

# SECTION 05 PRE-PLANNING AND BUILDING PROGRAMMING

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*Unless stated otherwise, the standards in this Facilities Design Manual (FDM) are directed to the Design Professional to incorporate into the Project.*

## 05.01 GENERAL

### A. AGREEMENT BASIS

1. This phase of the Capital Project Process is based on the sample **Special Services Agreement located at <http://www.fpm.iastate.edu/planning/professionalconsultants/>**
2. This phase is normally not included in the sample agreement for architectural and engineering projects.
3. For a brief description of the sample project agreements for architectural, engineering and special services and their differences, see paragraphs under subsection 00.02 in FDM Part 1/[Sec 00 Introduction.pdf](#).

### B. DESIGN PROFESSIONAL RESPONSIBILITIES

1. For responsibilities of the Design Professional, consult the sample **Special Services Agreement at the location indicated above.** Or, if the Project is active, the executed Agreement.
  - a. For general administrative responsibilities, see paragraphs under subsection 01.02 in FDM Part 1/[Sec 01 Working Relationships.pdf](#).

### C. OWNER RESPONSIBILITIES

1. For responsibilities of the Owner, consult the sample **Special Services Agreement at the location indicated above.** Or, if the Project is active, the executed Agreement.
  - a. For general administrative responsibilities, see paragraphs under subsection 01.04 in FDM Part 1/[Sec 01 Working Relationships.pdf](#).

## 05.02 INTRODUCTION

### A. PRE-PLANNING

1. Pre-planning by the Owner is the basis for establishing the scope, budget and schedule for a new capital project.
  - a. University-Wide Standards
    - 1) Used to ensure that needs are adequately satisfied and all programs are treated equitably
    - 2) Used when activity requirements are universal.
  - b. Department standards
    - 1) Developed to consider special needs of unique departmental activities

### B. BUILDING PROGRAMMING

1. The process leading to a statement of an architectural problem and the requirements to be met in formulating a solution
2. Attempts to identify the issues and problems the design process must address and resolve
3. For a list of site issues that impact the building program, see FDM Part 1/Support Docs/[Site Programming Review-Development Discussion Guide.pdf](#).

### C. BUILDING PROGRAM SPACE REQUIREMENT SUMMARY

1. Identifies the size and number of spaces to be included in the Project without significant deviation

## 05.03 BUILDING AREAS

### A. GENERAL

1. From the first concept of a building need to the final occupancy of the space, there is a continuing reference to the net assignable and gross areas involved.
2. These areas must be considered in the original program planning and are used in reference to unit costs in preliminary estimates, establishing budgets and final accounting.

3. The definitions and calculation methods used by the Owner are taken directly from the Postsecondary Education Facilities Inventory and Classification Manual (FICM), National Center for Education Statistics, 1992.
  - a. FICM is available on-line at <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=92165XXXXX>.
  - b. Building area definitions are located in FDM Part 1/Support Docs/[FICM Partial Chapter 4.pdf](#).
  - c. Use FICM definitions for the following building areas.
    - 1) Gross Area
    - 2) Assignable Area (Net Assignable Square Feet – NASF)
    - 3) Building Services Area
    - 4) Circulation Area
    - 5) Mechanical Area
    - 6) Structural Area
  - d. Do not use Non-Assignable Area and Net Usable Area
  - e. Parking Structures
    - 1) Use “Classification With Assignable And Gross Square Footage”.

## **05.04 BUILDING PROGRAMMING PROCESS AND FORMAT**

### **A. BUILDING PROGRAMMING**

1. The process leading to a statement of an architectural problem and the requirements to be met in formulating a solution.
  - a. A problem seeking process that attempts to identify the issues and problems the design process must address and resolve.
  - b. Generally operates at two interconnected levels.
    - 1) The aspirational level which strives to capture the client’s dreams and desires, preconceptions and biases, hopes and fears
    - 2) The pragmatic level where specific functional requirements are listed and interrelated
2. Primary activities of building programming may be categorized as follows.
  - a. Data Collection
  - b. Data Analysis
  - c. Data Organization
  - d. Communication of Results

### **B. BUILDING PROGRAMMING PROCESS**

1. Identify the basic elements for collecting information and making decisions.
  - a. Set up the structure and techniques to obtain necessary information from clients, college/administrators, service providers, etc., anyone with necessary knowledge or significant influence.
  - b. Interview the key decision makers.
  - c. Prepare an outline of the program contents.
  - d. Key all information to the outline.
2. Identify the role of the Project in the surrounding landscape.
  - a. Includes environmental impacts and campus context.
  - b. Include symbolic and aesthetic goals.
  - c. Consider pedestrian and vehicular access to the site.

- d. Utility infrastructure needs.
  - e. Master plan context, land use, setbacks, adjacencies, historical context.
3. Carefully document and evaluate the present building conditions: how much space is used by each entity/employee, what works well and what does not.
    - a. Inventory all spaces in drawings and text.
    - b. Inventory all furnishings and equipment.
    - c. Have occupants and decision makers evaluate the present spaces, in words and by marked up floor plans.
    - d. For renovation projects, have occupants and decision makers participate in identifying areas and features to retain and to change.
  4. Identify overall building requirements with respect to use, purpose, and general requirements.
    - a. List the range of users and uses, such as parking, access, service needs, security, degree of privacy, as well as symbolic and aesthetic requirements.
    - b. Revise the outline program as required.
  5. Identify measures to allow for future growth and change.
    - a. Identify elements subject to change, both in the short and long term. Assess probabilities of change and indicate where expansion, contraction, or alteration should be provided for in design.
    - b. Note that technology as well as space needs may change.
  6. Summarize key requirements of governing codes and regulations.
    - a. Identify and list probable codes and regulations.
  7. Define energy, services, and environmental requirements.
    - a. Indicate energy conservation or environmental protection measures to be pursued in design.
    - b. Determine whether the design professional will be able to propose additions to the budget based on life cycle cost analysis.
    - c. Analyze long-term operating and maintenance costs and issues.
    - d. Identify the owner's decision criteria.
  8. Identify the fundamental functional, spatial, and visual relationships among components of the Project.
    - a. Include relationships between user components or departments.
    - b. Include relationships between the building components and the outside community or visitors.
    - c. Describe any grouping requirements, such as for security, public access, or super-cleanliness.
    - d. Use diagrams, models, or other methods that suggest scale or relevance to the way people behave.
  9. Prepare a space requirements outline.
    - a. Use a standard content format for all building programs.
    - b. Include basic spatial criteria such as dimensions, proportions, and ceiling heights.
    - c. Include services and storage requirements, access, flexibility, and utility requirements for each space.
    - d. Reference more detailed requirements.
  10. Formulate a detailed room or space requirements.
    - a. Brief description of function/activities
    - b. Area and configuration requirements
    - c. Physical access and adjacency requirements
    - d. Loading and special structural requirements
    - e. Luminous or acoustical environment requirements
    - f. Security and safety requirements

- g. Mechanical, electrical and services requirements
  - h. Aesthetic requirements
  - i. Special requirements
11. Document the entire program following the standard format

**C. BUILDING PROGRAM FORMAT AND CONTENT**

- 1. For each Project the Owner will usually provide the Design Professional with a written Building Program.
- 2. The typical Building Program has the following format and content.
  - I. Program Approval and Planning Committee Members
    - A. Document the statement of approval by academic and administrative personnel involved with the Project and acknowledgement of participants involved in the process.
  - II. Executive Summary
    - A. Summarize the programming effort incorporating the following information.
      - 1. Proposed Location
      - 2. Functions/Occupants to be Housed in Space
      - 3. Description of Use
      - 4. Total Net Square Feet (NSF)
      - 5. Estimated Net Square Feet for Each Function (General)
      - 6. Relocation of Potential Occupants
      - 7. Anticipated Cost and Source of Funds
  - III. Project Goals and Objectives
    - A. Document the goals associated with each of the following criteria and the objectives associated to accomplish each.
      - 1. Organizational
      - 2. Form and Image
      - 3. Functional
      - 4. Financial
      - 5. Schedule
      - 6. Management
  - IV. Site and Space Design Criteria
    - A. Investigate, develop and summarize each of the following criteria.
      - 1. Existing Studies
        - a. Reference and summarize, highlighting results.
      - 2. Site Analysis
      - 3. Space Information – Space Inventory
      - 4. Codes and Standards
  - V. Design Performance Criteria
    - A. Investigate, develop and summarize each of the following criteria.
      - 1. Design/Performance Criteria – Enclosure and Systems
      - 2. Energy Usage and Requirements
      - 3. LEED Opportunities
      - 4. Sustainability – System Strategies and Integration

VI. Adjacencies and Space Relationships

- A. Incorporating the Goals and Objectives, Site and Space Design Criteria, and Design Performance Criteria, develop and illustrate the relationships for each of the following major elements.
1. Site(s)
  2. Building(s)

VII. Space Requirements

- A. Determine and list the quantitative requirements for all assignable and non-assignable spaces for each of the following major elements.
1. Site(s)
  2. Building(s)

3. More information is available in the ISU Building Program template located in FDM Part 1/Support Docs/[ISU Building Program.docx](#).

**END OF SECTION 05 PRE-PLANNING AND BUILDING PROGRAMMING**