



Michaels Engineering LEED® Brief

SUSTAINABLE SITES



SUGGESTIONS...

Do you have certain LEED® topics you'd like to know more about? Send an email with your suggestion to the author listed below and your topic might become a future LEED® Brief!

DID YOU KNOW...

...Site selection can play an important role in how the community views your construction project.

...Brownfield development may qualify you for tax incentives, substantial property cost savings, or even grants.

MEET THE AUTHOR



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→ LEED® CATEGORY #1: SUSTAINABLE SITES

Incorporating sustainable site features of Leadership in Energy and Environmental Design (LEED®) encourages construction practices that preserve undeveloped land and open spaces, reduce traffic, and minimize storm water, nutrient and pollution runoff to local streams, lakes and ponds. The benefits of employing sustainable building locations and features in your building design can minimize environmental impacts both locally and globally. Sustainable Sites is the first of five LEED® categories. This brief provides an overview of benefits.

→ PROVIDING LOCAL AND GLOBAL BENEFITS

Choosing a suitable site for your construction project involves many decisions that have local impacts. Many opportunities are available to reuse previously developed sites, either vacant or underutilized. Brownfields may be available for redevelopment.

Brownfields are sites that are either contaminated or perceived to be contaminated. Many times brownfields are in locations that would otherwise be conducive for thriving business and commerce but instead, the "eyesore" nature of the area deters prospecting developers. LEED® encourages the redevelopment of brownfields to preserve existing native areas and wildlife habitat. Furthermore, grants, tax breaks, and other incentives often exist for the redevelopment of brownfields.

Once a suitable site is chosen, there are opportunities to minimize the impact of the project on the environment. Storm water runoff from rain and melting snow is a major pollutant to local and regional watersheds. Storm water carries hydrocarbons, debris and nutrient-containing soils that are damaging to vegetation, wildlife and people who live in these areas or use these resources. Preventive measures can minimize the effects of storm water pollution during construction. Proper landscaping and building construction can minimize storm water runoff during the building's lifetime.

Reducing heat island effect is another benefit of building construction with sustainable sites in mind. Heat island effect involves the absorption of solar energy in massive structures like concrete, masonry, asphalt and building structures. Absorbed solar energy is then convected and radiated locally resulting in significantly higher urban temperatures. Los Angeles, for example, requires two times the cooling energy otherwise needed if no heat island effect existed.¹ Properly designed building surfaces and paved areas can minimize the heat absorbed and retained locally.

The location of the building can also have effects that extend to more than just the local environment. Locating buildings close to public transit and/or providing opportunities or incentives for building occupants to carpool, or use bicycles can have a significant impact on local air quality and reduce traffic. These features also help to reduce urban sprawl.

→ SUSTAINABLE SITES = CONSERVATION

The Sustainable Sites category of the LEED® rating system can provide lasting local and global environmental benefits, especially when combined with the other environmental categories of LEED®. The next brief will discuss the second category of LEED® - Water Efficiency.

¹ LEED-NC Version 2.1 Reference Guide