PREDESIGN MANUAL
For
Capital Budget Projects

Fifth Edition – February 2010

CERTIFICATION SIGNATURES

Due to the complexities involved in major capital undertakings, State Agencies and local government units that are undertaking or sponsoring a Predesign are encouraged to retain the experience of an Architectural Design firm to assist in the process. This expertise will provide overall coordination and interpretation of information for translation into the full scope and cost of a project.

The effort and cost to prepare a predesign for a project can vary depending upon the project needs and the expertise required; for instance, if a Cost Benefit Analysis is needed, the Architectural Design firm will need to bring on a financial consultant. Depending on the type of project, other specialty consultants may be needed such as a Bio-hazard laboratory design, Maximum Security Prison systems, Data Center Tier Level design, Historical, or Food Service.

When the final predesign document is submitted to the Commissioner of Administration, the signature of the licensed architect should accompany the document.

I hereby certify that this report was prepared by me or under my direct supervision and that

I am a duly registered _____ARCHITECT_____ under the laws of the state of

Minnesota

_____

Date: _____ Registration Number _____

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INTRODUCTION

APPLICABILITY

When a State Agency or Local Government Unit (county, city, and school district) is seeking funding from the state legislature for a capital improvement project, predesign is the planning tool to identify the need, scope, costs and schedule.

Predesign is an integral part of the state's Capital Budget System process. During the Predesign process, the state agency or local governmental unit undertaking the predesign will need to work with the Department of Minnesota Management and Budget (MMB) during the Capital Budget process. MMB posts their Capital Budget Instructions on their website at: www.mmb.state.mn.us/capbudget/budget-cap. When you reach this website you will find two instruction manuals; one for use by State Agencies and one for use by Local Governments.

As the initial step, prior to undertaking a predesign, you need to determine if your project is exempt from the predesign requirement. Minnesota Statute §16B.335 defines the requirement for predesign as follows:

1. A state agency: A predesign is required if the *construction cost* is **greater than $750,000** (Also see MN Statute §16B.33 for designer selection requirement).

2. A local government unit: A predesign is required if any amount of state funding is to be used, and the project *construction cost* is **greater than $1,500,000.**

3. A local government unit: A predesign is not required for capital projects for park buildings owned by a local government unit in the metropolitan area defined in section 473.121, subdivision 2.

Appendix 4C provides a listing of Minnesota Statutes that apply to capital projects and predesign requirements.

A glossary of terms used is at the back of this manual.

For state agencies, the Department of Administration will assist in preparing a Request for Proposal (RFP) to obtain the services of an architectural/consultant firm to work with you in preparing your predesign document. The Department of Administration will prepare predesign contracts, give direction, manage, oversee the work of the firm under the contract and approve contract payments.

Finally, you and/or your predesign consultant should keep in mind that, if you are successful in obtaining funding for your project, the predesign document, with the project costs and scope of work will establish the scope of work for negotiating a design contract, it will be used in the site acquisition process, life-cycle cost analysis and other comparisons, and finally it will be the instructions for a future architect and engineer(s) to design and prepare construction documents.

Questions regarding this document may be directed to the Department of Administration at 651-201-2380 (Mr. Gordon Christofferson).

SUMMARY

Predesign is the planning activity and documentation required to achieve a successful outcome for a capital project. It follows initial agency planning and precedes the design and construction stages. Because predesign is the "business plan" for a capital project and identifies the goals to for how a project will function to serve operations, it requires the full support and embracement by Agency management.

A predesign will communicate essential project objectives with factual data before the actual design process commences or other decisions are made. Should the project receive funding, the predesign is the document used to communicate the project requirements to the design team.

Predesign will test project feasibility by examining and answering the following questions:

- What need does the proposed facility and site fill as defined by the requesting agency's long-term mission and strategic plan?
- Once the agency has developed the operational plan that flows from the strategic plan, how does the proposed facility meet that operational plan?
- What are the capital costs of the project?
- What are the funding sources for the project and their respective amounts?
- What is the proposed project schedule when the funding sequence schedule for legislative action on capital budgets is considered?

The final predesign document will then serve you by: 1) speaking with knowledge about the project when seeking funding and 2) having the project scope and parameters identified so that when funding is received you can move forward with the subsequent design and construction.

The following section of this manual lists the components of predesign; these components are to comprise the body of a Predesign document and are addressed in detail within this manual. Additionally, the final Predesign document shall be structured with each component labeled and tabbed.

OUTLINE OF THE CONTENTS OF A PREDESIGN

Briefly, an outline of the components of predesign are shown below; a full explanation, along with Sample documents are in the Section of this Manual, titled "*Contents of a Predesign Submittal*":

1. **A Predesign Summary Statement:**
   - A paragraph that clearly summarizes the scope of work, the cost plan, and the anticipated project schedule. (See Sample Document in Section 1.A)
   - A *"Building Project Data Sheet"* (This form is located in Section 1.B of this manual) For existing building remodelings, also include the *"Building Audit"* Sheet (located in the Section 1.C of this manual)

2. **Project Background Narrative:**
   - Brief narrative on the background to the project. (See example in Section 2)
   - Summary of how the Agency's Mission, Strategic Plan, and Operational Program support the need for the project.
   - Statutory requirements that drive the project's operational program.
   - Summary of the agency's needs analysis.

3. **Agency / Organization Planning**
   - Agency Organizational Diagrams and Charts for the project
   - Comprehensive Planning, Technology Needs, Stakeholders, Impacts

4. **Project Description:**
   - Architectural/engineering program
   - Space Needs Inventory Sheets (Form is located in Section 4-Appendix 4a & b)
   - Space Adjacency and Space Organization Diagrams
   - Precedent studies of like projects and the elements to be incorporated
   - Technology Plan (See Technology Checklist)
   - Sustainability, Energy Conservation, Carbon Emissions reduction
   - Operations and Maintenance Requirements
   - Statute Requirements (See Section 4 – Appendix 4C)
   - Specialty Requirements
   - Project Procurement and Delivery

5. **Site Selection and Analysis**

6. **Financial Information - Capital Expenditures:**
   - Proposed project cost plan (initial capital cost). (Forms are located Section 6a & b)
   - Estimate of project impact on the organization's operating budgets (state agencies). (Form is located in Section 6c)
   - Summary of proposed operating revenues and expenditures (nonstate agencies and grants).

7. **Schedule Information:**
   - Proposed project schedule.
   - Proposed funding sequence if applicable.

CONTEXT FOR PREDESIGN

WHAT COMES BEFORE PREDESIGN

Agency planning precedes predesign: Agency planning that precedes predesign is not bondable because it is not project specific. After agency planning, the project process has three bondable stages:

- Predesign (including Site Selection).
- Design.
- Construction.

DESIGN STAGE DEFINITION

Design follows predesign. Predesign defines the design problem to be solved. Design solves the problem. The deliverables of the three stages of the design process are described below:

1. Schematic design:
   The results of this stage are:
   - Diagrammatic plans and building sections.
   - A site layout that satisfies the requirements of existing codes and ordinances and the physical attributes of the site.
   - An organization of the space list into two-dimensional plans and three-dimensional stacking diagrams conforming to codes and the requirements of the architectural/engineering program.
   - Alternative schemes and a recommended preferred alternative that depict the general relationships of spaces and the relationship of the building(s) to the site.

2. Design Development:
   The results of this stage are:
   - A site plan that satisfies the requirements of existing codes and ordinances and the physical attributes of the site.
   - Building plans, elevations, and sections defining all two- and three-dimensional relationships.
   - Building plans, elevations, and sections depicting basic material and physical system selections.

   The deliverables of the design development stage are:
   - Site plans drawn to scale.
   - Plans, elevations, sections, and details drawn to scale depicting all physical systems.
   - Perspective drawings or models as required explaining the proposed design.
   - Revised outline specifications describing all physical systems including mechanical and electrical systems.
   - Updated project cost plan.

3. Contract documents:
   The results of this stage are drawing and specifications suitable to be contract documents for the project.

The deliverables of the construction document stage are:

- Certified, detailed drawings and specifications sufficient to bid, buy, and construct the project.
- Certified drawings and specifications that the local code officials will issue a building permit.
- Detailed cost estimate demonstrating that the work defined by the contract documents can be performed within the project budget.

4. Construction administration:
    - Monitoring of the construction progress, payments and schedule
    - Verifying that the specified products are being installed (shop drawing review)
    - Providing contractors with interpretation of construction documents.

5. Post-Construction Phase
    - Receive all equipment documentation and record drawings and specifications
    - Review of completed construction prior to 1 year warranty expiration
    - Conduct post-occupancy evaluation (if funding is approved in the appropriation).

WHAT SIGNALS THE END OF PREDESIGN

The boundary between predesign and design is marked by the completion of instructions to design professionals (the architects and engineers) in a form sufficient to support commencement of schematic design. These instructions are the architectural/engineering program. A complete definition of the architectural/engineering program is found in Section 4.

WHAT IS THE RELATIONSHIP OF PREDESIGN TO THE FIRST MAJOR FUNDING

From the view point of the requesting agency, the question is: "What is the earliest time that it makes sense to ask for capital funding for a project?" From the view point of the Legislature, the question is: "When can we understand the proposed project well enough so that an informed decision by the governor and legislature can be made?"

A capital budget request can be made before predesign or it can be deferred until predesign is complete. Not all projects with completed predesign will be funded for design and construction. Nevertheless, the results of predesign provide essential information to elected officials while minimizing cost to the requesting agency. This information forms the basis for a decision whether a project should receive additional funding for design and construction. Therefore, it is not logical to expect the Legislature to fund all three project stages at one time.

WHAT IS THE ROLE OF PREDESIGN AS DEFINED BY THE LAW

Minnesota Statute §16B.335, Subdivision 3, requires the results of predesign to be submitted to the Department of Administration before commencing design. The Department of Administration will review the results and make a recommendation to the appropriate chair of the Senate Finance Committee and the chair of the House Ways and Means Committee with a copy to the chair of the House Capital Investment Committee.

The Department of Administration will examine the predesign results for completeness before performing its review. Completion of the project's operational program by the requesting agency will be a prerequisite

for consideration and a favorable recommendation by the Department of Administration.

WHAT IS THE ROLE OF PREDESIGN AFTER FUNDING IS OR IS NOT RECEIVED

Should the Governor recommend the project to the legislature for funding and should the project receive funding, Minnesota Statute §16B.33, Subdivision 3 requires that the State Designer Selection Board select the primary designer for the project when the estimated construction cost is greater than $2,000,000 or for a planning project with estimated fees of $200,000 or greater. The originating agency must make a written request to the Commissioner of Administration, who will forward the request to the Board. This requirement applies to projects in State owned buildings or new buildings that will be owned by the State.

If the project does not receive funding and the requesting agency or other public entity intends to request funding for the project in the next capital bonding session, the predesign should be retained, updated and resubmitted to the Commissioner of Administration.

EXECUTION OF PREDESIGN

WHO PERFORMS PREDESIGN

Due to the complexity of issues, elements and systems that make up a modern building, it is recommended that an agency retain qualified architectural and engineering consultants to perform the bulk of the predesign. A multidiscipline team should be considered where the project is particularly complex. The agency proposing the project will be responsible for providing information on their statutory requirements, strategic plan, operational program and anticipated changes in their operating costs.

The final predesign study is submitted by the agency or other entity requesting funds, not the consultant, if any, preparing the report. Regardless of the number of entities utilized to prepare the overall report, *the requesting agency, or other entity, is responsible for insuring that individual sections have been coordinated and are consistent.* Consequently, it is incumbent upon agency personnel to carefully review and approve the complete report before sending it outside of the agency for any review, approval, or any other use.

COST OF PREDESIGN

For most projects, the target cost for predesign should be one-quarter to one-half of one percent of the construction cost. The smaller amount (0.25 percent) applies to large projects (costing more than $3,000,000 to $5,000,000) and the larger amount (1.25 percent) applies to small projects (costing less than $1,000,000 to $2,000,000) or unusual projects. Higher percentages have been observed due to the relative size and complexity of the anticipated project. Achieving these cost ranges is highly dependent on the agency completing its agency strategic and operational planning before undertaking predesign; and, costs can vary depending upon the project needs and the expertise required; for instance, if a Cost Benefit Analysis is needed, there will be a cost for a financial consultant; or a specialty designer for bio-hazard labs, maximum security prisons, Data Center Tier Level design, Historical, or Food Service.

HOW PREDESIGN IS PAID FOR

Predesign presently qualifies for funding by capital appropriation in the bonding bill. If the agency is unable to await a capital appropriation, then the agency may perform the predesign using its own operating funds.

Grant recipients who are required to provide matches for state funds are encouraged to include the cost of predesign within their match portion.

RESULTS OF PREDESIGN

The main result of predesign is a clear definition of a project plan that, if implemented, will meet all project objectives. The project plan is a reconciliation of the agency's operational needs with project financial planning, scheduling, and the requirements of the capital budget legislative process.

Should funding be received for the proposed project, use of the predesign document will continue as the basis for designer selection, terms of the contract with a designer and for the ultimate design and construction of the building.

SUBMITTAL OF PREDESIGN and PROJECT INFORMATION

Using the cover letter at the back of this Manual to submit the completed Predesign document. Prior to beginning construction documents, use the cover letter format in this Manual to submit and notify the applicable committee chairs of the Senate and House of Representatives.

CONTENTS OF A PREDESIGN SUBMITTAL

SECTION 1 PREDESIGN SUMMARY STATEMENT

The Predesign Summary Statement will be composed of a project name and usually a brief project description. The predesign summary statement is a description that will stay with the project through its completion and occupancy. This statement could serve as the introductory paragraph to both the appropriation language and the project description section of the Capital Budget Request Forms. The description detail should be expanded as appropriate for each subsequent appropriation request. A Sample Summary Statement follows this section.

Below the Summary Statement paragraphs include a table with the following information:

- Total Project Square Foot area,
- Total Construction Cost and the cost per square foot,
- Total Project Cost
- Total amount of State funding (or funding request) for the project
- Other funding sources and their respective amounts.
- Site information (acreage, parking area, building footprint)
- Total project schedule indicating milestone dates.
- If phasing of the project is being considered, indicate costs and schedules for each phase.
- If matching funds are being requested; indicate the sources and amounts along with the amount of state funding that is being requested.
- If site selection and costs are relevant, include a cost breakdown of these along with the area of the site.

Behind the Summary Statement include a completed "*Building/Project Data Sheet"* and/or the *"Building Audit Sheet"* to give a summary description of the proposed building or remodeling.

SECTION 1.A
Sample of Predesign (Executive) Summary Statement

MARINE EDUCATION CENTER

SCOPE

This project is to support the mission of the Zoo to "strengthen the bond between people and the living earth," according to the Zoo's mission statement.

The improved facility will include new pools for six dolphins along with isolation and neonatal pools, two regular and three wet classrooms, an indoor dolphin theater with a 1,500 person seating capacity, eight shark exhibits, and a reception area for 300 people with adjacent catering kitchen for revenue generating events.

COSTS

New space (new construction):
46,000 gsf Estimated construction Cost: $15.00 million

Remodeled space:
4,200-5,700 gsf Estimated construction cost: $2.500 million

Total Estimated construction cost: $17.500 million

Estimated Total Project Cost: $20.50 million (all costs associated with the project)

FUNDING SOURCE(S)

State Funding Request: $9.00 million
Sources for Remainder of Funding:
Friends of the Zoo: $1.500 million
Federal Grant: $10.00 million

OPERATING COSTS

An anticipated $847,000 in increased operating expenses will be funded by the Zoo's Special Revenue Fund upon project completion in FY 2024.

SCHEDULE

Funding:	Estimated July 2020
Site Acquisition:	July 2020 to January 2021 (7 months)
Design:	January 2021 to November 2021 (11 months)
Bidding & Award:	March 2022 to May 2022 (3 months)
Construction:	June 2022 to September 2023 15 months)
Occupancy:	December 2023

For the purpose of providing a general summary of the proposed building or project, complete the ***Building/Project Data Sheet – Section 1.B*** *and/or the* ***Building Audit Sheet – Section 1c****, and insert behind the Summary Statement.*

SECTION 1.B
Building/Project Data Sheet – New Building (or New Work)
(include behind the Project Summary Narrative)

Name of Project:
Agency/Organization:

Project/Building Location:

Building Occupancy Type:
Primary Space Types:
Type of Construction:

Building Size
Number of Stories:
Square Feet per Floor:
Total Square Feet:
Space Efficiency: Usable v. Circulation/Mechanical etc.
Office Space: Gross Sq. Ft. per person: Typical Work Station Size:

Site Size: Number of Acres:

Parking:
Type (surface or structured): Number of Stalls:
Area of Parking:

Roofing Type:
Exterior Wall Type:
Interior Wall Type:
Structural System Type:
Mechanical System Type:
Fire Protection Description:
Electrical System Type:
Technology Systems:
Life Expectancy of New Work:

Costs:
Total Project Cost:
Predesign Cost:
Site Acquisition Cost:
Site Improvements Cost:
Building Cost:
Hazardous Materials Abatement Cost:
Parking Cost:
State Funding amount:
Furniture, Fixtures, Equipment Signage
Relocation Cost:
Phasing Cost:
Technology Cost

NOTE: Cost Estimates are based upon the information above

SECTION 1.C
Building Audit Sheet –Existing Building Data
(include behind the Project Summary Narrative)

Name of Project:
Agency/Organization:

Building Location:

Building Occupancy Type (Existing):
Primary Space Types:
Type of Construction:

Building Size
Number of Stories:
Square Feet per Floor:
Total Square Feet:
Space Efficiency: Usable v. Circulation/Mechanical etc.
Office Space: Gross Sq. Ft. per person:
Typical Work Station Size:

Site Size: Number of Acres/ square feet

Parking:
Type (surface or structured): Number of Stalls:
Area of Parking:

Roofing Type & Condition:
Exterior Wall Type (s) & Condition:
Interior Wall Type(s):
Structural System Type & Condition:
Hazardous Material Removal & Cost
Mechanical System Type & Condition:
Fire Protection Type & Condition:
Electrical System Type & Condition:
Technology Systems & Conditions:

Costs:
Total Project Cost:
Predesign Cost:
Site Acquisition Cost:
Site Improvements Cost:
Building Cost:
Hazardous Materials Abatement Cost:
Parking Cost:
State Funding amount:
Furniture, Fixtures, Equipment Signage
Relocation Cost:
Phasing Cost:
Technology Cost

NOTE: Cost Estimates are based upon the information above

SECTION 2 BASIS FOR NEED – PROJECT BACKGROUND NARRATIVE

This section of the predesign submittal describes and justifies the need for the project. A project must be justified based on carrying out the mission, strategic plan, and operational program. During the predesign process, the agency undertaking predesign will need to gather and summarize their MISSION, STRATEGIC PLAN, and OPERATIONAL PLAN to demonstrate the connection and need of their proposed project. This information should then be incorporated into the predesign submittal document.

The information to be included in this Section includes:

1. Summary of the requesting agency's/organization's own approved mission, strategic plan and operational program that are tied to the project. And a clear summary statement of how the project will assist in meeting and furthering the mission, strategic, and operational plans of the agency or institution.

2. The requesting agency/organization provides the operational program to be supported by the project. This is to include statutory or rule requirements that drive the operational program. This listing should focus on the legislation that supports or demands the development of the project either directly or in the form of the creation of programs requiring physical accommodations. This is an opportunity to indicate the effect of expanding programs, sentencing guidelines, or other directives creating the need to provide appropriate facilities. The program should clearly identify the basic elements of what is, what will be done, how, to whom, by whom, with what in terms of resources, and the results anticipated. This summary should not record physical facility requirements.

3. Before building new space, the requesting Agency or Organization provides an analysis that results in identifying the physical needs for the project.

   Analysis of Alternatives: The analysis and planning process should define alternative ways that were considered to meet the project's operational program requirements. Alternatives may include using existing space, adapting existing space, new construction, or leasing space. Collocation with other agencies for projects outside of the metropolitan area must also be considered and a determination made and explained. When alternatives have been defined, conduct an analysis and summary of alternatives to meet the project's operational program and service delivery requirements. A preferred alternative should be selected that maximizes program suitability and **minimizes first cost and life of the program costs**. Include clear explanation of the thought process and criteria used to select the preferred alternative. The nature and breadth of participation by user groups within the organization should be clearly indicated. Collocating with another agency is a required alternative for projects outside of the metropolitan area. When surveying its space inventory, the requesting agency should answer two questions:
   - Is existing space available to meet the program requirements? If the answer is yes, then reusing existing space is an alternative way to satisfy the program requirements.
   - Is existing space, worthy of reinvestment, available for adaptation to meet the program requirement? If the answer is yes, then adapting existing space should also be considered an alternative way to satisfy the program.

When the project involves renovation of an existing facility, the agency/organization shall conduct a FACILITY CONDITION ASSESSMENT (FCA) to assist in determining the replacement and upgrade needs of the existing building and all of its systems (structural, mechanical, electrical, civil systems).
The predesign submittal shall then include the FCA and identify the upgrades or replacements being included in the project and costs.

SECTION 2.A
Sample of BASIS FOR NEED – PROJECT BACKGROUND NARRATIVE

NOTE: THIS SAMPLE IS HYPOTHETICAL and is for the purpose of demonstrating the appropriate information to be provided.

The mission of Minnesota Zoo is ***to connect people, animals, and the natural world***. Modern exhibits provide exciting experiences with animals and their habitats introducing guests to species from around the globe. Education programs engage audiences at the Zoo, throughout the region, and around world. Conservation programs protect endangered species and preserve critical ecosystems.
The current demographics and operations of the Minnesota Zoo are:

Animal species: 504 Individual animals: 2,961
Births at the Zoo: 246
23 Species Survival Plan (SSP) species
Members Households 44,233
Guests: 1,355,260
Education program participants: 331,680
Zoomobile participants: 43,570
Volunteers: 1,000
Total operating expense: $18.7 million

The Strategic Plan for the Minnesota Zoo (the project proposer is to attach full plan in the appendix and reference it here) includes collaboration with National and World organizations for determining exhibits, education, research pertaining to wildlife and their habitat.

The Operational Plan for this project(the project proposer is to attach full plan in the appendix and reference it here) is founded in its activities as a member of the Association of Zoos and Aquarium's (AZA's) Species Survival Plan (SSP) Program. The Minnesota Zoo participates in the AZA mission: to help ensure the survival of wildlife species.

The Minnesota Zoo's Species Survival Plan, or SSP, began in 1981 as a cooperative population management and conservation program for selected species at North American zoos and aquariums. Each SSP manages the breeding of a species to maintain a healthy, self-sustaining captive population, both genetically diverse and demographically stable. SSPs include other conservation activities including research, education, reintroduction, and field projects. Currently, there are 113 SSPs covering 181 species.

Basis For Need
Based on current revenue analysis and survey of visitors to the zoo, the most popular exhibits are related to the Species Survival Plan (SSP) and in particular the Aquarium Exhibit. And, last year the American Zoo Association notified zoos with SSP programs that they have matching grants available for facility expansions related to endangered species.

The Minnesota Zoo has applied for and received approval for a 1:1 matching grant from the AZA. This grant becomes available when the grantee provides sufficient documentation that they have secured their portion of the grant. This project will consist of the expansion of the Aquarium Exhibit. The Zoo's financial analysis (See Appendix) indicates that the increased revenue from this proposed project will fund the ongoing operations of the additional operating cost incurred by the expansion.

SECTION 3 AGENCY/ORGANIZATION PLANNING

Agency planning is to precede predesign and be documented and incorporated into the predesign submittal document. This Section of information is used as backup documents to support and inform other Sections of the Predesign. If Agency/Organization planning assistance is needed, this needs to be identified early on so that these services can be procured prior to or as part of the Predesign activities.

Along with the information from Section 2, Agency planning includes:

Comprehensive/Master Plan: Review of area, neighborhood, or campus master plans or other plans that may affect the project: Project decisions should be made with the requirements of existing plans in mind. These plans may include campus or area master plans or other plans prepared and enforced by local levels of government; or masterplans previously prepared by the Agency.

Site Selection: If site selection is needed for the project, the Agency will need to provide identification of potential sites and definition of site selection criteria. Though alternative sites should be identified and selection criteria proposed before predesign, actual site selection may occur before predesign, during predesign, or as late as schematic design based upon funding, site control and environmental review.

Technology Plan: Designation of applicable information technology: Before predesign begins, both the type of information technology to be incorporated into the project and the telecommuting plan for the facility should be defined. The desired results of these plans should be determined. For example, questions such as: "What is the effect of telecommuting on the size of full-time, on-site staff?" should be answered. The Technology Plan will require review and written approval from the Office of Enterprise Technology (see Section 4).

Historic Documentation: If the project is located within a historic district or involves disposal of buildings that are on the National Register of Historic Places, provide all documentation and correspondence for inclusion into the predesign document.

Disposal of State-Owned Buildings: If the project involves the disposal or demolition of a State-owned building, the Agency must obtain legislative authority for the disposal or demolition. Contact the Department of Administration's Real Estate and Construction Services for assistance.

Stakeholders: Provide a list and narrative regarding the stakeholders involved and affected by the project (i.e. other agencies, organizations, and entities).

Impacts: The Agency is to provide a narrative of the impacts the project will have on:

1. Their Operations
2. Their Operational Budget
3. Facility and staff (i.e. include the functional impacts that the facility will need to accommodate during design, construction, relocation, occupancy.

All documents related to the topics above should be placed into the Predesign document under this Section.

SECTION 4 PROJECT DESCRIPTION

4.A ARCHITECTURAL/ENGINEERING (A/E) PROGRAM

The architectural/engineering program ("A/E program") compiles instructions to the design professionals. The nature and extent of the instructions required are specific to the project.

Projects that have been built heretofore should not require an original program if the previous work is still applicable. The existing A/E program can be used to direct the design professionals.

On the other hand, unique projects by definition require new instructions to guide the design professionals. If the project is unique but simple and not costly, the A/E program can probably be completed with the predesign work.

At the other end of the spectrum, however, if the project is unique, complex, and relatively costly, then the A/E program should be generally described during the predesign stage and the details added during schematic design. In this case, the capital budget request should include funding for the detailed A/E program with the design work, but should be developed with the constraints established in predesign.

The processes utilized to establish the program should strive to include methodologies that are participatory in nature and strive to establish the greatest client consensus possible. These should be clearly documented as a part of the program document and based upon the State's *Space Guidelines*.

Projects for new and remodeling of offices are to follow the state's *"Space Guidelines"*. Current space guidelines are available online at www.admin.state.mn.us/recs

PREDESIGN REQUIRMENTS FOR THE A/E PROGRAM:

The A/E Program provided in the predesign submittal is to include:

- A detailed space program using a table of space names and sizes.
- Space Needs Inventory data sheets for individual rooms (See Appendix 4a template form)
- Adjacency Diagrams showing the activity and functional relationships among the spaces.
- A listing of Furniture/Fixtures/Equipment/signage (FF&E) needs.
- Narrative descriptions of the major Architectural, Civil, Structural, Mechanical, Electrical, and Specialty systems that are part of the proposed project.

Architectural/Engineering (A/E) Program Definitions

1. Types of Programs:
    - The Architectural/Engineering program ("A/E program") compiles instructions to the design professionals. The nature and extent of the instructions required are specific to the project.
    - Projects that have been built heretofore should not require an original program if the previous work is still applicable. The existing A/E program can be used to direct the design professionals.
    - On the other hand, unique projects by definition require new instructions to guide the design professionals. If the project is unique but simple and not costly, the A/E program can probably be completed with the predesign work.
    - At the other end of the spectrum, however, if the project is unique, complex, and relatively costly, then the A/E program should be generally described during the predesign stage and the

details added during schematic design. In this case, the capital budget request should include funding for the detailed a/e program with the design work but should be developed with the constraints established in predesign.

- The processes utilized to establish the program shall strive to include methodologies (see participatory programming in Appendix) that establish the greatest client consensus possible using established state space guidelines. These should be clearly documented as a part of the program document.

2. Components of an Architectural/Engineering Program: (Use the ***"Programming Methodology for Participatory Design"*** and complete the ***"Space Needs Inventory"*** located in the Appendix of this Section).

    - Summary of how the project will meet the requirements of the requesting agency's strategic plan and operational program for the project.

3. Space/Area Program:

    - Summary of existing applicable master plans or other area wide (urban design, architectural, or engineering) plans pertaining to the project.
    - Definition of needs.
    - The A/E program should define human and operational needs to be met by the project.
    - Needs are derived from the operational program, programming interaction with potential users, new or existing research, and standards for architectural/engineering practice. The processes for deriving these needs should be clearly identified and explained.
    - An analysis of collocation opportunities with other agencies.
    - Site selection criteria and site selection recommendations. Agencies must include an analysis of location(s) using the *"Criteria for Locating State Offices and Agencies"* (See Appendix H).
    - If schematic design of alternative solutions is both desired and highly dependent on site characteristics, then final site selection may occur during schematic design and only the selection criteria identified as part of predesign.
    - Audit of existing building's physical condition. (Appendix 1b- in Section 1).
    - If the project involves modification of an existing building, the conditions to be changed should be recorded. For example, if an existing building needs modifications to meet code requirements for its intended use, then the required improvements should be listed. Design standards, guidelines, and performance characteristics for site and building systems.
    - The performance characteristics of physical components of the project should be described. For example, with respect to heating, ventilation, and air conditioning performance: the inside summer and winter temperatures to be maintained, the acceptable relative humidity range, and the outside fresh air ventilation rate should all be defined.
    - Individual space requirements. See the State's Space Guidelines. Complete the forms in Appendix N.
    - Size and characteristics of required spaces and rooms should be tabulated.
    - Space and room adjacency requirements should be recorded.
    - Special characteristics of rooms should be recorded.
    - Extracts from the project budget and schedule that may apply to the work by design
    - Bibliography of applicable codes, standards, cited research, and other publications referenced in the program. Current issues as applicable building codes, sun charts, and building air quality guidelines are assumed.

- If the proposed project is different from similar, well-understood building types, the differences should be highlighted. For example, if administrative offices are proposed to have an unusually high potential for internal layout change, the type of changes expected should be defined.

4.B PRECEDENT STUDIES

1. Visit and investigate at least two project facilities that are similar to the project that is being proposed in this predesign. Include the following:
   - Brief description and location of the project
   - Significance of the project
   - Description of the successful design features, systems, or elements that will be incorporated into the proposed project.
   - When using terms such as "cutting edge", or "at the fore-front" describe what makes those facilities "cutting edge" and specifically what will be incorporated into the proposed project to make it "cutting edge".

4.C TECHNOLOGY PLAN

1. This section of the predesign is for the purpose of identifying and documenting the technology requirements for the project. Provide summary information technology and telecommuting plans to be incorporated into the project: Cost-effective information technology investments and telecommuting plans should be provided that would enable an agency to reduce its need for office space, provide more services electronically, and centralize or decentralize its services

2. Following completion of the technology plan, the plan is forwarded to the State's Office of Enterprise Technology (OET) for review, comment and approval. A signed response letter from OET is to be included in the predesign.

3. The predesign preparer shall review Appendix J and "*Building Infrastructure Guidelines for State Owned Buildings"* (located at: www.admin.state.mn.us/recs Click on "Construction Services" and then "Manuals, Guidelines, and Forms") . The preparer shall work in coordination with the user agency to identify and document the technology needs for the project.

TECHNOLOGY & TELECOMMUNICATIONS PLAN REQUIREMENTS

Technology Plan is required

A Technology Plan must be prepared and included in the Predesign submittal. Prior to submittal of the predesign document, a review of the plan by the Office of Enterprise Technology is to occur. And, a letter from the State's Office of Enterprise Technology (OET) must be contained in the predesign document. The OET letter will indicate the need for and acceptance of an agency's Technology Plan for the project.

Predesign Meeting with OET

Predesign Team
For those projects required by statute to have a technology plan, the consultant and the Department of Administration's Project Manager will notify OET– who will convene a Predesign meeting to

determine the agencies needs, goals, timelines and objectives. The Predesign Team will consist of, but will not be limited to:

- Agency/customer
- Department of Administration's Project Manager
- Consultant Technology Designer
- OET Staff

Project Plan

The technology plan, as approved by OET, and associated costs that are to be included in the predesign submittal. See the Technology & Telecommunications Checklist in Appendix O for technology requirements.

Guidelines for Technology Requirements

New building and renovation projects that are State owned are required to comply with OET's guidelines. These guidelines are available at http://www.admin.state.mn.us/recs (Click on "Construction Services" and "Manuals, Guidelines and Forms" and go to Telecommunications Infrastructure Guidelines for State Owned Buildings- PDF

Management Technology Plan:

Minnesota statutes §Section 16B.335,subd (5) and (6) and Minnesota Statues, Section 16E.05, Sub (3) also require state agencies to prepare information technology and telecommuting plans where proposing capital investments in office space. Office space requests include a new building (new construction or acquisition of an existing building), renovation/remodeling and/or relocations. The Minnesota Office of Enterprise Technology (OET) is required to review and approve these plans.

OET and the Project Manager **-** will require all state agencies that, by State Statute, must use State Approved Contract Vendors to participate in developing a Technology Plan that will be included in the Predesign phase of the project. The purpose of this plan is to define the agency long-range plans, present and future needs, scope of project, cost level and scheduled integration into the statewide network.

OET and the Project Manager **-** will request state agencies that by State Statute are not required to use State Approved Contract Vendors to participate in developing a Technology Plan that will be included in the Pre-Design phase of the project. The purpose of this plan is to define the agency long-range plans, present and future needs, scope of project, costs, and scheduled integration into the statewide network.

Because each project has a unique character, ***OET and the Project Manager*** will address the Technology Plan content to determine which technology requirements apply.

4.D SUSTAINABILITY, ENERGY CONSERVATION, AND CARBON EMISSIONS

1. Since 2000, Minnesota has developed and refined its requirements for energy conservation and sustainability to be applied to design and construction. Minimum requirements which are mandated

by legislation and required to be addressed in the predesign are:

- Sustainability and High Performance. Minnesota Statute § 16B.325 requires that the State's Sustainable Building Guidelines be applied. Include a summary of sustainable design and construction goals in accordance with the *"The State of Minnesota Sustainable Building Guidelines"* (available at www.csbr.umn.edu/b3/index.html)

- Alternative Energy Sources
  In accordance with MN Statute § 16B.32, Identify and include alternative energy sources and associated costs that will be incorporated into the design). A new State building must be designed to have two percent of its energy provided by alternative energy source. **The predesign must include a written plan for compliance from the project proposer.**

- Heating and Cooling Systems
  As required by Minnesota Statute 16B.326**, predesign submittals must study geothermal and solar thermal applications as possible uses for heating or cooling** for all building projects subject to a predesign review under section 16B.335 that receive any state funding for replacement of heating or cooling systems.

  The predesign must include a written plan for compliance from the project proposer.

  "Solar thermal" is defined as a flat plate or evacuated tube with a fixed orientation that collects the sun's radiant energy and transfers it to a storage medium for distribution as energy for heating and cooling.

- Energy Usage. Include the ongoing estimated energy consumption (from all sources) and energy costs that will be incurred for operating the proposed project.

4.E OPERATIONS AND MAINTENANCE REQUIREMENTS

1. This section is for the purpose of identifying:
   - The impact of the project on the agency/organization operations and budget
   - Documenting and incorporating maintenance requirements

2. Include changes in staffing levels, anticipated expenses for salaries, operations, maintenance, and utilities as a result of the project. These estimates should be amounts that are anticipated over present levels of funding. The predesign should indicate whether the maintenance and operational services are expected to be performed by agency staff or private sector vendors. Use Appendix E to record operating costs.

4.F STATUTE REQUIREMENTS

1. Appendix 3c at the end of Section 4 contains a table of statute requirements for capital projects that receive state funding. This table indicates project requirements for State Agencies, Higher Education, and Political Subdivisions (Cities, Counties, School Districts) that are to be incorporated into the proposed project and communicated in the Predesign Submittal.

4.G SPECIALTY REQUIREMENTS

1. This Section is for unique requirements related to the project. Project Costs are to take into consideration the special requirements. These requirements are to be bound into the Predesign, either in the body of the predesign or in an Appendix. Examples of Specialty Requirements include:
   - Department of Health licensing requirements / rules / legislation for Supportive Living Facilities.
   - Laboratory Certification Requirements (i.e. Contamination/ Biohazard Level design requirements).
   - Data Center Tier Level design requirements
   - Acoustical design requirements
   - Humidification controlled environments (Museum, wood instrument storage, etc)
   - Historical Design /National Register of Historical Places. (Archeological Site Surveys, coordination with State Historical Preservation Office (SHPO)
   - Environmental (National Environmental Preservation Act-NEPA, or State Environmental Assessments and/or Environmental Impact Statements).
   - Federal Funding requirements

2. In addition to project specific requirements, all State Owned/State Agency projects have the following Specialty requirements:
   - State's *"Design Guidelines"*
   - State's *"Space Guidelines"*
   - *"Guide to Minnesota Environmental Review Rules"* for site selection .
   - "*Building Infrastructure Guidelines for State Owned Buildings*" (Appendix J). Include a Technology Plan for the project. (Along with the specific plan for technology, include the State's "*Building Infrastructure Guidelines for State Owned Buildings"* as an appendix to the predesign document submittal).
   - *"Building Air Quality – A Guide for Building Owners, Facility Managers and Agency Contacts"*. Predesign is to include a summary of Building Environmental Quality design initiatives.
   - *"Criteria For Locating State Offices and Agencies"*. (See Appendix H): Predesigns for State Office facilities shall address and incorporate these criteria.
   - "*Contractors/Vendors Guidelines Related To Buildings and Parking Facilities"* For Projects located on the Capitol Complex.
   - *"Plant Management Preferred Equipment List"* for projects located on the Capital Complex.
   - "*Contractor Security Requirements"* for projects located within a Minnesota Correctional Facility. (Available from the correctional facility).
   - Security & Vulnerability Assessments - Unless an agency has security expertise, a qualified security consultant should be retained during the predesign process and work in coordination with the predesign team.
   - Demolition of State buildings: Legislative Authority is required if the project involves the disposal of a State owned building.

   Note: Unless noted above, the manuals and documents (in italic font), identified above, are available on the Department of Administration's website (www.admin.state.mn.us/recs) and are to be bound into the predesign submittal appendix.

3. Other specialty requirements that are unique to a specific project are to be identified and incorporated into the predesign and estimated costs.

4.H PROJECT PROCUREMENT AND DELIVERY

1. This section describes the proposed method for delivering the project. Options for delivery include: Design-Bid-Build (Low-Bid), Design-Bid-Build (Best Value), Construction Manager at Risk, or Design-Build.
2. The recommended Project Delivery Method is to be accompanied by the reasons it will serve to deliver the project as distinguished from other options.
3. The project cost plan and estimates are to include the costs associated with the recommended delivery method.

Section 4 APPENDICES FOLLOW THIS SECTION

APPENDIX 4a – Space Needs Inventory Form
APPENDIX 4b – Programming Methodology for Participatory Design
APPENDIX 4c – Applicable Statutes for State Funded Projects

SECTION 4 - APPENDIX 4a

SPACE NEEDS INVENTORY

ROOM/SPACE NAME ►
SQUARE FOOT AREA ►
SPACE STANDARD:
SPACE STANDARD AREA:
NUMBER OF OCCUPANTS ►

FUNCTION
(Describe the activities that will occur in this space)
(Describe the user's objectives for this space)

ADJACENCIES
(Describe the spaces that need to be adjacent to this area)

FURNITURE, FIXTURES & EQUIPMENT
(Describe the equipment and furnishings that will be needed)

ARCHITECTURAL FINISHES

FLOOR: WALLS:

WALLS: WALL BASE:

CEILING: CEILING HEIGHT:

LIGHTING: SPECIAL CRITERIA:

MECHANICAL/HVAC/PIPING REQUIREMENTS:

ELECTRICAL REQUIREMENTS:

TECHNOLOGY REQUIREMENTS:

ROOM LAYOUT DIAGRAM
(Provide a conceptual layout of the room with furnishings and equipment)

ADJACENCY LAYOUT DIAGRAM
(Provide a conceptual diagram showing all room adjacencies for the building spaces

SECTION 4 - APPENDIX 4b

PROGRAMMING METHODOLOGY
For PARTICIPATORY DESIGN

Note: This is one example of a methodology to use during predesign. You may use any methodology and research to achieve the program. The intent is to facilitate space programming to be a team oriented, discovery process leading to a more functional, efficient and habitable design.

A. Goal Setting

1. Organize a programming team.
    - The programming team would be made up of the designer and user group representatives. A typical user group would consist of individuals from each department of the organization. (the user group representatives are not the same group as the building committee).
    - Obtain the mission statement of the organization, a strategic plan, and operational plan.
    - Obtain an organizational chart for the organization.
    - Obtain the State's *Space Guidelines.*

    Crucial Step in the Process: When developing a space program the team and users must focus on job function related needs in conjunction with the State's *Space Guidelines* versus developing a "wish list" of space needs. The guidelines are available at www.admin.state.mn.us/recs. Final approval of the space program will be made by the Department of Administration staff; thus, periodic consultation with the Department of Administration needs to occur during the programming phase of predesign.

2. Chose a Goal Setting methodology
    - This is where input from the users is gathered. And where the logic foundation for future decisions is based.
    - Organize a workshop, have the user group bring a brainstorm list of goal statements. Discuss goal statements with participants and eliminate any multiple Statements. And then prioritize goals.
    - These goals should not be detailed items, but should be comprehensive in nature. Something that would have a system wide affect or application. i.e. Our image should be conveyed as a strong, creative force in our industry. Or, we move workstations every 6 months, so the new environment should be a flexible one to accommodate this.
    - Prioritize and produce a final list of six goals to achieve. Balance these against the organization's mission statement, strategic plan and operational plan.
    - The program team should then formally submit the project goals to the higher echelon of the organization for approval.
    - Include the goal setting documentation in the Predesign Document.

B. Inventory of space
   1. Identify each "unit" in the organization.
      The designer shall create a space needs inventory form. (See attached example).
      - Record the activities performed by each unit and the equipment and space needed to carry out the activity. Include days & times this activity is performed in the space (i.e. time can be important if, for instance, with a code compliance office or sales office where the occupants are out of the office for much of the time.)
      - On the inventory form, indicate internal and external interactions that take place.
      - Have the user groups list desired objectives for the space. (or develop a questionnaire). i.e. view to exterior, more privacy when in meetings, and closeness to a printer.

   2. Evaluate
      - Using the completed inventory form and the list of desired objectives, schedule a workshop to discuss and evaluate the requirements for each functional "unit".
      - The designer, using a kits of 1/4" scale models of typical spaces and equipment, will facilitate the workshop in modeling and evaluating various options.
      - Summarize conceptual approaches and options resulting from the evaluation.

C. Define & Develop relationships
   1. The designer should at this point facilitate two research studies such as:
      - Social Mapping
      - Behavioral Mapping

      Document this research and include in the Predesign Document.
   2. Bubble Diagram.
      In a workshop, have the participants discuss and diagram relationships of the activities. Include this in the Predesign Document
   3. Activity matrix.
      After diagramming and determining desired relationships between activities, the designer will develop a matrix showing the relationships.

D. Synthesis
   1. Synthesize the information from the mission statement, strategic plan, operational plan, project goals, research, questionnaires, activities inventory, and workshops to develop a program and potentials for design.
   2. Include the space program in the format of a table with the name of each space along with the square foot area required.

E. Approval
   1. Obtain approval of the space program from the Department of Administration prior to publishing the final predesign document.

SECTION 4 - APPENDIX 4c

APPLICABILITY OF STATUTES FOR PROJECTS RECEIVING STATE FUNDING

REFERENCE: Link to State Statutes: https://www.revisor.leg.state.mn.us/pubs

STATUTE	Required by FUNDING RECIPIENT		
	State Agency	**Higher Ed**	**Political Subdivisions**
1. §16B.241 Coordinated Facility Planning	YES (required)	NO (not required)	NO
2. §16B.32, Subd 1 Alternative Energy Sources	YES	NO	NO
3. §16B.32, Subd 1a Renewable Energy Sources - 2% of energy use Solar or Wind	YES	NO	NO
4. §16B.32, Subd 2 Energy Conservation Goals (may participate in Program – not mandatory)	YES	YES	NO
5. §16B.325 Apply Sustainable Guidelines (B3-MSBG) (New Bldgs & Major Renovations – See Applicability Criteria at http://www.msbg.umn.edu) 5b: §216B.241 Sustainable Building 2030 requirements	YES	YES	YES
6. §16B.326 Written plan w/predesign to consider providing Geothermal & Solar Energy Heating & Cooling Systems on new or replacement HVAC systems	YES	YES	YES
7. §16B.33 State Designer Selection Board	YES	YES	NO
8. §16B.335, Subd 1, Notification to House & Senate Committees	YES	YES	YES
9. §16B.335, Subd 3 Predesign Submittal See Statute for exempted projects	YES	YES	YES
10. §16B.335, Subd 4 Energy Conservation Standards (Minnesota Energy Code MN Rule 7676 http://www.doli.state.mn.us/bc_energy.html)	YES	YES	YES
11. §16B.335, Subd 5 & 6 Information Tech. Review by OET	YES	NO	NO
12. §16B.335, Subd. 3c Consider the use of MINNCOR products www.minncor.com	YES	YES	YES
13. §16B.35 % for Art When considered in original legislative request; & when constn is $500K or greater	YES	YES	YES

SECTION 5 SITE ANALYSIS AND SELECTION

5.1 CRITERIA FOR LOCATING STATE OFFICES AND AGENCIES

1. The Predesign Submittal is required to contain an analysis of location(s) using criteria developed by the Department of Administration for locating state offices and agencies using the *"Criteria for Locating State Offices and Agencies"* (available at www.admin.state.mn.us/recs)

2. The agency and their consultant shall be expected to consider and review numerous site options, then recommend, present and include three site options in the final Predesign document for potential development of the project. The three options are to include financial data and cost estimates for development and building of the project on each site.
    - The agency and their consultant shall work with the Department of Administration's Division of Real Estate Management to determine potential sites for consideration.

3. Each of the three site options shall have sub-options based on funding strategies:
    - When the proposed project will be large scale, the consultant shall provide financial expertise, experienced in large scale construction funding, to work with the MN Management & Budget Agency to determine cost saving options and delivery methods for funding the construction.
    - The financial options for funding the project are to be integrated in the predesign document and presented with the consultant's formal submittals.
    - Project cost estimates shall be presented in the State's Capital Budget format.

4. Issues for each site option, along with photographs shall be maintained . The feasibility of development and construction of the project on each of the three site options shall be presented and integrated into the predesign document. Site selection studies and criteria shall include (but not be limited to):
    - Access by the public client
    - Access by employees
    - Available Transportation
    - Environmental Impact
    - Sustainability
    - Site developmental costs relating to site utilities/infrastructure
    - Parking requirements / costs (Number of stalls/surface parking/structured parking)
    - Phased Development

5. When appropriate, provide cost estimates for both surface and structured parking for each site being considered

5.2 Where a site is located and how it functions will impact an organization's operations and ongoing operational costs. For example: If an organization requires regular shipments and receipts of a product; where and how those shipments/receipts are accommodated on site will affect your operations and your operating costs. Thus, selecting a site for should be accomplished by identifying needs criteria.

1. The predesign activities include development of selection criteria, analysis of sites that fit the

criteria, and recommendation of a preferred site or sites. Initial criteria include:

- Verify specific site restrictions with municipal zoning ordinances. i.e. park ratios, setbacks, rights-of-ways, need for retention ponds,
- Site is adequate based on coverage of the building, parking and other impervious areas
- Vehicle access, parking, circulation, and delivery on the site meet the needs of the operation.
- Utilities servicing the site along with their capacities are adequate
- Who does the facility serve, where do they commute from and where they will park
- Where staff commute from and where they will park
- Site is serviced by public transportation
- Where shipments and receipts are made
- Surrounding disturbances that may impact operations.
- Environmental conditions – Is hazardous abatement/contaminated soil clean-up needed?
- Is an Environmental Assessment or Environmental Impact Assessment needed?
- Traffic study
- Historical/Archeological requirements.
- Security criteria

2. Sustainable sites criteria. (See requirements under The B3 State of Minnesota Sustainable Building Guidelines (B3-MSBG) at http://www.msbg.umn.edu)
   Criteria need to consider sustainable strategies for the site of the proposed project.
   These include:
   - Construction Activity pollution prevention
   - Brownfield development
   - Storm water design
   - Light pollution reduction
   - Community, Habitat, Transportation, Open Space,
   - When local/site energy systems have been analyzed and selected, the site criteria may include:
   - Location(s) of photovoltaic solar panels
   - Location(s) of wind generators
   - Locations(s) and area for geothermal loops (vertical, horizontal)

3. Site Amenities and Signage
   The predesign is to identify anticipated site amenities and signage and to include their associated costs

4. Security

   Depending upon the State Agency's needs and operations, a security/vulnerability assessment for site and building may be needed to establish the security criteria for site selection. This should be accomplished along with associated costs to implement.

5. All available information regarding the existing or proposed site is to be included in the predesign submittal including: Existing Conditions Assessment, Hazmat Investigation, Topographic Analysis, Geotechnical/soils Environmental Studies and Reports, etc.

SECTION 6 FINANCIAL INFORMATION

6.1 CAPITAL EXPENDITURES

The total project cost includes all direct and associated costs for all activities and phases, including design, construction, loose equipment, commissioning, move-in, and contingencies. A qualified cost consultant, cost engineer or a professional consulting firm should be a part of the predesign team for preparation of costs and working with agency staff in developing the total project cost estimate. The construction cost estimate must pull together the program requirements, site conditions, and reasonable project/facility design assumptions. Although the potential cost magnitude of the project must be kept in mind throughout the predesign phase, the detailed construction cost estimate is not prepared until other portions of the study have been completed so that all of the scope elements and site conditions of the proposed project have been identified.

The Predesign Submittal for a proposed project must include a cost plan as follows:

1. Provide a project budget using the *Project Cost Form* in Appendix 6a and the *Construction Costs Form* in Appendix 6b (Appendix 6a and 6b forms are located at the end of this Section). In the *Construction Costs Form* in Appendix 6b, indicate the construction types (new/remodel/renewal) according to categories indicated in Section 6.1a below. Note: The *Project Cost Form* is in the same format as the forms to be completed in State's *Capital Budget System.*

2. Preparation of the Project Cost Plan and Form must be accurate; it is the basis for determining the amount of funding to be appropriated by the legislature. The full range of costs for the project must be considered. Additional costs to consider include:
    - Project Delivery Method (Construction Management, Design-Build, Design-Bid Build)
    - Owner's Project Representative
    - Specialty design consultants and systems. (Security, Acoustics, Food Service, Lab etc.)
    - Facility and site restrictions or conditions that effect costs
    - Site/Land Acquisition and development (roads, curbs, parking, lighting, landscaping, site amenities, site signage)
    - Environmental Impact Study (and associated legal fees when expected)
    - Site Surveys & Geotechnical Investigations
    - Wetlands mitigation
    - Soils correction or cleanup replacement
    - Hazardous Material removal (asbestos, lead paint, mold, PCBs, etc).
    - Utility connection fee
    - Sewer/Water Access Charges (SAC & WAC)
    - Building Permits and Inspections costs
    - Deconstruction/salvage as part of demolition
    - Insurance costs to be borne by the contractor
    - Phasing (or interrupted schedules)
    - Temporary Utilities and Facilities
    - Sustainability Costs (See requirements contained in this manual)
    - Cold Weather Construction
    - Facility Security Requirements (affects cost and schedule)
    - Financing Costs
    - Facility Condition Assessment (renovations)

3. Relocation costs are funded from the general fund and not bond sales. Information regarding the Chart of Accounts will be presented when the Capital Budget Instructions are prepared and forwarded to the agencies in advance of each bonding cycle.

4. Actual cost histories and adjusted for program variations that support the proposed budget are to be included and the source of these costs should be provided as well. Prior to each bonding session and during the Capital Budget Process, an inflation table will be posted on the Department of Minnesota Management and Budget (MMB) web site http://www.mmb.state.mn.us/bis-cbs
Include the costs for inflation on LINE 8 of the Project Cost Form in Section 6-Appendix 6a.

6.1a CAPITAL BUDGET REQUEST CONSTRUCTION TYPE OF SPACE LISTING

- Monumental office buildings
- Office buildings
- Correctional/detention facilities
- Nursing or long-term care facilities
- Medical clinics and facilities
- Hospitals
- Residential/Community based healthcare facilities
- K-12 Educational facilities
- Higher education facilities teaching/classroom, etc.
- Laboratories
- Teaching/laboratories
- Computer facilities
- Library facilities
- Auditorium
- Cafeteria/kitchen/food service
- Warehouse
- Parking structures
- Maintenance facilities
- Heating/cooling plants
- Utility infrastructure facilities

Cost planning is based on the principle that new project budget ranges should be derived from analysis of historical data for similar projects. If the proposed project costs do not follow historical cost patterns, then the reasons should be determined and explained in the proposed project budget.

6.2 ONGOING OPERATING EXPENDITURES

1. Along with the initial capital cost of a project, the ongoing operational costs must also be considered and then compared with current levels of funding for operations, maintenance and staffing.

2. The Predesign Submittal must include a breakdown of ongoing operating costs that will be incurred as a result of the project. The *State Operating Costs Form* – Section 6 -Appendix 6c (located at the end of this Section) is to be included. Also indicate the source of funding for the operating costs.
   - Estimate of project impact on the requesting agency's operating budgets (for state agencies): An estimate of project effects on operating budgets including staffing levels and corresponding salaries and building repair, replacement, utilities, and maintenance should be included. This information should follow the format of information supplied in the *State Operating Costs*

Form - Appendix 6c, located at the end of this Section. Particular attention should be paid to whether the maintenance and operational services are expected to be performed by agency personnel or will be contracted out to private vendors.

- Summary of proposed operating revenues and expenditures (nonstate agencies and grants): A five-year estimate of operating budgets that identifies major categories of expenditures and identifies associated revenue sources. If revenue sources include fee generated revenue, a full description of these fees and the assumptions used in making the projections and their justifications should be provided. Potential revenue sources and amounts should also be discussed in this section. All revenue sources (parking decks, dormitories, student centers, cafeterias, etc.) should be listed individually and totaled to show the offset of operational expenses.
- This section should end with a narrative that illustrates a comparison of costs that are anticipated over or under present levels of funding for operations and maintenance and staffing.

3. Although an outside consultant might prepare this section with information provided by the agency, the agency/organization should review the presentation in detail.

6.3 LIFE CYCLE AND COSTS

Provide an estimate the life cycle and cost of the proposed project and major elements. (Walls, Foundation, Roof, Structural System, Mechanical System, Electrical System)

Life Cycle Costing (LCC):
The Life Cycle Cost is to address the total cost of ownership and level of quality of the building and its major systems:

- Site/Utility Systems
- Building Envelope
- Structural System
- Mechanical System
- Electrical System

In the LCC Analysis, provide life expectancies of new buildings: 30 year, 40 year, 60 year and above 60 years.
The predesign should also include an analysis that provides the following information on the proposed project:

Initial costs (design and construction).
Operating costs (energy, water/sewage, waste, recycling, and other utilities).
Maintenance, repair, and replacement costs.
Other environmental or social costs/benefits (impacts on transportation, solid waste, water, energy, infrastructure, worker productivity, outdoor air emissions, etc).

6.3 COMPARATIVE FINANCIAL ANALYSIS: Predesign**s** for new buildings must contain a financial model and analysis showing long term cost comparisons between the following options:
a. lease, b. lease to own and, c. build and own.

SECTION 6 - APPENDIX 6a

PROJECT COST FORM
Fiscal Years 2012-2017
Dollars in Thousands ($137,500 = $138 thousand)

TOTAL PROJECT COSTS All Years and All Funding Sources	Project Costs All Prior Years	Project Costs FY 2012-13	Project Costs FY 2014-15	Project Costs FY 2016-17	Project Costs All Years	Project Start (Month/ Year)	Project Finish (Month/ Year)
1. Property Acquisition							
Land, Land and Easements, Options							
Buildings and Land							
Other Costs							
SUBTOTAL							
2. Predesign SUBTOTAL							
3. Design Fees							
Schematic							
Design Development							
Contract Documents							
Construction Administration							
Other Costs							
SUBTOTAL							
4. Project Management							
State Staff Project Management							
Non-State Project Management							
Other Costs							
SUBTOTAL							
5. Construction Costs							
Site & Building Preparation							
Demolition/Decommissioning							
Construction							
Infrastructure/Roads/Utilities							
Hazardous Material Abatement							
Construction Contingency							
Other Costs							
SUBTOTAL							
6. Art SUBTOTAL							
7. Occupancy							
Furniture, Fixtures and Equipment							
Telecommunications (voice & data)							
Security Equipment							
Commissioning							
Other Costs (i.e. relocation)							
SUBTOTAL							
8. Inflation							
Midpoint of Construction						Midpoint Date:	
Inflation Multiplier							
Inflation Cost **SUBTOTAL**							
9. Other SUBTOTAL							
GRAND TOTAL							

SECTION 6 - APPENDIX 6b

CAPITAL BUDGET REQUEST

CONSTRUCTION COSTS FORM

CONSTRUCTION TYPE OF SPACE	EXISTING	NEW CONSTRUCTION			REMODELED			RENEWAL (Asset Preservation)			TOTAL COST (in $000)
List Major Type of Space (Office, Lab, Ramp, etc.)	Gross Sq. Feet	Gross Sq. Feet	Cost (in $000)	Cost Per Sq. Foot (in $)	Gross Sq. Feet	Cost (in $000)	Cost Per Sq. Foot (in $)	Gross Sq. Feet	Cost (in $000)	Cost Per Sq. Foot (in $)	
TOTAL											

This Form is for Reporting and Analysis of *Construction Costs* only
No other cost items from the Project Cost Form should be included on this form.

SECTION 6 - APPENDIX 6c

CAPITAL BUDGET REQUEST

STATE OPERATING COSTS FORM

CHANGES IN STATE OPERATING COSTS	**Current Cost**	**Projected Cost** (Without Inflation)			
	F.Y 2010-11	**F.Y. 2012-13**	**F.Y. 2014-15**	**F.Y. 2016-17**	**F.Y. 2018-19**
Compensation (Program and Building Operation)					
Other Program Related Expenses					
Building Operating Expenses					
State-Owned Lease Expenses					
Nonstate-Owned Leased Expenses					
Other Expenses: (specify):					
Revenue Offsets					
TOTAL					
No. of FTE* Personnel					

*FTE= Full Time Equivalent

NARRATIVE: Insert a narrative that illustrates the impact of the proposed project, by comparing costs that are anticipated over or under present levels of funding for operations and maintenance and staffing.

SECTION 7 SCHEDULE

7.1 SCHEDULE INFORMATION

Proposed project schedule: Predesign should include a realistic schedule for all stages of the project. Site selection and acquisition, required government actions and proceedings at all levels, designer selection, design approvals, construction, occupancy/relocation, and commencement of operations (commissioning) should all be included (if applicable). Pay special attention to Phasing and associated costs.

Proposed funding sequence: The schedule should include a funding sequence for the project that reconciles the agency's needs with the alternate year capital budget cycle if the project will receive funds from more than one appropriation cycle. And the schedule shall include relocation time and sequencing.

The schedule should include owner related functions also such as:

a. Identify and purchase land
b. Develop land to provided needed utility services.
b. Environmental Assessments or Impact Statements
c. Owner required shut-downs
d. Secured access by contractors (work within a secure facility will extend the construction schedule due to entry/exit inspections, tool inventories, and security functions which typically reduce actual hours worked per day).
e. Owner review of documents
f. Regulatory reviews (Codes, Health Dept, Environmental, Planning Commissions, etc).

7.1 SCHEDULE INFORMATION REQUIREMENTS

The predesign document is to contain either a bar chart (Gantt chart) schedule with all milestone events related to the project.

PREDESIGN CHECKLIST

PREAMBLE

1. Minnesota Statute §16B.335 Subdivision 3 requires submittal of a Predesign Document to the Commissioner of Administration on proposed projects that have a construction cost of $750,000 or greater ($1,500,000 for a local government project) when State money (of any amount) is used on the project.

2. When an appropriation is made for a major construction project, Minnesota Statute §16B.335 Subdivision 1 further requires that you not prepare final plans (construction documents) until you present the program plan and cost estimates for all elements necessary to complete the project to the chair of the Senate Finance Committee and the and the Chair of the House Ways and Means Committee and they have made their recommendations and the Chair of the House Capital Investment Committee is notified.

3. Predesign is a tool with a two-fold purpose:
   - To validate your proposed project by linking it to your strategic plan and operational program. (i.e. Rather than just thinking or believing that a need for your project exists; the predesign document needs to convey supporting data and information that justifies the need).
   - To ensure a comprehensive identification of the scope and cost of your proposed project. (i.e. Rather than just identifying a construction cost for your project, predesign prompts a more thorough look at additional costs, such as moving/relocation, site acquisition, signage, furniture, equipment, hazardous material abatement, and soft costs that will be required for your project).

     Always remember that the predesign will eventually be the design instructions to a selected architectural designer.

4. A Predesign document tells the story of:
   - What - The name, scope and cost of the project
   - Where - The site and context
   - When - The schedule
   - Why - Validation of need
   - How - Funding & resources needed

5. The items in this checklist are a summary of the State's *Predesign Manual*
   (available at the Department of Administration's website www.admin.state.mn.us/recs)

6. Complete the checklist and submit with your final predesign document.

PREDESIGN CHECKLIST - continued
Complete this checklist, sign, and submit with the predesign document.

Complete	N/A	
☐	☐	**1.** Review the Contents *of a Predesign Submittal* in the State's *Predesign Manual*.
☐	☐	**2.** Structure the format of your Predesign submittal to contain the Components of Predesign. Include component tabs to readily identify and access each component. The components are: a. Predesign Summary Statement b. Basis for Need – Project Background c. Agency/Organization Planning d. Project Description 1. Architectural/Engineering Program 2. Precedent Studies 3. Technology Plan 4. Sustainability, Energy Conservation, and Carbon Emissions 5. Operations and Maintenance Requirements 6. Statute Requirements 7. Specialty Requirements 8. Project Procurement and Delivery e. Site Analysis and Selection f. Financial Information g. Schedule Information
☐	☐	**3.** Work with the user agency to develop a *Section 1 – Predesign Summary Statement.* The executive summary is a brief, two or three paragraph, and description of the project. Below the description, provide a tabulation of the total square footage, total construction cost and total project cost. For projects that are using matching grants or funding from other sources, **indicate the amount of state funding that is being requested (or that was received).**
☐	☐	**4.** For the *Section 1 Predesign Summary Statement*: Complete the "*Building/Project Data Sheet*" to tabulate the pertinent data upon which the cost estimates are based. Include this sheet as a second page to the Section 1 – Predesign Summary Statement.
☐	☐	**5.** For the *Section 1 Predesign Summary Statement*: If the project involves remodeling of an existing building, use the "*Building Audit Sheet*" to perform an audit/survey of the building's major components, systems and their conditions. Use and amend the "*Building/Project Data Sheet*" to indicate the scope of work for the proposed project. Insert behind the Summary Statement.
☐	☐	**6.** For the *Section 2 Basis For Need-Project Background:* Gather the Section 3 planning information from the Agency/Organization and synthesize it into the format shown in the Section 2A Example. Detailing the Mission, Strategic Plan, Operational Plan and Basis for Need for the project. At the back of this include any additional background information on the project from your work with the agency.

Complete	N/A	
☐	☐	**7.** For the *Section 2 Basis For Need-Project Background:* **Verify that the scope of the predesign complies with the language of the appropriation.** (For projects that have already received a legislative appropriation).
☐	☐	**8.** For the *Section 3 Agency/Organization Planning:* This Section supports the *Basis for Need–Project Background.* Obtain the following from the user agency/organization: a. Planning documents such as org charts, mission statement, b. Strategic plan, and c. Operational plan for the project. This information would include any supporting data, analysis or studies which support the proposed project and demonstrates the need for the project by linking it to the agency's mission, strategic and operational plans; which, in turn were used to prepare Section 2.
☐	☐	**9.** For the *Section 3 Agency/Organization Planning:* Included are a list and narrative regarding the stakeholders involved and affected by the project (i.e. other agencies, organizations, and entities). Also included are issues that remain to be resolved among stakeholders along with budget and schedule impacts upon the project.
☐	☐	**10.** For the *Section 3 Agency/Organization Planning:* Impacts on Operations, Budget and Facility Staff are detailed.
☐	☐	**11.** For the *Section 4.A Architectural /Engineering Program:* (For State Agency projects) Obtain and coordinate space planning standards with the Department of Administration. Focus on job related functional needs and the State's *Space Guidelines* when developing the square foot areas of spaces. (Space Guidelines are located at www.admin.state.mn.us/recs). Include a review sign-off from The Department of Administration's Real Estate and Construction Services Division.
☐	☐	**12.** Work with the user/owner to develop the *Section 4.A Architectural/Engineering Program.* Employ a participatory programming methodology similar to the example) to analyze operations and activities to discover a more efficient and habitable environment. a. Your methodology should consider Post-Occupancy Evaluation (POE). (POE determines how well the project and its systems met the client's needs and serve the client's operation).
☐	☐	**13.** For the *Section 4.A Architectural/Engineering Program.*: Complete the *Space Needs Inventory* sheet for each room of the project. Include these sheets in the predesign document. The Space Needs sheet should also identify special Mechanical or Electrical needs or upgrades for the space. For instance, you would state the need for special humidification for wood instrument storage in a music classroom.
☐	☐	**14.** For the *Section 4.A Architectural/Engineering Program.*: Prepare and include a

detailed architectural space program with a Table of Spaces and their respective areas (square footages) with a total of assignable and gross square feet.

☐ ☐ **15.** For the *Section 4.A Architectural/Engineering Program.*: Provide adjacency diagrams of all spaces and a diagrammatic/conceptual layout of spaces. Superimpose these diagrams onto the Site Plan to show building/site fit and site relationships.

☐ ☐ **16.** For the *Section 4.A Architectural/Engineering Program.*: On state agency projects, identify potential MINNCOR Industries www.minncor.com and Minnesota State Industries products http://stateindustries.org for the project.

☐ ☐ **17.** For the *Section 4.A Architectural/Engineering Program.* (for State Agency Projects): If applicable to the agency, work with the user agency to incorporate a *Telecommuting Plan* for this project. Include the *Telecommuting Plan* with the Predesign submittal document

☐ ☐ **18.** For the *Section 4.A Architectural/Engineering Program.* Develop the Furniture, Fixtures and Equipment (FF&E) needs and include the associated costs as a line item in the project cost estimate. Consider Interior/Exterior Signage Exterior landscaping and fixtures, Telecommunication devices, Security Camera System, Lockers, Trash compactor, Window washing equipment, phasing costs, and Moving costs. Note: moving costs are not bondable.

☐ ☐ **19.** For *Section 4.B Precedent Studies:* Research the project. Visit similar building types and include *precedent* projects into the predesign document and how the precedent affects the proposed project. Include information on the facilities (name, location, size, design features) ; Then indicate any features that will be incorporated into the proposed project. Special attention should be paid to design features that result in efficiency of program operations and ability to reduce long term operating costs.

☐ ☐ **20.** For the *Section 4.C Technology Program* (for State Agency Projects): Identify and document the technology needs for the project. Develop a Technology Plan for the project using the State's Office of Enterprise Technology (OET) guidelines (*"Building Infrastructure Guidelines for State Owned Buildings")* located at: www.admin.state.mn.us/recs. Reference and include the "*Building Infrastructure Guidelines for State Owned Buildings"* in the Predesign document.

☐ ☐ **21.** For the *Section 4.C Technology Program* (for State Agency Projects): Forward the Technology Plan to the State's Office of Enterprise Technology (OET) for review; and obtain a written letter from OET regarding the Technology Plan for the proposed project. Incorporate any changes requested by OET.

☐ ☐ **22.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions:* In accordance with Minnesota Statute §16B.235 identify Sustainable

and High Performance goals for the project using *"The State of Minnesota Sustainable Building Guidelines"* at http://www.msbg.umn.edu . Include a summary table of goals & strategies. Also include the B3-MSBG project submittal report for the PredesignPhase that is generated by use of the B3-MSBG Tracking Tool at http://www.msbgtracking.com .
This requirement applies when the project is new building, addition, or major renovation. See the Applicability rules at the B3-MSBG website.

☐ ☐ **23.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions:* Include a table of strategies to comply with Sustainable Building (SB) 2030 requirements. For SB2030 requirements, see: http://www.mn2030.umn.edu

☐ ☐ **24.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions:* In accordance with MN Statute § 16B.32, identify alternative energy uses and associated systems. This applies to a new building or for a renovation of 50 percent or more of an existing building or its energy systems. Anticipate future designs which use active and passive solar energy systems, earth sheltered construction, and other alternative energy sources where feasible.

☐ ☐ **25.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions* When the project is for a State Agency, provide a written analysis for including alternative energy (wind and/or solar) sources to provide 2% of the proposed building's energy consumption. An example of an analysis is located at: www.admin.state.mn.us/recs

☐ ☐ **26.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions:* Provide a written plan in the predesign to consider providing Geothermal and Solar Energy Heating & Cooling Systems on new or replacement HVAC systems. Develop and submit a written plan in the Predesign document, for compliance with MN Statute 16B.326 to give preference to and to review and study geothermal heating and cooling systems. An example of an analysis is located at: www.admin.state.mn.us/recs

☐ ☐ **27.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions:* Include a narrative for the requirement that the project specifications are to include requirements for the contractor to provide and submit a "Waste Management and Recycling Program Plan" for both demolition and construction

☐ ☐ **28.** For the *Section 4.D Sustainability, Energy Conservation and Carbon Emissions:* Estimated yearly energy consumption and associated costs are included.

☐ ☐ **29.** For the *Section 4.E Operations and Maintenance Requirements:* Conduct information gathering and program meetings with operations and maintenance staff. Document and include these needs into the predesign.

☐ ☐ **30.** For the *Section 4.E Operations and Maintenance Requirements:* For Projects located on the Capitol Complex, obtain *"Plant Management Preferred Equipment*

List", "Capitol Complex Guidelines", and *"Signage Guidelines"*. (available at www.admin.state.mn.us/recs). Include these documents in the Predesign document as instructions for the future design team.

☐ ☐ **31.** For the *Section 4.F Statute Requirements:*
See Appendix 4c for statute requirements related to all projects receiving any amount of state funding. Include this table of requirements in the final predesign document for the project. (Instructions for the future design team).

☐ ☐ **32.** For the *Section 4.F Statute Requirements,:* Identify the statutory requirements for the project. These are to be included in the final Predesign Document.

a. The statute that gives authority for the operational program that this Predesign is being undertaken for.
b. Licensing requirements. (i.e. Department of Health, Dept of Education, etc).
c. Design requirements (minimum room/window sizes, etc.)
d. Operating Standards (required State, Federal, & Industry standards)
e. Federal Statutes/Laws/Requirements.
f. Significant Building Code or land use requirements.

☐ ☐ **33.** For the *Section 4.F Statute Requirements:* Include any federal design requirements or other mandated requirements.

☐ ☐ **34.** For *Section 4.G Specialty Requirements:* Review the need to conduct a security and/or vulnerability assessment for the project. Include the study in the predesign document along with associated costs.

☐ ☐ **35.** For *Section 4.G Specialty Requirements:* Include any unique requirements that are applicable to the specific project. i.e. performance requirements, unique testing requirements, environmental reports, assessments, impact statements, facility condition audits that may have been done, hazardous materials surveys, unique construction, restrictions.

☐ ☐ **36.** For *Section 4.G Specialty Requirements:* For projects that involve historic renovations, are within a historic district, or involve demo of a building(s) that is on the register of historic places and/or within a historic district, meet with the State Historic Preservation Office (SHPO) to determine requirements. Include all SHPO requirements in the predesign as well as all specialty consultants (historic preservationist, archeologist) required for the future design team.

☐ ☐ **37.** For *Section 4.H Project Procurement and Delivery:* Provide a written statement and recommendation of the proposed construction delivery method to be used on the project. Include the reasons for this selection. Options include: Design-Bid-Build, Best Value, Construction Manager at Risk, Design-Build

☐ ☐ **38.** For the *Section 5 Site Analysis and Selection:* If a site has not been chosen for the proposed project, carry out a site analysis and recommendation process. The

recommended site(s) are to be based on the locations that best meet pre-identified site criteria. For State-owned buildings/State Agency projects, coordinate this effort with the Department of Administration, Real Estate and Construction Services.

☐ ☐ **39.** For the *Section 5 Site Analysis and Selection:* When locating or relocating or when proposing a new building or renovation, the Predesign Document must include an analysis of the agency's location(s) using *"Criteria for Locating State Offices and Agencies"* located at: www.admin.state.mn.us/recs

☐ ☐ **40.** For the *Section 5 Site Analysis and Selection:* If the proposed project is a new building that will be in a campus setting (i.e. school, university, prison, extended care); review location options on the campus in regards to efficient operation and programs provided on the campus. (i.e. Agency masterplanning of a campus should occur in order to give direction as to future growth and organization - Note: Masterplanning is not a bondable activity).

☐ ☐ **41.** For the *Section 5 Site Analysis and Selection:* Verify if the project will be required to undergo a State Environmental Review. To determine this, go to: http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. If required the predesign will need to include all applicable information and direction to the future design team to provide assistance to the owner and responsible government unit in conducting an environmental assessment (EAW) and environmental impact statement (EIS).
Note: If the project includes federal dollars, determine the need to complete an Environmental Assessment in accordance with the National Environmental Protection Act (NEPA).
Include all applicable guidelines for EAWs and EISs into the predesign submittal document. And include required timelines in the project schedule.

☐ ☐ **42.** For the *Section 6 Financial Information*: Compile the project costs using the Department of Minnesota Management and Budget's *Capital Budget Request* spreadsheet form (this form is included in this manual). Complete this form and include it in the submitted Predesign document.

☐ ☐ **43.** For the *Section 6 Financial Information:* Compile the projected operating costs using the *State Operating Costs* form (this form is included in this manual). Complete this form and include it in the Predesign submittal document.

☐ ☐ **44.** For *Section 6 Financial Information*, review the Project Delivery Method (single prime, multiple prime, design/build)for impact on the *Cost Plan* for the project.

☐ ☐ **45.** For *Section 6 Financial Information,* include design fees for special consultants in the project costs (i.e. food service, acoustical, security, etc.).

☐ ☐ **46.** For *Section 6 Financial Information,* verify existing utility infrastructures for adequate capacity needed to support the proposed building/facility or renovation. Incorporate costs for upgrades into the budget.

☐ ☐ **47.** For *Section 6 Financial Information*: If applicable and/or desired, include percent for Art in the project cost. Statute 16B.35 Subdivision 1 applies [up to 1% of the appropriation can be allocated to art in public buildings – Detention facilities and non-public buildings are exempt.]

☐ ☐ **48.** For *Section 6 Financial Information*: Assist the user agency in identifying and incorporating contingency phasing and funding plans into the predesign to anticipate questions during legislative hearings.

☐ ☐ **49.** For *Section 6 Financial Information*: When the proposed project is for an existing Correctional Facility, obtain the contractor security requirements for the facility and include appropriate cost and schedule adjustments.

☐ ☐ **50.** For *Section 6 Financial Information*: On major building projects, use the predesign to develop an options based strategy for the agency to use in approaching the governor and legislature when requesting funding. The predesign should anticipate possible questions by presenting options for varying scopes and costs. Examples are:

1) It may make sense to break out options (and costs) to spread the funding request out, over several capital bonding sessions.
2) Phasing of the project
3) Options for private funding or lease with option to own (legislative authority will be required for this option).
2) Options for a mix of private and public funding (legislative authority will be required for this option).

☐ ☐ **51.** For *Section 6 Financial Information*: For renovations, a Facility Condition Assessment has been conducted on the existing building and associated upgrade costs are included in the estimate.

☐ ☐ **52.** For *Section 6 Financial Information*: Determine if there are any hazardous material/asbestos abatement clean-up costs, fuel tank removal and/or contaminated soils clean-up costs for the proposed project or site.

☐ ☐ **53.** For *Section 6 Financial Information:* The Life Cycle cost of the major building components and building as a whole has been performed and included in the predesign document. Show comparison costs of varying construction systems/components and their life span. Indicate the selected system that was used to prepare the cost estimates.

☐ ☐ **54.** For *Section 6 Financial Information:* State's Design Guidelines were reviewed and associated costs accounted for.

☐ ☐ **55.** For *Section 7 Schedule Information*: Develop a total project schedule (annotated bar chart) and include in the submittal document. Include time for

hazardous material abatement, site clean-up, fuel tank removal and soils replacement costs, project schedule phasing time, relocation/move time, and any potential long-lead material deliveries.

☐ ☐ **56.** For *Section 7 Schedule Information*: Include a quality control/coordination review and cost in the design budget. Indicate a minimum of 1.5 months in the schedule for this review.

☐ ☐ **57.** For State Agency projects: Complete the Technology Checklist

☐ ☐ **58.** This predesign document contains all the necessary requirements and costs for:

a. The owner to confidently pursue funding based on the cost estimates contained.

b. The owner to structure their contract with a design firm as to the design scope of work and fee; and,

c. The future design team all project requirements in order for the design firm to carry out the design.

☐ ☐ **59.** Include the SIGNATURE sheet, with signature of the ARCHITECT (see page 1).

PREDESIGN CHECKLIST – continued
TECHNOLOGY & TELECOMMUNICATIONS

Complete	N/A	
☐	☐	**1.** Obtain a copy of Office of Enterprise Technology's (OET's) "*Building Infrastructure Guidelines For State-Owned Buildings"* and review the requirements for costs to be included in the project. For future design use, should the project be funded, include the Technology Plan and guidelines in the predesign submittal. The technology guidelines are available in the appendix of the state's *Design Guidelines*.
☐	☐	**2.** In coordination with OET, determine the need for and develop a Technology & Telecommunications Plan for the project. When recommended by the Office of Enterprise Technology, form and convene a Predesign meeting to determine the agency's technology needs, goals, timelines and objectives. The Predesign Team will consist of, but will not be limited to: Agency/customer Real Estate and Construction Services' (RECS) Project Manager Telecommunications Analyst (S)/Designer (if required for predesign) Note: The State's (RECS) Project Manager will provide the OET contact name.
☐	☐	**3.** For remodeling projects, verify existing technology infrastructures for adequate capacity. Include upgrade costs in the Cost Estimate.
☐	☐	**4.** Identify the user agency's short and long range plans for technology needs.
☐	☐	**5.** Identify if the project is or will be a single building or campus configuration.
☐	☐	**6.** Identify existing distribution rooms and their capacity.
☐	☐	**7.** Identify requirements for new distribution rooms.
☐	☐	**8.** Identify Fiber Optic requirements, existing locations, new fiber lines.
☐	☐	**9.** Identify copper-wiring requirements, existing and new.
☐	☐	**10.** If telecommunications work is to be within an existing building, identify existing conditions; i.e. floor & ceiling heights & conditions, piping and duct conditions, water problems, feeder cable limitations, equipment room limitations.
☐	☐	**11.** Identify existing telecommunications infrastructure service to the building.
☐	☐	**12.** Identify types of existing cable trays and requirements for new cable trays.
☐	☐	**13.** For projects in existing buildings, identify available communications "pairs" coming into the building.
☐	☐	**14.** Identify IPOP, APOP and MPOP needs.
☐	☐	**15.** Forward a copy of the project Technology Plan to OET.

PREDESIGN CHECKLIST – continued
TECHNOLOGY & TELECOMMUNICATIONS

Complete	N/A	
☐	☐	**16.** Obtain a written letter from the Office of Enterprise Technology (OET) indicating acceptance of the Technology Plan for the project. Incorporate OET's letter into the Predesign Document.
☐	☐	**17.** Incorporate any changes into the Technology Plan as requested by OET (resulting from review of agency's technology plan for the project).
☐	☐	**18.** Verify existing utility infrastructures for adequate capacity and cost upgrades needed to support the proposed building/facility or renovation.
☐	☐	**19.** See Appendix P for sample of predesign submittal cover letter.

PREDESIGN CHECKLIST
Check off the above items as they are completed and include this checklist with your final submittal document. Completion of this checklist is **MANDATORY.**

CONSULTANT SIGNATURE:

Signature: _____

Name of Project: _____

Printed Name: _____

Agency: _____

Title: _____

Facility: _____

Company: _____

State Project No. _____

NOTE: For State Agencies & Higher Education (University of MN, MN State Colleges & Universities):
In accordance with MN Statute 16B.33, Subdivision 3 (see Appendix), should your project be funded, and the construction cost is $2,000,000 or greater and/or design fees are $200,000 or greater, the State Designer Selection Board will be required to select the architectural/engineering firm. The selected design team will then be given the predesign document to define their scope of work and budget. This requirement does not apply to grant projects to Local Governmental Units.

SAMPLE PREDESIGN SUBMITTAL COVER LETTER

LETTERHEAD
of Agency or Organization

[insert date]

Commissioner **[insert name of Commissioner of Administration]**
c/o Gordon Christofferson
Real Estate and Construction Services
309 Administration Building
50 Sherburne Ave
St. Paul, MN 55155

Dear Commissioner **[insert name]**,

RE: Predesign Submittal for **[insert "a new"]** or **["the remodeling of"] [insert name]** building

In accordance with Minnesota Statutes §16B.335, Subdivision 3, enclosed you will find the Predesign submittal document for the **[insert name of project, building & location**]. This predesign outlines the **[insert name of agency/political subdivision]** 's capital budget request for the **[insert year]** state legislative session.

This project consists of the **[new construction of]** or **[remodeling of] [insert number of square feet]** of space to support **[insert operational plan/goal]**. The total project cost is estimated to be **[insert amount]**. This proposal seeks **[insert "full funding"]** or **["matching funds"]** in the amount of **[insert amount]**.

Sincerely,

[insert Commissioner/Authority Name]
[or head of political subdivision or other approving authority]

Enclosure

cc:

SAMPLE LEGISLATIVE NOTIFICATION LETTER

LETTERHEAD
of the Organization Receiving Funding

[insert date]

The Honorable [**insert name]**
Senate Finance Committee
Minnesota State Senate
[insert room number] State Capitol Building
Saint Paul, MN 55155

The Honorable **[insert name]**
House Ways and Means Committee
Minnesota House of Representatives
[insert room number] State Office Building
Saint Paul, MN 55155

Dear Senator **[name]** and Representative **[name]:**

The Legislature in the Laws of 2002, Chapter 393, section 24, subsection 4 appropriated $3,070,000 for the Minnesota Correctional Facility - Shakopee:

> "To design, construct, renovate, furnish and equip the Independent Living Center (ILC) into a 48-bed general population living unit; increase space in the kitchen, serving, and eating areas; increase space in the visitation area; and modify the staff control station in the segregation unit to provide adequate space for updated technical equipment and more room for staff."

In accordance with M.S. §16B.335, subd. 1, the program plan and cost estimates for all elements necessary to complete the project are enclosed for your review and recommendation to move forward with construction documents, bidding, and construction. The estimated construction cost is $2,286,611.

Should you have any questions regarding this project, please contact **[insert name of contact person] [insert title]** at **[insert phone number].**

Very truly yours,

[insert name]
[**insert title**]

Attachment (2002 Capital Budget Request, Program and Construction Estimate)

cc: Representative [insert name], House Capital Investment Committee

GLOSSARY

Agency Strategic Plan: A projection of agency facility needs based on trends, policies, and standards that define the need.

Architectural/engineering program: A written statement setting forth design objectives, constraints and criteria for a project, including space requirements and relationships, flexibility and expandability, special equipment and systems, and site requirements, if applicable.

Building Operating Expenses: Costs related to the operations of the physical building such as maintenance, utilities, security, repair and alteration, and any other costs associated with the building operations. (This cost information includes but is not limited to the following Accounting codes 2A20, 2A30, 2A90, 2B0, 2D10, 2D20, 2D90, 2J00, 2K00, 2K30, 2K60, 2K70, 2K80, 2K90, 2M00, 2M50, 2S00, 2S20, 2S90.)

Changes in State Operating Costs: Serves in the capacity of a facilities note that seeks determination of the project's impact on the agency's operating budget over a six-year period. This requirement is mandated by state statutes (M.S. 16A.105, sec. 5, subd. 5). Both direct and indirect costs should be identified for the current and future biennia including, but not limited to, staffing costs, program/service costs, and increased building operation and utility expenses. These costs should reflect the agency budget associated with the request.

Commissioning: Is a basic four-part processing verifying: the review of the project program through design and construction, the interaction and training process for facility personnel, the correction of project deficiencies, and the recordation of warranties and guarantees.

Compensation (Program & Building Operations): Refers to all the direct and indirect program and building operations staffing costs associated with this request. (This cost information includes but is not limited to the following Accounting codes 1A0-1E0.)

Construction: The total cost or estimated cost to the Owner of all elements of the project designed or specified by the architect. It does not include the compensation of the architect and the architect's consultants, the cost of land, rights-of-way, financing, or other costs which remain the responsibility of the owner.

Construction Contingency: An amount of money set aside for unforeseen conditions in a construction project. The amount can vary from 2% to 3% in new construction to 5% to 10% in projects of a remodeling nature based on project size and complexity. Differences in localized costs, design contingencies, or other items should be factored into the general construction cost.

Construction Management: Management services provided to an owner of a project during the design and/or construction stage by a person or entity possessing requisite training experience. These services may include advice on the time and cost consequences of design and construction decisions, scheduling, cost control, coordination of contract negotiations and awards, timely purchasing of critical materials and long-lead items, and coordination of construction activities.

Contract Administration: The duties and responsibilities of the architect and owners representative (state) during the construction stage.

Contract Documents: The agreement between the owner and contractor, conditions of the contract (general, supplementary, and others), drawings, specifications, and addenda issued prior to execution of the contract, other documents listed in the agreement and modifications issued after execution of the contract.

Demolition/Decommissioning: Cost for razing a facility or removing from service permanently. Hazardous material abatement associated with this action shall be itemized separately under the Hazardous Material Abatement category but included in the total cost of the project budget.

Design: The stage in the development of a project during which schematic, design development, and contract documents are produced.

Design Development: The stage of the architect's services in which the architect prepares from the approved schematic design studies the design development documents, for submission to the owner for the owner's approval.

Design Fees: These design services include normal architectural, structural, mechanical and electrical engineering services that cover the schematic, design development, contract documents, bidding, and construction administration stages of a construction project. Reimbursable items, additional services and specialty consultants should be added.

F.T.E. Personnel: The number of full time equivalent employees/students associated with this request.

Furniture, Fixtures and Equipment (FF&E): Items not normally considered permanently attached to the structure but are considered a bondable cost and not part of the construction costs. Office systems furniture is an example.

Hazardous Material Abatement: Any costs associated with the encapsulation and/or abatement of hazardous materials in structures associated with the construction project.

Inflation: The rate that cost of construction increases over the duration of the project calculated to the midpoint of construction.

Infrastructure/Roads/Utilities: Costs for the construction or enhancements to infrastructure/roads/ grounds/utilities beyond the site perimeter.

Life cycle costing: Life-cycle costing is a method of calculating the total cost of ownership over the life span of the asset. Initial cost and all subsequent expected costs of significance are included in the calculations as well as disposal value and any other quantifiable benefits to be derived.

Management & Budget Multiplier: Referenced in the most current *Biennial Capital Budget Instructions.* from the Minnesota Management & Budget (formerly the Department of Finance)

Nonstate-Owned Lease Expenses: All the costs related to a commercially leased facility. This would include the lease (rental) cost, tenant (leasehold) improvements, security, and any other costs associated with an agency leasing a commercial facility. (This cost information includes but is not limited to the following Accounting codes 2A00, 2A20, 2A30, 2A40, 2B0.)

Needs analysis: Includes estimates of amount and type of space needed, survey of existing space, investigating ways to utilize existing space as an alternative to new construction, investigating other alternatives to new construction, and identifying the selection criteria for the preferred alternative.

Occupancy: The purpose for which a building, or part thereof, is used or intended to be used (Uniform Building Code).

One Percent for Art: An allocation of one percent of the construction costs only (MS 16B.35). Allocations may be exempted or reduced depending on the project.

Operational program: The operational function of a facility described in terms of services provided, products delivered, activities performed, resources needed, and results expected.

Other (specify): Other cost related to the project not accounted for in the previous categories.

Other Program Related Expenses (other than compensation costs): (This cost information includes but is not limited to the following Accounting codes 2C0, 2D00, 2D30-2D90, 2E0, 2F0, 2G0, 2H0, 2J0, 2K00, 2K30, 2K60, 2K70, 2K80, 2L0, 2M0, 2N0, 2P0, 2Q0, 2R0, 2S0, 4A0, 4B0, 4C0, 5D0, 6A0, 6B0, 6C0, 6D0.)

Predesign: The stage in the development of a project during which the purpose, scope, cost, and schedule of the complete project are defined and instructions to design professionals are produced.

Predesign Fees: The fees consumed in the preparation of the predesign document that can range from $^1/_4$% to $1^1/_4$% of a construction amount depending on the scale and complexity of the project.

Project Management: Is the process of planning, scheduling, and controlling the critical aspects of the Owner's program. The quality, budget, and deadlines are protected through the use of agency staff (Owner Administration) and/or outsourcing (Construction Management).

Property Acquisition: The use of funds to acquire land, easements, options, or land with buildings or other improvements.

Remodeling (Adaption)(Alterations): Expenditures required to adapt the physical plant as required to the evolving needs of the institution and to changing standards.

Renewal: Expenditures required to keep the physical plant in reliable operating condition for its present use.(SCUP)

Revenue Offsets: New or additional revenues that are a direct result of the project's construction/ renovation. (This revenue information includes but is not limited to user fees and increased gate receipts.)

Schematic Design: Drawings and other documents illustrating the scale and relationship of project

components.

Security Equipment: Specialty equipment usually supplied by a separate contract from those of construction or FF&E.

Site and Building Preparation: Work performed within the perimeter of the land parcel but beyond five feet from the existing structure or new construction that would include infrastructure/ roads/and utilities.

State-Owned Lease Expenses: The rents paid for leases of spaces in buildings under the custodial control of the Department of Administration. Rates for leasing space in these buildings are set by the Department of Administration, Plant Management Division and approved by the MN Management & Budget Agency. (This cost information includes but is not limited to the following Accounting codes 2A10.)

State Staff Project Management: Costs an agency charges to a construction project to cover internal personnel administrative management.

Telecommunications (voice & data): Specialty equipment supplied by a separate contract from those of construction or FF&E.

NOTES: "Owner" refers to the State of Minnesota.

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January 12, 2011

AMENDMENT ONE (1)
to
PREDESIGN MANUAL – 5TH Edition (date February 2010)

1. PURPOSE

A. This amendment to the State's Predesign Manual is for the purpose of incorporating additional information on Sustainable Buildings 2030 (SB 2030). The State's requirements for SB 2030 are located at http://www.mn2030.umn.edu . Minnesota Statute § 16B.325 requires that the State's Sustainable Building Guidelines be applied to State funded projects. *"The State of Minnesota Sustainable Building Guidelines"* is available at http://www.msbg.umn.edu .

2. PREDESIGN MANUAL CHANGES

A. On page 20 and 21, in Section 4D - SUSTAINABILITY, ENERGY CONSERVATION, AND CARBON EMISSIONS, add the following at the bottom/end of this section:
2. In the Predesign scope of work phase, **generate and record both the Energy Standard (kBtu/SF/Yr) and the Carbon Footprint (CO_2e/SF/Yr) in the B3-MSBG tracking tool under Guideline E.1C**. This will be done using one of two methods. Energy Standards for many building types (see list below) can be determined by accessing the "Energy Standard Tool" from within the MSBG Tracking Tool in Guideline E.1C (http://www.msbgtracking.com). Data generated in the Energy Standard Tool will be automatically entered in E.1C after the calculation is saved. Note that numerous programmatic and operational options are available within the Energy Standard Tool that allow significant customization within each of the available building types, so check the available space types even if you feel your project is not accurately represented by the building type label. If all building types in your project are not entirely represented in the Energy Standard Tool, then use the Interim Energy Standard Calculator, also linked in E.1C. Once you have calculated your Energy Standard and Carbon Footprint, enter the calculated values in E.1C and upload the completed Calculator file. In each phase, it will be necessary to re-establish your Energy Standard using either the Energy Standard Tool or Interim Energy Standards to ensure that the inputs from the previous phase still reflect your project's parameters.

Building Types Available in the Energy Standard Tool:
- Apartment

- Hospital
- Laboratory
- Office
- Parking Ramp
- Primary School
- Secondary School
- Restaurant
- Retail
- Warehouse

B. See the State's Predesign Manual and "*The State of Minnesota Sustainable Building Guidelines*" for additional energy conservation design requirements.

3. SUBMITTAL REQUIREMENT

A. The proposer of the project must include documentation showing compliance with energy and sustainability requirements in accordance with SB 2030. This written documentation is to be incorporated into the Predesign submittal.

B. Contact Garrett Mosiman at the Center for Sustainable Building Research to set up an account in the B3-MSBG Tracking Tool for the predesign phase. Mr. Mosiman can be reached at msbghelp@umn.edu or 612.625.8409. Contact Mr. Mosiman with all questions regarding Sustainability requirements and compliance.