



# TORONTO: LEED<sup>®</sup> SUPPLEMENT



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## Summary Comparison

### **Toronto Green Standard (TGS)**

For New Mid-High Rise Residential,  
Commercial, Industrial & Institutional  
(4 storeys and higher)

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### **LEED<sup>®</sup> Canada-NC**

For New Construction &  
Major Renovations  
Version 1.0



**August 2010**



## Toronto LEED Supplement



### Purpose

This document is designed to be used in conjunction with the LEED (Leadership in Energy and Environmental Design) Canada-NC Green Building Rating System<sup>®</sup>, version 1.0. It provides information on Toronto Green Standard (TGS) requirements, policies and practices.

The purpose of the Supplement is to inform the design community who are familiar with LEED<sup>®</sup>, or who are interested in pursuing LEED certification, of the areas of similar intent between LEED and the Toronto Green Standard (TGS) and to identify those cases of selected sustainable design elements where the TGS minimum requirements are additional to LEED requirements. The document also helps LEED project teams better understand how their projects may qualify for incentives from the Toronto Green Standard.

### Toronto's Sustainable Development Goal

The Toronto Green Standard (TGS) is a set of performance measures for sustainable development that address the City's environmental pressures and priorities. The first voluntary green standard was adopted by City Council in 2006 and the revised two-tiered TGS was adopted by City Council on October 27, 2009. There are three versions of the TGS, each relating to different building types.

Applicable to all new planning applications made after January 31, 2010, Tier 1 includes the minimum set of performance measures that are required by the City of Toronto and secured through the planning process. Tier 2 features a voluntary higher level of environmental performance with incentives. Site Plan applications received on or after May 1, 2009, that achieve Tier 1 and 2, may be eligible for a 20% refund on Development Charges paid to the City. LEED projects that address Tier 2 requirements may be eligible for the development charge refund.

The basis for the TGS is the *Climate Change Action Plan* an aggressive environmental framework aimed at reducing Toronto's greenhouse gas emissions by 80 per cent by 2050 and the *Toronto Official Plan* which guides land use planning decisions.

Details of the TGS and how to apply for the development charge refund are available here: <http://www.toronto.ca/planning/environment/greendevlopment.htm>

### CaGBC's Sustainable Development Goal

LEED Canada-NC 1.0 is a national, voluntary rating system for new construction and major renovations of commercial, industrial and institutional buildings. It is an initiative of the Canada Green Building Council. Other LEED Canada rating systems address other building sectors (such as homes, commercial interiors, and existing buildings). There are over 2800 LEED projects registered across Canada.

The rating system is structured into a set of prerequisites and credits. Points are awarded for meeting the requirements of the credits, and the total of the points earned determines the overall certification level achieved (Certified, Silver, Gold or Platinum). LEED credits are similar in function to TGS Development Features, however the LEED credits cover a wider range of possible environmental impacts.

Details of the rating system are available here:

[http://www.cagbc.org/leed/systems/new\\_construction/index.php](http://www.cagbc.org/leed/systems/new_construction/index.php)

The Canada Green Building Council developed this document in consultation with the Environmental Planning section of City Planning at the City of Toronto.

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### Buildings covered under the Supplement

This Supplement applies to development and construction projects covered by the **Toronto Green Standard** for New Mid to High Rise Residential and Industrial, Commercial and Institutional (ICI) Development.

### Naming Conventions

The Toronto Green Standard (TGS) is organized according to the City's top five Environmental Drivers (pressures); then divided into a set of Development Features (e.g. Urban Heat Island Reduction, Water Efficiency). The short form of each is used in naming the performance measures. For example, *SW1 Storage and Collection of Recycling and Organic Waste*. The Environmental Drivers are:

- Air Quality (AQ)
- Green House Gas Emissions / Energy Efficiency (GHG)
- Water Quality, Quantity and Efficiency (WQ)
- Ecology (EC)
- Solid Waste (SW)

LEED credits and prerequisites are organized into 6 groups. The short form of each is used in naming the prerequisites (p) and credits (c). For example, MRp1 Storage and Collection of Recyclables. The groups are:

- Sustainable Sites (SS)
- Water Efficiency (WE)
- Energy and Atmosphere (EA)
- Materials and Resources (MR)
- Indoor Environmental Quality (EQ)
- Innovation and Design Process (ID)

### Using this Supplement to LEED Canada NC 1.0

This document provides guidance aimed at assisting LEED projects to achieve TGS performance measures as part of their LEED certification. The document should be used in conjunction with the full LEED Canada-NC and TGS documents.

The document outlines the LEED Canada-NC 1.0 documentation that is accepted by the City of Toronto for documenting compliance with the TGS and also sets out where the TGS has additional conditions or requirements that must be met to document compliance to the TGS.

No part of this document allows LEED<sup>®</sup> Canada-NC 1.0 to supersede Toronto codes or the Toronto Green Standard.

LEED Canada NC 1.0 prerequisites are required and LEED Canada-NC 1.0 credits are optional.

For each LEED category, meeting the LEED Canada-NC 1.0 prerequisite or credit DOES NOT NECESSARILY mean you have met the TGS requirement.

### Proposed adoption schedule

This Supplement will be used in the interim until LEED Canada-NC 2009 is officially launched by the Canada Green Building Council. At that time the Supplement will be updated accordingly.

### Compliance

The use of this Supplement is voluntary. TGS performance measures will be enforced through existing processes used to enforce Toronto standards and by-laws.



### Overview of Similarities and Differences

The LEED Canada NC rating system and the TGS are complementary and share many objectives. A number of TGS development features and LEED Canada-NC credits and prerequisites overlap in design intent.

The City of Toronto’s regional environmental priorities are illustrated by the TGS, and the TGS recognizes Toronto’s environmental policies, by-laws and standards. LEED Canada is a national, voluntary standard. The Toronto Green Standard (TGS) emphasizes matters of exterior sustainable design whereas LEED Canada-NC Version 1.0 also emphasizes matters of interior sustainable design.

### Summary Comparison Tables

There are three summary comparison tables provided, as described below.

<b>Table 1: Tier 1 Development Features</b>	Lists TGS Development Features that have Tier 1 requirements. Corresponding LEED Canada-NC 1.0 credits and prerequisites are noted directly below each Development Feature. Where distinct but related LEED Canada-NC 1.0 credits or prerequisites exist, these are noted in a distinct row.
<b>Table 2: Tier 2 Development Features</b>	Similar to Table 1 except that TGS Development Features with Tier 2 requirements are covered.
<b>Table 3: Additional LEED Canada-NC 1.0 Credits</b>	This table lists the LEED Canada-NC 1.0 credits and prerequisites for which no related TGS Development Feature exists.
<b>Table 4: Accepted LEED Documentation</b>	This table identifies LEED documentation that can be submitted to the City of Toronto as proof of compliance with the Toronto Green Standard.
<b>Terminology</b>	<p><b>May Satisfy LEED:</b> The TGS development features are similar to LEED and may satisfy the requirements of the corresponding LEED Canada-NC 1.0 credit or prerequisite.</p> <p><b>LEED Additional Requirement:</b> The corresponding TGS development feature does not entirely meet the requirements of the LEED Canada-NC 1.0 credit or prerequisite.</p> <p><b>TGS Additional Requirement:</b> The corresponding LEED Canada-NC 1.0 credit or prerequisite does not entirely meet the requirements of the TGS performance measures.</p> <p><b>Exclusive to TGS:</b> There is no corresponding LEED Canada-NC 1.0 credit or prerequisite.</p> <p><b>Exclusive to LEED:</b> There is no corresponding TGS Development Feature.</p>



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**Table 1: Toronto Green Standard Tier 1 Requirements**

TGS Tier 1 Requirements and Related LEED Canada-NC Credits	May Satisfy LEED	LEED Additional Requirement	TGS Additional Requirement	Exclusive to TGS	Exclusive to LEED
<b>AQ1 Automobile Infrastructure</b> SSc4.4 Alternative Transportation: Parking Capacity		√	√		
<b>Related LEED Canada-NC 1.0 credit</b> SSc4.3 Alternative Transportation: Alternative Fuel Vehicles					√
<b>AQ2 Cycling Infrastructure</b> SSc4.2 Alternative Transportation: Bicycle Storage & Changing Rooms		√	√		
<b>AQ3 Pedestrian Infrastructure</b>				√	
<b>Related LEED Canada-NC 1.0 credit</b> SSc4.1 Alternative Transportation: Public Transportation Access					√
<b>AQ4 Urban Heat Island Reduction: At Grade</b> SSc7.1 Heat Island Effect: Non-Roof	√		√		
<b>AQ5 Urban Heat Island Reduction: Roof</b> SSc7.2 Heat Island Effect: Roof	√		√		
<b>GHG/E1 Minimum Energy Performance</b> EAp2 Minimum Energy Performance	√				
<b>WQ1 Construction Activity</b> SSp1 Erosion and Sediment Control	√				
<b>WQ2 Stormwater Retention (Water Balance)</b> SSc6.1 Stormwater Management: Rate & Quantity	√		√		
<b>WQ3 Water Quality : Stormwater Runoff</b> SSc6.2 Stormwater Management: Treatment		√	√		
<b>WQ4 Water Efficiency</b> WEc1.1 Water Efficient Landscaping: Reduce by 50%	√	√			



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TGS Tier 1 Requirements and Related LEED Canada-NC Credits	May Satisfy LEED	LEED Additional Requirement	TGS Additional Requirement	Exclusive to TGS	Exclusive to LEED
<b>Related LEED Canada-NC 1.0 credit</b> WEc1.2 Water Efficient Landscaping: No Potable Water Use or No Irrigation					√
<b>EC1 Urban Forest: Tree Protection</b>				√	
<b>EC2 Urban Forest: Encourage Tree Growth</b>				√	
<b>EC3 Natural Heritage: Site</b> SSc5.1 Reduced Site Disturbance: Protect or Restore Open Space	√	√	√		
<b>EC4 Soil Quality and Planting Conditions</b>				√	
<b>EC5 Glass and other design features for Migratory Birds</b>				√	
<b>EC6 Light Pollution</b> SSc8 Light Pollution Reduction		√	√		
<b>SW1 Storage and Collection of Recycling and Organic Waste</b> MRp1 Storage and Collection of Recyclables	√		√		

### Possible additional credits for TGS projects

The LEED Canada-NC 1.0 rating system offers projects the opportunity to be awarded points for exceptional performance above the requirements set by the rating system, and/or innovative performance in Green Building categories not specifically addressed by the rating system. TGS development features might be eligible for an Innovation and Design Process credit (IDc1) if they have significant environmental and occupant benefits that are not already addressed in LEED.



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**Table 2: Toronto Green Standard Tier 2 Voluntary Enhanced Level**

TGS Tier 2 Voluntary Enhanced Level and Related LEED Canada-NC Credits	May satisfy LEED	LEED Additional Requirement	TGS Additional Requirement	Exclusive to TGS	Exclusive to LEED
<b>AQ2 Cycling Infrastructure</b> SSc4.2 Alternative Transportation: Bicycle Storage & Changing Rooms	✓		✓		
<b>AQ4 Urban Heat Island Reduction: At Grade</b> SSc7.1 Heat Island Effect: Non-Roof	✓		✓		
<b>GHG/E1 Minimum Energy Performance</b> EAc1 Optimize Energy Performance EAc5 Measurement and Verification	✓	✓ ✓	✓		
<b>GHG/E2 Systems Commissioning</b> EAp1 Fundamental Building Systems Commissioning	✓				
<b>Related LEED Canada-NC 1.0 credit</b> EAc3 Best Practice Commissioning					✓
<b>WQ2 Stormwater Retention (Water Balance)</b> SSc6.1 Stormwater Management: Rate & Quantity	✓		✓		
<b>WQ4 Water Efficiency</b> WEc1.1 Water Efficient Landscaping: Reduce by 50% WEc3.2 Water Use Reduction: 30% Reduction	✓ ✓	✓ ✓			
<b>Related LEED Canada-NC 1.0 credit</b> WEc1.2 Water Efficient Landscaping: No Potable Water Use or no Irrigation					✓
<b>EC3 Natural Heritage: Site</b>				✓	
<b>Related LEED Canada-NC 1.0 credit</b> SSc5.1 Reduced Site Disturbance: Protect or Restore Open Space					✓
<b>EC5 Glass and Other Design Features for Migratory Birds</b>				✓	



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TGS Tier 2 Voluntary Enhanced Level and Related LEED Canada-NC Credits	May satisfy LEED	LEED Additional Requirement	TGS Additional Requirement	Exclusive to TGS	Exclusive to LEED
<b>EC6 Light Pollution</b> SSc8 Light Pollution Reduction		√	√		
<b>SW1 Storage and Collection of Recycling and Organic Waste</b> MRp1 Storage and Collection of Recyclables	√		√		
<b>SW2 Reuse of Building Materials</b> MRc3.1 Resource Reuse: 5%	√				
<b>SW3 Use of Recycled Materials</b> MRc4.1 Recycled Content: 7.5% (post-consumer + ½ Post-industrial) MRc4.2 Recycled Content: 15% (post-consumer + ½ Post-industrial)	√ √				
<b>SW4 Construction and Demolition Waste Management</b> MRc2.2 Construction Waste Management: Divert 75% from Landfill	√				

### Possible additional credits for TGS projects

The LEED Canada-NC 1.0 rating system offers projects the opportunity to be awarded points for exceptional performance above the requirements set by the rating system, and/or innovative performance in Green Building categories not specifically addressed by the rating system. TGS development features might be eligible for an Innovation and Design Process credit (IDc1) if they have significant environmental and occupant benefits that are not already addressed in LEED.





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**Table 3: Additional LEED Canada-NC 1.0 Credits**

LEED Canada-NC 1.0 Credits	Exclusive to LEED
SSc1 Site Selection	√
SSc2 Development Density	√
SSc3 Redevelopment of Contaminated Sites	√
SSc5.2 Reduced Site Disturbance: Development footprint	√
WEc2 Innovative Wastewater Technologies	√
EAp3 CFC Reduction in HVAC&R Equipment & Elimination of Halons	√
EAc2 Renewable Energy	√
EAc4 Ozone protection	√
EAc6 Green Power	√
MRc5.1 Regional Materials: 10% Extracted & Manufactured Regionally	√
MRc5.2 Regional Materials: 20% Extracted & Manufactured Regionally	√
MRc6 Rapidly Renewable Materials	√
MRc7 Certified Wood	√
MRc8 Durable Building	√
EQp1 Minimum IAQ Performance	√
EQp2 Environmental Tobacco Smoke (ETS) Control	√
EQc1 Carbon Dioxide (CO <sub>2</sub> ) Monitoring	√
EQc2 Ventilation Effectiveness	√
EQc3.1 Construction IAQ Management Plan: During Construction	√
EQc3.2 Construction IAQ Management Plan: Testing Before Occupancy	√
EQc4.1 Low-Emitting Materials: Adhesives & Sealants	√
EQc4.2 Low-Emitting Materials: Paints & Coatings	√
EQc4.3 Low-Emitting Materials: Carpet	√
EQc4.4 Low-Emitting Materials: Composite Wood & Laminate Adhesives	√



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LEED Canada-NC 1.0 Credits	Exclusive to LEED
EQc5 Indoor Chemical and Pollutant Source Control	√
EQc6.1 Controllability of Systems: Perimeter Spaces	√
EQc6.2 Controllability of Systems: Non-Perimeter Spaces	√
EQc7.1 Thermal Comfort: Compliance	√
EQc7.2 Thermal Comfort: Monitoring	√
EQc8.1 Daylight and Views: Daylight 75% of Spaces	√
EQc8.2 Daylight and Views: Views for 90% of Spaces	√
IDc1.1-1.4 Innovation in Design	√
IDc2 LEED Accredited Professional	√

### Allowable Documentation Exchange:

For the purpose of this document, LEED Canada-NC 1.0 documentation will be accepted by the City of Toronto as proof of compliance for the features identified in Table 4 below. These represent TGS development features/LEED credits where the requirements and documentation are very similar allowing an exchange of LEED submittals to the City of Toronto. All Tier 2 applications and LEED documentation exchanges must be coordinated through the Environmental Planning Section of City Planning.

See <http://www.toronto.ca/planning/environment/greendevlopment.htm> for more details.

**Table 4: Accepted LEED Documentation**

Toronto Green Standard Development Feature	LEED Canada-NC 1.0 Credits with Accepted Documentation
Tier 1 GHG/E1 Minimum Energy Performance	EAp2 Minimum Energy Performance
Tier 2 GHG/E1 Minimum Energy Performance	EAc1 Optimize Energy Performance
Tier 2 GHG/E2 Systems Commissioning	EAp1 Fundamental Buildings Systems
Tier 2 WQ4.3 Water Efficiency	WEc1.1 Water Efficient Landscaping
Tier 2 SW2 Reuse of Building Materials	MRC3.1 Resource Reuse
Tier 2 SW3 Use of Recycled Materials	MRC4.2 Recycled Content
Tier 2 SW4 Construction and Demolition Waste Management	MRC2.2 Construction Waste Management



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### Record of Updates

March 1, 2011

- Correction - removed reference to EAc5 in second row of Table 4.