LEED BD+C: New Construction | v3 - LEED 2009

Integrative process

IDpc60 | Possible 1 point

Intent

Pilot Credit Closed
This pilot credit is closed to new registrations

Implement an integrative process that supports high performance, cost-effective project outcomes through analyses of key systems interrelationships before decisions are made on building form and throughout the design process.

Requirements

Starting in pre-design, and continuing throughout the design phases, identify and execute synergistic opportunities for high performance outcomes across different disciplines and building systems. Use the analyses described below to inform the project's Owner's Project Requirements (OPR), Basis of Design (BOD), Design Documents, and Construction Documents. Consider opportunities resulting from analyses, at a minimum, in the following three areas:

Energy-related systems
Perform a preliminary "simple box" energy modeling analysis before the completion of Schematic Design that explores how to reduce energy loads in the building and accomplish other related sustainability goals by questioning default assumptions and testing options for applicable parameters. Assess at least two potential parametric options associated with, at a minimum, each of the following:

- Programmatic and operational parameters: Assess how multi-functioning spaces, operating schedules, space allotment per person, teleworking, reducing building area, on-going operations and maintenance issues impact project and human performance.
- Site conditions: Assess how shading, exterior lighting, hardscape, landscaping, and adjacent site conditions impact project and human performance
- Massing and orientation: Assess how massing and orientation impact HVAC sizing, energy consumption, lighting, and renewable energy opportunities.
- Basic Envelope Attributes: Assess how insulation values, window-to-wall ratios, glazing characteristics, shading, and window operability impact HVAC sizing, project performance, and human performance
- Lighting levels: Assess how interior surface reflectance values and lighting levels in occupied spaces impact HVAC sizing, project performance, and human performance.
- Thermal comfort ranges: Assess how thermal comfort range options impact HVAC sizing, project performance, and human performance.
- Plug and process load needs: Assess how reducing plug and process loads through programmatic solutions such as equipment and purchasing policies, layout options, etc., impact HVAC sizing, project performance, and human performance.

AND

Water-related systems
Perform a preliminary water budget analysis before the completion of Schematic Design that explores how to reduce potable water loads in the building and accomplish other related sustainability goals by assessing and quantifying the project's potential non-potable water supply sources and water demand volumes. Assess applicable estimates for, at a minimum, the following:

- Indoor Water Demand: Assess flow and flush fixture performance case demand volumes, calculated in accordance with WEp Indoor Water Use Reduction.
- Outdoor Water Demand: Assess landscape irrigation performance case demand volume calculated in accordance with WEc Outdoor Water Use Recusion.
- Process Water Demand: Assess kitchen, laundry, cooling tower, and other equipment demand volumes, as applicable.
- Supply Sources: Assess all potential non-potable water supply source volumes, such as on-site rainwater and grey water, municipally supplied nonpotable water, and HVAC equipment condensate.

AND

Cost analysis (related to all above systems)
Discovery: Perform integrative cost-bundling analysis[1] that estimates the cost of implementing integrative strategies. Compare bundled design case first costs (associated with primary integrative strategies) with the project's baseline first cost and operating costs budgets for the same components. This cost-bundling analysis must include, at a minimum, the following:

- Establish the project's baseline construction budget using line item first cost estimates

- Establish the project's baseline construction budget using line item first cost estimates
- Establish the project's baseline operations budget using line item cost estimates
- Create a cost-bundling spreadsheet identifying primary bundles of interrelated systems
- Identify and quantify potential design case first cost impacts (both reductions and increases) associated with each affected component of each primary bundle
- Identify potential design case operational costs associated with each primary bundle
- Identify any potential design case cost savings/benefits related to productivity issues associated with each primary bundle, where possible

General Pilot Documentation Requirements

REGISTER FOR THE PILOT CREDIT

- Participate in the LEEDuser pilot credit forum
- Complete the feedback survey:

CREDITS 1-14

CREDITS 15-27

CREDITS 28-42

CREDITS 43-56

CREDITS 57-67

CREDITS 68-82

CREDITS 83--96

Credit specific

Complete the LEED v4 Integrative Process Worksheet. Additional guidance can be found in the LEED v4 version of this credit under the guide tab.

Additional Questions

- How were the requirements of this credit different from the process/planning you've completed on previous projects?
- Which typical project team members were critical to this process? Did the project team engage members they otherwise would not have?
- How did work completed for the requirements change what the project team would have otherwise done?
- What parts of the process of meeting the requirements (if any) are similar to what the project team would have otherwise done?
- What resources, if any, did the project team use to understand an integrative process?
- What was the most challenging aspect of meeting the credit requirements?

Changes

- 5/15/2014:
  replaced submittal requirements with LEED v4 documentation requirements
- 5/04/2016:
  pilot credit closed, v4 version available to v2009 projects through the innovation catalog