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Topic: Sustainable Design

Rational

Owners and developers are demanding green buildings that save money while protecting the environment and occupant health. Understanding LEED® is an important step towards reducing environmental impacts and achieving superior economic performance.

Objectives

Generally, to incorporate Sustainability, the new trend in architecture and construction into the Interior Design curriculum.

Specifically, to design a corporate architecture interiors by advocating the principles of environmentally responsible design.

Definitions

What is Sustainability?

“Each generation is responsible for itself and for its future....We must raise leaders of vision who think and make decisions in the long-term....They teach their children so that their children may teach their own children, and their children’s children, and so on for generations to come. The legacy is passed down not to ensure the present, but to guarantee the future.”

“Thinking of future generations is an enormous responsibility that naturally requires vision.

Vision is what a designer today must have because of the power to create. A designer has responsibility beyond others.” (Chief Oren Lyons, native American leader)

What is Green Design?

Design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants that address:

- Sustainable site planning
- Safeguarding water and water efficiency
- Energy efficiency
- Conservation of materials and resources
- Indoor environmental quality

Organization

USGBC, U.S. Green Building Council

A national, non-profit organization, which promotes the design, construction, and operation of building that are environmentally responsible, profitable, and healthy places to live and work.

Developer and administrative authority of LEED Green Building Rating System.

LEED Green Building Rating System

LEED (Leadership in Energy and Environmental Design): USGBC registered trademark

LEED buildings: Projects certified by the USGBC.

LEED-CI: LEED for Commercial Interiors:

For building owners, tenants and design teams that address commercial interiors design and installation process. LEED-CI gives the power to make sustainable choices to tenants and designers, who do not always have control over whole building operations.

Project

Company's Mission:

"Our mission is to care for the world we live in, from the products we make to the ways in which we give back to society. At the company, we strive to set an example of environmental leadership and responsibility around the world."

Project procedures:

Incorporate the following LEED Green Building Rating System for Commercial Interiors credits (15 in 51 credits) into your architecture interior design project.

- ***Sustainable Sites (SS): 1 in 5 credits***
 - Reduce Automobile use
 - Alternative Transportation, Bicycle Storage & Changing Rooms (SSc3.2): Provide secure bicycle storage with conveniently located changing and shower facilities for tenant occupants.

- ***Water Efficiency (WE): 1 in 2 credits***
 - Reduce the potable water used by buildings
 - Water Use Reduction, 20% Reduction (WEc1.1): Reduce the amount of potable water used by tenants.

- ***Energy & Atmosphere (EA): 2 in 10 credits***
 - Optimize energy efficiency and performance
 - Optimize Energy Performance, Lighting Power (EAc1.1): Reduce energy consumption below the prerequisite via lighting selection, strategies and technologies to mitigate energy-related environmental impacts.
 - Optimize Energy Performance, Lighting Controls (EAc1.2): Reduce energy consumption below the prerequisite via lighting selection, strategies and technologies to mitigate energy-related environmental impacts.

- ***Materials & Resources (MR): 6 in 15 credits***
 - Use materials with less environmental impact
 - Storage & Collection of Recyclables (MRp1): Reduce landfill waste by providing a dedicated area that serves the tenant space for the storage and collection of materials for recycling.
 - Resource Reuse of Furniture & Furnishings (MRc3.3): Use salvaged, refurbished or used furniture.
 - Recycled Content (MRc4.1): Use recycled content materials and reduce the impacts from the extraction and processing of virgin materials.
 - Regional Materials (MRc5.1): Support regional economies and reduce transportation impacts by using building materials and products that are extracted and manufactured locally.
 - Rapidly Renewable Materials (MRc6): Use rapidly renewable materials to reduce the depletion of non- and long cycle-renewables.
 - Certified Wood (MRc7): To support and encourage environmentally responsible forest management use woods that are certified by the Forest Stewardship Council.

- ***Indoor Environmental Quality (IQ): (5 in 19 credits)***
 - Eliminate, reduce, and manage the sources of indoor pollutant
 - Low-Emitting Materials, Carpet Systems (EQc4.3): Reduce the indoor air contaminants that are harmful to comfort of installers and occupants via carpet systems selection.
 - Low-Emitting Materials, Composite Wood & Laminate Adhesives (EQc4.4): Reduce the indoor air contaminants that are harmful to comfort of installers and occupants via composite wood and laminate adhesive selection.
 - Low-Emitting Materials, Systems Furniture & Seating (EQc4.5): Reduce the indoor air contaminants that are harmful to comfort of installers and occupants via systems furniture and seating selection.
 - Ensure thermal comfort and system controllability
 - Controllability of Systems, Lighting (EQc6.1): Provide a high level of lighting system control for individual occupants specific groups in multi-occupant spaces to promote productivity and wellbeing.
 - Provide for occupant connection to the outdoors
 - Daylight & Views, Daylight 90% of Spaces (EQc8.2): Provide occupants with a connection between indoor spaces and the outdoors through the introduction of daylight and views.

Evaluation

Designs will be judged for applying all the credits listed above and for the innovative character of the overall design, practical application, visual comfort, and sustainable material application.

References

U. S. Green Building Council web site: www.usgbc.com
LEED for Commercial Interiors (LEED-CI) Technical Review