

MINIMUM PROGRAM REQUIREMENTS (MPRS)

For LEED Canada Rating Systems:

LEED Canada for Existing Building: Operations & Maintenance (EB:O&M) 2009
LEED Canada for New Construction & Major Renovation (NC) 2009
LEED Canada for Core & Shell Developments (CS) 2009
LEED Canada for Commercial Interiors (CI) 1.0

Version 1

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LEED® Canada Supplement

PREFACE FROM THE CaGBC

The built environment has a profound impact on our natural environment, economy, health, and productivity. Breakthroughs in building science, technology, and operations are now available to designers, builders, operators, and owners who want to build green and maximize both economic and environmental performance.

The green building movement offers an unprecedented opportunity to respond to the most important challenges of our time, including global climate change, dependence on non sustainable and expensive sources of energy, and threats to human health. The work of innovative building professionals is a fundamental driving force in the green building movement. Such leadership is a critical component to achieving the Canada Green Building Council's (CaGBC's) vision of a transformed built environment leading to a sustainable future.

CaGBC Membership

The CaGBC's greatest strength is the diversity of our membership. CaGBC is a balanced, consensus based not-for-profit with more than 2,300 member companies and organizations. Since its inception in 2002, CaGBC has played a vital role in providing a leadership forum and a unique, integrating force for the building industry. CaGBC's programs have three distinguishing characteristics:

Committee-based

The heart of this effective coalition is our committee structure, in which volunteer members work with staff and expert consultants to design and implement strategies. Our committees provide a forum for members to resolve differences, build alliances, and forge cooperative solutions for influencing change in all sectors of the building industry.

Member-Driven

Membership is open and balanced and provides a comprehensive platform for carrying out important programs and activities. We target the issues identified by our members as the highest priority. We conduct an annual review of achievements that allows us to set policy, revise strategies, and devise work plans based on members' needs.

Consensus-Focused

We work together to promote green buildings and, in doing so, we help to foster greater economic vitality and environmental health at lower costs. We work to bridge ideological gaps between industry segments to develop balanced policies and programs that benefit the entire industry.

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ACKNOWLEDGEMENTS

The CaGBC would like to acknowledge the efforts of the Technical Advisory Groups (TAGs) and the LEED Canada Steering Committee (LCSC) for their dedication, time and commitment to the adaptation of the *Minimum Program Requirements for LEED® Canada Rating Systems*.

Contents

| | |
|--|----|
| INTRODUCTION..... | 6 |
| About the MPRs..... | 6 |
| How to Submit Questions about the MPRs | 6 |
| If MPR Compliance is Called into Question..... | 6 |
| Dealing with Prohibitive Characteristics Not Addressed by the MPRs..... | 7 |
| Dealing with Building Types Not Specifically Accommodated for in the LEED Rating Systems | 7 |
| How to Select a Rating System | 7 |
| How to Document Compliance with the MPRs..... | 7 |
| How to Deal with Multiple Buildings / Spaces Situations | 7 |
| 1. MUST COMPLY WITH ENVIRONMENTAL LAWS. | 8 |
| INTENT: | 8 |
| SPECIFIC ALLOWED EXCEPTIONS:..... | 8 |
| • Short term lapses in compliance are acceptable | 8 |
| • CaGBC will recognize exemptions granted by authorities..... | 8 |
| • CaGBC will recognize settlements granted by authorities on a case-by-case basis | 9 |
| • Special considerations for LEED Canada for Commercial Interiors projects..... | 9 |
| • Special consideration for projects with unfinished spaces | 9 |
| ADDITIONAL INFORMATION AND CLARIFICATIONS:..... | 9 |
| • How to identify building related environmental laws..... | 9 |
| • New laws and regulations..... | 9 |
| • Addressing conflicts between LEED Canada 2009 requirements and laws..... | 9 |
| • CaGBC will not act in a law enforcement capacity | 10 |
| • The relationship between MPR 1 and SS Credit 1: Site Selection | 10 |
| 2. MUST BE A COMPLETE, PERMANENT BUILDING OR SPACE | 11 |
| INTENT: | 11 |
| SPECIFIC ALLOWED EXCEPTIONS:..... | 11 |
| Attached Buildings..... | 11 |
| • Previously developed support structures and artificial land mass | 15 |
| • 10% exemption for multitenant buildings certifying under LEED Canada EB: O&M | 15 |

| | |
|--|----|
| • Construction scope that may be excluded from a LEED Canada CI project boundary | 15 |
| • Understanding “complete interior space” | 15 |
| ADDITIONAL INFORMATION AND CLARIFICATION | 17 |
| • Ensuring compliance with the ‘entirety’ requirement | 17 |
| • The “already existing land” requirement is applicable to the entire LEED project..... | 17 |
| • How to treat parking garages | 17 |
| • Modular buildings elements are allowed | 18 |
| • Buildings with movable parts are allowed..... | 18 |
| • Movable buildings are prohibited | 18 |
| • Special considerations for commercial interiors projects | 18 |
| • Planned obsolescence | 18 |
| • Multi-party ownership | 18 |
| • No exceptions for projects with EQp2 conflicts | 18 |
| • Multiple buildings | 19 |
| • Defining ‘one building’ | 19 |
| • LEED for Core & Shell projects and ‘entirety’ | 19 |
| 3. MUST USE A REASONABLE SITE BOUNDARY..... | 20 |
| INTENT: | 20 |
| SPECIFIC ALLOWED EXCEPTIONS:..... | 20 |
| • Land assigned to previous projects may be re-assigned to EB: O&M projects | 20 |
| • When non-contiguous parcels may be included in the LEED project boundary..... | 20 |
| • When land included in submittals may be excluded from the LEED project boundary..... | 21 |
| • When facilities included in submittals may be excluded from the LEED project boundary..... | 21 |
| • Real property no longer attributed to a certified building | 22 |
| • When land not owned by the LEED project owner may be included | 22 |
| • Project boundaries that include other buildings..... | 22 |
| • Temporary structures | 22 |
| ADDITIONAL INFORMATION AND CLARIFICATIONS..... | 23 |
| • How to define land that is associated with and directly supports a building..... | 23 |
| • Understanding gerrymandering | 23 |

| | |
|---|----|
| 4. MUST COMPLY WITH MINIMUM FLOOR AREA REQUIREMENTS..... | 24 |
| INTENT: | 24 |
| SPECIFIC ALLOWED EXCEPTIONS..... | 24 |
| ADDITIONAL INFORMATION AND CLARIFICATIONS..... | 24 |
| • Specific building type guidance | 24 |
| 5. MUST COMPLY WITH MINIMUM OCCUPANCY RATES | 25 |
| INTENT: | 25 |
| SPECIFIC ALLOWED EXCEPTIONS..... | 25 |
| • Unexpected and temporary decline in occupancy..... | 25 |
| • Determining compliance with fluctuating occupancy rates | 26 |
| ADDITIONAL INFORMATION AND CLARIFICATIONS..... | 26 |
| • Calculation method for determining annual FTE in design and construction projects..... | 26 |
| • Space types subject to this MPR..... | 27 |
| • Determining typical physical occupancy..... | 27 |
| 6. MUST COMMIT TO SHARING WHOLEBUILDING ENERGY AND WATER USAGE DATA..... | 29 |
| 7. MUST COMPLY WITH A MINIMUM BUILDING AREA TO SITE AREA RATIO | 30 |
| INTENT: | 30 |
| SPECIFIC ALLOWED EXCEPTIONS..... | 30 |
| ADDITIONAL INFORMATION AND CLARIFICATIONS..... | 30 |
| • Calculation method for determining gross floor area to site area ratio | 30 |
| • There is no maximum ratio..... | 30 |
| • Addressing conflicts with MPR #3 | 30 |
| • Projects without land in the LEED project boundary comply by default..... | 30 |
| • Treatment of land used with SSc5 Site Development –Protect or Restore Habitat in LEED Canada EB: O&M | 31 |
| GLOSSARY | 32 |

INTRODUCTION

With this document, the Canada Green Building Council sets Minimum Program Requirements (MPRs) for all its current rating systems (excluding LEED Canada for Homes):

- LEED Canada for Existing Building: Operations & Maintenance (EB:O&M) 2009
- LEED Canada for New Construction & Major Renovation (NC) 2009
- LEED Canada for Core & Shell Developments (CS) 2009
- LEED Canada for Commercial Interiors (CI) 1.0

These MPRs are a requirement on all newly registered projects on or after September 1, 2012 and supersede the MPRs as noted in the *LEED Canada Reference Guide for Green Building Design and Construction 2009*. The CaGBC has adapted this document from the US Green Building Council's (USGBC) *LEED 2009 Minimum Program Requirements Supplemental Guidance* (September 2011), in order to take into consideration the context of the Canadian marketplace. Projects registered before the application date of these requirements are welcome to use the MPRs for direction and guidance.

This CaGBC MPR document helps guide Canadian projects to determine if the scope of their project is appropriate for certification. The document provides direction for specific situations; establishes exceptions; and describes the intent behind each actual requirement. The CaGBC has maintained a close alignment to the USGBC parent document and expects to maintain this alignment for future updates.

If a project team has questions regarding the scope of their project that are not addressed in this document, they should contact CaGBC customer service at info@cagbc.org.

About the MPRs

The MPRs list the basic characteristics that a project must possess to be eligible for certification under the LEED Canada rating systems, therefore defining a broad category of buildings and spaces that the LEED Canada rating systems were designed to evaluate.

The MPRs do NOT apply to LEED Canada for Homes.

How to Submit Questions about the MPRs

The CaGBC cannot write guidance for every situation in the building arena. However, this guidance is not meant to exclude a building or space that could be fairly evaluated through the LEED certification process if the exclusion is based on a technicality. If a project team is unsure of whether or not a project is in compliance with an MPR, they should contact CaGBC customer service at info@cagbc.org. The project team may be directed to submit a Credit Interpretation Request (CIR) if necessary.

If MPR Compliance is Called into Question

If the CaGBC learns that a *LEED project* is or was in violation of an MPR, certification may be revoked, or the certification process may be halted. To avoid delays, you should keep the CaGBC abreast of anything about your project, including changes that occur during the construction, *performance period*, or certification process that might call into question MPR compliance. If the issue is regarding the scope of the project boundary, projects under review may be required to update submittals and resubmit for certification review.

Dealing with Prohibitive Characteristics Not Addressed by the MPRs

The decision not to attempt certification is at a project team's discretion alone. The CaGBC will not prevent a project team from attempting certification for a building or space because of an unusual characteristic that is not addressed by the MPRs.

Dealing with Building Types Not Specifically Accommodated for in the LEED Rating Systems

The LEED rating systems do not specifically address many building types, such as manufacturing facilities. Buildings types that are not specifically accommodated for may still apply for LEED certification if they meet all of the MPRs.

How to Select a Rating System

The MPRs do not deal specifically with rating system selection, but they can inform the selection process. Additional information on each rating system is available in the introduction sections of the reference guides.

How to Document Compliance with the MPRs

The *LEED project* owner must personally confirm that the project complies with each of the MPRs by completing checkboxes and signing the MPR Confirmation Form as posted on CaGBC's website www.cagbc.org. Unless there is a special circumstance, project teams are not required to submit additional documentation to prove compliance.

How to Deal with Multiple Buildings / Spaces Situations

All buildings and spaces must meet all the MPRs at the individual building level. If working in a multiple building situation, this document will help project teams understand how a project(s) can comply with the MPRs.

The Multiple Building certification pathway is available to LEED Canada NC 2009 and LEED Canada CS 2009 projects as outlined in the Introduction to the *LEED Canada Reference Guide for Green Building Design and Construction 2009*. The Multiple Space certification pathway is available to LEED Canada CI v1.0 projects as outlined in the guidance document, *Multiple Space Guidance for LEED Canada for Commercial Interiors v1.0*, available on CaGBC's website. Similar guidance for a multiple building pathway for LEED Canada EB:O&M 2009 is available on CaGBC's website (Q4 2012).

Please find underlined and italicized terms in the glossary at the end of this document.

1. MUST COMPLY WITH ENVIRONMENTAL LAWS.

All Rating Systems:

A lapse in a project's compliance with a building-related environmental law or regulation that results from an unforeseen and unavoidable circumstance shall not necessarily result in non-compliance with this MPR. Such lapses shall be excused so long as they are remediated as soon as feasibly possible.

New Construction, Core & Shell, Commercial Interiors:

The *LEED project building or space*, all other *real property* within the *LEED project boundary*, and all *project work* must comply with applicable federal, provincial (or territorial), and local building-related environmental laws and regulations in place where the project is located. This condition must be satisfied from the date of *LEED project registration* or the commencement of *schematic design*, whichever comes first, up to and until the date that the building receives a *certificate of occupancy* or similar official indication that it is fit and ready for use.

Existing Buildings: O&M:

The *LEED project building*, all other *real property* within the *LEED project boundary*, any *project work*, and all *normal building operations* occurring within the *LEED project building* and the *LEED project boundary* must comply with applicable federal, provincial (or territorial), and local building-related environmental laws and regulations in place where the project is located. This condition must be satisfied from the commencement of the *LEED project's* initial LEED Canada EB: O&M *performance period* through the expiration date of the LEED Certification.

INTENT:

The purpose of this MPR is to highlight the importance of environmental laws and regulations that apply to LEED projects. Such legislation establishes a baseline standard for sustainability.

SPECIFIC ALLOWED EXCEPTIONS:

- **Short term lapses in compliance are acceptable**

The CaGBC will not immediately revoke a certification if a lapse in compliance with an environmental law resulting from unforeseen and unavoidable circumstances occurs. However, project teams must demonstrate a dedicated effort to return the building to compliance as soon as feasibly possible. As a precaution and at the project team's discretion, the building owner may notify the CaGBC of any lapse in compliance and efforts to bring the building back into compliance. If the lapse occurs after certification (applicable only to LEED Canada EB: O&M certified projects), the project team may contact CaGBC at info@cagbc.org to receive additional guidance in this situation.

- **CaGBC will recognize exemptions granted by authorities**

If governmental authorities exempt the project from a building-related environmental law for any reason, then that project is exempt from this MPR in regards to that particular law. In the event that this occurs, a description of the situation leading to the exemption and proof of the exemption (such as an official letter from the granting authority) must be provided when submitting the project to the CaGBC for certification review.

- **CaGBC will recognize settlements granted by authorities on a case-by-case basis**

It is recognized that, in the case of an alleged environmental law violation, building owners sometimes agree on a settlement with a governmental agency to make reparations for their actions. These situations are treated on a case by case basis in terms of compliance with this MPR. Please contact the CaGBC at info@cagbc.org to determine compliance in this situation.

- **Special considerations for LEED Canada for Commercial Interiors projects**

Only the *gross floor area* within the *LEED project boundary* of a LEED Canada CI project must comply with this MPR, NOT the building in which the project is located.

- **Special consideration for projects with unfinished spaces**

For projects with unfinished spaces (typically, LEED Canada CS projects), *interior fit-out* work conducted post-certification is NOT subject to this MPR unless strategies implemented in the *fit-out* space contribute to earned prerequisites or credits for that project via the tenant sales and lease agreement or owner letter of commitment path.

ADDITIONAL INFORMATION AND CLARIFICATIONS:

- **How to identify building related environmental laws**

DEFINITION

For the purposes of this MPR, an 'environmental law' is considered to be a statute, rule, treaty, convention, executive order, regulation, or ordinance that seeks to protect the natural environment and/or human health which may be negatively impacted by activities surrounding the design, construction, development, or operation of a building.

LOCATION

This MPR applies to ALL LEED projects, regardless of location, and includes all existing building-related environmental laws in the jurisdiction where the *LEED project* is located. For Canadian projects, this includes laws at the federal, provincial (or territorial), and local level.

CATEGORIES

Categories containing laws that fall under the purview of this MPR include, but are not limited to the following: wetlands, noise, runoff, asbestos, air quality, pollution, sewage, pesticides, safety, and forestry.

- **New laws and regulations**

This MPR includes new laws, regulations, and ordinances as they are enacted.

- **Addressing conflicts between LEED Canada 2009 requirements and laws**

In the rare case that a building-related environmental law covered by this MPR conflicts with another MPR, a LEED prerequisite or credit, the law will take precedence. Project teams may still comply with the MPR and achieve the prerequisite or credit by highlighting the conflict in their submission and including an excerpt of the relevant law during the regular review process or, if desired, requesting a Credit Interpretation Request (CIR). The proposed alternative compliance path must satisfy both the environmental law and the intent of the LEED requirement.

- **CaGBC will not act in a law enforcement capacity**

By verifying that a LEED project complies with this MPR, CaGBC assumes that project owners are accurately and willingly attesting that the LEED project complies with applicable building-related environmental laws. LEED is a voluntary program that rewards exemplary building performance. In no way will the CaGBC act as law enforcement. With this MPR, the CaGBC is using established laws only to ascertain that the LEED project is meeting the appropriate environmental standards.

- **The relationship between MPR 1 and SS Credit 1: Site Selection**

The intent and requirements of SSc1 Site Selection in whole building design and construction rating systems differ from that of this MPR. This MPR requires compliance with environmental laws, and SSc1 rewards voluntary land use choices. A point may be earned under SSc1 if the LEED project complies with a series of criteria. Projects that do not meet these criteria demonstrate unsustainable, but not illegal development practices. SSc1 essentially builds on the requirements of MPR #1.

2. MUST BE A COMPLETE, PERMANENT BUILDING OR SPACE

All Rating Systems:

All LEED projects must be designed for, constructed on, and operated on a permanent location on already existing land. LEED projects shall not consist of mobile structures, equipment, or vehicles. No building or space that is designed to move at any point in its lifetime may pursue LEED Certification.

New Construction, Core & Shell:

LEED projects must include the new, ground-up design and construction, or major renovation, of at least one commercial, institutional, or high-rise residential building in its entirety.

Commercial Interiors:

The LEED project scope must include a complete interior space distinct from other spaces within the same building with regards to at least one of the following characteristics: ownership, management, lease, or party wall separation.

Existing Buildings: O&M:

LEED projects must include at least one existing commercial, institutional, or high-rise residential building in its entirety.

INTENT:

The LEED rating systems were designed to evaluate complete buildings and spaces in fixed locations. Partial buildings or spaces are unsuitable for LEED certification because when analyzed under the requirements of LEED prerequisites and credits, they create results inconsistent with those of whole buildings or spaces. Also, partial certification can easily appear to encompass an entire building or space, sending a false message to the occupants.

Permanency is important because a significant percentage of LEED prerequisites and credits are dependent on location, making a mobile building or space unacceptable. The stipulation for already existing land responds to the fact that artificial land masses displace and disrupt aquatic ecosystems. Buildings that generate the need to develop such land do not meet the overall intent of the LEED rating system. Anything less than a distinct, complete, and permanent project on existing land will not be able to accurately demonstrate compliance with LEED.

SPECIFIC ALLOWED EXCEPTIONS:

Attached Buildings

MPR#2 requires a LEED project to be a building in its entirety for use of all but the Commercial Interiors Rating Systems. This section allows for buildings (such as additions) that do not meet the definition of entirety to comply with MPR#2 if certain conditions are met. The conditions listed below are written to prevent two kinds of problems that attached buildings can lead to: 1) compromised technical integrity of LEED certification and 2) misperception of certification boundaries.

CaGBC Minimum Program Requirements (MPRs)

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This section lists conditions and guidance in three parts. All attached buildings should comply with part I, and those buildings attached to buildings that are already LEED-certified should comply with part II; whereas those attached to buildings that are not already LEED-certified should comply with part III.

I. ALL attached buildings

II. Buildings attached to LEED certified buildings

III. Buildings attached to non LEED certified buildings

I. ALL ATTACHED BUILDINGS

1. DRAWING A PROJECT BOUNDARY

The majority of the certifying floor area vs. the non-certifying floor area is often clear, as a result of construction, ownership, management, or space usage type boundaries. Often, one or more of the following occurs, making it difficult to draw the exact line of the *LEED project boundary*:

1. Minor construction work is occurring outside of the area intended to be LEED certified
2. Circulation space serves several attached buildings
3. New core mechanical systems that serve several attached buildings are being installed

Project teams must use their own judgment to make reasonable decisions about these situations on a case by case basis. Generally, construction work or space that serves buildings other than the one certifying should be excluded from the *LEED project boundary*. Note that construction work extending into non-certifying area must be consistently excluded from the certification process.

See guidance under MPR #3 for more information on determining the *LEED project boundary* in terms of surrounding *land*.

2. TREATING ENERGY SYSTEMS

For prerequisites and credits that deal with mechanical systems, the project team has three choices:

- a) Separate systems
Mechanical systems are completely separate from those in the existing building (emergency generators excepted) and can be modelled separately.
- b) Shared central systems located outside of the structures in question
LEED Canada 2009 Interpretation Guide for District Energy Systems, available at www.cagbc.org under the applicable rating system page explains how to create an energy model in this situation.
- c) Shared central systems located inside the structures in question
LEED Canada-CI EAc1.3 Option B gives guidance on modelling the entire addition and all systems serving the addition. However, projects must use the version of the ASHRAE or MNECB standard applicable to their rating system.

3. CHOOSING A RATING SYSTEM

The certifying *gross floor area*, and only that area, should be used to determine which rating system is appropriate. Guidance on individual rating systems is provided in the introductions to the reference guides.

4. ALLOWING FOR A SMOOTH REVIEW

The documentation of the certifying project must not create technical barriers to the completion of the certification review. It is incumbent upon the project team to ensure the following:

- a) The distinction between the certifying and non-certifying gross floor area (in particular, the LEED project boundary) is clearly delineated on all relevant documents.
 - b) All building components of the LEED project that are addressed by LEED prerequisites and pursued credits (systems, materials, etc) are separate or separable for the purposes of the LEED review, from the building to which it is attached.
5. The LEED project, as defined by the LEED project boundary, must meet all MPR, prerequisite, and credit requirements independent of any building it may be attached to.
 6. The certifying gross floor area must be contiguous. Multiple floors are acceptable, but non-certifying floors between certifying floors are not.

NOTE: please see sections further below for multiple floor exceptions.

7. Fire safety infrastructure such as sprinklers, stairwells, and alarm systems may be shared with the non-certifying building.
8. LEED Canada EB: O&M project teams are encouraged to carefully review the requirements for EA Prerequisite 2 and Credit 1: Minimum/Optimize Energy Efficiency Performance before registering an attached building.

II. BUILDINGS ATTACHED TO LEED CERTIFIED BUILDINGS

If a wing or tower is connected to a building that is already LEED certified, the addition/attached building may be considered a separate building for LEED purposes if the following conditions are met.

1. RESTRICTION ON RATING SYSTEMS

The existing, previously certified building may have been certified under any version of one of the following rating systems.

Either the CaGBC or USGBC versions of:

- Existing Buildings: Operations & Maintenance (EB:O&M)
- New Construction & Major Renovations (NC)
- Core & Shell Developments (CS)
- Commercial Interiors (CI) (ONLY if at least 90% of the existing building's total gross floor area was certified)

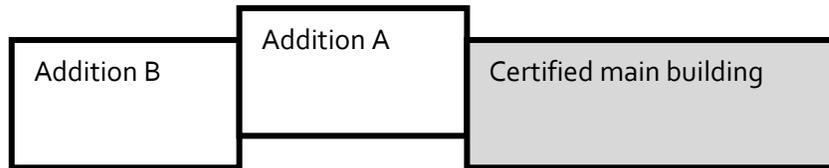
The USGBC versions of:

- LEED for Schools
- LEED for Healthcare
- LEED for Retail: NC
- LEED for Retail: CI (ONLY if at least 90% of the existing building's total gross floor area was certified)

The currently certifying attached building should use a design and construction whole building rating system.

2. PREVIOUS LEED CERTIFICATION

All buildings physically attached to the building currently pursuing certification must already be LEED certified. In the plan view below, this exception applies to Addition A in relation to the main building ONLY– the project team would need to meet the conditions listed for buildings attached to non-LEED certified buildings for the Wing A/Wing B connection:



III. BUILDINGS ATTACHED TO NON LEED CERTIFIED BUILDINGS

1. VERTICALLY ATTACHED, LEED Canada EB:O&M, AND MAJOR RENOVATION PROJECTS

If the certifying project is certifying under LEED Canada EB: O&M OR is a *major renovation* AND/OR is vertically attached to the non-certifying building, then it must be separated from the attached building by the following:

- a) Ownership
AND
- b) Management OR space usage type

2. SEPARATE NAME

A separate name (including, if a horizontally attached project, a word such as 'addition', or 'wing' that indicates a physical difference) must be given to the certifying building. The same name must be used for all purposes – title of the *LEED project* as registered with the CaGBC, in formal publications, internal and external property listings and databases, signage, etc.

3. ACCURATE LEED REPRESENTATION

LEED certification must be accurately communicated to building users. All promotional and descriptive material produced by the owner or on the owner's behalf clearly distinguish the LEED certified building from any other that it is attached to. This includes clearly marking the distinction between the two spaces with signage. Alternatively, if the LEED certification of the building is confidential, the project team may opt to not communicate the achievement of LEED certification. In this situation, no signage, marketing, or publicity of any kind would announce the LEED certification.

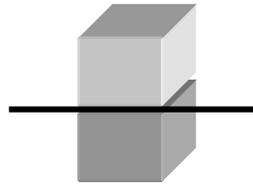
4. VERTICALLY ATTACHED BUILDINGS ONLY: 20% OF THE TOTAL GROSS FLOOR AREA REQUIRED

The certifying *gross floor area* must include at least 20% of the *gross floor area* of the overall structure. If the *entirety* of the certifying project OR the *entirety* of the non-certifying *gross floor area* is public infrastructure (such as a subway station) then this rule does not apply.

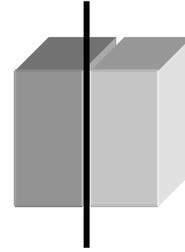
5. VERTICALLY ATTACHED BUILDINGS ONLY: METERS REQUIRED TO BE SEPARATE

- a) Energy usage meter - Every energy source servicing the building must be separately metered (emergency generators excepted).
- b) Water usage meter

The definitions of vertically and horizontally attached buildings are further illustrated below.



Vertically attached buildings



Horizontally attached buildings

- **Previously developed support structures and artificial land mass**

- Buildings located on previously constructed docks, piers, jetties, infill, and other manufactured structures in or above water are permissible, provided that artificial land is previously developed (i.e., the land once supported another building or hardscape constructed for a purpose other than the development of the LEED project).
- Buildings cantilevered over water, highways, or other bodies are acceptable.
- Existing dry land (i.e., not wetlands) to which soil or other material has been added complies with this MPR.

- **10% exemption for multitenant buildings certifying under LEED Canada EB: O&M**

Multi-tenant buildings certifying under LEED Canada EB:O&M may exclude up to 10% of the gross floor area from some prerequisites and credits as outlined in the *LEED Canada EB:O&M Reference Guide* and its LEED Letter Templates.

- **Construction scope that may be excluded from a LEED Canada CI project boundary**

Sometimes elements of the exterior shell, primary structural components, or core mechanical systems that are being renovated or installed in parallel to the interior fit-out or alteration make up the bulk of the LEED project. Spaces containing these elements may be excluded from the LEED project space if those elements are not under the control of the entity conducting the interior fit-out or alteration.

The line between certifying floor area and non-certifying floor area is not always clear. Project teams must use their own judgment to make reasonable decisions about these situations on a case by case basis. Generally, construction work or space that serves spaces other than the one certifying may be excluded from the LEED project boundary. Note that construction work extending into non-certifying area must be consistently excluded from the certification process.

- **Understanding “complete interior space”**

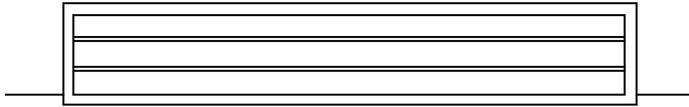
Basic Definition

For commercial interiors projects, this MPR states:

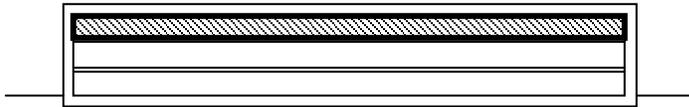
“The LEED project scope must include a complete interior space distinct from other spaces within the same building with regards to at least one of the following characteristics: ownership, management, lease, or party wall separation.”

The glossary gives the definition of ‘complete interior space’ as “At a minimum, all the gross floor area within the exterior walls of a building that is within a single occupant’s control and contains all building components altered as part of the same construction scope.” In addition to those attributes listed above,

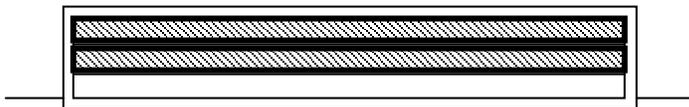
floors can be used to distinguish a complete interior space, if one floor is unaffected by construction work. This is illustrated below.



This is a section drawing of a three story office building, all under the same ownership and management



Scenario 1: only the third floor is undergoing construction (shaded), so it can be considered a complete interior space by itself, and the LEED project boundary will be limited to that floor.



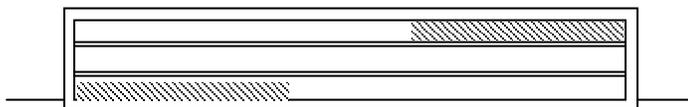
Scenario 2: Both the second and third floors are undergoing construction, so one floor by itself cannot be considered a complete interior space. They both must be included within the LEED project boundary.

Exceptions

There are many situations in which a single entity owns, manages, and/or occupies an entire building, and wishes to certify a renovated portion of the building that is not separate from other portions by one of the attributes listed above.

- Part of one floor
- Multiple, non-contiguous parts of one floor
- Multiple certifying floors separated by non-certifying floors

For example, multiple unconnected office spaces within a warehouse may be renovated, but not the main warehouse floor area. In the section drawing of an academic science building below, only the labs (shaded) on the first and third floors are undergoing an alteration:



Such spaces are not automatically disqualified from attempting to certify under LEED Canada CI. Project teams with this situation must submit a narrative in their certification submission confirming that the conditions below are met. The narrative should include (or reference) drawings, photos and other supporting material to justify compliance with the conditions, where necessary.

- a) It is unreasonable or impossible to draw a project boundary where there is separation by ownership, management, lease, or party wall separation. This often happens when the edge of the construction work does not coincide with such a boundary.
- b) The construction work is being conducted under a single contract.
- c) The project boundary includes 100% of the construction scope (it may extend beyond the construction scope. However, at least 60% of the total certifying gross floor area must be undergoing alteration).
- d) The LEED project boundary is drawn at a clear functional AND physical barrier.

- e) Signage will be provided to clearly demarcate the LEED space.
- f) The LEED project boundary is not drawn in such a way as to create an unreasonably difficult review process that results from the reviewer's inability to distinguish between strategies, services, or materials in the LEED certifying space and the non-LEED certifying space. For example, it would be best if the LEED project boundary coincided with an HVAC zone boundary.

ADDITIONAL INFORMATION AND CLARIFICATION

- **Ensuring compliance with the 'entirety' requirement**

For whole building rating systems (all but LEED Canada CI), this MPR states:

"LEED projects must include the new, ground-up design and construction, or major renovation, of at least one commercial, institutional, or high-rise residential building in its entirety."

In the glossary, relevant definitions include:

- Entirety
- Physically distinct
- Party wall
- Major renovation

Relevant additional guidance includes:

- The attached buildings guidance above, which defines exceptions for horizontally and vertically connected buildings

- **The "already existing land" requirement is applicable to the entire LEED project**

This MPR requires that "All LEED projects must be designed for, constructed on, and operated on a permanent location on already existing land." This requirement is applicable to all land within the LEED project boundary.

- **How to treat parking garages**

Parking garages may not earn LEED certification

Parking garages for cars and trucks may not pursue LEED certification. More specifically, buildings that dedicate more than 75% of floor area to the storage and circulation of cars and/or trucks are ineligible for LEED. Floor area should be considered even if it is not covered, enclosed, or conditioned. This clarification does NOT apply to vehicle maintenance shops of any kind, airport hangers, border facilities, car salesrooms, transit centers, or other buildings that deal with cars and trucks in a capacity other than parking, OR with vehicles other than cars and trucks.

Parking garages may not be included in the gross floor area of the LEED project building

The definition of gross floor area in the glossary specifically disallows the inclusion of parking.

Parking garages may be included within the LEED project boundary

If parking is within, connected to, or on the site of the LEED project building, it may be (and sometimes, must be) included within the LEED project boundary. The MPR #3 section gives more guidance on this issue.

- **Modular buildings elements are allowed**

Prefabricated or modular structures and building elements of any variation may be certified once permanently installed and/or established as part of the LEED project building in the location that they are intended to stay for the life of the entire structure.

- **Buildings with movable parts are allowed**

Large movable parts, such as a retracting ceiling in a stadium, do not violate this MPR.

- **Movable buildings are prohibited**

- Structures not compliant with this MPR include cars, motor homes, trains, boats, ships, planes, and transient exhibits of any kind.
- If, for any reason, a LEED Canada 2009 certified building is moved from the location cited at the time of LEED certification, it will no longer be in compliance with this MPR and the certification will become invalid.

- **Special considerations for commercial interiors projects**

MOBILITY

Buildings in which commercial interiors projects are located must be immobile, and are subject to the same guidance on the subject of permanency as projects that are certifying under whole building rating systems.

ALREADY EXISTING LAND

Buildings in which commercial interiors projects are located are NOT required to be built on already existing land.

- **Planned obsolescence**

While the CaGBC does not encourage planned obsolescence, the amount of time that a building or space is intended to remain standing does not affect compliance with this MPR. The purpose is to disallow a project to certify a structure that is intended to be mobile over the course of its lifetime.

- **Multi-party ownership**

Multiple-party ownership of a certifying building or space is acceptable. Proper accountability for MPR and rating system conformance must be in place.

- **No exceptions for projects with EQp2 conflicts**

Some project buildings, such as casinos, typically have difficulty achieving LEED certification due to a smoking policy that conflicts with Indoor Environmental Quality prerequisite 2, Environmental Tobacco Smoke Control (EQp2). There will be no exceptions to this MPR to allow for partial building certification of such buildings. Project teams are encouraged to carefully review option 2 in EQp2 to explore opportunities to achieve LEED certification despite a smoking room located within a project.

- **Multiple buildings**

This MPR states that “LEED projects must include the new, ground-up design and construction, or *major renovation*, of at least one...building in its *entirety*”, thus, a *LEED project* may only include ONE building unless the project qualifies for a multiple building submission. Currently this multiple building path is available to LEED Canada NC 2009 and LEED Canada CS 2009 projects as outlined in the Introduction to the *LEED Canada Reference Guide for Green Building Design and Construction 2009*. A multiple space path is outlined in *Multiple Space Guidance for LEED Canada for Commercial Interiors v1.0*, available on CaGBC’s website. It is planned that similar guidance for a multiple building pathway for LEED Canada EB:O&M 2009 will be released Fall/Winter 2012.

- **Defining ‘one building’**

Super-structures can often be perceived as either a string of multiple buildings, or as a single building. This is typically due to light physical connections, such as a single hallway between buildings that are otherwise *physically distinct*. Such super-structures may, for the purposes of LEED, be considered a single building if both of the following criteria are met.

- a) Space that can be included in the *gross floor area* of the project that serves a purpose other than *parking* or the circulation of people is *contiguous* throughout the structure.
- b) All building components of the *LEED project* that are addressed by LEED prerequisites and pursued credits (systems, materials, etc) can be treated as one, such that separate reviews of the same issues are not required for different portions of the superstructure.

If these criteria are not met, the project may be considered a set of multiple buildings, regardless of whether or not it can satisfy the ‘attached building’ criteria as noted in the earlier sections above.

- **LEED for Core & Shell projects and ‘entirety’**

For a project certifying under LEED Canada CS, the project is considered a ‘building in its *entirety*’ without interior fit-outs complete.

3. MUST USE A REASONABLE SITE BOUNDARY

New Construction, Core and Shell, Existing Buildings: Operations and Maintenance

1. The LEED project boundary must include all contiguous land that is associated with and supports normal building operations for the LEED project building, including all land that was or will be disturbed for the purpose of undertaking the LEED project.
2. The LEED project boundary may not include land that is owned by a party other than that which owns the LEED project unless that land is associated with and supports normal building operations for the LEED project building.
3. LEED projects located on a campus must have project boundaries such that if all the buildings on campus become LEED certified, then 100% of the gross land area on the campus would be included within a LEED boundary. If this requirement is in conflict with MPR #7, Must Comply with Minimum Building Area to Site Area Ratio, then MPR #7 will take precedence.
4. Any given parcel of real property may only be attributed to a single LEED project building.
5. Gerrymandering of a LEED project boundary is prohibited: the boundary may not unreasonably exclude sections of land to create boundaries in unreasonable shapes for the sole purpose of complying with prerequisites or credits.

Commercial Interiors

If any land was or will be disturbed for the purpose of undertaking the LEED project, then that land must be included within the LEED project boundary.

INTENT:

In order to ensure fair and consistent evaluation for all projects – particularly under the Sustainable Sites credit category – it is necessary to have guidelines for an acceptable LEED project boundary. All site conditions and impacts related to a building must be considered and addressed in the certification process to ensure a complete and thorough examination of the environmental impact of a building.

SPECIFIC ALLOWED EXCEPTIONS:

- **Land assigned to previous projects may be re-assigned to EB: O&M projects**
Any land associated with a previous LEED project (NC or CS) may be re-assigned to a LEED Canada EB:O&M project with no restrictions.
- **When non-contiguous parcels may be included in the LEED project boundary**
Non-contiguous parcels of land may be included within the LEED project boundary if the conditions below are met.
 - a) The parcel(s) where the LEED project building resides is separated by land that is owned or controlled by an entity different than the owner of the land associated with the LEED project building (e.g. a public right-of-way through the site controlled by the city).

- b) Those parcels separated from the parcel on which the LEED building resides directly supports or are associated with normal building operations of the LEED building. See additional guidance on the following page of this document.
 - c) The non-contiguous parcels are no more than ¼ mile (0.40 kilometer) walking distance apart.
 - d) There is a clear and safe walking path between the parcels.
 - e) In aggregate, the parcels meet the requirements of all MPRs, prerequisites, and attempted credits.
 - f) All parcels share the same common regulatory jurisdiction and are owned, leased, or managed by the same organizational entity.
 - g) The project team provides a narrative and a map to demonstrate compliance with items (a) through (f) above.
- **When land included in submittals may be excluded from the LEED project boundary**

Land described in this section is not required to be included in the LEED project boundary, and therefore is not subject to consideration for prerequisite, other credit, or other MPR compliance.

ALL RATING SYSTEMS: STORM WATER DESIGN CREDITS

Any land used solely to earn this credit, but not otherwise required to be included by MPR #3.

LEED CANADA EB: O&M, SUSTAINABLE SITES CREDIT 5 SITE DEVELOPMENT-PROTECT OR RESTORE HABITAT

Any land used solely to earn this credit, but not otherwise required to be included by MPR #3.

- **When facilities included in submittals may be excluded from the LEED project boundary**

Occasionally, project buildings use facilities (e.g. parking lots) that are outside of the LEED project boundary as part of their calculations for the parking, bicycle storage, shower/changing rooms, and/or on-site renewable energy credits. This is allowable when the facilities serve the LEED project, and at least one of the following two conditions is met:

- a) The facilities are not a part of the LEED project construction scope.
- b) The facilities are physically separate from the LEED project by land not owned by the LEED project owner (or, if on a campus, physically separate such that the inclusion of the facilities in the LEED project boundary would be difficult or unreasonable).

If the facilities meet one of these conditions, they may be excluded from the LEED project boundary, and therefore they will not be considered for other prerequisite, credit, or MPR compliance. However, those facilities also cannot be used to show compliance for other LEED projects, unless the sufficient capacity is present.

EXAMPLE

There are showers in a building adjacent to the LEED project building. The showers may be excluded from the LEED project boundary even if they are used to show compliance with Sustainable Sites credit 4.2: Alternative Transportation, Bicycle Storage and Changing Rooms in LEED Canada NC, but they may not be included in the calculations for Water Efficiency

prerequisite 1. In addition, the showers cannot be used to earn this credit for an additional LEED project unless the required shower-to-Full Time Equivalent (FTE) ratio is met for both projects.

- **Real property no longer attributed to a certified building**

If a certified building is demolished, all property attributed to that LEED project may be assigned to another LEED project.

- **When land not owned by the LEED project owner may be included**

Land that the LEED project owner does not own (i.e., leases, has an easement on, or has no claim to) would generally not be included within the LEED project boundary. However, it can be included if it can very clearly be shown to support building functions (this includes stormwater management strategies) or is a part of the construction scope.

- **Project boundaries that include other buildings**

There are many situations in which it is appropriate for the LEED project boundary to include another building. These include:

- An addition to an existing building, when the entire structure is surrounded by land that supports the addition and therefore could be included within the LEED project boundary.
- The site of the LEED project includes several smaller, supporting buildings.

In such cases, the LEED rating will only officially apply to the project building, although the ancillary structures (other buildings) may have to be accounted for in the calculations for the LEED project. The following guidance addresses these situations, breaking them into two categories: 1) LEED-certifiable building on site and 2) not LEED-certifiable building on site.

LEED-CERTIFIABLE BUILDING ON SITE

If there is another LEED-certifiable building on the same site as the LEED project building, it is not required to certify, but in order to take credit for aspects of the site that are shared between the buildings, LEED Canada NC and LEED Canada CS project(s) should refer to the campus direction in the *LEED Canada Reference Guide for Green Building Design & Construction 2009*. The direction in the Introduction, page xxi, and under related site credits, allows for all site attributes to contribute to LEED certification by the use of shared campus credit strategies. Note that this guidance can be applied to vertically attached buildings, in which case the master site boundary and the individual site boundaries can coincide on all edges. Campus guidance is only available to LEED Canada NC and LEED Canada CS projects at this time.

NON-LEED-CERTIFIABLE BUILDING ON SITE

If there is a non-LEED-certifiable building within the LEED project boundary, the project team can include the non-certifying building within the project boundary. In this case, the applicant must include the non-certifying building in ALL relevant credits and prerequisites, essentially treating the non-certifying building as an extension of the certifying building.

- **Temporary structures**

Temporary structures erected for the purposes of supporting construction administration work that will be removed at construction completion are not subject to this MPR and will not be required to certify.

ADDITIONAL INFORMATION AND CLARIFICATIONS

- **How to define land that is associated with and directly supports a building**

This MPR requires that 'The LEED project boundary must include all contiguous land that is associated with and supports normal building operations for the LEED project building...'. This includes land altered in any way as a result of the LEED project construction, with exceptions as detailed above, and features enjoyed primarily by the building users, such as:

- Hardscape, such as parking and sidewalks
- Septic treatment equipment
- Stormwater treatment equipment
- Landscaping

Often, land is shared with other buildings, extends into large areas of land, or has other attributes such that it is unclear where the project boundary should be drawn. Although many of these situations are addressed in this document, there will always be unique circumstances that cannot be anticipated. In this case, it is the responsibility of the project team to determine a reasonable boundary that meets the intent of LEED and the available guidance as much as possible.

EXAMPLE

Two neighboring stores are being constructed, and one is pursuing LEED certification. A new parking lot with fifty spaces will be shared by the two stores. The certifying store calculates that it requires the use of twenty parking spaces on a regular basis to serve its employees and customers. Therefore, the project team must draw its LEED project boundary to include twenty spaces and forty percent ($20/50 = 40\%$) of the supporting hardscape (driveways, sidewalks, etc).

EXAMPLE

A construction project on a college campus will result in a new student center and a new storm-water infrastructure, including drainage pipes and a retention pond. The infrastructure will serve the new building as well as other buildings on campus. It is at the project team's discretion to include this infrastructure in their LEED project boundary or not. However, if it is included it must be included consistently for all applicable prerequisites and attempted credits.

- **Understanding gerrymandering**

Gerrymandering is defined in the document's glossary below as 'To divide and assign land in such a way as to give unfair, inconsistent representation to one parcel over another.' Gerrymandering can also be described as the exclusion of site area from the LEED Project Boundary that is associated with or directly supports building functions in order to achieve a LEED prerequisite or credit.

4. MUST COMPLY WITH MINIMUM FLOOR AREA REQUIREMENTS.

New Construction, Core and Shell, Existing Buildings: Operations and Maintenance

The LEED project must include a minimum of 1,000 square feet (93 square meters) of gross floor area.

Commercial Interiors

The LEED project must include a minimum of 250 square feet (22 square meters) of gross floor area.

INTENT:

The thresholds and calculations that make up the system of evaluation in LEED begin to break down and lose meaning once the building or space being evaluated reaches relatively diminutive proportions.

SPECIFIC ALLOWED EXCEPTIONS

None

ADDITIONAL INFORMATION AND CLARIFICATIONS

- **Specific building type guidance**

Open air stadiums, kiosks, and similar building types satisfy this MPR if the minimum required amount of gross floor area is met for some part of the structure. The definition of gross floor area must be carefully reviewed when considering such a building for compliance with this MPR.

5. MUST COMPLY WITH MINIMUM OCCUPANCY RATES

All rating systems

Full Time Equivalent Occupancy

The LEED project must serve 1 or more Full Time Equivalent (FTE) occupant(s), calculated as an annual average in order to use LEED in its entirety. If the project serves less than 1 annualized FTE, optional credits from the Indoor Environmental Quality category may not be earned (the prerequisites must still be earned).

Additionally, for Existing Buildings: O&M:

Minimum Occupancy Rate

The LEED project must be in a state of typical physical occupancy, and all building systems must be operating at a capacity necessary to serve the current occupants, for a period that includes all performance periods as well as at least the 12 continuous months immediately preceding the first submission for a review.

INTENT:

Many prerequisites and credits throughout the LEED rating systems evaluate the impact of the LEED project building on the building users, particularly those prerequisites and credits in the IEQ credit category. It is therefore appropriate and necessary to require that a minimum number of people benefit from the strategies implemented in a LEED project building in order to earn any credits.

In LEED Canada EB: O&M, compliance with many prerequisites and credits is evaluated based on actual usage patterns. Therefore, it is necessary to require that typical usage of the LEED project building is underway during the performance periods, so that accurate measurements can be taken.

SPECIFIC ALLOWED EXCEPTIONS

MINIMUM OCCUPANCY RATE APPLICABLE TO LEED CANADA EB:O&M ONLY

- **Unexpected and temporary decline in occupancy**

If occupancy unexpectedly and temporarily falls below the required threshold within the period of time subject to this MPR¹, but still meets the requirement using a weighted average (as described below), the project team must submit a description of the situation as well as the measures they have taken to keep the reduced occupancy numbers from affecting the results for each prerequisite and credit that deals with occupancy. Explanations specific to a prerequisite or credit should be given in the certification submission for each prerequisite and credit impacted, as well as a general description in the overall narrative.

Any building that experiences occupancy of less than 100% during a performance period should refer to the *Reduced Occupancy Guidance for LEED Canada EB:O&M* located on the LEED Canada EB: O&M rating system page at www.cagbc.org when completing submittal requirements.

¹ As stated in the MPR language, the period of time subject to this MPR includes at least the 12 continuous months immediately preceding the first submission for a review and all performance periods.

- **Determining compliance with fluctuating occupancy rates**

All buildings, except for hotels, are considered to be in compliance with this MPR if more than 50% of its floor area is fully occupied (e.g., in a state of *typical physical occupancy*). This should be time-averaged over the *performance period* for all prerequisites and attempted credits, including the 12 months leading up to the initial submittal of application for review. The threshold for hotels is 55%.

EXAMPLE

A hotel has 100 equally sized rooms and no common space aside from a small lobby. Since the hotel was built, sixty of the rooms have been full as an annual average, taking into account all seasons. Therefore, it is considered to be in compliance with this MPR because sixty percent ($60/100 = 60\%$) exceeds the minimum threshold of 55%.

EXAMPLE

There is a school with nine equally sized classrooms and circulation space equal to the floor area of one classroom. Four of the classrooms are not being used, but the other five are being fully used. Therefore, occupancy for the entire building is at sixty percent ($5+1/10 = 60\%$). If attendance in three of the classrooms drops to 50% each, then occupancy for the entire building drops to 45%, and compliance with this MPR is in question.

The following formula may be used for more precise calculations in determining compliance:

$$\frac{[(\text{number of days at } x\% \text{ capacity} * x\%) + (\text{number of days at } y\% \text{ capacity} * y\%) + (\dots)]}{\text{total days in operation}}$$

EXAMPLE

An office building with ten equally sized floors submits for preliminary review on January 1; exactly a year after its earliest *performance period* began. It is open 260 days a year. The building operated at full capacity for the first 150 work days of that year. Unexpectedly, six floors become vacant (occupancy drops to 40%) for 50 days. Then, those six floors become occupied again, each operating at half its capacity for the last 60 days (occupancy for the entire building rises to 60%).

$$[(150*1) + (50*.4) + (60*.6)] / 260 = 79\%$$

Because offices are required to be at 50% capacity at a minimum, this building is in compliance with this MPR.

ADDITIONAL INFORMATION AND CLARIFICATIONS

FULL TIME EQUIVALENT OCCUPANCY *APPLICABLE TO ALL RATING SYSTEMS*

- **Calculation method for determining annual FTE in design and construction projects**

Although each building varies in regular occupancy, the purpose of setting the baseline annual FTE is to ensure sufficient occupancy to warrant awarding points in the IEQ credit category.

Annual FTE is based on the average 40 hour work week, assuming 48 total work weeks in the year. Based on this assumption, one annual FTE is defined as one person spending eight hours a day for 240 days in the building, or 1920 hours annually. The calculation can be done by average FTE occupants per day, week, or month:

By day, must be greater than or equal to 240: (total occupant hours in an average day/8) x number of occupied days

By week, must be greater than or equal to 48: (total occupant hours in an average week/40) x number of occupied weeks

By month, must be greater than or equal to 12: (total occupant hours in an average month/160) x number of occupied months

EXAMPLE

A religious worship facility has an hour-long service once a week for a year, and an average of thirty people attends each service. The building stands empty the remainder of the time. The annual FTE calculation for this building is:

$$(30 \text{ total occupant hours in an average day} / 8) \times 52 \text{ occupied days} = 195$$

Therefore, the combined occupant (employee, staff, student, visitor) hours result in the equivalent of one person spending 195 eight hour days in the facility. IEQ credits may not be pursued. However, if it gains 10 new members, this MPR would be satisfied:

$$(40 \text{ total occupant hours in an average day} / 8) \times 52 \text{ occupied days} = 260$$

- Only occupant hours that the building expects to accommodate under *normal building operations* shall be included in annual FTE calculations. The project team must make a reasonable projected estimate when determining FTE.
- For projects using rating systems other than LEED Canada EB: O&M, the projected date of full occupancy is irrelevant.

MINIMUM OCCUPANCY RATE APPLICABLE TO LEED CANADA EB:&OM ONLY

- **Space types subject to this MPR**

Gross floor area that is designed to be *regularly occupied* should be the focus when determining compliance with this MPR.

Any common space such as a lobby or bathroom that receives regular use, as well as any space that does not typically have occupants (such as closets or mechanical rooms) counts toward compliance with this MPR. Common space that is not receiving any use (e.g., a bathroom on a floor completely devoid of occupants) does not count toward compliance.

- **Determining typical physical occupancy**

The definition of *typical physical occupancy* is 'The state in which *normal building operations* are underway and the building is in use by the average number of FTE occupants for which it was designed.'

To determine the average number of FTE occupants the building was designed for, project teams must assess buildings on a case by case basis, using reasonable judgment. Design intentions, floor area capacity, and building system capacity must all be considered. Atypical or indeterminate cases must be described in the overview narrative during certification submission.

Space is considered occupied based on actual usage, NOT leasing. Leased space is only considered occupied if it is physically occupied.

6. MUST COMMIT TO SHARING WHOLEBUILDING ENERGY AND WATER USAGE DATA

At this time, the CaGBC does not require projects to provide the CaGBC with access to actual whole building energy and water usage data except where necessary to meet the requirements of the credits for LEED Canada EB:O&M. However, the CaGBC recognizes that Measurement and Verification (M&V) are critical to the successful optimization of high-performance green buildings. In recognition of the merits of M&V, as well as the importance of better understanding how LEED buildings perform, Credit Interpretation Ruling (CIR) #876 outlines how LEED Canada NC and LEED Canada CS project teams may earn an Innovation and Design Process (ID) credit for participating in the CaGBC's GREEN UP program.

7. MUST COMPLY WITH A MINIMUM BUILDING AREA TO SITE AREA RATIO

The gross floor area of the LEED project building must be no less than 2% of the gross land area within the LEED project boundary.

INTENT:

Because LEED is a rating system for buildings, it is appropriate to restrict the amount of land associated with a LEED certified project.

SPECIFIC ALLOWED EXCEPTIONS

None

ADDITIONAL INFORMATION AND CLARIFICATIONS

- **Calculation method for determining gross floor area to site area ratio**

$$[\text{Gross Floor Area (m}^2\text{)} / \text{Site Area (m}^2\text{)}] \times 100$$

EXAMPLE

A 400 square metre building is located on a 21,800 square metre site:

$$[400 / 21,800] \times 100 = 1.8\%$$

This building must claim only 20,000 square metres within its LEED project boundary to meet the 2% building area to site area minimum.

- **There is no maximum ratio**

There is no maximum building area to site area ratio.

- **Addressing conflicts with MPR #3**

If a LEED project boundary must be adjusted in order to meet this MPR, the adjustment must be done such that the new boundary also complies with MPR #3, Must Use a Reasonable Site Boundary. If there is a conflict, this MPR takes precedence. In other words, the project team may eliminate land that is usually required by MPR #3 to be within the project boundary, in order to comply with this MPR. However, the elimination must be done in a reasonable fashion; the project team cannot remove land specifically because it would not comply with another MPR, prerequisite, or credit requirement.

- **Projects without land in the LEED project boundary comply by default**

If there is not any land included within the LEED project boundary (as will typically be the case with LEED Canada CI projects), the project will be in compliance with this MPR by default.

- **Treatment of land used with SSc5 Site Development –Protect or Restore Habitat in LEED Canada EB: O&M**

Off-site land used to earn Sustainable Sites credit 5 in LEED Canada EB: O&M must be included in the calculations for this MPR.

GLOSSARY

Alteration: Includes *improvement* work in addition to the rearrangement of any interior space by the construction of non-bearing walls, partitions, ceilings, and floors, the addition or elimination of any interior door or window, the extension or rearrangement of any mechanical, electrical, and plumbing (MEP) or service system (peripheral or core), and the installation of any additional equipment or fixtures. Work does not extend to the *primary structural components*, *exterior shell*, or roof of the building.

Certificate of Occupancy: A document issued by a local authority indicating that premises complies with provisions of zoning, building ordinances, building code, and/or approved plans and specifications. This is often required before premises can be occupied and title transferred.

Complete Interior Space: At a minimum, all the *gross floor area* within the exterior walls of a building that is within a single occupant's control and contains all building components altered as part of the same construction scope. This is also referred to as the 'completed design area'.

Contiguous: Touching, in contact.

Design and Construction Rating Systems: Any LEED rating system that addresses both the design and construction of a building or interior space. Includes LEED Canada for New Construction and Major Renovation, LEED Canada for Core & Shell, and LEED Canada for Commercial Interiors.

Entirety: The sum of the constructed components that make up a building which is *physically distinct* from another building.

Enclosed space: Floor area that is 100% separated (or separable with existing components) from outside space by walls, windows, and doors.

Exterior shell: Any part of a building structure that acts as a barrier between the interior and exterior.

Fit-out: See '*interior fit-out*'

Full Time Equivalent (FTE): A regular building occupant who spends 40 hours per week in the building or space, or the equivalent. Part-time or overtime occupants have FTE values based on their hours per day.

Gerrymander: To divide and assign *land* in such a way as to give unfair, inconsistent representation to one parcel over another.

Gross Floor Area: Equivalent to 'Building Floor Area' term used in LEED Canada rating systems. (Based on ASHRAE definition.) Sum of the floor areas of the spaces within the building, including basements, mezzanine and intermediate-floored tiers, and penthouses with headroom height of 7.5 ft (2.2 meters) or greater. Measurements must be taken from the exterior faces of exterior walls OR from the centerline of walls separating buildings, OR (for LEED Canada CI certifying spaces) from the centerline of walls separating spaces. Excludes non-enclosed (or non-enclosable) roofed-over areas such as exterior covered walkways, porches, terraces or steps, roof overhangs, and similar features. Excludes air shafts, pipe trenches, chimneys and floor area dedicated to the parking and circulation of motor vehicles.

NOTE: while excluded features may not be part of the gross floor area, and therefore technically not part of the LEED project building, they may still be required to be part of the overall LEED project and subject to MPRs, prerequisites, and credits.

Gross Land Area: Measure of the total amount of *land* within the *LEED Project Boundary*, including *land* under the footprint of the building. Also called '*site area*'.

Gross Square Feet/Square Metres: see 'Gross floor area'.

Improvement: The restoration or application of interior finishes and fixtures, MEP and service system equipment repair/replacement/upgrades, minor space-use changes, and preventative or corrective maintenance.

Interior Fit-Out: The installation or application of interior finishes, floor and ceiling systems, non-bearing partitions, furniture, interior doors and windows, and other components that make a space fully usable for the purpose it is intended. A complete interior fit-out is such that no further construction work is needed or intended for occupancy.

Land: Any part of the earth's surface not covered by a body of water.

LEED Project: All real property within the LEED project boundary, including the building(s) or space(s), all structures, land, etc. which collectively are attempting or have earned certification.

LEED Project Boundary: The line that indicates the limits of the real property for which the project team is attempting or has earned certification.

LEED Project Building: The structure which is attempting or has earned certification.

LEED Project Space: The gross floor area which is attempting or has earned certification.

LEED Project Registration: The process through which the project team establishes a LEED project on CaGBC's website. This process is considered complete once payment is received by CaGBC.

Major Renovation: Includes extensive alteration work in addition to work on the exterior shell of the building and/or primary structural components and/or the core and peripheral MEP and service systems and/or site work. Typically, the extent and nature of the work is such that the primary function space cannot be used for its intended purpose while the work is in progress and where a new certificate of occupancy is required before the work area can be reoccupied.

Normal Building Operations: The complete activities and functions intended to take place within the building and on associated property.

Operational Activities: See 'Normal Building Operations'.

Parking: Area dedicated to the storage and movement of motor vehicles.

Party Wall: A wall without openings erected as a common support to structures on both sides.

Performance Period: The continuous, unbroken time during which sustainable operations performance for a building and/or site is being measured.

Physically Distinct: The condition in which a building has both of the following:

- a) Exterior walls that are party walls or are separate from adjoining buildings by air space.
- b) Lighting, HVAC, plumbing, and other mechanical systems that are separate from the systems of adjoining buildings.

LEED project boundary lines that "slice" through party walls must not pass through any MEP service infrastructure. Exceptions include buildings served by a common or shared chiller plant or heating water, or steam supply pipes (i.e., not air ducts), and only if the thermal energy serving the structure to be separated is sub-metered.

Primary Function Space: The floor area that serves the main purpose of the building or space.

Primary Structural Component: Any component of the load-bearing structure of a building including footings, piles, foundations, columns, girders, beams, joists, wind, or seismic bracing.

Project Work: See 'Undertaking the LEED Project'.

Regularly occupied spaces: Areas where workers are seated or standing as they work inside a building. In residential applications, these areas are all spaces except bathrooms, utility areas, and closets or other storage rooms. In schools, they are areas where students, teachers, or administrators are seated or standing as they work or study inside a building.

Real Property: Land, and land alterations that are a direct result of human activities, that subsequently support an active land use, including structures of any kind.

Schematic Design: The initial phase of architectural work that establishes the scope and physical outline of the project.

Site Area: See 'gross land area'.

Substantial Completion of Construction: The point at which work on the building project is sufficiently complete in accordance with all construction contract documents, and any strategies that the project is receiving recognition for under LEED are fully implemented, except for operations-related strategies (such as a thermal comfort survey).

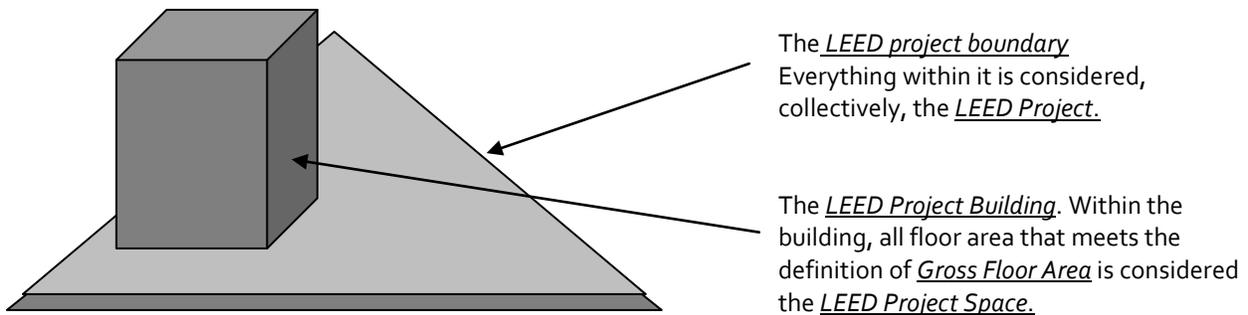
Tenant Space: Please see 'LEED Project Space'.

Typical Physical Occupancy: The state in which *normal building operations* are underway and the building is being used by the average number of *full time equivalent occupants* for which it was designed.

Undertaking the LEED Project: All design, construction, and development work that contribute to the creation of the LEED project building.

ILLUSTRATIONS OF COMMONLY USED TERMS

Typical situation for a project using a non-commercial interiors rating system:



Typical situation for a project using a commercial interiors rating system:

