



Policy Title: Directive 1B-7 -- Sustainability and LEED Policies

Responsible Office: Design & Construction

Last Revised Date: July 2020

In addition to meeting the requirements of Directive 1B-1 “Building Codes” and Directive 1B-2 “Net Zero Carbon New Buildings and Deep Energy Retrofits of Existing Buildings” projects shall also meet the requirements of this Directive.

1. Definitions

- a. New Construction (NC) – Design and construction of a new structure and/or additions to existing structures. New construction projects address all building systems (envelope, HVAC, plumbing, electrical, etc.)
- b. Major Renovation – Design and renovation, rehabilitation, alteration or other improvement of an existing building structure. Major renovation project addresses the majority of building systems (envelope, HVAC, plumbing, electrical, etc.).

2. Construction and Demolition Waste

- a. In accordance with Executive Order No.4 and in support of the SUNY Sustainability Coalition goals all construction projects should reuse, recycle and/or salvage nonhazardous construction and demolition (C&D) materials from multiple waste streams by weight to a minimum of 50% of the total project C&D waste.
- b. The consultant should inquire with SUCF and the campus if a higher goal percentage is desired.
- c. The Fund’s standard General Requirements includes a draft Section 01 74 19 - Construction Waste Management for editing and use on all Projects except those that will be LEED certified.

3. Construction Indoor Air Quality (IAQ)

- a. An Indoor Air Quality Management Plan During Construction shall be implemented:
 - 1) Coordination:
 - a) During the pre-construction meeting, the Consultant must put in place a process for communication and notification between the Owner, Consultant, General Contractor plus other parties to prevent and effectively resolve problems related to construction-related air pollutant control.
 - b) The Fund’s representative shall supervise and enforce the IAQ Management Process During Construction.
- b. IAQ Management Plan During Construction: The Division 1 General Requirements of the Project Specifications must require a written IAQ Management Plan which includes procedures meeting or exceeding the minimum requirements of the “IAQ Guidelines for

Occupied Buildings Under Construction”, published by the Sheet Metal and Air Conditioning Contractors National Association, Inc (SMACNA).

- c. The IAQ Management Plan During Construction must include measures to protect the ventilation system components and air pathways against contamination during construction. The plan must include:
- 1) Cleaning procedures – in the event ventilation system components and air pathways are not adequately protected.
 - 2) Control measures – as defined in IAQ Guidelines for Occupied Buildings under Construction published by SMACNA. In addition to the control measures highlighted by SMACNA all IAQ management plans shall include the following:

IAQ Management Plan shall require any air handling units or systems that will be operated for any purpose (i.e. temporary heating, testing, commissioning) while building is under construction to have the specified pre and final filters installed. Filters within air handling systems utilized during construction (including any building flush-out) shall be replaced with new specified filters immediately prior to occupancy.
- d. The following requirements must be addressed in the IAQ Management Plan during construction at each phase of construction.
- 1) Permitting adequate airing-out of new materials.
 - 2) Sequencing the installation of finish materials.
 - 3) Proper curing of concrete before covering.
 - 4) Construction activities in occupied buildings.
 - 5) Avoidance of building occupancy while construction related pollutants are present.
- e. The Plan must specify the location, type, amount, sequence and timing of the various control measures, including emergency procedures and the labor, materials and time to implement them.
- f. The project construction documents must address the following:
- 1) Overview of tasks.
 - 2) List of reference documents, including specification references, drawing list and submittal drawing.
 - 3) List of primary participants and their responsibilities.
 - 4) Plan for management, communication and documentation.
 - 5) Outline of the scope of the IAQ Management process during construction - including submittal review, inspection and enforcement.
 - 6) Expected written work products, including checklists and worksheets.
 - 7) Activity schedule.
- g. A construction IAQ Management report must be prepared by Contractor documenting the effective implementation of the Construction IAQ Management Plan and shall be reviewed

by the Consultant. The IAQ Management Report must include the following documentation:

- 1) All meeting minutes, checklists, worksheets, notifications and deficiency or resolution logs related to the project IAQ issues.
- 2) Listing of all temporary usage of building mechanical systems, cut sheet of filtration media used during construction and installed immediately prior to occupancy and schedule of filter replacement and change outs.
- 3) Progress photos of job site sufficient to document implementation of IAQ management measures during each phase of construction.
- 4) Documentation of duct testing and cleaning.

4. Leadership in Energy and Environmental Design (LEED)

a. New Construction and Major Renovation Projects

- 1) Confirm with SUCF Project Coordinator if a LEED rating is required, and whether the project will be registered and certified.
- 2) When a project is registered with US Green Building Council (USGBC) provide both SUCF and the campus online access.
- 3) Design to USGBC LEED for Building Design and Construction (BD&C). If LEED for Interior Design and Construction (ID&C) rating system is determined to be the more appropriate option discuss with SUCF Project Coordinator.
- 4) “Energy and Atmosphere” (EA) LEED Version 4.1 (V4.1) Prerequisite “Minimum Energy performance” will use Option 1 “Whole Building Simulation” and will require computer modeling to demonstrate compliance. See Appendix A of this Directive.
- 5) Commissioning: See Directive 15H-9 “Commissioning” for more details.

b. Design and Construction Phase Requirements

- 1) Program Verification Phase: Identify consultants who will perform the services required (i.e., commissioning, and LEED consultant or Sustainable Design consultant).
 - a) Concept Phase
 - i. Register project with USGBC, if required.
 - ii. Describe Green Building design approach.
 - iii. Provide a preliminary LEED checklist of potential credits.
 - iv. Provide RFP for computer energy modeling.

- b) Schematic Phase
 - i. Provide a list of energy conservation measures along with a detailed payback analysis of each measure determined from a computer analysis utilizing annualized weather data.
 - ii. Provide an updated LEED checklist of potential credits.
 - iii. Commissioning authority shall review for design intent.
- c) Design Manual Phase
 - i. Provide updated LEED checklist of applicable credits.
 - ii. Provide the Owner Project Requirements (OPR) document as required per LEED EA Prerequisite "Fundamental Commissioning and Verification", written by the designer of the system(s) to be commissioned.
 - iii. Provide the draft computer modeling report. Include all the required documentation per Appendix A of this Directive.
- d) Pre-Bid Phase
 - i. Provide final LEED checklist of applicable credits.
 - ii. Provide the draft computer modeling report. Include all the required documentation per Appendix A of this Directive.
 - iii. Provide the narrative and photos described in the documentation section
 - iv. Replace the Fund's standard Section 01 74 19 - Construction Waste Management with a LEED compliant Section 01 74 19 that has been reviewed with the Campus Sustainability representative.
- e) Bid Phase: Provide the final computer modeling report Include all the required documentation per Appendix A of this Directive.
- f) Construction Phase: Organize and lead construction phase meetings to coordinate responsibilities among all involved parties (contractors, consultants, campus personnel) to demonstrate compliance with the requirements of LEED. Significant items to be addressed are:
 - i. Review of all equivalents (similar, equal to, or equal) per Section 2.20 of "The Construction Agreement", to ensure LEED compliance.
 - ii. Obtain construction phase LEED credit(s) documentation from the contractor.



- c. Documentation - Provide the following documentation in digital form to demonstrate compliance with the requirements of this Directive:
- 1) Design
 - a) USGBC registration including access to completed online credit templates.
 - b) LEED computer energy model documentation per Appendix A.
 - c) LEED project checklist.
 - d) LEED related specifications included in phase submissions.
 - 2) Construction
 - a) USGBC certification where required by the SUCF.
 - b) Provide a single page narrative describing the building and the significant sustainable features of the project in Word format. Provide a minimum of two photos or renderings in JPEG format.



APPENDIX A: COMPUTER MODELING of BUILDING ENERGY PERFORMANCE

A computer model will be required to show compliance with LEED Version 4.1 (V4.1) "Energy and Atmosphere" (EA) Prerequisite "Minimum Energy Performance" Option 1 and EA Credit "Optimize Energy Performance" if pursued. Computer modeling for LEED compliance is based on ASHRAE 90.1-16 Appendix G Performance Rating Method (PRM).

1. **Energy Modeler Qualifications:** The Modeler must have a minimum of five (5) years of energy related HVAC, architecture, lighting design experience, including a minimum of two (2) years of building energy modeling experience and be able to demonstrate to SUCF completion of similar projects in building type and size. An acceptable alternate method of demonstrating Modeler qualifications would be the ASHRAE Building Energy Modeling Professional Certification.
2. **Documentation:** In addition to the ASHRAE 90.1 PRM Documentation Requirements provide the LEED submittal templates to demonstrate the requirements of LEED EA Prerequisite "Minimum Energy Performance" and EA Credit "Optimize Energy Performance".
