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HOME
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REFERENCE

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FACE OF THE AIA

SUSTAINABILITY

Next Stop: Green Neighborhoods

by Michael J. Crosbie, PhD, AIA

Summary: The field of sustainable architecture and design can be a demanding, detail-intensive pursuit. As we learn more and more about how buildings perform through advanced building science and modeling tools, there is a tendency for architects to delve deeper into the details. (For example, just what kinds of chemicals are in those varnishes or carpet fibers that can make some people ill?) But we can lose sight of the bigger picture. Right now, the bigger picture for green initiatives such as the U.S. Green Building Council's LEED® program is neighborhood development: Beyond individual buildings, how can we make entire communities more resource efficient (and how can we gauge their "green-ness")?

LEED for Neighborhood Development

The USGBC has launched a new pilot program, LEED for Neighborhood Development, which will document how community design can be more sustainable, with an eye to uncovering strategies that will support green architecture as it connects to the urban fabric. LEED for Neighborhood Design offers an opportunity to study actual development schemes, either in design or early construction, and identify exemplary development projects in the realm of smart growth, new urbanism, and green building.

Projects will include whole neighborhoods, portions of larger neighborhoods, or multiple neighborhood developments. But there is also room for a good design that contributes to a greater whole. For example, a single-use infill project in an urban community might earn a LEED for Neighborhood Development certification. USGBC has partnered with the Congress for New Urbanism and the Natural Resources Defense Council to develop the new standard, which will be tested on 120 pilot projects around the country.

Four categories

The new rating system's emphasis is on elements that bring buildings together into a neighborhood and relate the neighborhood to its larger region and landscape. The pilot standard was released this past February. The standard is organized in four categories:

- **Smart Location & Linkage**, including such features as connecting with existing utilities and transportation; avoiding flood plains, endangered habitats, and agricultural land; connecting with nearby housing, jobs, schools, and other community services; and using previously developed sites
- **Neighborhood Pattern & Design**, considering such issues as compact development, diversity of uses and housing types, street networks, walkable streets, accessible communities with through-streets, and local food production
- **Green Construction & Technology**, that is, certified green building practices, erosion control, building reuse and adaptive reuse, solar orientation, heat-island reduction, storm-water management, construction waste management, recycled content, etc.

- **Innovation & Design Process**, such as having a LEED-accredited professional on the team.

The new standard combines mandatory prerequisites and 106 optional credits, with levels designated as certified (40–49 points), silver (50–59), gold (60–79), and platinum (80–106). Lots of strategies are available at a variety of scales, such as revitalizing and redeveloping sites in existing communities, exceeding average community densities, and incorporating green and energy-efficiency standards from USGBC and other organizations, along with sustainable approaches to storm-water management, heat-island reduction, and curbing light pollution.



Case study in Georgetown, Conn.

The Georgetown Land Development Company's redevelopment of the former Gilbert & Bennett manufacturing site in Georgetown, Conn., is one of the newly approved projects for the LEED for Neighborhoods pilot program that our firm is consulting on. In the early 1800s, the property was the site of a tannery and later served as a wire factory. By 1989, the factory closed. The property was purchased as a brownfield site and cleaned up of contaminants to prepare it for redevelopment.

A pedestrian-friendly village is planned for the 50-acre site, with a residential component of 416 units of housing, including loft units, townhouses, single-family homes, affordable units for artists, apartments over retail buildings, and 40 units of subsidized

housing for senior citizens. The commercial buildings include a new community theater, as well as a new railroad station, retail, and commercial businesses such as restaurants.

All buildings, new and renovated, will incorporate energy-efficient systems such as photovoltaics and green roofs where applicable. A turbine will be installed on the site's 18-foot waterfall that powered the wire mill for many years. The resulting hydroelectric dam will provide electricity for one of the commercial buildings. A fuel cell system (which results in fewer emissions than even the cleanest combustion process) will generate electric power. The heat from the fuel cells will go to other building uses—for example, to heat the pool at a health-club facility.

USGBC will unveil the list of LEED for Neighborhood Development pilot projects this month on the council's Web site.