

Low Rise Residential Green Development Standard Checklist

		Criteria	Points	Rationale	Implementation	
		Energy Conservation				
Energy Conservation	☒	1	<p>All ground-related dwellings shall be constructed in accordance with the most current version of Energy Star® requirements in place at the time of Building Permit application.</p>	<p>12.0</p>	<p>By some estimates, 40% of energy use in North America can be attributed to the heating, cooling and maintenance of buildings.</p> <p>Building to the Energy Star® standard enables new homes to be approximately 20% more energy efficient than those built to the minimum requirements of the provincial building code and strikes a balance between the premium level of energy efficiency associated with the Energy Star® label and an acceptable incremental cost. According to Natural Resources Canada, an Energy Star® home reduces greenhouse gas emissions by about three tons per year when compared to a similar home built to the minimum building code. Energy Star homes meet minimum insulation requirements and minimum amounts of electrical savings. Due to their high energy efficiency, Energy Star® homes also reduce air pollution and lessen other environmental impacts such as climate change.</p> <p>Various energy conservation incentives may be available for eligible projects. Applicants are encouraged to investigate the availability of any such incentives, including contacting Halton Hills Hydro and the Ontario Power Authority regarding current incentive programs. Information on the SaveONenergy program for homes that install various energy efficient measures including: prescriptive; performance based; custom and training. Information is available at: https://saveonenergy.ca/Business/Program-Overviews/New-Home-Construction.aspx</p>	<p>Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement</p>

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<input checked="" type="checkbox"/>	2	Supply all Energy Star® compliant light fixtures.	2.0	According to Natural Resources Canada, Energy Star® products are best energy performers, meeting strict technical specifications for energy performance.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
<input type="checkbox"/>	3	Developers install solar panels on streetlights.	5.0	Streetlights are a major energy user. Energy generated through solar panels is a clean and renewable energy source. Wherever feasible, the proponent will be encouraged to assess the feasibility of installing solar panels on streetlight posts.	Demonstrated at time of: Street light illumination plan Secured by: Subdivision agreement
<input checked="" type="checkbox"/>	4	Install occupancy sensors in the main living areas of the home, as well as motion sensors for all exterior lighting fixtures.	1.0	Occupancy sensors can reduce energy use by ensuring that lights do not remain on when a room is not being used.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
<input checked="" type="checkbox"/>	5	Provide zonal HVAC heating and cooling controls.	3.0	The use of zone controls for HVAC systems will allow homeowners to control the temperature in different areas of the home. This can reduce energy consumption since not all spaces will be required to achieve the same temperature.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
<input checked="" type="checkbox"/>	6	Supply on-demand water heating.	3.0	On-demand water heating is more efficient as water is heated only when it is needed rather than heated and stored for future use.	Demonstrated at time of: Building Permit Secured by: subdivision or Site Plan agreement
<input checked="" type="checkbox"/>	7	Use triple pane windows with low emissive coatings to help reflect heat and sunlight.	2.0	Highly energy efficient windows can reduce energy use by lowering the need for air conditioning in the summer and heating in the winter.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement

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<input type="checkbox"/>	8	Install an indoor (basement) and outdoor clothesline.	0.5	An electric clothes dryer is a major energy user. The use of a clothesline can significantly reduce energy consumption associated with electric dryers.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
<input type="checkbox"/>	9	Street and block alignments are designed to achieve passive solar gain.	5.0	East west orientation of units will maximize the passive solar orientation of buildings.	Demonstrated at time of: Draft Plan of Subdivision approval Secured by: Subdivision registration
<input type="checkbox"/>	10	Identify opportunities for maximizing solar gain through site layout and building orientation in an Energy Efficiency Report.	3.0	Passive solar gain reduces the need for heating and lighting at no cost to the occupants.	Demonstrated at time of: Site Plan approval Secured by: Site Plan Agreement
Maximum Possible Points in Energy Conservation			36.5		

		Criteria	Points	Rationale	Implementation
Water Conservation and Quality					
<input checked="" type="checkbox"/>	1	Use WaterSense® water fixtures, including faucets and showers, in all areas.	3.0	Installing water-efficient water fixtures will reduce water consumption, lower environmental impacts and save water bill costs for the homeowner(s).	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
<input checked="" type="checkbox"/>	2	Provide purple-pipe rough-in plumbing for future on-site water reuse.	4.0	Reuse of water collected from laundry and bathwater can be used for flushing toilets, irrigation and other non-potable uses which lowers demand for potable water.	Demonstrated at time of: Building Permit Secured by: subdivision or Site Plan agreement
<input checked="" type="checkbox"/>	3	Provide one rain barrel per 100 square metres of dwelling unit roof area and allow sufficient space at base of downspouts for installation. Each rain barrel shall have secure mosquito protection and an overflow to grade.	0.5	Rainwater collection is an effective method of reducing the use of potable (drinking) water for non-potable purposes such as landscape irrigation. Refer to the Ministry of Environment manual on Stormwater Management Planning and Design.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
<input type="checkbox"/>	4	Employ opportunities within the subdivision and site design to reduce impermeable surfaces and stormwater runoff through the use of Low Impact Development (LID) techniques.	4.0	Low Impact Development (LID) is an alternative approach to conventional stormwater management. The overall objective of LID is to address stormwater at the source rather than collecting stormwater in traditional stormwater management ponds. This assists with pollution control and reduces runoff. LID techniques include bioretention, use of permeable pavers, tree box planters and disconnected downspouts.	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Approved drawings attached to Subdivision or Site Plan agreements

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<input type="checkbox"/>	5	Provide a minimum of 15 cm of high quality, non-compacted topsoil on all lawn and garden areas.	1.0	Poor quality, compacted top soil results in over irrigation by owners in an effort to keep lawns and gardens alive. High quality soil is well drained, un-compacted soil comprised of 5 to 15 % organic material with a pH level of 6.0 to 8.0.	Demonstrated at time of: Grading Plans Secured by: Subdivision or Site Plan agreement
<input type="checkbox"/>	6	Use native drought tolerant plant material (which does not include grass but can include groundcovers) for at least 50% of landscaped area (including vegetated roofs and walls).	2.0	Reduces the demand for potable water which can increase by as much as 50% during the summer months placing a strain on potable water systems.	Demonstrated at time of: Grading and/or Site Plan Secured by: Subdivision or Site Plan agreement
Maximum Possible Points In Water Conservation			14.5		

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Community Design						
Community Design	<input type="checkbox"/>	1	Construct a network of suitable pedestrian facilities and multi-use paths within the development which also connect the development with surrounding neighbourhoods, are integrated with the Town's trail system and implement recommendations of the Town's Cycling Master Plan.	5.0	Pedestrian networks support the Town's Pedestrian Charter, encourage walking which improves health and reduces dependence on automotive travel. Multi-use paths promote active transportation and provide connections between communities. Implementing the recommendations of the Town's Cycling Master Plan will help facilitate active transportation.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	2	Create street and block patterns that emphasize connectivity and linkage by encouraging grid or modified grid patterns and discourage the use of cul de sacs except where necessary for grading and topography.	2.0	Connected streets reduce the length of trips and reduce greenhouse gas emissions.	Demonstrated at time of: Draft plan of Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	3	If cul de sacs are necessary, provide pedestrian and / or bicycle connections in the cul de sacs.	1.0	This provides flexibility and allows pedestrians to get to their destination in the most direct route.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement

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<input type="checkbox"/>	4	Design streets with medium (400 m) to short (less than 250 m) block lengths.	2.0	Research shows that a high density of intersections is among the design factors which facilitate increased walking behaviour and less motor vehicle travel.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
<input type="checkbox"/>	5	Where the block perimeter exceeds 400 m provide mid-block pedestrian connections.	1.0	This shortens the length of pedestrian trips.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
<input type="checkbox"/>	6	Provide streetscape amenities such as benches, street trees, and waste receptacles.	1.0	This creates an attractive, safe and supportive pedestrian environment which facilitates walking.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
<input type="checkbox"/>	7	Design draft plans of subdivision so that residences are located within 500 metres of a public meeting space such as a park, square or recreational facility.	2.0	Close proximity to public facilities encourages residents to walk to such facilities and encourages active lifestyles which promote health.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
Maximum Possible Points In Community Design			14.0		

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		Air Quality				
Air Quality	<input checked="" type="checkbox"/>	1	Use low or no VOC paints and finishes (e.g. adhesives, sealants, paints, carpet).	1.0	Using paints and finishes that are rated as having no or being low-VOC (volatile organic compounds) helps improve indoor air pollution as these products eliminate or reduce the amount of contaminants released by these products into the air.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input checked="" type="checkbox"/>	2	Install HVAC systems that reduce exposure to indoor air quality pollutants by ventilating with outdoor air.	2.0	Heat Recovery Ventilation systems that use outdoor air can improve indoor air quality.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	3	Provide additional street trees at least 10% above the minimum required by the Town's Development Standards either within the street right of way and/or in nearby public open spaces.	3.0	Trees improve air quality, reduce heat island effects and enhance the streetscape for pedestrian usage	Demonstrated at time of: draft plan of Subdivision approval – street tree planting plans Secured by: Subdivision agreement
	<input type="checkbox"/>	4	If surface parking is provided other than in individual driveways, plant shade trees at a minimum ratio of 1 tree native to Halton Region for every 5 parking spaces provided.	2.0	Trees reduce heat island effects of large expanses of hard surfaces	Demonstrated at time of: Site Plan approval – landscaping plans Secured by: Site Plan agreement
		Maximum Possible Points In Air Quality	8.0			

		Criteria	Points	Rationale	Implementation	
		Innovation and Other Green Features				
Innovation & Green Features	☒	1	<p>Each home purchaser(s) shall be provided with an option to select one (1) or more of the following green building options:</p> <ul style="list-style-type: none"> i. Solar water and space heating ii. 100% native to Halton region, non-invasive species and/or drought-resistant xerophytic landscaping iii. Energy saving features, including window awnings, vegetation shade landscaping package and window blinds iv. Universal accessibility package (e.g. wheelchair accessible layouts, ground-level entry, etc). 	2.0	<p>By offering green building options, the proponent (i.e. builder) will promote green technologies. At the same time, homeowners will be provided with an opportunity and be educated on the benefits of incorporating green technologies into their home.</p>	<p>Demonstrated at time of: Building Permit Secured by: Subdivision Agreement</p>

		Criteria	Points	Rationale	Implementation
<input type="checkbox"/>	2	Innovative design or performance features not listed that receive prior approval from the Town have been provided.	Generally up to a total of 5.0 points	<p>Green development opportunities are constantly evolving and therefore this provides for new and emerging ideas and technology that may not have been contemplated in this checklist. Innovative design or construction that enhances the environmental performance of communities and buildings will be encouraged.</p> <p>Although these standards apply to new buildings, the retrofit and retention of existing buildings (including heritage buildings) on site which retains the embodied energy and reduces the need to extract and transport new resources will also be encouraged and can be given points under these criteria.</p> <p>Points can also be considered under this category for infill development and intensification which utilize existing infrastructure and promote more compact communities.</p>	To be discussed in pre-consultation meetings
Possible Points in Innovation & Other Green Features			7.0		

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		Waste Management				
Waste Management	<input checked="" type="checkbox"/>	1	Utilize a minimum of 25% of wood based materials and products that are certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components.	2.0	The Forest Stewardship's Council ensures sustainable harvesting and replanting practices.	Demonstrated at time of: Building permit Secured by: Subdivision or Site Plan agreement
	Maximum Possible Points In Waste Management		2.0			

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Communication						
Communication	☒	1	Familiarize the homeowner(s) with all of the dwelling's green building features as part of the Pre-Delivery Inspection.	Required	Communicating the dwelling's green building features and familiarizing the homeowner(s) with these features will help to ensure their proper use and maintenance.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	☒	2	A Homeowner's Information Package will outline all of the dwelling's green building features, neighbourhood conveniences and information that promotes green lifestyle choices such as water conservation, stormwater management and use of rain barrels, recycling, green procurement, organic lawn care and renewable energy generation. The Package must also provide information on the proper use and maintenance of the home's green features and will include a copy of the Town's Green Plan and Community Sustainability Strategy.	Required	Communicating the dwelling's green building features and familiarizing the homeowner(s) with these features will ensure their proper use and maintenance.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement

Maximum Total Possible Points	82
Minimum Required Number of Points	33
Number of Points achieved	<u>37.5</u>