



2019-21 Biennium

# PREDESIGN MANUAL

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## SECTION A

# ABOUT THE PREDESIGN

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### 1. Purpose of the capital project predesign

The Office of Financial Management (OFM) is required by RCW [43.88.110\(5\)](#) to institute procedures for reviewing capital projects proposed by state agencies. A predesign is one step in a comprehensive review and funding process.

The intent of a predesign is to explore alternatives for proposed capital projects. The predesign should assess which alternative best addresses the problem, opportunity or program requirement and at what cost. Decision makers in the Governor's Office, OFM and the Legislature use this information to determine whether the project should proceed toward design and construction.

### 2. Predesign basics

It is highly recommended that agencies schedule an initial scoping meeting with their OFM capital budget [analyst](#) and predesign consultant (if selected) to confirm the predesign requirements and expectations for the project. To ensure that major construction projects are carried out in accordance with legislative and executive intent, design and construction appropriations may not be expended or encumbered until OFM has reviewed and approved the agency's predesign.

Predesigns are required for all capital projects:

- Valued over \$5 million (\$10 million for higher education), or
- Valued between \$1 million and \$5 million (\$2 million to \$10 million for higher education) selected by the Legislature or OFM because they are particularly time sensitive, have high risk or are of particular interest to decision makers.

**Note:** For projects under \$5 million that involve: (a) housing of new state programs, (b) a major expansion of existing state programs or (c) relocation of state agency programs, agencies must submit a modified predesign to OFM's facilities oversight [program](#). This includes the consolidation of multiple state agency tenants into one facility, as directed by RCW [43.82.035](#). Information about the modified predesign is available on OFM's facilities [webpage](#).

If an appropriation for a predesign is included in the budget, the predesign scope must align with any associated budget provisos. Agencies undertaking a predesign without an appropriation should coordinate with their capital budget [analyst](#).

Depending on the scope of a proposed project, not all predesign content in this manual may be required (for example, when a predesign appropriation is limited in scope or identifies a specific building or site). Contact your capital budget [analyst](#) for approval early in the predesign process if one or more sections of the predesign will not add value for decision makers.

### 3. Predesign submittal

For projects to qualify for design consideration in the capital budget, submit the predesign no later than July 1 of even-numbered years, as required in the capital budget [instructions](#). If predesign and

design are funded in the same biennium, OFM will not release the allotment for design of the project until the predesign is approved (RCW [43.88.110](#)).

Send two hard copies and three USBs with an electronic version to your capital budget [analyst](#) at the address listed below. OFM staff will distribute the predesign to staff of the House Capital Budget Committee and the Senate Ways and Means Committee.

Office of Financial Management  
Capital Budget  
P.O. Box 43113  
Olympia, WA 98504-3113

#### 4. Predesign review and approval

After receiving a predesign, OFM will review the document to ensure that projects are carried out in accordance with this predesign manual and the direction provided in the capital budget. OFM may require changes or additional information before approval. Agencies should make an appropriate allowance in their consultant contracts for the time involved in the OFM review and approval process. Approval of the completed predesign does not guarantee additional appropriation for design or construction.

To facilitate the approval process, we recommend agencies meet with OFM and legislative staff to present a high-level summary of their predesign and to answer any preliminary questions. Agencies should contact their capital budget [analyst](#) to schedule this meeting.



## SECTION B

# CONTENTS OF A PREDESIGN

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A predesign should include the content detailed in this section. Contact a capital budget [analyst](#) early in the predesign process if specific content detailed below will not aid decision makers in assessing which alternative best addresses the problem, opportunity or program requirement. OFM will approve limited scope predesigns on a case-by-case basis.

### 1. Executive summary

Summarize the problem, opportunity or program requirements; alternatives considered; preferred alternative; and why that alternative was selected. Include basic project cost information.

### 2. Problem statement

- A. Identify the problem, opportunity or program requirement addressed by the project and how it will be accomplished.
- B. Identify and explain the statutory or other requirements that drive the project's operational programs and how these affect the need for space, location or physical accommodations. Include anticipated caseload projections (growth or decline) and assumptions, if applicable.
- C. Explain the connection between the agency's mission, goals and objectives; statutory requirements; and the problem, opportunity or program requirement.
- D. Describe in general terms what is needed to solve the problem.
- E. Include any relevant history of the project, including previous predesigns or budget funding requests that did not go forward to design or construction.

### 3. Analysis of alternatives (including the preferred alternative)

- A. Describe all alternatives that were considered, including the preferred alternative. Alternatives may include collocation, renovation, leased space, purchase, new construction or other options explored. Include the following:
  - i. A no action alternative. Describe the programmatic outcome of not addressing the problem or opportunity. Do the problems which were driving the project still exist? Are the necessary technologies available to meet the project objectives within the proposed project funding and timeline?
  - ii. The advantages and disadvantages of each alternative. Include a high-level summary table with your analysis that compares the alternatives, including the anticipated cost for each alternative.
  - iii. Cost estimates for each alternative.
    - a) Provide enough information so decision makers have a general understanding of the project costs.
    - b) To compare the life cycle cost of different alternatives, use OFM's Life Cycle Cost [Model](#) (RCW [39.35B.050](#)). Include the completed life cycle cost summary as an appendix. OFM's Life Cycle Cost Model is the only authorized tool for the completion of this section because it provides a standard methodology and set of assumptions for all capital projects.

**Note: Do not confuse OFM’s Life Cycle Cost Model with two other life cycle cost analysis tools maintained by the state. Although these tools are not required for predesign, they are required early in the design phase. Consider incorporating these tools in predesigns where the focus of the project is the replacement of building systems.**

- 1) OFM’s Life Cycle Cost Tool (LCCT) is used for the design of facilities with an area of 5,000 square feet or greater (Executive Order [13-03](#)) to demonstrate how the building design contributes to energy efficiency and conservation. The tool, instructions and training webinars are available at OFM’s forms [webpage](#).
  - 2) The DES Energy Program’s Energy Life Cycle Cost [Analysis](#) (ELCCA) is required for projects over 25,000 square feet (RCW [39.35.050](#)). This tool evaluates energy-using systems such as heating, cooling, lighting, building envelope and domestic hot water.
- iv. Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.

#### 4. Detailed analysis of preferred alternative

- A. Describe the preferred project alternative in detail, including the following:
- i. Nature of space. How much of the proposed space will be used for what purpose (e.g., office, lab, conference, classroom, etc.).
  - ii. Occupancy numbers.
  - iii. Basic configuration of the building, including square footage and the number of floors.
  - iv. Space needs assessment. Compare the project space needs to currently recognized space planning guidelines and identify the guidelines used. These may include
    - a) OFM’s Statewide Space Use [Guidelines](#).
    - b) For four-year higher education facilities, Facilities Evaluation and Planning [Guide](#).
    - c) For community and technical colleges, the Facilities Coding [Manual](#) for space use coding, the Capital Analysis [Model](#) (Chapter 6, appendix H), and Policy Manual and [Guidelines](#) on Utilization of Classrooms and Labs.
- B. Site analysis
- i. Identify site studies that are completed or underway (provide upon request).
  - ii. Provide the following:
    - a) Location.
    - b) Building footprint and its relationship to adjacent facilities and site features. Provide an aerial view, sketches of the building site and basic floor plans.
    - c) Stormwater requirements.
    - d) Ownership of the site and any acquisition issues.
    - e) Easements and setback requirements.
    - f) Potential issues with the surrounding neighborhood, during construction and ongoing once operational.
    - g) Utility extension or relocation issues.
    - h) Potential environmental impacts:
      - (i) Green space and natural amenities that need to be preserved or accorded special treatment.
      - (ii) Required or potential site mitigation, including history of possible contamination.
      - (iii) Wetlands and shoreline impacts, including a wetlands delineation and the need to fill wetlands.
      - (iv) Shoreline jurisdiction issues.

- (v) Requirements for the State Environmental Policy Act, National Environmental Policy Act or an environmental impact statement.
  - (vi) Other regulatory requirements, such as hydraulic project approval and U.S. Army Corps of Engineers permits.
  - i) Parking and access issues, including improvements required by local ordinances, local road impacts and parking demand.
  - j) Impact on surroundings and existing development with construction lay-down areas and construction phasing.
- C. Identify whether the proposed project is consistent with applicable long-term plans (such as the Thurston County and Capitol campus master plans and agency or area master plans) as required by RCW [43.88.110](#).
- D. Consistency with other laws and regulations. Provide documentation that indicates the preferred option is consistent with the following:
- i. High-performance public buildings (Chapter [39.35D](#) RCW). All state-funded buildings 5,000 square feet or more must be designed, constructed and certified to the LEED™ silver standard at a minimum.
  - ii. The state efficiency and environmental performance executive order requires some newly constructed state-owned (including lease purchase) buildings be designed as net zero energy or net zero energy capable, and include consideration of net embodied carbon. In situations where a cost-effective, net zero energy building is required and not yet technically feasible, buildings must be designed to exceed the current state building code for energy efficiency to the greatest extent possible (Executive Order [18-01](#)).
  - iii. Greenhouse gas emissions reduction policy (RCW [70.235.070](#)), including consideration of:
    - a) The state's limits on the emissions of greenhouse gases established in RCW [70.235.020](#);
    - b) Statewide goals to reduce annual per capita vehicle miles traveled by 2050, in accordance with RCW [47.01.440](#), except that the agency shall consider whether project locations in rural counties, as defined in RCW [43.160.020](#), will maximize the reduction of vehicle miles traveled; and
    - c) Applicable federal emissions reduction requirements.
  - iv. Archeological and cultural resources (Executive Order [05-05](#) and [Section 106](#) of the National Historic Preservation Act of 1966). Consult with the Department of Archaeology and Historic Preservation (DAHP), the Governor's Office of Indian Affairs (GOIA) and affected tribes, as appropriate. A letter from DAHP on the impact of potential sites on cultural resources must be included as an appendix.
  - v. Americans with Disabilities Act implementation (Executive Order [96-04](#)).
  - vi. Compliance with planning under Chapter [36.70A](#) RCW, as required by RCW [43.88.0301](#).
  - vii. Information required by RCW [43.88.0301](#)(1).
  - viii. Other codes or regulations.
- E. Identify problems that require further study (for example, environmental contaminants, traffic studies or IT or other infrastructure challenges). Evaluate identified problems to establish probable costs and risk.
- F. Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.
- G. Identify planned technology infrastructure and other related IT investments that affect the building plans. [Contact](#) the Office of the Chief Information Officer (OCIO) to coordinate IT requirements. Some projects may require oversight by OCIO and the Technology Services Board. See RCW [43.88.092](#) and [43.105.205](#) (for higher education).



- H. Describe planned building commissioning to ensure systems function as designed.
- I. Describe any future phases, plans or other facilities that will affect this project.
- J. Project management and delivery method alternatives considered
  - i. Identify the proposed project delivery method, such as design-build, phased construction, general contractor/construction manager (GC/CM) or conventional design/bid/build. Justify the proposed method of project delivery.
    - (a) For design-build, link the justification to RCW [39.10.300](#) for uses, RCW [39.10.320](#) requirements and RCW [39.10.330](#) for process.
    - (b) For GC/CM, link the justification to the requirements in RCW [39.10.340](#) for uses, RCW [39.10.350](#) for requirements and RCW [39.10.360](#) for process.
  - ii. Describe how the project will be managed within the agency:
    - a) Identify roles and responsibilities for the project.
    - b) Identify in-house staffing requirements for the proposed project.
    - c) Identify consultant services, DES resources or additional staff needed to manage the project.
- K. Schedule
  - i. Provide a high-level milestone schedule for the project, including key dates for budget approval, design, bid, acquisition, construction, equipment installation, testing, occupancy and full operation.
  - ii. Incorporate value-engineering analysis and constructability review into the project schedule, as required by RCW [43.88.110](#)(5)(c).
  - iii. Describe factors that may delay the project schedule, such as an environmentally sensitive location, possible presence of archaeological or historical assets, or possible contamination of the site or buildings undergoing renovation.
  - iv. Describe the permitting or local government ordinances or neighborhood issues (such as location or parking compatibility) that could affect the schedule.
  - v. Identify when the local jurisdiction will be contacted and whether community stakeholder meetings are part of the process.

## 5. Project budget analysis for the preferred alternative

- A. Cost estimate. Provide the following:
  - i. Major assumptions used in preparing the cost estimate
  - ii. Summary table of Uniformat II Level 2 cost estimates
  - iii. The [C-100](#) in Excel
- B. Proposed funding
  - i. Identify the fund sources and expected receipt of the funds.
  - ii. If alternatively financed, such as through a Certificate of Participation (COP), provide the projected debt service and fund source. Include the assumptions used for calculating finance terms and interest rates. For assistance, please contact Wendy Kancianich at the Office of the State Treasurer at 360-902-9022 or [email](#).
- C. Facility operations and maintenance requirements
  - i. Define the anticipated impact of the proposed project on the operating budget for the agency or institution. Include maintenance and operating assumptions (including FTEs).
  - ii. Show five biennia of capital and operating costs from the time of occupancy, including an estimate of building repairs, replacement and maintenance.
- D. Furniture, fixtures and equipment. Clarify whether furniture, fixtures and equipment are included in the project budget. If not included, explain why.

## SECTION C

# APPENDICES

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### Appendix 1: Predesign checklist and outline

A predesign should include the content detailed here. OFM will approve limited scope predesigns on a case-by-case basis.

❖ **Executive summary**

❖ **Problem statement, opportunity or program requirement**

- Identify the problem, opportunity or program requirement that the project addresses and how it will be accomplished.
- Identify and explain the statutory or other requirements that drive the project's operational programs and how these affect the need for space, location or physical accommodations. Include anticipated caseload projections (growth or decline) and assumptions, if applicable.
- Explain the connection between the agency's mission, goals and objectives; statutory requirements; and the problem, opportunity or program requirements.
- Describe in general terms what is needed to solve the problem.
- Include any relevant history of the project, including previous predesigns or budget funding requests that did not go forward to design or construction.

❖ **Analysis of alternatives (including the preferred alternative)**

- Describe all alternatives that were considered, including the preferred alternative. Include:
  - A no action alternative.
  - Advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis that compares the alternatives, including the anticipated cost for each alternative.
  - Cost estimates for each alternative:
    - Provide enough information so decision makers have a general understanding of the costs.
    - Complete OFM's Life Cycle Cost [Model](#) (RCW [39.35B.050](#)).
  - Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.

❖ **Detailed analysis of preferred alternative**

- Nature of space – how much of the proposed space will be used for what purpose (i.e., office, lab, conference, classroom, etc.)
- Occupancy numbers.
- Basic configuration of the building, including square footage and the number of floors.
- Space needs assessment. Identify the guidelines used.
- Site analysis:
  - Identify site studies that are completed or under way.
  - Location.

- Building footprint and its relationship to adjacent facilities and site features. Provide aerial view, sketches of the building site and basic floorplans.
- Stormwater requirements.
- Ownership of the site and any acquisition issues.
- Easements and setback requirements.
- Potential issues with the surrounding neighborhood, during construction and ongoing.
- Utility extension or relocation issues.
- Potential environmental impacts.
- Parking and access issues, including improvements required by local ordinances, local road impacts and parking demand.
- Impact on surroundings and existing development with construction lay-down areas and construction phasing.
- Consistency with applicable long-term plans (such as the Thurston County and Capitol campus master plans and agency or area master plans) as required by RCW [43.88.110](#).
- Consistency with other laws and regulations:
  - High-performance public buildings (Chapter [39.35D](#) RCW).
  - State efficiency and environmental performance, if applicable (Executive Order [18-01](#)).
  - Greenhouse gas emissions reduction policy (RCW [70.235.070](#)).
  - Archeological and cultural resources (Executive Order [05-05](#) and [Section 106](#) of the National Historic Preservation Act of 1966).
  - Americans with Disabilities Act (ADA) implementation (Executive Order [96-04](#)).
  - Compliance with planning under Chapter [36.70A](#) RCW, as required by RCW [43.88.0301](#).
  - Information required by RCW [43.88.0301](#)(1).
  - Other codes or regulations.
- Identify problems that require further study. Evaluate identified problems to establish probable costs and risk.
- Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.
- Identify planned technology infrastructure and other related IT investments that affect the building plans.
- Describe planned commissioning to ensure systems function as designed.
- Describe any future phases or other facilities that will affect this project.
- Identify and justify the proposed project delivery method. For GC/CM, link to the requirements in RCW [39.10.340](#).
- Describe how the project will be managed within the agency.
- Schedule.
  - Provide a high-level milestone schedule for the project, including key dates for budget approval, design, bid, acquisition, construction, equipment installation, testing, occupancy and full operation.
  - Incorporate value-engineering analysis and constructability review into the project schedule, as required by RCW [43.88.110](#)(5)(c).

- Describe factors that may delay the project schedule.
- Describe the permitting or local government ordinances or neighborhood issues (such as location or parking compatibility) that could affect the schedule.
- Identify when the local jurisdiction will be contacted and whether community stakeholder meetings are a part of the process.

❖ **Project budget analysis for the preferred alternative**

- Cost estimate.
  - Major assumptions used in preparing the cost estimate.
  - Summary table of Uniformat Level II cost estimates.
  - The [C-100](#).
- Proposed funding.
  - Identify the fund sources and expected receipt of the funds.
  - If alternatively financed, such as through a COP, provide the projected debt service and fund source. Include the assumptions used for calculating finance terms and interest rates.
- Facility operations and maintenance requirements.
  - Define the anticipated impact of the proposed project on the operating budget for the agency or institution. Include maintenance and operating assumptions (including FTEs).
  - Show five biennia of capital and operating costs from the time of occupancy, including an estimate of building repair, replacement and maintenance.
- Clarify whether furniture, fixtures and equipment are included in the project budget. If not included, explain why.

❖ **Predesign appendices**

- Completed Life Cycle Cost [Model](#).
- A letter from DAHP.

## Appendix 2: Glossary

**Acquisition.** This type of project includes the acquisition of land, structures and buildings. These are fixed assets that have no relationship to the addition or improvement to, or the repair or replacement of, existing fixed assets. Examples of an acquisition are the purchase of a tract of land or a building.

**Alternate financing.** Proposals that cover a wide range of financial contracts that call for the development or use of space by state agencies through a contractual arrangement with a developer or financing entity. Financing may involve the sale of debt obligations (certificates of participation, or COPs, through the State Treasurer) or funding from a private developer. Title to the property involved may transfer to the state either upon exercise of an option or at the termination of the contract.

**Constructability review.** A review by an independent consultant or contractor to determine if a project can be physically built as designed. This is to reduce construction change orders and claims. Conduct this review at 75–95 percent completion of the construction documents.

**Consultant.** A person or entity who provides advice or services to an agency/institution.

**Contractor.** A person, firm or corporation who, in the pursuit of an independent business, undertakes or submits a bid to construct, alter, repair, add to, subtract from, improve, move or demolish any building, excavation or other structure, project, development or improvement attached to real estate or to do any part thereof.

**Design/bid/build.** A method of project delivery subject to provisions in Chapter [39.04](#) RCW in which the agency/institution contracts directly with a single entity responsible for the design of a project and competitively bids the construction services for the construction project.

**Design/build.** A method of project delivery subject to provisions in Chapter [39.10](#) RCW in which the agency or institution contracts directly with a single entity that is responsible for both design and construction services for a construction project.

**Facility.** A structure with walls and a roof.

**Furniture, fixture and equipment (FF&E).** The moveable furniture, fixtures or equipment that require no permanent connection to utilities or to the structure.

**General contractor.** A contractor whose business operations require the use of more than two unrelated building trades or crafts whose work the contractor will superintend or do in whole or in part. A general contractor does not include an individual who does all work personally without employees or other specialty contractors as defined in this glossary. The terms “general contractor” and “builder” are synonymous.

**General contractor / construction manager (GC/CM).** A firm with which an agency or institution has selected and negotiated a guaranteed maximum allowable construction cost for a project. A competitive selection process is used through formal advertisement and competitive bid to provide services during the design phase that may include life cycle cost design considerations, value engineering, scheduling, cost estimating, constructability and alternative construction options for



cost savings and sequencing of work. The GC/CM acts as the construction manager and general contractor during the construction phase. The GC/CM process is subject to provisions in Chapter [39.10 RCW](#).

**LEED™ silver standard.** The U.S. Green Building Council leadership in energy and environmental design green building rating standard, referred to as silver standard.

**Life cycle cost.** The capital and operational cost of a construction item, system or building during its estimated useful life.

**Master plan.** A document setting forth the concepts and guiding principles for development of campus facilities, landscaping and infrastructure.

**Midpoint of construction.** Date midway between the commencement date and substantial completion date.

**Operations and maintenance (O&M) costs.** The costs of the regular custodial care and repair, annual maintenance contracts, utilities, maintenance contracts and salaries of facility staff performing O&M tasks. The ordinary costs required for the upkeep of property and the restoration required when assets are damaged but not replaced. Items under O&M include the costs of inspecting and locating trouble areas; cleaning and preventive work; replacement of minor parts; power; labor; and materials. O&M work is required to preserve or restore buildings, grounds, utilities and equipment to their intended running condition so they can be effectively used for their intended purpose.

**Phased construction.** Construction that is split into multiple phases due to fund availability and/or occupancy issues, such as completing a renovation in an occupied building.

**Project budget.** The sum established by the agency/institution that is available for the entire project, including the construction budget; acquisition costs; costs of furniture, furnishings and equipment; and compensation for professional services and all contingencies.

**Project delivery system.** Method of how an owner plans to contract a project, such as design/bid/build, design/build, GC/CM, etc.

**Unifomat.** A system for classifying building products and systems by functional subsystem, such as substructure, superstructure or exterior closure.

**Value engineering (VE).** A systematic, orderly approach to defining a facility's required function, verifying the need for the function and creating alternatives for providing the function at minimum life cycle cost. Value is the lowest life cycle cost to achieve the required function. VE is a problem-solving system that emphasizes the reduction of cost while maintaining the required quality and performance of the facility.

**Net zero energy building.** The total amount of energy used by the building on an annual basis is roughly equal to the amount of renewable energy created on site.