



LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

**Rating
System
for
Commercial Interiors**
Un-balloted Draft for Pilot Program
(revised July 18, 2002)

Version 2.1

Including the
Project Checklist
and Pilot Phase Commentary

July 2002

Table of Contents

Introduction to LEED for Commercial Interiors	3
Scorecard for LEED for Commercial Interiors	4
LEED CI Categories for Prerequisites and Credits:	
- Sustainable Sites	6
- Water Efficiency	9
- Energy and Atmosphere	11
- Materials and Resources	19
- Indoor Environmental Quality	29
- Innovative and Professional Credits	42
Overview of Documentation Requirements for LEED for Commercial Interiors	43
Description of Typical Process for Obtaining Certification Using LEED for Commercial Interiors	43
LEED CI Reference Guide	43
Summary Comparison of LEED for Commercial Interiors to LEED for New Construction Version 2.1	44
Detailed Side-by-Side Comparison of LEED for Commercial Interiors to LEED for New Construction Version 2.1	45
Disclaimer	50

Introduction to LEED for Commercial Interiors

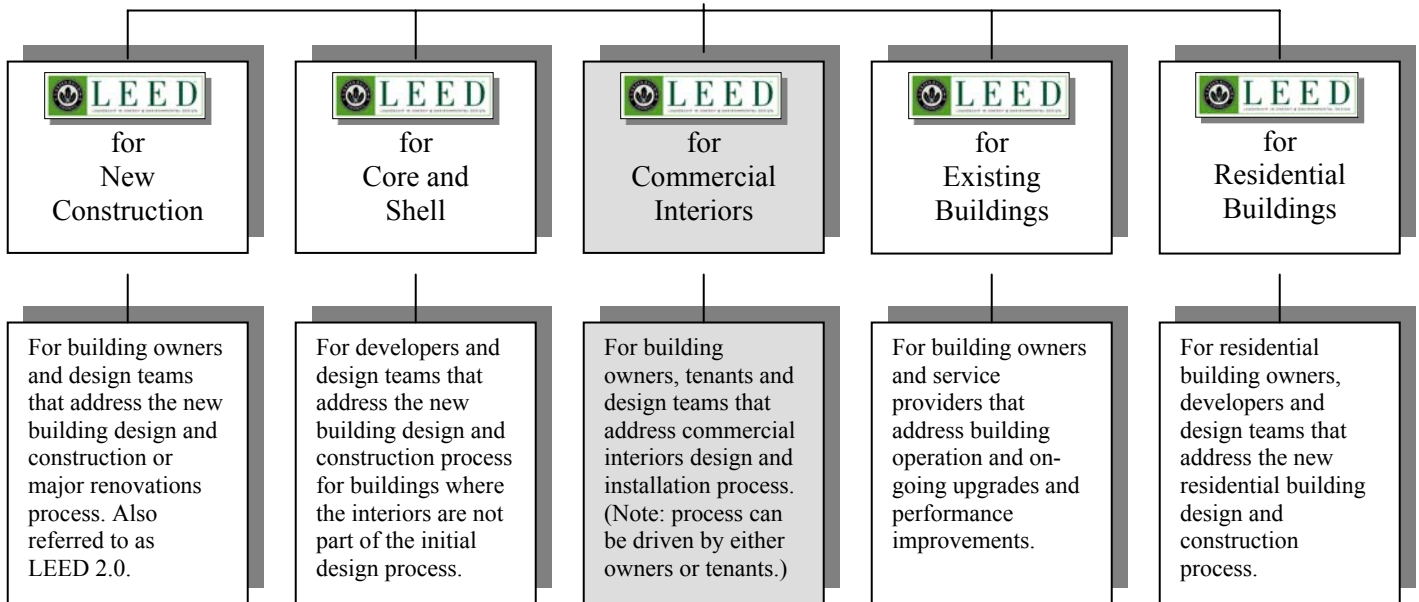
LEED for Commercial Interiors (LEED CI) is a rating system that addresses the specifics of tenant spaces primarily in office and institutional buildings. LEED CI provides the opportunity for building tenants to design and certify high performance, healthy, durable, affordable and environmentally sound workplaces.

The LEED CI rating system harmonizes with the LEED Green Building Rating System, Version 2.1 for New Construction using some of the same credits and modifying others. LEED CI, together with other applications of LEED products, is intended to provide expanded opportunities for entry into the LEED certification process.

LEED CI addresses:

- the selection of a site relative to existing infrastructure including public transportation
- efficient use of water in tenant space improvements
- energy efficiency and lighting control enhancements
- materials and resources provisions adjustments to recognize the characteristics of tenant spaces
- indoor environmental quality measures that recognize the set of products and materials used in interior spaces

LEED CI is designed to complement a new companion rating system to be launched later this year called LEED for Core & Shell (LEED CS). Together, LEED CS and LEED CI will establish green building criteria for commercial office real estate for both developers and tenants.



Owners, tenants, designers and building teams will identify the appropriate application of LEED green building rating standards depending upon the type of building project or situational needs.

The USGBC is conducting the pilot for LEED CI from July 2002 through December 2003. For information about the pilot or how to participate in it, please contact LEED CI Program Administrator Keith Winn, Catalyst Partners by email (LEED-CI@usgbc.org) or by telephone at 616 454 1111. For additional information about the USGBC and other LEED rating system products please visit the USGBC web site at: www.usgbc.org or call the USGBC at 202-828-7422.

Scorecard for LEED for Commercial Interiors

For tracking point scores at the beginning, middle and completion of project.

Sustainable Sites **7 Possible Points**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1	Site Selection	1 - 3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 2	Development Density	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.1	Alternative Transportation , Public Transportation Access	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.2	Alternative Transportation , Bicycle Storage & Changing Rooms	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.4	Alternative Transportation , Parking Availability	1

Water Efficiency **2 Possible Points**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.1	Water Use Reduction , 20% Reduction	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.2	Water Use Reduction , 30% Reduction	1

Energy and Atmosphere **14 Possible Points**

<input type="checkbox"/> Prerequisite 1	Fundamental Building Systems Commissioning	Required
<input type="checkbox"/> Prerequisite 2	Minimum Energy Performance	Required
<input type="checkbox"/> Prerequisite 3	CFC Reduction in HVAC&R Equipment	Required
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.1	Optimize Energy Performance , Lighting Power	1 - 3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.2	Optimize Energy Performance , Lighting Controls	1 - 2
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.3	Optimize Energy Performance , HVAC	1 - 2
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.4	Optimize Energy Performance , Equipment & Appliances	1 - 3
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3	Additional Commissioning	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 5.1	Measurement and Verification , Sub-Metering	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 5.2	Measurement and Verification , Energy Costs Paid By Tenant	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 6	Green Power	1

Materials and Resources **14 Possible Points**

<input type="checkbox"/> Prerequisite 1	Storage & Collection of Recyclables	Required
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.1	Building Reuse , Long Term Lease	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.2	Building Reuse , Maintain 50% of Non-Shell Systems	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.3	Building Reuse , Maintain 75% of Non Shell	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 2.1	Construction Waste Management , Divert 50% From Landfill	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 2.2	Construction Waste Management , Divert 75% From Landfill	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.1	Resource Reuse , Reuse 5%	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.2	Resource Reuse , Reuse 10%	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.3	Resource Reuse , Reuse 30%	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.1	Recycled Content , Use 5% Post-Consumer / 10% Total	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.2	Recycled Content , Use 10% Post-Consumer / 20% Total	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 5.1	Regional Materials , Use 20% manufactured regionally	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 5.2	Regional Materials , Use 10% extracted regionally	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 6	Rapidly Renewable Materials	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 7	Certified Wood	1

Indoor Environmental Quality **15 Possible Points**

<input type="checkbox"/> Prerequisite 1	Minimum IAQ Performance	Required
<input type="checkbox"/> Prerequisite 2	Environmental Tobacco Smoke (ETS) Control	Required
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1	Carbon Dioxide (CO₂) Monitoring	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 2	Ventilation Efficiency	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.1	Construction IAQ Management Plan , During Construction	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 3.2	Construction IAQ Management Plan , Before Occupancy	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.1	Low-Emitting Materials , Adhesives & Sealants	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.2	Low-Emitting Materials , Paints	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.3	Low-Emitting Materials , Carpet	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.4	Low-Emitting Materials , Composite Wood	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 4.5	Low-Emitting Materials , Furniture and Furnishings	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 5	Indoor Chemical & Pollutant Source Control	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 6	Controllability of Systems	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 7.1	Thermal Comfort , Compliance with ASHRAE 55-1992	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 7.2	Thermal Comfort , Permanent Monitoring Systems	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 8.1	Daylight and Views , Daylight 75% of Spaces	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 8.2	Daylight and Views , Views for 90% of Spaces	1

Innovation and Accredited Professional **5 Additional Points**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.1	LEED CI Innovation Credits	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.2	LEED CI Innovation Credits	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.3	LEED CI Innovation Credits	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 1.4	LEED CI Innovation Credits	1
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Credit 2	LEED Accredited LEED Professional	1

57 TOTAL POINTS
AVAILABLE

LEED Certified for Commercial Interiors	21 to 26 Credits
LEED Certified Silver for Commercial Interiors	27 to 31 Credits
LEED Certified Gold for Commercial Interiors	32 to 41 Credits
LEED Certified Platinum for Commercial Interiors	42 or more Credits

Sustainable Sites

SS Credit 1 **Site Selection** (1-3 points)

Intent

Encourage tenants to select buildings with best practices systems and employed green strategies.

Requirement

- Select LEED Certified Building (3 points)

OR (1 point is earned for any two of the following up to a maximum of 3 points)

- Zero use of HCFC and CFC-based refrigerants and halon fire suppression systems in the entire building.
- Owners of buildings with existing HCFC and CFC-based refrigerants and halon suppression systems must have a 5-year phase-out plan.
- Building employs the use of non-polluting source-renewable energy technologies of at least 5% of total energy load.
- Operable windows in at least 75% of regularly occupied spaces on a perimeter wall.
- Located on a site formerly classified as a Brownfield.
- Has a “green” vegetated roof for at least 50% of the roof area of the entire building, OR, has an Energy Star compliant roof with an emissivity of at least 0.9 for at least 75% of the roof area of the entire building.
- The selected building meets criteria for light pollution reduction.

Technologies/Strategies

During the building selection process, give preference to those properties employing the highest and best green building strategies.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer, building owner, engineer or other responsible party declaring compliance with each claimed requirements based on the applicable standards as defined in LEED Green Building Rating System™.

SS Credit 2 **Development Density** (1 point)

Intent

Channel development to urban areas with existing infrastructure, protect greenfields, and preserve habitat and natural resources.

Requirement

Increase localized density to conform to existing or desired density goals by utilizing sites that are located within an existing minimum development density of 60,000 square feet per acre. (2 story downtown development) (1 point)

Technologies/Strategies

During the site selection process, give preference to the urban sites.

Submittals

Provide an area plan with the project location highlighted and the calculated development density for both the project and the surrounding area.

SS Credit 4.1 **Alternative Transportation, Public Transportation Access (1 point)**

Intent

Reduce pollution and land development impacts from automobile use.

Requirement

Tenant to select building within 1/2 mile of a commuter rail, light rail or subway station or 1/4 mile of 2 or more public or campus bus lines usable by tenant occupants. (1 point)

Technologies/Strategies

Perform a transportation survey of potential tenant occupants to identify transportation needs. Choose a building near mass transit.

Submittals

Provide an area drawing or transit map highlighting the building location, the fixed rail stations and bus lines, and indicate the distances between them. Include a scale bar for distance measurement.

SS Credit 4.2 **Alternative Transportation, Bicycle Storage & Changing Rooms (1 point)**

Intent

Reduce pollution and land development impacts from automobile use.

Requirements

Provide secure bicycle storage, with convenient changing/shower facilities (within 200 yards of the building) for 5% or more of tenant occupants. (1 point)

Technologies/Strategies

Select a building with transportation amenities such as bicycle racks and showering / changing facilities or add them as part of the tenant fit-out.

Submittals

Provide the LEED Letter Template signed by the Architect, Interior Designer, or responsible party declaring the distance to the cycle stores and showers from the building entrance, showing the number of regular tenant occupants and demonstrating that more than 5% of occupants have provision.

SS Credit 4.4 Alternative Transportation, Parking Availability **(1 point)**

Intent

Reduce pollution and land development impacts from single occupancy vehicle use.

Requirement

- Parking spaces guaranteed to Tenant shall not exceed minimum number required by local zoning regulations. (1 point)

OR

- No parking availability provided with Tenant lease. (1 point)

Technologies/Strategies

Select a building with minimized car parking capacity and include limited parking inclusions in the lease.

Submittals

- Provide the LEED Letter Template signed by the responsible party stating any relevant section of local zoning regulation defining parking requirements for Tenant's occupancy group and zone.
- Provide the LEED Letter Template signed by the architect, interior designer or responsible party showing the section of Tenant's lease that indicates parking guarantees.

Water Efficiency

WE Credit 3.1 **Water Use Reduction, 20% Reduction (1 point)**

Intent

Maximize water efficiency within tenant spaces to reduce the burden on municipal water supply and wastewater systems.

Requirement

Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the tenant space (not including irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements. (1 point)

Technologies/Strategies

Estimate the potable and non-potable water needs for the tenant space. Use high efficiency fixtures, dry fixtures such as composting toilets and waterless urinals, and occupant sensors to reduce the potable water demand.

Submittals

- Provide the LEED Letter Template signed by the Services Engineer or other responsible party declaring that the project uses 20% less water than baseline fixture performance requirements of the Energy Policy Act of 1992.
- Provide spreadsheet calculation demonstrating that the water consuming fixtures specified for the stated occupancy and use of the Tenant reduce occupancy based potable water consumption by 20% over baseline conditions.

WE Credit 3.2 **Water Use Reduction, 30% Reduction (1 point)**

Intent

Maximize water efficiency within tenant spaces to reduce the burden on municipal water supply and wastewater systems.

Requirement

Employ strategies that in aggregate use 30% less water than the water use baseline calculated for the building (not including outdoor irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements. (1 additional point to WE3.1)

Technologies/Strategies

Estimate the potable and non-potable water needs for the tenant space. Use high efficiency fixtures, dry fixtures such as composting toilets and waterless urinals, and occupant sensors to reduce the potable water demand.

Submittals

- Provide the LEED Letter Template signed by the Services Engineer or other responsible party declaring that project uses 30% less water than baseline fixture performance requirements of the Energy Policy Act of 1992.
- Provide spreadsheet calculation demonstrating that the water consuming fixtures specified for the stated occupancy and use of the Tenant reduce occupancy based potable water consumption by 30% over baseline conditions.

Energy and Atmosphere

EA Prerequisite 1 **Fundamental Building Systems Commissioning** (required)

Intent

Verify and ensure that fundamental building elements and systems are designed, installed and calibrated to operate as intended for the tenant scope of work.

Requirement

Implement or have contract in place to implement all of the following fundamental best practice commissioning procedures.

- Engage a commissioning authority.
- Develop performance requirements for energy, water, IEQ and review basis of design to verify performance requirements have been met.
- Incorporate commissioning requirements into the construction documents.
- Develop and utilize a commissioning plan.
- Verify installation, functional performance, training and operation and maintenance documentation.
- Assure combined systems work as intended and identify to owner concerns with owner's installed equipment.
- Complete a commissioning report.

Technologies/Strategies

Engage a commissioning authority and adopt a commissioning plan. Include commissioning requirements in bid documents and task the commissioning agent to produce a commissioning report once commissioning activities are completed.

Submittals:

- Provide the LEED Letter Template signed by the commissioning authority certifying that the fundamental commissioning procedures as listed in the credit requirements have been successfully executed and the design Intent of the tenant space has been achieved,
- OR**
- Provide the LEED Letter Template signed by the owner or responsible party affirming that these services will be provided under contract together with a copy of the signed contract for these services to be provided.

EA Prerequisite 2 **Minimum Energy Performance** (required)

Intent

Establish the minimum level of energy efficiency for the tenant space systems.

Requirement

Design portions of the building as covered by the Tenant's scope of work to comply with ASHRAE/IESNA Standard 90.1-1999 (without amendments) or the local energy code whichever is more stringent.

Technologies/Strategies

Design the systems impacted in the tenant's scope of work to maximize energy performance. Use a computer simulation model to assess the energy performance and identify the most cost effective energy measures. Quantify energy performance as compared to baseline building.

Submittals:

Provide the LEED Letter Template signed by the licensed professional engineer, architect or responsible party stating that the tenant space complies with ASHRAE/IESNA 90.1-1999 or local energy codes. If local energy codes were applied, demonstrate that the local code is equivalent to or more stringent than ASHRAE/IESNA 90.1-1999.

EA Prerequisite 3 CFC Reduction in HVAC&R Equipment (required)

Intent

Reduce ozone depletion.

Requirement

Zero use of CFC-based refrigerants in new Tenant HVAC&R systems when within scope of work.

Technologies/Strategies

When reusing existing HVAC systems, conduct an inventory to identify equipment that uses CFC refrigerants and adopt a replacement schedule for these refrigerants. For new installations, specify new HVAC equipment that uses no CFC refrigerants.

Submittals

Provide the LEED Letter Template signed by the professional engineer, architect or other responsible party declaring that there are no CFC's in the HVAC&R systems for the Tenant.

EA Credit 1.1 Optimize Energy Performance, Lighting Power (1-3 points)

Intent

Achieve decreasing levels of energy consumption below the prerequisite standard to reduce environmental impacts associated with excessive energy use.

Requirement

Reduce connected lighting power density below that allowed by ASHRAE/IESNA Standard 90.1-1999 using either the space-by-space method or by the applying the whole building lighting power allowance to the entire tenant space:

- Reduce lighting power density to 20% below the standard, (1 point)
- OR**
- Reduce lighting power density to 30% below the standard, (2 points)
- OR**
- Reduce lighting power density to 40% below the standard, (3 points)

Technologies/Strategies

Design the connected lighting power to maximize energy performance. Use a computer simulation model to assess the energy performance and identify the most cost effective energy efficiency measures. Quantify energy performance as compared to a baseline building.

Submittals

- Complete the Lighting Compliance Documentation provided in the ASHRAE/IESNA Standard 90.1-1999 User's Manual. Provide a separate calculation that shows the percent reduction in lighting power.
- Provide the LEED Letter Template signed and sealed by the professional engineer or responsible party, stating that the lighting power density is reduced below the ASHRAE requirements consistent with the level of credit being sought.

EA Credit 1.2 **Optimize Energy Performance, Lighting Controls** (1-2 points)

Intent

Automatically control lighting equipment to reduce environmental impacts associated with excessive energy use.

Requirement

Install automatic occupancy lighting controls. (1 point)

- Install occupancy sensors in all spaces that are not regularly occupied, such as, restrooms, copy rooms, storage areas, mechanical rooms, laundry areas and other low occupancy support spaces.
- OR**
- Maintain all non-emergency lighting on a programmable timer that turns lighting off during non-business hours. Provide manual override capability for after hours use.

Install daylight responsive controls in all regularly occupied spaces within 15 ft of windows or under skylights. (1 point)

Technologies/Strategies

Design the lighting controls to maximize energy performance. Use a variety of lighting control resources; i.e. daylight sensors, automatic dimming, occupancy sensors, individual occupant controls, etc.

Submittals

- Provide the LEED Letter Template signed and sealed by the professional engineer or responsible party, stating that lighting controls were installed consistent with the requirements stated in the Reference Guide.
- Provide a narrative describing the lighting controls incorporated in the tenant space design, including a plan of lighting control zones showing each control device and the lighting equipment controlled. Provide a schedule of lighting controls showing model, type, and other characteristics.

EA Credit 1.3 **Optimize Energy Performance, HVAC (1-2 points)**

Intent

Achieve decreasing levels of energy consumption below the prerequisite standard to reduce environmental impacts associated with excessive energy use.

Requirement

Reduce design energy cost compared to the energy cost budget for regulated energy components described in the requirements of ASHRAE/IESNA Standard 90.1-1999.

- Demonstrate that HVAC system components performance criteria used for the tenant space are 15% better than a system that is in minimum compliance with ASHRAE/IESNA Standard 90.1-1999, (1 point)

OR

- Demonstrate that HVAC system components performance criteria used for the tenant space are 30% better than a system that is in minimum compliance with ASHRAE/IESNA Standard 90.1-1999. (2 points)

Technologies/Strategies

Design the HVAC system components to maximize energy performance. Use a computer simulation model to assess the energy performance and identify the most cost effective energy efficiency measures. Quantify energy performance as compared to a baseline building.

Submittals

- Provide the LEED Letter Template signed and sealed by the licensed professional engineer or architect stating that the HVAC system energy consumption is 15% or 30% (depending on credit taken) lower than a base case system defined in ASHRAE/IESNA 90.1-1999, Section 11. Provide a completed and signed copy of the Energy Cost Budget (ECB) Compliance Form.

- Provide a narrative description of the HVAC system serving the Tenant space as well as a description of the building level system. Plans and specifications should have an HVAC equipment schedule and plans showing the equipment within the space.

EA Credit 1.4 Optimize Energy Performance, Equipment & Appliances (1-3 points)

Intent

Achieve decreasing levels of energy consumption below the prerequisite standard to reduce environmental impacts associated with excessive energy use.

Requirement

Reduce the power of equipment and appliances used in the Tenant space beyond the prerequisite level defined below.

- Demonstrate a connected equipment and appliance load lower than 1.25 W/sq.ft. (1 point)
- Demonstrate a connected equipment and appliance load lower than 1.00 W/sq.ft. (2 points)
- Demonstrate a connected equipment and appliance load lower than 0.75 W/sq.ft. (3 points)

Technologies/Strategies

Select the equipment and appliances to minimize load. Network peripherals and install equipment as qualified by the Energy-Star Program.

Submittals

Provide a narrative describing the new equipment that will be installed as part of the Tenant improvements. Provide a schedule of equipment with the adjusted power of each. Calculate the power density of the tenant space.

EA Credit 3 Additional Commissioning (1 point)

Intent

Verify and ensure that the tenant space is designed, constructed, and calibrated to operate as intended.

Requirement

In addition to the Fundamental Building Commissioning prerequisite, implement or have a contract in place to implement the following additional commissioning tasks:

- An independent commissioning authority independent of the design team shall conduct a focused review of the design prior to the construction documents phase.
- An independent commissioning authority shall conduct a focused review of the construction documents near completion of the construction document development and prior to issuing the contract documents for construction.

- An independent commissioning authority shall review the contractor submittals relative to systems being commissioned.
- Provide information to the Tenant in a single document that is required for re-commissioning Tenant systems.
- Have a contract in place to review with operational staff current systems operation, condition of outstanding issues relative to original or seasonal commissioning, and to provide assistance resolving issues within a one-year warranty period. (1 point)

Technologies/Strategies

Engage the Commissioning Authority early in the design phases. Task the commissioning agent to conduct project reviews before and after construction documents are complete. The Commissioning Agent must also create a re-commissioning manual for the tenant space and review the project at near-warranty end.

Submittals

- Provide the LEED Letter Template signed by the independent commissioning authority confirming that Tasks 1-5 of the credit requirements have been successfully executed,
- OR**
- Provide the LEED Letter Template affirming that these services will be provided under contract together with a signed copy of the contract stating that Tasks 1-5 of the credit requirements will be implemented within one year from completion of the project.

EA Credit 5.1 Measurement & Verification, Sub-Metering (1 point)

Intent

Provide for the ongoing accountability and optimization of tenant energy and water consumption performance over time.

Requirement

Install sub-metering equipment to measure and record energy uses within the Tenant space. (1 point)

Technologies/Strategies

Tenant is sub-metered.

Submittals

- Provide the LEED Letter Template signed by the licensed engineer or other responsible party describing the metering equipment installed for each end use.

EA Credit 5.2 **Measurement & Verification, Energy Costs Paid By Tenant (1 point)**

Intent

Provide for the ongoing accountability and optimization of tenant energy and water consumption performance over time.

Requirement

Negotiate a lease where energy costs are paid by the Tenant and not included in the base rent. (1 point)

Technologies/Strategies

Tenant is sub-metered and has a direct pay clause in their lease for energy actually used instead of on a square foot basis.

Submittals

Provide the LEED Letter Template signed by the responsible party showing copy of the lease, indicating that energy costs are paid by the Tenant and not included in the base rent.

EA Credit 6 **Green Power (1 point)**

Intent

Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.

Requirement

Provide at least 50% of the tenant's electricity from renewable sources by engaging in at least a two-year renewable energy contract. Renewable sources are as defined by the Center for Resource Solutions (CRS) Green-e products certification requirements. Green power may be procured from a Green-e certified power marketer, a Green-e accredited utility program, or through Green-e certified Tradable Renewable Certificates. (1 point)

Technologies/Strategies

Estimate the energy needs of the tenant space and investigate opportunities to engage in a green power contract with the local utility. Green power is derived from solar, wind, geo thermal, biomass, or low-impact hydro sources.

Submittals

- Provide a copy of the two-year electric utility purchase contract for power generated from renewable sources,

AND

- Provide the LEED Letter Template signed by the owner or other responsible party documenting that the supplied renewable power is equal to 50% of the project's energy consumption and the sources meet the Green-e definition of renewable energy.

Materials and Resources

MR Prerequisite 1 Storage & Collection of Recyclables (required)

Intent

Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

Requirement

Provide an easily accessible dedicated area that serves the Tenant space for the collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals.

Technologies/Strategies

Designate an area for recyclable collection and storage that is appropriately sized and located in a convenient area. Identify local waste handlers and buyers for glass, plastic, office paper, newspaper, cardboard and organic wastes. Instruct occupants on building recycling procedures. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and other waste management technologies to further enhance the recycling program.

Submittals

- Provide the LEED Letter Template signed by the architect or owner declaring that the area dedicated to recycling is easily accessible and accommodates the Tenant's recycling needs.
- AND**
- Provide a plan showing the area(s) dedicated to recycled material collection and storage.

MR Credit 1.1 Building Reuse, Long Term Lease (1 point)

Intent

Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste, and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirement

Occupant elects to remain in existing location or renew lease for a term of not less than 10 years. (1 point)

Technologies/Strategies

Suggest lease negotiations resulting in renewed and/or longer leases.

Submittals

Provide the LEED Letter Template signed by the building owner, or other responsible party declaring that the building occupant has signed a new lease for at least 10 years.

MR Credit 1.2 Building Reuse, Maintain 50% of Non-Shell Systems (1 point)

Intent

Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste, and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirement

Maintain 50% (by area) of non-shell systems (walls, flooring, and ceilings). (1 point)

Technologies/Strategies

Consider reuse of existing systems, including structure, shell, and non-shell elements. Remove elements that pose contamination risk to building occupants and upgrade outdated components such as plumbing fixtures. Quantify the extent of systems reuse.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer, owner or other responsible party demonstrating the retained elements and declaring that the above requirements have been met.

MR Credit 1.3 Building Reuse, Maintain 75% of Non Shell (1 point)

Intent

Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste, and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirement

Maintain a minimum of 75% (by area) of non-shell systems (walls, flooring, and ceiling systems). (1 additional point)

Technologies/Strategies

Consider reuse of existing systems, including structure, shell, and non-shell elements. Remove elements that pose contamination risk to building occupants and upgrade outdated components such as plumbing fixtures. Quantify the extent of systems reuse.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer, owner or other responsible party demonstrating the retained elements and declaring that the above requirements have been met.

MR Credit 2.1 Construction Waste Management, Divert 50% From Landfill (1 point)

Intent

Divert construction, demolition, and land clearing debris to uses other than landfill disposal. Redirect recovered resources for beneficial reuse, such as soil amendment, clean fill, reusable materials, or manufacturing feedstock.

Requirement

- Develop and implement a waste management plan, quantifying material diversion by weight or volume, but consistently throughout.
- Divert at least 50% of construction, demolition, and packaging debris. (1 point)

Technologies/Strategies

Establish goals for landfill diversion and adopt a construction waste management plan to achieve these goals. Consider recycling cardboard, metal, brick, concrete, plastic, clean wood, glass, gypsum wallboard, carpet, and insulation. Designate a specific area on the construction site for recycling and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer, owner, or other responsible party tabulating the total waste material, quantities diverted and the means by which diverted, and declaring that the above requirements have been met.

MR Credit 2.2 Construction Waste Management, Divert 75% From Landfill (1 point)

Intent

Divert construction, demolition, and land clearing debris to uses other than landfill disposal. Redirect recovered resources for beneficial reuse, such as soil amendment, clean fill, reusable materials, or manufacturing feedstock.

Requirement

- Develop and implement a waste management plan, quantifying material diversion by weight or volume, but consistently throughout.
- Recycle and/or salvage at least 75% total of construction, demolition, and packaging waste. (1 point)

Technologies/Strategies

Establish goals for landfill diversion and adopt a construction waste management plan to achieve these goals. Consider recycling cardboard, metal, brick, concrete, plastic, clean wood, glass, gypsum wallboard, carpet, and insulation. Designate a specific area on the construction site for recycling and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer, owner, or other responsible party tabulating the total waste material, quantities diverted and the means by which diverted, and declaring that the above requirements have been met.

MR Credit 3.1 **Resource Reuse, Reuse 5% (1 point)**

Intent

Reuse building materials in order to reduce demand for virgin materials and reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

Requirement

Use salvaged, refurbished, or reused materials for 5% of building (construction) materials, excluding furniture and furnishings. (1 point)

Technologies/Strategies

Identify opportunities to incorporate salvage materials into project design and research potential material suppliers. Consider salvage materials such as beams and posts, flooring, paneling, doors and frames, cabinetry, brick, and decorative items.

Submittals

- Provide the LEED Letter Template signed by the architect, interior designer, owner, or other responsible party declaring that the above requirements have been met and listing each material or product used to meet the credit. Include calculations demonstrating that the project incorporates the required percentage of reused materials and products and showing their costs and the total cost of all materials for the project.

MR Credit 3.2 **Resource Reuse, Reuse 10% (1 point)**

Intent

Reuse building products and materials in order to reduce demand for virgin materials and reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

Requirement

Use salvaged, refurbished, or reused materials for 10% of building (construction) materials, excluding furniture and furnishings. (1 point)

Technologies/Strategies

Identify opportunities to incorporate salvage materials into project design and research potential material suppliers. Consider salvage materials such as beams and posts, flooring, paneling, doors and frames, cabinetry, brick, and decorative items.

Submittals

- Provide Letter Template completed and signed by the architect, interior designer, owner, or other responsible party declaring that the above requirements have been met and listing each material or product used to meet the credit. Include calculations demonstrating that the project incorporates the required percentage of reused materials and products and showing their costs and the total cost of all materials for the project.

MR Credit 3.3 **Resource Reuse, Reuse 30% (1 point)**

Intent

Reuse building products and materials in order to reduce demand for virgin materials and reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

Requirement

Use salvaged, refurbished, or used furniture and furnishings for 30% of the total F&F budget. (1 point)

Technologies/Strategies

Identify opportunities to salvage and reuse furniture into project design and research potential material suppliers. Consider salvaging and reusing systems furniture and furnishings such as case pieces, seating, filing systems, decorative lighting and accessories.

Submittals

- Provide the LEED Letter Template completed and signed by the architect, interior designer, owner, or other responsible party declaring that the above requirements have been met and listing each material or product used to meet the credit. Include calculations demonstrating that the project incorporates the required percentage of reused furniture and furnishings and showing their costs and the total cost of all furniture and furnishings for the project.

MR Credit 4.1 Recycled Content, Use 5% post-consumer or 10% post-consumer + post-industrial (1 point)

Intent

Increase demand for building products that incorporate recycled material, reducing impacts resulting from extraction and processing of virgin materials.

Requirement

- Use materials with recycled content such that post-consumer recycled content constitutes at least 5% of the total value of the materials in the project OR combined post-consumer and post-industrial recycled content constitutes at least 10%.
- The value of the recycled content portion of a material or furnishing shall be determined by dividing the weight of recycled content in the item by the total weight of all material in the item, then multiplying the resulting percentage by the total value of the item.
- Mechanical and electrical components shall not be included in this calculation. Recycled content materials shall be defined in accordance with the Federal Trade Commission document, *Guides for the Use of Environmental Marketing Claims, 16 CFR 260.7 (e)*, available at www.ftc.gov/bcp/grnrule/guides980427.htm. (1 point)

Technologies/Strategies

Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed and quantify the total percentage of recycled content materials installed.

Submittals

Provide the LEED Letter Template, signed by the architect, interior designer, owner or other responsible party, declaring that the above requirements have been met and listing the recycled content products used. Include details demonstrating that the project incorporates the required percentage of recycled content materials and products and showing their cost and percentage(s) of post-consumer and/or post-industrial content, and the total cost of all materials for the project.

MR Credit 4.2 Recycled Content, Use 10% post-consumer or 20% post-consumer + post-industrial (1 point)

Intent

Increase demand for building products that have incorporated recycled content material, reducing the impacts resulting from extraction and processing of virgin materials.

Requirements

- Use materials with recycled content such that post-consumer recycled content constitutes at least 10% of the total value of the materials in the project OR combined post-consumer and post-industrial recycled content constitutes at least 20%.
- The value of the recycled content portion of a material or furnishing shall be determined by dividing the weight of recycled content in the item by the total weight of all material in the item, then multiplying the resulting percentage by the total value of the item.
- Mechanical and electrical components shall not be included in this calculation. Recycled content materials shall be defined in accordance with the Federal Trade Commission document, *Guides for the Use of Environmental Marketing Claims, 16 CFR 260.7 (e)*, available at www.ftc.gov/bcp/grnrule/guides980427.htm. (1 point)

Technologies/Strategies

Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed and quantify the total percentage of recycled content materials installed.

Submittals

Provide the LEED Letter Template, signed by the architect, interior designer, owner or other responsible party, declaring that the above requirements have been met and listing the recycled content products used. Include details demonstrating that the project incorporates the required percentage of recycled content materials and products and showing their cost and percentage(s) of post-consumer and/or post-industrial content, and the total cost of all materials for the project.

MR Credit 5.1 Regional Materials, Use 20% manufactured regionally (1 point)

Intent

Increase demand for building materials and products that are manufactured within the region, reducing the environmental impacts resulting from transportation and supporting the regional economy.

Requirement

Specify/Use a minimum of 20% of building materials and products that are manufactured* regionally within a 500-mile radius. (1 point).

* Manufacturing refers to the final assembly of components into the building product that is furnished and installed by the tradesmen. For example, if the hardware comes from Dallas, Texas, the lumber from Vancouver, British Columbia and the joist is assembled in Kent, Washington; then the location of the final assembly is Kent, Washington.

Technologies/Strategies

Establish a project goal for locally sourced materials and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed.

Submittals

- Provide the LEED Letter Template completed and signed by the architect, interior designer, Owner, or other responsible party declaring that the above requirements have been met. Include calculations demonstrating that the project incorporates the required percentage of regional materials/products and showing their cost, percentage of regional components, and distance from project to manufacturer, and the total cost of all materials for the project.

MR Credit 5.2 Regional Materials, 10% extracted regionally (1 point)

Intent

Increase demand for building materials and products that are manufactured within the region, reducing the environmental impacts resulting from transportation, and supporting the regional economy.

Requirement

Specify/use a minimum of 10% of building materials and products that are extracted, harvested, or recovered (as well as manufactured) within 500 miles. (1 point)

Technologies /Strategies

Establish a project goal for locally sourced materials and Identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed.

Submittals

- Provide the LEED Letter Template completed and signed by the architect, interior designer, owner, or other responsible party declaring that the above requirements have been met. Include calculations demonstrating that the project incorporates the required percentage of regional materials/products and showing their cost, percentage of regional components, and distance from project to material/product source(s), and the total cost of all materials for the project.

MR Credit 6 **Rapidly Renewable Materials** (1 point)

Intent

Reduce the use and depletion of finite raw and long cycle renewable materials by replacing them with rapidly renewable materials.

Requirement

Specify/use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year or shorter cycle) for 5% of the total value of all building materials and products used in the project. (1 point)

Technologies/ Strategies

Establish a project goal for rapidly renewable materials and identify materials and suppliers that can achieve this goal. Consider materials such as bamboo flooring, wool carpets, straw board, cotton bat insulation, linoleum flooring, poplar OSB, sunflower seed board, and wheatgrass cabinetry. During construction, ensure that the specified rapidly renewable materials are installed and quantify the total percentage of rapidly renewable materials installed.

Submittals

- Provide the LEED Letter Template signed by the architect, interior designer, owner, or other responsible party declaring that the above requirements have been met and listing the rapidly renewable materials and products used. Include calculations demonstrating that the project incorporates the required percentage of rapidly renewable materials and products and showing their cost and percentage of rapidly renewable components, and the total cost of all materials and products for the project.

MR Credit 7 **Certified Wood** (1 point)

Intent

Encourage environmentally responsible forest management.

Requirement

Use a minimum of 50% of new wood-based products and materials certified in accordance with the Forest Stewardship Council (FSC) Guidelines for wood components including but not limited to structural framing and general dimensional framing, flooring, finishes, furnishings, and non-rented temporary construction applications such as bracing, concrete form work and pedestrian barriers. To qualify for this credit, wood-based materials must constitute at least 2% of the total value of all materials for the project. (1 point)

Technologies/Strategies

Establish a project goal for FSC-Certified wood products and identify suppliers that can achieve this goal. During construction, ensure that the FSC-Certified wood products are installed and quantify the total percentage of FSC-Certified wood products installed.

Submittals

- Provide the LEED Letter Template signed by the Architect, Interior Designer, Owner, or other responsible party declaring that the above requirements have been met and listing the FSC-certified materials and products used. Include calculations demonstrating that the project incorporates the required percentage of FSC-certified materials and products and their cost together with the total cost of all materials for the project.

AND

- For each material or product used to meet these requirements, provide the vendor or manufacturer's Forest Stewardship Council chain-of-custody certificate number.

Indoor Environmental Quality

EQ Prerequisite 1 **Minimum IAQ Performance** (required)

Intent

Establish minimum indoor air quality (IAQ) performance to prevent the development of indoor air quality problems in the tenant space, maintaining the comfort and well being of the occupants.

Requirement

Meet the minimum requirements of voluntary consensus standard ASHRAE 62-2001, Ventilation for Acceptable Indoor Air Quality and approved published Addenda using the Ventilation Rate Procedure.

Technologies/Strategies

Design the HVAC system to meet the ventilation requirements of the reference standard. Identify potential IAQ problems on the site.

Submittals

Provide letter template signed by the Mechanical Engineer or responsible party declaring that the project is fully compliant with ASHRAE 62-2001 and all accepted Addenda published at the time of LEED project registration and describing the procedure employed in the IAQ analysis. (Ventilation Rate Procedure)

EQ Prerequisite 2 **Environmental Tobacco Smoke (ETS) Control** (required)

Intent

Prevent exposure of tenant space occupants and systems to Environmental Tobacco Smoke (ETS).

Requirements

Zero exposure of non-smokers to ETS by EITHER

Prohibiting smoking in the tenant space and locating any exterior designated smoking areas away from entries and operable windows,

OR

Providing a designated smoking room designed to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room must be directly exhausted to the outdoors with no recirculation of ETS-containing air to the non-smoking area of the building, enclosed with impermeable deck-to-deck partitions and operated at a negative pressure compared with the surrounding spaces of at least 7 PA (0.03 inches of water gauge). Exhaust air from the smoking room must exhaust directly to the outdoors with no re-circulation of ETS-containing air to the non-smoking areas of the building.

Performance of the smoking rooms shall be verified by using tracer gas testing methods as described in the ASHRAE Standard 129-1997. Acceptable exposure in non-smoking areas is defined as less than 1% of the tracer gas concentration in the smoking room detectable in the adjoining non-smoking areas. Smoking room testing as described in the ASHRAE Standard 129-1997 is required in the contract documents and critical smoking facility systems testing results must be included in the building commissioning plan and report or as a separate document.

Technologies & Strategies

Prohibit smoking in the tenant space or provide separate smoking rooms with isolated ventilation systems.

Submittals

- Provide the LEED Letter Template, signed by the tenant or responsible party, declaring that the building will be operated under a policy prohibiting smoking.

OR

- Provide the LEED Letter Template declaring and demonstrating that designated smoking rooms are enclosed with impermeable deck-to-deck partitions and that their performance has been verified by tracer gas testing as described in the ASHRAE Standard 129-1997. Indicate that the smoking room ventilation system exhausts directly to the outdoors and is independent of nonsmoking building areas. The independent ventilation system must be operated at a negative pressure of at least 7 PA compared with the surrounding spaces.

Alternate EQ Prerequisite 2 Requirement and Submittal

NOTE: EQ Prerequisite 2 - These alternative requirements and submittals are being considered for an upcoming ballot with the USGBC membership. They are intended to provide a meaningful measurement that simplifies documentation and maintains the integrity of the intent. This version may be used as an alternate for EQ Prerequisite 2 for the CI Pilot only.

Requirements

Zero exposure of nonsmokers to ETS by EITHER

prohibition of smoking in the building and locating any exterior designated smoking areas away from entries and operable windows,

OR

providing a designated smoking room designed to effectively contain, capture and remove ETS from the building. The smoking room must be enclosed with impermeable deck-to-deck partitions and operated at a negative pressure compared with the surrounding spaces of at least 7 PA (0.03 inches of water gauge). Exhaust air from the smoking room must exhaust directly to the outdoors with no re-circulation of ETS-containing air to the non-smoking areas of the building.

Submittals

- Provide letter template signed by the Building Owner or responsible party declaring that the building will be operated under a policy prohibiting smoking.

OR

- Provide drawings and a narrative demonstrating that designated smoking rooms are enclosed with impermeable deck-to-deck partitions. Indicate that the smoking room ventilation system exhausts directly to the outdoors and is independent of nonsmoking building areas. The independent ventilation system must be operated at a negative pressure compared with the surrounding spaces of at least 7 PA.

EQ Credit 1 **Carbon Dioxide (CO₂) Monitoring** (1 point)

Intent

Provide capacity for indoor air quality (IAQ) monitoring to sustain long-term occupant comfort and well-being.

Requirement

Install a permanent carbon dioxide (CO₂) monitoring system that provides feedback on space ventilation performance in a form that affords operational adjustments. Refer to the CO₂ differential for all types of occupancies in accordance with ASHRAE 62-2001 Appendix D. (1 point)

Technologies/ Strategies

Design the HVAC system with carbon dioxide monitoring sensors and integrate these sensors with the building automation system (BAS.). NOTE: The maximum concentration differential in parts per million (ppm) = 10,300/ventilation rate in cubic feet per minute. For mixed-use buildings calculate CO₂ levels for each separate use.

Submittals

Provide the LEED Letter template signed by the mechanical engineer or responsible party declaring and summarizing the installation, operational design and controls/zones for a carbon dioxide monitoring system.

EQ Credit 2 **Ventilation Efficiency** (1 point)

Intent

Provide for the effective delivery and mixing of fresh air to support the health, safety and comfort of the occupants of the tenant space.

Requirement

For mechanically ventilated buildings, design ventilation systems that result in an air change effectiveness (ϵ_{ac}) greater than or equal to 0.9 as determined by ASHRAE 129-1997. For naturally ventilated spaces demonstrate a distribution and laminar flow pattern that involves not less than 90% of the room or zone area in the direction of air flow for at least 95% of hours of occupancy. (1 point)

Technologies/ Strategies

Design the HVAC system to optimize air change effectiveness. Air change effectiveness can be optimized using a variety of ventilation strategies including displacement ventilation, low-velocity ventilation, plug flow ventilation such as under floor or near floor delivery, and operable windows. Test the air change effectiveness of the tenant space after construction.

Submittals

- For mechanically ventilated spaces, provide a letter template signed by the responsible engineer or party declaring that the designed tenant space achieves an air change effectiveness (ϵ_{ac}) of 0.9 or greater in each ventilated zone. Include a table summarizing the ϵ_{ac} achieved for each zone.

OR

- For mechanically ventilated spaces, provide a letter template signed by the responsible engineer or party declaring that the design complies with the recommended design approaches in ASHRAE 2001 Fundamentals Chapter 32, Space Air Diffusion. Include a table summarizing for each zone the air change effectiveness, which must be 0.9 or greater.

OR

- For naturally ventilated spaces, provide a letter template signed by the responsible engineer or party declaring that the design provides effective ventilation in at least 90% of each room or zone area in the direction of airflow for at least 95% of hours of occupancy. Include a table summarizing for each zone the airflow simulation results. Include sketches indicating the airflow pattern for each zone.

EQ Credit 3.1 Construction IAQ Management Plan, During Construction (1 point)

Intent

Prevent indoor air quality problems resulting from the construction/renovation process, to sustain long-term worker and occupant comfort and well-being.

Requirement

Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the tenant space as follows:

- During construction meet or exceed the minimum requirements recommended in Design Approaches of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, 1995.
- Protect stored on-site or installed absorptive materials from moisture damage,
- Replace all filtration media immediately prior to occupancy. During construction, filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 8, as determined by ASHRAE 52.2-1999, for filters used to protect HVAC at each return air grille. Replace filtration media used during construction with new filtration media that has a MERV of at least 13. (1 point)

Technologies/ Strategies

Adopt an IAQ management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. Sequence the installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. Prior to occupancy, perform a two week flush-out or test the contaminant levels in the project space.

Submittals

- Provide the LEED Letter template signed by the General Contractor or responsible party that:
- Lists for each different filtration media used during and at the end of construction, the MERV value, manufacturer name and model number.

AND either one of the following:

- Provide 6 photographs at 3 different occasions during construction with brief description of SMACNA approach employed, documenting implementation of the IAQ management measures such as protection of ducts and on-site stored or installed absorptive materials.

OR

- Declare the five Design Approaches of SMACNA IAQ Guideline for Occupied Buildings under Construction, 1995, Chapter 3 were used during tenant space construction. Include a brief listing of some of the important design approaches employed in the letter.

EQ Credit 3.2 Construction IAQ Management Plan, After Construction (1 point)

Intent

Prevent indoor air quality problems resulting from the construction/renovation process, to sustain long-term worker and occupant comfort and well-being.

Requirement

Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the tenant space as follows:

- After construction ends and prior to occupancy conduct a minimum two-week flush out with new filtration media at 100% outside air. Replace filtration media used after the flush-out with new filtration media that have a MERV of at least 13.

OR

- Conduct a baseline indoor air quality testing procedure consistent with the United States Environmental Protection Agency's current *Protocol for Environmental Requirements, Baseline IAQ and Materials, for the Research Triangle Park Campus, Section 01445*. (1 point)

Technologies/Strategies

Adopt an IAQ management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. Install materials in sequence so as to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. Prior to occupancy, perform a two week flush-out or test the contaminant levels in the tenant space.

Submittals

- Provide the LEED Letter Template signed by the architect, interior designer or engineer describing the flush out procedures including dates of tenant space flush out.

OR

- Provide a copy of the IAQ testing results indicating that the maximum chemical contaminant concentration requirements are not exceeded.

Alternate EQ Credit 3.2 Requirement and Submittal

NOTE: EQ Credit 3.2 - These alternative requirements and submittals are being considered for an upcoming ballot with the USGBC membership. They are intended to provide a meaningful measurement that simplifies documentation and maintains the integrity of the intent. This version may be used as an alternate for EQ credit 3.2 for the CI Pilot only.

Requirement

Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the tenant space as follows:

- After construction ends and prior to occupancy conduct a minimum two-week flush out with new filtration media at 100% outside air.

OR

- Conduct a baseline indoor air quality testing procedure that randomly selects sampling points for every 25,000 square feet, or for each contiguous floor area, whichever is larger, to measure concentration levels for the chemical contaminants listed below:

Chemical Contaminant	Maximum Concentration	Reference Standard
Carbon Dioxide (CO ₂)	10,300/Ventilation Rate *	ASHRAE 62-2001
Formaldehyde	50 parts per billion	State of Washington IAQ Standard
Particulates (PM10)	150 micrograms per cubic meter	EPA National Ambient Air Quality Standard
TVOC	500 micrograms per cubic meter	State of Washington IAQ Standard
4-PCH	6.5 micrograms per cubic meter	State of Washington IAQ Standard

*This (CO₂) measurement is required only if the building is regularly occupied during the testing. The ventilation rate is the outdoor air requirement per person, and the CO₂ measurement is the differential between indoor and outdoor conditions based on occupancy type as defined by ASHRAE 62-2001.

For each area where the maximum concentration limits are exceeded conduct a partial flush out, for a maximum of two weeks, then retest the indoor air quality levels to indicate the requirements are achieved. (1 point)

Technologies/Strategies

Adopt an IAQ management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. Install materials in sequence so as to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wall board. Prior to occupancy, perform a two week flush-out or test the contaminant levels in the tenant space.

Submittals

- Provide the LEED Letter Template signed by the architect, interior designer or engineer describing the flush out procedures including dates of tenant space flush out.

OR

- Provide a copy of the IAQ testing results indicating that the maximum chemical contaminant concentration requirements are not exceeded.

EQ Credit 4.1 Low-Emitting Materials, Adhesives & Sealants
(1 point)

Intent

Reduce the use of adhesives and sealants that may release indoor air contaminants that are odorous or potentially irritating and might be deleterious to installer and occupant health, comfort and well-being.

Requirement

Adhesives and Sealants must meet or be lower than the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168. (1 point)

Technologies/Strategies

Specify Low-VOC materials in construction documents. Ensure that VOC limits are clearly stated in each section where adhesives and sealants are used.

Submittals

Provide the letter template signed by the architect, interior designer or responsible party listing the adhesives and sealants used in the tenant space and declaring that they meet the current SCAQMD VOC content limits. Provide a manufacturers catalog cut sheet and a Material Safety Data Sheet (MSDS) highlighting VOC limits for each adhesive and sealant used in the tenant space.

EQ Credit 4.2 Low-Emitting Materials, Paints (1 point)

Intent

Reduce the use of paints and coatings that may release indoor air contaminants that are odorous or potentially irritating and might be deleterious to installer and occupant health, comfort and well-being.

Requirement

Paints and coatings must meet or be lower than the current VOC and potentially harmful chemical component limits of Green Seal requirements. (1 point)

Technologies/Strategies

Specify Low-VOC materials in construction documents. Ensure that VOC limits are clearly stated in each section where paints and coatings are addressed.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer or responsible party listing all the paints and coatings used in the tenant space and stating that they meet (lower than) the current VOC and chemical component limits of Green Seal requirements. Provide a manufacturer's catalog cut sheet and a Material Safety Data Sheet (MSDS) highlighting VOC limits and chemical component limits for each paint or coating used in the tenant space.

EQ Credit 4.3 Low-Emitting Materials, Carpet (1 point)

Intent

Reduce the use of carpet products and systems that may release indoor air contaminants that are odorous or potentially irritating and might be deleterious to installer and occupant health, comfort and well-being.

Requirement

Carpet systems must meet or be lower than the current VOC content limits of the Carpet and Rug Institute Green Label Indoor Air Quality Test Program. (1 point)

Technologies/Strategies

Specify Low-VOC carpet products and systems in construction documents. Ensure that VOC limits are clearly stated where carpet systems are used.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer or responsible party listing all the carpet systems used in the tenant space and stating that they meet (lower than) the current VOC limits of the Carpet and Rug Institute Green Label Indoor Air Quality Test Program. Provide a manufacturers catalog cut sheet highlighting the VOC limits for each carpet product used in the tenant space.

EQ Credit 4.4 Low-Emitting Materials, Composite Wood (1 point)

Intent

Reduce the use of (engineered wood) products that may release indoor air contaminants that are odorous or potentially irritating and might be deleterious to installer and occupant health, comfort and well-being.

Requirement

Composite wood and agrifiber products must contain no added urea-formaldehyde resins. (1 point)

Technologies/Strategies

Specify wood and agrifiber products that contain no added urea-formaldehyde resins in construction documents.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer or responsible party listing all the composite wood products used in the tenant space and stating that they contain no added urea-formaldehyde resins. Provide a manufacturers catalog cut sheet for each composite wood or agrifiber product used in the tenant space indicating that the bonding agent used in each product contains no added urea formaldehyde.

twelve (12) months of the project specification, indicating that the generic furniture system and/or seating assemblies used in the project meet or exceed the requirements of the noted protocol.

EQ Credit 5 **Indoor Chemical & Pollutant Source Control**
(1 point)

Intent

Avoid exposure of building occupants to potentially hazardous chemicals that adversely impact air quality.

Requirement

Provide areas with deck-to-deck partitions with separate outside exhausting at a rate of at least 0.5 cfm/SF no air re-circulation and negative pressure of 7 Pa AND provide drains plumbed for appropriate environmental disposal of liquid waste in spaces where water and chemical concentrate mixing occurs. (1 point)

Technologies/ Strategies

Design separate disposal systems for rooms with contaminants to achieve physical isolation from the rest of the building. Where appropriate, install permanent architectural entryway systems such as grills or grates to prevent occupant-borne contaminants from entering the tenant space.

Submittals

- Provide the LEED Letter Template signed by the architect, interior designer, or responsible party declaring that chemical use areas and copy rooms have been physically separated with deck-to-deck partitions; independent exhaust ventilation has been installed at 0.5 cfm/square foot and as negative pressure differential of 7 Pa has been achieved.

AND

- Provide the LEED Letter Template signed by the architect, interior designer, or responsible party declaring that, in spaces where water and chemical concentrate mixing occurs, drains are plumbed for environmentally appropriate disposal of liquid waste.

EQ Credit 6 **Controllability of Systems** (1 point)

Intent

Provide a high level of thermal, ventilation and lighting system control by individual occupants or specific groups in multi-occupant spaces (i.e. classrooms or conference areas) to promote the health, productivity, comfort and well-being of building occupants.

Requirement

- Provide an average of one lighting control zone per 200 SF for all occupied areas within 15 feet of the perimeter wall.

AND

- Provide controls for each individual for airflow, temperature, and lighting for at least 50% of the occupants in non-perimeter, regularly occupied areas. (1 point)

Technologies/Strategies

Design the tenant space with occupant controls for airflow, temperature, and lighting. Strategies to consider include lighting controls, task lighting and operable windows.

Submittals

- Provide the LEED Letter Template, signed by the architect or responsible party, demonstrating and declaring that for regularly occupied perimeter areas of the building, a minimum of one operable window and one lighting control zone are provided per 200 square feet on average.

AND

- Provide the calculator spreadsheet and LEED Letter Template signed by the architect, interior designer, or responsible party demonstrating and declaring that for non-perimeter regularly occupied areas controls for individual airflow, temperature, and lighting are provided for at least 50% of the occupants.

EQ Credit 7.1 Thermal Comfort, Compliance with ASHRAE 55-1992 (1 point)

Intent

Provide a thermally comfortable environment that supports the well being of tenant space occupants.

Requirement

Comply with ASHRAE Standard 55-1992, Addenda 1995 for thermal comfort standards including humidity control within established ranges per climate zone. For naturally ventilated buildings, utilize the adaptive comfort temperature boundaries, using the 90% acceptability limits as defined in the California High Performance Schools (CHPS) Best Practices Manual. (1 point)

Technologies/Strategies

Establish temperature and humidity comfort ranges and design the HVAC system to maintain these comfort ranges.

Submittals

- For mechanically ventilated spaces, provide the LEED Letter Template signed by the engineer or responsible party declaring that the project complies with ASHRAE Standard 55-1992, Addenda 1995. Include a table that identifies each thermally controlled zone, and that summarizes for each zone the temperature and humidity control ranges, and the method of control used.

OR

- For naturally ventilated spaces, provide the LEED Letter Template signed by the engineer or responsible party declaring that the project complies with the 90% acceptability limits of the adaptive comfort temperature boundaries in the California High Performance Schools (CHPS) Best Practices Manual Appendix C – A Field Based Thermal Comfort Standard for Naturally Ventilated Buildings, Figure 2.

EQ Credit 7.2 Thermal Comfort, Permanent Monitoring System
(1 point)

Intent

Provide a thermally comfortable environment that supports the well-being and productivity of tenant space occupants.

Requirement

Install a permanent temperature and humidity monitoring system configured to provide operators control over thermal comfort performance and the effectiveness of humidification and/or dehumidification systems in the space. (1 point)

Technologies/Strategies

Establish temperature and humidity comfort ranges and design the HVAC system to maintain these comfort ranges. Install and maintain a temperature and humidity monitoring system in the tenant space to automatically adjust conditions as appropriate.

Submittals

- Provide the LEED Letter Template signed by the engineer or responsible party declaring that a permanent temperature and humidity monitoring system will operate throughout all seasons to permit control of the tenant space zones within the seasonal thermal comfort ranges defined in ASHRAE 55-1992, Addenda 1995.
- AND
- Provide the LEED Letter Template signed by the owner or responsible party declaring that the temperature and humidity controls were included as part of the scope of work for the fundamental building systems commissioning, Energy and Atmosphere LEED prerequisite. Include in the letter the document name and section number where the commissioning work is identified.

EQ Credit 8.1 Daylight and Views, Daylight 75% of Spaces (1 point)

Intent

Provide for the occupants a connection between indoor spaces and the outdoor environment through the introduction of daylight and views into the regularly occupied areas of the tenant space.

Requirement

Achieve a minimum Daylight Factor of 2% (excluding all direct sunlight penetration) in 75% of all space occupied for critical visual tasks. Spaces excluded from this requirement include copy rooms, storage areas, mechanical plant rooms, laundry, and other low occupancy support areas. Other exceptions for spaces where tasks would be hindered by the use of daylight or where accomplishing the specific tasks within a space would be enhanced by the direct penetration of sunlight will be considered on their merits. (1 point)

Technologies/Strategies

Design the space to maximize daylighting and view opportunities. Strategies to consider include lower partition heights, interior shading devices, interior glazing, and photo-integrated light sensors. Model daylighting strategies with a physical or computer model to assess foot candle levels and daylight factors achieved.

Submittals

Provide the LEED Letter Template signed by the architect, interior designer, or responsible party, demonstrating the daylight zone and provide prediction calculations or daylight simulation results to demonstrate a minimum Daylight Factor of 2% in these areas. For credit, these areas will need to amount to 75% of the space occupied for critical visual tasks.

EQ Credit 8.2 Daylight and Views, Views for 90% of Spaces (1 point)

Intent

Provide for the occupants a connection between indoor spaces and the outdoor environment through the introduction of daylight and views into the regularly occupied areas of the tenant space.

Requirement

Achieve direct line of sight to vision glazing for building occupants from 90% of all regularly occupied spaces, not including copy rooms, storage areas, mechanical, laundry, and other low occupancy support areas. (1 point)

Technologies/ Strategies

Design the space to maximize daylighting and view opportunities. Strategies to consider include lower partition heights, interior shading devices, interior glazing, and photo-integrated light sensors. Model daylighting strategies with a physical or computer model to assess footcandle levels and daylight factors achieved.

Submittals

- Provide the LEED Letter Template and calculations signed by the architect, interior designer, or responsible party describing, demonstrating and declaring that the building occupants in 90% of regularly occupied spaces will have direct lines of sight to perimeter glazing.
- Provide drawings highlighting direct line of sight zones.

Innovation & Design Process for Commercial Interiors

ID Credit 1 Innovation in Design (1-4 points)

Intent

To provide design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by the LEED Green Building Rating System.

Requirement

- Credit 1.1 (1 point) In writing, using the LEED Credit Equivalence process, identify the Intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the design approach used to meet the required elements.
- Credit 1.2 (1 point) Same as Credit 1.1
- Credit 1.3 (1 point) Same as Credit 1.1
- Credit 1.4 (1 point) Same as Credit 1.1

Technologies/Strategies

Substantially exceed a LEED performance credit such as energy performance or water efficiency. Apply strategies or measures that are not covered by LEED such as acoustic performance, education of occupants, community development, or lifecycle analysis of material choices.

Submittals

Provide the LEED Letter Template and relevant evidence of performance achieved, strategies or measures used that are not covered by LEED.

ID Credit 2 LEED™ Accredited Professional (1 point)

Intent

To support and encourage the design integration required by a LEED Green Building project and to streamline the application and certification process.

Requirement

At least one principal participant of the project team that has successfully completed the LEED Accredited Professional exam. (1 point)

Submittals

Provide a copy of the LEED™ Accredited Professional Certificate.

Overview of Documentation Requirements for LEED for Commercial Interiors

The objective of LEED CI is to provide a rating system that addresses the specifics of tenant spaces primarily in office and institutional buildings. Hence, reporting requirements have taken the form of Version 2.1, which streamlines the documentation required with submittal.

Specific documentation requirements are included with each prerequisite and credit of the rating system.

Description of Typical Process for Obtaining Certification Using LEED for Commercial Interiors

LEED CI addresses the application of the LEED Green Building Rating System™ for measuring and recognizing green building performance. It provides criteria for project teams to follow in obtaining LEED certification by meeting specified performance standards.

Obtaining certification under LEED CI standards requires the following basic steps:

- Register your project with the USGBC as a notice of your Intent to apply for certification under LEED CI standards – You will then be informed of technical support resources, training workshops and other USGBC programs and activities.
- Evaluate and assure yourself that your project can meet the prerequisites; assess the likelihood of obtaining potential credits.
- Set up a tracking system to confirm progress toward your LEED certification. So deviations from desired performance can be rapidly recognized and corrected.
- Begin at the start, including LEED criteria as part of the design programming.
- Incorporate credit criteria in the contract documents; indicate in each section of the specifications the requirements for that particular subcontractor or material supplier.
- Review the requirements as a part of the award of the contract and subcontracts.
- Review the requirements at construction progress meetings.
- Collect the data at the appropriate time. Require LEED information be included in shop drawing submittals, warranties and as-built documents.
- After your project is completed, file your application with the USGBC including the required supporting documentation. (This requirement has been streamlined in Revision 2.1.)
- USGBC will review application and ask for any additional supporting documentation that may be needed.
- USGBC will determine if your building has met the LEED CI standards, and if so at what level.

LEED CI Reference Guide

Throughout this pilot version of the LEED CI rating system mention is made to the LEED CI Reference Guide. This work in progress includes the existing guide and a supplement for LEED CI that will be provided in unpublished form at the orientation for the Pilot program (Late Fall 2002) Over the course of the coming year the Reference Guide and Supplement will be greatly enhanced by the pilot participants, as well as the advisory and technical groups closely associated with the development of LEED for Commercial Interiors.

Summary Comparison of LEED for Commercial Interiors to LEED for New Construction Version 2.1

<u>Sustainable Sites</u>	(Total Points Available: 7)	
Prerequisite 1: Erosion and Sedimentation Control		NA
Credit 1: Site Selection		1-3
Credit 2: Urban Redevelopment		1
Credit 3: Brownfield Redevelopment [Not Applicable to LEED EB]		NA
Credit 4: Environmentally Preferable Transportation		1-3
Credit 5: Reduced Site Disturbance		NA
Credit 6: Stormwater Management		NA
Credit 7: Reduced Heat Island Effect		NA
Credit 8: Light Pollution Reduction		NA
<u>Water Efficiency</u>	(Total Points Available: 2)	
Credit 1: Water Efficient Landscaping		NA
Credit 2: Innovative Wastewater Technologies		NA
Credit 3: Water Use Reduction		1-2
<u>Energy and Atmosphere</u>	(Total Points Available: 14)	
Prerequisite 1: Fundamental Building Systems Commissioning		Prereq.
Prerequisite 2: Minimum Energy Performance		Prereq.
Prerequisite 3: Ozone Protection		Prereq.
Credit 1: Optimize Energy Performance		1-10
Credit 2: Renewable Energy		NA
Credit 3: Continuous Commissioning and Maintenance		1
Credit 4: Additional Ozone Protection		NA
Credit 5: Measurement and Verification		1-2
Credit 6: Green Power		1
<u>Materials and Resources</u>	(Total Points Available: 14)	
Prerequisite: Waste Management		Prereq.
Credit 1: Building Reuse		1-3
Credit 2: Construction Waste Management		1-2
Credit 3: Resource Reuse		1-3
Credit 4: Recycled Content		1-2
Credit 5: Local/Regional Materials		1-2
Credit 6: Rapidly Renewable Materials		1
Credit 7: Certified Wood		1
<u>Indoor Environmental Quality</u>	(Total Points Available: 15)	
Prerequisite 1: Minimum IAQ Performance		Prereq.
Prerequisite 2: Environmental Tobacco Smoke (ETS) Control		Prereq.
Credit 1: Carbon Dioxide (CO ₂) Monitoring		1
Credit 2: Increase Ventilation Effectiveness		1
Credit 3: Construction IAQ Management Plan		1-2
Credit 4: Low-Emitting Materials		1-5
Credit 5: Indoor Chemical & Pollution Source Control		1
Credit 6: Controllability of Systems		1
Credit 7: Thermal Comfort		1-2
Credit 8: Daylighting and Views		1-2
<u>Innovation and Accredited Professional Points</u>	(Total Points Available: 5)	
Credit 1: Innovations in Operations and Upgrades		1-4
Credit 2: LEED Existing Building Accredited Professional		<u>1</u>
TOTAL POINTS AVAILABLE FOR THE PILOT		57

Detailed Side-by-Side Comparison of LEED for Commercial Interiors to LEED for New Construction Version 2.1

LEED for New Construction Revision 2.1 Prerequisites and Credits	LEED for Commercial Interiors Prerequisites and Credits	Relation	Pts
Sustainable Sites			(7)
Prerequisite 1 Erosion and Sedimentation Control Control erosion to reduce negative impacts on water and air quality.	Prerequisite 1: Not Applicable		Not Required
<u>Credit 1</u> 1 pt. Site Selection Avoid development of inappropriate sites and reduce the environmental impact from the location of a building on a site.	Credit 1: Site Selection	***	1-3
<u>Credit 2</u> 1 pt. Development Density Channel development to urban areas with existing infrastructure, protecting greenfields and preserving habitat & natural resources.	Credit 2: Development Density	*	1
<u>Credit 3</u> 1 pts. Brownfield Redevelopment Rehabilitate sites where development is complicated by real or perceived contamination, reducing pressure on undeveloped land.	Credit 3: Not Applicable		
<u>Credit 4</u> 1-4 pts. Alternative Transportation Reduce pollution and land development impacts from automobile use.	Credit 4: Alternative Transportation	***	1-3
<u>Credit 5</u> 1-2 pts. Reduced Site Disturbance Conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.	Credit 5: Not Applicable		
<u>Credit 6</u> 1-2 pts. Stormwater Management Limit disruption of natural water flows by minimizing storm water runoff, increasing on-site infiltration and reducing contaminants.	Credit 6: Not Applicable		
<u>Credit 7</u> 1-2 pts. Design to Reduce Heat Islands Reduce heat islands (thermal gradient differences between developed and underdeveloped areas) to minimize impact on microclimate and habitats.	Credit 7: Not Applicable		
<u>Credit 8</u> 1 pt. Light Pollution Reduction Eliminate light trespass from the building site, improve night sky access, and reduce development impact on nocturnal environments.	Credit 8: Not Applicable		

† Relation to 2.1 (Indicates any variations between LEED 2.1 and LEED CI)

* Copied directly from LEED 2.1

** Language change only - adapting to commercial interior project rather than construction perspective

*** Credit modified to adapt substance to commercial interior project perspective

**** Original to LEED CI

LEED for New Construction Revision 2.1 Prerequisites and Credits	LEED for Commercial Interiors Credits	Relation †	Pts
Water Use and Water Efficiency			(2)
<u>Credit 1</u> 1-2 Pts. Water Efficient Landscaping Limit or eliminate the use of potable water for landscape irrigation.	Credit 1: Not Applicable		
<u>Credit 2</u> 1 Pt. Innovative Wastewater Technology Reduce generation of wastewater and potable water demand, while increasing local aquifer recharge.	Credit 2: Not Applicable		
<u>Credit 3</u> 1-2 Pts. Water Use Reduction Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.	Credit 3: Water Use Reduction	*	1-2

Energy and Atmosphere			(14)
<u>Prerequisite 1</u> Fundamental Building Systems Commissioning Verify and ensure that fundamental building elements & systems are designed, installed and calibrated to operate as intended.	Prerequisite 1: Fundamental Building Systems Commissioning	*	Prereq
<u>Prerequisite 2</u> Minimum Energy Performance Establish the minimum level of energy efficiency for the base building systems	Prerequisite 2: Minimum Energy Performance	**	Prereq
<u>Prerequisite 3</u> CFC Reduction in HVAC&R Equipment Reduce ozone depletion.	Prerequisite 3: CFC Reduction in HVAC&R Equipment	**	Prereq
<u>Credit 1</u> 2-10 pts. Optimize Energy Performance Achieve increasing levels of energy performance above the prerequisite standard to reduce environmental impact of excessive energy use.	Credit 1: Optimize Energy Performance	***	1-10
<u>Credit 2</u> 1-3 pts. Renewable Energy Encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impact of fossil fuel energy use.	Credit 2: Not Applicable		

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LEED for New Construction Revision 2.1 Prerequisites and Credits	LEED for Commercial Interiors Credits	Relation †	Pts
Energy and Atmosphere (continued)			
<u>Credit 3</u> 1 pt. Additional Commissioning Verify & ensure that the tenant space is designed, constructed and calibrated to operate as intended.	Credit 3: Additional Commissioning	**	1
<u>Credit 4</u> 1 pt. Ozone Protection Reduce ozone depletion & support early compliance with the Montreal Protocol.	Credit 4: Not Applicable		
<u>Credit 5</u> 1 pt. Measurement & Verification Provide for the ongoing accountability & optimization of energy & water consumption over time.	Credit 5: Measurement & Verification	***	1-2
<u>Credit 6</u> 1 pt. Green Power Encourage the development & use of grid-source, renewable energy technologies on a net zero population base.	Credit 6: Green Power	**	1

Materials & Resources			(14)
<u>Prerequisite</u> Storage & Collection of Recyclables Facilitate the reduction of waste generated by building occupants that is hauled & disposed of in landfills.	Prerequisite 1: Storage & Collection of Recyclables	***	Prereq
<u>Credit 1</u> 1-3 Pts. Building Reuse Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste, & reduce environmental impact of building materials manufacturing and transport.	Credit 1: Building Reuse	** *** ****	1-3
<u>Credit 2</u> 1-2 Pts. Construction Waste Management Divert construction, demolition & land clearing debris from landfill disposal. Redirect recyclable material back to the manufacturing process.	Credit 2: Construction Waste Management	**	1-2
<u>Credit 3</u> 1-2 pts. Resource Reuse Extend the life cycle of targeted building materials, reducing environmental impact of materials manufacturing and transport.	Credit 3: Resource Reuse	**	1-3

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LEED for New Construction Revision 2.1 Prerequisites and Credits	LEED for Commercial Interiors Credits	Relation †	Pts
Materials & Resources (continued)			
<u>Credit 4</u> 1-2 pts. Recycled Content Increase demand for building products that have incorporated recycled content material, reducing the impacts resulting from extraction of new material.	Credit 4: Recycled Content	*	1-2
<u>Credit 5</u> 1-2 pts. Local/Regional Materials Increase demand for locally manufactured building products, reducing the environmental impact of transportation while supporting the local economy.	Credit 5: Local/Regional Materials	*	1-2
<u>Credit 6</u> 1 pt. Rapidly Renewable Materials Reduce that use and depletion of finite raw and long-cycle renewable materials by replacing them with rapidly renewable materials.	Credit 6: Rapidly Renewable Materials	*	1
<u>Credit 7</u> 1 pt. Certified Wood Encourage environmentally responsible forest management.	Credit 7: Certified Wood	*	1

Indoor Environmental Quality			(15)
Prerequisite 1 Minimum IAQ Performance Establish minimum IAQ performance to prevent the development of IAQ problems while maintaining the health & well being of the occupants.	Prerequisite 1: Minimum IAQ Performance	*	Prereq
Prerequisite 2 Environmental Tobacco Smoke (ETS) Control Prevent exposure of occupants & systems to ETS.	Prerequisite 2: Environmental Tobacco Smoke (ETS) Control	* ****	Prereq
Credit 1 1 Pt. Carbon Dioxide (CO₂) Monitoring Provide capacity for IAQ monitoring to sustain long-term occupant health & comfort.	Credit 1: Carbon Dioxide (CO₂) Monitoring	*	1
Credit 2 1 pt. Increase Ventilation Effectiveness Provide for the effective delivery & mixing of fresh air to building occupants to support their health, safety & comfort.	Credit 2: Increase Ventilation Effectiveness	**	1
Credit 3 1-2 pts. Construction IAQ Management Prevent indoor air quality problems resulting from the construction/renovation process to sustain long-term installer & occupant health & comfort.	Credit 3: Construction IAQ Management Plan	* ****	1-2

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LEED 2.1 Prerequisites and Credits	LEED for Commercial Interiors Prerequisites and Credits	Rel. to 2.1 †	Pts
Indoor Environmental Quality (continued)			
Credit 4 1-4 pts. Low-Emitting Materials Reduce the quantity of indoor air contaminants that are odorous or potentially irritating to provide installer & occupant health & comfort.	Credit 4: Low-Emitting Materials	*, ****	1-5
Credit 5 1 pt. Indoor Chemical & Pollutant Source Control Avoid exposure of building occupants to potential hazardous chemicals that adversely impact IAQ.	Credit 5: Indoor Chemical & Pollutant Source Control	*	1
Credit 6 1-2 pts. Controllability of Systems Provide a high level of individual occupant control of thermal, ventilation & lighting systems to support optimum health, productivity and comfort.	Credit 6: Controllability of Systems	*	1
Credit 7 1-2 pts. Thermal Comfort Provide for a thermally comfortable environment that supports productive & healthy performance of the building occupants.	Credit 7: Thermal Comfort	**	1-2
Credit 8 1-2 Pts. Daylighting and Views Provide connection between indoor spaces & outdoor environment through inclusion of sunlight & views into building occupied areas.	Credit 8: Daylighting and Views	**	1-2

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