King County

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

April 14, 2014

Motion 14106

Proposed No. 2013-0504.1 **Sponsors** McDermott

A MOTION accepting the response to the 2013 Budget Ordinance, Ordinance 17476, Section 63, Proviso P1, department of executive services; and authorizing the expenditure or encumbrance of $100,000 of project budget authority identified in Section 63, Proviso P1.

WHEREAS, the 2013 Budget Ordinance, Ordinance 17476, contains a proviso in Section 63, capital improvement program project 1046136, stating $100,000 shall not be expended or encumbered until the executive transmits an updated project management procedures manual and a motion that acknowledges receipt of the manual and the motion is passed by the council, and

WHEREAS, the King County executive has transmitted to the council the required information responsive to the proviso requirements., and

WHEREAS, the council has reviewed the department of executive services, facilities management division report;

NOW, THEREFORE, BE IT MOVED by the Council of King County:

The proviso response as shown in the capital project manager procedures manual Attachment A to this motion, is hereby accepted and the $100,000 of budget currently

identified in Ordinance 17476, Section 63, Proviso P1, capital improvement program fund project 104136, is hereby released.

Motion 14106 was introduced on 12/16/2013 and passed by the Metropolitan King County Council on 4/14/2014, by the following vote:

Yes: 8 - Mr. von Reichbauer, Mr. Gossett, Ms. Hague, Ms. Lambert, Mr. Dunn, Mr. McDermott, Mr. Dembowski and Mr. Upthegrove
No: 0
Excused: 1 - Mr. Phillips

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

FOR! Larry Phillips, Chair

ATTEST:

Anne Noris, Clerk of the Council

Attachments: A. Capital Project Manager Procedures Manual

14106

Attachment A

Capital Project Manager Procedures Manual

Capital Planning and Development Section

Facilities Management Division

Revision 1.0: May 1, 2013

Document Control

Version	Description of Change	Publication Date
0.0	Initial Publication	March 30, 2013
1.0	• Added Appendix G: Project Management Plan per DB's request. • Added Appendix H: Rebaselining Policy per GE's request. • Corrected references to record drawings that should have referred to "as-builts." • Updated dates for Hazmat inspections in section 3.3.2. • Added tip to section 5.2.7 on hiring a consultant to assess the constructability of plans and specifications. • Added a tip to section 6.4 on managing the Contractor's spend on security and escort personnel.	May 1, 2013

Purpose and Structure of Manual

This manual is published by the Capital Planning and Development (CPD) section of the King County Facilities Management Division (FMD). It provides department guidelines and best practices for CPD project managers (PMs) on how to manage capital projects. The information in this manual is intended to promote uniformity in the planning, initiation, and contract administration of King County capital projects.

While this manual addresses processes established and used by other sections within FMD as they relate to management and oversight of capital projects, it is not intended to provide direction or define processes for Building Services, Real Estate Services, or any of the other operational units within FMD.

The manual is organized by project phase, in keeping with the six phases of a capital project: initiation, planning, preliminary design, final design, implementation, and project close-out. In addition, the final section covers project management responsibilities related to acquisition activities.

All CPD staff responsible for work on FMD contracts are required to familiarize themselves with the guidance included in this manual.

Scope

This manual describes the responsibilities of CPD PMs in planning and executing capital projects. While Major Projects are described and referenced in this manual, some processes and responsibilities of PMs in the Major Projects section may fall outside the scope of this manual.

This manual is consistent with but not intended to replace King County code, executive orders, or policies. PMs should also familiarize themselves with all County policies and ordinances that relate to their work, in particular:

- Revised Code of Washington (RCW):Title 39: Public Contracts and Indebtedness
- King County Code: Title 4
- The King County Executive Order on Capital Projects
- King County Policies and Orders on Contracting
- Construction STANDARD Contract Terms and Conditions
- Construction WORK ORDER Contract Terms and Conditions
- Construction SMALL WORKS ROSTER Contract Terms and Conditions

Document Conventions

This document addresses responsibilities and tasks of PMs and provides specific procedures they should use in preparing for and implementing projects. While

the content may be of interest to King County employees in a variety of roles, it is intended for PMs. Therefore, whenever the contents present specific procedures for which there is little risk of confusion between procedures performed by the PM and by consultants or other parties, this document speaks directly to PMs in the second person ("you").

All acronyms, with the exception of FMD and CPD, are spelled out upon first reference in each section of the manual. For a master list of acronyms used in this manual, see Acronyms.

The official names of all King County forms and Unifier workflows are displayed in italics, e.g. *Request for Information* and *Notice to Proceed.*

Formatting, Revisions, and Updates

Suggestions for corrections, additions, or improvements to this manual are encouraged. Please submit your suggestions and corrections via Unifier.

The CPD Project Management Manual is maintained in the CPD Standard Processes project folder in Unifier. To submit a change request, navigate to that project, open the *Request for Information* (RFI) workflow, complete the required information, and submit the RFI for routing.

The unit supervisor and section supervisor will review and prioritize all change requests for action. The Project Management Manual will be updated on a yearly basis or as required based on the urgency of the change request.

Best Practices for CPD Project Managers

1. Document the project plan, including scope, schedule, budget, and constraints. Be sure to review the plan with stakeholders and get their written concurrence on it. Update the plan monthly or whenever changes occur.

2. Make an independent cost estimate before receiving bids or proposals. Use your independent estimate as the basis for evaluating bids or negotiating the proposed fee, schedule, and scope for consultant work.

3. Execute contracts, work orders, amendments, and change orders only after verifying funding and before allowing contractors or consultants to perform any work.

4. Schedule Unifier system training for your selected consultants and contractors promptly, and make sure they understand the importance of managing all documents in Unifier.

5. Keep the contractor, the client agency, any project sponsors, and key stakeholders updated about the project status. Act promptly on changes and don't surprise stakeholders with bad news.

6. Pay consultants and contractors promptly, but first make sure the charges are valid and the consultant or contractor is complying with all contractual and reporting requirements.

7. Be sure to baseline your budget and schedule at the end of the preliminary design phase, review the baseline with your supervisor, and update your project forecast each month after actuals have posted.

8. Process all change proposal requests (CPRs) promptly, and enter all approved CPRs into a change order on a monthly basis. Route the change order for review and approval through Unifier.

9. Keep your Unifier files up to date with a realistic schedule, estimate of completion, and log of risks.

10. Close out projects promptly.

Table of Contents

1. Introduction

King County assigns responsibility to the Facilities Management Division (FMD) for oversight and management of capital projects undertaken for all county General Fund agencies.

FMD's Capital Planning and Development (CPD) and Major Projects sections are, together, responsible for construction, renovation, and improvements to County facilities and environments.

1.1 Capital Planning and Development

CPD is a full-service design and project management agency with staff architects, engineers, and project managers (PMs) who:

- Support or prepare planning and development programs for general County government.
- Manage capital projects for Public Health, Public Safety, Judicial agencies, Detention and other County government functions (excluding Transit and Natural Resources).
- Perform in-house design and administer design contracts to meet client needs, permit requirements, and all codes.
- Manage construction contracts or in-house construction.
- Provide cost estimating, project budgeting, and capital fund management.
- Provide space planning, remodeling, and construction of tenant improvements for client agencies and programs.

1.2 Types of Capital Projects

FMD PMs oversee new construction, maintenance, and tenant improvement projects. These capital projects are designed using an A/Econtract and constructed by contractors working under a variety of public works contracts.

Capital projects are funded primarily through an annual appropriation of General Fund revenue.

1.2.1 Major Projects

The Major Projects section delivers capital projects with budgets in excess of $10 million in accordance with the public policy mandates of King County government, the facility needs of employees, and the overall utility of the project to the community. These projects are funded by specialized funds such as a levy, bond, or public-private partnership.

1.2.2 Discretionary General Fund Projects

Discretionary projects are non-maintenance capital works funded from the County's General Fund (GF), also known as the Building Repair and Replacement Fund (BR&R). FMD asks GF-supported agencies to submit funding requests as part of the annual budget process. Funding for BR&R projects is limited. Typically, the only projects funded are those that mitigate a public health or life/safety condition that, if not addressed, poses a serious risk or liability to the County. Projects that address operational, security, or mandated needs receive funding as the budget allows.

Each agency that submits requests is invited to review and rank all of the submittals to establish a consensus on the highest priority projects.

Concurrent to this annual request for agency submittals, FMD works collaboratively across sections to identify and prioritize executive strategic initiatives, imminent building system failures, and critical capital needs that, if not addressed, pose a risk to the County. This list is shared with the submitting agencies prior to project ranking.

After projects are identified for inclusion in the FMD budget request, a CPD PM is assigned to prepare a *Capital Appropriation Proposal (CAP)* for each.

The PM meets with the client agency and/or appropriate FMD staff to confirm the scope of work and to develop a formal cost estimate.

After the Council approves projects for funding, the CPD unit supervisor assigns the funded projects to PMs, usually assigning each project to the PM who estimated it.

These projects are funded based on a recognized critical need. It is important to deliver the project with that need strictly in mind. Bring any suggested variations to the scope—from the client or others—to the attention of CPD management.

1.2.3 Major Maintenance

Major maintenance covers all maintenance work performed on existing buildings and paid for through the Major Maintenance Reserve Fund (MMRF). These projects constitute a major body of work for CPD.

Per KCC 4.08.250 B, the purpose of the MMRF is to provide for the periodic replacement of major building systems and components at King County facilities maintained by FMD so that each building will realize its full useful life. Expenditures from this fund are not used for routine maintenance and shall not be used to finance unique program infrastructure investments.

The annual MMRF budget development process begins in the spring of each year during the annual budget preparation process when Building Services and CPD jointly review and prioritize their respective lists of building systems and assets due for major maintenance, repair, or replacement.

PMs also work with agencies to prioritize maintenance projects and establish a preliminary scope, cost estimate, and schedule for priority projects.

A forum of FMD managers then reviews the requests and recommends which projects should be forwarded to the Office of Performance, Strategy, and Budget (PSB) for consideration. PSB submits the final recommendations regarding which projects should be funded to the King County Council, and the Council makes final funding decisions in late November.

1.2.4 Client-Funded Projects

Client-funded projects include any capital projects initiated by a client agency to address emergent capital needs not included in the County's GF or MMRF budgets. These projects are paid for by the requesting agency, typically from its operating budget.

When a client agency initiates such a project, the CPD section manager or unit supervisor refers the agency to PSB to acquire a project number and a project budget. After PSB approves the request and establishes the budget, FMD assigns a PM to consult with a representative from the client agency on the scope of work.

With supervisor approval, before PSB has set up the project budget, a PM may provide up to 10 hours of consultation to the client agency to scope the work, assess space requirements, and complete an initial cost estimate. FMD must review all client-funded projects to ensure the proposed project is consistent with the King County Strategic Plan and County space standards.

PMs should not provide a client agency with planning or design services above and beyond the initial consultation of 10 hours without first securing a project number and budget from the PSB for the work.

1.2.5 Leased Space Tenant Improvement Projects

In a leased space tenant improvement project, the County enters into a contract with a landlord who is typically responsible for managing the design and construction of all required tenant improvements. The client agency works directly with Real Estate Services (RES) to negotiate the lease; a CPD PM acts as the owner's representative and may perform a variety of tasks depending on the project. For more information, see Acquisition.

1.2.6 Emergency Work

Emergency work is any unplanned work that must be addressed immediately to prevent damage to or loss of County property and/or harm to individuals. The declaration of an emergency is a formal process that requires written approval either by the FMD Director or the County Executive. A declared emergency allows suspension of normal contracting requirements.

For more information, see Emergency Work.

1.3 Roles and Responsibilities

CPD projects depend on collaboration between people with primary responsibility for a variety of project management, supervisory, and oversight roles, as described in this section.

1.3.1 Project Manager

A PM is assigned to all public works projects. This individual, designated as the "Project Representative" in County contract documents, represents the County in all design and construction contracts and serves as the single point of contact between consultants, contractors, and King County. The PM:

- Ensures projects comply with County, state, and federal contracting, financial, and public works policies and procedures.
- Oversees space planning for County agencies.
- Assists County agencies in developing their capital improvement plans.
- Assists in developing the executive budget for capital improvement projects.
- Develops project cost estimates.
- Administers A/E and construction contracts.
- Acts as the County's representative during site master planning, design, and construction activities.
- Manages County funds and project budgets.
- Ensures the conformity of capital improvement plans with the County's approved space plan and operational master plans.
- Provides advisory services, feasibility studies, and engineering support on capital projects to client agencies as requested or required.
- Ensures projects comply with the project program (which defines project requirements), technical specifications, and all permit conditions.
- Negotiates changes to contracts per County policy.
- Approves payments to consultants, contractors, and other vendors.

The PM's responsibilities may vary depending on the type of project and agency with whom they are working. Variations in responsibilities are authorized by the section manager or unit supervisor.

1.3.2 Capital Projects Unit Supervisor

The CPD unit supervisor is responsible for supervising implementation of capital improvement program(s) (CIPs) and PMs. The unit supervisor:

- Establishes CPD priorities on funded CIPs and MMRF projects.
- Assigns work to PMs.

- Advises FMD management of priority projects.
- Notifies client agencies of project start-up.
- Provides signature approval for key project documents, including the project charter, the *Notice of Substantial Completion*, and the *Notice of Final Acceptance*.
- Oversees contract negotiations, selection, and interpretation, and monitors compliance with contract terms and conditions.
- Provides strategic direction and guidance to PMs. Determines and monitors performance standards and measures for the unit, its project work teams, and individual PMs.
- Recommends and oversees the development and implementation of policies and procedures for the work.
- Administers the unit's operating budget.
- Supervises the work of unit staff members. Hires, assigns, and schedules work; evaluates performance; and initiates disciplinary action when appropriate.
- Oversees the development of requirements for the annual capital improvement program and budgets for assigned work, which includes developing the project, estimating costs, estimating budget requirements, and initiating approvals.
- Provides technical and professional expertise in the analysis of and response to complex, sensitive, or political issues. Acts as liaison for modifying and updating King County codes and regulations and developing new King County codes and regulations.
- May act as project manager for project programs with multiple dimensions or sub-projects.

1.3.3 Capital Projects Section Manager

The CPD section manager is responsible for long-term planning of CPD work, ensuring that the CPD section is meeting its performance measures, and providing input on strategic and policy issues to the FMD Director. The section manager:

- Redistributes resources among work units and establishes priorities for the most effective use of available resources.
- Provides direction to subordinate supervisors and related analytical and support staff.
- Oversees the development and preparation of the annual capital improvement program for the section.
- Develops and monitors the overall section's operating budget.
- Provides oversight on section projects, programs, and policies.

- Coordinates sensitive and complex projects and reviews their impacts with division and department directors, PSB, tenant and other agency managers, the County Council, and external (e.g., city, state, and federal) agency officials.
- Develops, reviews, or provides significant input into policies and procedures within areas of responsibility for the entire division.
- Has overall responsibility for the work of section staff members. Hires, assigns, and schedules work; evaluates performance; and initiates disciplinary action when appropriate, either directly or with unit supervisor(s).

1.3.4 Unifier Administrator

The Unifier administrator supports management of project documentation in Unifier. The Unifier administrator:

- Sets up capital projects in Unifier.
- Supports PMs in managing documents in Unifier.
- Trains PMs on new Unifier business processes.
- Establishes Unifier accounts for contractors, consultants, and other partner users.
- Trains contractors and consultants on use of Document Manager and workflows within Unifier.
- Makes projects inactive in Unifier when all project documents have been archived in the Electronic Records Management System (ERMS).

1.3.5 Contracts Officer

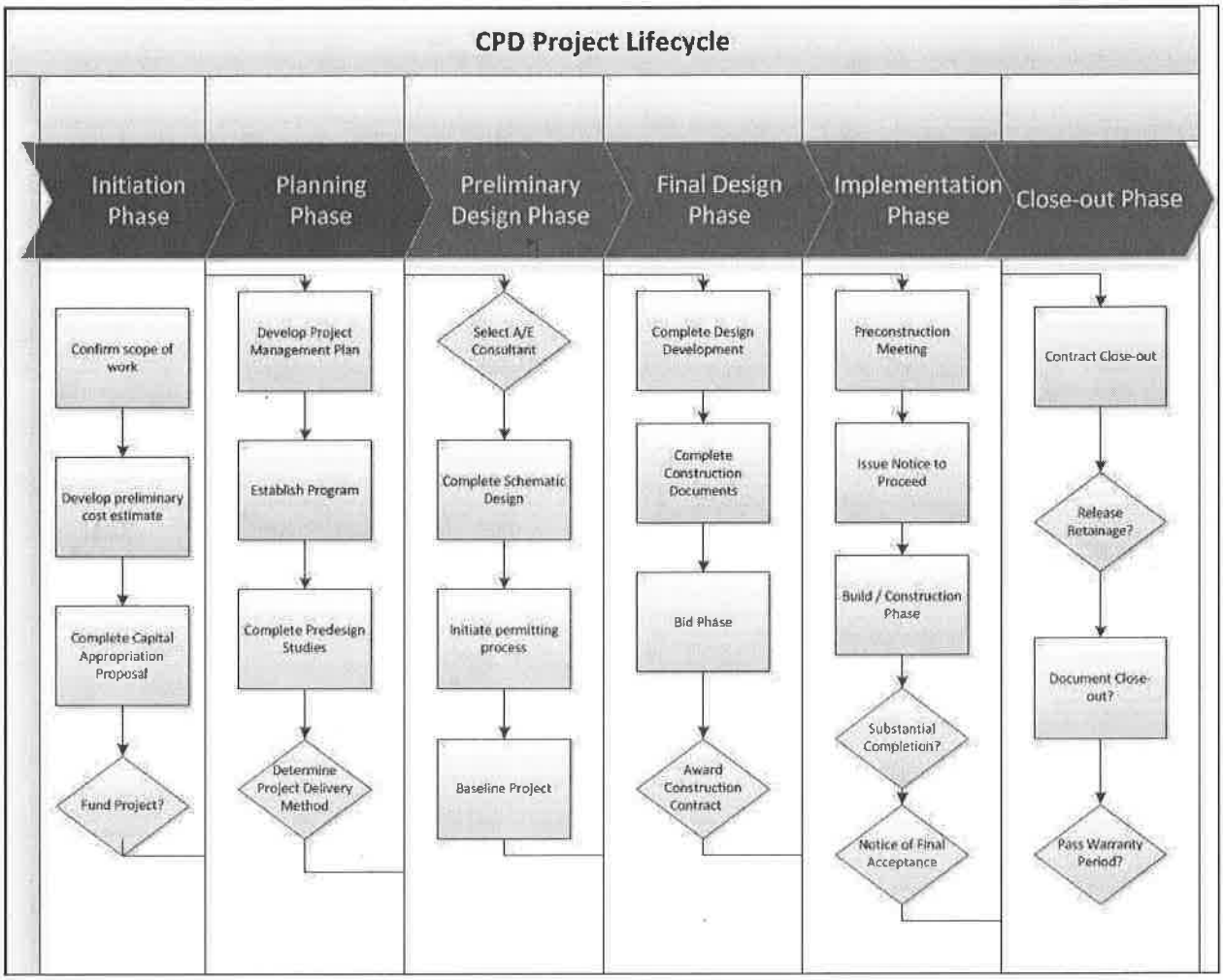
The FMD contracts officer (CO) supports PMs in procuring consultants and contractors for their projects. The CO:

- Coordinates with the Procurement and Contract Services Section (PCSS) to understand current procurement practices and policies and communicate any changes to PMs.
- Manages all correspondence to and from PCSS throughout the procurement process.
- Supports the PMs to expedite the consultant selection process.

1.4 Project Lifecycle

All CPD projects follow a six-phase project lifecycle as depicted in **Figure 1**.The contents of this manual are organized according to these phases.

Figure 1: Project Lifecyle


CPD Project Lifecycle
Initiation Phase
Planning Phase
Preliminary Design Phase
Final Design Phase
Implementation Phase
Close-out Phase
Confirm scope of work
Develop preliminary cost estimate
Complete Capital Appropriation Proposal
Fund Project?
Develop Project Management Plan
Establish Program
Complete Predesign Studies
Determine Project Delivery Method
Select A/E Consultant
Complete Schematic Design
Initiate permitting process
Baseline Project
Complete Design Development
Complete Construction Documents
Bid Phase
Award Construction Contract
Preconstruction Meeting
Issue Notice to Proceed
Build / Construction Phase
Substantial Completion?
Notice of Final Acceptance
Contract Close-out
Release Retainage?
Document Close-out?
Pass Warranty Period?

Initiation

Objective

Define scopes of work for requested projects and develop preliminary cost estimates so that the Office of Performance, Strategy, and Budget (PSB) and King County Council have a basis upon which to determine annual appropriations.

Deliverables

- ☐ Project Cost Estimate
- ☐ Capital Appropriation Proposal

Tasks

- ✓ Set up the project in Unifier.
- ✓ Confirm the scope of work for the proposed project.
- ✓ Develop a preliminary cost estimate for the work.
- ✓ Complete a *Capital Appropriation Proposal* (*CAP*).

2. Initiation

In the Initiation Phase, the Unifier administrator sets up all projects under consideration in Unifier. To prepare a project for inclusion in the annual budget, the project manager (PM) completes a *Capital Appropriation Proposal* (*CAP*) and a cost estimate in Unifier.

2.1 Managing Projects in Unifier

All CPD PMs are expected to use the project management system, Unifier, to manage their capital projects. Unifier enables document management and standardized business processes for everything from cost estimating to change orders.

The Unifier administrator sets up all CPD projects under consideration for funding in the Project Planning area of Unifier. This is where PMs complete the Cost Estimate Workbook and CAP for a project during the Initiation Phase.

To access Project Planning, log into Unifier, click the Capital Planning tab, make sure the CIP Units View is selected, and then click Project Planning.

When a project is funded, the Unifier administrator moves the project folder from Project Planning to the appropriate Capital Improvement Program (CIP) unit and imports an initial cost estimate from the CAP. The cost estimate is saved in the 10.0 Budget and Schedule folder under Document Manager.

After a project has been set up in Unifier, it is the PM's responsibility to ensure that all project documentation is either created in or uploaded to Unifier.

2.1.1 Access

The PM is responsible for ensuring that all project consultants, contractors, and stakeholders are provided with access to Unifier. Submit requests for access and training to the Unifier administrator.

Consultants and contractors are expected to submit change orders, invoices, requests for information (RFIs), meeting minutes, and all other project documents through Unifier.

2.1.2 Business Processes

Unifier includes a number of business processes that automate the workflow for key activities. These business processes can be accessed by navigating to a

specific project, and then clicking the Logs folder. This folder contains three sub-folders: project logs, consultant logs, and contractor logs.

To initiate a business process

1. Click the sub-folder you want, click the business process, and then click New.
2. Enter the information required for the workflow.
3. Click **Save** to save a draft of the information for later modification;
   -or-
   Select an action from the **Workflow Actions** drop-down menu and then click **Send**. This routes the information to the appropriate individual(s) for review and comment or approval.

Note: Some agencies within King County, such as the Procurement and Contract Services Section (PCSS) and the Office of Performance, Strategy, and Budget (PSB), may require that you transmit project documentation to them via email or upload documents to the agency's intranet site. In these cases, you should make sure a copy of the reviewed document is attached to the corresponding business process or filed directly in Document Manager.

To see the workflow for a specific business process, open the business process, click theHelp menu, and then select the help file by the process name.

2.1.3 Document Management

All documents for active projects are managed in Unifier within a project folder. Templates for many of the standard capital project documents are available from the Master Log – Business Processes folder on the Home tab of Unifier.

Each project uses a standard organizational structure for maintaining documents within the Document Management folder. PMs are responsible for ensuring that documents are organized into the structure specified in **Table 1**.

Note: Any document type that appears in all caps must be retained permanently.

Table 1: Unifier Document Management Organization

File Number	Folder Name	Document Examples	Roles with Access Rights
10.0	Budget and Schedule	• Budget Forecast • CAP • Critical-Path Schedule • Independent Estimates • Master Estimate (Cost Estimate Workbook) • Preliminary Project Budget • Project Baseline Budget • Project Estimates • Schedule & Updates	• Admin Staff • Manager • Project Manager • Supervisor
20.0	Preliminary Planning	• Action Items • LONG RANGE FACILITIES PLANS • Predesign Study Reports • Project Charter • Project Management Plan • Project Program Plan • QA/QC Plan	• Admin Staff • Consultant • Manager • Project Manager • Supervisor
30.0	Design	• Consultant Agreements • Consultant Invoices • Consultant Progress Reports • Consultant Work Orders (WOs) • Cost Estimates • Design Reports • Design Reviews • DRAWINGS (Schematic, Design Development) • Meeting agendas, presentations, and minutes • PLANS	• Admin staff • Consultant • Manager • Project Manager • Supervisor

File Number	Folder Name	Document Examples	Roles with Access Rights
		• SPECIFICATIONS (outline, draft, final) • WO Amendment Changes • WO Amendments • Sustainable Scorecard	
40.0	Environmental (SEPA/NEPA)	• Environmental Checklist • Environmental Impact Statement • Environmental Studies and Reports • Site Surveys • Technical Memoranda	• Admin Staff • Consultant • Manager • Project Manager • Supervisor
50.0	Permits	• Construction Permits • HAZARDOUS WASTE PERMIT • Land Use Permits • Operating Permits • Permit Applications • Permit Meeting Notes	• Admin Staff • Consultant • Manager • roject Manager • Supervisor
60.0	Bidding – Bid Documents	• Amendments and Adjustments • Bidder Conference Minutes • Construction Drawings and Specifications • Contractor Bid Forms • Invitations to Bid • Responses to Bid Questions • SAOA	• Admin Staff • Consultant • Manager • Project Manager • Supervisor
70.0	Construction	• Apprenticeship Utilization Plan • Apprenticeship Utilization Reports • Change Orders	• Admin Staff • Consultant

File Number	Folder Name	Document Examples	Roles with Access Rights
		• Change Proposal Requests • CONSTRUCTION CONTRACT, including plans and specifications • Construction Work Orders • Contractor Progress Reports • Daily Inspection Reports • Field Directives • Final Inspection Notes • Inspection Reports • Materials Test Results • Notice of Final Acceptance • Notice of Selection • Notice of Substantial Completion • Notice to Proceed • Pay Applications • Preconstruction Conference Meeting Minutes • Product Submittals • Punch Lists • RFIs • Schedules of Values • Shop Drawings • Subcontractor and Supplier Lists and updates • Submittals • WO Invoices/Certificates for Payment • Written Responses/Reviews of All Contractor	• Contractor • Manager • roject Manager • Supervisor

File Number	Folder Name	Document Examples	Roles with Access Rights
		Submittals	
80.0	Close-Out	• Contractor As-Builts • Energy and Green Reporting Forms • Guarantees • OPERATION & MAINTENANCE MANUALS • RECORD DRAWINGS • Redlines • Sustainable Scorecard (Final) • WARRANTIES	• Admin • Consultant • Contractor • Manager • Project Manager • Supervisor
90.0	Legal	• Affidavits of Amounts Paid, including final affidavit • Contracts (Signed) • Contract Addendums • Contractor Insurance Certificates & Forms • Mediation Results • Project Emails • Retainage Bond • W-9 Forms from Contractor and Consultants	• Admin • Manager • Project Manager • Supervisor

Note: At the PM's request, the Unifier administrator can create additional folders within Document Management for projects with unique documentation requirements.

For more information on document storage and archiving, see Appendix D.

2.1.4 Reports

A standard set of reports for tracking information related to individual projects is available from the Reports folder in Unifier. These reports can be particularly useful for tracking the progress of specific activities, such as project risks, over time.

To run a report

1. Navigate to the Reports folder in your project, and then click the User-Defined folder.
2. Double-click the report you want to open.
3. Under Report Query Parameters, specify or select the parameters of the report.
4. Select the format of the report and the location where you want to save it, and then click **Run**.

Contact the Unifier administrator if you need assistance running a report or if you want to request a custom report for your project.

2.2 Capital Appropriation Proposals

The CPD unit supervisor assigns prioritized projects to PMs prior to the projects being submitted to PSB.

The PM's first responsibility is to prepare a CAP for PSB. The CAP includes preliminary scope, schedule, and cost estimate information for the proposed project. PSB uses this information to assess projects for funding.

To prepare a CAP

- Visit the site and consult with the client agency, Building Services personnel, and other stakeholders as necessary to define or confirm the scope of work.
- Complete the Cost Estimate Workbook available in Unifier. For information about how to complete this worksheet, see Cost Estimating.
- Complete the CAP form in Unifier using the information from the completed Cost Estimate Workbook. For information about how to complete the form, see CAP Form.
- Upload the completed Cost Estimate Workbook by attaching it to the CAP form.
- Route the completed CAP to the unit supervisor via Unifier. After your supervisor approves the CAP, it will be submitted to PSB.

2.2.1 Scope of Work

The first step in preparing a CAP is to establish the scope of work. The PM's role in defining the scope varies, depending on project funding sources, as outlined in **Table 2**.

Table 2: Project Scope Responsibilities

	Major Projects	Discretionary Projects	Major Maintenance	Client Funded Projects	Leased Space Tenant Improvement
Who	PM with input	PM with input from	Initial broad scope	CPD	Depends on

	Major Projects	Discretionary Projects	Major Maintenance	Client Funded Projects	Leased Space Tenant Improvement
develops scope?	from client agency, stakeholders, FMD management, and executive staff	client agency, consultants, and stakeholders as necessary	established in six-year plan. PM refines scope when completing CAP in consultation with stakeholders	management, PM, and client agency	business terms specified by FMD Real Estate, Strategic Planning, and client agency.
Who reviews and confirms?	Elected officials or their appointed representatives	CPD management and client agency	PM, CPD management, and PSB	PM, CPD management, client agency, and PSB	PM, CPD management, and PSB
When is scope finalized?	Prior to submission to PSB for approval	At project commencement	By estimating deadline	At project commencement	On Lease signature date

Common elements of the project scope include the nature and purpose of the project, what it is, and how it will be implemented. The description of the project should:

- State where the project is located.
- Indicate if the project is one phase of a larger project.
- Indicate if the project is construction of a new facility.
- State if the project will provide new or remodeled space, install new systems, or replace obsolete systems.
- Define the problem with any existing space or system.
- Explain why the project is needed or how it improves service delivery.
- Describe the proposed improvements in technical terms.
- Identify the number of staff who will occupy the completed space and the kind of work or service they perform.
- Identify temporary relocation needs for staff and operating space.

The PM should make sure the scope of work aligns with the King County Strategic Plan, is in compliance with King County Code (KCC), and is consistent with both the facility master plan and any existing operational master plan of the client agency.

For large projects, the PM may elect to hire a consultant to help develop the scope of work and a cost estimate. In these situations, the PM should provide the consultant with as-builts, existing condition information, surveys, reports, and existing operations and maintenance (O&M) manuals as necessary, and arrange a site walk-through with the consultant.

For projects in which the PM does not personally develop the scope of work, it is the PM's responsibility to coordinate its development and then review and confirm it in draft form.

In all cases, the PM should confirm in writing all information with the client agency's authorized representative prior to finalizing the project scope during the Planning Phase. For more information, see Project Management Plan.

2.3 Cost Estimating

PMs must complete a cost estimate for all proposed projects. The *Master Estimate Form* is available as a template in Unifier. Go to Documents Manager, click **Documents**, and then click **CIP Project Estimates** to access the current form.

To complete a cost estimate

1. Enter the project name and scope of work on the Summary Sheet. Make sure you provide the same information here that you provide on the CAP form.
2. Enter detailed construction costs on the Detail Estimate worksheet.
3. Complete the General Conditions and Profit Factors worksheets. The data you enter will change the maximum allowable construction cost(MACC)calculation and associated A/E fees and auto-populate several line items on the Summary Sheet.
4. Add any additional services required on the Fee Negotiation worksheet.
5. Enter the project schedule, and then add any additional costs for the project to the Summary Sheet.

Descriptions of each worksheet in the *Master Estimate Form* and best practices for completing them follow.

2.3.1 Summary Sheet

The Summary Sheet specifies the project name, the requesting (client) agency, the preliminary scope of work, and an estimate of project costs for each phase of the project.

Complete all information at the top of the Summary Sheet. Make sure this information matches the information you provide on the CAP form. This scope will be published in future status reports and online, so make it clear and accurate but not overly detailed.

Complete the Summary Sheet after you have filled out the other sections of the workbook. Many of the cost elements in the Summary Sheet will be auto-populated based on the data you enter on other sheets of the workbook.

After you have completed the other worksheets in the workbook, review the phased breakdown on the Summary Sheet and modify the figures as necessary. For example, you may want to allocate more funds to pre-design activities. Your changes will auto-generate new appropriations in the New Appropriation and Estimate at Completion(EAC) worksheet, which you may need to manipulate to match the work plan for the project.

2.3.2 New Appropriation and EAC Worksheet

This worksheet helps you to determine new appropriation figures to enter in your CAP form. These costs are auto-generated based on the data you enter in the rest of the workbook. You may need to manipulate these figures if you modify the phased breakdown on the Summary Sheet.

2.3.3 Consultant Fee Estimate

The Consultant Fee Estimate specifies three types of fees:

- **Basic services fee**: A percentage of the maximum allowable construction costs (MACC), the total basic services fee is calculated based on the difficulty of the project (Schedule A, B, or C) as expressed by building type in the Washington State A/E Fee Guidelines. Select the appropriate schedule from the drop-down menu in Column B to generate the basic services fee.
- **Additional services**: FMD defines additional services as any services that are outside of basic services, but necessary to complete the project; for example, geotechnical engineering or hazardous materials predesign studies. In some cases these additional services will incur construction costs. Be sure to update your Detail Estimate worksheet when you identify services that will require construction costs.
- **Reimbursable expenses**: FMD limits reimbursable expenses to those not covered in the consultant's overhead. For example, document copying is only reimbursable when large numbers of thick documents, such as Environmental Impact Statement (EIS) volumes, are requested for multiple reviews. For information on costs eligible for reimbursement, see KCC Chapter 4.16.080 and KCC Chapter 3.24.

2.3.4 Detail Estimate Worksheet

The Detail Estimate worksheet calculates the MACC for a project. It makes this calculation based on the direct construction costs, the general conditions of the job, and the profit factor. To complete this estimate, you will need to specify the direct costs of all construction elements and complete the General Conditions and Profit Factor worksheets.

When you enter construction costs in the Detail Estimate worksheet, remember to:

- Identify the source of the cost information for each line item. For example, if a specific line item from an *RS Means Estimating Guide* is

used, identify the line item. Acceptable sources for estimate information include RS Means Estimating Guides, recent bids, and previous estimates updated to reflect inflation.

- Provide enough detail for each item so the client can understand what elements are being addressed by acquisition, new construction, demolition, remodel, or repair.
- Include an estimate of months to the mid-point of construction to account for inflation.
- Determine a design contingency. Use the design contingency chart on the Detail Estimate worksheet to select the contingency percentage, and enter that percentage.

2.3.5 General Conditions Worksheet

The general conditions determination is based on the calculated value of the project from the Detail Estimate worksheet and your assessment of site and market conditions. You can select the appropriate market and site conditions from the drop-down menu available in the General Conditions worksheet.

Once you've made a selection, the general conditions figure on the Detail Estimate worksheet will auto-populate to generate the MACC for your project. The MACC will auto-populate on all worksheets that require it.

2.3.6 Profit Factor Worksheet

The profit factor determination is based on the calculated value of the project from the Detail Estimate worksheet and your assessments of risk, degree of difficulty, contractor investment, and governmental assistance. Select the profit factor from the drop-down menu in the Profit Factor worksheet.

2.3.7 Schedule Worksheet

To complete the Schedule worksheet, enter the month that your project will begin and the activities that will take place each month of the project. Use the standard estimated timelines for key tasks to determine how much time to allocate for each task. For guidance on time estimates, see Schedule Guidelines. Finally, enter the estimated number of project management hours required during each month of the project. The total project management hours will auto-populate on the Summary Sheet.

Make sure the schedule is consistent with the procurement methods you intend to use for design and construction services.

Note: After a project is funded, you are expected to develop a detailed critical path schedule. For more information, see Project Schedule.

2.3.8 Life Cycle Costs Worksheet

Complete the Life Cycle Costs (LCC) worksheet when required as specified in K.C.C. Chapter 4.16.035 and K.C.C. Chapter 4.04.245. This includes situations where it is necessary to:

- Demonstrate energy savings or rapid payback for a project.
- Compare alternative construction methods such as new or remodeled space.
- Compare replacement systems such as heat pumps and boilers.

The LCC worksheet can also be used during schematic design to evaluate various component alternatives and design approaches.

2.3.9 Additional Costs

It's important to anticipate all project costs to stay within your projected budget. Following are some guidelines to assist you in estimating the costs of relocation, temporary tenant improvements, required security in sensitive locations, asbestos abatement, and surveys, special tests, or inspections.

- **Tenant relocation lease costs**: Contact Real Estate Services (RES) and identify the amount of leased space that will be needed for temporary relocation purposes. RES will not be able to commit to a location until the project budget is adopted, but they can give you an idea of the cost ranges for buildings that might accommodate your needs. Use the high end of any range they give you, and inflate to the date the relocation can reasonably be expected to happen.
- **Relocation/temporary construction costs**: Work with your client agency representative to identify the number of workstations and the amount of private space, conference space, and storage space, as well as any unique or special space or construction needs, required at the temporary location. Estimate the amount of work by trade. The list of hourly rates for FMD shops is prepared annually by Building Services; make sure you use the most current rates and factor in moving costs.
- **Security costs**: Construction at some locations, such as criminal justice, detention, and public health facilities, may require FMD or tenant security escorts. These escorts must be paid for from the project budget.
- **Other capitalized operating costs**: This category is used only for large, long-term projects. The decision to capitalize operating costs is made by FMD management in conjunction with PSB and affected agencies.
- **Survey costs**: Any projects involving parking lots, surface water, and building additions will most likely require a survey. Be sure to include survey costs in your estimate. Check the Plans Room index to determine what information is already available for the project site.
- **Hazardous materials abatement costs**: This category includes inspection for and abatement of asbestos, lead, and other hazardous

materials. Check with the Building Services Section (BSS) for existing assessment records. Check the on-call work order contract for hazardous materials consultants, and engage a consultant to help you prepare an estimate if required. Some abatement work can be performed by BSS crews; be sure to coordinate any potential abatement work with BSS management.

- **Special testing and inspections costs**: The County provides some code-required testing and inspection services. Elements of the work that may require testing and inspection include soil composition and compaction; concrete and reinforcing steel; masonry mortar, grout, and reinforcing; and structural steel and welding. If you don't have significant experience with testing and inspection, ask another PM for recent costs incurred or check the rates in the current contract for these services.
- **Furnishings and fixed equipment (F&FE) costs**: Allow for purchase and installation of furniture and fixed equipment.
- **Phones and IT infrastructure costs**: Allow for network cabling, switches, and network access cabling. Confirm whether phones are included in network service. Work with King County IT to develop an estimate for these services.
- **Building vacating costs.** Be sure to factor in any costs associated with cleaning, surplusing, and decommissioning space or buildings that will be vacated.

2.4 CAP Form

The CAP form provides a high-level summary of a proposed project, including the scope of work, proposed schedule, justification, risks, and cost estimates. PSB uses this information to assess whether to fund a project.

Be sure to complete the Cost Estimate Workbook before you fill out the CAP form.

To complete a CAP

1. Log into Unifier, click the Capital Planning tab, click **Project Planning** in the bottom right pane of the window, and then click the project for which you want to create a CAP. Click any folder, click **New**, and then select **CAP – Form**.

   Note: If the project has not been set up in Unifier yet, you can access a CAP form from the Home tab in the **Master Log – Business Processes** folder.

2. At the top of the form, select the Council District, the project manager, the fund name, and the status of the project from the drop-down menus.

3. Under Performance Measurement Category, select the appropriate measurement:
    - **Category 1**: Any project that has or will have one baseline schedule and budget established at a single point in time. Performance measures will track against this single schedule and budget. Most FMD projects must be baselined and therefore should be classified as Category 1.
    - **Category 2**: Projects that have the potential for other performance measures beyond those of Category 1. For example, projects that can be baselined in phases, or that are related to another project and its performance measures, may be Category 2 projects. This should be confirmed with CPD management.
    - **Category 3**: Projects that do not have performance measures, such as Debt Service or Central Rates.

    Note: For projects funded in phases, each phase should be treated as a discrete Category 1 project.
4. Under Project Schedule, enter the dates you specified on the Project Worksheet in the Cost Estimate Workbook.
5. Enter the new appropriations for each phase using the dollar amounts from the Summary Sheet of the Cost Estimate Workbook.
6. Enter the source and basis for the estimate at completion.
7. Complete the rest of the form, including the project scope, justification, status, and risks. Make sure the information you enter matches the information on the Cost Estimate Workbook.
8. When you are finished filling out the CAP Form, click **Add Attachment** and attach the completed Cost Estimate Workbook to the CAP, and then click **Finish Editing** to route the completed form for approval. A copy of the completed form will be saved to the 10.0 Budget and Schedule folder under Document Management.

Note: At any time, you can click **Save** to save the form for later completion. A copy of the draft CAP will be saved to the Drafts folder in Unifier.

2.5 CAP Review

After you've submitted your completed CAP, the CPD unit supervisor and section manager review the information and estimates you've provided. Once they are satisfied with the proposal, it is submitted to PSB for review.

Be prepared to respond to verbal or written questions about the scope of work and the cost estimate during the CAP review. Questions typically relate to the justification for the project or to possible scaling or phasing.

You may also be asked to revise the project cost estimate or schedule in response to programmatic requirements.

Final decisions about project funding occur in late November when the Council approves the budget, or during the year through a supplemental budget request.

Planning

Objectives

Confirm and document the project goals, budget, and schedule. Translate agency needs and requirements into a project program that will guide design team efforts.

Deliverables

- ☐ Project charter
- ☐ Project management plan, including project schedule, budget, and risks
- ☐ Project program plan
- ☐ Predesign study recommendations

Tasks

- ✓ Draft a project charter.
- ✓ Establish a project budget and cost analysis.
- ✓ Establish a project schedule.
- ✓ Document project risks.
- ✓ Schedule and facilitate a project team kick-off meeting.
- ✓ Establish the project program.
- ✓ Complete an alternatives analysis.
- ✓ Oversee predesign studies.
- ✓ Conduct a code review.
- ✓ Initiate an environmental review.
- ✓ Assess project delivery method options.
- ✓ Establish environmental sustainability goals.
- ✓ Initiate procurement for consultants and technical specialists.

3. Planning

During the Planning Phase, the Project Manager (PM) defines the programmatic, financial, and scheduling aspects of a capital project. The PM also creates a project plan to establish a common understanding among all participants of the cost, timing, and expected outcomes of the proposed project.

While some of the activities described in this section may take place during the Preliminary Design Phase, the project plan, budget, and schedule must be established prior to initiation of any design work.

3.1 Project Management Plan

PMs are responsible for developing a project management plan (PMP) for all active projects.

The PMP defines the project goals and objectives and the roles and responsibilities of all agencies involved in or affected by the new construction or facility improvements. It also includes a detailed budget and project schedule.

The PMP should be maintained in the 20.0 Preliminary Planning folder in Unifier.

A template of a standard Project Management Plans is available at Appendix G: Project Management Plan Template

3.1.1 Project Charter

Every project should have a project charter appropriately scaled to the size, risk, and complexity of the project. The project charter serves as an agreement between the PM, the client agency, and project stakeholders on the project scope and approach. The project charter also documents roles and responsibilities of project team members.

The project charter may be issued by a division director prior to the PM's involvement in the project. In such cases, the PM should request a copy of the charter for inclusion in the PMP. In all other cases, the PM should draft the project charter when developing the PMP.

The PM is responsible for identifying all project stakeholders and incorporating their input into the charter at the beginning stages of the project. A stakeholder may be anyone with a vested interested in the project, including personnel from a different department or a third-party public agency.

The project should not move forward without signature approval of the project charter by the client agency and all stakeholders. If participants do not agree on the content of the charter, work out key concerns and revise the charter as needed.

The charter should be maintained as part of the PMP in the 20.0 Preliminary Planning folder of Unifier.

3.1.2 Project Budget

After a project has been funded, the PM is responsible for maintaining a project budget in Unifier. This budget is based on:

- The initial cost estimate submitted to the Office of Performance, Strategy, and Budget (PSB).
- The amount of funding appropriated for the project.
- Any new information collected regarding project requirements.

The Unifier administrator initiates the budgeting process by exporting data from the CAP into a Project Estimate form maintained in the Unifier Estimates and Forecasts folder. The Project Estimate includes the initial cost estimate and the start and finish dates for each of the major phases of the project.

The PM confirms the costs and milestone dates in the Project Estimate, making adjustments as necessary, and then routes the form to the CPD unit supervisor for review and approval.

You cannot increase the total amount of money available for a project without management or Council action, but you can move money from one phase code to another to address budget challenges.

When the CPD unit supervisor approves the Project Estimate, it is finalized and an initial Project Forecast is simultaneously created.

Project Cost Sheet

In addition to the Project Estimate, each project also has a Cost Sheet. Cost sheets are available in Unifier from the Master Log – Business Processes on the Home tab. You can track actual expenditures against the project budget from the Cost Sheet.

Budgets are loaded into the Cost Sheet based on the dollar amounts established in the project cost estimate. Project expenditures or "actuals" are automatically downloaded from Oracle on a monthly basis.

Before approving any pay request, carefully review all consultant and contractor invoices to make sure each expenditure is being processed under the correct work breakdown structure (WBS) line item.

To ensure actual expenditures correspond to the correct line items in your Cost Sheet, be sure to provide a project number and WBS code for each type of expenditure.

Ask consultants and contractors to make sure their Schedules of Values match the WBS coding system you've set up for a project and to invoice using that coding system.

For assistance customizing how the Cost Sheet is set up, see the Unifier administrator.

Budget maintenance

Project budgets and forecasts are living documents that require ongoing maintenance. **It is critical that PMs manage project expenditures and update budgets on at least a monthly basis**.

Quarterly, FMD submits a report on the budgetary and schedule status of its capital projects to the King County Council. This report is also published on the Internet. The Council monitors these reports for evidence that FMD is actively managing the amount of unexpended appropriation each capital fund, especially MMRF, will have remaining at the end of the budget year. CPD must be able to demonstrate that funds will be used or that there is a plan for managing unexpended funds within the budget cycle. Accurate, updated project budgets support this effort. (For more information on Council project oversight, see KCC Section 4.04.060.)

Project managers should:

- Review Project Cost Sheets and update Project Forecasts on a monthly basis after actuals for that month have posted.
- Make sure all project expenditures are being billed against the correct WBS code.
- In cases where the Project Forecast no longer aligns with the Project Estimate, you can choose to create a new forecast, at which point the old forecast becomes an inactive record.
- When a project reaches Preliminary Design, baseline the project by modifying the latest Project Forecast to reflect the current budget and milestone schedule.
- Monitor the budget throughout the life of the project to ensure that project activities are spending money as planned.
- Update the project schedule and estimate at completion (EAC) in Unifier monthly, reconciling activity timing or cost estimates not in sync with the planned budget and schedule.

3.1.3 Project Schedule

When completing the CAP and Cost Estimate Workbook, PMs develop a preliminary schedule that specifies the duration of each major phase of the project.

After a project has been funded, PMs must develop a detailed critical path schedule (CPS) that is reasonable and achievable based on the specific design requirements of the project. The schedule should be maintained in the 10.0 Budget and Schedule folder of Unifier.

Schedule guidelines

Table 3 provides an estimate of time to complete each major component of the project. The actual time required to complete each phase may vary significantly based on:

- The design requirements of the project.
- The number of stakeholders involved in the design review process.
- The types of services required in each phase.
- The number of consultants and technical specialists required to complete the scope of work.
- Any environmental or hazardous materials (hazmat) issues that must be addressed.

Always allow sufficient time for owner-mandated reviews, including quality control, energy life-cycle cost analysis, constructability review, building commissioning, and permitting procedures. For major projects, consider the impact that relocation issues and public input may have on the schedule. Projects that include federal funding are likely to require additional reporting, such as the Davis-Bacon Act wage and hour confirmation, which should be allowed for in estimating PM workloads, project budgets, and schedules.

Note: Some of the activities that take place during one phase may occur concurrently or over the course of two phases, thereby decreasing the total number of weeks required for the original phase.

Be sure to update project schedules and the EAC in Unifier monthly.

Table 3: Project Schedule by Stage/Activity
Estimated Duration Shown in Weeks

Project Stage/Activity	Major Projects >$5 Million	Projects of Limited Scope >$500,000	Stand-Alone Projects < $500,000	Work Order Contracts< $100,000
Planning				
Project Planning and Scoping	4-6	2-3	1-2	1-2
Project Program Development	8-10	3-5	1-2	1-2
Predesign Studies	25-30	10-15	2-3	N/A
Environmental Review (Non-Exempt Projects)	8-12	8-12	N/A	N/A
Environmental Impact Statement	36-48	36-48	N/A	N/A

Project Stage/Activity	Major Projects >$5 Million	Projects of Limited Scope >$500,000	Stand-Alone Projects < $500,000	Work Order Contracts< $100,000
Consultant Selection				
A/E Selection	10	5	1-2	N/A
A/E Fee Negotiation	2-4	1-2	1-2	N/A
A/E Agreement and NTP	1	1	1	N/A
Design				
Schematic Design	13-15	4-6	3-6	1-2
Schematic Design Review and Approval	3-5	2	1-2	1
Value Engineering Study	3	2	N/A	N/A
Design Development	10-15	4-6	N/A	N/A
Design Development Approval	3-5	2	N/A	N/A
Contract Documents				
Construction Documents	30	20	5-10	1-3
Constructability Review and Approval	4	3	2	1
Permitting	16	8	4	2-4

3.1.4 Risk Assessment

For all capital projects, PMs should document project risks. PMs can track risks using the Project Risk form available in Unifier. Completing the form enables you to associate a probable cost with each project risk, identify schedule impacts, and assign responsibility for risk management to team members.

Note: KCC 4.04.245B requires a qualitative risk assessment for any project with a total cost estimate of over $10 million.

To complete a risk assessment

1. Navigate to the project folder in Unifier, click on any folder, click **New**, and then click **Project Risks.**
2. At the top of the form, enter a title for the risk, and then in the Description field, enter the details of the risk. The risk status is set to "Open" by default.
3. Under **Estimated Costs**, enter the best case amount, worst case amount, and probable amount for the risk. These costs will display in your project forecast to help you manage your budget.

4. Under **Risk Details**, complete the required fields to quantify the probability and impact of the threat and identify any actions you anticipate may be required.
5. Under **Resolution/Mitigation Plan**, select a person from your project team to monitor the threat and identify a strategy to control the threat.
6. When you have completed the risk assessment, click **Save**. The completed form is stored in the **20.0 Preliminary Planning** folder where you can update it as the project progresses.

The Unifier administrator can create a risk report for you that provides a high-level summary of information on each risk. You can access and print the risk report from the **Reports** folder in Unifier. Use this report to review the status of all project risks with the team at each project meeting.

3.1.5 Communications Plan

In the PMP, the PM should specify:

- The communication requirements for the project.
- The format and frequency of planned communication with internal stakeholders (e.g., weekly meetings or status reports).
- The party or parties responsible for managing each type of communication.

If necessary, the PM should also specify a plan for managing communication with the public and the media. For highly visible projects, the PM may allocate funds from the project budget to hire a communications consultant or specify in the request for proposals (RFP) that the architecture/engineering (A/E) consultant or contractor include a public information specialist on the team to facilitate community meetings and manage all communications work. In either case, the PM is responsible for defining the scope of communications work and clarifying with the consultant the standards for communications.

3.1.6 Project Kickoff

After the unit supervisor has approved the PMP, the PM should schedule a project kickoff meeting with the project sponsor, the client agency representative, and any identified stakeholders.

The purpose of this meeting is to introduce all stakeholders, present the project objectives, review the PMP — including the charter, schedule, and budget — and discuss how the team will work together, including the frequency of meetings and protocols for communication.

Designate an individual to take notes at this and all subsequent meetings and to upload the meeting minutes to Unifier.

3.2 Project Program Plan

The PM is responsible for developing a project program plan (also known simply as "the program"). Per KCC 4.04.020 (RR), the program describes the client agency's requirements for a specific building or site and identifies when funds for the implementation of the capital projects will be provided.

The complexity of the program varies based upon the size and difficulty of the project. At minimum, the program specifies the function(s) or service(s) that a new or renovated system, space, or facility must accommodate. For highly complex projects, you may retain a consultant to assist with defining or validating program requirements.

Generally, program documents include:

- A clear statement of the problem the project will address.
- A description of the users of the space or facility and the services the occupying units provide.
- The functions and programs to be housed in the facility.
- Alternatives for meeting the needs of the users.
- The assigned square footage of the proposed facility and how that space will be allocated to users and functions.
- Any special factors for consideration in the design of the facility; for example, any constraints created by an existing master plan.

The program must be consistent with and augment all previously prepared master plans, space plans, and other County planning documents.

Be sure to obtain the client representative's written approval of the program before beginning design activities.

For additional guidance on program development, see *Problem Seeking: An Architectural Programming Primer*. A copy is available in the FMD Library.

3.2.1 Functional Requirements

The goal of the functional analysis is to identify the number and types of users that a space or facility must accommodate, the functions or services that must be accommodated, the relationships between units or departments to be housed in the facility, and any unique or special requirements related to user activities.

To complete a functional analysis, the PM or consultant may schedule interviews with members of the client agency and other occupants of the existing space, as appropriate.

Follow these best practices for conducting the interviews:

- Always request a copy of the client agency's organizational chart. This will help you to identify the number, organizational units, and classification of staff and support personnel for space planning purposes.
- Schedule interviews with a cross-section of individuals within the agency, including:
    - One or more persons responsible for service delivery.
    - The operations manager.
    - An executive-level decision maker.
    - A planner or forecaster, if possible.
- In each interview, ask the interviewee to identify what works well with the current space and what features they would change. Have the interviewee describe the agency's goals and objectives, any services or procedures unique to their work unit, and any problems or challenges with the existing space. Ask the interviewee to identify expectations for how the agency will evolve in the future.
- After completing the interviews, check for discrepancies in information between interviewees. Validate the information the client agency provides regarding staffing against the current adopted budget for that agency.
- Send the completed functional requirements to the client representative for review. Ask the representative to assess whether your write-up accurately represents the agency and whether there are any critical points missing from the design.

3.2.2 Space Analysis

For some projects, the PM may also need to define space requirements as part of the program.

To determine space requirements, start by conducting a thorough evaluation of the existing building or space to be replaced. This may include:

- Producing an inventory of all spaces in drawings or text format and documenting how much space is used by each staff person.
- Producing an inventory of all furnishings and equipment currently in use.
- Comparing the space currently assigned (if any) to the space proposed to be retained by the client agency.

Next, identify services and storage, access, and utility requirements for each space.

Finally, calculate space needs for staff and services using the King County Space Standards.[1] All design documents for King County must follow these standards or provide justification for deviation.

3.2.3 Statement of Alternatives

The program may include a summary of the alternatives under consideration to meet the project's operational and service delivery requirements.

In an alternatives analysis, the PM or consultant considers, with input from the client agency, the implications of each of the identified alternatives in relation to the agency's mission, strategies, and related activities.

The analysis may also include a conceptual cost estimate that indicates, for each alternative, the projected construction cost and future costs associated with building or system maintenance, operation, and replacement.

The statement of alternatives should always include the option to take no action. For this alternative, be sure to describe the consequences that not building, remodeling, or renovating would have on public service delivery, stakeholders, and client groups.

3.2.4 Code Review

For large projects, the program identifies all applicable building codes, zoning codes, and other codes and regulations that apply to the project. It is advisable to hire a consultant who specializes in code compliance to determine the governing codes and regulations. FMD maintains a list of code consultants who can address special code-related issues.

The A/E consultant is responsible for confirming that the design meets all County, city, state, and federal guidelines.

Note: For major maintenance projects, code review usually takes place during schematic design development.

3.3 Predesign Study

The PM is responsible for investigating any existing building, infrastructure, site, or set of sites proposed to meet a project need. The purpose of the investigation is to:

- Analyze and determine the suitability of the existing space, building, building systems, and/or site to meet the requirements identified in the program.
- Provide alternatives that would remedy existing conditions and/or constraints to meet the program.

[1] King County has established standards for the allocation of space for various building types. These Space Standardsare maintained byFacilities Management as part of its Real Property Asset Management (RPAM) Plan.

- Determine the potential impact of the program on the building or the site.

Depending on the nature of the project, a predesign study may be required. The predesign study may include a survey of hazardous materials, building system analyses, a geotechnical study, and land surveys (including boundaries, topography, and utilities). Typically, PMs hire consultants or technical specialists to conduct targeted investigations into specific technical issues or to conduct all or part of a predesign study.

For additional guidance on conducting a predesign study, see the *Washington State Predesign Manual*.

3.3.1 Methodology

Follow these best practices for working with consultants on a predesign study:

1. When hiring a consultant to review multiple spaces, buildings, or sites, specify the criteria for assessment and their relative priorities. For example, availability of essential services may be one area of assessment, with access to transit a greater priority than parking.
2. Review the program with the consultant and address any gaps in what the consultant needs to know to conduct the study. When appropriate, the contract may specify that the consultant evaluate and comment on the program.
3. For projects involving King County buildings, compile all existing records (as-builts, construction drawings, etc.) and ask the consultant to conduct a verification of records. In cases where records do not exist, ask the consultant to create the records.
4. Ask the consultant to review maintenance requirements, existing conditions, and known issues with Building Services and make recommendations to address the problems.
5. In the consultant request for proposals (RFP), specify all the standards with which the consultant must be in compliance, including all drawing and records management standards.
6. Notify the Unifier administrator when you have procured a consultant so that the consultant can be set up in and trained on the use of Unifier.

For information on the procurement process, see Procurement of Services.

3.3.2 Hazardous Materials

Early in the planning phase, PMs should determine whether a hazardous materials (hazmat) inspection is warranted. Tips for determining whether a building or site inspection is warranted are provided later in this section.

If you determine that an inspection is necessary, hire a hazmat consultant to complete the inspection, provide recommendations for the removal or mitigation of any identified hazards, and submit an estimate of costs for removal or mitigation. The consultant should also provide a good faith survey.

It is important to complete hazmat inspections early in the planning process, as any required remedial actions will have an impact on the project budget and schedule. Depending on the findings of the hazmat study, additional regulations may also come into effect.

Building hazmat inspections

Consult Building Services to review the building's history of hazardous materials. You should also consider the age of the building when determining whether to conduct a hazmat inspection.

- Any building constructed before 1990 should be inspected for asbestos.
- Buildings constructed or repainted before 1990should be inspected for lead-based paint.
- All paint, caulking materials, and older light ballasts in buildings built or remodeled before 1980 should be tested for polychlorinated biphenyls (PCBs).

FMD has an on-call hazmat consultant who can sample the building materials and provide a good faith survey. If the consultant finds evidence of hazardous materials in the building, you must provide all consultants and contractors working on the project with a copy of the good faith survey.

Note: Building Services provides incidental lead and asbestos abatement.

Site hazmat inspections

For projects involving site work, always review the site history and use to determine whether a hazmat inspection is warranted. Consult the County assessor or archives (or city records) for access to site use records.

If the site or a neighboring site was used by any business known to generate toxic waste, hire a consultant to do sub-surface soil sampling and test the soil for contaminants. If there is indication of an existing underground oil tank, engage a consultant to oversee decommissioning and removal of the tank.

Cleanup of some sites may fall under the Washington State Model Toxic Controls Act, RCW Chapter 70.105D. In these cases, cleanup is regulated by the State Department of Ecology. The consultant should advise the PM on how to comply with all state and local regulations related to site cleanup.

You must include the site hazardous materials survey and good faith survey in all bid documents and ensure the results of surveys and cleanup are included in all project specifications throughout the lifecycle of the project.

For more information on dangerous waste regulation, see Washington State Dangerous Waste Regulations, Washington Administrative Code (WAC) Chapter 173-303.

3.3.3 Site Master Plan

KCC 4.04.020 (ZZ) defines a site master plan as a plan that describes the capital improvements required to provide elements of a client agency program. The program indicates when a site master plan is required for a project.

The site master plan provides preliminary information regarding site analyses, including environmental constraints; layout, illustration, and description of all capital improvements; project scope and budgets; project phasing; and maintenance and operational requirements. Site master plans must be approved by the client agency and FMD prior to transmittal to the County executive and Council for approval.

In cases where a site master plan is required, retain an A/E consultant to develop the plan.

3.3.4 Site Analysis

When a project involves siting a proposed project, you may need to determine the suitability of one or more site locations for the proposed use. Coordinate any site analysis work with Real Estate Services.

At the completion of the analysis, document the findings, including:

- A description of the advantages and disadvantages of each site and the rationale for selection of the preferred site.
- Cost estimate comparisons of the alternatives, including an estimate for site acquisition if appropriate.

Factors to consider when evaluating each site alternative include:

- Ownership of the site and related acquisition issues.
- Stakeholders (when the local jurisdiction will be contacted and whether community stakeholder meetings are a part of the process).
- Easements and use permits, both existing and required for new development.
- The location, description, and dimensions of the site, including soil type, climate, and topography.
- Setback requirements.
- Adjacent facilities and site features.
- Potential development or use issues with the surrounding neighborhood and special interest groups.
- Utility extension or relocation issues.
- Green space and natural amenities that need to be preserved or accorded special treatment.
- Environmental issues and site mitigation, including any history of possible contamination.

- Wetlands and shoreline impacts, including a wetlands delineation and the need to fill wetlands.
- Shoreline jurisdiction issues.
- Parking and access issues, including site access, improvements required by local ordinances, local road impacts, and parking demand.
- The impact of construction lay-down areas and phasing on surroundings.
- Federal or state historic designations.
- The potential for archaeological artifacts at the site. Consult with the Washington State Department of Archaeology and Historic Preservation for historical information about the site.
- Site compatibility with King County sustainability and Leadership in Energy and Environmental Design (LEED) criteria.
- Regulatory factors, such as zoning codes, building codes, and environmental regulations. Be sure to consider Washington State Environmental Policy Act (SEPA) requirements related to development of the proposed site.

3.3.5 Building Evaluation

When a project involves relocation of an agency or multiple agencies, you may need to determine the suitability of one or more existing buildings for the proposed use.

Evaluate the building in relation to the requirements specified in the program and safety, sustainability, and budgetary considerations. Factors to consider include:

- The existing condition of the building and code-required improvements to meet program requirements.
- The ability of the facility to meet defined space requirements. Space requirements must be aligned to the King County Property Real Asset Management Plan.
- The ability of the facility to meet accessibility requirements in conformity with the Americans with Disabilities Act (ADA).
- The ability of the facility to meet adjacency requirements as specified in the program.
- The capacity, suitability, efficiency, and adaptability of the facility's existing systems; for example, fire protection, electric, HVAC, and plumbing.
- Building seismic capabilities and required upgrades.
- Geographic features of the building site, such as floodplains, steep slopes, or wetlands, that may limit occupancy, use, or footprint.

- The ability of the facility to meet County and agency security requirements.
- The ability of the facility to meet special lighting and acoustic requirements.
- The presence and suitability of all necessary utilities, including data connectivity.
- Total cost of ownership estimates.

3.3.6 Geotechnical Reports

For projects involving construction of new facilities, hire a geotechnical engineer to provide information about the soils and geologic conditions at and below the surface of a project site.

The geotechnical report should include:

A site history: A summary of any existing reports on neighboring buildings and actual samples taken at the project site.

Geotechnical hazards and characterizations: The geologic conditions of the site, including identification of any factors pertinent to the proposed building, such as soil susceptibility to compaction and erosion; shrink and swell potential; subsidence and liquefaction potential; compressive strength and stability (bearing capacity); evidence of fill; landslide and mudflow hazards; and fault zones.

Recommendations: The geotechnical engineering consultant should provide recommendations for:

- Types of foundations suitable for the project.
- Site preparation, such as compacting or replacing existing soils.
- Shoring and excavation stabilization recommendations.
- Bearing loads and the corresponding expected amount of settlement.
- Steps necessary to address groundwater and surface water that may affect construction operations and the finished project.
- Design of any required temporary and/or permanent retaining wall.

Note: All projects that disturb the ground need a stormwater management plan. For more information, see the *2012 Stormwater Management Manual for Western Washington*.

3.3.7 Land Surveys

If you determine that survey information is required for a project, you may hire a licensed State of Washington land surveyor to conduct a land survey.

Land surveys describe existing site features, project boundaries, and legal boundaries (if applicable) such as property lines, rights-of-way, building locations, and easements. The surveyor creates a topographical map; locates

physical elements, including structures, roads, trees, and land formations; and reviews existing records to gather information on utilities and boundaries. The survey produced by the survey consultant documents existing conditions and should inform decisions about the design of the project and how the site may be developed.

The surveyor's measurements of the elevations of existing elements are particularly important for tying the proposed project into existing roads and buildings, side sewers, utilities, and other assets. See Utility Coordination.

Ensure that the consultant clearly specifies the vertical and horizontal datumsused in all work products and the final survey.

Provide any land survey reports to the A/E consultant to inform design decisions.

3.4 Environmental Review

FMD projects may be required to comply with federal or state environmental policy acts.

Projects with federal funding or requiring federal permits may require compliance with the Endangered Species Act (ESA), Federal Water Pollution Control Act ("Clean Water Act" or CWA), National Historic Preservation Act, and/or the National Environmental Policy Act (NEPA). If the project has federal funding or permit requirements, contact the grant agency or the county's liaison to determine federal permit requirements. For more information, see CEQ Regulations for Implementing NEPA.

Projects may be subject to state requirements under SEPA Chapter 43.21C RCW. (Find SEPA rules in WAC Chapter 197-11.) In general, SEPA requires all government agencies to consider the environmental consequences of a proposal before taking action. **To comply with SEPA rules, the PM must ensure that an environmental review takes place for any capital project that is not categorically exempt**.

Categorical exemptions are identified in WAC Chapter 197-11-800. Exempt projects are typically those that, because of their type or size, are unlikely to cause a significant impact to the natural or built environment. Examples of typically exempt projects include:

- Minor new construction. For minor construction projects, SEPA contains specific thresholds that may be modified in some cases by local cities, towns, or counties.
- Certain repair, remodeling, and maintenance activities. Most projects located on land covered by water are excluded from this exemption and thus require an environmental review.

For all non-exempt projects, a person designated by the lead agency as the SEPA Responsible Official must evaluate the environmental consequences of a proposal and, per SEPA rules, make a determination of non-significance (DNS), a mitigated determination of non-significance (MDNS), or a determination of significance (DS).See **Table 4** for a summary of these determinations and their impact on a project.

To ensure compliance with SEPA regulations:

1. Consult with your unit supervisor prior to the project kick-off to determine whether a project is exempt under SEPA rules. Be sure to consider any new activity you may be bringing to a building and how that activity could impact the environment. For example, if you relocate a client agency into a leased space, and that relocation changes the traffic or noise profile of the surrounding area, SEPA requirements likely apply.
2. If your unit supervisor and section manager agree that the project is exempt from SEPA, prepare a *Categorical Exemption Worksheet.*
3. If you determine that a project is not exempt, establish lead agency status for the project. Per SEPA rules, one agency must be identified as the lead agency and that agency is responsible for conducting the environmental review and documenting that review. In cases in which FMD is not the lead agency, you may still be responsible for managing the environmental review process. For guidance on how this may impact your project schedule, see Schedule Guidelines.

   Note: Permitting agencies will generally not process a permit submitted without either a SEPA determination or a written statement asserting lead agency status.FMD has prepared a standard letter asserting lead agency status for PMs to include with permit applications. This letter is available from the section manager.
4. For all non-exempt capital projects in which FMD has lead agency authority, arrange for completion of an environmental checklist (available from the Washington Department of Ecology website) and submit it to FMD's SEPA Responsible Official. The checklist may require special studies to address wetlands, noise, traffic, or other environmental issues. To complete the environmental checklist:
   - Identify any studies, designs, and calculations necessary.
   - Work with the FMD contract officer to procure a consultant to compile the required information.
   - Identify budget and schedule impacts for any required studies.
5. After you submit the checklist, the SEPA Responsible Official will recommend one of three determinations: a determination of significance (DS), a determination of non-significance (DNS), or a mitigated determination of non-significance (MDNS).

- For projects in which there is a determination of significance, you will need to prepare an Environmental Impact Statement (EIS).The lead agency will issue a *Determination of Significance/Scoping Notice* for public review and comment and begin the EIS process.
- For projects in which there is a determination of non-significance or a mitigated determination of non-significance, the lead agency will generally issue a notice of determination that may include a public comment period. Based on comments received, the agency may then modify, withdraw, or proceed with the determination.

6. Be sure to keep the client agency representative informed of the SEPA process so the agency is aware of potential controversy and the related impacts on budget and schedule.
7. When the SEPA review is complete, enter the date and any notes regarding required mitigations or modifications to project scope in the project management plan, and note any changes to schedule and budget in Unifier. Be sure to update your Project Forecast in Unifier to reflect any budget impacts.

For more information on SEPA, see State Environmental Policy Act.

Determination	Definition	Public Input Requirements	Process duration	Notes
Determination of Non-Significance (DNS)	The proposal is not likely to have significant adverse environmental impacts.	• Public notice • Public comment period	Plan for 5 - 6 months to complete the process. Add 6 months if the determination is appealed.	Permit ju continue already u appeals.
Mitigated Determination of Non-Significance (MDNS)	The proposal is not likely to have significant adverse environmental impacts due to mitigation measures the project proponent has committed to implementing.	• Public notice • Public comment period	Plan for 5 - 6 months to complete the process. Add 6 months if the determination is appealed.	Work wit adequate reduce th significan
Determination of Significance (DS)	The proposal is likely to have significant adverse environmental impacts. An Environmental Impact Statement (EIS) must be prepared.	• Public scoping period • Public scoping meeting • Public comment period on the draft EIS • Public hearing on the draft EIS	Plan for 12 – 24 months.	The EIS r alternativ attain the there are alternativ evaluate and the r lead ager opportun tribes, ar on the sc environm conclusio lead ager to finalize analysis a

Table 4: SEPA Significance Determinations and Project Impacts

3.5 Project Delivery Method

It's important to start thinking about the project delivery method early in the planning phase, as it impacts both the project budget and schedule. Start by identifying the services required for the project (e.g., predesign study, schematic design, etc.) and the applicable consultative services. The type of work and the amount of money allocated for a project often determine the project delivery method.

Note: Assumptions about the project delivery method may change during the course of a project due to cost or schedule considerations.

Project delivery options are as follows:

- **Design-bid-build**. This option is the traditional public works process. For design-bid-build projects, the PM establishes the program, hires a design team to develop the plans and specifications, and uses the advertised sealed bid process to award the construction contract to the lowest responsible, responsive bidder. Design and construction activities are managed in separate contracts directly with the Owner. Major maintenance and work authorization projects generally follow the design-bid-build project delivery method. Some ancillary contracts may be required to complete the work. You may utilize the small works roster, work order contracts, job order contracts, or in-house crews for these ancillary contracts. This process is most effective on projects that do not involve complex technology, phasing, or scheduling logistics.
- **Design-build**. Design-build (D/B) is an alternative project delivery method described in RCW 39.10.300that combines design and construction activities into a single contract with the Owner. The D/B team provides a guaranteed maximum price (GMP) as part of its proposal. The potential disadvantage of this model is that the County's review and input during the design and implementation phases are focused (or limited) to compliance with the project requirements and the proposal commitments. Eligible D/B projects include those valued over $10 million where construction activities are highly specialized, the project design is repetitive in nature, or the project involves complex functional interrelationships. Council approval is required for this method of construction; consequently the method is determined at the project onset.
  Note: While D/B projects have one primary contract for design and construction, the PM may utilize in-house trade and the small works roster to procure select services for the project.
- **General contractor/construction manager (GC/CM)**. In the GC/GM model, the County enters into two contracts — one with an architectural firm for design of the facility, and one with a GC/CM firm to assist in developing and evaluating the facility design and to manage the construction project. The PM selects both the design and construction firms using a qualifications-based process. The maximum allowable construction cost (MACC) and total contract cost are negotiated and fixed in a contract between the County and the GC/CM. Allowable projects include those over $10 million that involve complex scheduling requirements; construction at an existing facility which must continue to operate during construction; or projects in which GC/CM involvement during the design stage is critical to the success of the project. Council

approval is required for this method of construction; consequently the method is determined at the project onset. For information governing its use, see RCW 39.10.340.

- **Small works roster**. PMs can utilize the small works roster for construction, building, renovation, remodeling, alteration, repair, or improvement of real property for projects valued at less than $300,000.
- **Work order contracts**. FMD maintains on-call construction contracts with contractors who agree to perform an indefinite quantity of public works jobs, defined under individual work orders, over a fixed period of time. PMs can use on-call contracts for project work up to $100,000. Work order contracts over $100,000 require the approval of the division director.
- **Job order contracts**. King County maintains job order contracts (JOCs) with contractors who are selected for the duration of the contract. The total contract cannot exceed $4 million per year up to two years with an option to extend for a third year. Individual work orders cannot exceed $350,000 and 90 percent of the work must be subcontracted. Individual work orders are issued under the contract by the County based on a given design or project scoping documents prepared by the contractor. Work orders are negotiated with the contractor based on a unit price book such as *RS Means*.
- **In-house construction**. FMD in-house crews are available to provide carpentry, painting, electrical, plumbing, and lead and asbestos abatement services. You may work with your unit supervisor to identify work appropriate for in-house crews and integrate those projects into the in-house construction annual work program. By state law, in-house crews cannot perform work on projects for which the total labor, material, and equipment costs exceed$45,000 for a single trade or $90,000 for multiple trades, excluding "third burden" overhead rates on labor. Consult with Building Services for a cost estimate on in-house work and refer to the FMD Policy Tools prior to making this decision.
- **Direct pay services**. For project goods and services that do not exceed $5,000per supplier per year for the division, the PM may conduct a direct pay transaction once per year per vendor. When possible, vendors should be selected from the King County Directory of Small Contractors and Suppliers. You can submit a request to the section manager or unit supervisor to pay for the service. For more information, see P-Cards.
- **Public/private partnerships (real estate transactions).** The County is increasingly turning to public/private partnerships as a means of satisfying building requirements. The organizational and legal structures used in such delivery models vary; however, all are essentially real estate transactions where a developer/landlord is responsible for the design and construction of a facility to satisfy the needs of the County in exchange for some form of rental or lease return. These transactions may also contain provisions for the County to actually purchase the facility at some point in time after it is complete. The delivery model for these transactions most closely aligns with D/B; their use is governed by the Municipal Leasing Act, RCW 35.42.

All alternative public works contracting procedures are governed per RCW Chapter 39.10.

3.6 Environmental Sustainability Goals

Incorporating sustainable development practices into the design, construction, and operation of County facilities and County-funded projects is a key objective of the County as stated in the current King County Strategic Plan.

PMs are encouraged to establish environmental sustainability goals for a project in the planning phase as these goals drive many of the design decisions for capital projects.

The King County Green Building and Sustainable Development Ordinance specifies the following requirements with respect to County-owned and County-financed projects:

- All eligible new construction and major remodel and renovation projects are required to achieve LEED Gold certification.
- All capital projects that are not eligible or are limited in their ability to achieve LEED certification must incorporate cost-effective green building and sustainable development practices.
- For all projects, PMs are required to submit a sustainable infrastructure scorecard to the county-wide Green Building Team division representative at the Preliminary Design Phase and at project completion. PMs are also required to submit an annual project-specific green reporting form for applicable projects.

The sustainable infrastructure scorecard uses basic concepts of the LEED rating system to assist PMs in determining viable green building options for their capital projects. The scorecard and instructions on how to use it can be accessed on the King County green building website at Sustainable Infrastructure Scorecard.

Per KCC 4.16.035, for all capital improvement projects that include at least $250,000 of costs for powered equipment, the PM is required to provide alternatives for either reducing energy use by at least 10 percent below building code requirements or for reducing greenhouse gas emissions.

For general information on the King County Environmental Sustainability Programs, see KCC Title 18.

Preliminary Design

Objective

Develop and finalize a schematic design based on program requirements established in the Planning Phase.

Deliverables

- ☐ Schematic drawings and outline of technical specifications
- ☐ Updated estimate at completion
- ☐ Baseline budget
- ☐ Baseline schedule, including permit timelines
- ☐ SEPA environmental checklist, if applicable
- ☐ Monthly project report to unit supervisor

Tasks

- ✓ Select the A/E consultant.
- ✓ Convene the project team for design review meetings.
- ✓ Maintain team meeting minutes in Unifier.
- ✓ Conduct a site walk-through.
- ✓ Verify existing site conditions.
- ✓ Complete a schematic design.
- ✓ Present the schematic design to project stakeholders for approval.
- ✓ Identify permit requirements.
- ✓ Determine all required utility service connections.
- ✓ Identify value engineering options.
- ✓ Submit the sustainability scorecard.
- ✓ Process consultant invoices.
- ✓ Baseline the project budget and schedule.
- ✓ Monitor the project budget and schedule in relation to planned deliverables.

4. Preliminary Design

In the Preliminary Design Phase, the Project Manager (PM) selects an architecture/engineering (A/E) consultant to develop the schematic design for the project. The PM updates the project scope, budget, and schedule as necessary after the schematic design is complete. At the completion of this phase, the PM baselines the project budget and schedule.

4.1 Consultant Selection

At the beginning of the Preliminary Design Phase, procure an A/E consultant to complete all design work and serve as the technical representative during the Implementation Phase.

Before initiating the consultant selection process, identify:

- The basic and additional services that the A/E consultant will be expected to deliver.
- An estimated fee for the services the A/E consultant will deliver.
- The anticipated procurement method (work order contract or advertised service) based on the budget and services required. See Procurement of Services.

4.1.1 Work Order Contracts

Work with the FMD contract officer (CO) and the unit supervisor to procure an A/E consultant through a work order contract.

For step-by-step instructions, navigate to your project in Unifier, go to Logs, click Consultant Log, click Consultant WO Amendment, click **Help**, and then click *Consultant Work Order Amendment*.

4.1.2 Advertised Services

Work with PCSS to procure an A/E consultant through advertised services. To initiate this process, complete the *Request for Advice* form in Unifier and route it to the FMD CO for approval.

For step-by-step instructions, navigate to your project in Unifier, go to Logs, click Consultant Log, click Consultant Agreements, click **Help**, and then click *Consultant Agreement*.

4.1.3 Procurement Schedule

The PM is expected to:

- Develop a project schedule that allocates sufficient time for the consultant selection process.
- Ensure that the procurement process is completed according to the project schedule.

For a full request for proposals (RFP) consultant selection process, plan on approximately three months. For a single work order under a consultant work order contract, allow one month.

Following are some best practices for managing the procurement schedule:

- When negotiating a procurement schedule with PCSS, be sure to communicate the project design milestones to the contract specialist, and make sure the procurement schedule accommodates those milestones.
- Actively monitor the procurement schedule throughout the procurement process. If PCSS is not meeting its scheduled delivery dates, raise the issue with the assigned contract specialist. If delivery dates are still not being met, escalate the issue to the contract specialist's direct supervisor.
- If consultant selection and negotiation take longer than expected, make adjustments (e.g., by running selected activities concurrently) to get the project back on schedule.

4.1.4 Consultant Fee Negotiation

All consultant fees are negotiated as lump sums.

For a work order contract, negotiate services and fees with the consultant *prior* to executing the work order. The fee for a single work order cannot exceed $100,000 without FMD director approval.

For advertised services, begin negotiations with the consultant only *after* PCSS approves the procurement process.

As the representative for the County, it is your fiduciary duty to ensure that the consultant's proposed fee is fair and responsible based on the scope and complexity of the project. For guidance on appropriate fees for basic and additional services, consult the Washington State A/E Fee Guidelines.

Follow these best practices for negotiating fees with a consultant:

1. Review the preliminary fee estimate in your Cost Estimate Workbook to make sure you have included all the basic and additional services the project may require and identified any special circumstances, such as a remote location or historic landmark status, that may affect the fee.
2. Create an independent estimate of the work before you get an estimate from the consultant using the *Consultant Fee Estimate* form in Unifier.
3. Send the consultant the preliminary *Consultant Agreement Exhibit A: Scope of Services and Project Schedule*, and request a fee proposal with a breakdown of costs. The breakdown should include:

- The consultant's planned tasks for each phase.
- The planned deliverables for each task.
- The classifications of individuals providing service for each task.
- Hours assigned by classification for each task.

4. After you obtain the fee proposal from the consultant, evaluate the task breakdown by phase:
    - Does the proposal include adequate services to design the scoped work?
    - Are all the proposed services necessary?
    - Is the number of hours assigned to each task both adequate and reasonable? See the Washington State A/E Fee Guidelines for information on fees per phase as a percentage of the maximum allowable construction cost (MACC).
    - Is each task being completed by an individual at the right classification level? For example, are there activities allocated to the principal of the firm that could be executed by a staff member?
    - Is the negotiated rate for each consultant in alignment with the *Washington State A/E Fee Guidelines*? The negotiated rate for employees should not exceed $120/hour and should fall within 2 to 3.2 times the employee's base salary.
5. If the fee proposal is reasonable, proceed to Step 8.
6. If the fee proposal is lower than the state fee guidelines indicate it should be, make sure the consultant has addressed all aspects of the scoped work and understands all the required deliverables for the project. If necessary, schedule a meeting with the consultant to discuss the assumptions underlying the fee proposal. It is important to understand and resolve the source of any discrepancy between your estimated budget and the consultant's fee so there is not disagreement later about project scope.
7. If the fee proposal is higher than the state fee guidelines indicate it should be, schedule a meeting with the consultant to review each line item of the proposal and identify where there are discrepancies between your estimated budget and the consultant's proposed fee. Identify any work tasks the consultant included that are not included in the state basic fee guidelines. In cases where the consultant has assigned more hours to a task than you believe are warranted, ask the consultant to explain the assumptions underlying the hourly estimate.

    If the consultant's rationale for each line item makes sense, but the overall fee exceeds the project budget, consider adjustments to decrease the proposed fee. Options include changing the scope of the work so that FMD owns some of the tasks; reducing the number of site visits during

construction; quantifying or reducing the number of meetings the consultant must attend; or deleting the design development phase of a small project.

When you come to an agreement on a changed scope of work, ask the consultant to submit documentation for the updated scope of work. Be sure to upload this scope of work information to Unifier and enter the rationale for any fees in excess of your estimated costs into the *Negotiation Summary*.

Note: All adjustments to the consultant's work tasks or the scope of the consultant's work must be approved by the unit supervisor and client agency if the reductions reduce the scope of the project or delay the anticipated completion date.

8. When you have agreed upon a fee with the consultant, complete the Fee Negotiation workflow of the Consultant Agreement business process in Unifier. Then route the *Consultant Agreement* for execution. Be sure to identify in the narrative the steps you took to verify that the fees were appropriate.
9. Monitor the consultant's invoices to ensure that hours are being utilized in accordance with the final fee proposal and that deliverables are submitted and approved prior to payment for associated tasks.

4.2 Schematic Design

The goal of schematic design is to translate the project program into the project design.

Per FMD's standard *Consultant Agreement, Exhibit A: Scope of Services and Project Schedule*, the A/E consultant retained to complete the project design will:

- Confirm or recommend revisions to the project program.
- Perform necessary and reasonable site inspections, research, and analyses.
- Verify that any site and building conditions shown on existing documents are correct, and report any discrepancies to the PM.
- Identify building codes, zoning codes, energy codes, and other jurisdictional issues that could affect the project. Meet with code authorities as necessary.
- Analyze design alternatives and recommend a preferred alternative.
- Illustrate the schematic design with drawings and other work products as specified by the County.

The PM is responsible for obtaining schematic design approval from Building Services, the client agency, and any other applicable jurisdictional

authorities, as well as for **ensuring that the schematic design documents address all elements of the approved project program.**

4.2.1 Schematic Design Schedule

It is the PM's responsibility to ensure that the schematic design is completed according to the project schedule.

Specify in the *Scope of Services Agreement* the number of calendar days the consultant has from the *Notice to Proceed* (NTP) to final submittal of approved schematic design documents.

For an average project, the consultant should be able to prepare schematic design documents in four to six weeks. Review and approval typically take two weeks. For complex security or special purpose facilities, preparation and review can take six months to a year.

The time required for a consultant to complete the work is affected by:

- The availability of information about the site and existing conditions.
- The level of scrutiny by elected officials, the number of client agencies involved in the project, and the required public review process.
- The number of design alternatives under consideration.

Communicate expectations regarding the schedule to the consultant in the kick-off meeting, and monitor progress against the planned schedule throughout the schematic design work. If the consultant is not meeting the scheduled delivery dates:

- Inquire about the cause of the delay and whether the consultant requires additional information or support to make progress.
- If the consultant has the required resources and is still not making reasonable progress, escalate the issue to the principal of the firm for resolution.
- If deliverables are still not being received according to schedule, withhold payments on invoices until deliverables are received.

If development or approval of the schematic design documents takes longer than expected, make adjustments to get the project back on schedule. In cases where the delay is due to consultant negligence, ask the consultant to add resources to the project to increase productivity.

If you are unable to get the project back on schedule, communicate the anticipated delays to the unit supervisor, the client agency, and all project stakeholders.

4.2.2 Schematic Design Review Meetings

Schedule and facilitate regular design review meetings with the consultant. Invite the client agency, members of the core project team, and other stakeholders to participate in all design review meetings.

Use the review meetings to:

- Monitor the progress of all schematic design documents.
- Review and provide feedback on the consultant's proposed design solutions.
- Review the progress of design activities in relation to the project schedule.
- Communicate expectations for activities to be completed before the next design review meeting.
- Confirm who is responsible for completing pending activities.

Ask the client agency to sign the design drawings at each meeting as a record of progress.

The PM or a designee is responsible for documenting all meeting decisions and action items in a set of meeting minutes and uploading those minutes into Unifier after each meeting. All meeting minutes should be distributed to team members via Unifier.

4.2.3 Design Alternatives

The A/E consultant is responsible for considering design alternatives and making design recommendations regarding:

- Architectural materials, systems, and equipment.
- Electrical, mechanical, and structural materials, systems, and equipment.
- The site design, including layout of site features and building position.

For the site design, ask the consultant to consider design options that accommodate sensitive environments such as existing wetlands in order to avoid a SEPA determination of significance.

Make sure the consultant provides a probable construction cost for each of the proposed alternatives and assists in analyzing the impact of each design option on the project scope, schedule, and budget.

4.2.3 Schematic Design Deliverables

Schematic design documents typically include:

- Drawings sufficient to indicate the scope and character of the project, including diagrammatic or schematic drawings of proposed mechanical, electrical, structural, and other building systems, as applicable.
- An outline of technical specifications.

- A preliminary construction cost estimate (MACC estimate), projected to the mid-point of construction and based on appropriate unit costs of design elements presented in the schematic design documents. The estimate must include the contractor's general conditions, overhead and profit factors, and any other applicable cost factors such as nighttime work, escorted work in secure facilities, and confined spaces work.
- A critical path project schedule showing all of the related activities of the project. The schedule covers the period beginning with schematic design through project close-out.

Note: For some projects, the Preliminary Design Phase may be a study of an existing site, building, or building's infrastructure system. In these cases, the end product of preliminary design is a report of study findings, not a set of schematic drawings.

The consultant is responsible for uploading an electronic copy (PDF file) of all schematic design documents to Unifier and submitting printed copies to the PM as required. The PM is responsible for distributing copies of the schematic design documents to Building Services, the client agency, and other stakeholders for review and comment prior to any formal presentation of the design.

4.2.4 Schematic Design Review and Approval

The PM may ask the consultant to make a formal presentation(s) of the schematic design to other County agencies or jurisdictional authorities, including Building Services, the client agency, and the King County Landmarks Commission.

Where required by King County Code, the schematic design documents are also submitted for review and approval by the King County Council.

After review by all relevant parties within the County, finalize a list of change requests and submit the list to the consultant with instructions to incorporate all requested changes, including an analysis of any schedule or budget impacts, into the final schematic design documents.

After verifying that the consultant has made all requested changes, obtain signature approval on the updated documents from all project stakeholders, and then send the consultant written approval of the schematic design documents.

After the consultant uploads the final documents to Unifier, issue an *NTP* for design development, upload the *NTP* to Unifier, and route it electronically to the consultant.

Note: Be sure to baseline the project budget and schedule before authorizing the consultant to proceed with design development. See Creating a Project Baseline.

4.3 Value Engineering

If project costs will likely exceed the initial estimates, the PM may hire a consultant to perform value engineering (VE) during or after completion of the schematic design.

The consultant assesses whether there is opportunity to add value either by improving the function or reducing the cost of specific project elements. All required functions of the program should be preserved during the VE process.

Hire an independent consultant or a County subject matter expert to perform VE rather than relying on the A/E consultant to perform this analysis.

The PM should review all options identified by the consultant with the client agency. Once the PM receives written approval of the selected options from the client agency representative, the consultant should complete the VE report and upload it to Unifier.

4.4 Energy Efficiency and Greenhouse Gas Emissions Reduction

Per KCC 4.16.035, for all capital improvement projects that include at least $250,000 of costs for powered equipment, a consultant must assess options for reducing greenhouse gas emissions and energy use by at least 10 percent below code requirements.

The consultant must submit a written analysis before completion of the project's design. The consultant's report shall:

- Identify options for reducing greenhouse gas emissions and energy use.
- Identify any available financial incentives from utility companies or other parties for achieving a reduction in energy use or greenhouse gas emissions.
- Analyze the incremental project cost for *achieving* the reductions in energy use and for *implementing* any reasonable options for reducing greenhouse gas emissions. This analysis shall calculate the net present value of the incremental cost, net of any financial incentives from utilities or other outside sources, and the operational and utility savings for a period of not more than 15 years. Options are only considered viable if the life-cycle cost analysis demonstrates that there would not be an additional cost to the County over the period of analysis.

Select the alternative that best meets the County's operational needs and sustainability goals. To determine the most cost-effective design alternatives, use the King County Life-Cycle Cost Analysis Calculator available at:

http://your.kingcounty.gov/solidwaste/greenbuilding/technical-resources.asp.

If you select an alternative that does not reduce energy consumption or greenhouse gas emissions, document the rationale for your decision.

4.5 Public Art Fund

Per KCC 4.40.015, all capital improvement projects that are visible to or accessible by the public must contribute to the county's public art program. The amount of the annual appropriation for public art shall be equal to one percent of the eligible project costs of those capital improvement projects that meet the criteria for public visibility.

A line item for public art is included in the Cost Estimate Workbook, and the cost is automatically calculated when you select the checkbox on the cost estimating summary worksheet indicating that the project is visible to the public.

Review the criteria for public visibility in KCC 4.40.015before you select the checkbox on the cost estimating summary worksheet. If you do not assess art eligibility correctly, you may lose a portion of your budget unnecessarily.

The appropriation for public art is transferred to the arts and cultural development fund and from there to the cultural development authority as soon as the appropriation is made for a capital improvement project and funds are available. You do not need to do anything to facilitate this process.

However, there may be follow-up design work required by the A/E consultant to accommodate art installation requirements. 4-Culture contacts the PM to communicate any significant installation requirements.

Art acquisition typically occurs during the Preliminary or Final Design phases.

4.6 Utility Coordination

The A/E consultant is responsible for identifying any required utilities for a capital project, the availability of those services, and the costs and approvals required for those services. This work takes place across multiple phases of the project.

During the Preliminary Design Phase, the A/E consultant:

1. Determines the services needed for the project.
2. Identifies the sources available at the project site; e.g., natural gas, electricity, sewer, and water.
3. Identifies any requirements related to utilities that affect initial design decisions.

During the Final Design Phase, the A/E consultant:

1. Contacts the applicable utility districts and/or companies to obtain utility location drawings and to determine all service connection and extension requirements, schedules, assessments, and fees necessary to obtain construction approvals.
2. Obtains a written statement of the permit process and all costs from each provider. If more than one source is available for a particular service, the consultant should provide a comparative analysis of costs and functions.

Review all cost and schedule impacts of utility service requirements with the client agency and core project team, and then update the budget and schedule as necessary.

4.7 Permits

Permitting activities take place through multiple phases of a project. Most building permits, including the general building permit, cannot be attained until construction documents are complete. However, the PM should initiate discussion of the permitting process with the consultant during the Preliminary Design Phase to ensure all permitting activities can be managed according to the schedule.

The following guidelines can help you keep the project on track with respect to the permitting process.

Identify responsible parties

Delegate responsibility for obtaining permits. Typically, the PM specifies in the A/E consultant's *Scope of Services Agreement* that the consultant is responsible for identifying all permit requirements and completing the permit applications and drawing package to be submitted. The PM may procure the general building permit on behalf of the County or delegate this task to the consultant. The general contractor and/or appropriate subcontractors are obligated to apply for, obtain, and pay for mechanical, electrical, fire sprinkler, and other trade-specific permits.

Coordinate permit schedules

Coordinate the timing of all permit applications in relation to the project schedule. Some permit applications include requirements to post public notices regarding new work and allow time for public comment and review. It is critical to identify those requirements as early as possible in the design process because they will impact the critical path schedule.

Verify permit requirements with permitting authorities

The PM or consultant must contact all relevant permitting authorities in whose jurisdiction or corporate boundaries the project will occur to verify the need for permits and obtain the most current requirements. Factors determining what kinds of permits may be necessary include the location of the project, the scope

of work, and impacts to natural systems (wetlands, shorelines, etc.). For more information, see Permitting Authorities.

Track permit progress

Make sure the consultant uploads all permit applications and approvals to the Permits folder in Unifier. Track the status of all permit applications and keep the client agency and unit supervisor apprised of any anticipated changes in the schedule due to permitting activities.

Review permits

Most permits, including the general building permit, are not issued until after construction documents are complete or nearly complete. At that time, review them with the consultant to identify any changes required to construction drawings and/or bid sets.

4.7.1 Permitting Authorities

A project may involve multiple permitting authorities depending on its location and the specific requirements of the project.

County permits

King County has permitting jurisdiction over projects located within the county's corporate boundaries, but only in areas outside of a city's incorporated boundaries. In all other cases, cities have permitting jurisdiction.

For information on building and land use permits in unincorporated King County, see King County Permits.

Local city government permits

Cities have permitting jurisdiction over projects developed, constructed, demolished, or remodeled within their incorporated boundaries.

Be sure to consult the website for the city in which the project will be completed for information on permitting requirements in that jurisdiction.

Washington State maintains a website with links to selected city permit procedures. To access this information, go to Permit Procedures.

Many Washington cities also participate in MyBuildingPermit.com, a permitting portal that makes it possible to apply, pay for, and monitor the status of electrical, mechanical, and other building permits online.

State government

Washington State administers a variety of permit programs related to growth and environmental preservation. The state maintains a tool called Online Permit Assistance System (OPAS) to help PMs determine which local, state, and federal

environmental permits a project will require. Washington State also maintains a handbook with information about commonly required environmental permits. See the Washington State Permit Handbook.

Federal government

It is rare that FMD projects require federal permits. Most commonly, a permit is required from the U.S. Army Corps of Engineers for projects that involve construction or dredging in navigable waters or wetlands.

There is no central permitting authority within the federal government, so if you suspect the project may require a federal permit, consult the website of the permitting agency for more information.

4.7.2 Types of Permits

The most common types of permits and approvals required for FMD projects are summarized in **Table 5**.

Table 5: Common Permits and Approvals

Permit	Description	Agency
Commercial Building	Required to construct a new commercial building structure or make alterations such as tenant improvements to ensure the development is consistent with building codes and other applicable regulations.	Issued by the city or county in which the project is located. For information on King County Building Permits, see Commercial Building Permits.
Land Use (including clearing and grading)	Required before moving land in order to ensure the activity will not negatively impact the environment or existing structures. Grading permits require a SEPA determination prior to issuance.	Issued by the city or county in which the project is located. For information on Land Use permits for unincorporated King county, see Land Use Permits.
Mechanical	The contractor is generally responsible for acquiring mechanical permits.	Issued by the city or county in which the project is located.
Electrical	The contractor is generally responsible for acquiring electrical permits.	Issued by the city or county in which the project is located.

Permit	Description	Agency
Shoreline Substantial Development Permit	Required for any substantial development proposed within designated shorelines of the state.	Varies by jurisdiction. For King County, see www.kingcounty.gov/property/permits/info/PermitTypes/landuse/shorelines.aspx
Archaeological Review	Required to ensure that proposed activities do not affect any known historic or culturally significant sites, especially for projects that require excavation.	Washington Dept. of Community Development, Office of Archaeology and Historic Preservation. See SHPO Compliance.
National Pollution Discharge Elimination System (NPDES) Municipal Stormwater	Issued by the municipal NPDES program to municipalities, including cities, counties, ports, and other governmental entities. Requires permit holder to undertake efforts to reduce water pollution from stormwater by implementing steps referred to as best management practices (BMPs).	Washington State Department of Ecology. See NPDES Permit Basics. The County must coordinate with the King County Water and Land Division.
Section 404 Individual Permit	Permits discharge of dredged or fill materials into waters of the U.S., including wetlands. For information, see the U.S. Army Corps of Engineers Permit Guidebook.	U.S. Army Corps of Engineers
Section 10 Permit	Permits obstruction or alteration of navigable waters of the U.S. For information, see the U.S. Army Corps of Engineers Permit Guidebook.	U.S. Army Corp of Engineers

Flood plain permits are a common requirement for work performed in the cities of Kent and Renton. Be sure to direct the A/E consultant to investigate this requirement for projects in these areas.

4.8 Updating the Project Forecast

Before entering the Final Design Phase and monthly thereafter, the PM must update the *Project Forecast* in Unifier. The forecast should reflect the total project budget, including but not limited to:

- The final negotiated lump sum fee for the A/E consultant services.

- The preliminary construction cost estimate (MACC estimate) submitted by the A/E consultant at the completion of the schematic design.
- Any adjustments to the construction cost estimate based on green building plans and value engineering efforts.
- Project management costs.
- Other costs for furniture and fixed equipment (F&FE), IT, relocation, etc.

When the unit supervisor approves the latest Project Forecast, it becomes the current estimate at completion (EAC) for the project.

4.9 Creating a Project Baseline

At the end of schematic design, after the preferred alternative has been selected and before proceeding to the Final Design Phase, the PM must create a project baseline in Unifier. The project baseline is used as a basis for variance reporting and performance measurement.

Manage the expectations of your project team.Don't create unrealistic expectations with respect to scope, schedule, or budget.

To baseline the project

1. From Unifier, in the Project Estimate & Forecast Folder, open the latest version of the Project Forecast and create a copy of it.
2. Update the budget in the forecast to reflect the EAC. If the EAC is higher than the estimate included in the project budget, consult with the unit supervisor on how to reconcile the two. It may be necessary to request an additional appropriation, reduce the scope of work, or discontinue the project.
3. Update the milestone schedule in the forecast to reflect the critical path schedule submitted by the A/E consultant.
4. Submit the updated forecast to the unit supervisor for approval.
5. When the unit supervisor approves the updated forecast, it becomes the project baseline and cannot be modified by the PM.

Immediately after creating the project baseline and monthly thereafter:

- Note the current state of the project in the comments section of the Unifier project record and identify the tasks for the next three weeks.
- Review the project budget against the current forecast and update the forecast as necessary.

Final Design

Objectives

Finalize all drawings and technical specifications for building systems, site utilities, and components that will form the basis for the project's construction documents. Acquire all building and conditional use permits. Complete the bid package if the project requires a competitive bid process.

Deliverables

- ☐ Construction documents
- ☐ The bid package (if required)
- ☐ Building and conditional use permits
- ☐ The SEPA review, if required
- ☐ A monthly project report to the unit supervisor

Tasks

- ✓ Finalize the project delivery method and procurement plan.
- ✓ Facilitate project team meetings.
- ✓ Maintain team meeting minutes in Unifier.
- ✓ Complete design development, if necessary.
- ✓ Finalize construction documents.
- ✓ Confirm the constructability of the project.
- ✓ Implement value engineering requirements, if applicable.
- ✓ Identify preferred equipment and materials.
- ✓ Finalize the building permit package and submit permit applications.
- ✓ Prepare a cost estimate for the bids.
- ✓ Finalize a community outreach plan, if required.
- ✓ Process A/E consultant invoices.
- ✓ Track, monitor, and report on the budget, schedule, and risks.

5. Final Design

The Final Design Phase covers the period from completion of the schematic design to the award of the construction contract. During this phase, the architecture/engineering (A/E) consultant completes the construction documents and all permits are secured so the project can proceed to construction. The PM confirms that the submitted plans and specifications will meet the project objectives without significant design changes and prepares the bid package in collaboration with Procurement and Contract Services (PCSS).

5.1 Design Development

During design development, the A/E consultant creates working drawings that elaborate on, fix, and describe the design solution selected during schematic design work.

Note: For most FMD projects, the schematic design and design development stages are combined because of the limited disciplines or alternatives involved. In such cases, the project advances to construction documents upon completion of the schematic design.

During design development, the A/E consultant is expected to:

- Review the schematic design to make sure the program goals and client agency standards are being met.
- Make sure proposed building and site systems, components, and materials are cost effective and appropriate to the context of the site.
- Attend any required pre-application meetings with permitting authorities and prepare any special studies or reports necessary to meet relevant permit agency requirements as directed by the PM.
- Prepare a cost analysis that projects first costs and the annual costs of operating and maintaining the project, particularly with regard to those components affecting energy consumption.
- Present design development documents to the client agency and other stakeholders; provide a written response, including budget and schedule impacts, to all review comments; and revise design development documents as directed by the PM.

5.1.1 Design Development Schedule

For an average project, design development can be completed in two to three months. Larger projects and politically sensitive projects will require additional review time and coordination.

5.1.2 Design Development Review Meetings

The PM is responsible for scheduling and facilitating regular design review meetings with the A/E consultant. Invite the client agency, members of the core project team, and other stakeholders to participate in all design review meetings.

Use these meetings to:

- Monitor the progress of all design development documents.
- Review and provide feedback on the consultant's proposed design solutions.
- Review the progress of design activities in relation to the project schedule.
- Communicate expectations for activities to be completed before the next design review meeting.
- Confirm who is responsible for completing pending activities.

Ask the client agency representative to sign the design drawings at each meeting as a record of progress.

The PM or a designee is responsible for documenting all meeting decisions and action items in a formal set of meeting minutes and uploading those minutes into Unifier after each meeting. All meeting minutes are distributed to team members via Unifier.

5.1.3 Design Development Deliverables

Design development documents can include:

- Drawings of the proposed project illustrated in sufficient detail to define the dimensions, locations, volumes, materials, appearance, and finishes of the project components necessary to produce a complete and functional, finished facility.
- Draft technical specifications and narrative descriptions of the selected mechanical, electrical, and structural systems.
- A revised construction cost estimate as projected to the time of bidding.
- An updated schedule for the project.

It is the PM's responsibility to ensure that the documents address all elements of the approved program and that the consultant's cost estimate complies with the maximum allowable construction cost (MACC) for the project.

5.1.4 Design Development Review and Approval

The PM may ask the A/E consultant to present the design development drawings to the public, the client agency, and other County agencies or

jurisdictional authorities, including FMD Building Services and the King County Landmarks Commission.

Where required by King County ordinance, the design development documents also should be submitted for review and approval by the King County Council.

The A/E consultant is expected to provide a written response to all review comments and specify the budget and schedule impacts of making requested changes. The consultant then revises the documents as directed by the PM.

When all revisions are complete and written approval has been attained, the PM issues a *Notice to Proceed with Construction Drawings and Technical Specifications* to the A/E consultant.

5.2 Construction Documents

Completion of construction documents is the final stage of project design. The drawings and specifications must describe the design solution in sufficient detail to:

- Obtain all necessary construction permits and approvals.
- Encourage responsible, competitive bids.
- Allow for construction and completion of a fully functional project within the proposed budget.
- Minimize opportunities for contractor disputes, delays, or cost overruns.

5.2.1 Construction Documents Schedule

The time required to finalize construction drawings and specifications depends on the number of drawing sheets and the number of disciplines required to complete the project. For an average project, construction documents can be completed in four to six weeks, reviewed in three weeks, and revised in two weeks.

Make sure that the schedule allows time for a thorough review of the completed documents. On large or complex jobs, where permits may impact the documents, construction documents should be reviewed when they are 30 percent, 60 percent, and 90 percent complete and when final. To determine the time required, review the description of required tasks in the Washington State A/E Fee Guidelines.

5.2.2 Construction Document Deliverables

The construction documents include:

- Construction drawings in sufficient scope, detail, and format to make SEPA determinations, obtain all necessary construction permits and approvals, assist with competitive bidding, and enable construction of the project.

- Technical specifications for the business terms and conditions, materials, equipment, execution, workmanship, and finishes for the project.
- All reports, appendices, calculations, and other technical information necessary to supplement and support the drawings to obtain all required construction permits and approvals.
- A final construction cost estimate, as projected to the time of bidding, revised to reflect modifications and additions made during development of the construction documents and prices current for the bid date.
- A projected schedule for completion of the project.

5.2.3 Construction Document Kick-Off Meeting

To facilitate development of the construction documents, the PM schedules a kick-off meeting with the A/E consultant and the project team. During this meeting the team should:

- Review the schematic and/or design development documents and agree on required specifications.
- Finalize coordination of system designs, the selection of finishes and materials, and construction details.
- Identify individuals responsible for the preparation of drawings, reports, and specifications.
- Identify the level of detail necessary for submitting permits or requesting approvals.
- Identify the estimated time for approval of each submittal.
- Review the A/E consultant's proposed schedule for completing the construction documents.
- Review the plan for completing the permitting, environmental review, and approvals prior to finalizing plans and specifications.

The PM may request that the A/E consultant revise the project schedule to reflect the timeframe for completion of construction documents.

The PM or an appointed designee is responsible for documenting meeting minutes and uploading the minutes to Unifier.

5.2.4 Obtain Permits

It is the PM's responsibility to ensure that all required building and land use permits are in place before the project goes out to bid.

Permitting responsibilities of the A/E consultant in this phase include:

- Assembling completed permit application documents with the required number of copies necessary to obtain permits and other necessary construction approvals.

- Presenting application documents to permitting authorities and other governmental authorities, including utility districts or companies with jurisdiction over the project.
- Meeting with permitting and approval authorities to answer questions or clarify provisions in application documents.
- Providing meeting notes describing all review comments from the permitting and approval authorities and the potential impacts of those review comments on the project budget and schedule.
- Making changes agreed upon by the client agency and permitting or approval authorities.
- Submitting and obtaining all building and land use permits, if included in the consultant's scope of work.

Note: Contractors are responsible for trade-specific permits and any special-use permits such as right-of-way and traffic control permits.

5.2.5 Construction Documents Review and Approval

When permits have been issued or are close to being issued, the A/E consultant submits plans and specifications that are 90 percent complete for County review.

The PM:

- Conducts a thorough review of all construction documents using the standard construction document review checklists available in Appendix B.
- Checks to make sure all requested revisions from previous reviews have been incorporated into the 90-percent construction documents.
- Communicates to the client agency and Building Services when the documents will be ready for review and when their reviews must be complete.
- Reviews the construction documents with the client agency to make sure all program requirements have been met.
- Responds to client agency or Building Services questions and comments.
- Obtains written approval of the drawings and specifications from all stakeholders.
- Consolidates all review comments, clarifying any discrepancies between County reviewers and notifying reviewers of any comments that cannot be resolved as requested.
- Returns reviewed plans and specifications to the consultant with clear directions for modifications.

If any reviewers (e.g., the client agency or other stakeholders) require assistance interpreting and providing feedback on the construction documents,

ask the A/E consultant to attend a meeting with the reviewers to provide additional clarification or information.

Do not proceed to the bid phase until the client agency, Building Services, and other stakeholders have reviewed and signed off on the 90-percent construction documents.

5.2.6 Bid Alternates

The A/E consultant is responsible for providing a design that meets the project budget. To reduce costs and ensure the project stays within the planned MACC, the A/E consultant and PM may review potential bid alternates for use in the bidding.

Bid alternates can be additive or deductive and are individually included on the *Form of Bid* in the Division 00 template[2]. The bidder is required to provide a discrete price for each alternate in addition to the base bid. Additive alternates are usually preferred because they tend to realize more value than deductive ones.

Using alternates allows you to make decisions with actual cost information rather than basing cost reductions on estimates that may not prove accurate.

5.2.7 Constructability Review

It is the County's responsibility to provide the contractor with plans and specifications that are constructible. The PM represents King County and is therefore responsible for thoroughly reviewing the construction documents submitted by the A/E consultant to ensure that they are constructible, well-coordinated, and free from error.

Perform a thorough constructability review of the 90-percent design documents. This includes completing all the checklists in Appendix B and walking the project site with the A/E consultant to consider whether various elements of the work are constructible as designed.

If you do not feel comfortable assessing the technical details of project plans and specifications, talk to the unit supervisor about hiring a consultant to conduct a review.

In completing this assessment, consider the following:

- Are the plans, notes, details, and specifications internally consistent and coordinated between all design disciplines?
- Is there any interference between existing and proposed elements?

[2]The Division 00 template is based on a document from the Construction Standards Institute; it provides all bidding instructions and contractor requirements for the project.

- Is all incidental work clearly identified in the drawings and specifications?
- Are there any limitations the contractor may encounter when working in detention or other secure facilities, and, if so, how will they impact construction progress?
- Are project constraints such as schedule, hours and sequence of work, and traffic control appropriate, or might they put the contractor in an "unable-to-perform" situation?
- Are all special submittal requirements identified and clearly communicated in the technical specifications?
- Are construction impacts (noise, odor, construction debris, access, stormwater runoff, lateral support, shoring, etc.) for abutting tenants and/or property owners adequately addressed?
- Has all special coordination with other divisions, departments, and agencies been addressed?
- Does the number of working days provided or the required completion date allow the contractor adequate time to complete the work?
- Is adequate time provided in the contract to procure long-lead items?

If the A/E consultant or any other project team member identifies issues that may have an impact on the bid documents, note them for resolution prior to final approval of the construction documents.

5.3 Project Reporting

On a regular basis throughout the Final Design Phase, the PM is expected to:

- Note the current state of the project in the comments section of the Unifier project record and identify the tasks for the next three weeks.
- Review the project budget against the current forecast and update the *Project Forecast* as necessary.
- Review the A/E consultant's monthly report to ensure the project is progressing as expected. (Throughout the project, the A/E consultant should submit a monthly project progress update via Unifier.)
- Update the milestone schedule in the forecast to reflect any anticipated changes based on progress to date.

5.3.1 Rebaselining a Project

It may be necessary to rebaseline a project when circumstances beyond the PM's control make the original baseline no longer useful as a performance measure for the project. For example, a project emergency or unforeseen site conditions may significantly impact the project schedule and increase costs such that it is necessary to rebaseline.

A project may only be considered for rebaselining when the scope, schedule, or budget have exceeded the allowable threshold and cannot be recovered by applying standard project management tools and techniques. Projects that have an anticipated schedule or cost variance at completion of greater than 15% over the baseline are candidates for rebaselining.

Only the division director or a designee can make the determination that a project must be rebaselined. The PM must document the rationale for rebaselining, including all the steps the team has taken to modify the scope, schedule, or budget to remain within baseline thresholds, to support the director's decision-making process.

For detailed information on the FMD rebaseline policy, see Appendix H: Rebaselining Policy.

To rebaseline a project, follow the same process used to create the initial baseline. The Unifier administrator turns off the original baseline record after a project has been rebaselined so it is no longer visible.

5.4 Bid Award Phase

When construction documents are complete, the PM coordinates with PCSS to develop a bid package for competitive procurement of the contractor. For step-by-step information on working with PCSS to procure a contractor, see Advertised Contractor Selection.

5.4.1 Bid Schedule

The competitive bid process can take up to four months depending on the complexity of the project.

When additional approvals are required by a granting authority or other County agency, allow more time in the schedule.

To save time, you can begin preparation of the bid documents while the construction documents are being finalized and permitting is in process. However, all permitting must be complete and the documents finalized before PCSS will advertise projects for bid.

5.4.2 Bid Documents

PMs must submit the following documents to PCSS before PCSS will advertise a project:

- Final technical specifications and construction drawings.
- A completed risk assessment form that defines insurance and indemnity requirements for the contractor.
- A completed *Subcontract/Apprentice Opportunities Availability Analysis Worksheet* (*SAOA*).

- Verification that all permits and approvals are in place and that any needed SEPA review is complete.
- The Division 01[3] and Division 00 templates with all redline edits incorporated.
- The *Request for Service* that includes a summary of work, the sequence of the work, and a brief description of the scope of the work suitable for advertising in the invitation to bid.

For step-by-step instructions on working with PCSS to put a contract out for bid, see Advertised Contractor Selection.

5.4.3 Defining Contractor Qualifications

The bid package specifies the qualifications a contractor must have to be eligible to do the work. It's important to include qualifications that ensure the contractor has the necessary skills and experience to perform well. If the list of required qualifications is too restrictive, however, there will be few eligible bidders, which may have an impact on the schedule and the bids.

PCSS maintains a list of common contractor qualifications to include in the bid package. You can obtain a copy of this list for your reference from the PCSS assigned contract specialist. You must negotiate with PCSS the final qualifications to include in the bid package.

Take into account the required qualifications when defining the number of business days bidders have to respond to the request for qualifications in the Division 00 template. If the qualifications are extensive, allow a minimum of four weeks for the contractor to respond.

5.4.4 Contract Duration

The bid package includes an estimate of the number of working days to substantial completion. The PM and A/E consultant should review the estimated duration of construction to determine the time required to reach substantial completion.

When estimating time to substantial completion, be sure to consider the number of trades or disciplines involved, the number of service hours, long lead times for materials, and the impact of weather on scheduling.

[3]Based on a Construction Standards Institute (CSI) template, the Division 01 template provides project implementation instructions to the contractor.

The PM may also include in the contract the required number of days the contractor has to submit items after the preconstruction conference, the number of allowable days for reviews of submittals, and the number of days the PM has to respond to contractor requests for information (RFIs). Specify these timeframes both to communicate contract requirements and to establish the project schedule.

5.4.5 Liquidated Damages

The County includes two forms of liquidated damages in its contractor contracts:

- Compensation for not meeting performance targets for apprenticeship and small business utilization as defined by the Business Development and Contract Compliance Office (BDCC). The compensation due for this type of breach of contract is determined by BDCC.
- Compensation for not completing the work on time. Compensation due for this type of breach is determined by the PM in consultation with PCSS during the bid process.

All liquidated damages are specified in the invitation to bid and the final contractor contract.

The PM should calculate liquidated damages based on estimated costs and impacts to the County if the contractor's work is not completed on time. Compensation must be based on reasonable costs that the County expects to incur, rather than punitive costs. Include justification for how the value was calculated. Justification might include additional operations and maintenance costs incurred by delays, added permit fees, moving, relocation and temporary lease space costs, and contract administration costs.

5.4.6 Pre-Bid Meeting

For major projects or any project with unique requirements, the PM and contract specialist may agree to conduct a pre-bid meeting for all interested contractors. At this meeting a representative from PCSS reviews special provisions in the contract that may be new or exclusive to this contract.

The contract specialist facilitates the meeting, records the contractors in attendance, takes notes, and publishes the notes as an addendum to the bid documents.

The PM attends the meeting to provide the contract specialist with any required technical support. The PM should also make sure the A/E consultant is in attendance.

5.4.7 Awarding the Lowest Responsive Bidder

After the bid opening is complete, PCSS verifies that the lowest bidder is fully responsive and responsible as defined in the Division 00 template. If the bidder meets all response requirements, PCSS requests bidder qualifications, which are

then forwarded to the PM. The PM defines the number of business days bidders have to respond to the request for qualifications in the Division 00 template.

The PM then reviews bidder qualifications. If the contractor's qualifications are acceptable, prepare the *Recommendation of Award* memo in Unifier.

Do not schedule the pre-conference meeting or issue a notice to proceed until PCSS:

- Confirms that the contractor has a performance and payment bond in place.
- Receives signed copies of the contract from the contractor.
- Confirms that all insurance as specified in the agreement is executed between the contractor and the County.

Implementation

Objective

Build the project according to the drawings and specifications within the budget, schedule, and scope defined and approved by the County.

Deliverables

- ☐ Contractor RFIs, submittals, and *Change Request Logs*
- ☐ Monthly project reports to the unit supervisor
- ☐ The contractor critical path schedule and monthly updates
- ☐ A monthly BDCC report
- ☐ Site visit logs
- ☐ Approved permits

Tasks

- ✓ Review the terms and conditions of the contract.
- ✓ Convene the preconstruction conference.
- ✓ Issue the *Notice to Proceed.*
- ✓ Convene regular project progress meetings.
- ✓ Maintain minutes for progress meetings in Unifier.
- ✓ Monitor the contractor's progress against the critical path schedule.
- ✓ Respond to the contractor's RFIs.
- ✓ Process *Change Order Requests.*
- ✓ Process contractor invoices.
- ✓ Track, monitor, and report on the project budget, schedule, and cash flow.
- ✓ Complete punch list(s).
- ✓ Issue the *Certificate of Substantial Completion.*
- ✓ Schedule final inspection.
- ✓ Issue the *Notice of Final Acceptance*.

6. Implementation

During the Implementation Phase, the general contractor delivers, installs, or constructs the capital project in coordination with the PM (referred to henceforth as the "project representative" or "PR/PM" in accordance with the contract), the client agency, the architecture/engineering (A/E) consultant (referred to henceforth as the "technical representative" in accordance with the contract) and other key stakeholders as identified by the PR/PM.

Implementation is complete when the PR/PM accepts contract deliverables, collects contract documents and records (including as-built drawings, operation and maintenance manuals, warranties, etc.), issues the *Notice of Final Acceptance,* and approves final payments.

6.1 Preconstruction Conference

Before construction begins, the PR/PM convenes a preconstruction conference. The conference is the key step between executing the contract and starting work onsite. It is an opportunity for the core project team and contractor representatives to walk through the administrative requirements of the project, discuss the process for working together, and determine decision-making authority.

Work with the contractor soon after the contract is awarded to come to agreement on the date and time for the preconstruction conference. You should issue the *Notice of the Conference*at least two weeks prior to the meeting.

6.1.1 Preparing for the Conference

To ensure the productivity of the preconstruction conference, the PR/PM is responsible for completing the following activities or delegating them to an appropriate responsible party:

- Reviewing the Construction STANDARD Contract Terms and Conditions, especially *Article 6: Changes to the Contract* and terms related to liquidated damages.
- Scheduling the conference and inviting all required County participants.
- Preparing the conference agenda and facilitating the conference.
- Requesting from the contractor a list of submittals, a critical path schedule, and a proposed schedule of values for progress payments.

- Distributing plans, specifications, and other relevant information before or at the conference.
- Designating a person to take meeting minutes at the preconstruction conference.
- Uploading the conference meeting notes to Unifier and distributing them to all attendees.

Arrange a meeting between the Unifier administrator and the contractor prior to the preconstruction conference to review how to submit items through Unifier.

6.1.2 Preconstruction Meeting Attendees

The PR/PM should invite the following individuals from the County to participate in the preconstruction conference:

- The technical representative and design team members.
- The Business Development and Contract Compliance Office (BDCC) compliance officer.
- Client agency representative(s).
- The Unifier system administrator.
- Representatives from the Building Services Section (BSS), including operating engineer crafts persons, electricians, and plumbers who may have a role in the project.
- Representatives from King County IT if they have a role in the project.
- King County Security (FMD, Department of Adult and Juvenile Detention, King County Sheriff's Office) or other tenant or client agency escort personnel as required.
- Representatives from other departments that are affected by the contract work.

Invite inspector(s) from applicable permitting authorities to the preconstruction conference or consider convening a separate inspection meeting.

It is the responsibility of the contractor to invite to the preconstruction conference the contractor's project superintendent, PM, and major subcontractors and suppliers. The PR/PM may request that the contractor also invite the safety officer, scheduler, and billing officer. Preconstruction Conference Agenda

The conference is an opportunity to discuss the rules of engagement and administrative processes necessary for managing the project. **Make sure that**

meeting minutes for the preconstruction conference are recorded and uploaded to Unifier.

Critical items to cover on the agenda include:

- **Contact information.** Provide the contractor with a list of County contacts, including the technical representative, any sub-consultants, the FMD security contact, and the Unifier administrator. Request from the contractor contact information for the contractor representative, safety officer, subcontractors, and emergency and after-hour contacts.
- **Submittals**. Receive the contractor's list of submittals; clarify specifications for any special methods and materials; review long-lead items and any schedule-critical material; and identify required response times for approval and the process for submitting required documents.
- **Project schedule.** Review the contractor's critical path schedule to ensure it meets all the contractual milestones and the project completion date. This is also a good time for the team to discuss when testing and site inspection will be required.
- **Notice to proceed**. Note material procurement days allowed in the contract and establish a date for the *Notice to Proceed* (NTP).
- **Construction meetings**. Identify a regular time and location for ongoing construction meetings and the roles of each party in convening, facilitating, and documenting meetings.
- **Communications**. Discuss standards and protocols for managing communications between the contractor and the County. Inform the contractor that the County expects timely written notification of any issues that could cause a project delay or cost impact and that all instructions to the contractor that may impact cost or schedule must come from the PR/PM, or the contractor may be proceeding at their own risk.
- **Subcontractors and BDCC reporting requirements**. The contractor should provide a list of any subcontractors that will be used on the project. The BDCC compliance officer should review the reporting requirements that the contractor must meet for progress payments to be processed and introduce the Contracts and Apprenticeship Report Tracking System (CARTS).
- **Safety**. Make sure the contractor submits to the County a safety program that is in compliance with all Washington State safety standards.
- **Payments**. Collect a schedule of values from the contractor, explain the process for submitting invoices through Unifier, and identify activities that must be completed (e.g., BDCC reporting, up-to-date as-builts, and Labor and Industries affidavits) before invoices will be approved for payment. Review any federally required reporting requirements, such as the Davis-Bacon Act.

- **Requests for information**. Clarify the process for managing *requests for information* (RFIs) and *change proposal requests* (CPRs) through Unifier.
- **Document management**. Clarify roles and responsibilities for processing documents through Unifier and CPD expectations regarding what is submitted in Unifier and where. Establish a Unifier training schedule for the contractor and other supporting staff.
- **Surface Water Runoff Requirements (SIMPLa).**
- **Local Hazardous Waste Management Voucher Incentive Program.** Inform the contractor that they can be reimbursed for up to 50 percent of what they spend to manage, dispose of, reduce, or recycle hazardous waste materials. Consultations can be scheduled by contacting the Business Waste Line at 206-263-8899 or 800-325-6165.
- **System commissioning.** Confirm all systems and equipment that will require commissioning and the preliminary schedule for any required system testing. Review with the contractor the written guarantees, operating and maintenance manual, and system training requirements specified in the contract documents.
- **Waste sites**. Identify for approval purposes the locations of the contractor's waste sites and determine any special waste handling requirements. For LEED or hazardous materials (hazmat) projects, clarify recordkeeping requirements for the construction waste stream.
- **Special provisions.** Identify contract requirements that may be exclusive to this contract or are not typically seen on other contracts (i.e., special permit conditions, special bid items, etc.)

6.2 Submittals

The contractor is required to provide a submittal control list that identifies all warranties, drawings, documents, and product submittals that the contractor will submit during the project, as well as a schedule for the identified submittals. The PR/PM and contractor should review and finalize the control list and schedule at the preconstruction conference.

Generally, unless otherwise directed by the PR/PM, the contractor submits all documents and drawings through Unifier.

The PR/PM is responsible for reviewing each submittal, routing the submittal to the appropriate reviewer(s), reconciling comments, and sending the submittal back to the contractor with directions for revisions, if required. Submittals should be reviewed and returned to the contractor within the time specified in the contract or the County may be held liable for delays in the contract completion date.

The contractor shall not perform any portion of work requiring submittals until the submittals have been reviewed and approved by the County.

The PR/PM tracks the current status of all required submittals in the Submittal Log in Unifier.

Review the status of submittals at each construction meeting to ensure that all submittals for any given piece of work have been submitted and approved prior to the work beginning.

6.2.1 Preconstruction Conference Submittals

The contractor should submit the following before or during the preconstruction conference:

- A submittal control list and a proposed schedule for submittals.
- A preliminary construction schedule that shows the critical path.
- A schedule of values that identifies the various activities of the contract work and their values.
- A list of waste, recycling, and disposal sites, as applicable.
- A list of all portions of the work to be subcontracted and the names and contact information of the proposed subcontractors, suppliers, and vendors.
- A list of contractor contacts, including emergency and after-hours contact information.

6.2.2 Critical Path Schedule

The contractor is required to submit a preliminary construction schedule at the preconstruction conference; a final critical path construction schedule is due before the NTP is issued.

As soon as possible after the preconstruction conference, the PR/PM and the contractor should review and adjust the preliminary critical path schedule. The contractor must then resubmit the schedule to the PR/PM showing the agreed adjustments. Use this schedule as the baseline schedule for the project duration.

The contractor is also required to submit monthly updates to the critical path schedule, noting whenever changes occur that could potentially delay the substantial completion date.

The PR/PM may withhold progress payments if the contractor does not comply with critical path schedule submittal requirements or meet the contract completion dates.

6.2.3 Shop Drawings

Shop drawings provide detailed information for properly manufacturing, installing, or constructing elements of the project. In addition, shop drawings provide the technical representative with the detail necessary to inspect the

work and ensure that the contractor is using the correct products and procedures.

The technical representative is required to review the shop drawings and return the drawings with comments to the PR/PM as specified in the contract.

6.2.4 Material Submittals

Material submittals consist of manufacturer's catalog cuts, physical samples, and other material samples required in the contract. The contractor submits these through Unifier.

The contract specifies which materials need to be approved by the PR/PM or an appointed designee prior to installation. Contractors are at risk if they proceed with installation of materials that have not been pre-approved by the PR/PM as required.

6.3 Notice to Proceed

The PR/PM issues an NTP to the contractor only after the contract has been signed and fully executed and the contractor's project team has been identified and accepted by the County.

The contract establishes a set number of working days (the contract duration or time) to complete the work. The NT Porders the contractor to proceed with the work on a specific date. It also identifies the anticipated contract completion date based on the number of working days identified in the contract and the start date documented in the NTP. These dates are used to determine what, if any, liquidated damages are indicated in the event of delays.

To avoid the issue of liquidated damages, the PR/PM should maintain a record of the number of days added to or deleted from the contract time throughout the change order process. If the contractor falls behind schedule, the PR/PM should request a revised schedule along with a plan for getting back on schedule. Resolving time-related issues with the contractor in a timely manner may prevent a major dispute later on.

6.4 Construction Meetings

Throughout construction, at the direction of the PR/PM, the technical representative convenes and facilitates progress meetings with the client agency, contractor, subcontractors, and other stakeholders. At these meetings, the team reviews:

- The current record of inspections.
- The status of any RFIs, CPRs, and change orders.
- The status of submittals, including items not started, under review, and approved.
- Construction progress in relation to the critical path schedule.

- The contractor's draft monthly invoice (if applicable).
- The three-week look-ahead schedule.

The team may also review the monthly construction report from the contractor and any client concerns or safety issues. A job walk may be included as part of the meeting.

If applicable to the project, you may want to review the Contractor's current spend on security and escort personnel. It's advisable to notify the Contractor at the preconstruction meeting that they have a lump sum to spend on security services and will be required to cover any overage.

The technical representative is responsible for taking notes at these meetings and uploading them to Unifier within three days for distribution to all parties in attendance.

Inform all individuals in attendance that they have three days to respond to the meeting notes with inquiries or corrections; otherwise, the meeting minutes stand as originally published.

6.5 Communication with the Contractor

To avoid misunderstandings that can escalate into legal claims, the PR/PM must establish standards for communication between the contractor and the County and make sure that all parties adhere to these standards.

Following are some recommended best practices for managing communications:

- Require that the contractor designate a single point of contact representative through whom all communication between the County and the contractor can be managed.
- Inform the contractor's representative to submit all communications with the County, including queries and responses related to contract provisions, to the PR/PM through Unifier.
- Formalize all communications regarding contract provisions in a written document given to the contractor's designated representative.
- If the contractor indicates that there may be contract delays, additional costs, or material or labor shortages, request that the contractor submit a signed written document describing the issue. Escalate the issue immediately to your unit supervisor.

6.6 Subcontractor Approvals

During the procurement process, a representative from the BDCC, working in coordination with the PR/PM, identifies apprentice and/or subcontractor utilization requirements for the contract.

These utilization requirements are included in the bid documents, and contractors must identify how they plan to meet the subcontracting requirements in their bids.

The contractor must submit a report to BDCC via CARTS each month indicating actual utilization of subcontractors during the contract period. If at any time the contractor fails to submit a report or is not meeting the utilization requirements specified, the PR/PM can withhold payment.

The PR/PM is responsible for:

- Ensuring that reporting requirements are communicated to the contractor before the project begins. Invite a BDCC compliance officer to the preconstruction conference to review these requirements with the contractor.
- Monitoring contractor compliance before approving monthly payments. Consult with the BDCC compliance officer or check the online reporting tool to ensure that the contractor's information is up to date and acceptable.

6.7 Safety Program

Site safety is the sole responsibility of the contractor, who is solely responsible for developing a safety program that complies with the safety requirements specified in the contract. The contractor is required to designate a safety officer who is responsible for ensuring adherence to the safety program on the construction site.

The contractor is required to submit a copy of the safety program to the PR/PM through Unifier promptly after signing the contract.

The PR/PM may request that the King County Office of Safety and Claims review the contractor's safety program and provide comment.

The PR/PM or technical representative should notify the contractor or safety officer when a safety violation is observed onsite during construction. **However, the PR/PM must not direct the contractor on how to correct the unsafe condition.** By informing the contractor of a potentially unsafe condition, the PR/PM neither assumes the duty for safety nor relieves the contractor of his or her sole responsibility for site safety.

If the PR/PM observes or is aware of either (1) an unsafe act or condition that could result in serious injury or death to the contractor's personnel, County personnel, or members of the public; or (2) an unsafe act or condition that

could result in significant damage to the work or to County or third-party properties, the PR/PM should take the following course of action:

- Verbally order an immediate stop to the work and clear all personnel from the area until the unsafe condition has been eliminated.
- Notify the contractor that it is the contractor's responsibility to correct the hazard in accordance with current laws and safety practices and that any delay related to the non-compliant condition is not excusable or compensable. **Do not direct the contractor on how to correct the condition.**
  - Follow up on the verbal order with a field memo requiring correction of the problem before work in the area may resume. If the contractor fails to act, call the King County Safety and Claims inspector to report a violation.
  - Document all activities, notifications, and communications with the contractor. Take photographs as appropriate.
  - Follow up to ensure the situation is corrected before allowing work to resume in the affected area.

6.8 Emergency Work

Emergency work is any unplanned work to address issues that, if not addressed immediately, will cause damage to or the loss of County property or physical harm to individuals. The determination of emergency is a formal process that requires written approval either by the FMD division director or the County executive.

Per K.C.C. 4.16.050, in the event of a declared emergency, the division director may request an emergency waiver from the County executive that allows suspension of normal contracting requirements. Where delays in the work may increase loss to the County work may proceed immediately with permission from the division director. The process for acquiring a waiver, however, must also be started immediately.

Follow these best practices to manage emergency work:

- At the preconstruction conference, tell the contractor to immediately call the duty manager (206-296-5000) and to alert the unit supervisor when the contractor encounters a problem that is or may develop into an emergency situation.
- In cases where the contractor caused the emergency situation in the course of normal construction activities, communicate to the contractor their rights and responsibilities. The contractor always has first right of refusal to remedy the situation at no expense to the County.
- If you need to bring in a technical specialist to address the situation, consult with your unit supervisor for approval. FMD maintains a work order contract for disaster recovery and emergency needs.

- Get a bid for the emergency work from the contractor or a technical specialist as soon as possible. You must provide an estimate of the probable cost of recovery when submitting a request for a waiver.

6.9 Quality Control

The contractor is responsible for the inspection and quality assurance of all work, including work performed by any subcontractor.

As the County's representative, the PR/PM is responsible for protecting the County against defects and deficiencies in materials and the workmanship of the contractor. The technical representative is contractually responsible for identifying defects and deficiencies in the work. **The PR/PM or his or her designee must inform the contractor immediately in writing of any work that is not in compliance with the contract.**

6.9.1 Contractor Tests and Inspections

The contractor is responsible for managing all regulatory inspections required by the authority having jurisdiction. The contractor is also responsible for such tests and inspections as are necessary to ensure that the work conforms to the requirements of the contract. The contractor must give the County at least three days' notice when work is ready to be tested and inspected, including when and where tests and inspections will be made. The contractor shall maintain complete inspection records and make them available to the County upon request.

Ask the contractor to submit inspection reports at each construction meeting to ensure intermediate inspections by authorities are occurring at the required time during construction.

The County may, at any reasonable time and at its own cost, conduct inspections and tests as it deems necessary to ensure that the work is being completed in accordance with the contract. Per the contract terms and conditions, no site observations, inspections, or tests conducted by an inspector retained by the County relieve the contractor from meeting any requirement of the Contract.

6.9.2 Construction Site Observations

In accordance with the terms of the A/E consultant's contract, the technical representative conducts site observations throughout construction to determine whether the quality and progress of work are in accordance with contract documents and the schedule. At minimum, this includes visiting the construction site at least once a week or as directed by the PR/PM and observing all critical phases of construction that are difficult to inspect once completed. The startup of each new work process warrants an inspection to establish initial quality expectations for the contractor.

For each site visit, the technical representative must record observations, the time and date of each visit, the number of construction personnel and the equipment onsite, the progress of work, and any existing or potential deviations of the work from construction documents, including the schedule.

The technical representative should submit a copy of all site observation reports through Unifier and advise the PR/PM of any work that does not conform to contract documents, any non-conforming work that should be rejected, and required corrective work as needed. (It is understood, however, that the technical representative does not guarantee the performance of the contractor, nor does the technical representative's observation of the work constitute supervision of it.)

Review all inspection reports with the contractor at each construction meeting and make sure all decisions regarding corrective action are captured in the meeting minutes.

6.10 Record Drawings

The contractor is required to maintain a copy of the construction drawings and technical specifications on the job site and to update these records regularly with all changes to the work. Such changes include, but are not limited to, design changes, materials changes, field-directed changes, change orders, and RFIs. These drawings and specifications form the basis for the record drawings.

In addition to noting approved changes, the contractor should update the as-builts with information about any capital equipment or other fixed asset installed on or removed from a site.

The contractor is responsible for keeping the as-builts up to date and available for review by the County at all times, including at each project progress meeting.

Follow these best practices with respect to managing record drawings:

1. Instruct the contractor to attach all RFIs and approved change orders to the back of the adjacent drawing pages for reference.
2. Before approving payment to the contractor, check the as-builts to verify that they are up to date.
3. During project close-out, ask the contractor to scan the as-builts and upload a copy to Unifier.

The A/E consultant contract includes a clause that obligates the consultant to update the record drawings based on the contractor's as-built drawings so they reflect all existing conditions. Make sure the consultant completes this work to your satisfaction.

6.11 Payment Procedures

The contractor submits all invoices through Unifier using either the Certificate for Payment business process or the Contractor WO Invoice business process. The contractor is normally paid monthly. With each application for payment, the contractor is required to include:

- A certificate for payment.
- An updated schedule of values.
- An updated project schedule indicating current progress and the project's substantial completion date.
- Affidavits from all subcontractors and relevant suppliers verifying that they have been paid for work completed to date in the prior payment period.

Before approving any payment, the PR/PM should:

- Complete an onsite observation to confirm that all work for which pay is being approved has been completed.
- Confirm work is in conformance with contract documents and has been accepted by the technical representative.
- Confirm that the contractor's as-builts have been updated to reflect work completed.
- Review the invoice in relation to the amount of work to be completed to make sure the contractor is not being overpaid.
- Send the payment application to the technical representative for approval.

Within eight business days of receiving an invoice, the PR/PM must inform the contractor in writing regarding any reason payment has not been or will not be approved.

Monitor your budget to make sure that there are sufficient funds left to complete remaining work if the contractor defaults.

6.12 Requests for Information

When the contractor requires additional information or clarification on drawings, specifications, or other contract documents, he or she submits an RFI. Contractors may also submit RFIs when they identify extra work or variations in the design that may be beneficial to the project.

The PR/PM establishes the timeline for responding to RFIs in the contract. During the preconstruction conference, the PR/PM should also be sure to communicate to the contractor the process for RFIs:

- All RFIs must be submitted through Unifier.

- The contractor must identify in the RFI a date by which the contractor prefers the RFI be answered.

  Note: If the contractor submits an RFI on an activity fewer than five business days prior to the commencement of that activity, the contractor is not entitled to any time extension or adjustment in the contract price due to the time it takes the County to respond to the RFI.

- The contractor may not proceed with affected work until the County has responded in writing to an RFI. Any contractors who proceed without preapproval do so at their own risk.
- The PR/PM responds to all requests for administrative information. The technical representative, as directed by the PR/PM, responds to all RFIs related to design and specifications with clarification or interpretation of the construction documents and routes the response to the contractor through Unifier.
- The contractor must include all RFIs in the as-builts, noting the relevant site location, RFI number, and issue. RFIs can be attached to the back of the adjacent drawing pages for reference.

If a design clarification has a cost or scheduling implication, a change order may be necessary. When you identify an RFI that warrants a change proposal request (CPR), inform the contractor not to proceed with the work until a CPR has been approved or the PR/PM has issued a field directive.

6.13 Change Management

Changes in the work, either additive or deductive, are managed through CPRs issued in Unifier. Common reasons for a CPR may include:

- Required design alterations.
- Emergency situations.
- Owner-requested changes.
- Differing site conditions.

When there is a change in the work, the PR/PM is responsible for executing a CPR before that work begins. The PR/PM negotiates the final terms of the CPR with the contractor.

Note: If circumstances require it, the PR/PM may unilaterally issue a change order at the sole discretion of the County. See Article 5 and Article 6 of the Construction STANDARD Contract Terms and Conditions for information on changes to the contract.

Follow these best practices when negotiating a CPR:

1. When you or the contractor identifies a change in the work that is necessary or beneficial, initiate a CPR in Unifier. CPRs should only be issued by the PR/PM.

2. If you determine that the change necessitates new or revised plans or specifications, ask the technical representative to review the CPR, recommend a preferred solution, and provide change documents to describe the proposed changes, along with a cost estimate and anticipated schedule impacts. The technical representative should also identify whether project permits, access agreements, and/or easements are affected and, if so, recommend appropriate follow-up activities.
3. Send the CPR and the information provided by the technical representative to the contractor for proposed pricing and a schedule for the work. (See the following sections on *Time and Price Adjustments* for more information.)
4. When the contractor responds, forward the submission to the technical representative for review and comment. Based on those comments, you may either agree with the contractor's proposal or respond with questions and suggested changes.
5. After you and the contractor negotiate a fair price and extension of time for agreed changes in the work, approve the CPR in Unifier.
6. At the end of each month, enter all approved CPRs into a change order in Unifier, and route the change order, along with all supporting documentation for each included CPR, first to the contractor for signature and then to the appropriate County authorities for approval. All change orders must identify the current contract completion date, the number of days to be added to or deducted from the contract duration as a result of the CPR, and the new, revised contract completion date. The change order should list all CPRs contained in the change order and the back-up information for each.

   Note: If the changed work is an emergency or urgent (e.g., it is necessary to complete right away to prevent additional schedule and cost impacts), you may issue a field directive to the contractor to proceed with the work before the change order is finalized.

The contractor is responsible for adding all CPRs to the as-builts with a notation made on the plan sheet where the CPR affects the work.

6.13.1 Price Adjustments

An adjustment to the contract must be made when changes cause an increase or decrease in the cost of performing the work.

When work is decreased or deleted, a credit is due to the County, and should be processed in the form of a deductive change order.

When work is increased, an adjustment with the contractor must be negotiated prior to the contractor proceeding with the work. Always maintain control of price adjustments and issue a CPR to the contractor for pricing whenever there is justification to do so.

There are three options for changing the price of a contract:

- **Firm fixed price.** The contractor and the County agree on a lump sum payment for all work. This is the most common and preferred method for pricing change work. To negotiate a fixed price, the contractor provides a detailed cost breakdown and any other documentation requested by the PR/PM to support the proposed price.
- **Unit price**. This method of payment is not recommended. The contractor is paid a unit price for the actual quantity of materials incorporated or removed from the work. The burden is on the contractor to show proof of quantities. The unit price method should always specify a "not to exceed" sum.
- **Time and materials**. This method of payment is not recommended. If the contractor and PR/PM agree to a time and materials adjustment, the change order must specify a "not to exceed" sum. The PR/PM or a designee must monitor the work being completed to ensure it is being performed in a timely manner, and the contractor must substantiate the labor hours, materials, and equipment charged with detailed daily time cards.

For any requested adjustment in contract price, the contractor is required to provide complete and thorough back-up documentation to support the cost of the proposed change, including invoices or direct quotes from material suppliers, a breakdown of the number of hours and rates of pay for the labor used in the change, labor production rates to justify the amount of labor requested, descriptions and amounts of overhead charges, profit mark-ups, and all overhead charges. Subcontractors are required to supply the same documentation for changes in their work.

6.13.2Time Adjustments

An adjustment to the contract for project time is appropriate only when a change in the work has an impact on the progress of critical path work that affects the total project completion.

A contractor requesting a change in contract time must provide a schedule analysis that clearly demonstrates the impact (if any) of additional time on the critical path of the project. For more information, see Article 6 of the Construction STANDARD Contract Terms and Conditions.

No change in contract time shall be allowed in cases where an adjustment in time is necessary due to a fault, act, or omission of the contractor or any person hired by or reporting to the contractor.

Not all changes in contract time are compensable. Delays due to weather or force majeure events are not compensable.

6.14 Claims and Appeals

According to the terms of the contract, the contractor may file a claim against the County only when:

- A request for a change order by the contractor has been denied by the County; or
- The County has issued a unilateral change order that the contractor believes is unreasonable.

The contractor is legally obligated to maintain progress on the work, including work associated with the claim, while a claim is being investigated.

After the contractor has submitted all contractually required documentation to support the claim, review the documentation with FMD senior managers and conduct a site investigation if necessary. Once FMD managers make the final decision regarding whether to accept or deny the claim, be sure to communicate the decision in writing to the contractor within 60 days of receiving the claim.

If the contractor does not agree with the County's decision, the contractor may file an appeal. The burden of proof is on the contractor to demonstrate damages.

In cases in which the contractor and the County cannot resolve a claim through negotiation, the contract requires that the contractor engage in an alternate dispute resolution process with the County prior to the initiation of a lawsuit.

Follow these best practices to assist in resolving claims and preventing lawsuits:

- Throughout construction, always maintain detailed notes on the progress of the work and record all negotiations and agreements with the contractor in Unifier. The best protection against claims is accurate, thorough recordkeeping.
- Manage all change order requests in a timely manner.
- Let your unit supervisor know right away if you think the contractor is planning to file a claim.
- When a contractor files a claim, continue to maintain detailed notes, take photos of the job site, and, if necessary, consider continuous onsite monitoring of the work.

6.15 Substantial Completion

A project is defined as substantially complete when the County has the full and unrestricted use and benefits of the facilities and only minor items remain to be completed, corrected, or finished. When the contractor believes the project is substantially complete, he or she must submit written notice of substantial completion to the County.

Follow these steps to assess and acknowledge substantial completion:

1. Upon receiving written notice of substantial completion from the contractor, schedule a prompt inspection of the work with the technical representative.

a. If you do not agree that the project is substantially complete, have the technical representative prepare a punch list of items the contractor must complete or correct.
b. Ask the technical representative to identify those items on the punch list that must be completed for the contractor to achieve substantial completion.
c. Issue the punch list to the contractor for action.

Note: The PR/PM can modify or add to this punch list at any time as circumstances require.

2. When you and the technical representative agree that the contractor has reached substantial completion, issue a *Certificate of Substantial Completion* to the contractor.
    a. The *Certificate of Substantial Completion* establishes the date of substantial completion and states the responsibilities of the County and the contractor for security, maintenance, heat, utilities, damage to the work, and insurance.
    b. Attach to the certificate a punch list of any items remaining to be completed or corrected before final acceptance.
    c. If the contract allows, specify the time the contractor has to complete the remaining items on the punch list before liquidated damages begin to accrue for failure to achieve final acceptance in a timely manner.

Note: As provided in the contract, the County may grant substantial completion to specific subsystems or portions of the work.

If the contractor does not begin work on the punch list in a timely manner, the County may take action to ensure that the deficiencies are corrected. Acceptable actions may include using in-house resources or hiring an outside party to do the work. The costs for this labor are deducted from any money due the contractor.

For information on liquidated damages, see Liquidated Damages.

6.16 Final Inspection and Final Punch List

After you issue the *Certificate of Substantial Completion*, the contractor must complete all remaining punch list items before requesting a final inspection. When the contractor considers all work ready for final inspection, he or she must submit a written request to the County to schedule that inspection.

Follow these guidelines for the final inspection:

1. Send a *Notice of Final Inspection* with the date and time of the final inspection walk-through to the contractor via Unifier.
2. If you will be inspecting any systems (e.g., HVAC, security, access control, etc.) that the client agency, operating engineers, FMD security, or others will be responsible for operating, invite those parties to participate in the inspection.

3. Ask the technical representative to take notes during the inspection, record all decisions, and, if necessary, prepare a final punch list that describes any work the contractor must complete, including existing work not in conformance with contract documents, prior to the County granting final acceptance.

   If the contractor has not already provided the required documentation, the final punch list should specify that the contractor submit:

   - The contractually specified number of copies of the operation and maintenance (O&M) manuals.
   - All warranties and guarantees.
   - All close-out documentation, including but not limited to releases from all subcontractors and suppliers, affidavits of wages paid, BDCC contract compliance submittals, and Washington State Labor and Industries (L&I) affidavits.
   - All as-built drawings, permit approvals, and a stamped set of permit documents.
   - Keys and a key schedule if necessary.
   - A waste management report.
   - LEED and/or green building requirement reports.
   - A Certificate of Occupancy.

4. Inform the contractor that the items identified in the final punch list must be completed or corrected within the time period specified in the *Certificate of Substantial Completion*. Should the contractor fail to complete or correct all remaining punch list items within the required time, the County may assess liquidated damages against the contractor for failure to achieve final acceptance in a timely manner.

After the contractor completes all items in the final punch list, the contractor must notify the County in writing that all items have been successfully completed. After verification by the County that such completion was satisfactory, the contractor may submit a *Final Application for Payment*.

6.17 Final Payment

Before approving the contractor's final application for payment, the PR/PM should verify that the contractor has submitted:

- A signed release of claims against the County.
- Final affidavits of wages paid to all subcontractors.
- Right of way, easement, and property releases.
- All warranties, O&M manuals, as-builts, and other close-out documentation specified on the final punch list.

When the contractor has met all final requirements, complete the *CARTS Compliance Verification Form* and submit it, along with the Final Payment Request Form, to BDCC.

Upon receipt of the Final Payment Request form, BDCC will review CARTS to ensure that the contractor has submitted all required documents. If the contractor has not met a small business or apprenticeship requirement, a BDCC contract specialist will work with you to take the necessary corrective action prior to release of the final, 100percent payment.

6.18 Notice of Final Acceptance

When all work has been satisfactorily completed and the contractor's application for final payment has been approved, you can issue the *Notice of Final Acceptance*. The Notice should summarize any changes to the contract, specify any liquidated damages, and indicate the final dollar amount of the completed contract. This Notice must be signed by the division director.

Be sure to mail a physical copy of the *Notice of Final Acceptance* to the contractor. An FMD administrator will send an electronic copy to BDCC, the Finance and Business Operations Division (FBOD), the contract specialist, and the King County Council member of the project's representative district.

Project Close-out

Objective

Process and archive all final paperwork associated with any active project contracts.

Deliverables

- ☐ *Certificate of Payment of State Excise Tax*
- ☐ *Certificate of Payment of Contributions and Interest*

Tasks

- ✓ Submit a *Notice of Completion of Public Works Contract* to the state Department of Revenue, Employment Security Office, and Labor and Industries.
- ✓ Initiate a lien search 45 days after the date of final acceptance.
- ✓ Close out all active project contracts.
- ✓ Process the release of retainage.
- ✓ Archive project documentation in ERMS.

7. Project Close-Out

During project close-out, the project representative/project manager (PR/PM) oversees final settlement of project contracts, approves final payments, and archives project documents.

7.1 Contract Close-Out

FMD works with the Finance and Business Operations Division (FBOD) to close out all project contracts.

To initiate close-out of the contractor's contract, submit a copy of the final acceptance letter to FBOD. FBOD will:

- Submit a *Notice of Completion of Public Works Contract* to the appropriate Washington State authorities.
- Verify receipt of a *Certificate of Payment of State Excise Tax* from the Department of Revenue and a *Certificate of Payment of Contributions and Interest* from the Employment Security office.
- Initiate a lien search 45 days after the date of final acceptance.
- Release the contractor's retainage when all claims have been settled and state releases are received. FBOD will not release the retainage until it has received the state releases, regardless of how long the state takes.

For all other outstanding contracts (with the A/E consultant, technical specialists, etc.),notify the FMD contract officer (CO) or administrative staff that the contract should be closed out upon receipt of the final invoice. The CO or administrative staff person will submit a request through the procurement intranet site to the Procurement and Contract Services Section (PCSS) to close out the contract in the Oracle Enterprise Business Suite (EBS).

7.2 Retainage

Per RCW chapter 60.28, the County withholds an amount not to exceed five percent of money due to a contractor until all work has been completed and accepted by the County. This money, known as retainage, is set aside as a trust fund for the protection of and payment to any subcontractors or suppliers that the contractor fails to compensate. The Washington State Department of Revenue and Department of Labor and Industries also have lien rights against this fund when the contractor fails to pay taxes or pay prevailing wages.

At the option of the contractor, the reserves may be retained in a fund by the County, deposited in an interest-bearing bank account, or placed in escrow with a bank or trust company.

Subcontractors and suppliers must submit any claims against the retainage to the PR/PM in writing within 45 days of completion of contract work. If all state clearances have been received, but claims have been filed by subcontractors or suppliers, the County releases all retainage money—except that which is required to satisfy those liens—when the 60-day limit for release retainage expires.

If a subcontractor or supplier submits a claim against the contract, contact the contractor to request payment of the bill. If the contractor refuses to pay the bill, submit the claim(s) to the County attorney.

The PR/PM must retain a copy of all claims against the retainage in Unifier and archive these claims with all project documentation.

7.3 Documentation Close-Out

The following project documents are considered permanent records of the County:

- Permit approvals
- Certificates of occupancy
- Warranties and guarantees
- Operation and maintenance manuals
- Record drawings
- Right of way, easement, and property releases

The PR/PM may include in the final punch list a request for copies of all these documents and should not issue the *Notice of Final Acceptance* until the contractor has submitted these documents through Unifier to the County.

During the project, all documents are maintained in Unifier. At the completion of the project, the PR/PM or an appointed designee is responsible for archiving all project emails and documents as follows:

1. At project close-out or at the completion of each project phase, the PR/PM shall move a copy of all email received or sent relating to the project into the **90.0 – Legal** project folder in Unifier.
2. The PR/PM or an appointed designee should copy and paste all documents in Unifier, folder by folder, into the County's Electronic Records Management System (ERMS).Folders are organized in ERMS according to the same standard schema as in Unifier (Folders 10.0 through 90.0).

All documentation in ERMS shall be retained for the appropriate length of time based on the type of documentation and the total budget for the project.

For detailed information on FMD's document management standards, see Appendix D.

7.4 Warranty Period

The contractor is contractually required to provide a written warranty that all work performed by the contractor and any subcontractors and all materials provided by suppliers conform to the requirements of the contract and are free from any defect in equipment, material, design, or workmanship.

The warranty period for all labor and materials is typically one year from the date of substantial completion of the entire project. There may be additional warranties on equipment that are of varying durations.

Make sure that the contractor submits a copy of the executed warranty before you issue the *Notice of Final Acceptance*.

Before you close out the project, schedule a one-year warranty inspection with the technical representative.

If, during the one-year inspection—or at any time within the applicable warranty period—any part of the work is found not to conform to the contract, send a written notice to the contractor requesting corrections. The contractor is required to correct issues promptly after receipt of written notice from the PR/PM.

8. Acquisition

Some capital projects involve the acquisition of space by purchase or lease.FMD Real Estate Services (RES) manages the majority of work for these types of projects; in addition, RES or the client agency may request that a project manager manage or support related construction.

Projects involving real estate transactions do not follow all the standard FMD capital project processes described in this manual.

This section provides a brief overview of the types of real estate transactions FMD manages and how FMD project managers (PMs) support these projects.

8.1 Property Sale

RES is responsible for the disposition of excess County property. The majority of real estate sold by the County is undeveloped land or residential property. When the County sells a commercial building, RES may identify repairs that need to be made to the building before putting it on the market. In these situations, RES may request that a PM oversee the work on the building.

These repair projects are initiated like Client-Funded projects with RES acting as the client agency. PMs should only proceed with the work when authorized by the section manager to do so.

8.2 Property Acquisition

When the County determines that it needs to purchase property to satisfy the requirements of one or more client agencies, RES may request the assistance of a PM to perform an alternatives analysis and to provide a conceptual cost estimate for developing each of the properties under consideration.

After the County purchases the land, a PM from FMD oversees design, development, and construction of the property. The development effort follows the standard capital project protocols outlined in this manual.

8.3 Leased Space with Tenant Improvements

In a leased space delivery model, the County leases a building or space within a building from a third-party owner (landlord). The landlord is responsible for executing all tenant improvements specified by the County as part of the lease agreement.

Note: Leases of two years or greater duration must be approved by the County Council.

8.3.1 Project Authorization

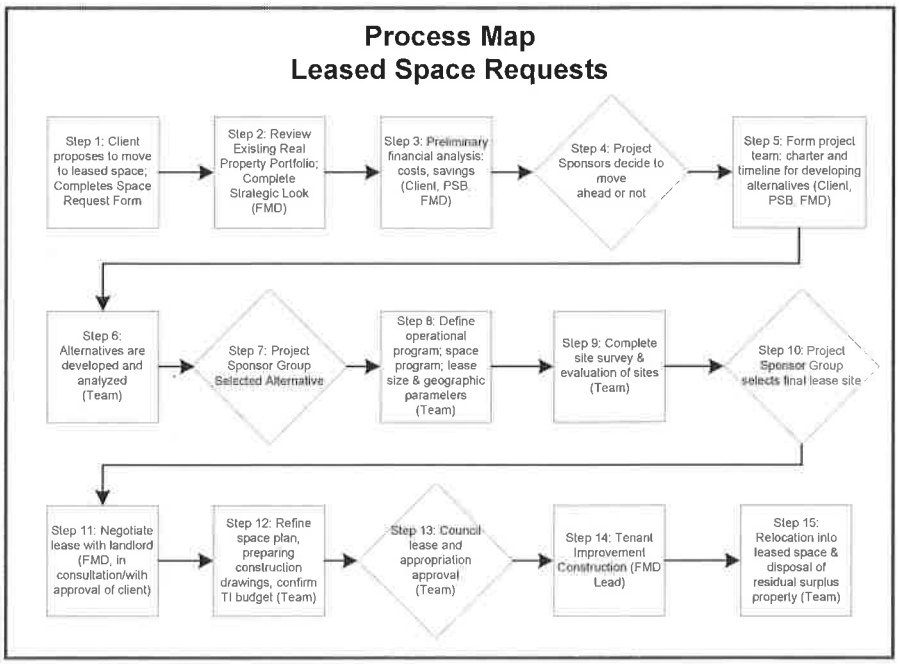
Typically, the effort to secure leased space is initiated when a client agency (tenant) requests leased space from RES. The client submits an FMD Space

Request form that provides a rationale for the request, preliminary program requirements, and budget authority.

RES, CPD, and Strategic Initiatives review the completed space request form in relation to the King County Real Property Portfolio to determine whether there are alternatives—such as co-location—for meeting the tenant agency's request for additional space. These groups also consider the impact to the County of acquiring additional leased space.

If Strategic Initiatives confirms the requirement for additional space to meet the client agency's needs, it authorizes the client agency, RES, and CPD to initiate an alternatives assessment project. **Figure 2** provides an overview of the process.

Figure 2



8.3.2 Project Initiation

The first step in a leased space assessment project is for the client agency is to meet with a representative from RES and a CPD project manager to create a project charter.

The charter outlines the scope of work, the roles and responsibilities of the client agency, RES, and the PM, in managing and executing the work. In particular, the project charter should specify the authority RES and the PM have to act on the client agency's behalf and clarify which decisions must be made collaboratively by the team or may be made solely by the client agency, RES, or the PM. The charter should be scaled appropriately to the complexity of the project and updated as project details are refined.

In addition to the project charter, the team should discuss:

- **Budget**. FMD and the client agency should come to agreement on the number of hours the PM may charge to the project, and the PM should be provided with a project number or a generic charge code to bill time to.
- **Program**. The project team should review and validate the high-level set of requirements (space, geographic location, etc.) provided by the client agency.
- **Alternatives analysis**. RES identifies options for leased space, and the PM works with RES to evaluate those options.
- **Schedule and next steps.** The team should agree to a schedule for completing the alternatives analysis; establish a recurring time for project team meetings; and agree to a strategy for reporting progress to project sponsors.

Because leased-space tenant improvement projects frequently involve a significant investment of time before the project is funded, PMs should not begin work until authorized by the section manager.

8.3.3 Project Manager Responsibilities

The role and responsibilities of the PM in leased space tenant improvement projects vary depending on the client agency's needs, the project budget, and the agreement RES negotiates with the landlord.

During the assessment phase, the PM may:

- Establish independent cost estimates for required improvements.
- Identify or verify the program requirements and related space/square footage needs of the requesting client agency.
- Tour one or more possible lease locations to assess the suitability of the site(s).
- Provide input to RES on the design and construction terms included in the Work Letter and the lease.
- Provide technical support to the team leads.

During the design phase, the PM may:

- Select the design team and oversee development of design plans and final construction drawings and technical specifications;
  –or–
- Review and approve the design drawings and specifications of the landlord-selected project architect.
- Provide formal approval of improvement plans at each stage: completion of design documents, permit documents, and construction documents.

During construction, the PM generally acts as the County's technical representative. That is, the PM does not select or direct the work of the landlord's contractor, but can review and accept the work of the landlord's

contractor to ensure it is in compliance with the construction documents and technical specifications. In this capacity, the PM:

- Monitors the landlord contractor's construction of tenant improvements in relation to scope, schedule, and budget, and escalates any concerns to the project team and steering committee.
- Reviews and recommends RES approval of pay requests and change orders.
- Attends construction meetings with the landlord's representatives and contractor as needed.
- At notice of substantial completion, inspects the work and documents any items that need to be completed or corrected in a punch list.
- Approves final payment if required.
- Coordinates the provision of IT services and infrastructure to the site.
- May manage the relocation, including purchase, delivery, and installation of any required furniture, fixtures, or equipment.

For a detailed list of team roles & responsibilities for new leased space, see Appendix F.

8.4 Lease-to-Own

In a lease-to-own delivery model, King County enters into an agreement with a developer to construct a facility that the County then leases for one or more County agencies. The agreement includes a provision for the County to purchase the facility at some point in time after it is complete.

In a 63.20 arrangement, the County enters into an agreement with a non-profit organization that builds a facility with the proceeds from construction bonds. The client agency pays rent until the bonds are paid off, at which point the title transfers to King County.

Lease-to-own projects are not a "public work" as defined by RCW 30.04.010(4), so the County may negotiate the terms without a traditional public bidding process. Typically, the County works with the developer or non-profit agency in a predesign phase to establish the design specifications for the building. The County is not involved in anything but the most critical design decisions during construction.

PMs are typically not involved in the design or construction of lease-to-own facilities. Such projects are governed by the Municipal Leasing Act RCW 35.42 and require approval of the King County Council.

Appendix A: Procurement of Services

The process for procuring services varies depending on the dollar amount of the contract, the type of service sought, and the complexity of the project. These same factors influence the amount of time needed to complete the consultant selection and contractor bidding processes.

The project manager (PM) works with the FMD contracts officer (CO) and the Procurement and Contract Services Section (PCSS) to identify the correct procurement method and procure the required services. PMs may utilize in-house construction services without the involvement of PCSS.

For the most current information on PCSS procurement processes and standards, see http://financeweb.metrokc.gov/procurement/construction.

To access the most recent version of forms commonly used in the procurement process, visit Procurement Forms.

Table 6 summarizes the procurement options available based on the type of service required and the total funds available for the contract. For assistance determining the appropriate procurement option for a project, consult with the FMD CO.

Table 6: Service Procurement Options

Process	Cost Limits	Applicable Services	Other Considerations	S
Direct pay	$5,000	Any goods or services except "public work" as defined by RCW 39.10.	FMD can spend only $5,000 per year per vendor on direct-pay purchases without a purchase order (PO). Check with the PO fiscal specialist in Admin Services to see if the vendor you want to use has a contract purchase agreement with the County, and if so, use it. Give the vendor a written scope of work and get a price in writing before authorizing the services.	A t
Work order contracts	<$100,000	Licensed construction and A/E services	FMD maintains on-call contracts for construction and A/E services. The PM negotiates the price and service and then completes a work order. This work order is routed, approved, and executed via Unifier.	
Job order contracts	<$350,000 for each work order	Construction services only	King County maintains job order contracts (JOCs) in which contractors can be utilized for the duration of a contract for up to 3 years. The PM issues individual work orders based on a given design; the work order is negotiated with the contractor based on a unit price book. Follow the Unifier workflow process for utilizing job order contracts.	

Technical or non-professional consultant	<$25,000	Non-licensed	No advertisement is required. FMD issues an informal RFP in letter format to 3 to 5 firms, including small contractor and supplier (SCS) firms. The PM can select a firm or choose to interview one or more firms based on the proposal evaluations. Cost can be a review criterion. See Technical Services Procurement.
Technical or non-professional consultant	>$25,000	Non-licensed	All technical services over $25,000 must be competitively selected. The PM prepares an RFP; PCSS must approve it and advertise. Proposals are scored by evaluation committee; cost can be considered. See Technical Services Procurement.
Professional services roster selection	<$300,000	Licensed professional/consultant (A/E)	Allows selection of a project design team without advertising. This method is not typically used by FMD because it requires a cost-plus-fixed-fee contract and the contract cannot exceed one year in duration. See A/E Professional Procurement.
Construction small works roster selection	<$300,000	Licensed contractors	Allows selection of a contractor without advertising. The PM fills out a *Request for Advice*, drafts plans and specifications, and completes all necessary forms. When bids are received, the lowest responsible bidder is awarded the contract. If construction costs are less than $35,000, fewer steps are necessary and the contract differs slightly. A bid bond is not required for projects under $35,000.

Professional services or construction advertised selection	>$300,000	Licensed professional (A/E) and construction team	King County is legally required to publically advertise any construction or professional services for a single contract greater than $300,000. For contractors, the contract always goes to the lowest responsive bidder. See Advertised Construction Services. For consultants, the fee is negotiated with the most qualified consultant submitting a proposal. See Advertised Professional A/E Services.

Advertised consultant selection

The advertising process is required for all consultant contracts of $300,000 or more. It may also be used for contracts under $300,000 when other contracting options are not viable.

To start a new contract, go to your project in Unifier, and under Document Manager, click Documents, then click **New**, and then select **Consultant Agreements**. Enter the information indicated.

Following are the key responsibilities of the PM in facilitating the procurement process for advertised consultant services.

1. Complete the *Request for Advice* form available in Unifier and route the task to the FMD CO. The CO will print and submit the form to PCSS and provide the PM the templates necessary to prepare the procurement documents. PCSS assigns a contract specialist and procurement number to the request for proposal (RFP).
2. For architecture/engineering (A/E) consultant procurement, complete the following steps:
    - Complete the *Risk Assessment* form available in Unifier. Submit it to the King County Risk Management Office. Risk Management will define the insurance and indemnity requirements for inclusion in the contract, sign the form, and send it back.
    - Complete the *Subcontract/Apprentice Opportunities Availability Analysis* (SAOA) worksheet and submit it to the Business Development and Contract Compliance Office (BDCC). The BDCC will review the form and identify subcontractor utilization requirements for the contract. These utilization requirements are included in the solicitation, and consultants must identify how they plan to meet the subcontracting requirements in their submittals.
    - Draft a *Scope of Work*, including a description of the services to be performed, the deliverables, and any background information that would help potential consultants assess the services to be provided.
    - Develop evaluation criteria. These must clearly state standards against which candidate proposals will be judged and how the criteria will be weighted (e.g., points per objective).
    - Invite two peers to serve on the selection panel and assist with the evaluation process. The contract specialist will provide evaluation forms to be used by the panel.
3. Complete a *Request for Service* (RFS), conduct a review of the materials with the CO, attach the signed SAOA and *Insurance Requirement* forms, and submit the entire package, including a printed copy of all signed forms, to the assigned PCSS contract specialist.

4. The contract specialist has five days to determine if the materials are satisfactory for advertising. If so, the contract specialist schedules a meeting to establish a schedule for the procurement from advertisement date through contract execution, and then creates the RFP to begin advertising. If the materials are unsatisfactory, the contract specialist will return the draft RFP to you to address issues.
5. PCSS checks all received proposals for compliance with the requirements and distributes the proposals and evaluation sheets to the evaluators at a kick-off evaluation meeting. A timeline for completing the evaluations is established and a date is set for a reconciliation meeting with PCSS.
6. The FMD selection panel reviews proposals, completes the evaluation forms and scoring, and sends scores to the FMD CO to review and submit to the contract specialist. The contract specialist puts all the scores into a spreadsheet and schedules a reconciliation meeting with the evaluators. In this meeting you can decide whether to enter into negotiations with the top-ranked firm or to conduct interviews. The appropriate number of firms to interview depends on the point spread.

   Note: If applicable, PCSS will distribute proposals to BDCC to evaluate SCS participation goals. BDCC staff will evaluate and score these criteria and provide the recommended scores to PCSS prior to the reconciliation meeting.
7. After evaluations are complete, the contract specialist produces a summary of the team's evaluation process and submits it to the procurement supervisor for signature approval. This is a public document that any proposing consultant can request to see. PCSS issues letters to all candidates submitting proposals. At this point, you can contact the top-ranked candidate directly to begin negotiations. See Consultant Fee Negotiations. If you cannot negotiate a contract that will be satisfactory to the County with the top-ranked firm, notify that firm in writing that negotiations are being terminated, and begin negotiations with the second-ranked firm, and so on, until negotiations are successful.
8. When negotiations are complete, the CO drafts a *Contract Authorization Memo* that transmits to PCSS the final negotiated scope of work, the lump sum fee amount, a design schedule, and a cost summary by phase, if applicable.
9. PCSS sends a notice of selection along with four sets of contract documents to the selected consultant for signature. Subsequently, PCSS forwards the signed contract to FMD for signature and distribution. The FMD CO routes the contract documents via Unifier for execution within FMD. At any time, you can check the status of the contract within Unifier.
10. After the contract has been fully executed, prepare and issue a *Notice to Proceed* (NTP) to the selected consultant or contractor. **No work should commence until after the contract is fully executed and the NTP has been issued.**

For more information, see Advertised Consultant Selection on the King County Procurement intranet site.

Advertised contractor selection

The advertised bid process is required for all construction contracts of $300,000 or more. It may also be used for projects under $300,000 when other contracting options are not viable.

To start a new contract, go to your project in Unifier, and under Document Manager, click Documents, then click **New**, and then select **Contractor Contracts**. Enter the information indicated.

Following are the key responsibilities of the PM in facilitating the procurement process for advertised services.

1. Complete the *Request for Advice* form available in Unifier and route the task to the FMD CO. The CO will print and submit the form to PCSS and assist the PM with access to the templates necessary to prepare the procurement documents. PCSS will assign a contract specialist and procurement number to the project.
2. To prepare the bid documents, the PM must:
    - Complete the *Risk Assessment* form available in Unifier. Submit it to the King County Risk Management Office. Risk Management will define the insurance and indemnity requirements for inclusion in the contract, sign the form, and send it back.
    - Complete the *Subcontract/Apprentice Opportunities Availability Analysis* (SAOA) worksheet and submit it to the BDCC. The BDCC will review the form and identify apprenticeship and/or subcontractor utilization requirements for the contract. These requirements are included in the bid document; contractors are required to meet the subcontracting requirements in their contract.
    - Verify that all permits have been obtained and that the State Environmental Policy Act (SEPA) review, client agency review, and Building Services review of all technical documentation are complete and documented.
    - Complete the Division 01 template available in Unifier.
    - Compile all technical specifications and drawings for inclusion in the Request for Service (RFS) package.
    - Be sure to indicate whether the project is a lump sum or unit price project.
    - Complete the Division 0 Preparation Form (DOP) and all referenced attachments, i.e., Qualifications, Bid Form, Engineer's Estimate, etc.
3. Complete an RFS; attach the signed SAOA, insurance requirement forms, and all technical specifications; and submit the entire package, including

a printed copy of all signed forms, to the assigned PCSS contract specialist.

4. The contract specialist has five days to determine if the materials are satisfactory for advertising. If so, the contract specialist schedules a meeting to establish a schedule for the procurement from advertisement date through contract execution. The contract specialist then creates the bid documents and begins to advertise. If the materials are unsatisfactory, the CS will return the draft RFP to you to address issues.
5. PCSS may conduct a pre-bid meeting at the project site during the advertisement period and schedules a bid opening, during which all submitted bids are opened. After the bid opening is complete, PCSS verifies that the lowest bidder is fully responsive as defined in the Division 00 document.
6. If the low bidder meets all responsibility requirements, PCSS requests bidder qualifications, which are sent to the PM.
7. Review qualifications for acceptance. If it is warranted, schedule a pre-award conference with the low-bidding firm to discuss any exceptions or concerns.
8. If you decide to reject the low bidder based on qualifications, notify PCSS of that decision and consult with the FMD attorney.
9. If you decide the low-bidder's qualifications are acceptable, prepare the *Recommendation of Award* memo in Unifier, route it for signature within FMD, and then submit it to PCSS.
10. PCSS sends a notice of selection, along with four sets of contract documents, to the selected contractor to execute. Once the contractor signature is obtained, PCSS returns the contract to FMD for signature and distribution. The FMD CO routes the contract documents via Unifier for execution within FMD. At any time, you can check the status of the contract within Unifier.
11. After the contract has been fully executed, prepare and issue an NTP to the contractor and convene the preconstruction conference. **No work shall commence until after the contract is fully executed and an NTP has been issued.**

For more information, see Advertised Contractor Selection on the King County Procurement intranet site.

Small works roster selection

For construction contracts under $300,000, PMs can use the construction small works roster. Using the roster is most effective with single-craft work or where subcontracting will be a minimal aspect of the work, since only a limited number of contractors are informed of the project.

Note: Although PCSS also maintains a professional services roster for consultative services, FMD does not typically use this roster because of constraints on the contract.

The PM should consult with the CO and unit supervisor to determine:

- Whether the small works roster is appropriate for the work. If the roster contains no qualified firms or insufficient firms to provide competition, it may not be used. In that case, solicitation must be advertised or another delivery method pursued.

The process for procuring contractors through the small works roster is similar to the advertised bid process with these exceptions:

- Instead of advertising, PCSS electronically notifies some or all of the contractors on the roster of the opportunity. If the contract is over $35,000, PCSS notifies all of the contractors on the roster. If the contract is for less than $35,000, PCSS may notify only the top two or three candidates on the roster.
- Contractors must indicate any interest to bid within 48 hours of notification.
- PCSS sends bid documents to interested bidders electronically, and all bidders have two weeks to submit their bids electronically.
- As with the advertised selection process, the bid is awarded to the lowest responsive and responsible bidder. PCSS reviews qualifications online and sends information on the lowest responsive bidder to the PM.

For more information, see Small Works Construction.

Work order contracts

CPD has on-call master contracts for architects, engineers, and contractors. Each master contract has a specific dollar value that may range from $500,000 to $3 million; individual work orders cannot exceed $100,000 in value without approval by the division director. The master contract term is typically three years or until the contract capacity has been reached.

Work orders are executed via amendments to the respective master contract. These forms are available in Unifier in the Contractor Logs and Consultant Logs folders.

To initiate a consultant work order contract

1. Verify that funds are available and obtain supervisor approval **before** you initiate the work order.
2. Draft a *Scope of Services Agreement* and route it to the consultant to review. Use the Washington State A/E Fee Guidelines to negotiate basic and additional services fees with the consultant.

   Note: When managing the negotiation of services and fees in Unifier, be

sure to track each version of the documentation separately and identify the final *Scope of Services Agreement* as "Final" in the name of the file.

3. After the consultant provides written concurrence on the scope, schedule, and delivery, an administrator creates a work order in Unifier. Attach the prepared work order to the *Scope of Services Agreement* and route it for approval via Unifier.
4. After the work order has been approved and the consultant returns a signed copy of it, an FMD administrative staff person routes it to Fiscal Services staff where a fund verification is completed. The work order is then routed to the section manager for signature.
5. When the section manager signs the work order, you may issue an NTP.

To add services or increase fees on an existing work order, you must submit an amendment through Unifier. To create a change order:

- Copy the original *Scope of Services Agreement* and insert the added scope of the work.
- Attach the amended *Scope of Services Agreement* to a new work order.
- Follow Steps 1-5 as described above to process the amended work order.

To initiate a contractor work order contract

1. Verify that funds are available and obtain supervisor approval **before** you initiate the work order.
2. Prepare the construction documents, including all drawings, technical specifications, Division 1 information necessary to obtain an accurate bid, and an independent cost estimate for completing the work.
3. Attach the construction documents to a work order form and route it to the contractor via Unifier with a request for a bid. Draft a *Scope of Services Agreement* and route it to the contractor to review.
4. Review the contractor's bid. If it is reasonable, route the work order to the contractor for signature. If the bid is not within budget, you can either send it back to the contractor with questions and comments, or revise the scope of the work as necessary to decrease the cost.

   After the contractor returns a signed copy of the work order, the administrator routes it to Fiscal Services staff where a fund verification is completed. The work order is then routed to the section manager for signature.

   When the section manager signs the work order, you may issue an NTP.

Appendix B: Drawing Checklists

Use the following checklists to review the 90% construction documents:

- Drawing Set Review
- Drawing Sheet Review
- Civil/Site Checklist
- Architectural Checklist
- Mechanical Checklist
- Plumbing Checklist
- Electrical Checklist
- Fire Protection Checklist
- Technical Specifications Review

Drawing Set Review

Use this checklist to review the set of design documents for errors and omissions.

Drawing Set Checklist	Y/N
Verify that the King County FMD sheet layout is used for all drawings.	
Verify that all documents have been logically ordered and a table of contents provided.	
Use drawing index to verify all drawing sheets are accounted for.	
Verify that all documents have been professionally stamped, signed, and dated by the consultant.	
Verify that the scale and orientation of the drawings are consistent throughout the complete of set of drawings.	
Verify County ownership of property; check that tax account and legal description are correct.	

Drawing Sheet Review

Use this checklist to assess the consistency of drawings across disciplines.

Drawing Sheet Checklist	Y/N
Column orientation and grid lines match with civil, landscape, structural, architectural, electrical, or mechanical drawings.	
Building plan match lines are consistent on civil, landscape, architectural, structural, mechanical, plumbing, and electrical drawings.	
Large-scale floor plans and sections match with small-scale floor plans and sections.	
Existing and new work are clearly identified. (Demolition instructions are clear on what to remove and what to retain.)	
Section and detail call-outs are correct and cross-referenced.	
Drawing notes (keynotes) are clear and understandable and do not conflict with the details, plans, or specifications.	
All abbreviations and symbols are defined.	
Dimensions are accurate and consistent.	
The reference point (i.e. face of stud, centerline of columns, etc...) for overall dimension strings and elevations are consistent with structural, mechanical, and electrical.	
The overall dimensions for architectural, structural, mechanical and electrical are equal.	
The sum of the string equals the overall written dimension.	
The dimension string is consistent with the grid system or adjacent strings.	
Walls and major equipment are dimensioned from two locations.	
The location of each window, door, and equipment is dimensioned.	

Civil/Site Checklist

Civil/Site Review	Y/N
Property line dimensions on site plan are the same as the architectural drawings.	
Building(s) is located behind setback lines.	
Limits of construction, clearing, grading, grass or mulch, and staging areas are shown and are consistent with other disciplines.	
Finished floor elevations match on architectural and structural drawings.	
Existing and proposed grades are shown and clearly identified.	
Basis of horizontal and vertical control is given and the control points are located properly with pertinent data shown: i.e. elevations, coordinates, stationing, and/or start of construction.	
Soil tests were performed and boring locations, soil classifications, water table, and depth of rock are shown on the plans (or included in the specifications).	
If applicable to project, controls for managing stormwater runoff are illustrated in plan.	
Road and walkway paving details comply with geotechnical report.	
Rigid pavement joint plans are shown with reasonable spacing. Spot elevations are indicated at pavement intersections.	
Existing utilities are shown (underground power, telephone, water, sewer, gas, storm drain, fuel lines, grease traps, and fuel tanks).	
Existing power/telephones poles, pole guys, street signs, drainage inlets, valve boxes, manhole castings and other structures do not interfere with new driveways, sidewalks, or other site improvements.	
New underground utilities have been checked for conflicts against the site plans.	
Utility tie locations agree with mechanical stub out plan.	

Civil/Site Review	Y/N
Profile sheets show underground utilities and avoid conflicts.	
Horizontal distances between drainage structures and manholes castings match scaled dimensions and stated dimensions on both plan and profile sheets.	
Provisions have been included for adjusting valve box and manhole castings (sewer, power, telephone, drainage) to match final or finish grade of pavement, swales, or sidewalks.	
Fire hydrants and street light poles do not conflict with other above ground items.	
Fire hydrants and street light poles correspond with electrical and architectural drawings.	
Sprinklers, lighting, hardscape, etc... correspond with site limits including the building and civil plans.	
Equipment, furnishings and details correspond with King County Parks Standards.	

Architectural Checklist

Architectural Review	Y/N
Site property lines and existing conditions match with survey or civil drawings.	
Building limits match with civil, plumbing, and electrical site plans.	
Staging and building access are clearly shown.	
Elevation points match with structural drawings.	
Openings for window and doors match structural.	
Chases match on structural, mechanical, plumbing, and electrical drawings.	
Building elevations match with floor plans and have the same scale. Check in particular roof lines, window and door openings, and expansion joints. Check that glazing matches specifications.	
Building sections match with elevations and plans. Check roof lines, windows and door openings, and expansion joints. Check	

Architectural Review	Y/N
that mechanical, electrical, fire sprinkler lines will fit between structure and architectural ceiling.	
Building wall sections match with structural building sections.	
Fire rated walls match with mechanical plans (verify fire dampers).	
Floor and ceiling attachments for wall types are consistent with structural system.	
Door schedule information: check that fire rating matches wall type, frame details are properly referenced and match wall types (overhead door supports match with structural), hardware group matches specifications, door type matches with interior elevations, and door size and number matches with floor plans. Look for omissions, duplications, and inconsistencies.	
Interior elevations: check that elevation orientation matches with floor plans, finishes match with wall types, furnishings and equipment match with architectural, mechanical, and electrical plans, and glazing matches specifications.	
Expansion joints are continuous throughout the building and match with structural.	
Recessed slabs for floor finishes clearly indicated. Dimensions and details provided for tile, masonry, etc.	
Access is provided for large mechanical equipment.	
Roof penetrations match with mechanical and are detailed properly.	
Verify that wall types match on structural and architectural disciplines drawings.	
Verify that each CAD background used by each sub consultant is the same version and are the same version as the ones used the prime designer of record.	

Mechanical Checklist

Mechanical Review	Y/N
Sections are identical to architectural and structural drawings.	
Mechanical plans match architectural and reflected ceiling plans.	
HVAC ducts are commensurate with architectural space and are not in conflict with conduit, piping, and other structural elements.	
Adequate ceiling height exists at worst-case duct intersection or at largest structural beam.	
Mechanical equipment fits architectural space with room for access, safety, and maintenance (such as changing filters or tubes).	
Mechanical openings match architectural and structural drawings.	
Mechanical motor sizes match electrical schedules.	
Thermostat locations are not placed over dimmer controls or other heat source.	
Equipment schedules correspond to manufacturer's specifications and design documents.	
Mechanical requirements for special equipment (kitchen, elevator, telephone, transformers) are provided for.	
Dampers are indicated at smoke and fire walls.	
Structural supports required for mechanical equipment are indicated on structural drawings.	
Roof penetrations are shown on roof plans.	
Seismic bracing details are provided for all platforms that support overhead equipment and that seismic flexible coupling locations and details are shown.	
Ductwork is sized.	
Major pieces of equipment electrical requirements match with electrical drawing and specifications.	

Plumbing Checklist

Plumbing Review	Y/N
Sections and plans are identical to architectural, mechanical, and structural drawings.	
New gas, water, sewer, and other utility lines are connected to existing utility lines and the same type of lines.	
Plumbing fixture locations match with architectural drawings.	
Plumbing fixtures match plumbing schedules and specifications.	
Electrical requirements for plumbing fixtures match with electrical drawings.	
Storm and roof drain system matches with architectural roof plans.	
Roof drain overflows are provided.	
Pipes do not interfere with foundations, ductwork, structural elements, conduits, raceways, and other structural elements.	
Pipe chases locations match architectural and structural drawings and are provided as needed.	
Piping openings match architectural and structural drawings.	
Structural design is compatible with plumbing equipment and piping requirements.	
Plumbing equipment schedules correspond to manufacturer's specifications.	
Floor drains match architectural and kitchen equipment plans.	
Site utilities have been accurately verified, and site water and gas service requirements are met by supply utilities	
Drains, water closets, and other plumbing requirements do not conflict with structural beams, joists or trusses.	
Seismic bracing details are provided and that seismic flexible coupling locations are shown.	

Electrical Checklist

Electrical Review	Y/N
Electrical floor plans are identical to architectural and mechanical, plumbing, and structural drawings.	
Location of light fixtures, speakers, and other electrical equipment is consistent with the reflected ceiling plan.	
The location of floor mounted equipment is consistent with other disciplines.	
Major pieces of equipment have electrical connections and phases and voltages are consistent with the other disciplines.	
Locations of panel boards are consistent with architectural, mechanical, and plumbing floor plans and the panel boards are indicated on the electrical riser diagram.	
Sufficient space for electrical panels to fit in the walls.	
Electrical panels are not recessed in fire rated walls.	
Exterior electrical equipment locations do not conflict with site paving, grading, and landscaping plans.	
Locations of electrical conduit runs, floor trenches, and openings do not conflict with structural plans.	
Electrical controls for mechanical equipment are specified.	

Fire Protection Checklist

Fire Protection Review	Y/N
Water flow test data for all new sprinkler systems has been indicated on drawings or in specifications.	
A complete riser diagram is shown.	
Piping from the point of connection to the existing, to the top of the sprinkler riser(s) is shown on the drawings.	

Fire Protection Review	Y/N
All valves, fire department connections, and inspectors test connections are indicated on the drawing.	
Sprinkler main drain piping and discharge point are shown and detailed. Main drains should discharge directly to the outside.	
The extent or limit of each type of sprinkler system, each design density, each type and temperature rating of sprinkler heads, and location of concealed piping is clearly specified or shown.	
Water filled sprinkler piping is not subject to freezing.	
Detail of the sprinkler piping entry into the building, and details of anchoring and restraints are shown.	
Aesthetic considerations are incorporated in the design of the sprinkler system, e.g. sprinkler piping is concealed in finished areas and recessed chrome plated pendent sprinkler heads are used in finished areas.	
Paddle-type water flow switches are only used in wet-pipe sprinkler systems. Other sprinkler systems shall use pressure-type flow switches.	
The main sprinkler control valves are accessible from the outside.	

Technical Specifications Review

Technical Specifications Checklist	Y/N
Compare specifications table of contents (TOC), drawings and drawing index to verify all drawing sheets are accounted for and titles are consistent between specifications and drawings.	
Specification sections indicated on TOC are coordinated with the index and no sections are missing.	
Phasing of construction is consistent with the drawings.	
All finish materials listed in the Architectural finish schedule are specified.	

Technical Specifications Checklist	Y/N
All major items or equipment match with the construction drawings.	
Items specified "as indicated" or "where indicated" are in fact on the construction drawings.	
Thickness of materials and quantities of materials shown on plans agree the specifications.	
Cross-referenced specifications and drawings are numbered correctly.	
Specifications include a submittal register and all shop drawings and material certifications are included.	
Bid, additive, or deductive alternates are coordinated with the drawings and form of bid.	
Any products or materials specified by brand name has either a proprietary waiver or the words "or approved equal" are included.	

Appendix C: Document Maintenance

This appendix includes two forms for distribution to project consultants and project contractors respectively. Each form outlines the documents, drawings, and other project artifacts the consultant or contractor is responsible for uploading to Unifier.

Consultant Document Management Responsibilities

The following table identifies all the documents consultant(s) may be held responsible for uploading to Unifier during the course of a project.

Unifier automatically captures the file name of all documents uploaded to system. In addition to this file name, please give each document you upload a title that represents the type of the document, content, and date created: e.g., "Preliminary Project Plan 2012-11-02."

Note: You may be required to review, comment on, and sign-off on documents not included in this table.

File Number	Folder Name	Documents
20.0	Preliminary Planning	• Action Items • LONG RANGE FACILITIES PLANS • Predesign Study Reports • Project Program Plan • QA/QC Plan
30.0	Design	• Consultant Invoices • Consultant Progress Reports • Consultant Work Orders (WOs) • Cost Estimates • Design Reports • Design Reviews • DRAWINGS (Schematic, Design Development) • Meeting agendas, presentations, and minutes • PLANS • SPECIFICATIONS (outline, draft, final) • WO Amendment Changes • WO Amendments

File Number	Folder Name	Documents
40.0	Environmental (SEPA/NEPA)	• Environmental Checklist • Environmental Impact Statement • Environmental studies and reports • Site Surveys • Technical Memoranda
50.0	Permits	• HAZARDOUS WASTE PERMIT • Land Use Permits • Operating Permits • Permit Applications • Permit Meeting Notes
60.0	Bidding – Bid Documents	• Construction Drawings and Specifications
70.0	Construction	• Final inspection notes • Inspection reports • Preconstruction conference meeting minutes • Punch lists • Written responses/reviews of all contractor submittals
80.0	Close-Out	• RECORD DRAWINGS

Contractor Document Management Responsibilities

The following table identifies all the documents the contractor may be held responsible for uploading to Unifier during the course of a project.

Unifier automatically captures the file name of all documents uploaded to system. In addition to this file name, please give each document you upload a title that represents the type of the document, content, and date created: e.g., "Change Request from XYZ Construction 2012-04-14."

Note: You may be required to review and sign-off on documents not included in this table.

File Number	Folder Name	Document Examples
50.0	Permits	• Construction Permits • Operating Permits • Permit Applications
70.0	Construction	• Apprenticeship Utilization Plan • Apprenticeship Utilization reports • Change Proposal Requests • Contractor progress reports • Daily inspection reports • Final inspection notes • Inspection reports • Product Submittals • RFIs • Schedules of values • Shop drawings • Subcontractor and Supplier Lists (and updates) • Submittals • WO Invoices/Certificates for Payment
80.0	Close-Out	• Contractor As-Builts

File Number	Folder Name	Document Examples
		• Guarantees • OPERATION & MAINTENANCE MANUALS • RECORD DRAWINGS • Redlines • WARRANTIES

Appendix D: Document Management Standards

Purpose

The purpose of this document is to define FMD standards and processes for managing and storing documents related to capital projects.

Scope

This document applies to all project managers (PMs) and support staff in the CPD section of FMD.

Naming Standards

Projects and the documents stored within those projects follow a standard numbering scheme and naming convention. The purpose of these standards is to ensure that documents relating to a project can be easily located.

Buildings

Buildings are assigned a number by FMD. The building number list is provided in Attachment A. For projects that are in buildings which the County does not own, the FMD document librarian will assign a new number.

Projects

Projects are numbered by building and year. Project documents are organized by the following scheme:

XXXA-YYYY-PP00

Where "XXX" represents the building number (e.g. 121)

"A" represents the building within a site; sites with only one building will always use A; sites with multiple buildings will use A, B, C, etc. to represent the buildings

"YYYY" represents the budget appropriation year for the project (e.g., 2012)

"PP00" represents the sequential project number for projects at that site in that appropriation year (e.g., 0100, 0200, etc.)

Drawings

Drawings related to a project will be numbered by project and drawing set:

XXXA-YYYY-PPDD

Where "XXXA-YYYY-PP" represents the project and "DD" is a unique two digit number that represents a drawing set for the project (e.g., 01, 02, etc.)

Document Naming

Unifier automatically captures the file name for all documents uploaded to system. In addition to this file name, all documents shall be given a title. Externally generated documents shall be named in Unifier to represent the type of the document, content, and date created; e.g., "Preliminary Project Plan 2012-11-02" or "Change Request from XYZ Construction 2012-04-14."

Document Storage (Unifier)

All documents for active projects are managed in Unifier within a project folder. Each project uses a standard schema for organizing documents within the Document Management folder. PMs are responsible for ensuring that documents are organized into the schema as specified in **Table 1** in Document Management.

Externally created documents which are received electronically are stored in their native format (e.g., Word, Excel, AutoCAD, etc.). Drawing sheets must also be submitted in PDF format from CAD.

The PM is responsible for making sure any documents that are received on paper are scanned and stored in Unifier as a PDF. After these electronic versions of documents are uploaded to Unifier, the PM may wish to eliminate the paper version of the document or may choose to store it.

If the PM wishes to destroy the original paper copy after creating and storing the electronic record, the PM must first obtain a *Destruction After Digitization (DAD)* Certification from King County Records Management. The PM may request a DAD for an entire class of records (e.g., operation & maintenance manuals) or for an individual record.

Document Archiving (ERMS)

When a project is initiated, the Unifier administrator establishes a project in Unifier and also sets up a project in the County's Electronic Records Management System (ERMS).A "Matter" will be set up in ERMS for each Project. The Matter will be the name of the project followed by the project number: XXXA-YYYY-PP00.

Matter (Project)

Folder

Folders in the Matter are organized according to the same standard schema as in Unifier (10 through 90.)

Each project (Matter) is assigned a category in ERMS. Any project costing over $50,000 is a capital project with a retention schedule of 10 years after the close of the project. Any project costing $50,000 or less is a maintenance project with a retention schedule of six years after the close of the project. However, some project documents (e.g., as-builts, record drawings, O&M manuals, warranties, etc.) will be retained permanently.

The PM keeps all active documents in Unifier until the close of the project, at which point the documents in Unifier will be made "read only."Documents in "read-only" status will remain in Unifier.

After the project is closed, the Unifier administrator copies all project documents, folder by folder, from Unifier and pastes them into ERMS.

Email

At the completion of a project, the PM moves (drags and drops) all email relating to the project into the **90.0 Legal** folder in Unifier. This will ensure an archived record of the email, retained for the appropriate duration commensurate with the project. Email in ERMS remains active; it can be opened, forwarded, and responded to by the PM.

ATTACHMENT A

Building Numbers

KING COUNTY BUILDINGS BY BUILDING NUMBER

Revised: 4/15/2014

000	Non-Facility Specific
001	Rented and Miscellaneous Facilities
002	Underground Storage Tanks (Non-Facility Specific)
003	~~Animal Control Shelter – Bellevue~~ Closed
004A	King Street Center – Seattle
005A	Beverly Park Building
006	~~Goat Hill Parking Lot (Jefferson Center)~~Demolished, replaced by024
007	Asbestos Abatement Project
008A	Regional Communications and Emergency Coordination Center (RCECC) – Renton
009A	Black River Building – Renton
010A	Police Storefront – Kingsgate
011A	Police Storefront – Shoreline Neighborhood Center West
012A	Police Substation/Storefront – Fairwood
013A	Police Storefront – Lake Dolloff
014A	Police Storefront – Boulevard Park
015A	Police Storefront – Park Lake Homes
016A	Police Storefront – Skyway
017A	Police Storefront – White Center
018A	Police Storefront – Kenmore
019	Transfer Stations (General)
020A	Barclay Dean Building (Sheriff's Evidence Storage)– Seattle
021A	Community Service Center – Fall City
022A	Shooting Range – Ravensdale
023A	Orcas Building – Seattle
024A	Goat Hill Parking Garage – Seattle

025A	Chinook Building (NCOB, Goat Hill Office Bldg.) – Seattle
026A	Courthouse – Seattle
027A	Administration Building – Seattle
028	~~King County Parking Garage –~~ Demolished, site now 025
029	~~Kingdome (King County Stadium)~~ Demolished
030A	King County Correctional Facility – Seattle
031	
032A	Yesler Building – Seattle
033A	Harborview Medical Center (see also: 074)
034	District Courts (General)
035A	~~District Court – Aukeen~~SOLD 12/02/11
036A	District Court – Bellevue (formerly Surrey Downs School)
037A	District Court – Federal Way
038A	District Court – Redmond (Northeast)
039A	District Court – Renton
040A	District Court – Southwest (formerly Roxbury / Airport) (includes Police Precinct No. 4 – Burien)
041A	District Court – Shoreline
042A	District Court – Issaquah
043	
044	Public Health Centers (General)
045A	~~Public Health Center – Auburn~~–CLOSED
046A	~~Public Health Center – East District / Bellevue –~~ Replaced by 050 and sold
047A	Public Health Center – Southeast District / Renton – CLOSING in 2014
048A	~~Public Health Center – Southwest District / White Center / Burien~~ – CLOSED
049A	Public Health Center – North District / Bothell (Northshore)
050A	Public Health Center – East District / Eastgate
051A	Public Health Center – South District / Federal Way
052A	Prefontaine Building

053A	Public Safety Communications and Special Operations Facility
054	Police Precincts (General)
055	King County Shooting Ranges – General
056A	~~Police Precinct 2 – North (Kenmore) (includes Kenmore ShootingRange)~~ – CLOSED
057A	Police Precinct 3 – Southeast (Maple Valley) –CLOSED (may reopen)
058	
059A	Police – MARR Facility (formerly Lake Youngs Precinct)
060A	Squak Mountain Communications Facility
061	
062	
063A	Police Precinct 5 – Shoreline
064A	Police Substation – Vashon
065A	Archives Building (West Building, A) (formerly Records Warehouse)Seattle
065B	Records Building (East Building, B) (formerly Elections Warehouse)Seattle
066	
067A	Kent Annex Warehouse
068	
069	
070	
071	
072	Detox Shelter General (See also: 001)
073	
074A	Medical Examiner's Office (See also: 033)
075A	North Public Health (formerly North District Multiservice Center)
076A	United Friends Group Home
077A	~~North Rehabilitation Facility (Firlands)~~TORN DOWN
078	
079A	Cedar Hills Alcoholism Treatment Center

080	
081A	Youth Service Center Alder (formerly DYS) (Being Redeveloped)
081B	Youth Service Center Detention (formerly DYS)
081C	Youth Service Center Spruce (formerly DYS)
082	
083A	Renton Shop Complex (Public Works)
084A	Renton Computer Facility (Public Works)
085A	Regional Animal Services of King County - PIMA
085B	Regional Animal Services of King County - Cat Adoption
085C	Regional Animal Services of King County - Admin/Clinic
085D	Regional Animal Services of King County - Shelter
086A	Custom Industries
087A	Center for the Deaf
088A	Northwest Center for the Retarded
089	
090	
091	
092A	Cromwell Park School
093	
094A	Airport- 7300 Building – CLOSING END OF 2013
095A	Airport - Miscellaneous
096A	Airport - Maintenance Ellis Avenue Buildings
097A	Airport - North Annex
098	
099	
100	
101	
102	
103A	Transfer Station - Northshore
104A	Cedar Hills Landfill
105	

106	
107A	Refueling Facilities (Public Works)
108	
109	
110	
111	
112	
113	
114	
115A	Mason Clinic
116	
117A	Radio Tower Building - Crista
118A	Lake Wilderness Conference Center
119A	Radio Tower Building - Federal Way
120A	Radio Tower Building - Ringhill
121A	Cedar Hills Disposal Site
122A	Enumclaw Park
123A	Kenmore Logboom Park
124	Pools (General)
125	
126A	White Center Park - Fieldhouse
127A	Si View Park Community Center
128A	Gracie Hanson Community Center (Ravensdale)
129A	Pine Lake Park
130A	Redmond Municipal Campus
131A	Redmond Fire Station
132	
133A	Juanita Beach Park - Office
134A	Blue Cross
135	Development Study (for current Jail site)
136A	Bellevue Fire and Police Training Center

137A	King County Sanitary Operations - Field Office
138A	Riverwood Park
139	
140A	Great Northern Railway
141A	Beaver Lake Park - Issaquah Lodge
142	
143A	Pederson Nursing Home
144A	Maleng Regional Justice Center, Courts Building - Kent
144B	Maleng Regional Justice Center, Detention - Kent
144C	Maleng Regional Justice Center, Central Plant - Kent
145A	Transfer Station - Algona
146A	Transfer Station - Houghton
147A	Transfer Station - Factoria
148A	Transfer Station - Renton
149A	Transfer Station - Bow Lake
150A	Transfer Station - Skykomish
151	~~Tashiro Kaplan Building~~ SOLD
152	
153	
154	
155	
156	
157	
158	
159	
160	
161	
162	
163	
164	
165A	Radio Tower Building - Rattlesnake Mountain

166A	Radio Tower Building - Grass Mountain
167A	Radio Tower Building - Mt. Sobieski
168A	Sabey Data Center - Tukwila
169A	Earlington Building (Elections Facility) - Renton

Appendix E: FMD Policy Tools

Confidential Attorney-Client Communication: Not Subject to Discovery or Disclosure

Legal Framework and Principles for Using County Forces for Construction and Ordinary Maintenance

A review of the legal framework governing the use of county forces on Facilities Management Division projects results in some interesting observations that have and will continue to limit the use of county forces to perform public works. A 1992 addition to the King County Code (KCC) creates a framework that is flexible and would lead to a conclusion that most rehabilitation, renovation, replacement, and tenant improvement installations could be performed by force labor with the right type of justification. A later enacted state statute, however, places mandatory restrictions on the use of county forces on construction and major maintenance projects performed by contract. Because state law preempts a conflicting County law provision, the former is the defining body as far as the legal framework is concerned.

I. County Code -A Flexible Approach

Adopted in 1992, KCC 4.04.260 provides as follows:

A.1. "Construction" means the creation of a new building or structure or significant expansion of an existing structure, rather than repair, alteration, renovation, or improvement of something already existing.

A.2. "Ordinary Maintenance" means the routine work necessary to keep county facilities in that condition of good upkeep and repair necessary for safe and efficient continued use.

A.3. "Alteration, renovation, or improvement" means to alter or improve something already existing and the alterations or improvements do not constitute "construction" or "ordinary maintenance" as defined above.

A.4. "Responsible Official" means the department head given line responsibility by either the King County Charter or county ordinance for an individual capital project or capital improvement program.

B. King County forces may perform ordinary maintenance when the skills necessary to perform a particular maintenance task are readily available from in-house staff. The department head responsible for the project will make a determination as to whether the skills necessary to perform a particular maintenance task are readily available from in-house staff. Construction of public buildings and works, other than roads projects having a value of less than twenty-five thousand dollars, shall be performed by independent contractors. Subject to the provisions of this section, the alteration,

renovation or improvement (other than ordinary maintenance) of public buildings and works may be performed or accomplished by King County forces when the county determines it is necessary or advisable to do so, but subject to the publication requirements prescribed by RCW 39.04.020.

C. With respect to the county capital improvement program, the capital improvement section of the budget shall include an identification of those projects in which it is necessary or advisable to use county force labor. The county council's adoption of a budget for an individual capital project where use of county force labor is proposed by the county executive shall constitute the county's determination that use of county force labor on an individual capital project is necessary or advisable.

D. In making the determination as to whether it is necessary or advisable to use King County forces during the construction phase of any particular capital project, the responsible official(s) shall give due regard both to considerations of fiscal prudence and efficiency and to which mode of accomplishing the project best advances the public interest. Among factors to be considered are:

1. Whether skills necessary to perform the particular task are readily available from in-house county staff.
2. Whether the work to be done is of reasonably limited scope or duration.
3. Whether the work to be done would expose the county to a danger of extraordinary work compensation or third party liability claims.
4. Whether adequate consideration has been made of subcontracting out such portions of an overall capital project as best lend themselves to such a procedure.
5. Whether the county's achievement of WMBE goals would be seriously impaired by using county force labor on an individual project.
6. Whether it is not in the county's interest to achieve a specified guarantee or warranty period on the installation of new equipment or fixtures.

Of note here is KCC 4.04.260 (C), which provides for County Council approval of capital projects that propose to use County force labor to perform the work.

In addition, notice of the County's intent to use county labor is addressed in KCC 4.04.260.B, which incorporates the provisions of RCW 39.04.020 Plans and specifications – Estimates – Publication – Emergencies. This statutory provision states:

Whenever the state or any municipality shall determine that any public work is necessary to be done, it shall cause plans, specifications, or both thereof and an estimate of the cost of such work to be made and filed in the office of the director, supervisor, commissioner, trustee, board, or agency having by law the authority to require such work to be done. The plans, specifications, and estimates of cost shall be approved by the director, supervisor, commissioner,

trustee, board, or agency and the original draft or certified copy filed in such office before further action is taken.

If the state or such municipality shall determine that it is necessary or advisable that such work shall be executed by any means or method other than by contract or by a small works roster process, and it shall appear by such estimate that the probable cost of executing such work will exceed the sum of twenty-five thousand dollars, then the state or such municipality shall at least fifteen days before beginning work cause such estimate, together with a description of the work, to be published at least once in a legal newspaper of general circulation published in or as near as possible to that part of the county in which such work is to be done. When any emergency shall require the immediate execution of such public work, upon a finding of the existence of such emergency by the authority having the power to direct such public work to be done and duly entered of record, publication of description and estimate may be made within seven days after the commencement of the work.

II. State Law Day Labor Requirements for Large Counties

RCW 39.04.010 Defines Public Work

RCW 39.04.010 provides that the term public work shall include all work, construction, alteration, repair, or improvement other than ordinary maintenance, executed at the cost of any municipality. The RCW does not define ordinary maintenance but the Washington Administrative Code does have some clarifying language. See below for more detailed discussion.

RCW 36.32.235 -- State Restrictions On Using County Work Force

In 1996, four years after the County adopted KCC 4.04.260, the state adopted RCW 36.32.235, which imposed restrictions on the County's ability to use its own forces to perform a public work. The statute governs the use of competitive bids for counties whose population is in excess of one million. At the time of adoption, King County was the only county in the state that met the population threshold. In this section, the term public works has the same definition as RCW 39.04.010.

RCW 36.32.235 (8) and RCW 36.32.235 (9) allow public works to be performed by County employees if the dollar value of county employee work does not exceed 10 percent of the annual public works construction budget. These provisions, by themselves, are not overly restrictive.

On the other hand, RCW 36.32.235 (10) adds quite restrictive limitations to the use of County employees for construction. That section does not allow the use of public employees to perform a public works project in excess of $90,000 if more than a single craft or trade is involved with the public works project, or $45,000 if only one craft is involved. This will be referred to as the statutory dollar test further below.

Subsection (10) adds further clarification by providing that a public works project means a complete project and dividing up a project into units of work or

classes of work to avoid these restrictions on work on a single project is prohibited. It also defines the cost of a separate public works project as "the cost of materials, supplies, equipment, and labor on the construction of the project."RCW 36.32.235(10).

These provisions lead to two fundamental questions as to what criteria to apply when considering the use of County force labor on construction projects. First, what items of costs are actually covered by the statutory categories "materials, supplies, [and] equipment"?Secondly, what constitutes the cost of labor, i.e., fully burdened versus direct salary plus benefits?

According to the PAO, the statute does not explicitly address these questions.RCW 39.36.235(11) and another provision in state law, RCW 39.04.070, require counties with purchasing departments that use public employees to perform public works to track and annually report the costs of executing such work in accordance with a standard form prescribed by the state auditor. That standard form, which is contained in the budgeting, accounting, and reporting system manual (the "BARS manual"), does not further define the scope of statutory categories or the elements that comprise the cost of labor. See attached form.

In the absence of specific direction from the Legislature or Auditor, one may find guidance in common accounting practices and any applicable county policies .Accordingly, it is up to FMD to develop a policy based on a prudent and principled set of factors that would assist FMD if our practices were ever challenged. One source for such justification would be the use the definition of eligible and allowable labor costs as defined by the Federal Emergency Management Administration (FEMA).

III. What Items of Cost Should Be Included In Construction?

Categories of Cost - On its face, the statutory definition of construction costs (materials, supplies, equipment, and labor) does not include architect/engineering, furniture, and project administration. Thus, the simplest approach is to limit this test to only those costs included in Task 003, Construction. According to the Capital Planning and Development Capital Project Manager Procedures Manual, CIP Project Cost Estimates include the following categories:

- Consultant Design – Task 001
- Construction – Task 003
- Equipment & Furnishings – Task 004
- Contingency – Task 005
- Art – Task 006
- County Force Design Task 007
- County Force Administration – Task 009

- Conceptual Design – Task 010

Clearly Task 003 represents most of the relevant cost information necessary in determining whether the cost of a capital project falls below the dollar thresholds for single and multiple craft/trade projects that may be performed by county workers. However, the tasks for equipment & furnishings (Task 004) and contingency (Task 005) may also include certain items that would be considered part of the public work construction.

There are two general rules of thumb that can be used to test whether or not items within the equipment and furnishings category constitute construction. Basically, the costs of lighting and other equipment or furnishings attached to a building as an integral part of the Building shell and core or tenant improvements likely would be considered construction. The same conclusion holds for the costs of installing movable equipment and furnishings. The following examples demonstrate application of these two rules.

Type of Equipment or Furnishing	**Construction**	**Non-Construction**
Chiller and Other Mechanical Equipment		
▪ Equipment	X	
▪ Installation	X	
Modular Workstations		
▪ Modular Pieces		X
▪ Installation	X	
Lighting		
▪ Fixtures	X	
▪ Installation	X	
High Density Filing		
▪ Installation/Electrical and Tracks	X	
▪ Shelving and Shelving Units		X
Mobile Generator		
▪ Installation/Electrical	X	
▪ Generator		X
Main or Backup Generator – Fixed		
▪ Installation	X	
▪ Generator	X	

Office Furniture/Desks/Filing Cabinets		X

The contingency assumption related to a capital project needs to be broken out between construction contingency and contingency related to non-construction tasks. The construction related contingency would be included in the statutory dollar tests.

Elements of Labor That Should Be Included in Statutory Test – As stated previously, the statutes are silent as to what constitutes labor when applying the statutory dollar test. In the absence of an applicable authoritative source, FMD should consider adopting FEMA regulations as to what constitutes reimbursable labor. Those regulations allow as reimbursable direct salaries plus actual fringe benefits, accrued vacation leave, and sick leave. The FMD has worked with FBOD to come up with a side system to track the appropriate FEMA categories by individual County employee. This side system will allow FMD to calculate benefit appropriate fringe benefit rates, including sick and vacation, which could then be applied to the statutory dollar test. The FMD will need a worksheet to document the test because neither the central accounting system nor the new Project Management System will account for construction cost as is required in the statutory dollar test.

Exceptions to Force Labor Limitations -- Ordinary Maintenance and Emergency Work

RCW 39.04.010 excludes ordinary maintenance from the public works restrictions on use of force labor. There does not appear to be a RCW definition of ordinary maintenance. However, a search of industry literature and definitions used by other States resulted in the following working definition:

The King County Code KCC4.04.260.A.2 provides:

> ***"Ordinary Maintenance" means the routine work necessary to keep county facilities in that condition of good upkeep and repair necessary for safe and efficient continued use.***

A review of industry literature and definitions used by other States resulted in the following working definition of ordinary maintenance that falls within the definition provided in the King County Code.

> ***Ordinary maintenance is routine maintenance and repair activities necessary to keep a public building safe and in good working order so that it may be used at its original and designed capacity for its originally intended purposes. Ordinary maintenance can be categorized as custodial, corrective, preventive, or deferred.***
>
> ***Custodial maintenance*** *is the day-to-day cleaning and upkeep that should be part of every property's ongoing program to retain value in public assets.*
>
> ***Corrective maintenance*** *is the ordinary repairs that must be made to a building and its equipment on a day-to-day basis.*

Preventative maintenance *is a program of regular inspection and care to avert problems or at least detect and solve them before major repairs are needed.*

Deferred maintenance *is ordinary maintenance of a building that is not performed at the time a problem is detected and, if left unchecked, will result in diminished use or capacity of the public building.*

The Washington Administrative Code (WAC) 296-127-010(7)(b) defines "ordinary maintenance" in the context of prevailing wages and distinguishes ordinary maintenance from a public work for bidding purposes. According to this WAC, ordinary maintenance is defined as work not performed by contract and that is performed on a regularly scheduled basis; (e.g., daily, weekly, monthly, seasonally, semiannually, but not less frequently than once per year) to service, check, or replace items not broken; or work that is not regularly scheduled but is required to maintain the asset so that repair does not become necessary.

The following table provides examples of specific tasks routinely performed by FMD and categorizes those tasks as either ordinary maintenance or not ordinary maintenance.

Description	Ordinary Maintenance	Not Ordinary Maintenance
Routine patching and overlay of existing roof as defined in preventative maintenance program with service cycle less than one year.	X	
Replace roof		X
Painting in accordance with preventative maintenance plan with service/inspection cycle less than one year.	X	
Inspection and replacement of HVAC filters with service/inspection cycle less than one year.	X	
Asbestos Abatement in accordance with routine inspection and preventative maintenance plan with service/inspection cycle less than one year.	X	
Asbestos Abatement caused by alteration of space		X
Cyclical Replacement of Carpet		X
Repair of Water Damage	X	

Description	Ordinary Maintenance	Not Ordinary Maintenance
Replace Leaking Pipes	X	
Replace pipe system ready for replacement		X
Replace non-functioning or aged parts in a chiller as part of a preventative maintenance plan.	X	
Patching of damaged walls in accordance with preventative maintenance plan	X	
Tenant Improvements such as walls or new HVAC systems		X
Installation of Work Stations and other furnishings		X
Moving equipment and furnishings	X	
Replacement of Security System controls, wires, or components in accordance with preventative maintenance plan with service/inspection cycle less than one year.	X	
Electrical wiring in response to routine moves within an agency designated space or response to installation or moves of tenant work stations and not part of tenant improvements such as new walls.		X
Electrical upgrades to capacity based on routine inspection and follow-up as part of preventative maintenance plan with service/inspection cycle less than one year.	X	
Routine testing of light fixtures and replacement of failing lighting components in accordance with preventative maintenance plan with service/inspection cycle less than one year.	X	

RCW 36.32.235 (12) further excludes work performed under an emergency declaration pursuant to RCW 36.32.270.The County may use public employees without any limitation for work performed in accord with such a declaration.

IV. **Proposed Policy**

It is the policy of the Facilities Management Division Director that county forces shall be used for building maintenance, repairs, or tenant improvements given that:

- The work is ordinary building maintenance and the county force has the skills necessary and wherewithal to complete the task;
- The work is ordinary maintenance or the construction costs fall under $90,000 for multiple trade projects or under $45,000 for single trade projects (cost threshold) and the county force has the skills necessary and wherewithal to complete the task. Elements included in construction costs are direct salaries for crafts workers, materials, supplies, equipment, and sales tax. Excluded from construction costs are general administrative burden and non-billable time such as administration/training time (FEMA definition of eligible labor costs).Further excluded from construction costs are equipment and furniture, 1% for art, project administration costs, and architect/engineering costs.
- The cost threshold is not exceeded within the capital project. Accordingly, a county-wide construction project involving multiple buildings cannot be broken out to meet the statutory dollar test. The same holds for segregating various scope elements within a capital project.
- The project includes an asbestos abatement requirement to prepare a site for construction and the abatement costs do not exceed the cost threshold for multiple trades ($90,000).
- The work is performed under an emergency declaration and it can be demonstrated that:
- The FMD County force has the skills necessary to complete the task;
- The FMD County force can deliver the project on time and at costs comparable to or lower than contracted construction services;
- The FMD County force can deliver the project without creating a safety hazard for both the County construction workers and employees working in County buildings;
- There is no requirements for warranty or guaranteed work;
- The County's objectives with regard to use of small businesses or use of apprenticeship programs would not be materially affected.

It is the policy of the Facilities Management Division Director that publication requirements of RCW 39.04.020 are fully complied with when County labor forces are used for construction of alterations, renovations, or improvements. Compliance would be assured by proposing each year those projects that would include County labor force construction activities.

Following are examples of projects and the results of assessments as to whether to contract out the construction work or to use county forces to do the work.

Example 1 – Emergency Declaration

A building sustains earthquake damage and it is estimated that repairs will costs $1 million. The County Council makes an emergency declaration and FMD management determines that the County employees have the skills and credentials to appropriately carry out the work. This work falls within an exclusion to the public works restrictions and, accordingly, County employees can do the work.

Example 2 – Tenant Improvement – Multiple Crafts

A County agency asks that several new offices be constructed and new carpeting. Following is the cost estimate:

Cost Element	Statutory Dollar Test	Total Project Costs
Architect/Engineering		$10,000
MACC		
Craft Labor – Carpenter	$20,000	$20,000
Craft Labor – Plumber	$20,000	$20,000
Administrative Burden and Unbillable Time Burden on Crafts Salaries	$0	$50,000
Materials	$20,000	$20,000
Sales Tax	$2,000	$2,000
Contingency – Portion to Construction	$7,000	$10,000
Moves and Telephone Installation	$0	$15,000
Furniture – Desks, chairs & filing cabinets	$0	$10,000
Modular Work Stations		
Installation	$10,000	$10,000
Modular Components	$10,000	$85,000
1% for Art	$0	$ 2,000
Project Management	$0	$10,000

Cost Element	Statutory Dollar Test	Total Project Costs
Total	$89,000.00	$264,000

This project can be undertaken using County forces because the multiple craft $90,000 cost threshold test was not exceeded even though the total project cost was $264,000.

Example 3 – Tenant Improvement – Single Craft

Cost Element	Cost Threshold Test	Total Project Costs
Architect/Engineering		$10,000
MACC		
Craft Labor – Carpenter	$30,000	$30,000
Administrative Burden on Crafts Salaries and burden related to non-billable and administrative time	$0	$10,000
Materials	$20,000	$20,000
Sales Tax	$2,000	$2,000
Moves and Telephone Installation	$0	$15,000
File Cabinets, Desks, Chairs	$0	$10,000
1% for Art	$0	$1,700
Project Management	$0	$10,000
Total	$52,000	$98,700

This project cannot be undertaken using County forces because the $45,000 cost threshold test for single craft projects was exceeded.

Example 4 – Preventative Maintenance

The HVAC mixing boxes are inspected on a quarterly basis and filters replaced on a semi-annual basis. The costs for this activity in the Courthouse is are as follows.

Craft Direct Salaries	$100,000

Filters	$20,000
Sales Tax	$1,800
Total	$121,800.00

This is an ordinary maintenance project excluded from the cost threshold test.

Example 5 – Multiple Locations

Two buildings need their roof replaced and the project is appropriated as a single capital project. The costs for this effort are as follows.

Cost Element	Cost Threshold Test	Total Project Costs
Architect/Engineering	$0	$16,000
Building 1		
MACC		
Craft Direct Salaries – Carpenter	$40,000	$40,000
Craft Direct Salaries – Plumber	$5,000	$5,000
Administrative Burden on Craft Salaries and burden related to non-billable and administrative time.	$0	$55,000
Materials	$20,000	$20,000
Sales Tax	$1,800	$1,800
Sub-Total Building 1	**$66,800**	**$137,800**
Building 2		
MACC		
Craft Direct Salaries – Carpenter	$50,000	$50,000
Craft Direct Salaries – Plumber	$2,000	$5,000
Administrative Burden on Craft Salaries and burden related to non-billable and administrative time.	$0	$70,000

Cost Element	Cost Threshold Test	Total Project Costs
Materials	$20,000	$20,000
Sales Tax	$1,800	$1,800
Sub-Total Building 2	**$73,800**	**$146,800**
1% for Art	$0	$25,000
Project Management	$0	$20,000
Grand Total	**$140,600**	**$329,600**

This capital project would not qualify for exempt from the Public Works laws. However, if both projects were budgeted as separate capital projects and this was not done in an attempt to circumvent Public Works laws, both roofs can be done by using County force labor.

Appendix F: Roles and Responsibilities for Leased

Task	Client	FMD	KC IT
Department/Agency Request For Leased Space			
• Complete FMD Space Request Form ✓ Prepare description of changed conditions triggering the need for leased space ✓ Identify program needs to include FTEs/functions to be performed at leased space. ✓ Prepare explanation of why existing space or currently KC owned space does not meet program needs ✓ Identify geographic area where leased space is requested ✓ Identify budget authority for leased space; or plan to obtain budget authority	●		
Strategic Planning/Financial Analysis			
• Review department's request for space to determine need and details of proposed space requirement		●	
• Review existing King County real property portfolio to determine space availability, co-location opportunities, potential alternatives, and the need to search for leased space		●	
• Initiate preliminary program planning, space requirements, special needs and preliminary space program and range of cost estimates	○	●	
• Develop alternatives to meet the client's operational needs	●		

Task	Client	FMD	KC IT
• Complete life cycle cost analysis of identified alternatives	○	•	
• Confirm availability of budget authority sufficient to fund likely TI costs and other costs outside any TI allowance thru a lease.	○	•	
• Complete project charter and timeline	○	•	
• Seek concurrence from project sponsors that additional leased space is needed or that an existing space should be used.	○	○	
Leased Space Analysis &Negotiations			
• Engage broker to complete site survey for lease space (potential locations and preliminary lease terms) based on confirmed program requirements and space needs		•	
• Tour client through lease alternatives. Select possible lease locations. Utilize broker to request lease proposals from possible lease locations	○	•	
• Meet with client and broker to assist in selecting desired lease site	○	•	
• Seek approval from project sponsors of selected lease and likely business terms	○	○	
• Finalize business terms and lease draft with landlord/broker of selected lease site	○	•	
• Draft legislation for Council approval of proposed lease. Coordinate with department staff, capital planning staff and PSB	○	•	
Tenant Improvement Design & Construction			

Task	Client	FMD	KC IT
• Work with 1) project architect to finalize space plan and preliminary design plans; and 2) project general contractor to prepare preliminary cost estimate	○	•	○
• Following Council approval to proceed, work with 1) project architect to finalize construction plans; and 2) project general contractor to prepare construction bid/proposal	○	•	○
• Formal approval of Tenant Improvements at each stage: completion of Design Development documents; Permit documents; Construction documents	○	•	
• Oversight and Monitoring of Landlord's construction of tenant improvements including the scope, schedule and budget; the Landlord, the Landlord's general contractor, the Department staff and FMD staff collaborate in good faith to alter the scope of work, if necessary, to complete the TIs within agreed budget	○	•	
• Review and approve all change orders	○	•	
• Attend all construction meetings with Landlord's representative and general contractor. Update FMD and custodial agency regarding status of construction	○	•	
• At completion of construction, inspect construction and document any remaining work via a "punch-list"	○	•	
• Final acceptance of tenant improvements& Certificate of Occupancy	○	•	
• 1)Approval of construction cost reimbursement at completion of construction; or 2) approval of construction progress payments	○	•	
• Determine the existing equipment to be relocated, i.e. printers, copiers, file cabinets, mark the floor plan showing where the equipment now resides and mark the floor plan	•	○	

Task	Client	FMD	KC IT
showing where the equipment should be moved to			
• Advise on the selection of and use of secondary market furniture.		•	
• Determine the new equipment needed; purchase, arrange for delivery and installation	•		
Data/Telephone Installation At Leased Space			
• Based on approved space plan; determine telephone/data needs by workstation, copier, printer, etc...	○	○	•
• Provide oversight of installation of data lines/telephones	○		•
Relocation			
• Make seating assignments using the approved space plan	•		
• Develop and manage the employee communication plan	•		
• Box and tag all furniture, chairs, tables, file cabinets, files, to be relocated	•		
• Prior to move do a general cleanup of the area disposing of all unneeded files, personal items, and other stuff	•		
• Manage the actual relocation; manage the decision process on whether or not King County or vendor does the relocation work	○	•	
• Coordination of weekly meeting to review status of the relocation	•	○	
Repurposing/surplusing/sale of vacated space			
• Arrange for repurposing and surplusing/sale of vacated space		•	

Task	Client	FMD	KC IT
• Disposition of residual surplus equipment/furniture created by any moves	○	•	
Project Communication			
• Coordination of monthly project sponsors meeting		•	
• Lead communications with Landlord/landlord architect		•	
• Project Emails copied to all team members	•	•	•
• Telephone logs maintained by all team members	•	•	•
• All Written communications to Landlord/Landlord from FMD		•	
• Council member/staff communications directed by Project Sponsor Group			
Project Management			
• Cost control and budget reporting	○	•	
• Complete project charter and timeline	○	•	
• Coordinate KC review of landlord's contractor's monthly project status report	○	•	
• Coordination of master project schedule	○	•	
• Coordination and oversight of project risk assessment	○	•	
• Budget and contingency oversight of the overall project	○	○	

Task	Client	FMD	KC IT
• Review and recommend the use of contingency funds	○	•	
• Approval of the use of contingency funds			
• Resolution of KC project disputes			
• Resolution of Landlord project disputes		•	

Appendix G: Project Management Plan Template

Project Title:

Project Number:

Project Manager:

Objective

Briefly describe what the project must do and by when.

Project Goals

Insert a bulleted list of goals

Background

Provide any relevant background on how the project came to be, its relationship to other current or planned projects, etc.

Scope of Work

Identify scope of work. Be very specific here about what is and isn't included in project scope.

Major Deliverables

Include itemized list of tangible products that will be available when project is complete.

Project Team

Team Role	Authority and Responsibility
Project Manager	
Manager/Supervisor	
Project Sponsor	
Client Agency Representative	
Executive Office Liaison	

Guiding Regulatory and Policy Environment

Identify any key King County Policies or Codes applicable to this project.

Describe how it supports or is linked to the King County Strategic plan.

Process Agreements

Note any team agreements related to process, for example, how frequently the team will meet or where documents will be stored and managed. Also indicate how decisions will be made and disputes resolved.

Communication Plan

Identify any internal or external communication requirements and how they will be handled.

Budget

Provide high-level details of budget – funding source and breakdown for each phase of project.

Schedule

Start	Finish	Activity	Deliverables

Project Authorization

Identify individual or department authorizing project

Attachments

Include relevant attachments

Appendix H: Rebaselining Policy

King County Executive Order (CIP 8-1 (AEO)) created and directed a Capital Project Management Work Group (CPMWG) to develop and recommend capital project management practices for use across the County. One of the April 30, 2010 deliverables was to define a capital project "Baseline".

Purpose

A baselined capital project may face circumstances in which maintaining the baseline is no longer a useful performance measure for managing the project.

The purpose of rebaselining is to establish a new baseline, providing the necessary course corrections to the (scope, schedule and/or budget) of a baselined project. The results of rebaselining will yield more accurate and realistic project information to be used as a basis for variance reporting and performance measurement for the remainder of the project. Rebaselining will improve the level of information for evaluating project delivery processes and improve the accuracy of project status information communicated to the executive or the Council.

Guidelines

The intent of this guideline is to provide Implementing Agencies (IA's) information to:

- Determine if appropriate justification exists to rebaseline a project.
- Describe the requirements and process for conducting rebaselining, including the required documentation.

In no event will a project be rebaselined without prior written approval by IA's Division Director. A project may not be allowed to rebaseline when the project performance suffered due to poor project management and/or lack of sufficient project control oversight. Project rebaselining should not be used as a schedule and/or budget recovery tool.

The following list provides a few examples of circumstances which could cause a project to have an unrecoverable scope, schedule or budget. This list is not intended to be comprehensive; each IA may have other unique events or circumstances.

- Significant Market changes
- Unexpectedly high bids or other procurement anomalies
- Project placed on hold for "managerial" reasons (e.g. to reassign PM to higher priorities)
- Unforeseen site conditions
- Project delayed in budget cycle; budget review/submittal changes funding availability

- Significantly lengthy bid protests or litigation delays.

A project should only be considered for rebaselining when the scope, schedule, or budget have exceeded the allowable threshold and can't be recovered by applying standardized project management tools and techniques.

Scope, Schedule and Budget Thresholds

- Scope = Project is infeasible or significant changes in scope are needed.
- Schedule = Schedule Variance at Completion if greater than 15% over the baseline schedule.
- Budget = Cost Variance at Completion is greater than 15% over the baseline budget.

Scope, Schedule and Budget Recovery Reviews

In order for a project to be considered for rebaselining, the project team must demonstrate appropriate actions have been taken to determine if the scope, schedule or budget can be modified to remain within baseline.

Rebaseline Schedule Review

Can the project schedule be recovered by schedule compression techniques such as fast tracking or schedule crashing to bring the schedule variance within the acceptable limit without impacting the scope, budget, and risk threshold? If the answer is "yes" then the project schedule is not eligible for rebaselining.

Rebaseline Budget Review

Can the project budget variance be recovered by adjusting schedule or design modifications and without impacting the project objectives, scope, and risk threshold? If the answer is "yes" then the project schedule is not eligible for rebaselining.

Rebaseline Scope Review

Can the project scope be recovered by adjusting schedule or budget modifications and without impacting the project objectives, exceeding other baselines, and risk threshold? If the answer is "yes" then the project schedule is not eligible for rebaselining.

Rebaselining Process

1. Project incurs events/circumstances which adversely affect the baselined scope or schedule or budget.
2. Project team reviews project, utilizing project management techniques to determine if project scope, schedule, or budget can be recovered to be within baseline thresholds.

3. Project Manager obtains IA Division Directors written approval to rebaseline project.
4. Project Team rebaselines scope, schedule and/or budget, including updating appropriate baseline documentation. The Project Manager should perform necessary modifications to the Project Management Plan to integrate and unify the rebaselined scope, schedule, and/or budget. This effort should include reassessing the project risks, quality requirements, and procurement needs to better understand the impacts of the rebaseline on the project. All changes should be fully integrated with the project management elements. Information regarding the initial baseline and the rebaseline should be documented for future evaluation/audits of the project performance.
5. New Baseline is approved in writing by Division Director.
6. Project information and tracking is updated with new rebaselined information, project is denoted as rebaselined.

Measuring and Monitoring Rebaselined Schedules

The rebaselined project will be measured and monitored in the same manner as the original baselined project. This includes using the rebaselined scope, schedule and budget information as a basis for variance reporting and performance measurement.

REQUEST TO REBASELINE A CAPITAL PROJECT

Project Name:		Project Number:
Project Manager:		Original baseline date:
Describe whether scope, schedule, or budget needs to be rebaselined and why:		
Explain actions taken to recover scope, schedule, or budget per baseline plan:		
Summarize how rebaseline will impact scope, schedule, budget, risk and quality parameters:		
Project Element	**Elements completed for original baseline (check all that apply)**	**Elements updated for rebaseline (check all that apply and attach)**
Baseline scope		
Baseline schedule		
Baseline cost estimate		
Update from 30-40% design documents		
Budget by phase with estimated cash flow projections		
Updated Project Management Plan & relevant subsidiary plans		

Draft procurement plan		
Draft project resource/staffing plan		
Draft risk register		
Draft permitting plan		
Draft land, ROW, and easement acquisition plan		
Rebaseline request approved by: Date effective:		
Rebaseline request denied (reasons):		
3rd party reviewers (Must be external to the project team, e.g. project control officer, etc.)		
Additional reviewers (E.g. project supervisor, section manager, etc)		
Division Director		
Date recorded in Unifier	By:	
Date submitted to budget office (if applicable)	By:	

Project Management Glossary

Acquisition Phase: A specific project phase where activities associated with acquisition or surplus and sale of real property, property rights, or the acquisition of improvements through direct purchase or capitalized lease agreements occur. This phase typically runs concurrent with other project phases (CPMWG).

Alternatives Analysis: The evaluation of different project choices available for achieving the project objectives, which may include cost-benefit analysis, life cycle costing, and sensitivity analysis. In alternative analysis, information on the costs, benefits, and impacts of each alternative is developed to provide a sound technical basis for project decision making. (From FTA Best Practices Manual)

Assumptions: Assumptions are factors that, for planning purposes, are considered to be true, real or certain without proof or demonstration. Assumptions affect all aspects of project planning and are part of the progressive elaboration of the project. Project teams frequently identify, document, and validate assumptions as part of their planning process. Assumptions generally involve a degree of risk.(PMBOK)

Baseline:"Project Baseline" means the scope, schedule, and budget set at the conclusion of the preliminary design phase when the preferred alternative has been selected and design has progressed adequately (i.e., 30 to 40 percent) to make reasonable and informed commitments. Project baseline is used as a basis for variance reporting and performance measurement. (CPMWG)

Benefit Cost Analysis (BCA): BCA considers the benefits of an improvement as well as its costs and therefore can be used to compare design alternatives that do not yield identical benefits, as well as to compare projects that accomplish different objectives. Moreover, BCA can be used to determine whether or not a project should be undertaken at all (i.e., whether the project's life-cycle benefits will exceed its life-cycle costs).(FHWA LCCA Primer 2002)

Budget at Completion (BAC): The sum of all budget values that have been previously established for the work to be performed on a project or on components within a project such as a schedule activity or work breakdown structure component. The budget at completion also can be referred to as the total planned value of the project.(Project Management Knowledge.com)

Capital Improvement Program (CIP): The Capital Improvement Program (CIP) is a short-range plan, usually four to six years, which identifies capital programs, projects, and equipment purchases; provides a planning schedule; and identifies options for financing the plan.

Change Management: The process of requesting, determining attainability, planning, implementing, and evaluating changes to a project. A change management system has two main goals: supporting the processing of changes and enabling traceability of changes, which should be possible through proper

execution of the process.(Project Management Knowledge.com)Change management is the practice of tracking and administering changes during the development of a product or service. It is intended to avoid errors and minimize the impact of changes. It minimizes the consequences of unprepared and unrecorded changes and enables approved changes with minimum disruption.

Close-Out Phase: A specific project phase that follows final acceptance and consists of administrative processes and associated accounting activities to close out all contracts. It may include multi-year monitoring. It should comprise no more than three percent of the total project cost.(CPMWG)

Communication Management Plan: The document that describes: the communication needs and expectation for the project; how and in what format information will be communicated; when and where each communication will be made; and who is responsible for providing each type of communication. A communication management plan can be highly detailed or broadly framed, based on the requirements of the project and its stakeholders. The communication management plan is contained in, or is a subsidiary plan of, the project management plan. (PMBOK modified)

Division 00 Template: Based on a Construction Standards Institute (CSI) template, the Division 00 template provides bidding instructions to contractors. It specifies all contractor requirements such as insurance, retainage options, reporting and certifications. Project managers can customize the template as necessary for the project.

Division 01 Template: Based on a Construction Standards Institute (CSI) template, the Division 01 template provides project implementation instructions to the contractor. It specifies the project schedule and expectations regarding site usage, utilities, permits, waste management, and safety. It also provides instructions for invoicing, change orders and communications, and close-out procedures.

Earned Value Management (EVM): Earned Value Management is a system for integrating scope, schedule, and resources, and for objectively measuring project performance and progress. Performance is measured by determining the budgeted cost of work performed (i.e., earned value) and comparing it to the actual cost of work performed (i.e., actual cost). Progress is measured by comparing the earned value to the planned value (PMBOK).

Environmental Assessment Checklist: A list of items required by environmental regulations, primarily by the State Environmental Protection Act (SEPA) and the National Environmental Protection Act (NEPA).This checklist is a tool used by the PM to ensure that the project actions associated with each of the list's items are managed appropriately (combined WTD / PMBOK).

Environmental Impact Statement (EIS): An environmental review document prepared in accordance with SEPA and/or NEPA when the lead agency determines a proposal is likely to result in significant adverse environmental impacts.

Estimate at Completion (EAC): The forecasted total cost of a schedule activity, a work breakdown structure component, a phase or the project when the defined scope of work will be completed.EAC is equal to the actual cost (AC) plus the estimate to complete (ETC) for all of the remaining work.EAC = AC +ETC. The EAC may be calculated based on performance to date or estimated by the project team based on other factors, in which case it is often referred to as the latest revised estimate.(PMBOK)

Final Acceptance: The written acceptance issued to the contractor by the County after the contractor has completed the requirements of the contract (King County's construction contract General Terms and Conditions).

Final Design Phase: A specific project phase during which design is completed and permits and other permissions are secured so that the project (or staged elements of the project consistent with the project management plan) can proceed to construction/implementation. The design phase also includes development of a cost estimate, plans, specifications and a bid package. It is expected that the range of uncertainty associated with project cost estimates decreases as the design progresses. Activities to procure materials and equipment that require long lead times may be initiated during this phase.(CPMWG)

High Risk Project: King County defines high risk projects as an eligible capital project with characteristics that increase its likelihood of being completed late or over budget at a potentially significant financial cost or other significant impact to the County (King County Ordinance 16764).

Implementation Phase: A specific project phase during which the project is constructed or implemented. This phase also includes the testing, inspection, adjustment, correction, and certification of facilities and systems to ensure that the project performs as specified. The implementation phase begins with notice to proceed and ends with final acceptance.Schedule performance will be measured against the substantial completion milestone.(CPMWG)

Lessons Learned: The lessons and knowledge gained from the process of performing a project. Lessons learned may be identified at any point during the project lifecycle. Lessons learned are also considered a project record to be included in a Lessons Learned Knowledge Base.(PMBOK)

Life-Cycle Cost Analysis (LCCA): An evaluation of costs incurred over the life of a project allowing a comparative analysis between or among various alternatives. Life-cycle cost analysis promotes consideration of total costs, including maintenance and operation expenditures. Comprehensive life-cycle cost analysis includes all economic variables essential to the evaluation, including user costs such as delay, safety costs associated with maintenance and rehabilitation projects, agency capital costs, and life-cycle maintenance costs (23 CFR 970.Title 23).

Notice to Proceed (NTP):A written directive issued by the County authorizing the contractor to start performance of some or all of the work and establishing

the date after which the contractor may commence the work.(King County's construction contract General Terms and Conditions)

Planning Level Project Schedule: The schedule developed by creating a general work breakdown structure (WBS) to match the initial CIP schedule.The WBS adds greater detail to the schedule.This schedule gives a general idea of project scope, schedule, and budget based on the programmed year.

Planning Phase: A specific project phase that includes identification and development of project needs and potential alternatives, evaluation of technical and economic feasibility, and development of a rough-order-of-magnitude total project cost estimate (CPMWG).

Preliminary Design Phase: A specific project phase when evaluation and analysis of potential project alternatives occurs. Based on analysis, the preferred alternative is selected and designed sufficiently (i.e., 30 to 40 percent) to establish a project baseline. Activities requiring long lead times, such as land acquisition or permitting, may be initiated during this phase. Some planning activities may occur prior to the preliminary design phase (CPMWG).

Project: A temporary endeavor undertaken to create a unique product, service or result. It can be considered to be any series of activities and tasks that have:(1) A specific objective to be completed within certain specifications, (2) Defined start and end dates, and (3) Funding limits and consumed resources.(PMBOK)A project is a capital investment that fulfills the agency's requirements to provide a given level of performance to the public. A project alternative is a proposed means to provide that performance (FHWA LCCA Primer).

Project Charter: Project charter is a document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities (PMBOK).

Project Contingency: The amount of funds, budget or time needed above the estimate to reduce the risk of overruns to a level acceptable to the organization. The project contingency or reserve are funds under the direct management and authority of specific project management levels as established in the division and departmental delegations of signature of authority.(PMBOK modified) (PMBOK)

Project Control Officer (PCO): The individual responsible for ensuring the implementing agency's compliance with applicable policies, procedures, laws, regulations, and best business practices. To ensure compliance, the PCO provides guidance, input and review services for the implementing agency's project personnel in charge of administering contract documents. The PCO's involvement in contract administration includes, but is not limited to, contract negotiations, procurement, change orders/supplements, and waivers. The PCO is responsible to provide reports as required by the executive branch of the County.(King County CON 7-10-2 (AEP))

Project Manager (PM): The King County employee responsible for the planning, execution, and closing of assigned capital projects. A project manager is the person accountable for accomplishing the stated capital project objectives. Key capital project management responsibilities include creating clear and attainable capital project objectives, building the capital project requirements, and managing and controlling the capital project's cost, time, and scope.(King County CON 7-13-1(AEP))

Project Management System: The aggregation of the processes, tools, techniques, methodologies, resources, and procedures to manage a project. The system is documented in the project management plan and its content will vary depending upon the availability of existing systems. A project management system, which can be formal or informal, aids a project manager in effectively guiding a project to completion.A project management system is a set of processes and the related monitoring and control functions that are consolidated and combined into a functioning, unified whole. (PMBOK)

Project Sponsor: The individual, typically a senior manager, who secures the resources for a project, defines the objectives, and evaluates the outcomes. The project sponsor role centers around advocating for the project both internally and externally, obtaining budgets for the project, accepting responsibility for problems escalated from the project manager, signing off on documents such as the business case and project charter, and supporting the project manager in managing the project.

Quality Assurance (QA): The process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.

Quality Control (QC): The process of monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.

Real Property: Property that includes land, buildings, and anything affixed to the land. For a business, real property would include warehouses, factories, offices, and other buildings owned by the business. Real property only includes those structures that are affixed to the land, not those that can be removed, such as equipment. Real property is distinguished from personal property, which is other property owned by a business or individual, including equipment, furniture and fixtures.(US Business Law / Taxes website biztaxlaw.about.com)

Rebaseline: A project baseline is set at the conclusion of preliminary design and used as a basis for variance reporting and performance measurement. A project may be "rebaselined" when the scope, budget or schedule changes significantly and such changes are beyond the control of the project manager. The Division Director must approve rebaselining of any project.

Responsibility Assignment Matrix (RAM): A structure that relates the project organizational breakdown structure to the work breakdown structure to help ensure that each component of the project's scope of work is assigned to a responsible person/team (PMBOK).

Risk Assessment: A process of determining factors that could cause project risks in terms of quantity and quality and assigning a risk priority based on the probability of occurrence. Qualitative assessment allows definition of the causes that create project risks in the context of qualitative characteristics of the project. This analysis is conducted by means of checklists, questionnaires, interviews, and brainstorming sessions. During the assessment, risk register and project scope statements are used to determine impacts of each risk and measure the likelihood of occurrence. Quantitative analysis uses the risk register, cost management plan, and schedule management plan to estimate potential cost and schedule impacts should the risk occur.

Risk Management Plan: The document describing how project risk management will be structured and performed on the project. It is contained in or is a subsidiary plan of the project management plan. The risk management plan can be informal and broadly framed, or formal and highly detailed, based on the needs of the project. Information in the risk management plan varies by application area and project size. The risk management plan is different from the risk register that contains the list of project risk, the results of risk analysis, and the risk responses. (PMBOK)

Risk Register: The risk register is one of the major documents of the project risk management process containing information on identified risks, threats, and opportunities that may impact qualitative and quantitative characteristics of a project. The risk register is created during the identification of project risks and then used throughout the whole life cycle of the project to manage the identified risks and risk responses.

State Environmental Policy Act (SEPA): Washington State's basic environmental charter, which gives agencies the tools to allow them to both consider and mitigate for environmental impacts of proposals. Specific direction for implementing SEPA is contained in the SEPA Rules, Chapter 197-11 of the Washington Administrative Code (WAC).

Substantial Completion: The point when construction is sufficiently complete in accordance with the contract documents and the construction or remodeling project is determined to be ready for its intended use and occupancy. The stage in the progress of the work where: the County has full and unrestricted use and benefit of the project for the purpose intended; all the systems and parts of the contract work are functional; utilities are connected and operate normally; only minor incidental work or correction or repair remains to complete all contract requirements; and the County has all occupancy permits and easement releases.(King County's construction contract General Terms and Conditions)

Sources

AIA	American Institute of Architects
CPMWG	Capital Project Management Work Group (a King County Executive Committee)

FTA	Federal Transportation Administration
PMBOK	Project Management Body of Knowledge (Project Management Institute)
FHWA	Federal Highways Administration
WAC	Washington Administrative Code

Acronyms

A/E	Architecture/engineering
ADA	Americans with Disabilities Act
BDCC	Business Development and Contract Compliance Office
BMP	Best management practice
CAP	Capital Appropriation Proposal
CARTS	Contracts and Apprenticeship Report Training System
CIP	Capital improvement projects
CO	Contracts officer
CPD	Capital Planning and Development (section)
CPR	Change proposal request
CPS	Critical path schedule
DAD	Destruction After Digitization (Certification)
D/B	Design/build
DNS	Determination of non-significance
DOP	Division 0 Preparation Form
DS	Determination of significance
EAC	Estimate at completion
EBS	Oracle's Enterprise Business System
EIS	Environmental impact statement
ERMS	Electronic Records Management System
F&FE	Furniture and fixed equipment
FBOD	Finance & Business Operations Division
FMD	Facilities Management Division
GC/CM	General contractor/construction manager
GF	General Fund
H/LS	Health or life/safety
Hazmat	Hazardous materials
JOC	Job order contract
KCC	King County Code
L&I	Washington State Labor and Industries
LCC	Life-cycle costs

LCCA	Life-cycle cost analysis
LEED	Leadership in Energy and Environmental Design
MACC	Maximum allowable construction cost
MDNS	Mitigated determination of non-significance
MMRF	Major Maintenance Reserve Fund
MPO	Major Projects Office
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
NTP	Notice to Proceed
O&M	Operations and maintenance (manual)
OPAS	Online Permit Assistance System
PCSS	Procurement and Contract Services Section
PM	Project manager
PMP	Project management plan
PO	Purchase order
PR	Project representative
PSB	Office of Performance, Strategy, and Budget
RCW	Revised Code of Washington
RES	Real Estate Services (section)
RFI	Request for Information
RFP	Request for proposal
RFS	Request for service (PCSS)
RPAM	Real Property Asset Management (Program)
SAOA	Subcontract/Apprentice Opportunities Availability Analysis Worksheet
SCS	Small contractors and suppliers
SEPA	State Environmental Policy Act
VE	Value engineering
WAC	Washington Administrative Code
WBS	Work breakdown structure
WO	Work order