



## GreenLearner LEED Standards Quick Reference Guide

| <b>Standard</b>  | <b>Definition Related to LEED</b>   | <b>BD+C Credits that Reference Standard</b>  |
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| <b>2003 EPA Construction General Permit</b>  | outlines (NPDES) National Pollutant Discharge Elimination System  | SSp1 Construction Activity Pollution   |
| <b>Phase I Environmental Site Assessment (ASTM E1527-05)</b>   | determines if environmental contamination exists at a project site  | SSp2 Environmental Site Assessment (LEED for Schools Only)   |
| <b>Phase II Environment a Site Assessment (ASTM E1903-97, 2002)</b>  | 1) Must be conducted if Phase I Environmental Site Assessment determines possible contamination.<br>2) Can be used to document site as a "Brownfield"   | SSp2 Environmental Site Assessment (LEED for Schools Only)   |
| <b>EPA's "Ready for Use" document</b>  | must be provided to prove safe levels of contamination have been achieved   | SSp2 Environmental Site Assessment (LEED for Schools Only)   |
| <b>U.S. Department of Agriculture in the United States Code of Federal Regulations</b>   | defines prime farmland  | SSc1 Site Selection  |
| <b>Federal Emergency Management Agency (FEMA)</b>  | defines 100-year flood elevation  | SSc1 Site Selection  |
| <b>U.S. Code of Federal Regulations 40 CFR</b>   | defines wetlands  | SSc1 Site Selection  |
| <b>Clean Water Act</b>   | defines water bodies  | SSc1 Site Selection  |
| <b>Zero Emission Vehicles (ZEV) by California Air Resources Board</b>  | defines low emitting and fuel efficient vehicles  | SSc4.3 Alternative Transportation-Low Emitting and Fuel-Efficient Vehicles   |
| <b>Green score of 40 by (ACEEE) American Council for an Energy Efficient Economy</b>   | defines low emitting and fuel efficient vehicles  | SSc4.3 Alternative Transportation-Low Emitting and Fuel-Efficient Vehicles   |
| <b>2003 Institute of Transportation Engineers (ITE)</b>  | defines parking capacity  | SSc4.4 Alternative Transportation-Parking Capacity   |
| <b>U.S. Natural Resources Conservation Service (NRCS)</b>  | method for determining stormwater discharge rates   | SSc6.1 Stormwater Design-Quantity Control  |
| <b>Technology Acceptance Reciprocity Partnership (TARP)</b>  | stormwater monitoring   | SSc6.2 Stormwater Design-Quality Control   |
| <b>ANSI/ASHRAE/IESNA Standard 90.1-2007-</b>   | 1) defines lighting power densities, lighting zones (indoor and outdoor)<br>2) used to conduct energy simulations   | SSc8 Light Pollution Reduction<br>EAp2 Minimum Energy Performance<br>EAc1 Optimize Energy Performance<br>IEQc6.1 Controllability of Systems-Lighting |
| <b>EPA Act of 1992</b>   | regulates water usage (1.6 gpf toilet, 1.0 gpf for urinal, etc.)  | WEp1 Water Use Reduction   |
| <b>ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004- &lt; 20,000 sf</b><br><b>ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006- &lt; 20,000 sf</b><br><b>ASHRAE Advanced Energy Design Guide for Small Warehouses and Self Storage Buildings 2008- &lt; 50,000 sf</b><br><b>Advanced Buildings Core Performance Guide- &lt; 100,000 sf</b> | All are prescriptive compliance paths to comply with energy performance requirements without conducting a whole building energy simulation. Note the building size limitations on square footage. | EAp2 Minimum Energy Performance<br>EAc1 Optimizing Energy Performance  |



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| <b>Montreal Protocol</b>  | refrigerant regulation, banned CFCs in 1995  | EAp3 Fundamental Refrigerant Management   |
| <b>EPA's Clean Air Act of 1990</b>  | imposed regulations on refrigerants  | EAp3 Fundamental Refrigerant Management   |
| <b>U.S. Department of Energy's Commercial Buildings Energy Consumption Survey (CBECS)</b>     | can be used to estimate electricity costs  | EAc2 On-Site Renewable Energy<br>EAc6 Green Power   |
| <b>2007 ASHRAE Applications Handbook</b>  | provides data on service life of HVAC equipment  | EAc4 Enhanced Refrigerant Management  |
| <b>International Performance Measurement &amp; Verification Protocols (IPMVP) Volume III-</b> | provides measurement and verification guidelines for energy consumption  | EAc5 Measurement and Verification<br>EAc5.1 Measurement and Verification-Base Building  |
| <b>Green-e Energy</b>   | electricity from a renewable source  | EAc6 Green Power  |
| <b>International Organization for Standardization (ISO)</b>                                   | determines recycled content  | MRC4 Recycled Content   |
| <b>ASHRAE Standard 62.1-2007</b>  | 1) determines indoor air quality<br>2) defines operable window requirements  | IEQp1 Minimum Indoor Air Quality Performance<br>IEQc1 Outdoor Air Delivery Monitoring<br>IEQc2 Increased Ventilation<br>IEQc6/6.2 Controllability of Systems-Thermal Comfort  |
| <b>ANSI/ASTM-E779-03- Blower Door Test</b>  | tests building air leakage of residential units  | IEQp2 Environmental Tobacco Smoke (ETS) Control   |
| <b>ANSI Standard S12.60-2002</b>  | acoustical standards (used in LEED for Schools only)   | IEQp3 Minimum Acoustical Performance<br>IEQc9 Enhanced Acoustical Performance   |
| <b>Carbon Trust "Good Practice Guide 237"</b>   | recommendations for designing naturally ventilated buildings   | IEQc2 Increased Ventilation   |
| <b>CIBSE Applications Manual 10-2005</b>  | natural ventilation guidelines   | IEQc2 Increased Ventilation   |
| <b>Sheet Metal and Air Conditioning National Contractors Association (SMACNA)</b>             | 1) regulates indoor air quality during construction<br>2) establishes VOC content limits for clear wood finishes, floor coatings, stains, primers and shellacs | IEQc3/3.1 Construction Indoor Air Quality Management Plan-During Construction<br>IEQc4.2 Low-Emitting Materials-Paints and Coatings   |
| <b>ASHRAE Standard 52.2-1999</b>  | 1) regulates indoor air quality during construction if permanent air handlers are used<br>2) sets standard for testing air cleaners (MERV)                     | IEQc3/3.1 Construction Indoor Air Quality Management Plan-During Construction<br>IEQc5 Indoor Chemical and Pollutant Source Control   |
| <b>EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air</b>        | provides guidelines for indoor air quality testing   | IEQc3.2 Construction Indoor Air Quality Management Plan-Before Occupancy  |
| <b>California Department of Health Services Standard Practice</b>                             | VOC testing requirements (LEED for Schools only)   | IEQc4.1 Low Emitting Materials-Adhesives and Sealants<br>IEQc4.2 Low-Emitting Materials-Paints and Coatings<br>IEQc4.3 Low-Emitting Materials-Flooring Systems<br>IEQc4.4 Low-Emitting Materials-Composite Wood and Agrifiber Products<br>IEQc4.6 Low-Emitting Materials-Ceiling and Wall Systems |



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| <b>Green Seal Standard 36 (GS-36)</b>   | regulates VOC content for: commercial adhesive  | IEQc4.1 Low Emitting Materials-Adhesives and Sealants  |
| <b>Green Seal Standard 11 (GS-11)</b>   | regulates VOC content for: architectural paint  | IEQc4.2 Low-Emitting Materials-Paints and Coatings   |
| <b>Green Seal Standard 3 (GS-03)</b>  | regulates VOC content for: anti-corrosive paint and anti-rust paint   | IEQc4.2 Low-Emitting Materials-Paints and Coatings   |
| <b>South Coast Air Quality Management District (SCAQMD) Rule 1168</b>                                 | regulates VOC content for: adhesives, sealants, sealant primers, tile setting adhesive, and grout   | IEQc4.1 Low Emitting Materials-Adhesives and Sealants<br>IEQc4.3 Low-Emitting Materials-Flooring Systems                         |
| <b>South Coast Air Quality Management District (SCAQMD) Rule 1113</b>                                 | regulates indoor air contaminants for: concrete, wood, bamboo, and cork floor finishes  | IEQc4.3 Low-Emitting Materials-Flooring Systems  |
| <b>Carpet and Rug Institute Green Label Plus</b>  | regulates indoor air contaminants for: carpet   | IEQc4.3 Low-Emitting Materials-Flooring Systems  |
| <b>Carpet and Rug Institute Green Label</b>   | regulates indoor air contaminants for: carpet pad   | IEQc4.3 Low-Emitting Materials-Flooring Systems  |
| <b>FloorScore</b>   | regulates indoor air contaminants for: hard surface flooring including: vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, and wall base | IEQc4.3 Low-Emitting Materials-Flooring Systems  |
| <b>GREENGUARD</b>   | certification to verify indoor air contaminants for furniture and seating (LEED for Schools only)   | IEQc4.5 Low-Emitting Furniture and Furnishings   |
| <b>EPA Environmental Technology Verification (ETV) Large Chamber Test Protocol</b>                    | standard to verify indoor air contaminants for furniture and seating (LEED for Schools only)  | IEQc4.5 Low-Emitting Furniture and Furnishings   |
| <b>ANSI/BIFMA M7.1-2007 and ANSI/BIFMA X7.1-2007</b>  | standard to verify indoor air contaminants for furniture and seating (LEED for Schools only)  | IEQc4.5 Low-Emitting Furniture and Furnishings   |
| <b>ASHRAE Standard 55-2004</b>  | defines factors for thermal comfort   | IEQc6/6.2 Controllability of Systems-Thermal Comfort<br>IEQc7/7.1 Thermal Comfort-Design<br>IEQc7.2 Thermal Comfort-Verification |
| <b>"Typical Natatorium Design Conditions" in Chapter 4 of ASHRAE HVAC Applications Handbook, 2003</b> | standard for providing thermal comfort for natatoriums (LEED for Schools only)  | IEQc7/7.1 Thermal Comfort-Design   |
| <b>EPA, Building Air Quality: A Guide for Building Owners and Facility Managers</b>                   | guideline for developing an indoor air quality management plan  | IEQc10 Mold Prevention   |