**OP 4: Building Design and Construction**

3 points available

**A. Credit Rationale**
This credit recognizes institutions that have incorporated environmental features into their design and construction projects. Decisions made during the design phase, such as where to locate the building and how it is oriented, can yield significant energy savings and reduce impacts on the site. By designing and building for enhanced indoor environmental quality (IEQ), institutions can ensure their buildings provide safe, healthy, and productive spaces for the campus community. While other credits also capture many of the impacts of green buildings (e.g. on campus energy consumption and water use), this credit recognizes institutions that have comprehensive green construction and renovation programs and that pursue third party certification of new campus buildings.

**B. Criteria**
Institution-owned buildings that were constructed or underwent major renovations in the previous five years are:

1) Certified under a green building rating system for new construction and major renovations (e.g. the LEED® for New Construction and Major Renovations, LEED for Commercial Interiors, LEED for Healthcare, and/or LEED for Core and Shell Green Building Rating Systems)

2) Certified Living under the Living Building Challenge (LBC)

And/or

3) Designed and built in accordance with formally adopted green building guidelines and policies that cover all of the following topics:
   - Impacts on the surrounding site
   - Energy consumption
   - Building-level energy metering
   - Usage of environmentally preferable materials
   - Indoor environmental quality
   - Water consumption
   - Building-level water metering

Building space that meets multiple criteria listed above should not be double-counted.
C. Applicability
This credit applies to institutions that have any building space that is eligible for certification under a green building rating system for new construction and for which construction or major renovation was completed during the previous 5 years. [See “Eligible Building Space (Design and Construction)” in Standards and Terms.]

D. Scoring
Institutions earn the maximum of 3 points for this credit by having all eligible building space completed during the previous five years certified at the highest achievable level under a green building rating system for new construction and major renovations used by an Established Green Building Council (GBC) (e.g. LEED for Existing Buildings: O&M, certification level Platinum) and/or certified Living under the Living Building Challenge. Incremental points are awarded based on the percentage of eligible building space that is certified at various levels and/or designed and constructed in accordance with green building policies or guidelines. For example, an institution that had 100 percent of its eligible building space certified at the minimum level would earn 1.5 points for this credit, while an institution that had 50 percent of its eligible building space certified at the minimum level would earn 0.75 points.

Institutions earn points as calculated according to the following table:
Enter values as indicated below to calculate points earned for this credit
Points will be calculated automatically when data are entered in the STARS online Reporting Tool

<table>
<thead>
<tr>
<th>Design and Construction Level</th>
<th>Point Value Per Level</th>
<th>Multiply</th>
<th>Floor Area of Building Space Certified at Each Level</th>
<th>Divide</th>
<th>Total Floor Area of Eligible Building Space</th>
<th>Equals</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not certified but follows guidelines or policies</td>
<td>1.125</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certified at any level under a non-GBC rating system</td>
<td>1.5</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certified Living under the Living Building Challenge</td>
<td>3.5</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

3-Tier GBC Rating System (e.g. DGNB)

| Certified at Minimum Level | 1.5 | | | | | | |
| Certified at Mid-Level | 2 | × | | | | | |
| Certified at Highest Achievable Level | 3 | | | | | | |

4-Tier GBC Rating System (e.g. LEED)

| Certified at Minimum Level | 1.5 | | | | | | |
| Certified at 3rd Highest Level (e.g. LEED Silver) | 1.875 | × | | | | | |
| Certified at 2nd Highest Level (e.g. LEED Gold) | 2.25 | × | | | | | |
| Certified at Highest Achievable Level (e.g. LEED Platinum) | 3 | | | | | | |

5-Tier GBC Rating System (e.g. BREEAM, CASBEE)

| Certified at Minimum Level | 1.5 | | | | | | |
| Certified at 4th Highest Level | 1.75 | × | | | | | |
| Certified at Mid-Level | 2 | × | | | | | |
| Certified at 2nd Highest Level | 2.25 | × | | | | | |
| Certified at Highest Achievable Level | 3 | | | | | | |

Total points | (up to 3 available) |
Scoring Example: Building Design and Construction

Example Community College has completed construction on the following four buildings in the past three years:

1) A 500 m² building that was not designed and built in accordance with formal green building policies or guidelines nor certified under a green building rating system
2) A 1,000 m² building that was designed and built in accordance with formal green building policies or guidelines, but not certified
3) A 500 m² building that is certified under LEED for New Construction and Major Renovations, certification level Silver
4) A 2,000 m² building that is certified under LEED for New Construction and Major Renovations, certification level Platinum

Total Eligible Building Space = 500 m² + 1,000 m² + 500 m² + 2,000 m² = 4,000 m²

Building space that was designed and built in accordance with formal sustainable building operations and maintenance guidelines but not certified = 1,000 m²
Building space that is certified LEED Silver = 500 m²
Building space that is certified LEED Platinum = 2,000 m²

<table>
<thead>
<tr>
<th>Design and Construction Level</th>
<th>Point Value Per Level</th>
<th>Multiply</th>
<th>Floor Area of Building Space Certified at Each Level</th>
<th>Divide</th>
<th>Total Floor Area of Eligible Building Space</th>
<th>Equals</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not certified but follows guidelines or policies</td>
<td>1.125</td>
<td>1.000</td>
<td>4,000</td>
<td>=</td>
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<tr>
<td>LEED Certified</td>
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<tr>
<td>LEED Silver</td>
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<td>500</td>
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<td>0.234</td>
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<td>LEED Gold</td>
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<tr>
<td>LEED Platinum</td>
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<td>2,000</td>
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<td></td>
<td>1.5</td>
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<td></td>
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<tr>
<td>Certified Living</td>
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<tr>
<td><strong>Total points</strong></td>
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<td></td>
<td><strong>2.01</strong></td>
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E. Reporting Fields

Required

☐ An indication of whether the institution has any building space certified under the following green building rating systems for new construction and major renovations:
  o LEED or another 4-tier rating system used by an Established Green Building Council (GBC)
  o The DGNB system, Green Star, or another 3-tier GBC rating system
  o BREEAM, CASBEE, or another 5-tier GBC rating system
  o The Living Building Challenge
  o Other non-GBC rating systems (e.g. BOMA BEST, Green Globes)

☐ Total floor area of **eligible building space (design and construction)** (square feet/metres)

☐ Floor area of building space designed and constructed in accordance with formally adopted green building policies or guidelines, but not certified (square feet/metres)

☐ An affirmation that the submitted information is accurate to the best of a responsible party’s knowledge and contact information for the responsible party. The responsible party should be a staff member, faculty member, or administrator who can respond to questions regarding the data once submitted and available to the public.

Conditional

Required if the institution is reporting certified buildings:

☐ A brief description of the green building rating system(s) used and/or a list of certified buildings and ratings

☐ Floor area of building space certified at each level under a rating system used by an Established Green Building Council (GBC) (square feet/metres)

☐ Floor area of building space certified Living under the Living Building Challenge (square feet/metres)

☐ Floor area of building space certified under a non-GBC rating system for new construction and major renovations (square feet/metres)

Required if the institution is reporting building space constructed under green building guidelines or policies:

☐ A copy of the guidelines or policies (text or PDF upload)

☐ The date the guidelines or policies were adopted

☐ A brief description of the green building guidelines or policies and/or a list or sample of buildings covered

☐ A brief description of how the institution ensures compliance with green building design and construction guidelines and policies
Optional

- The website URL where information about the institution’s certified buildings and/or green building design and construction guidelines or policies is available
- Notes about the submission

F. Measurement

Timeframe
Report on the current certification status of buildings at the time of STARS submission. Buildings for which certification is pending should not be counted as certified space, and these buildings may be excluded from the institution’s profile for up to 2 years following registration with a rating system.

This credit focuses on buildings for which construction was completed within the five years prior to the anticipated date of submission.

Sampling and Data Standards
Include all buildings that meet the criteria for eligible building space (design and construction) as defined in Standards and Terms; reporting on a sample or subset of buildings is not allowed.

An institution may use any standard definition of floor area (e.g. ASHRAE, ANSI/BOMA, IECC), as long as it uses the same definition for both the total floor area of eligible building space and the floor area of building space that is certified and/or sustainably designed and constructed.