

LEED 2009 for Healthcare Overview

Seminar 41

Michael Meteyer P.E., LEED AP BD+C
Cogdell Spencer EROMAN
608.410.8221
mmeteyer@cogdell.com
www.cogdell.com

COGDELL SPENCER EROMAN
Strategy. Capital. Delivery. Management.

Learning Objectives for this Session

1. Introduce the new **LEED 2009 for Healthcare New Construction and Major Renovations**
2. Understand where and how it applies to the various healthcare facilities types
3. Review the major differences between LEED 2009 NC and Healthcare

ASHRAE is a Registered Provider with The American Institute of Architects Continuing Education Systems. Credit earned on completion of this program will be reported to ASHRAE Records for AIA members. Certificates of Completion for non-AIA members are available on request.

This program is registered with the AIA/ASHRAE for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product. Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare Facility Energy Use
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED 2009 for Healthcare

New Construction and Major Renovations
Distinguish high performance healthcare projects

Including:

Inpatient
Outpatient
Long-term Care



Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED 2009 for Healthcare

Passed November 16, 2010

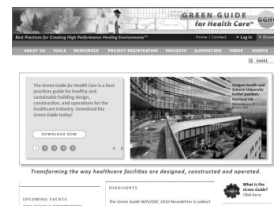
87% approval rate

Seven Years

Green Guide for Healthcare

Open for registration

Spring 2011 "launch"



Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

GGHC Pilot Program

Robust pilot +100 facilities

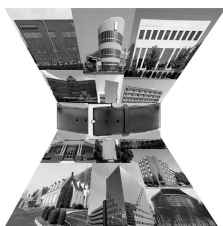
Addressed:

Usability

Verifiability of credits

Feedback Incorporated

Bypassed LEED pilot process



Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED 2009 for Healthcare

Takes into account:

Regulatory requirements

24/7 operations

Program demands

Infection control

Required ventilation



Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED NC 2009 Migration

Projects can switch to LEED HC
 Submit request
 Feedback button in LEED Online
 Re-enter Project data
 No fee to switch v3
 Fees required to convert LEED v2

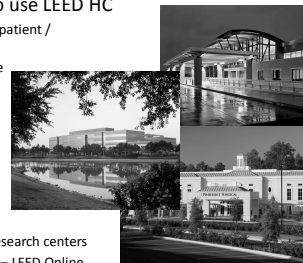


Seminar 41
 Presentation #3

Codes and Standards Impacting Healthcare
 Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED 2009 for Healthcare

Projects Required to use LEED HC
 Licensed and federal inpatient /
 outpatient
 Licensed long term care
 Spring 2011



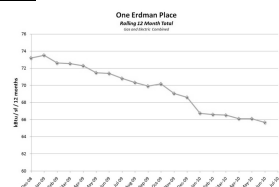
Optional
 Medical offices
 Assisted living facilities
 Medical education & research centers
 Rating System Selector – LEED Online

Seminar 41
 Presentation #3

Codes and Standards Impacting Healthcare
 Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED 2009 for Healthcare

Minimum Project Requirements
 Same as LEED 2009 NC
 Water and Energy Use data
<http://www.usgbc.org/ShowFile.aspx?DocumentID=6715>



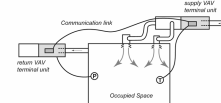
Seminar 41
 Presentation #3

Codes and Standards Impacting Healthcare
 Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Healthcare Pilot Credits

Pilot Credits

Pilot Credit 2: PBT Source
 Reduction: Dioxins and
 Halogenated Compounds



Pilot Credit 3: Medical & Process
 Equipment Efficiency

Pilot Credit 4: Innovative Ventilation

Pilot Credit 11: Chemical Avoidance
 in Building Materials

Seminar 41
 Presentation #3

Codes and Standards Impacting Healthcare
 Overview - LEED 2009 for Healthcare New Construction and Major Renovations

LEED 2009 Comparison New Construction vs. Healthcare

Overall changes impact

Modified:

6 prerequisites
 25 credits

Added:

3 prerequisites
 15 credits

Seminar 41
 Presentation #3

Codes and Standards Impacting Healthcare
 Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Sustainable Sites

SUSTAINABLE SITES	
Prerequisite 1: Construction Activity Pollution Prevention	None
Prerequisite 2: Environmental Site Assessment	None
Credit 1: Site Selection	None
Credit 2: Development Density and Community Connectivity	<ul style="list-style-type: none"> Revised scoring Clarified exception of basic services related to healthcare Clarified definition of public transit services to meet new projects Created a threshold for road miles
Credit 3: Greenhouse Gas Reduction	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.1: Alternative Transportation	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.2: Public Transportation Access	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.3: Bicycle Storage and Changing Station	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.4: Low-Speed and Non-Motorized Transportation	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.5: Alternative Transportation	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.6: Parking Capacity	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.7: Site Development, Material and Construction	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 4.8: Light Pollution	None
Credit 4.9: Stormwater Management	None
Credit 4.10: Stormwater Design - Quantity	None
Credit 4.11: Stormwater Design - Quality	None
Credit 4.12: Heat Island Effect - Roof	None
Credit 4.13: Heat Island Effect - Pavement	None
Credit 4.14: Light Pollution Reduction	<ul style="list-style-type: none"> Added exceptions for certain LED uses
Credit 5.1: Connection to the Natural	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare
Credit 5.2: Connection to the Natural	<ul style="list-style-type: none"> Revised scoring Revised exception for basic services related to healthcare

Seminar 41
 Presentation #3

Codes and Standards Impacting Healthcare
 Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Water Efficiency

WATER EFFICIENCY		
Prereq 1	Water Use Reduction	Included potable water use under this credit. Both building water use and process water use must meet the prerequisite/credit thresholds as separate calculations.
Prereq 2	Minimize Potable Water Use for Mechanical Equipment Cooling	New prerequisite to encourage phasing out once-through cooling on mechanical equipment.
Credit 1	Water Efficient Landscaping: No Potable Water Use or No Irrigation	Revised scoring
Credit 2	Water Use Reduction: Measurement & Verification	Revised to determine the ongoing accountability for water consumption by an M&V protocol on a regular basis.
Credit 3	Water Use Reduction	Revised to include process water use under this credit. Both building water use and process water use must meet the prerequisite/credit thresholds as separate calculations.
Credit 4.1	Water Use Reduction-Building Equipment	New credit to measure the total amount of potable water consumed in healthcare facilities via mechanical processes.
Credit 4.2	Water Use Reduction-Cooling Towers	New credit to address the substantial amount of potable water consumed in healthcare facilities via mechanical processes.
Credit 4.3	Water Use Reduction-Pool Water Systems	New credit to address the substantial amount of potable water consumed in healthcare facilities via mechanical processes.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1765>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Energy & Atmosphere

ENERGY & ATMOSPHERE	
Prereq 1	Fundamental Commissioning of Building Energy Systems
Prereq 2	Minimum Energy Performance
Prereq 3	Fundamental Refrigerant Management
Credit 1	Optimize Energy Performance
Credit 2	On-Site Renewable Energy
Credit 3	Enhanced Commissioning
Credit 4	Enhanced Refrigerant Management
Credit 5	Measurement and Verification
Credit 6	Green Power
Credit 7	Community Contaminant Prevention-Airborne Release

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1765>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Material & Resources

MATERIALS & RESOURCES		
Prereq 1	Storage and Collection of Recyclables	<ul style="list-style-type: none"> Revised to include mercury containing devices and batteries. Revised to include a new referenced standard.
Prereq 2	PBT Source Reduction-Mercury	<ul style="list-style-type: none"> New prerequisite to encourage phasing out mercury in healthcare facilities as reflected in the 1998 MOU between the ASH and EPA.
Credit 1.1	Building Reuse - Maintain Existing Walls, Floors and Roof	<ul style="list-style-type: none"> Added exception for demolition related to creating courtyard spaces.
Credit 1.2	Building Reuse - Maintain Interior Nonstructural Elements	<ul style="list-style-type: none"> Added exception for hazardous material demolition.
Credit 2	Construction Waste	<ul style="list-style-type: none"> None

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1765>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Material & Resources

(continued)

Credit 3	Sustainably Sourced Materials and Products	<ul style="list-style-type: none"> Combines elements of LEED NC MRc4-7 using the LEED EB O&M model of combining totals of materials for all sustainable materials attributes. Requires products attaining this credit also meet the requirements of EQ or Low VOC Materials to ensure that the reduction of recycled or other sustainable source content materials is not done at the expense of exposure of immunocompromised occupants in healthcare facilities to toxics. Includes requirements for fly ash.
Credit 4.1	PBT Source Reduction-Mercury in Lamps	<ul style="list-style-type: none"> New credit to encourage phasing out mercury-containing lamps in healthcare facilities, as reflected in the 1998 MOU between the ASH and EPA.
Credit 4.2	PBT Source Reduction-Lead, Cadmium and Copper	<ul style="list-style-type: none"> New credit to encourage phasing out PBT containing materials.
Credit 5	Furniture and Medical Furnishings	<ul style="list-style-type: none"> New credit to address furniture and furnishings in healthcare facilities to respond to the significance of extended physical contact by patients.
Credit 6	Resource Use-Design for Flexibility	<ul style="list-style-type: none"> New credit designed to conserve resources associated with the construction and management of buildings by designing for durability, flexibility and ease of future adaptation, and maximizing life of constituent components and assemblies.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1765>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Indoor Environmental Quality

INDOOR ENVIRONMENTAL QUALITY		
Prereq 1	Minimum Indoor Air Quality Performance	<ul style="list-style-type: none"> Revised to include a new referenced standard.
Prereq 2	Environmental Tobacco Smoke (ETS) Control	<ul style="list-style-type: none"> Modified distance of smoking areas from 25 feet to 50 feet from specific areas. Added Option 1 signage requirement for designated smoking areas and restriction for location of smoking areas outside of places of refuge that meet SSCB.1 Language added to include signage requirements, and weather stripping requirements for Option 2.
Prereq 3	Hazardous Material Removal or Encapsulation (Renovations Only)	<ul style="list-style-type: none"> New prerequisite focused upon appropriate removal and/or encapsulation of hazardous materials, thereby reducing building occupants' potential exposure.
Credit 1	Outdoor Air Delivery Monitoring	<ul style="list-style-type: none"> Revised to include a new referenced standard.
Credit 2	Acoustic Environment	<ul style="list-style-type: none"> New credit designed to reduce patients' exposure to disruptive noise levels in healthcare facilities. Noise is a well-documented source of stress in healthcare settings.
Credit 3.1	Construction Indoor Air Quality Management Plan - During Construction	<ul style="list-style-type: none"> Added infection control requirements. Revised to include a new referenced standard.
Credit 3.2	Construction Indoor Air Quality Management Plan - Before Occupancy	<ul style="list-style-type: none"> Revised to specify that all finishes must be installed prior to flush-out.
Credit 4	Low-Emitting Materials	<ul style="list-style-type: none"> Combines elements of LEED NC IEQc4.1-4.4. Scope is more inclusive. New group to address exterior applied products.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1765>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Indoor Environmental Quality

(continued)

Credit 5	Indoor Chemical and Pollutant Source Control	<ul style="list-style-type: none"> Revised to include mathematical or physical modeling to trace outdoor pollutants. Revised to include more stringent pressurization requirements for rooms containing hazardous materials.
Credit 6.1	Controllability of Systems - Lighting	<ul style="list-style-type: none"> Revised language to reflect the difference between patient rooms, staff areas and other areas.
Credit 6.2	Controllability of Systems - Thermal Comfort	<ul style="list-style-type: none"> Revised language to reflect the difference between patient rooms and other areas.
Credit 7	Thermal Comfort - Design and Verification	<ul style="list-style-type: none"> Combines LEED NC IEQc7.1 and IEQc7.2. Revised to include a new referenced standard.
Credit 8.1	Daylight and Views - Daylight	<ul style="list-style-type: none"> Revised scoring. Linked to IEQc8.2 achievement. Includes only qualifying spaces under IEQc8.2. Revised to include daylight responsive lighting controls.
Credit 8.2	Daylight and Views - Views	<ul style="list-style-type: none"> Revised scoring. Revised language to reflect the difference between patient rooms and other areas. New requirements related to building footprint for non-patient room areas.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1765>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Innovation in Design

Innovation in Design		
Prereq 1	Integrated Project Planning and Design	<ul style="list-style-type: none"> New prerequisite to encourage following an integrated design process since it is a key factor in achieving successful implementation of sustainable design strategies for healthcare facilities because of the complexity of systems, high dollar per square foot costs, and the benefit of stakeholder input involved in their design, construction, and operations.
Credit 1	Innovation in Design	<ul style="list-style-type: none"> Revised scoring
Credit 2	LEED® Accredited Professional	<ul style="list-style-type: none"> None
Credit 3	Integrated Project Planning and Design	<ul style="list-style-type: none"> New credit to reward project teams for excelling at an integrated design process.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1705>

Seminar 41
Presentation #3

Codes and Standards Impacting Healthcare
Overview - LEED 2009 for Healthcare New Construction and Major Renovations

Questions?

Michael Meteyer, PE, Member
LEED AP BD+C
mmeteyer@cogdell.com

2/1/2011 Codes and Standards Impacting Healthcare Facility Energy Use