

ENERGY REPORT TERMS OF REFERENCE

Site Plan Application Submission TGS V 2.0 or 2.1

Study	Energy Report Effective: February 2019
Description	<p>The Toronto Green Standard (TGS) GHG 1.1 and GHG 1.2 sets higher energy performance targets for new development.</p> <p>For buildings greater than 2000 m², the Energy Report is the Design Development Stage Energy Report. The Energy Report summarizes the projected energy performance of a new building in comparison (as percentage improvement) to a reference building designed to meet the current OBC. The Design Development Stage Energy Report is aligned with drawings and documents submitted during the Site Plan Control stage.</p> <p>For buildings less than 2000m², shall be determined in accordance with Section 2 in this report.</p> <p><u>Note:</u> Buildings under 2000m² may provide an Energy Report if they wish (for example an Energy Report prepared for LEED registered projects, regardless of building size, will be accepted by the City).</p>
When Required	<p>The Energy Report as defined above, is submitted prior to Site Plan Approval as part of the Toronto Green Standard for new development for the following application types:</p> <ul style="list-style-type: none"> ▪ Combined Zoning By-law and Site Plan Control Applications ▪ Site Plan Control Applications ▪ Combined Draft Plan of Subdivision and Site Plan Control Applications. <p>For the TGS, see http://www.toronto.ca/greendevlopment</p>
Rationale	<p>Providing an Energy Report at the Site Plan Control stage facilitates the following key outcomes:</p> <ul style="list-style-type: none"> ▪ Early consideration of the potential impacts of various design strategies on energy performance. ▪ Use of the building architecture and passive design strategies to minimize energy consumption and improve occupant comfort. ▪ An integrated design process, by collaborating on ideas, issues, and concerns early in the design process to help avoid later redesign activities to meet energy efficiency goals.
Required Contents	<ul style="list-style-type: none"> ▪ The Energy Report summarizes the projected energy performance of a new building in comparison (as percentage improvement) to a reference building designed to meet current OBC. ▪ The Energy Report must provide sufficient information to allow for the necessary review and acceptance, in principle, of the proposed energy efficiency schemes. ▪ An Energy Model Report is required per building. As an example, if one SPA application has two buildings then two Energy Model Reports are required and each of the two buildings must meet the TGS Tier 1 or Tier 2 requirements. Two buildings cannot be modelled in one Energy Model Report unless approved by the City of Toronto-Environment and Energy Division prior to submission. ▪ The Energy Report must identify all energy saving strategies that will be implemented in the project to optimize the energy performance including strategies related to the

<p>Required Contents</p>	<p>followings: building form and density, orientation, envelope, glazed area, solar control, system selection, major mechanical and electrical energy decisions and, occupancy loads.</p> <ul style="list-style-type: none"> ▪ The report is to include the winter and summer peak demand. The simulated summer and winter peak demand for the proposed design must not be greater than the simulated summer and winter peak demand for the reference building. ▪ Where a building system or part of a building system has not been fully specified, it shall be assumed and modeled that it complies with the prescriptive requirements of the Ontario Building Code Supplementary Standard SB-10 or SB-12. Reasonable assumptions around mechanical and electrical systems are permitted. <p>For Buildings 2000m² GFA or Greater (or smaller buildings choosing to do an Energy Report)</p> <p>An Energy Report should comply with the requirements of the following documents:</p> <ul style="list-style-type: none"> ▪ Toronto Green Standard requirements, ▪ Energy Report Guidelines for the Toronto Green Standard. <p>Note: The Energy Modeling Report Summary (Appendix-A), which is used to determine energy and peak demand savings must be completed and signed by a licensed Architect or Professional Engineer.</p> <p>For Buildings Less than 2000m² GFA shall be determined in accordance with Section 2 in this report.</p> <p>For City – owned buildings and all Agencies, Boards, Commissions and Corporations where technically and financially practical: For new buildings with a GFA greater than 600 m² provide</p> <p>The Pre- feasibility Assessments of Opportunities for Renewable Energy Options Report.</p> <p>The Pre- feasibility Assessments of Opportunities for Renewable Energy Options Report should comply with the requirements of the following documents:</p> <ul style="list-style-type: none"> ▪ Toronto Green Standard requirements ▪ Energy Report Guidelines for the Toronto Green Standard. <p><i>Submit the Energy Report to City Planning in conjunction with the development application and prior to approvals.</i></p> <p>Tier 2 Requirements:</p> <p>Tier 2, TGS is a higher, voluntary performance standard with financial incentives. For all building types and sizes, acceptance for Tier 2 minimum energy performance will be based on the Environment and Energy Division's (EED) assessment of the Energy Report as above, and the submission of the As-Constructed Energy Report.</p> <p>The As-Constructed Energy Report reflects the building's final design including any changes made during the construction phase. The As-Constructed Energy Report may be evaluated by a third-party evaluator contracted by the City of Toronto.</p> <p>The As-Constructed Energy Report should comply with the requirements of the following documents:</p> <ul style="list-style-type: none"> ▪ Toronto Green Standard requirements <p>Energy Report Guidelines for the Toronto Green Standard.</p>
<p>Contact</p>	<p>For further information please contact: Public Energy Initiatives – New Development Team Environment & Energy Division, City of Toronto 55 John Street, 2nd floor, Metro Hall Toronto, ON M5V 3C6 EnergyReview@toronto.ca</p>

Review and approval Time	<p>The EED review and approval process of the Energy Report will take between 2-6 weeks. It is important to note that the Energy Report review process will not commence until the submission requirements and any information or materials required to process the Energy Report revision are submitted by the applicant. Also It is important to note that, some parts require actions on the applicant end; the EED will only continue the review after these actions are completed.</p>
	<p>The City of Toronto's EED provides clarifications on content requirements to assist applicants (or their representatives) with their TGS Energy Report submissions.</p> <p>Please note however that the City will not council the applicant (or their representatives) on technical subject matters, which shall be the sole responsibility of the applicant.</p>

Energy Report Guidelines

FOR THE TORONTO GREEN STANDARD

**Public Energy Initiatives – New Developments
Environment & Energy Division
Effective February 2019**

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ENERGY REPORT GUIDELINES

1. INTRODUCTION

The Toronto Green Standard (TGS) is a two-tier set of performance measures, with supporting guidelines, for sustainable site and building design for new development. Its purpose is to promote site and building designs that address air quality, greenhouse gas emissions, energy efficiency, water quality and efficiency, solid waste and ecology.

New planning applications, including zoning bylaw amendments, site plan approval and draft plan of subdivision are required to meet Tier 1 of the environmental performance measures. Developers who choose to meet Tier 2, a voluntary higher level of environmental performance, may be eligible for a Development Charge Refund.

The Toronto Green Standard, GHG 1.1 and GHG 1.2, set out higher energy performance targets for new development. In order to meet these targets, an Energy Report is required.

1.1 THE PURPOSE OF THIS GUIDELINE

This guideline aims at standardizing Energy Reports and compliance documentation submitted to meet the TGS, GHG 1.1, GHG 1.2, GHG 1.3 and GHG 1.4 requirements. It describes the information and supporting documents that are to be provided to allow for a clear understanding of the energy conservation measures to be applied to the new development, and simulation process undertaken to achieve the energy performance claimed.

This Guideline outlines the submission requirements for Tier 1 (required) and Tier 2 (voluntary) Energy Report to comply with GHG 1.1 and 1.2 and for version 2.0 and 2.1 of the TGS. For planning applications submitted prior to January 1, 2017, the Energy Report must demonstrate a 15% (Tier 1) or 25% (Tier 2) improvement over the Ontario Building Code 2012 (Division 2). For planning applications submitted on or after December 31, 2016, the Energy Report must demonstrate compliance that is equivalent to or better than OBC 2012, Division B Part 12 section 12.2.1.2 (Tier 1) or 12% better than OBC 2012 Division B Part 12 section 12.2.1.2 for Tier 2. The Ontario Building Code energy efficiency design requirements were increased effective January 1, 2017 with some amendments to compliance paths. This document provides necessary guidance to projects affected by either OBC requirements (Division 2, 3) to meet the TGS. **The submission requirements for TGS v2.0 or v2.1 are provided under section 4 Building Simulation Details.**

1.2 RATIONALE

In order to improve buildings energy efficiency and reduce GHG, the Energy Reports requirements are designed in accordance with the building process, the required information and the regulatory process.

An Energy Report is required at the Site Plan Control stage and will be necessary to document compliance with TGS Tier 1 requirements. Providing an Energy Report at the Site Plan Control stage

facilitates the following key outcomes:

- Early consideration of the potential impact of various design strategies on energy performance.
- Use of the building architecture and passive design strategies to minimize energy consumption and improve occupant comfort. Incorporating these strategies in this stage will help improve the energy performance with minimal or no added costs.
- An integrated design process, by collaborating on ideas, issues, and concerns early in the design process to help avoid later redesign activities to meet energy efficiency goals.
- Allows the design team and owner(s) to make informed decisions about energy efficiency. This allows the energy efficiency features to become an integral part of the project instead of an incremental add-on, which may reduce the cost of achieving higher levels of efficiency.

The As-Constructed Energy Report is required at the completion of the project and should reflect the building's final design including any changes made during the construction phase. The As-Constructed Energy Report will be necessary to document compliance with TGS Tier 2 requirements.

2. TIER 1 REQUIREMENTS

For buildings greater than 2000m², to confirm compliance with TGS Tier 1, GHG 1.1 and GHG 1.2 requirements, projects are required to provide an Energy Report. The Energy Report is the Design Development Stage Energy Report.

For buildings less than 2000m²

FOR PLANNING APPLICATIONS SUBMITTED AFTER DECEMBER 31, 2016, AND FOLLOWING TORONTO GREEN STANDARD VERSION 2.1

To confirm compliance with TGS Tier 1, GHG 1.1 and GHG 1.2 requirements, projects are required to comply with OBC 2012 Division B Part 12 section 12.2.1.2. Energy Efficiency Design After December 31, 2016. **OR** complete a Design Development Stage Energy Report. Please note that design and energy modelling to MNECB 1997 is no longer allowed for TGS V2.1.

FOR PLANNING APPLICATIONS SUBMITTED BEFORE January 01, 2017, AND FOLLOWING TORONTO GREEN STANDARD VERSION 2.0

Complete the Small Buildings Checklist (Appendix-E), along with the Natural Resources Canada Screening Tool for New Building Design found at <http://www.screeningtool.ca/>. The Checklist must be completed and signed by a licensed Architect or Professional Engineer.

For City – owned buildings and all Agencies, Boards, Commissions and Corporations: For new buildings with a GFA greater than 600 m², install renewable energy devices to supply at least 5% of the building's total energy load from one or a combination of energy sources.

Renewable energy includes energy generated by: solar photovoltaic, solar thermal, wind or geothermal (heating and cooling):

- Solar photovoltaics – use of composite panels to convert solar energy into electricity, to be used within the building or exported to the grid.

- Solar thermal – use of solar thermal collectors to directly convert solar energy into heating air or water for use in the building.
- Geexchange – Use of electric heat pumps coupled with horizontal or vertical ground loop piping systems to provide heating and cooling energy; or use of direct ground contact systems.

Savings must be demonstrated by third-party non-commercial energy modeling tools such as RETScreen and whole-building modeling software utilized for GHG1.1.

2.1 DESIGN DEVELOPMENT STAGE ENERGY REPORT

The Design Development Stage Energy Report is aligned with drawings, information and reports available during the Site Plan Control stage. It focuses on optimizing the passive features before optimizing active systems.

It is recommended in this stage that designers adopt a passive design approach that uses the building architecture to maximize occupant comfort and minimize energy use. The application of passive design must be carefully considered within the specific constraints and opportunities of each project.

At this stage, it is understood that some of the building design specific details about the various equipment and other required inputs are not finalized. The applicant is to provide sufficient information and supporting documents to describe the energy conservation measures to be applied to the project, including measures related to the followings:

- Building configuration
- Orientation and adjacencies
- Building envelope
- Glazed area
- Solar control, such as external shading devices
- System selection and major mechanical and electrical energy decisions
- Occupancy Loads

Where a building system or part of a building system has not been fully specified it shall be assumed and modeled that it complies with the prescriptive requirements of the latest Ontario Building Code Supplementary Standard SB-10 or SB-12. Reasonable assumptions around mechanical and electrical systems are permitted.

2.1.2 REQUIREMENTS

Submit the Design Development Stage Energy Report reflecting the design of the proposed building to City Planning in conjunction with the development application and prior to approvals.

The Design Development Stage Energy Report is to include the following:

- Energy Modeling Report Summary (the report to be completed and signed by a licensed Architect or Professional Engineer. (See Appendix-A)
- Energy Modeling Report Template (See Appendix-B)

- Design Development Stage Energy Report Submission Checklist (See Appendix-C)
- Energy Modeling Output Report / Compliance Report; the base case and the design case
- Electronic simulation files, base case and design case
- Electrical and Mechanical Design Brief
- Related supporting drawings and calculations
- Other documents as may be required

3. TIER 2 REQUIREMENTS

For all building types and sizes, acceptance for Tier 2 minimum energy performance will be based on the Environment and Energy Division's (EED) assessment of the Energy Report as above, and the submission of the As-Constructed Energy Report.

3.1 AS-CONSTRUCTED ENERGY REPORT

The As-Constructed Energy Report reflects the building's final design including any changes made during the construction phase. The As-Constructed Energy Report may be evaluated by a third-party contracted by the City of Toronto.

3.1.1 REQUIREMENTS

The As-Constructed Energy Report is to include the following:

- Energy Modeling Report Summary, completed and signed by a licensed Architect or Professional Engineer. (See Appendix-A)
- Energy Modeling Report Template (See Appendix-B)
- As-Constructed Energy Report Submission Checklist (See Appendix-D)
- Energy Modeling Output Report / Summary Compliance Report; the base case and the design case
- Electronic simulation files, base case and design case
- Modeling Notes: General, Building Level, Plant Level, System Level, Occupancy and Minimum Outdoor Air Rates and Warnings, Errors and Troubleshooting
- Zoning Diagrams
- Notes on: Building Level Inputs, Plant Level Inputs, System Level Inputs, Zone and Space Level inputs, Occupancy and Minimum Air Rates
- Outdoor Air calculation spreadsheets
- Relevant calculations (provide take off sheets and any calculations supporting derived inputs in software)
- Calculations for model work-around, exceptional calculations, process energy savings, renewable energy systems, district energy systems, or other required calculations
- As-Constructed drawings (architectural, mechanical and electrical) along with shop drawings of modeled system components. Manufacturer's specifications / cut sheets are

- required for all equipment's / systems that cannot be properly modeled from the information found in the tender specifications or drawings
- Specifications for building systems being modeled, along with controls sequence of operation
 - Other documents as may be required

Important note:

Issued For Construction (IFC) documents in place of As-Constructed documents is deemed equivalent only if at the completion of the project, the applicant has submitted a letter signed by the Professional Engineer for the project confirming that the energy efficiency equipment, systems, measures that have contributed to the building's energy performance, have been installed, scheduled and operated as illustrated in the As-Constructed Energy Model Report.

4. BUILDING SIMULATION DETAILS

The energy savings percentage must be calculated based on the **total energy saved not the total energy costs**.

The Energy Report must provide sufficient information to allow for a clear understanding of the project design, the energy conservation measures to be applied, and the simulation process undertaken to achieve the energy performance claimed.

An Energy Model Report is required per building. As an example, if one SPA application has two buildings then two Energy Model Reports are required and each of the two buildings must meet the TGS Tier 1 or Tier 2 requirements. Two buildings cannot be modelled in one Energy Model Report unless approved by the City of Toronto-Environment and Energy Division prior to submission.

The Energy Report is to include the summer peak demand. The simulated summer peak demand for the proposed design must not be greater than the simulated summer peak demand for the reference building.

The reference building performance shall be calculated according to the current OBC using computer simulation model for the entire building project.

The proposed design must meet the following requirements and criteria:

- Toronto Green Standard requirements.
- Comply with the mandatory provisions of the current OBC and any of its' referenced energy codes.
- Inclusion of all the energy consumption within and associated with the building project.
- Compare against a baseline building that conform to the current OBC.

FOR PLANNING APPLICATIONS SUBMITTED AFTER DECEMBER 31, 2016, AND FOLLOWING TORONTO GREEN STANDARD VERSION 2.1

The simulation model must comply with the followings:

- Design to exceed by not less than 15% the energy efficiency levels required by sentence 12.2.1.1. (2) of the current OBC Division B Part 12, or
- Conform to Division 1 and Division 3 of MMAH Supplementary Standard SB10, "Energy Efficiency Requirements".
- **Please note that design and energy modelling to MNECB 1997 is no longer allowed.**
- LEED Canada current Supplementary Energy Modeling Guidelines
- LEED Canada current Interpretation Guide for District Energy Systems

FOR PLANNING APPLICATIONS SUBMITTED BEFORE January 01, 2017, AND FOLLOWING TORONTO GREEN STANDARD VERSION 2.0

The simulation model must comply with the followings:

- The procedures defined in the OBC 2012, referenced standards;
 - ANSI/ASHRAE/IESNA Standard 90.1-2010 + SB10 Division 2 Chapter 2, or
 - ANSI/ASHRAE/IESNA Standard 90.1-2010 + 5%, or
 - Performance Compliance for Buildings, Specifications for Calculation Procedures for Demonstrating Compliance to the Model National Energy Code for Buildings Using Whole Building Performance, May 1999, or
 - National Energy Code of Canada for Buildings 2011 + SB10 Division 2 Chapter 3.
- LEED Canada 2009 Supplementary Energy Modeling Guidelines
- LEED Canada 2009 Interpretation Guide for District Energy Systems

The Energy Modeling Report Summary (Appendix-A), used to determine energy and peak demand savings, must be completed and signed by a licensed Architect or Professional Engineer. Refer Appendix-F for TGS performance requirement as compare to OBC 2012 SB10.

5. EXCEPTIONAL CALCULATION METHOD

When the simulation program does not model a strategy, material or device of the proposed Energy Report, the exceptional calculation method in ASHRAE 90.1, must be used. The report must include all the information required by ASHRAE 90.1, in addition to a narrative description of the inputs for the standard and proposed case. The narrative should provide sufficient documentation to justify the proposed case assumptions, and should describe the calculation methodology used to project the energy savings.

6. APPROVED SOFTWARE

Energy Reports should be completed using the following software:

- eQUEST version 3.64 or higher
- CAN-QUEST
- DOE 2 version 2.1 or higher
- EE4 version 1.7 or higher **
- Energy Plus
- Energy Pro
- IES-VE

** Only projects following TGS V2.0 can continue to use EE4 software

7. CONTACT

Please contact Energy Efficiency Division at EnergyReview@toronto.ca for further information about meeting the Toronto Green Standard energy performance measures, contents of Energy Report submissions and information on the available incentive programs.

8. APPENDICES

Appendix-A: Energy Modeling Report Summary

Appendix-B: Energy Modeling Report Template

Appendix-C: Design Development Stage Energy Report Submission Checklist

Appendix-D: As-Constructed Energy Report Submission Checklist

Appendix-E: Toronto Green Standard (TGS) - Small Buildings Checklist

Appendix-F: OBC 2012 Energy Efficiency Performance Compliance Path and TGS Requirements



Appendix-A

Energy Modeling Report Summary

PROJECT INFORMATION

Project Address: _____ SPA-Number: _____ Energy Modeler Name: _____ Energy Modeler Telephone: _____ Energy Modeler E-Mail: _____ Modeling Software Used: _____	Date (dd/mm/yyyy): _____ Building Type: _____ Building Area: _____ Architect Name: _____ Architect Telephone: _____ Architect E-Mail: _____ Code Compliance Path: _____
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Energy End Use	Reference Building					Proposed Building					Energy Savings			
	Electrical Annual Consumption (kWh)	Natural Gas Annual Consumption (kWh)	Energy Use Intensity (kWh/m2.yr)	Peak Demand Summer (kW)	Peak Demand Winter (kW)	Electrical Annual Consumption (kWh)	Natural Gas Annual Consumption (kWh)	Energy Use Intensity (kWh/m2.yr)	Peak Demand Summer (kW)	Peak Demand Winter (kW)	Peak Demand Summer (kW)	Peak Demand Winter (kW)	Annual Consumption (kWh)	Energy Efficiency Above Base Case%
Lights														
Misc. Equipment														
Space Heating														
Space Cooling														
Pumps														
Fans														
Service Hot Water														
Totals														

I hereby certify that the energy demand and consumption are properly representative of the energy modeling report submitted for the above project.

Energy Modeler Name: _____ Title: _____ Company: _____ Signature: _____	Architect Name: _____ Title: _____ Company: _____ Signature: _____
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Appendix-B

Energy Modeling Report Template

Date:
(dd/mm/yyyy)

Submission Overview:

Project Description:

Project's key energy conserving / efficiency measures proposed

Passive Design Measures:

Envelope Measures:

Lighting Measures:

Mechanical and Electrical Measures:

Provide a complete summary of energy simulation inputs and assumptions, referencing the relevant plans, drawings or reports.

Design Parameters Description / Name	Proposed Building				Reference the relevant plans, drawings or reports		
Schedules:							
Space Use Classification:							
Conditioned Floor Area:							
Total Floor Area:							
Window-Wall Ratio							
Gross Wall Area (ft ² or m ²):							
South Fenestration Area (ft ² or m ²):	East Fenestration Area (ft ² or m ²):	West Fenestration Area (ft ² or m ²):	North Fenestration Area (ft ² or m ²):				
Window Wall Ratio:							
Skylight-Roof Ratio							
Gross Roof Area (ft ² or m ²):							
Skylight Area (ft ² or m ²):							
South Fenestration Area (ft ² or m ²):	East Fenestration Area (ft ² or m ²):	West Fenestration Area (ft ² or m ²):	North Fenestration Area (ft ² or m ²):				
Skylight-Roof Ratio:							

Passive Design Strategies/Elements:

	Design Parameters Description / Name	Reference Building	Proposed Building	Reference the relevant plans, drawings or reports
Building Envelope				
Lighting				
Plug Loads				
HVAC Equipments	Plant Level			
	HVAC Equipments System Level			

Domestic Hot Water (DHW)				
Other				

Appendix-C

Design Development Stage Energy Report Submission Checklist

Check each box to confirm the required documentation is submitted:

- Design Development Stage Energy Report Submission Checklist
- Energy Modeling Report Summary. The report should be completed and signed by a licensed Architect or a Professional Engineer (Appendix-A)
- Energy Modeling Report Template (Appendix-B)
- Energy Modeling Output Report / Compliance Report; the base case and the design case
- Electronic simulation files, base case and design case
- Electrical and Mechanical Design Brief
- Related supporting drawings and calculations
- Other documents as may be required

Appendix-D

As-Constructed Energy Report Submission Checklist

Check each box to confirm the required documentation is submitted:

- As-Constructed Energy Report Submission Checklist,
- Energy Modeling Output Report / Summary Compliance Report; the base case and the design case
- Electronic simulation files, base case and design case
- Energy Modeling Report Summary. The report to be completed and signed by a licensed Architect or a Professional Engineer (Appendix-A)
- Energy Modeling Report Template (Appendix-B)
- Modeling Notes: General, Building Level, Plant Level, System Level, Occupancy and Minimum Outdoor Air Rates and Warnings, Errors and Troubleshooting
- Zoning Diagrams
- Notes on: Building Level Inputs, Plant Level Inputs, System Level Inputs, Zone and Space Level Inputs, Occupancy and Minimum Air Rates
- Outdoor Air calculation spreadsheets
- Relevant calculations (provide take off sheets and any calculations supporting derived inputs in software)
- Calculations for model work-around, exceptional calculations, process energy savings, renewable energy systems, district energy systems, or other required calculations
- As-Constructed drawings (architectural, mechanical and electrical) along with shop drawings of modeled system components. Manufacturer's specifications / cut sheets are required for all equipments / systems that cannot be properly modeled from the information found in the tender specifications or drawings
- Specifications for building systems being modeled, along with controls sequence of operation
- Other documents as may be required

Important note:

Issued For Construction (IFC) documents in place of As-Constructed documents are deemed equivalent only if at the completion of the project, the applicant has submitted a letter signed by the professional engineer for the project confirming that the energy efficiency equipments, systems, measures that have contributed to the building's energy performance, have been installed, scheduled and operated as illustrated in the As-Constructed Energy Report.

Appendix-E
Toronto Green Standard (TGS) – Small Buildings Checklist
Application Form

For Buildings Less than 2000m²GFA Only

The Small Buildings Checklist must be completed along with Natural Resources Canada's Screening Tool for New Building Design found at <http://screen.nrcan.gc.ca>. The Checklist must be completed and signed by the Architect for the proposed new building and submitted to City Planning along with a copy of the completed NRCAN Screening Tool for New Building Design – Screening Tool Summary. Eligible building types include Multi-Unit Residential Buildings, Schools, Offices, Retail Stores, Hotels, Warehouses, Hospitals and Extended Care Buildings.

Small Buildings Checklist Application Date: _____
New or Revised Application: _____
Address of Building: _____
Planning Application Number: _____
Planner: _____
Building Owner: _____
Architect Name: _____
Architect Address: _____
Architect Telephone Number: _____
Architect Fax Number: _____
Architect Email Address: _____

Small Buildings Checklist

- I certify that the design parameters selected in the attached NRCAN Screening Tool for New Building Design - Screening Tool Summary represent the current building's design.
- I certify that, based on the NRCAN Screening Tool for New Building Design, the submitted building design satisfies TGS Tier 1 energy requirements compared to the reference building that meets the Ontario Building Code(OBC) 2012.

Architect Signature: _____
Architect Name: _____
Date (dd/mm/yyyy): _____

APPENDIX-F

OBC 2012 Energy Efficiency Performance Compliance Path and TGS Requirements

FOR PLANNING APPLICATIONS SUBMITTED AFTER DECEMBER 31, 2016, AND FOLLOWING TORONTO GREEN STANDARD VERSION 2.1

Performance compliance as per OBC 2012 Division B, Part 12 section 12.2 and MMA Supplementary Standard SB10, Energy Efficiency Requirement **December 22, 2016 update:**

Reference building compliance path	TGS Tier 1	TGS Tier 2
ASHRAE 90.1 2010 + SB10 Division 2 Chapter 2	Less 15%	Less 25%
NECB 2011 + SB10 Division 2 Chapter 3	Less 15%	Less 25%
ASHRAE 90.1 2010 + 5%	Less 19.25%	Less 28.75%
ASHRAE 90.1 2013 + SB10 Division 3 Chapter 2	Equivalent to or better than compliance	Less 12%
NECB 2015 + SB10 Division 3 Chapter 3	Equivalent to or better than compliance	Less 12%

FOR PLANNING APPLICATIONS SUBMITTED BEFORE January 01, 2017, AND FOLLOWING TORONTO GREEN STANDARD VERSION 2.0

Performance compliance as per OBC 2012 Division B, Part 12 section 12.2 and MMA Supplementary Standard SB10, Energy Efficiency Requirement **December 22, 2016 update:**

Reference building compliance path	TGS Tier 1	TGS Tier 2
ASHRAE 90.1 2010 + SB10 Division 2 Chapter 2	Less 15%	Less 25%
NECB 2011 + SB10 Division 2 Chapter 3	Less 15%	Less 25%
ASHRAE 90.1 2010 + 5%	Less 19.25%	Less 28.75%
MNECB 1997	Less 36.25%	Less 44%