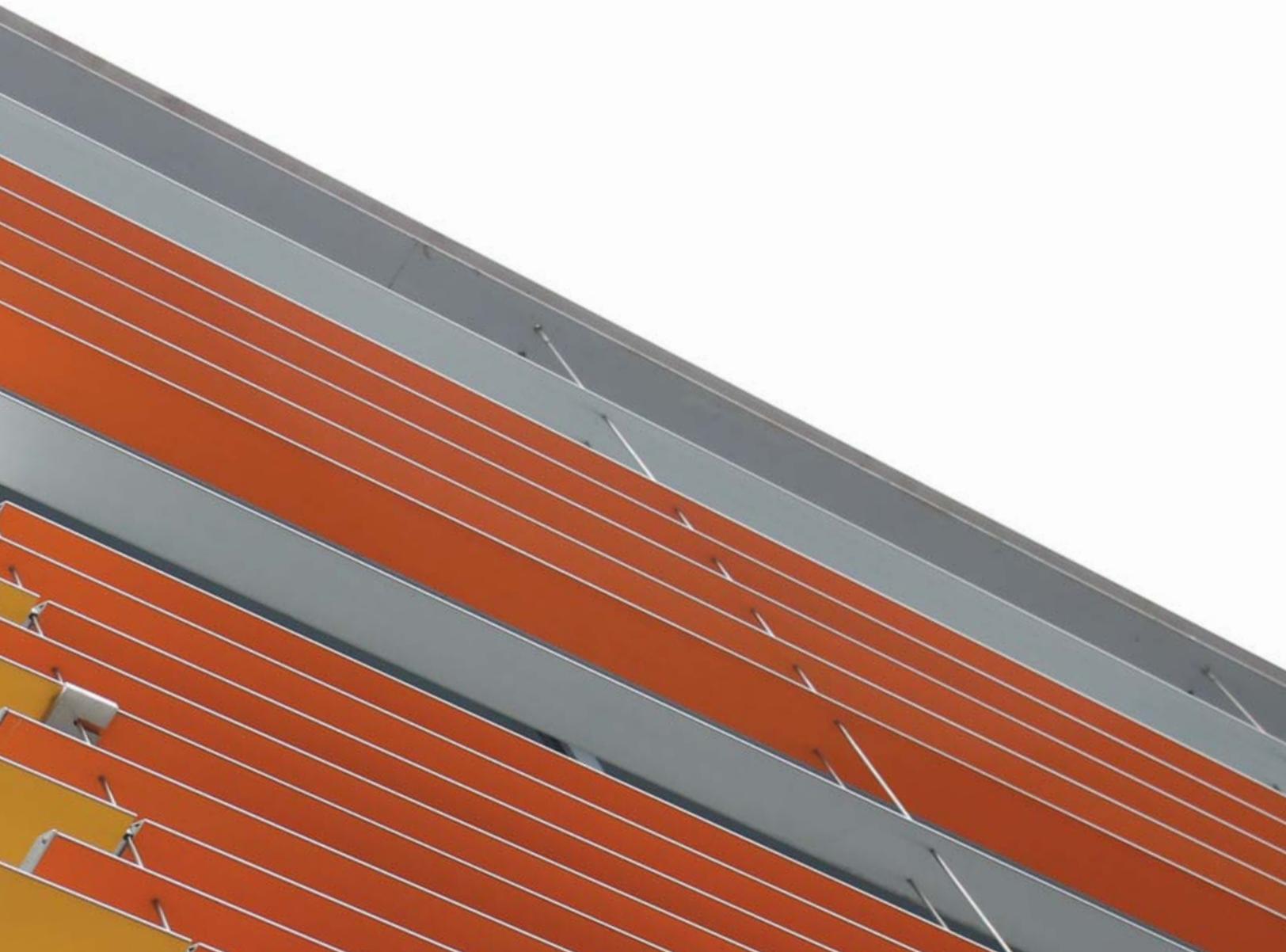




**Green Building Design and Construction
Standards & Guidelines**



Introduction

Over the past ten years Tulane University has enacted a set of practices for environmentally responsible design and construction. Early efforts have been followed by more specific and consistent university practices and project requirements. Three years ago the university established a LEED Silver standard as a minimum for its major building projects.

Objectives

Tulane University would like to clarify its commitment, standards and practices for sustainable design and building. In doing so the following objectives can be realized as part of every building project:

- Substantially reducing energy use and the resulting greenhouse gas emissions,
- Providing a healthier, more comfortable and productive environment for building occupants,
- Ensuring that the design and construction of Tulane buildings are informed by best practices for reducing the overall environmental impact of buildings throughout their life cycle,
- Providing educational and research opportunities in green building design, construction and operation to the Tulane community.

The primary way we intend to meet these objectives is to articulate our LEED standards and guidelines.

LEED Certification Standard

All new buildings, major renovations and major interior rehabilitations on Tulane campuses and properties that meet certain criteria (see Criteria below) should be designed to achieve the LEED Silver standard or better. Tulane University will work carefully with architects, contractors, subcontractors, project consultants and sub-consultants to ensure that LEED standards for design and construction are understood, supported and achieved throughout the building process.

Criteria for Applicability of LEED Standard

The LEED Silver minimum standard will apply to projects that meet any of the following (2) two criteria:

- All new buildings over 2000 square feet, having at least 5 full-time equivalent occupants, and with a construction cost of \$500,000 or greater.
- All renovations, including major HVAC renovations, significant modifications to the building envelope, and major interior rehabilitations that have a project cost of \$1 million or greater.

*Projects of more limited scope—for example, HVAC, plumbing, envelope upgrades or landscape projects—should meet the standards LEED establishes for that specific scope item.

The University's Priority Credits for LEED BD+C projects:

The university has identified a list of priority credits to be earned for every project. Completion of these credits will protect indoor environmental quality and ensure the operation of an energy efficient building. These credits are in addition to the prerequisites required of every LEED certified project and in addition to any other LEED credits particularly suited to the project type.

Priority Credits:

WEc3 – Water Use Reduction, 30% (2 points)

EAc1 – Optimize Energy Performance, 28% / 24% (9 points) (Buildings with labs exempt)

EAc3 – Enhanced Commissioning (2 points)

EAc5 – Measurement and Verification (3 points)

MRC2 – Construction Waste Management, 50% (1 point)

EQc3.1 – Construction IAQ Management, During Construction (1 point)

EQc4 – Low Emitting Materials (4 points)

IDc1—Innovation in Education (1 point)

IDc2—LEED Accredited Professional (1 point)

Strongly Recommended Credits:

SSc1 – Site Selection

EQc8.1 – Daylight and Views, Daylight 75% of Spaces (1 point)

[*BD+C = Building Design + Construction]

For projects that include laboratory space, Labs 21 Environmental Performance Criteria should be reviewed and adopted to the greatest extent possible in the project.

Renovation projects that have a project cost of \$1 million or greater that do not qualify for the LEED Building Design + Construction standard should follow the LEED Commercial Interiors standard.

The sustainability goals and possible design options should be reviewed and discussed at the project kick-off or during schematic design.

Indoor Environmental Quality

As a standard practice all building interior finish materials—for example, paints, adhesives, flooring -- shall be low-emitting materials. .

The objective of this practice for the LEED EQ4 series is to “reduce the amount of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.”

Energy Efficiency Goals

All new buildings should have at least a 28% energy cost savings from a baseline building performance according to Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2007, earning 9 points for LEED Energy & Atmosphere Credit 1.

The intent of this credit is to “achieve levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.”

All major renovations should aim to have at least a 24% energy cost savings from a baseline building performance according to Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2007, earning 9 points for LEED Energy & Atmosphere Credit 1.

Laboratory buildings are exempt from these energy efficiency goals. In these cases, project teams should consult the Labs 21 Environmental Performance Criteria and seek to have an energy intensity of less than 300 kBtu/gsf/year.

Building Commissioning

All projects shall be commissioned by a third party Commissioning Authority that will oversee the entire commissioning process including fundamental and enhanced commissioning. The Commissioning Authority will begin the commissioning review process for a project no later than the beginning of the Design Development phase.

Energy Modeling

All major construction and renovation projects will develop an energy simulation model of the building early in the design process. The energy modeling, in relation to LEED EA prerequisite 2 and credit 1, will be used to estimate and to improve the design's energy performance as it progresses through the design stages. The energy model allows the design team to assess the energy implications of different design strategies. Energy modeling services that include testing of multiple high performing building systems and alternatives should be secured concurrent with the selection of the design team.

Life Cycle Costing

Lifecycle cost analysis will be used to assess strategies and design alternatives that affect the building's energy use in total over time. Life Cycle Costing forecasts and assesses energy costs, maintenance costs, and energy savings for the life of the system. These are often significant when considering alternatives that have a high upfront cost. Life cycle costs and savings should be assessed within the extended time frames that characterize the university context and standards.

The priorities and procedures that comprise the university's green building standards and guidelines will help to ensure that the university will achieve and maintain its goals for sustainable design and building. As advances are made in renewable energy and resources, as well as building practices, the university will continue to research and to study developments in the design and building professions that will continue to educate the Tulane community and to enhance its environment.

Adopted: February 2011