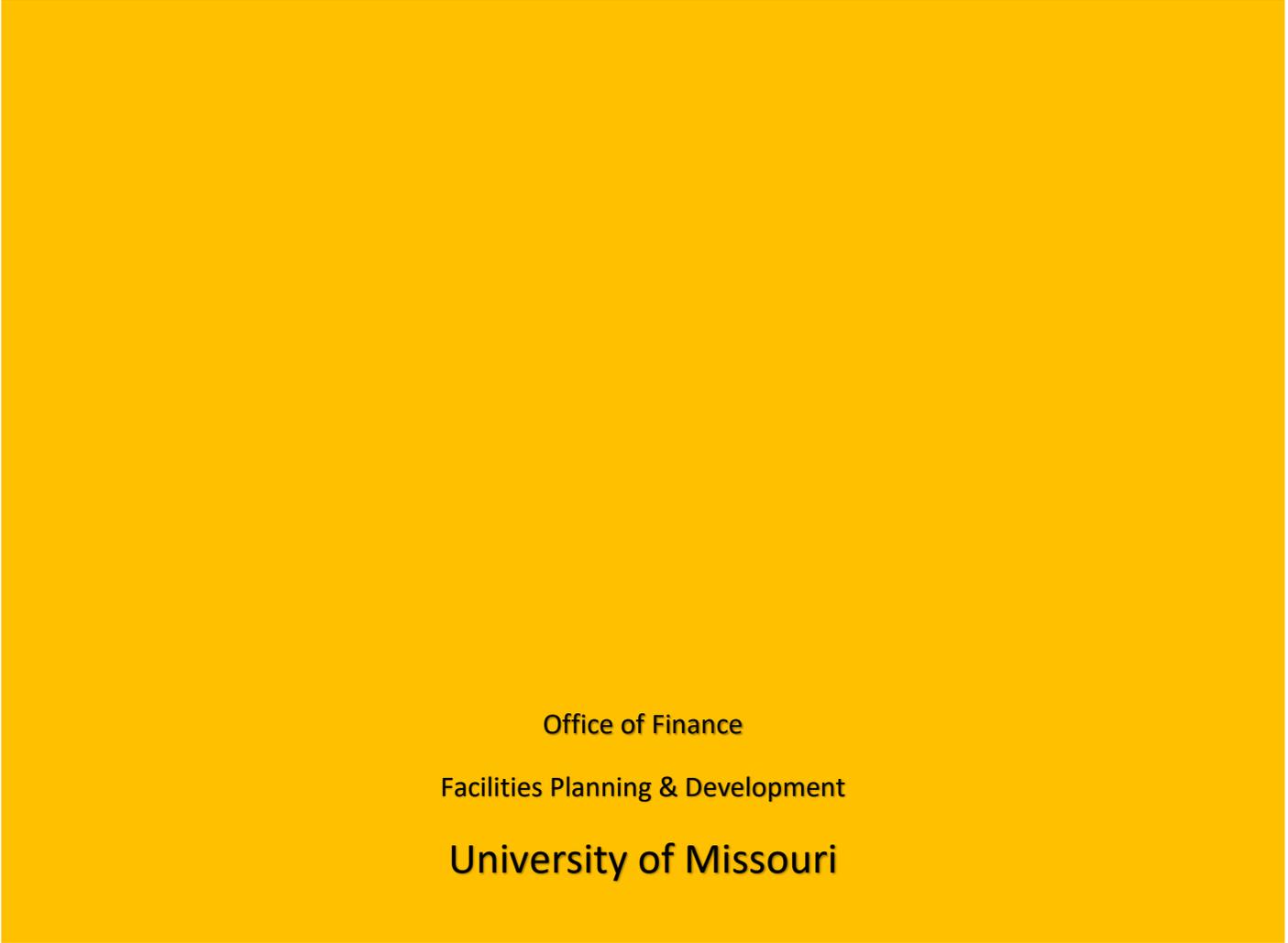




Project Manager Manual

December 2016



Office of Finance

Facilities Planning & Development

University of Missouri

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Introduction:

This manual describes responsibilities and procedures for the Project Manager for the design and construction of University projects. All information is consistent with the University of Missouri [collected rules and regulations](#) as approved by the Board of Curators, the UM [Business Policy Manual](#), and the [Facilities Management Policy and Procedure Manual](#).

The Project Manager is assigned by the campus to manage a project through the design, bidding and award phases. This person is responsible for the coordination of the consultant selection and design process and serves as the point of contact between the Consultant and the University. The Project Manager is responsible for the Scope, Budget and Schedule for the project and is expected to protect the assets and resources of the University.

The Construction Project Manager (CPM) is also assigned by the campus to manage the project from construction contract award through construction warranty. The PM invites the CPM to all document review meetings for constructability review, as well as input on site issues, scheduling, and contingency. The project management is transferred to the CPM once the construction contract has been signed. The CPM is the University's on-site field representative who coordinates the administration of the construction contract. Communication among the Contractor, Consultant and the University flows through the CPM. The PM's role is to assist with technical issues, unforeseen conditions, design errors or design changes as needed throughout the construction of the project. The CPM updates the PM on project progress and engages them when necessary (design changes, change orders, etc.) throughout the construction process. [A matrix of PM versus CPM responsibilities](#) is located in Appendix A.

The [Facilities Management Policy and Procedure Manual](#) is located on the FPD website and provides information and guidance in addition to this manual for the Project Manager. The [Consultant Procedures and Design Guidelines](#) is another important resource for the PM. The [FPD website](#) contains a [Document Page](#) with many of the University standard documents. This is where the most current version of these documents can be found. A [matrix of System versus Campus responsibilities](#) is located in Appendix A.

Project Management Goals:

Add Value
Verify and Improve Quality
Maintain Budget and Schedule
Provide Leadership

Note: This manual address the traditional and most often used delivery method of design - bid, - build. The other delivery methods discussed in the FMPP follow similar standards to processes discussed within this manual. The PM and CPM should read the specific documents or suite of documents on the FPD webpage.

Chapter 1: General Information for Project Managers

- I. Projects exist to meet campus objectives. The PM serves the campus through managing the project to a successful completion. Success is gauged by reaching the project objectives and the satisfaction of the Project Shareholders (the client/user, funding group, students, faculty, public, campus administration & staff, Curators, PM, Director, and Consultant). Key objectives are scope, time, & budget.
- II. The PM provides leadership for the project and builds consensus before setting direction. University projects involve building committees, campus groups, and system administrators.
- III. The [CONSULTANT PROCEDURES AND DESIGN GUIDELINES \(CPDG\)](#) contains the standards and expectations for Consultants on UM Design and Construction Projects. The items noted here are polices for Project Managers.
- IV. No unilateral decisions will be made by the PM on items not covered by University policy or the CPDG. The PM and the Client/User will be involved in discussion and a consensus reached, as well as other campus stakeholders (i.e. Maintenance, IT, Energy Management, etc.). Avoid campus politics, retain your objectivity, and always advocate the policies of the University.
- V. The PM will Schedule and Chair all meetings. The PM should be represented at any project related meeting unless the agenda is not germane to the design process. PM must be included in all project related communication.
- VI. The PM will be proactive in identifying issues that may require special instructions and to discuss these with the Client/User. The Consultant is responsible to design according to the requirements in the Design Standards unless directed by the PM.
- VII. The PM is expected to provide strong leadership to the design process and in the resolution of design decisions. The PM will give consideration to code requirements, Life Cycle Costs, and constructability in leading the resolution of design decisions.
- VIII. The Client/User must be given all facts and allowed to make decisions where appropriate (for instance, code compliance, and University business procedures are not optional).
- IX. The PM will require the Consultant to make recommendations with justification on any design decisions required of the Owner.
- X. Designs must meet code. A code review is required on all projects. No variances are allowed without written approval from the UM Executive Director of Facilities Planning & Development, see [Chapter 3 Building and Fire Code Policy](#) of FMPP manual.

PM must balance the scope to meet client and institutional needs, codes, and standards.

Chapter 2: Project Initiation

I. Project Assignment

- A. The Director assigns the project to the PM.
- B. PM will telephone or e-mail the client contact.
 - 1. Introduce yourself
 - 2. Get general information on project
 - 3. Set up first meeting and site visit
- C. If project is estimated to be over \$500,000 in construction or A/E fees are estimated to be over \$100,000, then a [Project Information Form](#) (PIF) is created and sent to UM Facilities Planning & Development (FPD). FPD will assign a contact person for code reviews and BOC approvals if applicable.

II. Initial Meeting with the Client

- A. Orient the client to the design and construction process.
 - 1. Consultant Selection Process
 - 2. Planning Programming Phase
 - 3. Schematic Phase
 - 4. Design Development Phase
 - 5. Construction Document Phase
 - 6. Bidding Phase
 - 7. Construction Phase
- B. Discuss the project manager role.
 - 1. PM is the interface between client, University, and consultant
 - 2. PMs hire and manage outside consultants
 - 3. Role of PM as a facilitator
 - 4. **All** communications and instructions to the Consultant will be made by the PM.
- C. Discuss client's role.
 - 1. Communication
 - 2. Define and prioritize needs
 - 3. Decision turnaround
 - 4. Be an active participant in the team
 - 5. Define the budget
 - 6. Define the schedule
 - 7. Define funding
- D. Discuss consultant's role
 - 1. Explain expectations of a design firm
 - 2. Prepare the client for unforeseen errors and omissions
 - 3. Explain the "standard of reasonable care" to which professional designers are held
 - 4. Explain the UM policy on design errors

5. Explain the significance of professionally sealed drawings and specifications
- E. Discuss UM Facilities Planning & Development's Role
1. Authority Having Jurisdiction for the University of Missouri
 2. Contracting Officer for all consultant agreements over \$100,000 and all construction contracts over \$500,000
 3. Liaison to the Board of Curators
 - a) Projects with a project cost over \$5 million
 - b) Project with consultant agreements over \$500,000
 - c) Projects with Bond Financing
 - d) Projects that change exterior appearance of campus
- F. Discuss other project participants
1. Steering Committee
 2. Building Committee
 3. Discuss role of building coordinator
 4. Discuss role of other campus groups
- G. Discuss Scope
1. Project Goals
 2. Client Needs
 3. Building Codes
 4. [University Standards](#)
- H. Discuss Budget
1. Set a realistic Budget
 2. Define available Funding
 3. Estimating Process at each phase
 4. Develop estimated project cost summary
- I. Discuss Schedule
1. Set a realistic Schedule
 2. [Cost and quality impact of a compressed schedule](#) (see Appendix B). Compressed schedule is expensive. Client loses quality and/or scope.
 3. [Impact of delayed or revisited decisions](#) – Scope needs to be set at the end of Design Development (see Appendix B)
- J. Discuss Delivery Methods (If applicable)
1. Design – Bid – Build
 2. Design/Build
 3. Construction Manager at Risk (CMR)
 4. Master Construction Agreement (JOC)
- K. Discuss the consultant selection process (whichever is applicable)
1. Type I Projects: Major project - include new buildings, major renovations and significant studies. Typically, professional fees on Major projects exceed \$200,000
 2. Type II - Small Projects - include various types of consulting and typically have professional fees less than \$200,000.

III. Define Project

A. Define Project Scope of Work

Determine the needs of the client and what this project is trying to achieve.

1. The first step in many projects is a planning and programming study (PPS) to determine the actual needs vs. wants. See [Chapter 4 Planning](#) in the FMPPM for information on a PPS.
2. If a planning and programming study has been completed, does it need to be updated or verified based on when it was completed?

B. Define Project Budget – Project Cost Summary

Develop a realistic budget. Historical data from similar projects can be used to help create this initial budget. The [Project Cost Summary \(PCS\)](#) is created and will be updated throughout the design process. The PCS includes the following:

1. **Design Cost**

This category of cost relates to the activities that primarily occur during the Planning and Design Phase of a Construction project. All consultant (A/E) fees and payments must be supported by a consultant agreement with each individual firm in the basic services provided by the primary A/E.

- a.) **Basic Services:** The fee allotted for the Primary A/E as determined by the conditions of the consultant agreements and related amendments. The primary A/E is responsible for the overall design and management of the project. This can be a lump sum, not to exceed or a percentage fee. The Primary Consultant can be a non-university A/E or Campus Facilities Design Services; however, Design Services will not have a formal consultant agreement.
- b.) **Additional Service Fees:** The additional consultant fees not covered under the basic services such as studies, etc., which were required as part of the project, but were not included in the design fee as part of the A/E agreement.
- c.) **Reimbursables:** Reimbursables are for such items as travel, long distance calls, per diem, etc. which are not included in the A/E's basic services. The Project Manager should estimate the reimbursable expenses based upon past project histories and negotiations/discussions with the A/E. These costs are only allowable if they are identified in the terms of the primary A/E agreement.
- d.) **Structural Consultant Fees:** The fee paid to structural consulting firms on projects where those services are not part of the A/E's basic services.
- e.) **Code Consultant Fees:** The fee paid to code consulting firms.
- f.) **Special Consultant Fees:** Special Consultant fees for firms such as food consultants, acoustical consultants, elevator consultants, traffic consultants, etc. that are not part of the A/E agreement.
- g.) **Scheduling Consultant Fee:** The fee paid to a scheduling consulting firm on projects with critical schedules.

- h.) **Commissioning Fee:** The fee paid to a commissioning firm for commissioning services on the project.
- i.) **Site Survey:** Cost of surveying the area contemplated for construction that are not part of the primary A/E agreement.
- j.) **Soils Investigation:** The cost of hiring a geotechnical engineer for sub-surface investigation during the design phase of the project not included as part of the A/E agreement.
- k.) **Asbestos/Hazardous Testing:** Asbestos, Lead, etc. Testing done during the design phase of the project, typically done by Environmental Health Safety, to identify the extent of asbestos, lead, etc. removal in a project.
- l.) **Other Design Costs:** This item would be used for any item not previously identified which would be incurred during the design phase of the project.
- m.) **Additional Site Visits:** Provide funds for additional site visits during construction that may be included in the consultant agreement, but is not included in the Basic Services.
- n.) **Project Management Fee:** The project administration fee is a percentage of the construction cost.
- o.) **Advertising:** \$50.
- p.) **Reproduction:** The cost of reproducing and mailing bid documents.
- q.) **Archiving:** The cost of archiving specifications and drawings for permanent record keeping upon completion of the project. The allowance for archiving is program driven.

2. Construction Cost

This category of cost relates to the activities that primarily occur during the Construction Phase of a Construction project.

- a.) **Base Bid:** Contractor's Cost for work defined in the base bid.
- b.) **Alternates:** Contractor's cost to perform additive alternates. Typically 10% of the base bid amount.
- c.) **Direct Purchases:** The cost of purchasing equipment directly by the University that will be furnished to the contractor for installation.
- d.) **Contingency:** The funds set aside at the beginning of the project to cover the cost of unforeseen changes in construction work. It is not to be considered funds for additional design changes during the construction phase of the project. Contingency is generally set at 10% at the beginning of the project. It may be adjusted up or down depending on the complexity of the project and the risk of unforeseen conditions within the project. Typically, the contingency is higher for a renovation project vs. a new building.
- e.) **Construction Management Fee:** This is the fee charged by Construction Management for managing the project during the construction phase. The value is program driven in all instances.
- f.) **HVAC Testing:** The cost of testing the HVAC system by Energy Management or an independent firm hired by the Project Manager.
- g.) **Concrete Testing:** The value for testing of concrete during the construction phase of a project.
- h.) **Structural Testing:** The value for testing structure during the construction phase of a project.

- i.) **Soils Testing:** The value for testing of soils during the construction phase of a project prior to a placement of spread footings and/or drilled piers, etc.
 - j.) **Computerized Controls:** The cost of hardware, software and engineering services required to furnish and install the energy management equipment. Obtain this cost by requesting an estimate from Energy Management
 - k.) **Telephone Plant:** The cost of Telecommunications making the connection from the existing plant (normally a manhole in the street) to the building main telephone equipment room.
 - l.) **Keys and Locks:** The cost of Campus Facilities Key Shop to replace construction cores and/or install full lock sets on the project.
 - m.) **Signs:** The cost of interior and exterior signs required which are not included in the construction contract.
 - n.) **Landscaping:** The value for landscape work required in addition to any landscaping provided by the contractor.
 - o.) **Asbestos Removal:** This is a value for any asbestos removal work.
 - p.) **Contractor Parking:** The cost for parking spaces displaced during the construction phase of the project or spaces used as contractor parking or contractor staging.
 - q.) **Other Costs:** This is a line item for other cost during construction not previously identified.
3. **Miscellaneous Project Cost**
- a.) **Other Contracts:** This line item should include all construction contracts or in-house services not specifically identified elsewhere.
 - b.) **Start-Up Cost:** The costs generally associated with first time occupancy of a new building, (i.e., window washing, floor sealing, etc.).
 - c.) **Special Service Equipment:** This is a line item to cover the purchase of any specialized equipment.
 - d.) **Card Access:** Charges incurred for the installation of card access equipment on buildings.
 - e.) **Utility Infrastructure Fee:** The charge to any project for adding new space which will be either heated or cooled.
 - f.) **Chilled Water Service:** The charge assessed per ton of cooling added to the central campus chilled water loop.
 - g.) **Fire Extinguishers:** The cost for furnishing fire extinguishers for the project.
 - h.) **Furniture/Equipment:** The cost of departmental furniture and equipment.
 - i.) **Moving:** The cost for moving a client in and/or out of spaces required as a result of a renovation or new construction project.
 - j.) **Information Technology:** This includes charges by IATS to install computer connections.
 - k.) **Other Costs:** This is a line item to cover other miscellaneous costs not identified in miscellaneous costs.

The PCS will be updated throughout the project at each phase.

C. Define Project Schedule

Develop a realistic schedule.

1. Construction Project Manager should be consulted on the development of the schedule.
2. If there is a requirement for a compressed schedule, the budget should be increased. Compressed, Accelerated Schedules can have a significant cost impact and should only be used when absolutely necessary.

IV. Follow up meeting with the Client

Meet again with the client and confirm the developed scope, budget and schedule. Discuss the impacts of the schedule on cost and the importance of staying on scope, budget and schedule. Specifically:

- A. Review scope, budget and schedule with the client and secure funding commitment (MoCode).
- B. Discuss the PCS and explain line items and the significance of each.
 1. The importance of the contingency in both design and construction
 - a.) How it relates to total project costs
 - b.) How it is used to cover unexpected construction or design costs
 - c.) How it is not a rebate
 - d.) Cannot be used to increase scope of work
 - e.) May be used to cover design issues that come up
 - f.) Covers a variety of miscellaneous adjustments
- C. Discuss Potential Consultant Firms

V. Determine Delivery Method

The University uses five basic delivery methods for the design and construction projects.

- A. Design-Bid-Build Delivery Method
- B. Design Build Delivery Method
- C. Construction Manager at Risk Delivery Method
- D. Construction Manager Agency
- E. Master Construction Delivery Method

[Chapter 5 Project Delivery Methods](#) of the FPPM gives general information on the pros and cons of each method. A [Delivery Method Decision Matrix tool](#) is available in Appendix B. Most projects will be design-bid-build.

Chapter 3: Design Contracts

I. Consultant Selection

- A. A successful project starts by hiring the best Consultant. The PM will work with the Client/ User to select the best Consultant for the project, based on delivery method.
- B. The campus may elect to name a Building Committee and/or a Consultant Selection Committee. The PM will lead this group through the selection process and will insure that UM selection policies are followed.
- C. The University's procedures for selecting consultants follow the intent of State and Federal guidelines. For each project, the firms will be evaluated based on the following:
 - 1. The firm's qualifications.
 - 2. The number of projects the firm has completed that are similar in scope and size.
 - 3. The current number of contracts the firm has with the University of Missouri.
 - 4. The firm's past performance.
 - 5. The firm's present work load.
 - 6. The firm's experience with the project.
 - 7. The firm's Supplier Diversity status and Supplier Diversity participation in the design team.
 - 8. The firm's status as a Missouri Firm.
- D. As part of evaluating a firm's past performance with the University, the PM will consider whether that firm will sign the UM Standard Consulting Agreement (SCA). The PM should share a copy of the SCA with new firms to allow them the opportunity to find out if the project is worth the risk of signing the UM contract. The University discourages any changes to our standard contracts.
- E. The PM develops the list of qualified Consultants from the Consultant database, the PM's experience and from campus suggestions.
- F. [Consultant Database](#) - The University of Missouri maintains a database of consultants interested in providing services to the University of Missouri. This [database](#) will be used as a starting place to determine the most qualified consultants for a project.
- G. The University uses two procedures for the selection of consultants depending on the size of the project.
 - 1. Type I - Major Projects: Major Projects include new buildings, major renovations and significant studies. Typically, professional fees on Major projects exceed \$200,000.
 - 2. Type II - Small Projects: Small Projects include various types of consulting and typically have professional fees less than \$200,000.

H. Selection Procedure for Type I – Major Projects

1. For new buildings or major renovations the Campus Chancellor [or other officer] appoints a project committee. Members of the committee will include appropriate user representatives including faculty, staff and students. The Project Manager will also be appointed to the committee. The Chancellor may appoint a committee chairperson who will be responsible for coordination of user input, concerns, and suggestions. The primary role of the committee is to develop and define the program needs and ensure the design satisfies the program needs.
2. The Project Manager prepares a [Request for Qualifications](#) (RFQ). When issuing an RFQ for a project, use the standard RFQ, modified to be project specific. The RFQ outlines the project scope, schedule, budget and services required.
3. The Project Manager will determine the appropriate architect/engineer fee for the project using the [Architectural and Engineering Basic Services Fee Estimating Guidelines](#). This maximum fee will be stated in the RFQ.
4. The University has a commitment to increase the Supplier Diversity participation when procuring architectural and engineering services. All projects should have a minimum of a 10% goal. The PM may contact MBE firms on major project RFQs so that those firms have sufficient time to investigate subconsulting opportunities with the long list firms.
5. The Project Manager uses the [Consultant Database](#) and their judgment to develop a list of consultants to receive the RFQ, typically (8-14 firms).
6. The Project Manager should schedule the short list meeting and the interview date with the committee prior to issuing the RFQ.
7. The Project Manager issues the RFQ to prospective firms. Typically allow 10 days to 2 weeks for the consultant teams to prepare the SOQs.
8. After qualifications are received from the consultants, the Project Manager reviews the information and recommends a list of firms to interview to the committee. Only the most qualified consultants are invited to be interviewed. At least 3 firms should be interviewed, but no more than 6 firms.
9. The interviews are coordinated by the Project Manager and should include the project committee. The PM notifies both the selected firms for the interview and the firms not selected.
10. Interviews should all be held in one day with the typical format as follows:
 - a.) 20 – 30 minutes for presentation
 - b.) 15 – 20 minutes for Q&A
 - c.) 5 minutes for wrap-up by Consultant

11. The Consultant should be limited to 5 or 6 key personnel. Personnel should include:
 - a) Project Manager
 - b) Project Architect
 - c) Project Managers/Engineers for sub consultants
 12. Based upon the above evaluation criteria, the selection committee ranks the firms and they recommend a finalist. A written evaluation of the firms is placed in the project file. The Project Manager will complete the University of Missouri [Consultant Selection Summary Form](#) and place in the project file.
 13. The Project Manager negotiates the final form of the contract with the selected Architect/Engineer. A [Supplier Diversity Consultant Selection Summary Form](#) is prepared for each project and included in the project file.
 14. If no Architect/Engineering firm agrees to the terms of the University contract or fee, the selection criteria and designated fee may be modified and the selection process shall start over.
 15. If the project cost is greater than \$5 million, the BOC project approval is required. Board documents include the construction backup and summary. See the [Board Calendar Preparation Dates](#) on the FPD website.
- I. Selection Procedure for Type II – Small Projects
- The process follows the same steps as the Type I process. However, an RFQ and committee interviews are not required, but can be conducted if the PM decides they are of value. At a minimum, the PM will call the selected firms and discuss the project requirements and the firms' qualifications. The Project Manager will consider no less than three (3) qualified firms. The [UM Consultant Database](#) should be used.

II. Professional Services Fees

For Type I projects, professional services fees shall be established before the RFQ is issued according to the [Fee Guidelines](#). For Type II projects, the Project Manager will negotiate fees using reasonable and fair judgments per the Fee Guidelines. If the University and the consultant cannot agree, the negotiations will be ended. The Project Manager will justify any fee higher than the maximum listed in the guidelines, and document the extenuating circumstances.

III. Consultant Agreements

- J. **Standard Consultant Agreement** - For basic design and construction services, a University of Missouri [Standard Consultant Agreement](#) is used. This agreement is a contract between the Owner (University) and the Consulting firm. This agreement is maintained by UM Facilities Planning & Development. The agreement contains two major segments: the body of the agreement and the agreement exhibits. The body of the agreement identifies the responsibilities of both the Owner and Consultant. The exhibits include:

- the name of the Project Manager
- the scope of services
- amount available for construction
- the project schedule
- the fee and billing rates
- other project specific requirements (e.g., site visits, etc.)
- the payment schedule may be modified for special projects (i.e. civil work). For example, the Schematic Design percentage may be increased and the DD phase percentage decreased. The bidding and construction phase should not be reduced.

1. The Project Manager prepares the agreement.
 2. Do not reference the Consultant's proposals in the agreement unless doing so will save word processing time. If referencing a proposal, note the specific portion of the proposal being referenced (i.e. the scope of work outlined in the proposal) in the SCOPE OF WORK section of EXHIBIT A and strike out all clauses and conditions that invalidate or contradict portions of the standard contract form.
 3. The University discourages any changes to the contract language or requirements.
 4. However, if a change is approved, do not modify the electronic version of the standard contract form. In ink, strikeout deleted portions, print new portions and initial, and/or write out changes on Agreement Exhibits.
 5. Only the UM Executive Director of Facilities Planning & Development may approve a change in the contract language.
 6. Reimbursables budget if reimbursables are allowed in Exhibit B shall be included in the cover letter – Not on Exhibit A or Exhibit B.
 7. The agreement is sent to the Consultant along with a transmittal letter that requests the firm's representative to: (1) sign the Agreement; (2) send a Certificate of Insurance; (3) direct all correspondence to the Project Manager and (4) return the agreement to the Project Manager. Normally, three signed copies of the agreement are required: one each for the Project Manager, the contracting official's file, and the consultant.
 8. After the consultant returns the signed copies of the agreement, the appropriate University official executes the agreement. See [BPM 109](#) for delegations. For required documents for the Contracting Officer to sign the agreement, see the [Agreement Processing Checklist](#). Once the agreement is fully executed and returned to the Consultant, the Consultant may proceed with the project.
- K. **General Consulting Agreement** - For services requiring no direct design and construction responsibility by the consultant (such as the owner's design-build technical consultant, programming, master planning, studies, commissioning, scheduling, code review, TAB, testing services and inspections, etc.), a [General Consulting Agreement](#) will be used. The agreement specifies the scope of services, conditions for employment,

agreed upon contract payment, the project completion date, and related contractual information. This agreement is maintained by UM Facilities Planning & Development.

- L. The PM will also prepare and manage all ancillary contracts (soil test, survey, asbestos survey, etc.) not included under the Consultants scope of services. See [Land Survey Agreement](#) and [Geotechnical Agreement](#).
- M. [Amendments](#) may be made to an agreement. The PM must negotiate the additional fees before the work is done and all agreement guidelines apply to amendments. The University standard amendment form shall be used. Each scope change along with associated cost should be listed on the amendment. Do not reference proposal.

IV. Payments

- N. Consultants may request payments following the criteria established in the agreement. The Consultant is supplied any payment request forms and instructions with the agreement.
- O. The Consultant must submit to the Project Manager a request for payment of services performed at any stage of the project's development (e.g., schematic, preliminary design). Invoices must accompany all payment requests submitted by a Consultant detailing the services completed. The payment request shall summarize the total bill to date and the current bill.
- P. The Project Manager will review and approve all Consultant payments. Fee payments will not be made to the Consultant, nor will a project be Advertised for Bids, until the agreement is executed by the UM Contracting Officer. All insurance must be in place and all issues resolved.
- Q. No fee payments shall be made for services not under contract.
- R. The PM approves Consultant payments through the bidding phase. The Campus Construction Project Manager (CPM) then assumes management of the Consultant contract.
- S. Reimbursable expense requests from consultants must have appropriate backup documentation before approval. Appropriate documentation includes receipts for meals, hotels, and transportation. No markup on these expenses is allowed.

Chapter 4: Board of Curator Approval Process

The University Board of Curators shall approve the architectural and engineering consultant fees, the project budget, funding and scope of work for projects with a total project cost of \$5,000,000 or more, on debt financed projects, before the design of the project is started. This does not include the pre-design programming and planning to develop estimated project cost, scope of work, and justification. The University Board of Curators shall also approve the architectural and engineering consultant when the fees are greater than \$500,000. See [Delegation Table – Design & Construction](#). Additional approvals may be required if scope or budget changes significantly. The UM Executive Director of Facilities Planning and Development must approve any budget increase that exceed the project cost approved by the Board of Curators. The Schedule for document submission is located on the FPD website at [Board Meeting Preparation Dates](#) . For new building or addition projects, a rendering, site plan, floor plans, and elevations will be presented to the BOC as an information item prior to bidding the project.

I. Board Documentation

- A. The Project Manager will prepare the [project approval backup](#) and [summary](#) and submit to FPD for review and editing. Examples of these documents are located on the FPD website under Project Manager Documents. The backup provides more detailed information about the project and the summary document gives a more concise overview of the project. The backup and summary templates must be followed. The Board Schedule for submitting documents is located on the FPD website.
- B. The Building Design Information Item will also require a [project design backup](#) and [summary](#) prepared by the project manager and submitted to FPD for review and editing. Examples of these documents are located on the FPD website under Project Manager Documents. A power point presentation - [Board PowerPoint Presentation Template](#) - shall include the rendering, site plan, floor plans, and elevations. This document is submitted to FPD with the backup and summary for review and editing as well. This template is located on the Document Page under Board of Curator Documents.

Chapter 5: Design Management

The project design process can begin once the consultant agreement is executed. The University's Project Manager (PM) is the Owner's Representative during the design of the project. All instructions and approvals come to the consultant from the PM. The PM manages the total project budget and requires the consultant to manage the construction budget. The PM will manage internal University approvals and instruct the consultant accordingly.

I. Design Management Basics:

- A. All communications and instructions to the Consultant will be made by the PM. The PM represents the Owner's shareholders. It is advisable to keep close contact with the Client/User.
- B. The PM schedules all design meetings, prepares a written agenda, and is responsible for conducting the meeting. The agenda should be distributed before the meeting. The agenda will include the meetings purpose, objective, and time. The PM will keep the meeting on track and focused.
- C. The Consultant is responsible for the minutes of all meetings. The Consultant shall submit the minutes to the PM for correction before final distribution. The PM is responsible for distribution of the minutes. The PM will keep minutes at meetings not attended by the Consultant.
- D. All communications will be documented and placed in the central project file. Private and/or duplicate project files should not be kept. It is the PM's responsibility to make all project information readily available to anyone.
- E. The PM will be proactive in ensuring the Consultant meets submittal deadlines.
- F. The PM will be proactive in insuring the University meets any commitments to the Consultant to keep the project on schedule. Notify individuals of commitments in advance; explain the consequences of delays and document response problems as necessary. Problems should be identified as soon as possible.
- G. The PM has the latitude to communicate with any University personnel to get the job done. Use good judgment on whom you contact.
- H. It is the PM's responsibility to solve problems, however, the Director is always available to suggest possible solutions and offer advice.
- I. The PM is expected to keep themselves knowledgeable of and represent [UM policy](#).
- J. The PM will keep their projects current in [Projex 4](#).
- K. The result of the design process is to produce a set of construction documents to fulfill the Client/User's and University's objectives that are clear, concise and will obtain the best price for the University.

- L. The Consultant is responsible for producing a quality set of documents. The PM will review the documents for general constructability. Constructability reviews include incorporating standard UM bidding material appropriately, incorporating prior UM instructions into the bid documents, and providing the bidder with adequate information to submit a good bid.
- M. The PM is responsible for ensuring the documents are reviewed for code prior to bidding. The PM may engage the AHJ as necessary throughout the design of the project, but must have a formal code submission and approval on the final review documents prior to advertising for bid. See [Chapter 3 Building and Fire Code Policy](#) of FMPP manual.
- N. The PM will insist on complete review submittals. Incomplete submittals will be rejected. Check the submittal against the requirements in the [Consultant Procedures & Design Guidelines](#). The Consultant shall bear the responsibility for project delays due to incomplete submittals. Cost estimates must be received as a part of review submittals. Incomplete estimates should be rejected.
- O. The PM is responsible to notify review contributors as early as possible to set aside time to review submittals. Drawings, Specifications, and design calculations should be reviewed and approved at each phase. See [CPDG](#) for requirements at each phase.
- P. The PM should make the best use possible of review meeting time:
 - 1. Summarize important review comments and share with the Consultant as early as possible, before the review meeting is best. This allows the Consultant to prepare a response at the meeting.
 - 2. Inform meeting participants to come prepared to the meeting [ask for their comments before the meeting].
 - 3. Insist that participants spend time on important topics. Typographical error comments can be given to the Consultant after the meeting.
 - 4. Resolve problems at the meeting, or, identify who will resolve and when. Make sure these items are included in the meeting minutes.
- Q. Cost Estimates
 - 1. Complete, accurate, detailed estimates will be required at all stages of the project. The Consultant is responsible for providing an accurate estimate of the expected construction cost at the major milestones of the project and keeping the project within the construction budget.
 - 2. A Design Submittals without an estimate required in the agreement is incomplete and progress payments should be withheld if necessary.
 - 3. The Project Manager reviews estimates. The Project Manager inspects unit costs, markups, and the cost of major items. Unit cost experience is typically based on bid data from recent similar projects. UM also receives cost information through publications such as the Engineering News Record, which publishes regional cost

indices and reports on key building component costs, and the Tradeline Journal which publishes cost information on research and medical buildings nationwide.

- a.) The estimate will reflect where and when the work is to be bid and performed.
 - b.) The estimate must include a breakdown of markups, mobilization and overhead costs, and general requirements cost. Markups are normally tiered depending whether the work is subcontracted.
 - c.) The PM will manage the design contingency in the estimate. The contingency should be appropriate for both the type and phase of the project. The contingency should be discussed and planned with the Consultant.
 - d.) FPD keeps history on ENR cost indices and quarterly cost reports.
4. The Project Manager manages the project accordingly to keep the project within budget [consult with the Consultant on "value engineering" issues, advise the Client/User of scope and budget issues and coordinate University design decisions]. When necessary, the PM must inform other shareholders, and the design team, that items cannot be included without cost.
 5. On larger projects or more complex projects, consider hiring an independent cost consultant to give an opinion of cost. This estimate is a complete review of the design and assessment of cost outside of the estimate responsibility of the design consultant. The University hires this estimator with project funds. Variances between the design consultant's estimate and the independent estimator are reviewed and resolved.
 6. On any projects UM may conduct an estimate peer review at any stage of the project. Reasons to conduct a peer review include when the Project Manager either has cause to question the design consultant's estimate and/or has workload demands that prevent a thorough review of the design consultant estimate by the Project Manager.
 7. Pre-Schematic estimates will be reviewed using square foot costs and comparator projects.
 8. Quantitative Estimates should be provided at and after Schematic Design. See the [CPDG](#) regarding estimate requirements.
 9. The Prebid Estimate will be adjusted to include bid addenda before the bid opening. This adjusted estimate will be used in evaluating the bid.

II. Meetings and Stakeholders

- A. University projects normally involve many academic, student, and service groups as stakeholders in a project. The PM arranges for and coordinates the consultant's contact with these groups. Meetings are scheduled by the PM's office.
- B. Campus Facilities Management organizations provide services at each campus. The PM will arrange for and coordinate the consultant's contact with these groups.
- C. Meeting minutes are kept by the consultant and reviewed by the PM before issue. Meeting minutes should be issued to all participants within five working days.

III. Key Points in Starting the Design Effort

- A. PM establishes that the consultant is working for the PM, not the client.
 - 1. PM signs all consultant requests for reimbursement.
 - 2. PM can enforce compliance with project completion dates by withholding portions of consultant's payment.
 - 3. With PM's approval, consultant may contact the client and other involved campus groups. Consultant is required to provide meeting minutes and or telephone logs documenting all conversations and provide this information to the PM.
- B. PM ensures that the consultant addresses the needs of all the campus groups and people involved with the project.
- C. PM coordinates the information the consultant needs for the projects.
 - 1. Requests the locations of existing utilities and sends results to consultant.
 - 2. Requests and sends existing building drawings.
 - 3. Requests reports and surveys early to avoid project delays.
 - 4. Procures Site Survey or sends existing survey to consultant.
 - 5. Procures Geotechnical Services as required.
 - 6. Procures Asbestos Survey.

IV. Design Phases

- A. **Programming & Planning:** [See Chapter 4 Planning](#) for information regarding Programming and Planning Studies. Program verification may be required prior to beginning the Schematic Design phase, especially if a significant period of time has elapsed between the two phases.
- B. **Schematic Design (SD):** During Schematic Design, the consultant develops study drawings, documents, and other media that illustrate design concepts for University

review. Building code requirements are initially researched and addressed during Schematic Design.

1. The SD review submittal requirements are listed in the [UM CPDG](#).
 - a.) Schematic Design represents approximately 15% of consultant services
 - b.) Lists of client needs/spaces
 - c.) The functional relationship of spaces to each other i.e., traffic flow/areas
 - d.) Basic plan and elevation drawings
 - e.) Cost Estimate
 2. Schedule a Schematic Design Review Meeting and invite all interested parties to review:
 - a.) Project scope
 - b.) Project schedule
 - c.) Project budget
 - d.) Schematic Design Documents
 3. PM explains to the client that changes in scope after schematic design will increase project costs and delay the project. See [Cost vs Time](#).
 4. Schematic design is approved by PM and client. The Project Cost Summary and Scope Statement are updated as needed. Project must be in budget to proceed. PM will prepare an amendment to the Consultant Agreement if needed to reconcile scope, budget and schedule.
 5. Project Design may be required to be submitted to the Board of Curators as an Informational Item if the project budget is over \$5 million and it is a new building or addition. See Chapter 4 for Board of Curator requirements. Once the SD submittal has been reviewed and approved the design can proceed to the Design Development phase.
 6. Minutes are issued by the Consultant within five (5) working days.
- C. **Design Development (DD)**: DD phase work begins with the approved SD documents and develops them in further detail. This phase begins to establish mechanical, electrical, plumbing, structural, and architectural details; and provides a more detailed cost estimate.
1. The DD review submittal requirements are listed in the [UM CPDG](#).
 2. All design issues should be resolved by the end of Design Development phase. The creative design is complete at this point.
 3. DD Documents are approved by PM and client. The Project Cost Summary and Scope Statement are updated as needed. Project must be in budget to proceed. PM will prepare an amendment to the Consultant Agreement if needed to reconcile scope, budget and schedule.
 4. Minutes are issued by the Consultant within five (5) working days.

- D. **Construction Documents (CD)**: The CD phase incorporates all design decisions made in previous phases into detailed drawings and specifications to be used in the bidding and construction of the project. For larger projects, there are generally two CD phase reviews. The first review occurs at approximately 50% completion of the Construction Documents. The final review takes place after the consultant team is complete with the CD package. Detailed Cost Estimates are submitted with each submission.
1. The CD review submittal requirements are listed in the [UM CPDG](#).
 2. The Project Manager will require the Consultant to provide 100% complete documents (including drawings and specifications) at least one week before a scheduled review meeting. Large projects, as identified by the Project Manager, will require additional review time. Final review documents must be ready to bid. However, it is not necessary to include the preprinted GC, IFB, SD, and wage rates.
 3. Drawings should be submitted for either campus or system Code Review and approval. See [Chapter 3 – Building and Fire Code Policy](#) for information regarding Code Submission.
 4. The Consultant is responsible for preparing all portions of the contract documents except those specifically supplied by the University.
 5. In addition to reviewing the Drawings and Specifications, the Project Manager shall review all other Contract Documents for coordination with the Drawings and the Specifications. The Consultant will revise the Contract Documents according to the directions received at the final review meeting.
 6. Control the list of additive alternates. Include no more than 2 or 3 unless approved by the Director. Do not include questionable alternates (i.e. those difficult to price, too small in relation to the project cost, for pricing information only, are not funded, or desirable but have no acceptance criteria). Also, include unit prices only when necessary (such as pier drilling) and only if a base bid amount is identified with a more or less clause. Do not make the bid request more challenging for the contractor than necessary.
 7. Eliminate uncertainty from the bidding documents. This adds cost to the project and discourages bidders.
 8. Do not compress construction time, give the contractor adequate time to complete the contract.
 9. Do not allow any portion of the scope of work to be deferred to the construction phase.
 10. All design issues must be finalized prior to advertisement. Also avoid anticipated lengthy addenda.
 11. Consultant should submit all requests for additional services, outside the scope of their agreement, before bid opening. No requests for additional services during the

design phase will be approved after the construction budget is finalized.

12. The Project Manager should advise the client that any design changes made now will increase cost and/or extend the schedule. Inform the client that the consultant is entitled to additional fees if changes in the project design are requested.
13. CD Documents are approved by PM and client. The Project Cost Summary and Scope Statement are updated as needed. Project must be in budget to proceed. PM will prepare an amendment to the Consultant Agreement if needed to reconcile scope, budget and schedule prior to bidding.
14. Once the contract documents are complete, the Project Manager will establish the advertisement date during the final document review meeting. The Project Manager will require the Consultant to produce complete documents before bidding.

Chapter 6: Bidding and Award

I. Bid Documents

Bidding Documents may be prepared by the Campus Facilities Administrator or a Consultant, and shall be bound into the Project Manual. Bidding Documents and Requirements are used to attract bidders and explain the procedures bidders are to follow in preparing and submitting their bids. They help bidders follow established procedures and submit bids that will not be disqualified because of irregularities. Bidding Requirements address all prospective bidders interested in the project, while the Contract Documents concern the successful bidder who will be signing the contract with the University.

- A. The [Advertisement for Bids](#) is a published notice soliciting bids for a construction contract and it is a Contract Document.
- B. The [Information for Bidders](#) states procedures to be followed and provides data about the project. It covers the preparation and submission of bids, and such details as bonds, bid security, Bidders Statement of Qualifications, award of contract, time of completion, liquidated damages, and any special bidding conditions that apply to the project. The Information for Bidders is maintained by UM Facilities Planning and Development.
- C. The [Bid for Lump Sum Contract](#) (Bid Form) is a document furnished to a bidder to be completed, signed, and submitted as the bidder's Bid. The Bid Form provides blank spaces to be filled in by the bidder and a place for the bidder's signature to indicate the bidder agrees to all the provisions in the Form. Data to be filled in by the bidder include: bidder's name, address, and other bidder information, addenda receipt, base bid, alternates, and unit prices. The Bid Form is maintained by UM Facilities Planning and Development.
 1. Alternates
 - a.) All alternates are additive.
 - b.) Avoid using alternates as funding splits.
 - c.) Typical practice is to set the base bid at 95% of the estimate to protect the project budget.
 - d.) Alternates are generally taken in the order in which they are listed. Large numbers of alternates should be avoided because they complicate the determination of the low bidder.
 - e.) The consultant is required to separate base bid work from alternates.
 - f.) The consultant will be paid for design work for alternates if they are not taken. They will receive 80% of the fee if on a percentage contract.
 2. Unit Prices

- a.) When unit prices are used, there must be a corresponding estimate quantity listed in the bid.
 - b.) A single unit price shall be requested for both adding and deleting to the specified quantity allowance.
 - c.) The estimated quantity shall be conservatively set so that in most situations MU will be more likely to take the unit price credit rather than pay additional costs.
 - d.) Involve the CPM in discussions about unit prices. For example, rock excavation – Have an adequate number of geotechnical borings done to determine the depth of bed rock and thereby reducing risk of underestimating cost of removal.
3. Project Completion
- a.) This section must match the corresponding section in the Special Conditions.
 - b.) The determined completion date represents the date of substantial completion and not the date of final acceptance.
 - c.) The PM should advise the client on what to expect in the way of construction activities between substantial completion and final completion.
4. Sub-Contractor List
- a.) To discourage bid shopping, the University has a policy that on projects over \$500,000 the bidder will be required to submit a list of major sub-contractors with the bid.
 - b.) The list should include three (3) to six (6) of the significant sub-contractors.
5. Supplier Diversity Goals
- a.) Projects with construction cost estimates of \$100,000 or greater should set Supplier Diversity goals.
 - b.) See [Supplier Diversity Participation Guidelines for Construction](#) on the FPD Document page for guidance on goals.
6. Liquidated Damages
- a.) With approval by the Director through the CPM, liquidated damages may be used whenever a project needs early completion incentives.
 - b.) The UM standard damage clause is for actual damages (General Conditions Article 8, Delay in Completion).
 - c.) If stated in the Special Conditions, liquidated damages, not actual damages apply.
 - d.) The amount of liquidated damages are developed by the CPM, in consultation with the PM and client.

- e.) The basis for and use of liquidated damages must be documented and approved by the Contracting Officer. While liquidated damages encourage timely completion, they also may increase the bid cost, since the contractor is assuming more risk. This should be balanced with the need for timely completion.
- D. The [Bidder's Statement of Qualifications](#) helps the University to determine that a bidder qualifies as a Responsible Bidder. The Information for Bidders sets forth bidder requirements for completing the Bidder's Statement. The Statement is maintained by the UM Facilities Planning and Development.
- E. The [Supplier Diversity compliance evaluation bidding documents](#) helps the University to determine whether a bidder has achieved the Supplier Diversity contracting goal or has made a good faith effort to achieve the goal. The Information for Bidders sets forth bidder requirements for completing these forms. The forms are maintained by the UM Facilities Planning and Development.
- F. Contract Conditions define the basic rights, responsibilities and relationships of the parties involved in the construction process. Contract conditions are of the following two types:
 - 1. [General Conditions](#) are general clauses that establish how the project is to be administered. The documents are maintained by UM Facilities Planning & Development.
 - 2. [Special Conditions](#) modify or supplement the General Conditions, as needed, to provide for conditions unique to a specific project. They consist of modifications and additions such as those imposed on Federal assisted projects. Project specific contract requirements should be included in the Special Conditions. The document is maintained by UM Facilities Planning & Development.
- G. [Prevailing Wage Rates](#)
The wage rate for the county where the work will be performed. The documents are found on the UM Facilities Planning & Development website.

II. Bidding

Contracts for construction will be advertised so the number of bids or proposals will not be restricted or curtailed and will be open to all persons complying with the terms upon which the bids are requested or solicited. The general advertisement process is described below.

A. Advertisement

The Project Manager coordinates the Advertisement process. The University's Advertisement policy is found in [CRR 70.060](#). The Advertisement describes where Bidders can obtain Bid requirements, drawings and specifications (the Documents), the date, time, and location of the bid opening and pre-bid meeting, and the Supplier Diversity participation goal. Before Advertisement, the Project Manager sends the Consultant the Advertisement and instructs the consultant to download the following from the FPD website:

1. [Information for Bidders](#) and [General Conditions](#).
2. [Bidder's Statement of Qualifications](#) and [Supplier Diversity forms](#).
3. [Prevailing Wage Rates](#) for the county where the work will be performed.

The Project Manager also instructs the consultant on where to upload or send the completed bidding documents and when the Consultant must deliver them.

B. Document Distribution

The Project Manager will have sets of the Documents distributed to the appropriated campus personnel. The campus or electronic plan room maintains the list of plan holders.

C. Addenda

1. [Addenda](#) are written text and/or drawings issued to clarify, revise, add to, or delete information in the original bidding documents or in previous Addenda. Addenda are issued before the opening for bids. Excessive addenda suggest poor preparation of construction documents.
2. Addenda are Contract Documents. The Project Manager shall approve all addenda items before issuing. If directed by the Project Manager, the Consultant shall prepare and distribute addenda directly to all plan holders.
3. The Project Manager shall distribute addenda so all plan holders have a copy of the addenda at least 72 hours before the bid opening. This may be done through the electronic plan room or the Project Manager may instruct the Consultant to distribute to all plan holders. The consultant shall verify that each and every plan holder has received a copy at least 72 hours before the bid opening. The Project Manager should extend the bid date if this requirement cannot be met.
4. If the Bid Form is revised by addenda, the revised Bid Form shall be issued on a different colored paper to distinguish the revised Bid Form from the original Bid Form.

D. Pre-Bid Meeting

The Project Manager, assisted by the Consultant may hold a Pre -bid Meeting before the Bid Opening. All interested bidders are invited to attend to ask questions about the project requirements, drawings and specifications and to inspect the construction site. All questions requiring interpretations by the Consultant shall be answered by Addendum. The Project Manager shall conduct the meeting in the format shown in the [Pre-bid Meeting Agenda](#). The PM shall state the [Supplier Diversity requirements](#) and the requirements to meet a good faith effort during the Pre-bid Meeting. The Consultant later issues addenda, if necessary, to clarify or modify any questioned contract items identified at the Pre-bid Meeting that require clarification.

E. Interest in the Project

To help assure that the University receives the most bids possible (and a minimum of three), the Project Manager will use the following guidelines:

1. The consultant should be directed to review the local bidding climate before the preparation of Documents. The size and composition of projects should be considered to encourage competitive bidding.
2. If it appears likely that a conflict among projects will occur in the market, the rescheduling of the due date should be considered if time permits and if the Project Manager expects that rescheduling will result in additional interest in the project.
3. The consultant should review the plan holders list after the project has been on the market for seven to ten days to confirm adequate interest in the project. The consultant should contact several prospective bidders to assure the University will receive at least three bids.
4. If there is little interest in the project, the consultant, with the assistance of the Project Manager, should contact potential bidders and determine the cause.
5. Each campus should maintain a record with the project title, nature of the project and names of all the bidders on each project. This information should then be used as a resource in planning and marketing future projects.

F. Opening of Bids

The Campus Construction Administrator conducts a public Bid Opening. The Campus Construction Administrator conducts the Bid Opening within strict guidelines outlined in the University of Missouri [Bid Opening Procedures](#).

G. Protests

Persons or entities may protest the University's selection of the apparent low bidder. The contract documents do not address the issue of bid protests. However, if a protest is made, it must be resolved to the University's satisfaction before the contract is awarded. Report any protest to the UM Executive Director of Facilities Planning and Development for resolution. Protests may be made at Opening regarding a bid irregularity. See Bid Opening Procedures for resolving irregularity protests.

H. Irregularities

1. The Information for Bidders allows the University to waive informalities in bids. Procedures to follow for irregularities are set forth in Bid Opening Procedures. The Campus Construction Administrator shall refer all irregularities to the UM Executive Director of Facilities Planning & Development for resolution.
2. Some irregularities in the form or content of a proposal or bid may make it non-responsive. A non-responsive bid materially varies from the form or content requirements of the Bid Documents. Examples of such irregularities include but are not limited to: incomplete submittals, unsigned bids, attachments or related documents, qualifications, discrepancies, submittals on unauthorized forms, late or mishandled bids, or claimed mistakes.

I. Post Bid Addendum

UM has a procedure for issuing a post-bid addendum. The post-bid addendum is used in

situations where it is not in the best interest of the University to accept any of the bids. Examples would include where there were limited or no bidders, where bids exceed the budget, or where there were significant flaws in the bid documents or bid process. Post-bid addenda save time and advertising expense over the more traditional process of rebidding the project. Post bid addenda are issued only with the approval of the Contracting Officer.

J. Bid Evaluation for Lowest Best Bid awards

1. Consultant Evaluation

- a.) After the University has received the bids, the Project Manager shall instruct the Consultant to evaluate the bids and low bid Contractor. Information to evaluate the bidder is contained in the document Bidder's Statement of Qualifications. The bidder submits this document with its bid.
- b.) If the bids differ substantially from the Consultant's estimate, the Consultant will provide documentation that explains the differences. Additionally, the Consultant shall also review the bid spread.
- c.) The Project Manager will require the Consultant to make a written determination of the responsiveness and responsibility of the apparent low bidder, and a recommendation whether to award the contract to the apparent low bidder.

2. University Evaluation

- a.) The Project Manager evaluates the bids received, the Consultant's Evaluation, the Bidders Statement of Qualifications, and any other appropriate data.
- b.) The Project Manager will compare the bids with the project budget as contained in the Project Cost Summary. After the contract award is determined, a final Project Cost Summary is prepared for approval and signature by the Campus Facilities Administrator.
- c.) For Contracts over \$500,000, the Project Manager will prepare the [Construction Backup Document](#) and it will be submitted to UM Facilities Planning and Development for review.
- d.) The Project Manager or designated person shall review the bidders Supplier Diversity participation documentation and recommend to the UM Contracting Officer if a bidder has met the participation goals or made a good faith effort according to the contract documents.

K. Rejection of Proposals and Bids

1. Irregularities: Bids with irregularities may be rejected if the UM Executive Director of Facilities Planning and Development decides the irregularity cannot be waived.
2. Reject All Bids: All bids may be rejected if acceptance of the lowest responsible bid is not in the best interest of the University.
3. Non-Responsible Bidder: A bid may be rejected if the bidder is determined to be non-

responsible. If the Campus does not want to accept a bid based on the responsibility of the contractor, the bid results shall be sent to the UM Executive Director of Facilities Planning and Development with the campus recommendation.

L. Withdrawal of Bids

1. A Bid may be withdrawn any time before the scheduled closing time for receipt of bids.
2. A bid received and not withdrawn before the opening is irrevocable for 60 days or other period established in the Contract Documents.
3. See the Information for Bidders for additional information.

III. Award of Contract

A. All of the following conditions must be met before awarding any construction contract:

1. The Contractor has been chosen by competitive bidding, and the award is to be made to the lowest responsible bidder submitting a responsive bid.
2. The contract documents conform to the documents used in the bidding process.
3. All protests or disputes as to bidding or award of the contract have been resolved.
4. The scope of work matches the project scope.
5. Funds are available for the total project cost.
6. Approval from external agencies funding the project has been obtained in writing.
7. The contractor has provided proper insurance and bonds.
8. All necessary Board of Curator approvals have been obtained, if any.

B. Project Manager shall prepare a Construction Backup for all projects with an award greater than \$500,000. The templates for the Construction Backups are located on the FPD website's Document Page. Templates for [Low Bid Contract](#), [JOC Contract](#), [Design-Build Contract](#) and [CM&R Contract](#) are available. The Contracting Officer will not sign the Construction Contract until the construction backup is submitted to FPD.

C. Contract Documents

The Contract Documents contain the legally enforceable requirements which become part of the contract when the Construction Contract form and other related contract forms are signed. The Contract Documents consist of the following:

1. Contract for Construction - The Contract is the document signed by the University and the Contractor and is the legal instrument binding the parties to the work. It defines

the relationships and obligations existing between the University and the Contractor and lists the documents which make up the contract. The [form of the Contract](#) is maintained by UM Facilities Planning & Development.

2. The contract price is the accepted Base Proposal or Bid submitted by the successful contractor on the Bid Form adjusted by accepted additive alternates. The contract price shall not be adjusted by negotiation.
3. Contract Conditions - Contract Conditions define the basic rights, responsibilities and relationships of the parties involved in the construction process. Contract conditions are of the following two types:
 - a.) [General Conditions](#): General Conditions are general clauses that establish how the project is to be administered. The documents are maintained by UM Facilities Planning & Development.
 - b.) Special Conditions: [Special Conditions](#) modify or supplement the General Conditions, as needed, to provide for conditions unique to a specific project. They consist of modifications and additions such as those imposed on federally assisted projects. Project specific contract requirements should be included in the Special Conditions. The document is maintained by UM Facilities Planning & Development.
4. Project Technical Specifications and Requirements - The Project Technical Specifications and Requirements, or project manual, are usually prepared by the Consultant and reviewed by the University. They consist of various sections organized according to the CSI Division Format, except for Division 1. The format for the project manual shall be as set forth in the [Consultant Procedures and Design Guidelines manual](#).
5. Drawings - The Drawings are usually prepared by the Consultant and reviewed by the University. They must be specifically enumerated in the Contract Documents.
6. Addenda - [Addenda](#) are documents that clarify, revise, add, or delete portions of the issued Documents.
7. Contractor's Bid (Bid Form) - The Contractor's Bid is the Bid Form completed by the Bidder, signed, and addressed to the Owner. This document includes any required attachments, such as the Contractor's completed Statement of Qualifications and Bid Bond.
8. Contractor's Performance and Payment Bonds - The University's [performance bond](#) and [payment bond](#) requirements and forms are maintained by UM Facilities Planning & Development. The Performance Bond and Payment Bond provide a source of funds which can be used to reimburse the University for completing the work or correcting deficiencies in the event the Contractor does not complete the work in accordance with the Contract. The bond also provides a source of compensation for unpaid subcontractors, suppliers, or workers who have furnished goods or services to the project. The amount of both the Performance Bond and the Payment Bond must be at

least 100 percent of the Contract Price. Bidder Instructions for the Performance Bond and the Payment Bond are in the Information for Proposers or Bidders and in the General Conditions. The bond form is provided to the Contractor by the University.

9. Notice to Proceed - The [Notice to Proceed](#) is issued after the Contractor has submitted all required Bonds, Insurance, and a signed contract.

10. Other exhibits or post-bid adjustments identified in the Contract for Construction
 - a.) The Contractor must provide a List of Subcontractors
 - b.) Roofing System Manufacturer's Certification (if applicable)
 - c.) Post-bid adjustments (if applicable)
 - d.) Certificates of Insurance: The University's insurance requirements are found in the General Conditions. The contractor must provide the required certificates of insurance.

11. Advertisement for Bid - The Advertisement for Bid is included in the Contract Documents. See Bidding Documents and Requirements above for additional information.

12. Information for Bidders - The Information for Bidders is included in the Contract Documents. See Bidding Documents and Requirements above for additional information.

13. Change Orders (issued after execution of the Contract for Construction - [Change Orders](#) are modifications to the Contract made after the Contract is executed.

Chapter 7: Construction Phase Responsibilities

After the construction contract is awarded and executed, the management role of the UM PM changes.

- I. PM transfers project to CPM.
- II. PM is no longer responsible for primary client contact.
- III. PM participates in construction issues at the request of Construction Management.
- IV. At PM's discretion, or if requested by CPM, PM attends project coordination meetings.
- V. PM must be prepared to assist CPM in understanding why certain decisions or choices were made in the design phase.
- VI. PM approves all design related change orders. The approval is to ensure the modification does not extend beyond the scope approved by the Board of Curators and confirms the change doesn't conflict with the project's program, function or adopted codes the CPM is unaware of.

Appendix A: Responsibility Matrices

System & Campus Responsibility Matrix

PM & CPM Responsibility Matrix

Responsibility Matrix System vs Campus PDC vs Department

Appendix B: Tools

Project Risk Management Register

The Project Risk Management Process goal is to maximize both efficiency and effectiveness. The basic components of risk management include identification, analysis, and action.

Construction Delivery Methods Decision Matrix

Decision Matrix to help select the most appropriate construction delivery method for a project.

Client Orientation on Cost of University Projects

Power Point presentation to explain why University building cost what they do.

Cost vs Quality vs Schedule

Diagram

Impact of Delayed or Revisited Decisions

Diagram