

US Green Building Council

LEED-AP-ND Exam

LEED AP Neighborhood Development

**Questions & Answers
Demo**

Version: 4.0

Question: 1

A non-Infill site has prime agricultural soils in areas of the site where construction is planned. Which would contribute to meeting the Smart Location and Linkage Prerequisite. Agricultural Land Conservation?

- A. Transfer the project's development rights to another location
- B. Fund and organize a community supported agriculture (CSA) program
- C. Remove the prime agricultural soils and plant them on existing farmland
- D. Purchase off-site comparable soil easements to mitigate the loss of affected soils

Answer: D

Explanation:

The LEED for Neighborhood Development (LEED ND) rating system encourages sustainable development practices that promote smart growth, urbanism, and green building. One of the key prerequisites under the Smart Location and Linkage (SLL) category is Agricultural Land Conservation, which aims to protect prime agricultural soils and important farmlands.

In the context of the provided scenario where a non-infill site has prime agricultural soils in areas planned for construction, the prerequisite emphasizes minimizing the impact on these valuable soils. The correct strategy, according to the LEED ND standards, is to purchase off-site comparable soil easements to mitigate the loss of affected soils (option D). This approach aligns with the intent to conserve agricultural land by ensuring that the lost agricultural capacity is compensated for elsewhere.

Reference:

LEED v4 Neighborhood Development Guide: This document outlines the prerequisites for Smart Location and Linkage, emphasizing the protection of prime agricultural lands (USGBC, LEED v4 Neighborhood Development Current Version).

LEED Reference Guide for Neighborhood Development: Provides detailed criteria and acceptable measures for fulfilling the Agricultural Land Conservation prerequisite (USGBC, LEED Reference Guide for Neighborhood Development).

USGBC Official Website: The USGBC page on LEED for Neighborhood Development discusses the importance of conserving prime agricultural soils and the acceptable strategies for mitigating the loss of these resources (USGBC, LEED for Neighborhood Development Rating System).

This approach is preferred as it ensures that the loss of valuable agricultural land due to development is compensated by protecting an equivalent area of prime agricultural soils, thus supporting the broader goals of sustainability and conservation within the LEED ND framework.

Question: 2

What information is required to determine if a project qualifies for the Green Infrastructure and Buildings Credit. Wastewater Management?

- A. Rainwater reuse rate
- B. Cost of installing wastewater system
- C. Average amount of annual wastewater generated
- D. Ability to connect to existing wastewater infrastructure

Answer: C

Explanation:

To determine if a project qualifies for the Green Infrastructure and Buildings Credit related to Wastewater Management in LEED for Neighborhood Development (LEED-ND), the most relevant piece of information is the average amount of annual wastewater generated by the project. This metric is essential because the credit focuses on minimizing the impact of wastewater on the environment, primarily through strategies such as reducing the volume of wastewater produced, treating wastewater on-site, and reusing treated wastewater.

Detailed Explanation:

Wastewater Generation and Management:

The LEED-ND rating system encourages the efficient management of wastewater to minimize its environmental impact. Specifically, the Green Infrastructure and Buildings Credit requires that a project demonstrates effective strategies for managing and reducing the volume of wastewater generated annually. This involves calculating the total average amount of wastewater generated by the community and assessing how much of it can be treated and reused on-site.

Credit Requirements:

To earn the Wastewater Management credit, projects must typically show that they have reduced the amount of wastewater generated by at least 25% compared to baseline conditions or that they treat and reuse a significant portion of their wastewater on-site. This necessitates an accurate estimation of the average annual wastewater production to determine the appropriate strategies and technologies for meeting the credit's objectives.

Supporting Strategies:

Projects may employ various methods to achieve this, including installing efficient plumbing fixtures, recycling graywater, using natural treatment systems (like constructed wetlands), or connecting to high-efficiency municipal treatment facilities. However, all these strategies hinge on an understanding of the total wastewater volume generated, making this the most critical data point.

Reference:

The LEED Reference Guide for Neighborhood Development (LEED ND) provides comprehensive criteria and methodologies for calculating the average wastewater generation and determining credit eligibility.

The Green Infrastructure and Buildings section of the LEED v4 for Neighborhood Development rating system further outlines the specific requirements and point allocations for wastewater management strategies.

For more detailed guidance and examples, refer to the LEED-ND Reference Guide available at the USGBC's resources section:

[LEED Reference Guide for Neighborhood Development](#)
[LEED v4 Neighborhood Development](#)

This detailed assessment is crucial in ensuring that a project can meet the sustainability goals

required for LEED certification under the Green Infrastructure and Buildings Credit for Wastewater Management.

Question: 3

A project calculates an overall annual heating and/or cooling consumption reduction using an energy efficiency model. Which credit would this calculation aid in documenting?

- A. Green Infrastructure and Buildings Credit. Heat Island Reduction
- B. Green Infrastructure and Buildings Credit. Solar Orientation
- C. Green Infrastructure and Buildings Credit. District Heating and Cooling
- D. Green Infrastructure and Buildings Credit. Infrastructure Energy Efficiency

Answer: D

Explanation:

The calculation of an overall annual heating and/or cooling consumption reduction using an energy efficiency model is directly related to optimizing the energy performance of infrastructure in the development. This aligns with the Green Infrastructure and Buildings Credit for Infrastructure Energy Efficiency. The intent of this credit is to minimize the energy demand and enhance the efficiency of energy systems within the project. By demonstrating a reduction in energy consumption through a model, the project can document compliance with the criteria set forth in this credit, which focuses on energy-efficient infrastructure such as street lighting, public buildings, and central plants.

Reference:

LEED v4 Neighborhood Development Guide: The guide specifies that the Infrastructure Energy Efficiency credit involves improving the energy efficiency of infrastructure, which includes heating and cooling systems (USGBC, LEED v4 Neighborhood Development Current Version).

LEED Reference Guide for Neighborhood Development: This reference elaborates on the acceptable methods for documenting energy efficiency improvements, including the use of energy models to demonstrate reduced consumption (USGBC, LEED Reference Guide for Neighborhood Development).

USGBC Official Website: The website outlines the Green Infrastructure and Buildings category and the Infrastructure Energy Efficiency credit, providing guidance on the use of energy models for credit documentation (USGBC, LEED for Neighborhood Development Rating System).

Question: 4

A project builds a central plant that burns biomass products to provide space heating and hot water to the development. Which of the following Green Infrastructure and Buildings credits could this help the project achieve?

- A. Solar Orientation
- B. indoor Water Use Reduction
- C. District Heating and Cooling
- D. Infrastructure Energy Efficiency

Answer: C

Explanation:

The development of a central plant that burns biomass products to provide space heating and hot water is directly aligned with the Green Infrastructure and Buildings Credit for District Heating and Cooling. This credit rewards projects that implement district energy systems that use renewable energy sources, such as biomass, to provide heating and cooling to multiple buildings in a development. By using biomass, the project reduces reliance on fossil fuels, lowers greenhouse gas emissions, and increases energy efficiency, all of which are key objectives of this credit.

Reference:

LEED v4 Neighborhood Development Guide: This document details the requirements for achieving the District Heating and Cooling credit, including the use of renewable energy sources like biomass (USGBC, LEED v4 Neighborhood Development Current Version).

LEED Reference Guide for Neighborhood Development: This guide provides a comprehensive overview of how district energy systems can contribute to credit achievement, specifically focusing on the sustainability benefits of biomass and other renewable energy sources (USGBC, LEED Reference Guide for Neighborhood Development).

USGBC Official Website: The website provides information on the Green Infrastructure and Buildings credits, including District Heating and Cooling, and highlights the advantages of using renewable energy in central plants (USGBC, LEED for Neighborhood Development Rating System).

Question: 5

Which of the following is a minimum program requirement of LEED® Neighborhood Development?

- A. Contain one habitable building and be no larger than 1,000 acres (405 Hectares)
- B. Contain two habitable buildings and be no larger than 1,000 acres (405 Hectares)
- C. Contain one habitable building and be no larger than 1,500 acres (607.5 Hectares)
- D. Contain two habitable buildings and be no larger than 1,500 acres (607.5 Hectares)

Answer: A

Explanation:

For a project to qualify for LEED® Neighborhood Development certification, it must meet specific Minimum Program Requirements (MPRs). One of these MPRs is that the project must contain at least one habitable building and must not exceed 1,000 acres (405 hectares) in size. This requirement ensures that the project is of a scale appropriate for a neighborhood development, allowing for effective management and adherence to sustainability principles.

Detailed Explanation:**Minimum Program Requirements (MPRs):**

MPRs are fundamental criteria that any project must satisfy to be eligible for LEED certification. These requirements are designed to ensure that projects meet basic sustainability and operational benchmarks necessary for certification.

Habitable Building:

The inclusion of at least one habitable building is essential because LEED-ND focuses on creating sustainable communities where people live, work, and interact. The presence of a habitable building ensures that the project serves a functional purpose within the community.

Project Size:

Limiting the project size to no more than 1,000 acres (405 hectares) ensures that the development is

manageable and can integrate sustainable practices effectively across the entire area. This limitation also prevents overly large developments that might strain local resources or infrastructure.

Reference:

The LEED Reference Guide for Neighborhood Development details the Minimum Program Requirements necessary for certification, including the requirements for habitable buildings and project size.

Further guidance can be found in the LEED v4 Neighborhood Development documentation provided by USGBC.

For additional information, refer to the resources available at USGBC:

[LEED Reference Guide for Neighborhood Development](#)

[LEED v4 Neighborhood Development](#)