



**SUSTAINABLE  
DESIGN &  
DEVELOPMENT**

**BUILDING  
COMMISSIONING  
PROGRAM**



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USF FACILITIES MANAGEMENT

# SUSTAINABLE DESIGN & DEVELOPMENT (SDD)

## USF BUILDING COMMISSIONING PROGRAM (BCX)

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# USF BUILDING COMMISSIONING PROGRAM (BCX)

**A. PURPOSE & INTENT:**

[University of South Florida \(USF\)](#) recognizes that the primary objective of [Building Commissioning \(BCx\)](#) is to validate the building energy systems installation and operation conformance with the [Owner's Project Requirements \(OPR\)](#), [Basis of Design \(BoD\)](#) and other performance requirements established for the project. The secondary objective is to meet [US Green Building Council \(USGBC\) Leadership in Energy & Environmental Design \(LEED\)](#) certification requirement for [Fundamental Commissioning](#) pre-requisite and the [Enhanced Commissioning](#) credit (when it is a project requirement). The broader benefit derived from the commissioning of building energy systems include: reduced energy use, reduced operating costs, improved equipment reliability, improved building performance, improved [Indoor Environmental Quality \(IEQ\)](#), and improved occupant productivity. [USF Building Commissioning Program \(BCX\)](#) is a guideline for **BCx** requirements for **USF** projects (and support concurrent **LEED** certification efforts).

**B. BUILDING COMMISSIONING OWNER'S PERFORMANCE STATEMENTS:**

1. **Minimum LEED Certification Level:** LEED Silver

2. **Commissioning Agent/Authority Credentials:**

[Commissioning Authority \(CxA\)](#) shall meet experience and credential requirement for **USGBC LEED Commissioning**. **CxA** shall hold a current certification from one or more of the following agencies or other equivalent certification sources as identified in the agreement for consultant services.

Agency	Certification
Building Commissioning Association (BCA)	BCA Certified Commissioning Professional (CCP)
University of Wisconsin - Madison	Commissioning Certificate
ASHRAE	Commissioning Process Management Professional Certification (CPMP)
AABC Commissioning Group (ACG)	Certified Commissioning Authority (CxA)

3. **Fundamental and Enhanced Commissioning Documentation:**

- a. Provide all documentation to satisfy commissioning pre-requisite and credit requirement during the [Green Building Certification Institute \(GBCI\)](#) Design and Construction review.
- b. Provide all documentation and response required in response to **GBCI** review comments for both the Design and Construction review.
- c. Ensure [Energy Modeling](#) software and documentation satisfies both Energy Code Compliance for the State of Florida and **USGBC LEED** certification requirements.

4. **Commissioned Systems:**

Comply with **USGBC LEED** commissioning requirements; at a minimum, following building energy systems are to be commissioned.

- a. Heating, cooling, refrigeration, ventilation systems and controls
- b. Lighting controls
- c. Domestic hot water systems
- d. Renewable energy systems

5. **Project Integration:**

[USF Building Certification Program \(BCX\)](#) is not a standalone activity or a discreet overlay to the design and construction process; **BCX** shall be managed as a part of a **fully integrated design and construction practices**. **USF** requires that [Building Commissioning \(BCx\)](#) progress/discussions is included as an agenda item in all [Owner/Architect/Contractor \(OAC\)](#) meetings, conferences, charrettes and workshops conducted for the project (from the inception of the project to post-occupancy); and also included as an agenda item in every construction progress meetings. The [Commissioning Authority](#) and the [LEED Administrator](#) shall monitor **GBCI** progress and coordinate project team responses up to the time of awarding of **LEED** pre-requisite and credit for building commissioning. **USF** requires **BCx** team fully engage as an integral part of the energy modeling, review and

selection of alternative systems & strategies, development of the project [Basis of Design \(BoD\)](#), and design documents.

#### 6. Performance versus Documentation:

**USF** projects shall provide necessary documentation to meet [USGBC LEED Fundamental](#) and [Enhanced Commissioning](#) requirements. Real value of building commissioning is achieved through the direct application and integration of commissioning in the project delivery process; excessive and impractical degree of documentation is not desired. Project team shall provide design & construction deliverables per contract requirements: complete [Owner Operation & Maintenance \(O&M\)](#) manual, corrected [Test & Balance \(T&B\)](#) report, [Life Cycle Study](#), final [Energy Model](#), etc.

### C. RESPONSIBILITIES:

**USF** projects shall meet [USGBC](#) pre-requisite requirements for [Fundamental Commissioning](#); and when budget and program support opportunity to do so, also pursue [Enhanced Commissioning](#) credit. The project team shall approach building commissioning as a practical application of sustainable design and construction practices; and require coordinated effort and commitment among the project team. Meeting the [LEED Fundamental Commissioning](#) pre-requisite or earning the [Enhanced Commissioning](#) credit toward achieving certification is no more important than the incremental improvement to [Indoor Environmental Quality \(IEQ\)](#), energy performance and sustainable practices actually achieved. The following outlines the basic responsibilities of the key project team members:

#### 1. USF Project Manager:

[USF Project Manager \(USF PM\)](#) shall ensure that [USF Sustainability Manager](#), [USF Facilities Engineers](#), [LEED Administrator](#), and [Commissioning Authority \(CxA\)](#) are included in all [Owner/Architect/Contractor \(OAC\)](#) meetings, conferences, charrettes, and workshops involving issues that may impact [LEED](#) credits pursued.

**USF PM** is responsible to **USF** for successful completion of all aspects of the project, including working closely with and assisting the [Commissioning Authority \(CxA\)](#) and [USF Sustainability Manager](#) in preparing [Owner](#) responses and decisions on all matters related to [BCx](#) and [LEED](#) certification.

#### 2. USF Sustainability Manager - Owner Representative

[USF Sustainability Manager](#) serves as [Owner Representative](#) on all [LEED](#) certification matters, including coordination of all [Owner](#) responses and decisions in support of [LEED](#) certification efforts. [USF Sustainability Manager](#) shall witness commissioning activities (including pre-functional and functional testing).

#### 3. LEED Administrator - Consultant

The [LEED Administrator/Consultant](#) responsibilities are outlined in the [USF LEED Certification Program \(LCP\)](#).

#### 4. Commissioning Authority (CxA) – Consultant

The [CxA](#) consultant must be currently [USGBC](#) accredited in [LEED AP](#) or [LEED specialty credential](#) appropriate for the [LEED rating system](#) identified for the project and experience & certification. The [CxA](#) shall be qualified to serve in this capacity as determined in the agreement for consultant services for the project and shall lead, review, and oversee the completion of the commissioning process.

- a. The [CxA](#) must be independent of the project's design and construction management, but may be a qualified employee or consultant of the [Owner](#).
- b. Participate in the preparation of the [LEED Action Plan](#) and [LEED Charrette](#) as part of the project kick-off meeting.
- c. Review [OPR](#) throughout the project to document changes resulting from deviations with [DCG](#) and/or [BOD](#).
- d. Record and distribute meeting minutes of all meetings held in support of [BCx](#).
- e. During the **Design Phase**:
  - i. Assist and provide guidance to the [Owner](#) with the preparation of the [Owner Project Requirements \(OPR\)](#).
  - ii. Review the [Basis of Design \(BoD\)](#) for alignment with the [Owner Project Requirements \(OPR\)](#) and [USF Design & Construction Guidelines \(DCG\)](#) as prepared by the design team.

- iii. Outline achievable expectations (within the program, budget & schedule constraints of the project) to the entire project team.
- iv. Research and distribute information on best practices in Building Commissioning to all project team members to assist in establishing project commission goals.
- v. Coordinate required commissioning activities.
- vi. Develop an outline of design criteria.
- vii. Review design development documents.
- viii. Prepare and present a **proposed** construction phase [Commissioning Plan](#).
- ix. Develop [Commissioning Specifications](#).
  - Review construction documents and provide documented feedback.
- x. During the **Pre-Construction/Kick-off** meeting:
  - Preparation and presentation of the final commissioning plan and schedule to all members of the project team.
  - Provide recommendations for construction work site practices.
  - Identify realistic expectations to the entire project team regarding the potential duration and time commitment required of commissioning activities.
- xi. During the **Construction Phase**:
  - Perform site observation.
  - Attend all **OAC** project meetings during the course of the work.
  - Maintain logs and other reporting documentation.
  - Prepare submittals for the **LEED** certification process.
  - Identify deficiencies and nonconformance with building systems.
  - Confirm the presence of effective operating controls.
  - Develop functional tests and verification procedures to be followed by building management after the project is complete.
  - Prepare submittals for credit rulings.
  - Review **OPR** throughout the Project to document changes resulting from deviations with **DCG** and/or **BoD**.
  - Reviews design and construction activities to determine that the project is proceeding in accordance with [LEED criteria](#).
  - Electronically provide documentation of the entire [LEED submittal](#) including but not limited to all drawings, specs, report.
- xii. Prior to **Substantial Completion**:
  - Complete all required commissioning activities.
  - Prepare and/or coordinate all required commissioning deliverables for A/E review.
  - Review owner and maintenance manuals and warranties; the training and orientation of owner personnel; the preparation of a re-commissioning manual; and the conducting of reviews during the warranty periods of the mechanical systems.

## 5. Architect/Engineer

The [Architect/Engineer \(A/E\)](#) is primarily responsible for providing leadership in design matters. [A/E](#) shall prepare and upload credits assigned to design professionals.

- a. Prepare the [Basis of Design \(BoD\)](#) for alignment with the [Owner Project Requirements \(OPR\)](#) and [USF Design & Construction Guideline \(DCG\)](#).
- b. Provide specifications clarifying the **LEED** credit requirements relating to five distinct areas of planning, design, and construction: sustainable site development; water efficiency; energy efficiency; material resources, and indoor environmental quality.
- c. Perform [Life Cycle Analysis](#), [Energy Modeling](#), review [Test & Balance](#) report, [Commissioning](#) process & documentation and other activities in support of commissioning.
- d. Review all commissioning deliverables for Owner acceptance.
- e. Recommend architectural details, mechanical systems and construction practices.

**6. Contractor (General Contractor/Prime Contractor)**

The [Contractor](#) is primarily responsible for providing leadership in construction matters. [Contractor](#) shall identify all commissioning activities within the construction schedule and update the schedule accordingly at each monthly [OAC](#) meeting. [Contractor](#) shall record in the meeting minutes of all [OAC](#) meetings, synopsis of discussions on and progress of [LEED](#) certification.

- a. At each monthly [OAC](#) meeting:
  - i. Include the [CxA](#), [LEED Administrator](#) and [USF Sustainability Manager](#).
  - ii. Ensure major trade contractors (electrical, mechanical, and others) with direct responsibilities for [BCx](#) activities and documentation participate in the [OAC](#) meetings; coordinate and follow-up documentation efforts of the trade contractors and vendors.
- b. Coordinate and ensure major trade contractors and vendors perform the required commissioning tests and reports; complete corrective work and all required commissioning deliverables are submitted to the [CxA](#) and [A/E](#) for review.

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END OF USF BUILDING COMMISSIONING PROGRAM