

Academic Construction Project Development Process

October 7, 2009

Academic Construction Projects under \$500,000

The number of internally funded academic construction projects has increased over the past few years. More defined procedures are necessary to properly review and effectively implement academic construction projects. The Office of the Provost in cooperation with Facilities Planning has established these Academic Construction Project Procedures to address the need for a uniform, coordinated effective, well-communicated project planning process.

The purpose of these procedures is to ensure construction project requests at ISU are properly reviewed by the Deans, the Provost and other senior academic administrators and to assure that all projects are consistent with university priorities and funding plans.

The following procedures outline a series of steps for the planning, funding, approval, design and completion of academic construction projects. All such projects, including requests for new construction, remodeling and/or renovations below \$500,000, are expected to follow the planning processes outlined below. Project requests over \$500,000 require submission to and approval by the Board of Trustees. That process involves a different set of internal reviews and evaluations.¹

Remodeling, renovation and construction for the purpose of these procedures include the following:

- A. Improvement, alterations, renovation or remodeling of existing facilities (other than maintenance or repairs).
- B. Changes, upgrades or improvements to utility systems: air conditioning, heating, ventilation, electrical, plumbing, telecommunications or data wiring systems.
- C. Major equipment installation that requires utilities connections or other specialized requirements, such as cooling.
- D. Changes to interior finishes including, floor coverings, window treatments and furnishings,

Requesting Academic Construction Project Approval

A. Projects Requesting Central Funding Assistance

The following procedures should be used if funding is requested through other than unit budgets, including funding from the Division of Academic Affairs/ Provost Office, or other central administrative units.

Instructional departments/schools and other administrative or support units within Academic Affairs shall submit project requests on an annual basis for approval and funding through the respective Dean's Office before they are forwarded on to the Office of the Provost. Each

¹ If it is anticipated that Foundation funds and private fundraising will play a role in funding any project, units are urged to contact University Advancement as early as possible in the project development process. Such funds can affect project scope or direction more critically in the early (pre-design) phases of a project.

request shall be submitted on the prepared forms in accordance with instructions provided by the Office of the Provost. Each Dean shall then compile a list of construction requests in order of importance and priority for the College.

- a. Each request should be submitted on an *Academic Construction Project Development Request Form*. [to be developed]
- b. Project requests should be prioritized within each academic department/school or other unit and then further prioritized within each college.
- c. Each request should include known specific requirements, a justification of need, project disruptions or required displacements and facts showing that the project is compatible with the long range departmental plans. In the event classrooms or faculty offices will be made unavailable during the construction period, specific justification should be provided and alternative arrangements described for holding classes or providing faculty office space.
- d. The Dean or other next level supervisor will review the collective requests and establish the overall priority for the college or other unit and submit a consolidated and prioritized set of requests to the Office of the Provost with a copy to Facilities Planning and Construction. The Dean will request a Scope Statement and Conceptual estimate for its highest priority items, and will request a review by Classroom Technology Support Services prior to submission to the Provost Office.
- e. The Office of the Provost shall review the information submitted and, with support from Facilities Planning staff, determine the proposed projects for inclusion in the university's annual Academic Construction Project Plan. During this review of the submitted requests, the Office of the Provost will determine the highest priority requests to be considered for funding approval. The evaluation shall consider the amount and timing of funding for the high priority construction project requests. Prior to evaluation by the Provost's Office, Facilities Planning shall draft a Scope Statement and prepare a Conceptual Estimate for each project. Similarly, Classroom Technology Support Services (CTSS) will review each project for any impact on technology and will provide a preliminary report to the Provost's Office.
- f. The Provost Office, college and department/school as appropriate will identify a financing plan for each approved project. Funds to initiate the required planning will be transferred into individual project account administered by the University Budget Office and Facilities Planning and Construction, to facilitate contracting and paying for design professionals.
- g. Staff of the Provost and Facilities Planning will consult with the college and department/school in preparing a Detailed Program Statement and Final Budget Estimate, including chargeable design fees, appropriate contingency costs, and other appropriate expenses, and obtain approval and clearance of funding.
- h. Facilities Planning and Construction shall prepare a President's Concurrence for each funded and approved request and then obtain necessary approvals of the Concurrences. The original requesting department and respective college will be consulted as needed in preparing the Concurrence.
- i. Once the project is approved, project funds will be transferred to the individual project account as appropriate by the original requesting department/school, college or Provost's Office prior to any bidding and commencement of construction. The transfer shall be in the full amount of the final budget estimate. Project costs over the final budget estimate, and costs required by changes in scope initiated by

the requesting department, must be funded by the requesting department by a subsequent transfer of additional funds to cover the additional costs.

The overall process takes a number of months to be completed. A prioritized list of **projects must be submitted through the appropriate Dean to the Provost by December 15 of each year.** Funding allocations are finalized by the end of May. The funds for approved projects in most instances will be made available to initiate design or actual construction at the beginning of the next fiscal year.

EVALUATION CRITERIA

Requests for funding as part of the academic construction project development program will be evaluated using the following criteria:

- Centrality of request to mission of the institution/college/department
- Priority of the projects as established by the appropriate Department Chair/School Director and Dean.
- Consistency with university priorities as articulated Educating Illinois and the Campus Master Plan.
- Importance of requested construction work to educational program.
- Impact on the cost of educational programs, not just dollars
- Ability to complete the project within the allotted time.
- Building code, health or life safety requirements.

SCHEDULE

The timeline for projects will vary depending on complexity and a variety of other factors. However, given the numerous state regulations that come into play for design consultants, contract reviews and construction procedures, the overall timeframe to accomplish projects will extend beyond a single fiscal year. In fact, projects may require planning and design in one fiscal year with the actual construction done in the next. Below are close approximations of dates and durations for each of the critical steps in the review, approval, design and construction of the vast majority of academic remodeling projects.

September 1, Fiscal Year One:

Issue notice to deans and department chairs/school directors to submit project requests: 12 weeks. Facilities Planning prepares Conceptual Cost Estimate and Probable Timeline for College's highest priorities)

December 15, Fiscal Year One:

Deans submit project requests to Provost in college priority order: one week

February 1, Fiscal Year One:

Preliminary Budget Estimate and Initial Scope Statement prepared by Facilities Planning & Construction for high priority requests: 4 weeks

March 1, Fiscal Year One:

Requested Projects are included in discussion by deans in the annual budget process with specific reference to Conceptual Cost Estimate and Probable Timeline, and with further reference to the priority assigned to the project by the college. Requested project placed in Final Priority by Provost: 4 weeks

April 1, Fiscal Year One:

Project Approval Budget, Scope Statement and Schedule finalized and approved: 4 weeks

May 1, Fiscal Year One:

Project requests prioritized and approved by Provost Office: 4 weeks or until budget for upcoming fiscal year is approved and known.

June 1, Fiscal Year One:

Approved Projects transmitted to Facilities Planning to obtain President's Concurrence Approval: 2 to 4 weeks

July 1, Fiscal Year Two:

Advertise for Design Professionals (architects and engineers using the State's mandated Quality Based Selection process) on approved projects: 2 weeks to 1 month

Review Architect and Engineer submittals, conduct interviews as required, obtain approvals: 4 weeks.

Negotiate Design Contract: 2 to 3 weeks

Construction Documents Prepared: 4 to 6 months

Public Advertisement of Bids: 3 weeks to 1 month

Bid Opening and Contract Award: 2 weeks to 1 month

Submit Award to State of Illinois Procurement Policy Board: 1 week to 1 month

July 1, Fiscal Year Three:

Contractor Mobilization, Bond and Insurance Submittal: 1 month

Construction Phase: Range of 4 to 10 months depending on project size and complexity

Project Closeout, Telecommunications/Data Set Up and Move in: 1 month

Beneficial Occupancy/Move-in: 1 month (timing may range from December to the next May)

B. Projects Entirely Funded by Department/School or College Funds

The following Procedures apply to proposed projects to be funded entirely from department/school or college funds and which do not involve a request for central funding from the Provost's Office or other central funding agencies.

Instructional departments/schools and other administrative or support units within Academic Affairs may propose projects to be funded entirely by the department/school or college at any time. However each proposal shall be approved by the Office of the Provost, and shall be submitted on prepared forms in accordance with instructions provided by the Office of the Provost. The Office of the Provost shall be notified of any such project by the submission of the appropriate prepared form, and should approve the project prior to any acceptance of purchase order or contract

- a. Each request should be submitted on an *Academic Construction Project Development Request Form*. [to be developed]
- b. If more than one project request is to be submitted by a specific unit, project requests should be prioritized within each academic department/school or other unit before submission to the college.
- c. Each request should include known specific requirements, a justification of need, project disruptions or required displacements and facts showing that the project is

- compatible with the long range departmental/school or college plans. In the event classrooms or faculty offices will be made unavailable during the construction period, specific justification should be provided and alternative arrangements described for holding classes or providing faculty office space.
- d. Departmental/school projects should be approved by the appropriate dean, based on evaluative criteria, below, prior to submission to the Office of the Provost.
 - e. The Office of the Provost shall review the information submitted and, with support from Facilities Planning staff, approve or disapprove the project. As part of this evaluation, Facilities Planning may draft a Scope Statement and prepare a Conceptual Estimate for each approved project.
 - f. The Provost Office, college or department/school as appropriate will identify a financing plan for each approved project. Funds to initiate the required planning will be transferred into individual project account administered by the University Budget Office and Facilities Planning and Construction, to facilitate contracting and paying for design professionals.
 - g. Staff of the Provost and Facilities Planning will consult with the college and department in preparing a Detailed Program Statement and Final Budget Estimate, including chargeable design fees, appropriate contingency costs, and other appropriate expenses, and obtain approval and clearance of funding.
 - h. Once the project is approved, project funds will be transferred to the individual project account as appropriate by the original requesting department/school or college prior to bidding and commencement of construction. The transfer shall be in the full amount of the final budget estimate. Project costs over the final budget estimate, and costs required by changes in scope initiated by the requesting department, must be funded by the requesting department by a subsequent transfer of additional funds to cover the additional costs.

EVALUATION CRITERIA

Deans should evaluate requests for funding using the following criteria:

- Centrality of request to mission of the institution/college/department/school
- Priority of the project as established by the appropriate Department Chair/School Director and Dean.
- Consistency with university priorities as articulated Educating Illinois and the Campus Master Plan.
- Importance of requested construction work to educational program.
- Impact on the cost of educational programs, not just dollars
- Ability to complete the project within the allotted time.
- Building code, health or life safety requirements.

SCHEDULE

The timeline for projects will vary depending on complexity and a variety of other factors. However, given the numerous state regulations that come into play for design consultants, contract reviews and construction procedures, the overall timeframe to accomplish projects may extend beyond a single fiscal year. In fact, projects may require planning and design in one fiscal year with the actual construction done in the next.

Projects funded entirely by units, departments/schools, or colleges may be submitted at any time. Proposing Units are urged to consider the time limitations on the use of

General Revenue or Agency funds and the time required by Facilities Planning to plan, contract for and implement construction of any project.

The Following is an Attachment to Policy Document

Academic Construction Project Development Process

Important Information and Timing Issues

COST ESTIMATES

As a Dean considers a construction or remodeling request, the physical and financial feasibility of a capital project must be evaluated at least in a preliminary manner. To complete this initial analysis, the Dean sponsoring the project requests that the Provost and the Vice President for Finance and Planning assign qualified staff in Facilities Planning and Construction to produce a conceptual cost estimate, and a probable timeline. The Provost will also assign the Associate Vice-President for Academic Administration or other Provost's Office delegee to act as liaison to the project. That individual should be kept informed about the project including all financial issues at all stages.

At this stage, all parameters of the program are typically not known. Therefore, it is expected that the cost and timeline will change as the project evolves during the relatively long process that moves a project from a general idea to design ultimately to construction. It would be unusual where all the facets of a project (program needs, site conditions, utility requirements, construction market, etc.) are known at the concept stage. If the estimated costs of requested work exceed the available dollars allotted, the scope of the project may need to be pared away as the project becomes more defined. In addition, the timeline, which may include a projected occupancy date, or simply mark the number of months necessary for each stage of the capital process, should also be interpreted as a rough first-cut, susceptible to adjustments given all the variables associated with planning and building capital projects within a State of Illinois environment.

Following confirmation of project feasibility and approval by the Provost, the university will hire a Project Architect and any necessary design specialists or sub consultants to complete a Detailed Project Program or an Architectural Program that more completely defines the scope, cost and schedule of the project. As part of this multi-month exercise, the first budget (as distinguished from a cost estimate) and schedule (no longer a timeline) are completed by the architect and confirmed by an external cost estimator.

The budget is called the Construction Project Budget and is reviewed and approved by the University Architect and the Provost. Details of the building design are not fully known at this stage, but the budget attempts to account for all major component costs associated with the project, with some costs indicated as placeholder allocations that will change as the process continues. The approval process at the end of the pre-planning phase and prior to the schematic design phase may depend partially on the source or sources of funding (State Appropriated, Institutional, Grant, gifts, debt, etc.) and the cost threshold of the project.

PROJECT APPROVAL BUDGET AND SCHEDULE

The total project budget includes: construction costs, consulting expenses, project management fees, the initial complement of furniture and fixtures, expenses related to relocation of utilities and/or non-utility infrastructure, temporary costs related to relocation of services during construction, and any other major expense.

In addition to the above, if the construction project will impact future operations costs, these anticipated expenditures will be calculated and included as an estimate of on-going operational, maintenance and other operating expenses.

Each project budget must include a project contingency budget line regardless of the type. The contingency may vary depending on the nature and scope of the project and can range from 10% to 25%. The project contingency is comprised of separate funds set aside to address unexpected costs that become known during the design, bidding or construction phases.

SCHEMATIC DESIGN AND DESIGN DEVELOPMENT

An Architectural Program is developed for the purpose of guiding the project's design professional throughout the design process. In addition, the architectural program also serves as the foundation for the subsequent project planning. It defines building organization and function for both assignable (e.g., offices and labs) and non assignable (e.g., elevators, restrooms and hallways) areas. Normally, a design professional takes the principal role in producing the architectural program, working closely with a Project Advisory Committee appointed by the department, School Director, Dean or Provost to support the planning and design process. Among the topics addressed are: the overall assignable square feet and gross square feet of the project; the definition of each room by size, function, and design features; the relationship of the building to its surroundings; Sustainability; access and circulation requirements; energy conservation; and construction cost estimates.

The schematic design phase involves studies and feasibility analyses of various alternative layouts and systems applicable to the project.

The design development phase requires review of project plans along with the related cost estimates. In-house design may be utilized or outside design professionals, (architects, engineers, interior designers, other design specialists). Approvals of the schematic design by the various stakeholders will then result in the preparation of design development. The design development phase reviews the schematic plans, along with the related cost estimate.

During each design phase, the project architect, working under the direction of the Facilities Planning & Construction, consults with the user advisory committee. This joint effort ensures that the project addresses the concerns, needs, and interests of the requesting unit and the University. At this time, the requesting group will sign off on the final design and timelines with a transfer of funds to the university remodeling project account.

Once the Project Architect is into the design phase of the project, a second budget and schedule is developed. If the scope and budget are not aligned with the previously approved scope and budget, then a Value Engineering Study (a discipline that uses formalized procedures to identify systems, materials, and methods to best meet functional requirements of the project at a cost that provides the best value) will be conducted by the architect and engineers with the requesters to reconcile them, hopefully without the need for additional funding. This process of reconciliation will take place several times prior to seeking bids for construction and takes several additional time to complete. The budget must match the available resources before the project can be advertised by the Purchasing Office for bidding.

CONSTRUCTION DOCUMENTS

Construction documents consist of drawings and specifications that describe the quality, configuration, size, and relationship of all components to be incorporated into the project.

Specifications are the written description of the construction materials and processes required to complete the project with the drawings serving as the visual complement.

The documents must be consistent with the project program, the construction budget, and the project schedule. To ensure achieving this objective, the documents are reviewed at several design stages by a number of internal university departments, including Facilities Planning & Construction, Facilities Management, Office of Energy Management, Environment, Health & Safety, Classroom Technology, Disability Concerns, Telecommunications and Purchasing. The construction documents, which are part of the contract package, serve as a basis for obtaining fair competitive public bids from contractors through the public advertising process.

For construction projects with an estimated cost over \$250,000, the State of Illinois requires the construction contracts be bid in separate contract packages for up to seven different Prime Contractors. This regulation complicates effectively coordinating the work of all the contractors and in many cases extends the duration to complete the construction activity.

Once the working drawings are completed, the campus will seek bid proposals from contractors vying to build the project. These bids are the first “hard” or real numbers that are associated with the project. Regardless of the time, effort and expertise placed in estimating the cost of a project at various stages of a project, it is the lowest responsible bid that ultimately determines the cost of the project. The campus may be able to alter the project cost and scope at the margin by use of additive and deductive program alternates when bidding.

PUBLIC ADVERTISEMENT/BID OPENING

Purchasing and Facilities Planning and Construction work with the project architect and other design professional to make project specifications and drawings available to the public so that contractors have opportunity to submit bids for construction work based on these documents. Each project is publically advertised for at least twenty-one days and longer for larger or more complex projects. At the end of the advertisement period, bids are received by Purchasing, publically opened by a Purchasing agent, read out loud and recorded by the project architect. Competitively bid contracts must be awarded to the lowest responsible bidders, i.e., the bidder within each of the prime construction categories able to satisfactorily perform the work at the lowest cost.

AWARD OF CONSTRUCTION CONTRACTS

All contracts prior to award by the University must be submitted to the State’s Procurement Policy Board, (PPB) for their review and action. The PPB has by statutory authority has up to thirty days to take action. While often their approval is received sooner, it is prudent that project schedules factor in this extra timeframe. In addition to procurement procedure currently in place, the State is contemplating additional oversight provisions in the name of reform. Almost all of these new procurement reform provisions will entail more staff resources and extra time in the contract award stage.

CONSTRUCTION PHASE

The construction administration phase of the project begins at the acceptance and award of bids for the project. Depending on the size of the project, the selected Contractor(s) must submit to the University’s Office of Purchasing evidence of a required Performance Bond, and proof of insurance before s/he can receive a signed contract; this usually requires four to six weeks, depending on the size of the project. When the Contractor receives his fully executed contract back from Purchasing, the project can proceed into the construction phase. The contract award, bond preparation steps take at least four weeks to accomplish.

A Project Manager (PM) from Facilities Planning and Construction will be assigned to many academic construction projects. The PM will serve as the primary Campus liaison with the clients, contractors, and design professionals. In addition s/he coordinates with the Project Architect or Engineer to ensure the project is built according to applicable building codes and is appropriately inspected and prepares all necessary project paperwork.

A preconstruction meeting will usually be scheduled by the university's assigned Project Manager. The meeting will include representatives from the Design Consultants team, at least one representative from all Prime Contractor and designated sub-Contractors, University personnel from Facilities Planning, Parking and Transportation Services, Office of Environmental Health and Safety, and other departments that have specific responsibilities for oversight of some project aspect. In addition, a representative from the unit that requested the project and a representative of the appropriate Dean's Office will also attend this meeting. For almost all major construction, Illinois State University will utilize a standard Design/Bid/Build Construction project delivery process. The construction delivery processes is dictated by regulations and procedures imposed by various agencies of the State of Illinois.

EQUIPMENT and FURNISHINGS

For purposes of capital projects, equipment is categorized into two groups: Group 1 refers to "fixed equipment" and Group 2 refers to "movable equipment." Fixed equipment is built-in or permanently affixed to a building or structure and is most often funded as part of the construction contracts of the approved project. Examples are laboratory cabinets.

Movable equipment, including furniture and furnishings, can be thought of as equipment that would fall out if the building or structure was turned upside down. Examples are desks, tables and chairs. Movable equipment may be funded through an equipment line of the project budget, however additional movable equipment, most often, computers may be funded separately from the project.