

Major Projects - Capital and Non Appropriated Project Management

Table Of Contents

1. Introduction.....	1
2. Project Design And Construction	1
3. Campus Responsibility For Design And Construction Contracts.....	2
4. Funding Mechanisms/Authority to Design.....	2
5. Project Planning and Definition.....	2
6. Capital Projects - Pre-Design And Schematic Design.....	4
7. Pre-Design Activities (Academic Buildings).....	4
8. Schematic Design Activities.....	5
9. Construction Administration.....	6

1. Introduction

This guide provides the University community an overview of design and construction project delivery. The processes identified in this guide ensure that project planning and delivery is conducted in accordance with all state and Board of Regents directives while striving to provide the client with the best possible project. When appropriate, projects are coordinated with the President and the Provost for review and approval subsequent to implementation. Expectations for project delivery must be carefully coordinated to ensure that reasonable time lines are used to establish dates to complete planning and construction activities.

2. Project Design And Construction

Project design and construction services describe all the activities required to design projects with in-house staff or consultants, and construct minor and major renovation projects with contractors. Facilities Services staff will only be used to construct projects with the subsequent approval of the Associate Vice President for Administration. Minor renovation projects cost less than \$25,000, and major renovation projects cost \$25,000 - \$500,000. Requests for major renovations are reviewed with the Provosts Office before any commitment for work. This ensures the project is conducted with respect to the strategic plan for

academic programs and research operations, and through the appropriate vice president for service and support units.

Project design and construction is conducted under the supervision of the Assistant Director of Design and the Assistant Director of Construction. A Project Architect and a Construction Project Coordinator will be assigned to manage the project from A/E procurement through construction.

3. Campus Responsibility For Design And Construction Contracts

The Division of Facilities Management has responsibility for initiating all design and construction contracts at the University, in accordance with Board of Regents and Public Works Board policies. It is absolutely essential that all design and construction contracts, regardless of the source of funds, for modification of space at the University be reviewed and approved by this division. The office of primary responsibility for these activities is the Office of Planning and Construction.

4. Funding Mechanisms/Authority to Design

Only the Board of Regents has the legal right to enter into design and construction contracts for University facilities and property. Under certain limitations, this right has been vested to the University through the President and the Vice President for Administration. Consequently, no other entity, regardless of funding source may enter into these types of contracts.

Projects that involve the construction of totally new facilities or the addition to existing campus facilities. Require Board of Regents approval regardless of the funding source. Funding sources include:

- Public Works Board - Capital Construction
 - Public Words Board - Capital Improvement (campus directed)
 - Non appropriated Funds - New Facility or Addition (campus directed)
-

5. Project Planning and Definition

The project requester can bring a great deal to the planning of your project; knowledge, experience, needs, desires, aspirations, as well as biases. Whether the project is a minor rehabilitation of existing space, or

the planning and construction of a new building, you will need to use this information to assess the project goals and objectives.

Here are several questions to be used as a guide to define the preliminary requirements of your project:

- What activities do you expect to house in the project?
- Are a site, space, or location established? Is your unit currently assigned this site, space, or location?
- How will the project be funded?
- Has an order of magnitude estimate for the cost of the potential project been established, and does it include:
 - Design and consulting services
 - Construction services
 - Compliance with American with Disabilities Act
 - Hazardous Materials (i.e. Asbestos Abatement, Lead Paint Abatement)
 - Equipment
 - Telecommunications and Network Systems
 - Relocation Expenses
 - Contingency for unanticipated condition (10%-20% of total budget)?
- What role does this project play in achieving your overall mission, and are there restrictive deadlines that will result in loss of funding, programs if the deadlines are not met?

The project delivery process will address all facets of the project, and eventually the resources required to provide a complete project. This includes:

1. Design objectives, constraints, and criteria, including space requirements and relationships, flexibility, expandability, special equipment, site requirements, compliance with regulatory agencies, and applicable University project design and construction standards.
2. Construction phasing, schedules, specifications, submittals, and costs.

A rule of thumb you can use in the preparation of a preliminary budget: 60.75% of the total project costs will actually go to the construction; 25-40% of the total project costs are for:

- professional services
- testing and inspection (if applicable)
- plan checking
- project contingency
- project management
- printing and other miscellaneous expenses

Even simple projects can be very complex. Phasing in occupied area, asbestos removal, and installation of specialized equipment can require different strategies and often will result in cost that may differ greatly from a project that appears to be similar. It is important to identify these requirements and costs early in the design process. As the project proceeds, needs and priorities are clarified, and new possibilities emerge. Remember, "back-of-the-envelope" designs done as part of the project definition process cannot substitute for the time-consuming but

necessary dialogue that characterizes the programming and early design phases of a project. It is also important to note that many projects must be initiated three to five years in advance of expected occupancy. Time is required for funding approval (external sources), preparation of complete project documents, and a construction period that permits an adequate testing and takeover period.

Please call the Office of Planning and Construction should you have any questions regarding project planning, funding, or construction. The campus project standards manual is maintained by this office, and will be a source of information for specifics on project management procedures, design standards, etc.

6. Capital Projects - Pre-Design And Schematic Design

New projects that are funded by the State Public Works Board as Capital Construction Projects, or projects funded by gifts or non-appropriated funds will be defined and developed according to the information outlined in this section. These projects will be managed to provide the University with facilities that accommodate the strategic mission of the institution.

Contact with architects or engineers for pro-bono work, contracts, or other work efforts will be managed by the Office of Planning and Construction. No discussions with architects or engineers will take place without the approval of this office.

Planning committees for new academic buildings or major renovations will be appointed by the Provost. Representation from the Provost Office and from Facilities Management will be provided for all planning committees.

7. Pre-Design Activities (Academic Buildings)

1. A program planning committee is appointed by the Provost; staff work is conducted by Planning and Construction. Members of the

- committee should include 2-3 representatives from the project users, a representative of the Provosts' office, and a representative from Facilities Management. The Director of Planning and Construction serves as an ex-officio member on all committees.
2. Meeting to organize pre-design activities will be called by the chair - agenda shall include:
 - Introductions of committee members(Chair)
 - Purpose of project (Chair)
 - Review of pre-design activities (Director, Planning and Construction)
 - Programming
 - Consultant Selection and Fee Negotiation
 - Development of Program Documents
 - Review of Conceptual Budget
 - Develop pre-design assignments and schedule (Chair)
 - Questions
 - Preparation and distribution of the minutes will be the responsibility of the chair.
 3. Conduct pre-design activities. Provosts' and Presidents' offices are informed on the progress of the work, and shall have presentations made at these pre-design milestones:
 - Draft Program Statement
 - Draft Program Document
 - Review of Conceptual Budget (based upon calculated program)
 4. The final program document contains the approved program statement, calculated program areas, room data sheets, and conceptual budget. The program document is submitted to the Provost to coordinate approval by the President.
-

8. Schematic Design Activities

1. Planning and Construction will transmit the approved project program to project architects for review.
2. Meeting to organize schematic design activities will be called by the chair - agenda shall include:
 - Introductions of project architects (Director of Planning and Construction)
 - Introduction of committee members to architects(Chair)
 - Purpose of project (Chair)
 - Review of schematic design activities (Director, Planning and Construction)
 - Program analysis and verification
 - Code analysis
 - Master plan review to determine project impact
 - Development of several architectural concepts

- Analysis of concepts for budget compliance
 - Selection of concept for schematic development
 - Schematic layout review
 - Preparation of formal submission
 - Develop schematic assignments and schedule (Chair, with guidance from project architect)
 - Questions
3. Conduct schematic design activities. Provosts' and Presidents' offices are kept informed on the progress of the work, and shall have presentations made at these schematic design milestones:
 - Master plan review to determine project impact (through Campus Planning and Design Board)
 - Selection of concept for schematic development
 - Draft submission of schematic design (through Campus Planning and Design Board)
 - Review of Schematic Design Budget (based upon calculated program)
 4. The final schematic design document contains the approved program statement, schematic design, including site and building layouts, calculated program areas, and schematic design budget. The schematic design document is submitted by the program planning committee to the Provost to coordinate approval by the President.
 5. The program planning committee is disbanded after approval of the schematic design by the President. The chair of the committee will be the liaison with the project users during the preparation of design development and construction documents. Planning and Construction oversees all project management from this milestone. If changes in the project are required, Planning and Construction will contact the chair to coordinate appropriate reviews and approvals.

9. Construction Administration

The construction administration phase of the project begins at the acceptance of bids for the project. Depending on the size of the project, the selected Contractor must submit to the University several bonds, and proof of insurance before he can receive a signed contract; this requires two to six weeks, depending on the size of the project. When the Contractor receives his contract, the project can proceed.

A reconstruction meeting will be scheduled. The meeting will include representatives from the Consultant, Contractor and his sub-Contractors, University, and other state and local agencies that have specific responsibilities for oversight of project activities; a representative from the unit that will occupy the project upon completion will also attend this meeting. At this meeting, the project schedule, job safety conditions,

submittals, parking restrictions, and the Contractor's use of University facilities are reviewed.

The chain of command for communication between the Consultant, the Contractor, and the University is established for all project activity. All formal University communications will be directed through the Construction Project Coordinator assigned to the project, without exception. Communication of wishes directly to the Contractor without review by the Consultant and University may result in additional cost for which the requester may be personally liable.

Progress meetings are held throughout the course of the project, where job progress is reviewed. Normally, clarifications of the contract will be discussed; supplemental instructions for changes due to unknown or unanticipated conditions will be reviewed, and change orders are reviewed. Change orders are modifications of the construction documents during the construction phase of the project. All change orders must have prior approval of the University, in accordance with UCCSN policy in order to process payment.

There are four categories of change orders:

1. Design errors and design omissions are mistakes in the construction documents that must be corrected in order to comply with state and local codes, University standards, and adapted Public Works Board standards.
2. Field conditions are unanticipated physical situations encountered during the construction phase.
3. Material substitutions and deletions are proposed use of materials different from those specified in the construction documents.
4. Program change orders are changes in the design to accommodate revised program needs. Extra compensation will be negotiated for services with the Consultant as required. Request for program change orders must be approved by the Provosts' office before request is made for a change order cost proposal.

The completion of the project requires the compilation of a punch list for a Certificate of Substantial Completion. The University, the Consultant, and the Contractor prepare a list with two sections. Items that will be acceptable for inclusion on a punchlist that can be completed after the Certificate of Substantial Completion is issued, reviewed and approved by all parties. There is another section of items, which if placed on the list, will make the project unacceptable for occupancy by the University. There are five conditions that must be satisfied for the University before it will accept a project as substantially complete; they are:

- Operable fire alarm and sprinkler system, or modifications required.
- Operable HVAC system as modified.

- Operable exterior door locking system (major renovations or new facilities only).
- Operable elevators (major renovations or new facilities only).
- Approval from the Clark County Fire Dept. (Major renovations or new facilities only.)

Assuming that the University agrees to accept a project as substantially complete, the certificate is signed by the Consultant and the Contractor, and forwarded to the University for approval.
