

# CPC PROCEDURES

## CONTENTS

INTRODUCTION .....	1
CONSTRUCTION PROJECT PROCESS .....	2
Step 1: Initiate Contact .....	2
Step 2: Design .....	2
Step 3: Permits/Bidding .....	2
Step 4: Construction .....	2
Step 5: Project Close Out .....	3
HOW LONG DO PROJECTS TAKE? .....	4
TYPES OF PROJECTS .....	4
Very small .....	4
Small to medium .....	4
Medium .....	4
Major Capital project - Remodel.....	5
Major Capital project - New Construction .....	5
THINGS THAT IMPACT TIME AND COST ON PROJECTS .....	5
THE MYTH OF THE QUICK ESTIMATE.....	7

## INTRODUCTION

Capital Projects & Construction (CPC) works with the campus and city alike on projects ranging from cosmetic renovations to new construction. For each of these projects, specific procedures and processes have been established. This document explains the steps that we at CPC take to insure a smooth process for both the client, benefactors, and contractors. This document will also help you to not only understand our construction process but also the estimating system and estimated project lengths.

For questions or comments, please email [buildit@pdx.edu](mailto:buildit@pdx.edu).

# CONSTRUCTION PROJECT PROCESS

## Step 1: Initiate Contact

- a) Client defines scope, timeline, and available funds (if known)
- b) Initial assessment by Capital Projects and Construction (CPC); max 2 hrs without a charge #; does not include creating drawings
- c) Hand out to client "Things to Consider" and "Projects: How long does it take?"
- d) Use Triage Team for preliminary assessment; this is not to generate a hard estimate
- e) Give input back to client within two weeks; this may include a SWAG
- f) Request index number and funds to develop a hard estimate; usually a min. of \$1200 depending on scope of project

## Step 2: Design

- a) Client approves development of a hard estimate, timeline and drawings
- b) PM uses "CPC Project Management" Meeting Maker proxy to create deadlines for submittal of bids from crews (if using crews)
- c) Reminder to include in the estimate funds for:
  - i. Contract Administration
  - ii. Space Planner
  - iii. Signage
  - iv. Locks/access
  - v. Other
- d) Make sure Mail room/Space Planner notified on any room changes
- e) Get approval from Associate Director and Director before taking estimate to client
- f) PM sends client written hard estimate and final scope using AECS project estimate summary sheet.
- g) Client approves project initiation, in writing; identifies funding source/project number
- h) Take into consideration
  - i. Items that might be long lead time issues: such as ordering equipment or LEED applications
  - ii. 1% for Art
  - iii. SEED requirements
  - iv. MBE/WBE requirement
  - v. Crime prevention survey

## Step 3: Permits/Bidding

- a) CPC confirms who the Project Manager is to be; Reminder to include NBS on any projects that affect bldgs. under their management
- b) Record all companies invited to bid, (even if no response) and bid amounts; be aware of BOLI requirements
- c) PM must follow contracting procedures set by CPC Accounting

## Step 4: Construction

- a) Place emergency contact information on CPC website
- b) PM and client identify stakeholder group; Set on going construction mtg. schedule
- c) PM holds Kick Off mtg.: all affected CPC staff are required to attend;

- i. Take attendance, keep minutes, record assignment/clarification of roles and responsibilities, action items assigned; distribute Microsoft Project schedule and attach schedule to the minutes; set construction meeting schedule and who needs to attend, when
- d) Begin Construction! Update schedule for crews as needed.
- e) Follow change order process set forth by Accounting; change orders that increase costs need to also proportionately increase CPC administrative costs and fees; remember that change orders can affect BOLI requirement
- f) Client approval of scope/budget changes needs to be documented via e-mail or client signed memo
- g) Initiate and keep up client-tenant notifications and communication throughout the project
- h) Stakeholder team mtgs. continue throughout the project; minutes distributed;
- i) If work will extend beyond contract end date, have CA implement an amendment
- j) If a large project or one with great impact to the University, keep schedule and project updates on AECS website under "Large Projects".

#### **Step 5: Project Close Out**

- a) Develop and then complete the punch list
- b) Commissioning, as needed
- c) As-builts to AECS Drafter
- d) Give warranty information to the AECS OS2 for input into Facility Focus;
- e) Transfer archive money
- f) Place on the CPC public web site's pdf archive:
  - o Code appeals
  - o Fire-life-safety summaries
  - o FEMA reports
  - o ADA access reports
  - o Geotechnical reports
  - o Others
- g) Remove emergency contact information from website
- h) Officially close project with Accounting
- i) Organize construction file using the Project Filing System Master template (D:\Contract\_forms\Forms\_2006\Project\_Filing\_Master.xls); give to OS2 to apply color tabs; give to archivist for filing in basement
- j) Last contact with client on this project
- k) Lessons Learned.

# HOW LONG DO PROJECTS TAKE?

PSU Capital Projects and Construction (CPC) has prepared this brief summary of project types to help you in understanding why some projects take as long as they do and cost as much as they do.

## TYPES OF PROJECTS

### Very small

In-house design & in-house build (\$5K to \$50K). This would include projects such as subdividing a large room into 2 smaller rooms or installing new flooring, paint and ceilings in a small office suite.

1. Initiate project	1 to 2 weeks
2. Construction & permit documents, asbestos survey, estimate	1 to 2 weeks
3. Permit period	1 to 2 weeks
4. Construction period	2 to 4 weeks
5. <u>Project close-out &amp; Punch</u>	<u>1 to 2 weeks</u>
<b>Total</b>	<b>6 to 12 weeks</b>

### Small to medium

In-house design & in-house build (\$50K to \$100K). This would include projects such as subdividing a large room into 3 or 4 smaller rooms, remodeling a bathroom, or renovating a classroom.

1. Initiate project	1 to 2 weeks
2. Design, asbestos survey	1 to 4 weeks
3. Construction & permit documents, estimate	2 to 4 weeks
4. Permit	2 to 4 weeks
5. Construction period	4 to 16 weeks
6. <u>Project close-out &amp; Punch</u>	<u>2 to 4 weeks</u>
<b>Total</b>	<b>12 to 34 weeks</b>

### Medium

Contracted or in-house design & contracted or in-house build (\$100K to \$750K). This would include the major remodeling of a large office suite, minor seismic upgrades such as Montgomery Court Seismic, complicated renovation work such as the Viking Bowl & game room remodel and lab remodels in the Science and Engineering buildings.

1. Initiate project	2 to 4 weeks
2. Design, asbestos survey, preliminary estimate	4 to 8 weeks
3. Construction & permit documents	4 to 8 weeks
4. Bidding & permitting	2 to 6 weeks
5. Contract execution	2 to 4 weeks
6. Construction period	6 to 20 weeks
7. <u>Project close-out &amp; Punch</u>	<u>2 to 4 weeks</u>
<b>Total</b>	<b>22 to 54 weeks</b>

### **Major Capital project - Remodel**

A contracted design & contracted build Remodel (750K to 3M). This would include major remodels such as the SMSU Seismic Upgrade, Shattuck Renovation, and SMSU Ballroom renovation.

1. Initiate project	2 to 4 weeks
2. Design, asbestos survey, preliminary estimate	4 to 12 weeks
3. Construction & permit documents	8 to 24 weeks
4. Permit period & Design Review	4 to 12 weeks
5. Bid period (Overlap with permit period)	4 to 6 weeks
6. Contract execution	2 to 4 weeks
7. Construction period	16 to 36 weeks
8. <u>Project close-out &amp; Punch</u>	<u>4 to 8 weeks</u>
<b>Total</b>	<b>40 to 100 weeks</b>

### **Major Capital project - New Construction**

This would include the design and construction of new buildings such as Epler Hall, Engineering Tower, and the new Recreation Center.

1. Initiate project	4 to 12 weeks
2. Design, preliminary estimate	12 to 24 weeks
3. Construction & permit documents	12 to 36 weeks
4. Bid and Permit period & Design Review	12 to 36 weeks
5. Bid period (Overlap with permit period)	6 to 8 weeks
6. Contract execution	2 to 4 weeks
7. Construction period	36 to 72 weeks
8. <u>Project close-out &amp; Punch</u>	<u>4 to 8 weeks</u>
<b>Total</b>	<b>82 to 192 weeks</b>

### **THINGS THAT IMPACT TIME AND COST ON PROJECTS**

When planning a project please be aware of the following:

#### **Funding**

If the customer does not have their funding identified before the projects initiation it can delay the project.

#### **Design Review**

All projects that include new buildings, additions to existing buildings and modifications to the exterior of existing building must go through a design review process with the City of Portland. Depending on the scope of the project, this process can take anywhere from weeks to months. This can substantially lengthen the time it takes to complete a project and add substantial costs to the project in the form of added fees charged by the City, design fees charged by the design team, and added costs associated with the physical changes required by the City to comply with their requirements.

#### **Hazardous materials**

Many of PSU's buildings were built during the heyday of asbestos and lead use. Asbestos is commonly found in floor and ceiling tile and the adhesives used to hold these products in place, sprayed-on fireproofing over steel beams and columns, in pipe insulation, and many other places. Lead is

commonly found in paint and occasionally in piping. Whenever a renovation project impacts any of these items PSU has an approved abatement contractor remove the material as needed. This is a costly but necessary expense. Depending on the scope of the project and the building, the costs to do this work can be up to 20% of the total project costs.

### **Permit**

All projects with the exception of repainting and reflooring will probably require a permit. There are costs associated with preparing documents for the permit and most projects also require that City inspectors come to the site and inspect the work during the project. These costs can be anywhere from 5% to 15% of a project cost.

### **Design**

In order to prepare a set of documents that show the builder precisely what to build, the designer must meet with the users to determine their requirements. This can take just one or many meetings depending on the complexity of the project. This information is translated by the designer into a set of working drawings and specifications to be used by the contractor for construction and the City for permitting purposes. Typically, the design team charges anywhere from 7% to 15% of the project budget depending on the complexity of the project.

### **Seismic**

All new buildings must be designed to the current structural code requirements for seismic. Major remodels—especially those that change the use of building from one use to another—require that the existing building be brought up to current seismic codes. An example of this would be the conversion of a general classroom building into a lab building or a warehouse into housing. These costs can, in some cases, render such a project cost prohibitive.

### **ADA**

All new buildings must be designed to meet current Americans with Disabilities Act (ADA) requirements. All remodeled areas must meet current ADA requirements. In addition, the City can require that up to 25% of the construction costs must go to upgrading other areas outside of or inside the building where the remodel is being done to meet ADA requirements. For example, if a \$100,000 remodel of an office suite is being done, the City may require that up to \$25,000 must be spent to make a non ADA compliant restroom compliant. Other upgrades such as removing wheelchair barriers and installing lever door handles may also be required.

### **Changes**

Changes in the scope of a project after the project has started very often cost significantly more than if the scope was included in the initial base project. It is almost inevitable that there will be changes on larger project. These may be triggered by unforeseen conditions or requirements unforeseen at the time of design. Most projects have a contingency fund set up to cover these items. If a project runs smoothly and problems have been correctly anticipated, there may be

funds remaining in the contingency at the end of the project. There is a natural tendency for the client to view the contingency as a pool of funds which can be tapped to add enhancements to the project—new furniture, higher quality carpet, etc. This is fine, but only after it has been determined that the contingency won't be needed for critical items.

## **THE MYTH OF THE QUICK ESTIMATE**

Capital Projects and Construction receives many calls asking us to give a quick estimate for work in a given space. This is usually easy to do if the scope of the project is moving furniture, hanging pictures, painting rooms or installing new carpet. The issues become more complicated when the work involves demolition and construction because this type of work invokes the City of Portland Building Code and Design Review processes, the American with Disabilities Act (ADA), and various other health, building and fire codes. We would like to explain some of these challenges to you so that we may better serve you in achieving your project goals within your allotted budget and time schedule.

As an example, here is a typical request: A large meeting room needs to be converted into several offices for new staff. Below are some of the issues that need to be resolved before we can provide an estimate:

### **Hazardous materials**

If the space is in a building built prior to the mid-1980's there is a good chance there may be asbestos containing materials in the fireproofing, pipe insulation, floor tiles and wall and ceiling plaster. We will visit the area to determine if the area contains hazardous materials and if so, will abate them as required as part of the project.

### **Heating, ventilation, and air conditioning (HVAC)**

Each building on campus has a different HVAC system. We need to research how these systems work in the project area and determine what is needed to modify the system. Each new room needs a supply and return air source. Reconfiguration of ductwork and new terminals and thermostats may be required.

### **Electrical**

Additional power outlets will probably be needed for the offices and some research is needed to determine where the existing power is coming from, whether the existing power panels have the capacity to provide additional power and how the new power will be routed from the panels, etc.

### **Lighting**

Lighting requirements are different for a meeting room versus offices. We will determine if the existing lights can be reused, need to be relocated or must be replaced. In addition, each office will require separate light switching and this will

require recircuiting, even if the existing lights can be reused. In addition, emergency and exit lights will most likely need to be reconfigured.

### **Plumbing**

The project area needs to be researched to see if there are plumbing lines in the vicinity that will be impacted.

### **Data**

The new offices will need additional data and phone outlets. We will need to research what the best path will be to run the lines back to the data/phone closets. In addition, it will need to be determined if the existing system has the capacity to handle additional circuits. If not, a new telephone switch may need to be purchased—a costly proposition.

### **Americans with Disabilities Act (ADA)**

All new remodels must comply with the ADA. This usually means upgrades to door hardware, making sure doors meet the required minimum width, and that there are proper maneuvering clearances in the remodeled area. If the project is large enough, we may be required, as part of the project, to upgrade nearby restrooms to bring them into compliance with the ADA. This can incur significant costs associated with relocating plumbing fixtures, counters, doors, etc.

### **Signage**

Building floor plan signage will need to be modified, in addition to the creation of new room signage.

### **Finishes**

Time needs to be spent on determining if existing finishes can be reused or matched. Can the carpet be reused or does it need to be replaced? Can we still get the ceiling tile that was used or do we need to replace the entire ceiling? Do we need to repaint the entire corridor if a new door is put in or removed or can we paint only a portion of it?

### **Furniture**

If new furniture is to be provided as part of the project, what are the requirements and what is the budget?

There are other items that need to be researched in even simple projects, but these are the main items that impact a project. What this means for you is, after the initial meeting to determine your needs, we will be asking you for funds to cover the costs to develop an estimate for your project. This will vary from project to project. If you agree, you will need to provide us with written or email approval for an agreed upon fee to produce the estimate, and an index number to charge to. If, after you receive the estimate, you decide to proceed further, additional funds to cover the project will need to be approved by you and the project can move forward.

We at CPC hope this helps you understand some of the challenges in estimating projects. Please email us at [buildit@pdx.edu](mailto:buildit@pdx.edu) if you have any suggestions or questions. We are here for you.