



**Snohomish County  
Auditor's Office**  
*Performance Audit Division*

**CAPITAL PROJECT CONTRACT CLOSEOUT: BEST PRACTICES AND  
RECOMMENDATIONS**

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## **SUMMARY OF RESULTS**

By following best practices for capital project contract closeout, the Facilities Management Department could improve the efficiency, effectiveness, and economy of its closeout process. Snohomish County can expect the need for capital development projects to increase in the coming years as its population grows. To meet the needs of current and future citizens, the County has a responsibility to provide high quality facilities that will function as intended over an extended period of time. Furthermore, it has a responsibility to ensure that capital projects are completed on schedule and within budget. One area in which Snohomish County might focus its attention is on the capital project contract closeout practices utilized by the Facilities Management Department.

This study was prompted by the desire to achieve a successful closeout of the Campus Redevelopment Initiative (CRI) Project. The CRI Project is the largest capital improvement project ever undertaken by Snohomish County, with a total budget of \$170.6 million. The contract closeout process for the CRI Project will occur in phases, each of which could last 3 to 6 months and generate labor costs between \$107,000 and \$214,000.

We appreciate the assistance we received from the Facilities Management Department and Mortenson during the final and extremely busy phases of the CRI Project. Based on our evaluation, we have determined that the contract closeout process for the CRI Project is proceeding quickly and efficiently. Of course, there is always room for improvement in any organization, and the Facilities Management Department is no exception. This study provides an overview of the capital project contract closeout process currently employed by the Facilities Management Department and highlights ways in which the Department could make the process more efficient, more effective, and more economical.

## **GAS COMPLIANCE STATEMENT**

This study was performed in compliance with Generally Accepted Government Auditing Standards (GAS) for Performance Audits.

## INTRODUCTION

This study of best practices for capital project contract closeout was requested by the Director of the Facilities Management Department and approved by the Performance Audit Committee. The Department's request was prompted by the desire to achieve a successful closeout of the Campus Redevelopment Initiative (CRI) Project.

The CRI Project is the largest capital development project ever undertaken by Snohomish County, with a total budget of \$170.6 million.<sup>1</sup> The project includes the construction of:

- A new jail facility
- A new administration building
- An underground garage facility
- A public plaza

The project also incorporates select courthouse renovations and the construction of a County records building.

Snohomish County chose to utilize the GC/CM contracting method to deliver the CRI Project.<sup>2</sup> The Facilities Management Department is considered the "owner" of the project on behalf of Snohomish County. The M.A. Mortenson Company (Mortenson) is the prime contractor on the CRI Project, and NBBJ West Limited Partnership is the architect/engineering (A/E) firm.<sup>3</sup>

### Statutory Provisions

Several sections of the Revised Code of Washington (RCW) have substantial bearing on capital project contract closeout. See Appendix A for a summary of these sections and Appendix B for a more detailed list of closeout activities and deadlines established by the RCW.

### Objectives, Scope and Methodology

The objectives of this study are to:

- Identify best practices for capital project contract closeout

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<sup>1</sup> For more information on the CRI Project, see <http://www1.co.snohomish.wa.us/Departments/CRI/About/>.

<sup>2</sup> GC/CM stands for General Contractor/Construction Manager. The GC/CM contracting method (sometimes referred to as the CM/GC contracting method) allows a public entity to select a prime contractor to provide both construction management and general contracting services. See RCW 39.10.061 for a list of conditions under which the GC/CM method may be employed.

<sup>3</sup> The Snohomish County records building was constructed by a company other than Mortenson outside of the GC/CM process.

- Map current Facilities Management closeout practices
- Identify practices employed by comparable jurisdictions that might improve the efficiency, effectiveness, and economy of the contract closeout process utilized by the Facilities Management Department

Although this study focuses broadly on capital project closeout management, the Facilities Management Department requested that the Performance Audit Division address contractor payments, claims and liens, and retainage release as they relate to the closeout process. In order to achieve the study objectives, we employed the following methodology:

- Reviewed State and local laws pertaining to capital project contract closeout
- Reviewed Snohomish County documents applicable to contract closeout
- Reviewed relevant contract management and best practices documents
- Interviewed key Snohomish County Facilities Management staff, Mortenson staff, and Snohomish County Prosecuting Attorney staff
- Reviewed local and comparable jurisdiction capital project contract closeout practices
- Interviewed select City of Seattle staff and King County staff involved in capital project contract closeout

### **Acknowledgments**

We would like to thank the CRI Project team at the Facilities Management Department and the Senior Project Manager at Mortenson for providing us with valuable input for this study. We would also like to thank the contracting and construction management staff at King County and the City of Seattle for providing us with information on their capital project closeout procedures.

## **GENERAL DISCUSSION**

### **Importance of Speedy Contract Closeout**

Contract closeout formally ends the construction phase of a capital development project and ensures the fulfillment of contractual and legal obligations before final payment and retainage<sup>4</sup> are released to the contractor. It is important that the owner of a capital project complete essential closeout tasks as quickly as possible, because the administrative costs associated with the project continue to accrue during the closeout period. It is also important because the end of the contract closeout process marks the point at which the owner may utilize leftover funds that were allocated for project work.

### **Overview of the CRI Project Closeout Process**

The contract closeout process for the CRI Project will occur in phases, with each phase expected to take 3 to 6 months to complete, or perhaps longer if there are extenuating circumstances. According to an estimate provided by the Facilities Management Department, the direct labor costs and benefits for the Snohomish County employees involved in each closeout phase of the CRI Project closeout process could range between \$107,000 (if the process takes 3 months) and \$214,000 (if the process takes 6 months).

Generally, we found that the contract closeout process for the CRI Project is proceeding quickly and efficiently.<sup>5</sup> Based on interviews conducted for this study, we believe that this is largely due to the commitment of the CRI Project teams assembled by the Facilities Management Department and Mortenson, as well as the harmonious working relationship that exists between the parties.

## **BEST PRACTICES**

### **Contract Management Preceding Closeout**

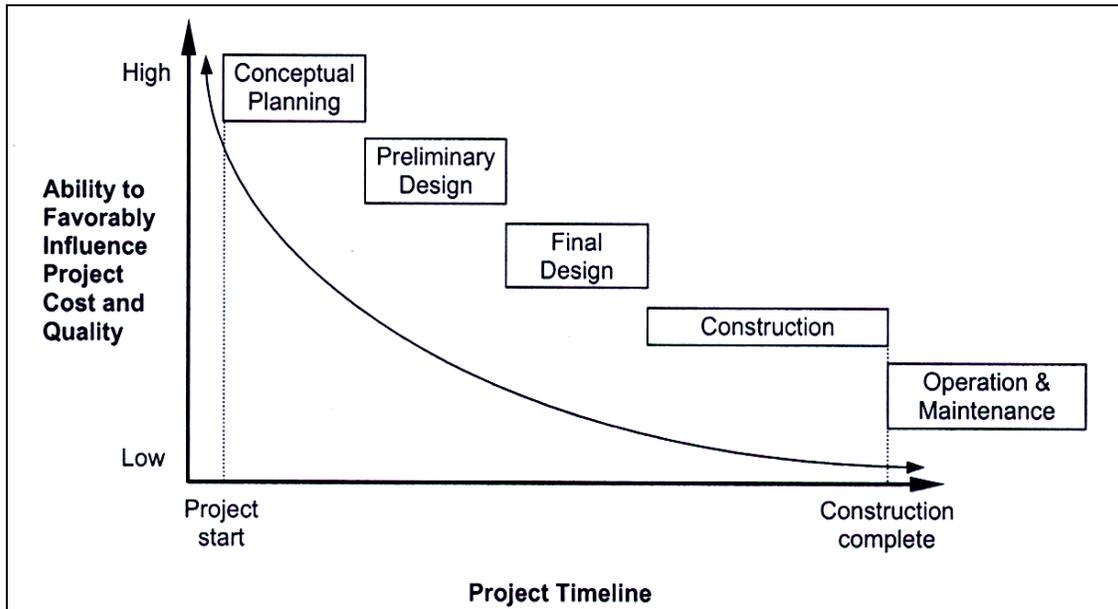
While it is important for the Facilities Management Department to focus attention on the contract closeout phase of capital projects, it should be noted that the ability to impact the cost and quality of a construction project is greatest during the planning and design phases of the project (Figure 1). This is particularly true for projects delivered under the GC/CM contracting method, which allows the

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<sup>4</sup> State law requires a public entity to retain up to 5% of the money earned by the contractor as a trust fund until completion and/or acceptance of the work. The money that is retained is often referred to as “retainage.”

<sup>5</sup> For a flowchart of the closeout process followed by the Facilities Management Department, see Appendix C.

owner to more easily change the scope and design of the work in order to meet the project budget.



**Figure 1: Ability to Affect Project Cost and Quality over the Project Timeline**  
(Original source: Construction Industry Institute, Publication 3-1, July 1986)

By the time a capital project enters the closeout phase, the owner has less ability to influence project cost and quality. Therefore, in addition to implementing best practices for contract closeout, the Facilities Management Department should consider the adoption of best practices for aspects of contract management that occur “upstream” of closeout. Some of these aspects include the following:

- Selection of the construction contracting method
- Selection of the prime contractor
- Development of contract language
- Allocation of project risk
- Selection of insurance coverage
- Management of project scope and change orders
- Establishment of document management standards and procedures
- Management of project costs
- Implementation of project reporting processes

### **Best Practices for Contract Closeout**

In compiling a list of best practices for capital project contract closeout, we included practices that were cited in two or more of the documents that we reviewed for the study. This resulted in a list of eight best practices, each of which is presented in Table 1 and discussed briefly in the section that follows.

<b>Table 1: Best Practices for Capital Project Contract Closeout</b>		
Closeout Best Practice	Main Objective	Reference
Use a formal procedures manual or checklist to guide contract closeout	Reduce the risk that staff will duplicate each other's work or overlook critical closeout tasks	<i>Best Practices for Contract Administration</i> , Office of Federal Procurement Policy
Conduct an evaluation of the general contractor	Document the contractor's work performance for future reference	<i>WA State Model Design and Construction Management Manual</i> , MRSC*
Keep an accurate written record of all aspects of the project from the conceptual phase through closeout	Provide a historical accounting that could help the owner defend itself against unwarranted claims	<i>Construction Performance Audit Guide</i> , City of Seattle
Require the contractor to provide a limited-time warranty that guarantees workmanship and materials	Ensure that the contractor will rectify defects in workmanship or materials for a specified period	<i>Oregon Public Contracting Coalition Guide to CM/GC Contracting</i> , Oregon PCC**
Provide training opportunities for operations personnel as part of contract closeout procedures	Familiarize operations personnel with essential components of the completed infrastructure	<i>Improving the City's Construction Closeout Process</i> , City of Seattle
Use post-project evaluations to record "lessons learned" and share outcomes with staff	Provide a database of knowledge to improve future capital construction projects	<i>Oregon Public Contracting Coalition Guide to CM/GC Contracting</i> , Oregon PCC
Obtain end user feedback through the use of customer satisfaction surveys	Document the contractor's work performance for future reference	<i>Best Practices for Contract Administration</i> , Office of Federal Procurement Policy
Inspect built infrastructure prior to the expiration of the contractor's warranty	Allow the owner to redress defects in workmanship without filing a lawsuit against the contractor	<i>Improving the City's Construction Closeout Process</i> , City of Seattle

\*MRSC: Municipal Research and Services Center of Washington

\*\*Oregon PCC: Oregon Public Contracting Coalition

**Best Practice 1:** *Use a formal procedures manual or checklist to guide contract closeout.*<sup>6</sup>

In its publication *Best Practices for Contract Administration*, the Office of Federal Procurement Policy (OFPP) states that Federal agencies should always use a checklist during the contract closeout process. Audits conducted by other jurisdictions also recommend the use of checklists, ideally ones that clearly state which department and staff member is responsible for each closeout activity. Furthermore, these audits strongly urge owners of capital projects to develop formal procedures manuals to guide the contract closeout process. By utilizing such manuals, public agencies can reduce the risk that staff will duplicate each

<sup>6</sup> For an example of a closeout checklist, see Appendix D: University of Washington Project Closeout Checklist. For an example of formal closeout procedures, see Appendix E: City of Seattle Construction Closeout Activities.

other's work or overlook critical closeout tasks. In addition, they can ensure that closeout tasks are completed consistently across a department and over time.

**Best Practice 2:** *Conduct an evaluation of the general contractor.*<sup>7</sup>

The *Washington State Model Design and Construction Management Manual* suggests that contractor evaluation programs can help public agencies improve their construction management skills. A 2005 City of Seattle audit places even greater importance on contractor evaluation, describing it as an essential closeout activity. Generally, contractor evaluations are employed to document contractors' work performance for future reference. When performed consistently on all reasonably sized capital projects, they may serve as a basis for establishing whether a particular contractor is responsible when future bids are evaluated.

**Best Practice 3:** *Keep an accurate written record of all aspects of the project from the conceptual phase through closeout.*

According to the City of Seattle's *Construction Performance Audit Guide*, project teams must establish reliable document management standards and procedures in order to provide complete written records of capital development projects. It is essential for a project team to maintain an accurate record of a capital project from the conceptual phase through closeout because it:

- Enhances the project team's internal and external lines of communication
- Minimizes risk to the owner by documenting owner directives and decision-related correspondence relative to changes in scope, schedule, or budget
- Allows verification that the owner has paid reasonable amounts for changes to the scope, schedule, or budget
- Provides a historical accounting of how and why changes occurred and helps the owner defend itself against unwarranted construction claims<sup>8</sup> from the prime contractor or subcontractors

**Best Practice 4:** *Require the contractor to provide a limited-time warranty that guarantees workmanship and materials.*

The *Oregon Public Contracting Coalition Guide to CM/GC Contracting* states that at the completion of a capital construction project, the contractor should provide the owner with a warranty which guarantees that the contracting firm will rectify defects in workmanship and materials for a specified period. Typically, a 1-year

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<sup>7</sup> See Appendices F and G for examples of contractor performance evaluation forms.

<sup>8</sup> For example, a contractor or subcontractor may file a claim against the owner in an attempt to be reimbursed for performing "additional" work that, in reality, fell within the scope of the original contract.

warranty from the date of Substantial Completion<sup>9</sup> is used. This obligates the contractor to correct work that is found to be defective or not in compliance with the contract documents through the first year of occupancy.

**Best Practice 5:** *Provide training opportunities for operations personnel as part of contract closeout procedures.*

According to a 2005 City of Seattle audit, operations personnel can benefit from a contract closeout process that includes training opportunities for operating and maintaining the completed infrastructure. This is particularly true for capital projects that incorporate new or unfamiliar technology.

**Best Practice 6:** *Use post-project evaluations to record "lessons learned" and share outcomes with staff.<sup>10</sup>*

The *Oregon Public Contracting Coalition Guide to CM/GC Contracting* states that following the completion of a capital development project, the owner, A/E, and prime contractor should record "lessons learned" on a standard post-project evaluation form. A 2005 City of Seattle audit, which describes post-project evaluation as an essential closeout activity, states that a division's construction management model should include a formal venue for construction and project management staff to share lessons learned with their colleagues. Furthermore, the *Washington State Model Design and Construction Management Manual* suggests that public agencies allow contractors to evaluate their contract management skills.<sup>11</sup> Taken as a whole, the lessons documented through post-project evaluation serve as a database of knowledge that can be used to improve future capital construction projects and provide a reference for inquiries about completed projects.

**Best Practice 7:** *Obtain end user feedback through the use of customer satisfaction surveys.*

According to the OFPP's *Best Practices for Contract Administration*, good contract administration assures that the end users are satisfied with the product. The OFPP suggests that customer satisfaction surveys help improve contractor performance because the feedback can be used to notify the contractor when specified aspects of the contract are not being met. In addition, contracting officials can use the surveys as a source of past performance information on subsequent contract awards. A 2002 City of New York audit recommends that customer satisfaction surveys be distributed to end users immediately or soon

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<sup>9</sup> The date of Substantial Completion is the date on which the owner has full and unrestricted use of the facility, both from the operational and safety standpoint, and only minor incidental work, replacement of temporary substitute facilities, or correction or repair remains for the completion of the contract.

<sup>10</sup> See Appendix H: Oregon PCC Suggested Form for Recording Lessons Learned.

<sup>11</sup> See Appendix I for the evaluation form provided to WSDOT contractors.

after a project's Substantial Completion. It further recommends that the project owner follow up on and work to resolve any serious problems cited in the surveys in a timely manner.

**Best Practice 8:** *Inspect built infrastructure prior to the expiration of the contractor's warranty.*

A 2005 City of Seattle audit states that a completed construction project should be inspected at least 90 days before the contractor's warranty expires, and that project engineers or project managers with knowledge of the technical aspects of the infrastructure should assist with the inspection. The reasoning here is that if a deficiency or defect can be identified during the warranty period, the owner will benefit more by filing a claim under the warranty than by initiating a lawsuit under Chapter 4.16 RCW.<sup>12</sup> Warranty inspections incur costs, but litigation can incur similar or greater costs, result in repair delays, and create animosity.

### **Implementation of Best Practices by Facilities Management**

The Facilities Management Department is currently implementing six of the eight best practices listed above. In sum, the Department is:

- Fully implementing Best Practices 4 and 5
- Partially implementing Best Practices 1, 6, and 8
- Implementing Best Practice 3 to an undetermined extent
- Not implementing Best Practices 2 and 7

While this may not cause any significant problems during the closeout process for the CRI Project, the Department may be able to reduce risk to the County now and for future capital projects by implementing all of the best practices to the greatest extent possible. Specific focus issues and recommendations related to these best practices will be discussed in the next section.

## **FOCUS ISSUES AND RECOMMENDATIONS**

### **General Discussion Topics**

While researching best practices for capital project contract closeout, we were able to compile general information related to closeout activities, the retainage release process, and Substantial Completion.

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<sup>12</sup> Sections 4.16.300 and 4.16.310 of the Revised Code of Washington (RCW) grant developers the right to sue construction contractors to repair defects within six years of the Substantial Completion date.

## Essential Contract Closeout Activities

According to a 2005 City of Seattle audit, an effective contract closeout process must incorporate fourteen essential activities. These activities are presented in Table 2 below.<sup>13</sup>

<b>Table 2: Essential Activities for Capital Project Contract Closeout</b>	
Closeout Activity	Included in FM* Closeout Process?
Issue a Notice of Substantial Completion and schedule a final inspection	Yes
Hold final inspection and issue a punchlist of outstanding items	Yes
Verify completion of punchlist work and issue a Notice of Final Completion	Yes
Conduct an evaluation of the general contractor	No
Calculate damages and other deductions and adjust final payment	Yes
Obtain construction warranties	Yes
Create or obtain operation and maintenance manuals	Yes
Obtain and file as-built final drawings	Yes
Resolve environmental and property permitting issues	Yes
Conduct post-project evaluation	Yes
Provide training to end user of project	Yes
Obtain necessary releases and certificates from State agencies	Yes
Resolve outstanding legal claims	Yes
Collect the contractor's final payroll data	Yes

\*FM: The Facilities Management Department

As the table above demonstrates, the contract closeout process currently being followed by the Facilities Management Department includes all but one of the essential closeout activities.

## Sequencing of Closeout Activities

In conducting this study, we found no evidence that the Facilities Management Department can save time or money in the contract closeout process by altering the sequence of closeout activities.

## Streamlining the Retainage Release Process

We concluded that the Facilities Management Department can do very little to streamline the retainage release process. The amount of time necessary to complete the process is largely dictated by Chapter 60.28 RCW, which allows laborers, suppliers, or State agencies to file a notice of lien against retainage

<sup>13</sup> Table 2 was adapted from Exhibit 1 in Appendix 1 of *Improving the City's Construction Closeout Process*. See [http://www.ci.seattle.wa.us/audit/report\\_files/2005-02\\_Drainage\\_Project\\_Closeout\\_Review.pdf](http://www.ci.seattle.wa.us/audit/report_files/2005-02_Drainage_Project_Closeout_Review.pdf).

within 45 days of Final Acceptance. It is also dependent on the speed with which State agencies provide the Department with necessary certificates and releases.

One suggestion for streamlining the retainage release process was given by a contracting official with the City of Seattle. She recommended that the Facilities Management Department include a provision in future GC/CM contracts that makes prime contractors responsible for verifying the Labor and Industries (L&I) premium status for each subcontractor at an appropriate time before retainage release. By implementing this recommendation, the Department would be able to reduce the amount of time that accounting personnel currently spend to verify the L&I premium status of every subcontractor that performs work on a capital development project.

### Substantial Completion

The achievement of Substantial Completion is a critical milestone in capital project contract closeout because it:

- Halts the assessment of liquidated damages<sup>14</sup>
- Suspends the accrual of contract days until final inspection takes place and work on the punchlist begins
- Gives the owner full and unrestricted use and benefit of the facility
- Transfers responsibility for such items as heat, utilities, security, and damage to the owner
- Triggers the start of warranty and maintenance contract periods

Due in part to the complexity of the CRI Project, the Facilities Management Department did not include detailed expectations for Substantial Completion in the CRI contract documents. Instead, the Department and Mortenson agreed to allow the definition of Substantial Completion for each project phase to evolve over time, mostly in order to accommodate County-initiated changes to the construction schedule. As each phase approached completion, Mortenson, NBBJ, and the Facilities Management Department collaborated to create an itemized checklist for Substantial Completion of that phase. Mortenson then asked the Department to verify that the checklist accurately reflected its expectations for Substantial Completion.

### **Focus Issues**

Focus Issues are areas in which we determined that opportunities exist for the Facilities Management Department to take actions that could improve efficiency,

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<sup>14</sup> For example, under the terms of the CRI contract, Mortenson must pay liquidated damages to the Facilities Management Department at a rate of \$2,900 for each calendar day that the work on the new administration building exceeds the date of Substantial Completion established in the contract documents.

effectiveness, and economy in the contract closeout process for ongoing and/or future Snohomish County capital projects.

#### Focus Issue 1

*The Facilities Management Department would benefit from utilizing a formal procedures manual and checklist to guide capital project contract closeout.*

Best practices recommend the use of a formal procedures manual or checklist to guide capital project contract closeout. To date, the Facilities Management Department has not produced either, although it has expressed its intention to develop a closeout checklist based on samples provided. Because the contract closeout process is complex, a lack of formal, specific written guidance increases the likelihood that staff members will duplicate each other's work or overlook critical closeout tasks. This could result in greater administrative costs and unnecessary delays in attaining Final Completion for capital projects.

#### Recommendation 1

The Facilities Management Department should write and distribute a formal procedures manual for managing capital project contract closeout. This manual should include a comprehensive checklist of documents and activities essential to the closeout process. Closeout procedures should incorporate critical tasks not performed by the Facilities Management Department, and should clearly designate the staff responsible for each closeout activity.

#### Focus Issue 2

*The Facilities Management Department would benefit from the use of contractor evaluations following the completion of capital construction projects.*

According to best practices, contractor evaluation programs can help public agencies improve their construction management skills by documenting contractors' work performance for future reference. The Facilities Management Department has not established such a program for its capital development projects.<sup>15</sup> As a result, the Department is losing opportunities to provide useful information to future capital project managers.

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<sup>15</sup> It should be noted that in the case of the CRI Project, the prime contractor has regularly sent Performance Evaluation Surveys to the County Project Managers in order to obtain feedback on issues related to design services, safety, quality, project management, schedule performance, closeout, and warranty period activities. The evaluation survey was developed by Mortenson for its own monitoring purposes; it is not required under the terms of the CRI contract.

## Recommendation 2

The Facilities Management Department should consider performing contractor evaluations upon completion of capital construction projects, or annually in the case of long-term contracts. To help guide these evaluations, the Department should either develop a contractor evaluation form or adopt an evaluation form currently utilized by a sizeable public entity such as the Washington State Department of Transportation (WSDOT) or the City of Seattle.

### Focus Issue 3

*The Facilities Management Department has not developed plans to conduct a formal post-project evaluation; however, the Department intends to hold post-project meetings and produce a report that describes how the CRI Project fared under the State's relatively new GC/CM contracting authority.*

Best practices assert that upon completion of a capital project, the owner, A/E, and prime contractor should record "lessons learned" and other information on a standard post-project evaluation form. They also recommend that evaluation outcomes be shared with all construction and project management staff. Currently, the Facilities Management Department does not plan to conduct a formal post-project evaluation of the CRI Project. If the Department ultimately decides to forgo this practice, it will lose an opportunity to generate useful information that could help improve future capital construction projects.

## Recommendation 3

The Facilities Management Department should conduct post-project evaluations for all capital development projects. To guide the evaluations, the Department should consider developing or adopting a standard form that includes:

- Estimated vs. actual costs
- Scope changes
- Number of change orders issued
- Teamwork and trust
- Quality of completed project
- Major challenges
- Success stories

Post-project evaluations should include input from the prime contractor as well as the A/E. Furthermore, as part of the evaluation process, the contractor should be given an opportunity to assess the Department's contract management process. Finally, the Facilities Management Department should share the outcomes of the evaluation with all construction and project management staff and possibly Public

Works. This could be accomplished by posting lessons learned and other pertinent information on an internal web page that personnel can refer to for future capital development projects.

#### Focus Issue 4

*The Facilities Management Department could benefit from using customer satisfaction surveys to collect end user feedback on the CRI Project.*

Best practices suggest that feedback collected via customer satisfaction surveys can be used to notify the contractor when specified aspects of the contract are not being met and can serve as a source of past performance information on subsequent contract awards. At this time, the Facilities Management Department does not plan to distribute customer satisfaction surveys to end users during or after CRI Project closeout. As a result, the Department may lose an opportunity to improve contractor performance and provide useful information to future capital project managers.

#### Recommendation 4

The Facilities Management Department should create customer satisfaction surveys and distribute them to appropriate department managers and a limited sample of other end users immediately or soon after the Substantial Completion of every capital project. The Department should work to resolve any serious problems revealed by the surveys in a timely manner.

#### Focus Issue 5

*The Facilities Management Department has not developed a plan for carrying out comprehensive warranty inspections; however, the Department will conduct seasonal changeover and maintenance-related inspections of completed CRI Project facilities.*

According to best practices, a completed capital construction project should be inspected at least 90 days before the contractor's warranty expires. Currently, the Facilities Management Department cites unnecessary additional cost as the reason it will not conduct warranty inspections for the CRI Project. A lack of comprehensive warranty inspections for capital projects increases the likelihood that any significant defect that is overlooked during construction and closeout will not be identified until after the contractor's warranty expires. It also reduces the Department's ability to address litigation and its associated costs and delays.

### Recommendation 5

Since it is unclear whether seasonal and maintenance-related inspections will be sufficient to quickly identify deficiencies or defects that were not evident during project construction and closeout, the Facilities Management Department should plan to conduct at least one comprehensive warranty inspection for each CRI Project facility 90 days before the end of the warranty period. To mitigate costs, project engineers or project managers with knowledge of the technical aspects of the infrastructure should assist with the inspections.

### Focus Issue 6

*Although the CRI contract documents provide general guidelines for Substantial Completion, the Facilities Management Department could have reduced risk to the County by more clearly communicating the Department's expectations for Substantial Completion of the CRI Project phases.*

The achievement of Substantial Completion is a critical milestone in capital project contract closeout. Miscommunications and misunderstandings of the Department's expectations for Substantial Completion increase the likelihood of contractor disputes, claims, and delays in the contract closeout process. This, in turn, could result in increased costs to the County.

### Recommendation 6

For future capital construction projects, the Facilities Management Department should more clearly communicate its expectations for Substantial Completion by improving contract language and by providing contractors with deliverables several months prior to the specified Substantial Completion dates.<sup>16</sup>

## **TOPICS FOR FURTHER STUDY**

Because some topics relevant to capital project contract closeout fell outside the scope of this study, we recommend that the following be evaluated further:

- Design-build contracting
- Buyout savings as a contractor incentive
- Building commissioning
- Project documentation

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<sup>16</sup> See Appendix J: University of Florida Substantial Completion Deliverables.

## **Design-Build Contracting**

The benefits of utilizing the design-build contracting method to deliver capital development projects should be assessed. Design-build is an alternative contracting method that allows a public entity to select a prime contractor to both design and construct a project. Many variations of this method exist, but all provide the owner with a single point of responsibility: the design-build firm.

According to a 2005 report prepared by the State of California's Legislative Analyst's Office (LAO), experience with design-build by State and local agencies in California as well as the Federal government has generally been positive; however, the report cautions that California's experience has been relatively recent and limited.<sup>17</sup> The report also points out that although the design-build contracting method has a number of potential advantages – including faster product delivery and fewer claims – it also has several potential disadvantages, such as reduced assurance of quality control and limited access for small contractors.

It has been suggested that, in the future, Snohomish County should consider using the design-build contracting method to deliver some capital projects.<sup>18</sup> It is certainly possible that the closeout process would be more efficient, effective, or economical under the design-build contracting method. Nevertheless, given the County's inexperience with design-build, the County should identify and weigh the advantages and disadvantages of the method before deciding to employ it.

## **Buyout Savings as a Contractor Incentive**

The use of buyout savings as a contractor incentive in GC/CM and design-build contracts should be evaluated. Buyout savings occur when the subcontract bid packages for a capital project total less than the negotiated maximum allowable contract cost (MACC). At the end of the project, these savings either accrue to the owner or are shared with the prime contractor.

Chapter 39.10 RCW allows public entities to include an incentive clause in any GC/CM contract for savings of either time or cost (or both) from that originally negotiated.<sup>19</sup> Furthermore, it allows public bodies which utilize GC/CM or design-build contracting methods to “provide incentive payments to contractors for early completion, cost savings, or other goals if such payments are identified in the request for proposals.”<sup>20</sup>

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<sup>17</sup> See [http://www.lao.ca.gov/2005/design\\_build/design\\_build\\_020305.pdf](http://www.lao.ca.gov/2005/design_build/design_build_020305.pdf).

<sup>18</sup> Currently, RCW 39.10.051 allows counties with populations greater than 450,000 to use the design-build contracting method for capital projects under certain conditions.

<sup>19</sup> RCW 39.10.061(8)

<sup>20</sup> RCW 39.10.070(2)

In the case of the CRI Project, the contract documents specify that all positive buyout savings and other project savings accrue to Snohomish County upon completion of the project. It has been suggested that for future capital projects the County should give serious consideration to sharing buyout savings with the prime contractor. The reasoning here is that a stake in buyout savings gives the contractor an incentive to increase efficiency and reduce costs. Unfortunately, in conducting this study, we found no evidence that the sharing of buyout savings actually results in a lower price at project completion.

## **Building Commissioning**

The benefits of performing building commissioning for all capital construction projects should be assessed. Commissioning is a systematic process used to ensure that building systems and their interconnections are installed, functionally tested, and capable of being operated and maintained to perform according to design intent and the needs of owners and occupants. Ideally, commissioning begins in the pre-design phase of a project and continues through construction and the warranty period.<sup>21</sup>

According to the U.S. Department of Energy, some degree of commissioning is worthwhile for almost every project, but the importance of commissioning grows as facilities become more complex or put greater demands on mechanical and electrical systems. In new construction, commissioning can help owners deliver projects on schedule and within budget without sacrificing quality or performance. In addition, it can lower project costs by preventing unnecessary redesigns and reducing contractor requests for information and change orders.<sup>22</sup>

The CRI Project contract specifically requires building commissioning, including those activities necessary to obtain a Certificate of Occupancy from the City of Everett. It has been suggested that Snohomish County should, in the future, require commissioning for all of its capital development projects. However, it is unclear whether a commissioning requirement would result in cost savings to the County. In addition, it is unclear what degree of commissioning is most likely to produce the greatest benefits.

## **Project Documentation**

The Facilities Management Department should assess the potential risk reduction associated with obtaining and filing additional written documentation related to capital projects. According to best practices, it is essential for the owner of a capital project to maintain an accurate record of a project from onset to completion. By keeping less-than-complete records of capital projects, the

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<sup>21</sup> See the *New Construction Commissioning Handbook*, posted by the Oregon Office of Energy at <http://www.energy.state.or.us/bus/comm/Newcx.pdf>.

<sup>22</sup> See <http://www.eere.energy.gov/femp/pdfs/29267-0.pdf>.

owner increases the risk that it will be unable to adequately defend itself against unwarranted construction claims from contractors or subcontractors. Currently, it is not known whether the Facilities Management Department maintains sufficient documentation to defend itself against unwarranted construction claims. The Department should therefore consider performing an internal review of its document management processes.

**RESPONSES TO REPORT**

**Snohomish County**   
Facilities Management Department

**M e m o r a n d u m**

✓ To: Kymber Waltmunson  
Performance Auditor  
From: Larry Van Horn *L.V.H.*  
Facilities Management Director  
Re: Capital Project Contract Closeout Practices  
Date: May 5, 2005

On behalf of the entire Facilities Management Department and the members of the Campus Redevelopment Initiative design and construction team I wish to thank you for providing us with the helpful information contained in your Best Practices and Recommendations report dated April 20, 2005.

As you know this has been a very important project for the future vitality of the county's operations. At the same time it has been an extremely sophisticated and technical capital project located directly in the heart of the county's day to day operations. It is nice to read that you report that the "contract closeout process for the CRI Project is proceeding quickly and efficiently".

The report includes several helpful suggestions that I will be acting on over the next few weeks and will certainly incorporate into future capital projects including:

- Best Practice 1: Use a formal procedures manual or checklist to guide contract closeout.
- Best Practice 2: Conduct an evaluation of the general contractor.
- Best Practice 7: Obtain end user feedback through the use of customer satisfaction surveys.

Thank you for working with me in the development of these sound contract closeout procedures for projects and contracts. The information contained in the report and appendices will be beneficial as we move forward in developing these areas.

Cc: Gary Weikel, Deputy Executive  
Tom Fitzpatrick, Executive Director

## **Snohomish County Executive's Office**

Thank you for your hard work on reviewing contract closeout procedures for projects and contracts being performed for the County under the direction of Facilities Management. The report contains some helpful suggestions which we hope to implement in regard to the CRI Project, such as developing and following a close out checklist. We especially appreciate receiving some proposed models which can be used in that regard. The suggestion of follow up in regard to customer or "end user" satisfaction with the completed product is an intriguing idea about how to measure ultimate satisfaction instead of just relying upon anecdotal information. The report also contains some helpful ideas about contractor performance and owner satisfaction, although the utility of the information is somewhat limited in the public sector, since bidding requirements preclude use of such information in most situations involving future projects.

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