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## Sustainable Design Standards

### Northeastern University Guidelines for Capital Project Design & Implementation

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#### 2.0 SUSTAINABLE DESIGN STANDARDS AND GOALS

Sustainability seeks to reduce or completely eliminate negative impacts on the environment through principles and practices that reduce consumption of non-renewable energy, and minimize waste and negative impact to the environment.

A Green Building is a facility that has been designed to be environmentally responsible throughout the lifetime of the structure. This includes initial site selection, design choices, construction methods, building operation and maintenance, as well as the building's eventual renovation or demolition.

Sustainability is applied through design to create Green Buildings. This is accomplished through various practices that include principles with the intent to:

- ▶ optimize site potential
- ▶ minimize non-renewable energy consumption
- ▶ [restore and rejuvenate the local ecosystem](#)
- ▶ use environmentally preferable products
- ▶ protect and conserve water
- ▶ enhance indoor environmental quality
- ▶ optimize operational and maintenance practices
- ▶ enhance building performance over the life of the facility

Northeastern University has developed a strategy for incorporation of Sustainability, Green Building, and [Green Sites](#) standards and practices across all aspects of university operations. NU Campus Planning and Development has developed the following program to further the university's ability to meet the sustainability goals.

## 2.1 SUSTAINABLE DESIGN STANDARDS

Northeastern University has been rated as one of the top "[Green Colleges](#)" in the nation. To support this effort, the university has adopted a comprehensive sustainable design policy for all university facilities, and projects.

For all university programs, existing and new facilities, the university strives to conserve natural resources, minimize environmental impact, reduce or eliminate toxins, support recycling programs and recycled material usage, and create an environmentally responsible institution that improves the safety and wellbeing for all students, faculty, and staff.

Northeastern University Sustainable Design practices shall be conveyed and executed through adherence to the following programs and standards.

### 2.1.1 Northeastern University Sustainable Practices and Operations Guidelines

- Comply with this living document which outlines the goals and procedures for all university departments, vendors and purchases for incorporation of sustainable design measures into daily program operations. All new construction, renovations, and facilities related projects shall comply with the document that is located here: [Sustainable Practices and Operations Guidelines](#)

**2.1.2 LEED** - (Leadership in Energy Efficient Design) Green building certification program as administered by the U. S. Green Building Council. Comply with requirements for the most current version of the LEED program. [LEED Registration](#)

**2.1.3 SITES** - (Sustainable Sites Initiative) Administered by Green Building Certification Inc. Comply with the minimum requirements for the most current version of the SITES program. [Sites Certification and Registration](#).

**2.1.4 Massachusetts LEED Plus Green Building Standard** - Program established by the Commonwealth of Massachusetts requiring that all new construction and major renovation projects for state buildings should meet and exceed the minimum energy code efficiency standards by 20%. Although not bound by this code as a private entity, Northeastern University agrees to meet these standards as a measure of maximizing the efficiency of all university facilities.

**2.1.5 Mass Save energy program** - Mass Save is an initiative sponsored by Massachusetts' gas and electric utilities and energy efficiency service providers to provide a wide range of services, incentives, trainings, and information promoting energy efficiency that help residents and businesses manage energy use and related costs. The program offers incentives towards energy-efficient lighting and controls, HVAC systems, motors, variable speed drives, and compressed air equipment. Projects shall apply for this program if applicable.

**2.1.6 Green Garage Certification** - Parking garage projects are not eligible for LEED Certification with the Green Building Certification Institute (GBCI), but can become certified through programs such as The Green Garage Certification program of the Green Garage Council. Developed by experts from a range of fields, including: parking, architecture, engineering, technology, and academia;

the program assesses 50 elements of sustainability, including management practices that maximize performance while minimizing waste; alternate modes of transportation and community engagement; and efficient and sustainable technology and design. Projects shall apply for this program if applicable.

**2.1.7** Northeastern University is a co-signer of the American College and University Climate Commitment, and all initiatives and actions will comply with that commitment: [\*Presidential Climate Commitment\*](#)

## **2.2. SUSTAINABLE DESIGN GOALS**

**2.2.1** All new university building projects and major renovation projects will strive to meet the goals of LEED Platinum with Gold certification as a minimum unless otherwise directed by the NU Planner and Project Management Team.

**2.2.2** When applicable, all new university building projects, major renovation projects, and site renovation projects will strive to meet the minimum requirements of SITES unless otherwise directed by the NU Planner and Project Management Team.

**2.2.2** Meeting and exceeding the American Society of Heating and Air-Conditioning Engineers (ASHRAE) standards and guidelines, as well as all applicable energy codes.

**2.2.3** Green Garage Certification for any new parking structure, major renovation, or reconfiguration of existing parking structures.

**2.2.4** The university has established a series of categories to assist with determination of sustainable design efforts incorporated into projects based on size, scope and available funding. Refer to Table 2.0 below for minimal requirements.

**2.2.5** A / E Consultants shall assist the university with evaluating, documenting, and complying with the desired green building design goals as applicable to each project designated by the university to pursue sustainability.

**2.2.6** A / E Consultants shall, with the university, commit to sustainability and LEED pursuits at the inception of projects to ensure proper integration through all processes and deliverables of the project.

**2.2.7** A / E Consultants shall assist the university with evaluation building design as it relates to avoiding impacts of storm surges and future sea-level rise.

**2.2.8** A / E Consultants shall schedule meetings with NU and all necessary sub-consultants to facilitate successful compliance with the applicable green building design goals. The Consultant's submittal shall include the initial cost and the return on investment (when applicable) for each green building design feature. The

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**TABLE 2.0 NU CAPITAL PROJECT SUSTAINABILITY PROGRAM REQUIREMENTS**

CATEGORY	DEFINITION / MINIMUM THRESHOLD	MINIMAL REQUIREMENTS FOR NU SUSTAINABLE DESIGN PROGRAM
<b>A</b>	<b>New Building Construction / Major Building Renovation</b>	<ul style="list-style-type: none"> <li>▶ Strive for LEED Platinum (Gold min.) Certification - Achieve all Regional Priority Credits, Pursue Innovation Credits</li> <li>▶ Deliver via Integrative Design Process</li> <li>▶ Perform Life Cycle Cost Analyses and Energy Modeling at all contracted project delivery milestones</li> <li>▶ Comply with performance requirements of Massachusetts LEED Plus Guidelines</li> <li>▶ Provide university with all O&amp;M close-out documentation and training</li> <li>▶ Refer to and comply with NU Sustainable Design Practices and Operations Guidelines</li> </ul>
<b>B</b>	<p><b>New Construction / Addition / Renovation</b></p> <ul style="list-style-type: none"> <li>▶ Projects where the addition is greater than 10,000SF</li> <li>▶ Projects less than \$5 Million</li> <li>▶ Any change to building envelope</li> <li>▶ Interior changes that create atriums and / or significant impact and reconfiguration of MEP systems</li> </ul>	<ul style="list-style-type: none"> <li>▶ Strive to meet requirements for LEED Platinum Certification                             <ul style="list-style-type: none"> <li>» Pursue LEED Certification if program dictates and budget allows. To be determined by NU Project Manager.</li> <li>» Achieve all Regional Priority Credits. Pursue ideas of Innovation Credits as part of program</li> </ul> </li> <li>▶ Deliver through Integrative Design Process</li> <li>▶ Perform Life Cycle Cost Analyses and Energy Modeling at all contracted project delivery milestones as required in conjunction with building envelope changes</li> <li>▶ Comply with performance requirements of Massachusetts LEED Plus Guidelines</li> <li>▶ Provide university with all O&amp;M close-out documentation and training</li> <li>▶ Refer to and comply with NU Sustainable Design Practices and Operations Guidelines</li> </ul>
<b>C</b>	<b>Minor Renovations / Systems and FF&amp;E Upgrades</b>	<ul style="list-style-type: none"> <li>▶ Meet requirements of LEED, MA LEEDplus, ASHRAE for energy usage and water consumption reductions for all new systems and replacement components of existing systems</li> <li>▶ Provide university with all O&amp;M close-out documentation and training</li> <li>▶ Refer to and comply with NU Sustainable Design Practices and Operations Guidelines</li> </ul>
<b>D</b>	<p><b>Non Building Related Projects</b></p> <ul style="list-style-type: none"> <li>▶ Site Only Projects</li> <li>▶ Landscaping / Sports</li> <li>▶ Irrigation</li> <li>▶ Surface Parking Lot / loading / other paved site projects</li> </ul>	<ul style="list-style-type: none"> <li>▶ Strive to meet requirements for LEED v4 Platinum Certifiable Project (Gold min)                             <ul style="list-style-type: none"> <li>» Pursue LEED Certification if program dictates and budget allows. To be determined by NU Project Manager.</li> <li>» Achieve all Regional Priority Credits. Pursue ideas of Innovation Credits as part of program</li> </ul> </li> <li>▶ Deliver through Integrative Design Process</li> <li>▶ Comply with performance requirements of Massachusetts LEED Plus Guidelines</li> <li>▶ Provide university with all O&amp;M close-out documentation and training where applicable</li> <li>▶ Refer to and comply with NU Sustainable Design Practices and Operations Guidelines</li> </ul>

Consultant shall prepare and submit all calculations necessary to demonstrate compliance with the desired reductions in building energy and water consumption.

**2.2.9** Should NU determine that it wants a project to pursue LEED Certification; the Consultant shall assist the Owner with obtaining the LEED certification from the U.S. Green Building Council. The Consultant shall lead the process including all necessary sub-consultants, and LEED specialty consultants, as necessary to facilitate successful completion of the certification process; including meetings during the construction administration phase and during the warranty period.

**2.2.10** A / E Consultant and all applicable Contractors and Trades shall assist the university in obtaining all available rebates or subsidies to make proposed sustainable design endeavors more economically viable for each project.

**2.2.11** Refer to Northeastern University building systems and engineering design standards for additional direction for energy and water usage compliance. The document can be located here: [NU MEP Design Standards - Web Page](#)

**2.2.12** Respect and encourage the LEED and sustainable design goals of the host communities for NU Global Regional Graduate Campus locations outside of the NU flagship Boston campus.

**2.2.13** Where no LEED or sustainable design goals exist for NU Global Regional Graduate Campus locations, the goals and practices outlines within the NU Guidelines for Capital Project Design and Implementation as well as the University Guidelines of Sustainable Practices and Operations Guidelines shall provide the basis for design for all NU capital improvement and construction projects.

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### **2.3. RECYCLING**

**2.3.1** Conform to all requirements established in University Guidelines for Sustainable Practices located here: [Sustainable Practices and Operations Guidelines](#)

**2.3.2.** Provide ample space for recycling containers and service areas within newly programmed spaces.

**2.3.3.** Signage and Graphics - Incorporate signage and graphics for recycling program awareness as part of the graphics package for new construction and renovation projects.

### **2.4. PREFERRED METHODS / PROGRAMS / VENDORS**

#### **2.4.1. Due Diligence**

- ▶ Refer to Northeastern University Guidelines for Sustainable Practices for directions and preferences for Programs and Vendors.

- ▶ As part of a new project, include due diligence of current university programs, vendors and standards to ensure compliance and accessibility for servicing of programs in terms of space or clearance requirements within building spaces or access to buildings by service vehicles in areas just outside of buildings.
- ▶ Ensure compliance with all university programs for purchasing of sustainable products and support of companies that support sustainable processes.