The Sustainable Sites Initiative: Future Business Opportunities?
Sustainable Sites Initiative
Business Opportunities!

• professionals become registered, then consult
• collaboration with other firms
• public certification & recognition of your work or projects
• access to innovations that your firm/agency might use
• incentives for project support/funding
LOOKS GREEN BUT IS IT SUSTAINABLE?
Around the country, polluted and contaminated storm water runoff accounts for 70 percent of water pollution in urban areas and is the leading cause of poor water quality and the degradation of aquatic habitat.

Loizeaux-Bennet (1999)
Tree canopy reduces residential home cooling costs. In Atlanta, Georgia, savings in home cooling costs amount to $2.8 million per year.

*American Forests* (October 2001 and August 2001)
Sediment runoff rates from construction sites can be up to 20 times greater than agricultural sediment loss rates and 1,000 to 2,000 greater than those of forested lands.

US EPA (2005)
In 2007, approximately 33 million tons of yard waste entered the municipal waste stream, representing 13 percent of total municipal waste in the United States.

US EPA (2007)
Views of natural settings have been shown to reduce the number of sick days taken by office workers and decrease hospital patient recovery time.

Faber Taylor et al (2001)
In New York City, trees are providing $5.60 in benefits for every $1 spent on tree planting and care.

Peper et al (2007)
Human needs and a healthy environment are not opposing claims that must be balanced; instead, they are inexorably linked by chains of cause and effect. We need a healthy environment because we need clean water, clean air, wood, and food . . .

~ Jared Diamond, biologist, 2003
SUSTAINABLE DEVELOPMENT:

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

LEED
Green Building Rating Systems

- *Leadership in Energy and Environmental Design*
- using tools and performance criteria
- building and development checklist
- started in U.S., now 41 countries
LEED
Performance Checklist

• sustainable site development
• water savings
• energy efficiency and atmosphere
• materials selection
• indoor environmental quality
LEED Ratings

- Certified
- Silver
- Gold
- Platinum
LEED Rating Systems
Bronx Library
(New York City)

New Construction Certification

score: 34
rating: Silver
LEED Certification - Summary

- Performance Criteria = design score
- Rating Levels: Silver, Gold, Platinum
- Adopted widely! Incentive not regulation
- Project certification & professionals are certified
Now Available Online!

SUSTAINABLE SITES

GUIDELINES AND PERFORMANCE BENCHMARKS

DRAFT 2009

American Society of Landscape Architects
Lady Bird Johnson Wildflower Center, University of Texas at Austin
United States Botanic Garden

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Goods and services, with an estimated combined value of $33 trillion, that are produced by ecosystem processes.

ECOSYSTEM SERVICES

All sites CAN provide ecosystem services
POTENTIAL PROJECT TYPES

Sites with or without buildings:

- parks, trails, campgrounds
- industrial and office parks
- govt. & medical complexes
- conservation easements
- botanical gardens
- university campuses
- residential sites
- streetscapes & plazas
CURRENT REPORT

Released November 10, 2008

- Based on an ecosystems services framework
- Over 50 prerequisites and credits
- Various metrics from site selection to operations and maintenance
- Research on soils, vegetation, hydrology, materials and human health & well-being
GUIDING PRINCIPLES

- Do no harm
- Use the precautionary principle
- Design with nature and culture
- Use a decision-making hierarchy of preservation, restoration and regeneration
- Provide regenerative systems as intergenerational equity
- Support a living process
- Use a systems thinking approach
- Use a collaborative and ethical approach
- Maintain integrity in leadership and research
- Foster environmental stewardship
Guidelines and Performance Benchmarks

Site Selection
Preserve existing resources and repair damaged systems

Pre-Design Assessment and Planning
Plan for sustainability from the onset of the project

Site Design - Ecological Component
Protect and restore site processes and systems

Site Design Human Health Component
Build communities and a sense of stewardship

Site Design - Materials Selection
Reuse/recycle and support sustainable production practices

Construction
Minimize effects of construction related activities

Operations and Maintenance
Maintain the site for long-term sustainability
DRAFT PREREQUISITES AND CREDITS

1 SITE SELECTION
Select locations to preserve existing resources and repair damaged systems
1.1 Prerequisite Preserve threatened or endangered species habitat
1.2 Prerequisite Protect and restore floodplain functions of riparian and coastal zones
1.3 Prerequisite Limit disturbance of prime farmland soils, unique soils, and soils of statewide importance
1.4 Credit Select greenfields or greyfields for redevelopment

2 PRE-DESIGN ASSESSMENT AND PLANNING
Plan for sustainability from the outset of the project
2.1 Prerequisite Conduct a pre-design site assessment
2.2 Prerequisite Use an integrated design process
2.3 Prerequisite Develop a program plan with site performance goals
2.4 Credit Engage users and other stakeholders in meaningful participation in site design

3 SITE DESIGN—ECOLOGICAL COMPONENTS
Protect and restore site processes and systems
3.1 Prerequisite Control and manage invasive species
3.2 Prerequisite Use appropriate, non-invasive plants
3.3 Prerequisite Preserve special status trees
3.4 Prerequisite Reduce potable water consumption for irrigation
3.5 Credit Minimize or eliminate potable water consumption for irrigation
3.6 Credit Preserve and restore plant bioerosion on site
3.7 Credit Minimize bulking and cooling requirements for vegetation
3.8 Credit Reduce urban heat island effects
3.9 Credit Promote a sense of place with native vegetation
3.10 Credit Preserve and restore native wildlife habitat
3.11 Credit Protect and restore riparian and wetland buffers
3.12 Credit Repair or restore damaged or lost streams, wetlands, and coastal habitats
3.13 Credit Preserve existing healthy soils
3.14 Credit Preserve existing topography
3.15 Credit Restore soils disturbed by previous development
3.16 Credit Manage water on-site
3.17 Credit Cleanse water on-site
3.18 Credit Eliminate potable water use in ornamental or stormwater features
3.19 Credit Minimize use of potable water in water features designed for full human contact
3.20 Credit Mitigate potential wildlife risks
SITE DESIGN—HUMAN HEALTH COMPONENTS
Build strong communities and a sense of stewardship

4.1 Credit: Promote equitable site design, construction, and use
4.2 Credit: Promote sustainability awareness and education
4.3 Credit: Provide for optimum site accessibility, safety, and wayfinding
4.4 Credit: Provide views of the natural environment to building occupants
4.5 Credit: Provide opportunities for outdoor physical activity
4.6 Credit: Connect site to surrounding resources, amenities, and services
4.7 Credit: Provide outdoor spaces for essential restorations
4.8 Credit: Provide outdoor spaces for social interaction
4.9 Credit: Design stormwater management features to be a landscape amenity
4.10 Credit: Prevent and abate sensory stress
4.11 Credit: Protect and promote unique cultural and historical site attributes

SITE DESIGN—MATERIALS SELECTION
Reuse/recycle existing materials and support sustainable production practices

5.1 Prerequisite: Eliminate use of lumber from threatened tree species
5.2 Credit: Support sustainable practices in plant production
5.3 Credit: Support sustainable practices in materials manufacturing
5.4 Credit: Reuse on-site structures, landscape, and landscape amenities
5.5 Credit: Use salvaged and recycled content materials
5.6 Credit: Use certified wood
5.7 Credit: Use products designed for reuse and recycling
5.8 Credit: Use adhesives, sealants, paints, and coatings with reduced VOC emissions
5.9 Credit: Conduct a life cycle assessment

CONSTRUCTION
Minimize effects of construction-related activities

6.1 Prerequisite: Create a soils management plan
6.2 Prerequisite: Restore soils disturbed during construction
6.3 Credit: Achieve a carbon-neutral site
6.4 Credit: Divert construction and demolition materials from disposal
6.5 Credit: Control and retain construction pollutants
6.6 Credit: Use excess vegetation, rocks, and soil generated during construction

OPERATIONS AND MAINTENANCE
Maintain the site for long-term sustainability

7.1 Prerequisite: Plan for sustainable landscape maintenance
7.2 Credit: Minimize exposure to localized air pollutants
7.3 Credit: Recycle organic matter generated during site operations and maintenance
7.4 Credit: Provide for storage and collection of recyclables
7.5 Credit: Use renewable sources for site outdoor electricity
1.4 Credit  Select brownfields or greyfields for redevelopment

Intent
Channel development to urban areas with existing infrastructure and rehabilitate damaged sites to reduce pressure on undeveloped land and restore ecosystem services.

Requirements
• Option 1  Brownfield redevelopment: Select a site documented as contaminated (by means of an ASTM E1903-97 Phase III Environmental Site Assessment or a local Voluntary Cleanup Program) OR a site defined as a brownfield by a local, state, or federal government agency.
   OR
• Option 2  Greyfield redevelopment: Select a site that has been previously developed or graded.

Suggested submittal documentation
• Option 1: Provide confirmation that the existing site was documented as contaminated or defined as a brownfield, and provide a detailed narrative describing the site contamination.
   OR
• Option 2: Provide a site vicinity plan (e.g., sketches, block diagrams, maps, and aerial photographs) showing the project site and the surrounding sites and buildings.

Technologies and strategies
During the site selection process, give preference to previously developed or brownfield sites. Coordinate site development plans with remediation activity and use of existing infrastructure and materials, as appropriate.

Ecosystem services addressed:
• Global climate regulation
• Air and water cleansing
• Waste decomposition and treatment
• Human health and well-being benefits
• Cultural benefits

Economic and social benefits:
Brownfield and greyfield redevelopment reduces pressure on undeveloped land, thereby protecting habitat and preserving natural resources. Using existing infrastructure and on-site materials as resources can reduce project costs for new materials.

The rehabilitation of a site with environmental contamination is an opportunity to improve the environmental quality and resources available to local communities. Such properties may also cost less and be offered for sale with tax incentives.
PROJECT SCHEDULE

GUIDELINES AND PERFORMANCE BENCHMARKS Draft 2008
Released November 2008

GUIDELINES AND PERFORMANCE BENCHMARKS 2009
Target publication - Fall 2009

RATING SYSTEM
Target publication - 2011

PILOT PROJECTS PHASE
From 2010 - 2012

REFERENCE GUIDE
Target publication - 2012
CASE STUDIES

For more information, visit
www.sustainablesites.org/cases
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Industry Redefinition!

new business plan for firms
Municipal Govt Initiatives

civic buildings required

private sector permit incentives

Chicago, 2005
LEED Professional Accreditation

The LEED Professional Accreditation program is now managed by the Green Building Certification Institute (GBCI). LEED Professional Accreditation distinguishes building professionals with the knowledge and skills to successfully steward the LEED certification process. LEED Accredited Professionals (LEED APs) have demonstrated a thorough understanding of green building practices and principles and the LEED Rating System. More than 75,000 people have earned the credential since the Professional Accreditation program was launched in 2001.

In 2008, administration of the Professional Accreditation program transitioned to the Green Building Certification Institute (GBCI). The Green Building Certification Institute, established with the support of the U.S. Green Building Council, handles exam development and delivery to allow for objective, balanced management of the credentialing program.

Visit GBCI.org to:
- Search for LEED APs in your area
- Find study materials for the LEED Professional Accreditation exam
- Register as an exam candidate
What is a LEED AP?

LEED Accredited Professionals (LEED APs) are building industry professionals who have demonstrated a thorough understanding of green building and the LEED® Green Building Rating System™. The LEED AP credential indicates that the professional has the knowledge and skills to facilitate the LEED certification process.

LEED Professional Accreditation is a voluntary designation achieved by over 60,000 individuals who have passed the LEED Professional Accreditation exam. The Green Building Certification Institute recommends that LEED AP candidates have building industry knowledge, as well as experience working with green building professionals from multiple disciplines.

What are the benefits of earning the LEED AP credential?

- Strengthen your green building qualifications.
- Market your green building knowledge to potential employers and clients.
- Help a LEED registered project one point toward certification.
- Contribute to your professional development.
- Earn recognition with the nation's predominant green building professional credential.
- Receive a LEED AP certificate and opt to be listed in GBCI's Directory of LEED Accredited Professionals.
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- incentives for project support/funding
STEERING COMMITTEE

American Society of Landscape Architects
Lady Bird Johnson Wildflower Center
United States Botanic Garden
U.S. Green Building Council
U.S. Environmental Protection Agency, GreenScapes Program
National Recreation and Park Association
National Association of County and City Health Officials
The Nature Conservancy, Global Invasive Species Team
University of Texas at Austin, Center for Sustainable Development
American Society of Civil Engineers, Environment & WaterResources Institute