



Canada Green Building Council  
*Every Building Greener*

## LEED Technical Bulletin

October 2018

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### Know the Details

## Construction and Demolition Waste Management

Under LEED v4 for both the Building Design and Construction (BD+C) and Interior Design and Construction (ID+C) rating systems, the Materials and Resources (MR) credit Construction and Demolition Waste Management has evolved to recognize stronger material diversion. Under Option 1, project teams must not only divert a minimum amount construction and demolition waste (50% for Path 1, 75% for Path 2), they are also required to divert at least three material streams for Path 1 or four materials streams for Path 2. **But, what is a material stream?**

The LEED v4 BD+C Reference Guide defines a material stream as “a flow of materials coming from a job site into markets for building materials”. Ultimately, a material stream is defined by where the material ends up. In the simplest example, a single material would be diverted in a singular manner; therefore it would be considered a single stream. The reality is that any given material can be diverted many different ways, creating multiple streams. For example, wood can be diverted for fuel at a power generation facility, and also diverted for reuse by a building supply store; both count as separate material streams if tracked separately. Conversely, multiple materials can be diverted in a singular manner, creating a single stream. For example, collecting asphalt, concrete and masonry which is crushed together for fill or aggregate is considered a single stream: on-site waste diversion.

Looking for additional material streams? Consider these waste

diversion tactics: deconstructed materials for reuse markets; reuse of deconstructed materials on-site; and manufacturer take back programs, all of which contribute as material streams if tracked separately for your project.

A common method of construction and demolition waste management is commingling materials, with off-site sorting. Commingled waste sent to a mixed waste recycling facility counts as a single material stream regardless of the number of different materials included. However, if the recycling facility can track and document **project specific** material diversion **measured by weight or volume**, they **may contribute as multiple material streams**. It is critical that the documents are project specific and measured by weight or volume, and are consistent throughout. A key change from the previous versions of LEED is that **visual inspections are no longer acceptable**. Documenting project specific diversion rates for comingled waste may be done through itemized haul tickets or letters from the sorting facility that confirm the process for determining individual material weights. The documentation must be clear that the sorted materials have been separately weighed or measured, not estimated through visual inspection.

Alternatively, comingled waste may contribute by providing the recycling facility's average annual diversion rates, if they are regulated by local or provincial authority. If using the facility's annual diversion rate, project teams must provide information about how the facility handles the waste, in addition to confirmation of the facility's annual diversion rate. Note that projects which only use comingled waste sent to one facility, and use that facility's annual diversion rate, will only achieve one material stream, and therefore not meet the minimum credit requirements of three material streams.

Documenting overall project diversion rates for the purposes of this credit must include all waste diverted and all waste sent to the landfill. If the project team used more than one waste hauler, enter all of the information into one single document, such as the [LEED v4 MR Construction and Demolition Waste Calculator](#).

So, what's the best strategy to achieve MRc Construction and Demolition Waste Management? Source separation is the most effective means of achieving high diversion rates and multiple materials streams, as each material type is considered a different material stream.



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## Accelerating to Zero

The Zero Carbon Building Program has been growing over the last few months, with several projects outside of the pilot group coming forward to register and commit to aiming for zero. The recently launched Accelerator Program has provided additional incentive for registration in the form of enhanced coaching and promotion of certified projects.

The [Zero Carbon Building Standard](#) is a great compliment to the holistic nature of LEED. In order to reward projects that pursue both, [the CaGBC is providing a 15% discount](#) on the Zero Carbon registration and certification fees for LEED registered projects.

[The CaGBC Innovation Series: Zero Carbon](#) has been travelling across the country featuring the Evolv1 project which is not just Canada's first ZCB-Design certified project, but also a commercial viable multi-tenant building. To date the CaGBC has held over 15 events across the country this year with a focus on Zero Carbon, which were attended by over 1200 people. There are more planned before year end including stops in Winnipeg, Toronto, and Waterloo.

The Zero Carbon Steering Committee has officially been formed, and will be starting to address the questions that have built up since the standard was launched. They will also be key players in translating feedback from the pilot projects into updates to the Zero Carbon Building Standard that will occur at the end of the pilot program, and the CaGBC looks forward to working with these committed volunteers.

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## Results of the Survey of Commercial and Institutional Energy Use (SCIEU) 2014

Natural Resources Canada's Office of Energy Efficiency has released the data tables produced from Statistics Canada's [Survey of Commercial and Institutional Energy Use \(SCIEU\) for 2014](#). These data estimates help establish baseline energy consumption figures that allow NRCan to develop energy efficiency policies and programs in support of Canada's transition to a low carbon economy and are valuable to those closely examining the progress of Canadian buildings in meeting energy and carbon related targets. The SCIEU 2014 data now forms the basis of the 1-100 ENERGY STAR scores used in NRCan's ENERGY STAR Portfolio Manager, which is used to evaluate building energy efficiency within the LEED Canada EB:O&M 2009 rating system.

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### LEED O+M projects show their leadership.

Congratulations to the first ENERGY STAR certified projects in Canada, many of whom were previously awarded LEED certification. [See the full list here.](#)

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## Education for LEED Practitioners

### On Demands

Here is just a sampling of some of our new on-demand courses that might be of interest you. These courses can be taken at your own leisure, from either your home or office. Click on one of the titles below to view a course description. For a full list of available on-demands, [click here](#).

#### [Energy Efficiency for a LEED V4 Homes Platinum Project](#)

Designing for passive heating and cooling is a critical component of affordably building high performance homes. This course focuses on reducing energy demand through building envelopes, reduced interior loads and efficient heating infrastructure. Participants will also leave with a working knowledge of different heating systems, their costs and benefits. (1 hour)

#### [Understanding the Ebbs and Flows of Stormwater Management](#)

This online on demand course focuses on common misinterpretations of the SSc6 credits and reviewed relevant committee CIR's. Learn first-hand, from a LEED review team member and members of the LEED Canada Sites ; Water Technical Advisory Group, what you need to do to achieve SSc6 points. (1.5 hours, approved for LEED Specific BD+C GBCI CE hour(s))

#### [LEED v4's BPDO and Low Emitting Materials Credits](#)

This session will outline the details, challenges, and key considerations for the new building product disclosure and optimization (BPDO) and low-emitting materials requirements. The course will highlight lessons learned from real project work, and attendees will walk away with a clearer picture of how to target these LEED credits. (1 hour)

### In-class workshops that may be of interest to LEED

### [Understanding the LEED V4 BD+C Rating System](#)

#### Ville De Quebec

This workshop introduces the intent, key elements, main requirements and unique aspects of the Green Building Design and Construction (BD+C) LEED rating systems. Workshop participants will gain a solid understanding of the core concepts and strategies behind a successful green construction project. *(All day)*

*\*Please note, all materials are provided in English but this workshop will be delivered in French.*

#### The Zero Carbon Building Standard Workshop

##### [Toronto](#) | [Vancouver](#)

This half-day workshop will introduce participants to zero carbon buildings, with particular emphasis on the CaGBC's Zero Carbon Building (ZCB) Standard. Participants will be equipped with important foundational knowledge, as well as an understanding of how the ZCB Standard could potentially be used for their current or future projects. The workshop covers the requirements of the Zero Carbon Building Standard for both new and existing buildings. *(4 hours)*

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## Recent CIRs

Credit Interpretation Requests ruled on since the last LEED Technical Bulletin (June 21<sup>st</sup>, 2018) are listed below. To view any of these CIRs, simply go to [CaGBC's CIR database](#) and search by CIR number. Note that CIRs can apply to multiple rating systems and versions – see the CIR rulings for more information.

#	Rating System	Version	Credit Prerequisite	Subject
1407	BD+C	2009	MRc3	MRc3 Materials Reuse and Refurbished Materials / La traduction française à venir
1385	BD+C	2009	IEQc4.3	Certification française d'émission de substances volatiles dans l'air intérieur pour démontrer la conformité au crédit QEIc4.3/French certification of emission of volatile substances in indoor air to demonstrate compliance with credit EQc4.3
1406	BD+C	2009	EAp2	Buildings with high unregulated energy loads
1393	BD+C (CI)	2009 (1.0)	IDc1	Innovation in Design for Option 1 of LEED v4 Building Design and Construction Material and Resources Credit Building Disclosure and Optimization – Material Ingredients
1396	BD+C	2009	SSc4.4	Applying LEED v4 parking tables from the Institute of Transportation Engineers (ITE) and CIR 1098 to SSc4.4
1394	BD+C	2009	EAp2, EAac1	Setting a ventilation rate baseline for industrial and related spaces

## Updated CIRs

Credit Interpretation Requests can be superseded as new direction becomes available. When a CIR is superseded or otherwise updated, the CIR will be listed in the Technical Bulletin. Please see [CaGBC's CIR database](#) and search by CIR number to see the updated text.

#	Rating System	Version	Credit Prerequisite	Subject

1098	BD+C	2009	SSc4.3, SSc4.4	Parking calculation methodology for Campus and Multiple Building Projects
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