

Pickering Integrated Sustainable Design Standards

Low-Rise Residential Checklist



Instructions

The Pickering Integrated Sustainable Design Standards (ISDS) for low-rise residential applies to development less than 4 **storeys** with a minimum of 5 dwelling units. Tier 1 performance measures are required by the City of Pickering and must be included as part of your complete development application. Tier 2 performance is encouraged, but optional.

Words and terms identified in **bold** in the Performance Criteria and Documentation cells are defined further in the Glossary of the User Guide.

Performance criteria apply to all building types except where specified.

Applicant Information:

Applicant/Agent: Blackthorn Development Corp.

Name (First, Last Name): Maurizio Rogato

Telephone Number: 416-888-7159

Email: mrogato@blackthorncorp.ca

Address of Subject Land (Street Number and Name): 3225 5th Concession Road, City of Pickering, Region of Durham

Registered Owner (First, Last Name): Paul Bigoni, 869547 Ontario Inc.

Project Information:

Project Name: Country Residential Subdivision No. 33

Date Checklist Completed (yyyy-mm-dd): 2023-10-10

Is this checklist revised from an earlier submission (Yes/No): No

Gross Floor Area (square metres): N/A (Estate Lots)

Number of Storeys: Approx. 2 Storeys

Non Residential Gross Floor Area (square metres): N/A (No Non Residential Use Proposed)

Proposal Description (narrative of your project):

The Proposed Development consists of 13 Residential Estate Lots, two Private Roads, protected Natural Heritage/Open Space Blocks, and Water Station Blocks.

Each of the Single Detached Dwellings will be designed on an individual basis and serviced by a septic system.

All lots will be serviced by Municipal Water connection via 5th Concession Road.

The Tenure of the Proposed Development will be of Common Element Condominium.

Education

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
E1	Resident Education	Provide a Resident Education Information Package (hardcopy or digital through website link) to residents that explains the use and maintenance of sustainable building features as well as sustainable lifestyle practices.	<input checked="" type="checkbox"/>	Meet Tier 1 and post signage and other education materials onsite to educate residents and visitors of sustainability features.	<input type="checkbox"/>	<input type="checkbox"/> Educational package or other educational materials demonstrating compliance.	Educational Package can be a Condition of Draft Plan Approval.

Energy & Resilience

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
ER1	Urban Heat Island Reduction	Roof: Install cool roof (high albedo/light coloured materials with a Solar Reflective Index (SRI) of 78 or over (for low-sloped roofs <2:12)) or 29 (for steep-sloped roofs >2:12) for 100% of the available roof area . or Install solar PV for 50% of the available roof area .	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/> Roof plan indicating heat island reduction measures, including the SRI values(s) of roof materials.	As each of the Estate Lots will be custom designed, the Developer will make future buyers aware of the requirement.

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
		<p>Non-Roof: Use one or a combination of the following strategies to treat at least 50% of the site's hardscape:</p> <ul style="list-style-type: none"> • High-albedo paving materials with an initial solar reflectance of at least 0.33 or SRI of 29; • Open grid pavement with at least 50% perviousness; • Shade from existing tree canopy or new tree canopy within 10 years of landscape installation; • Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29; • Shade from structures with energy generation. 	<input checked="" type="checkbox"/>	<p>Non-Roof: Use one or a combination of the following strategies to treat at least 75% of the site's hardscape:</p> <ul style="list-style-type: none"> • High-albedo paving materials with an initial solar reflectance of at least 0.33 or SRI of 29; • Open grid pavement with at least 50% perviousness; • Shade from existing tree canopy or new tree canopy within 10 years of landscape installation; • Shade from architectural structures that are vegetated or have an initial solar reflectance of at least 0.33 at installation or an SRI of 29; • Shade from structures with energy generation. 	<input type="checkbox"/>	<input type="checkbox"/> Report, Plan(s), or other documentation indicating the heat island reduction measures.	Shade from existing tree canopy expected due to the extensive protection of Natural Heritage Blocks (Woodlands).

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
ER2	Building Energy Performance and Emissions	Design and construct all buildings to achieve or exceed the Energy Star® for New Homes, latest version, or demonstrated modeled equivalent (e.g., Better Than Code ® using Home Energy Rating System (HERS)). or Design and construct all buildings to meet or exceed the Energy Performance Emissions' Total Energy Use Intensity (TEUI), Thermal Energy Demand Intensity (TEDI) and GHG Emission Intensity (GHGI) targets.	<input checked="" type="checkbox"/>	Design and construct all buildings to achieve a minimum energy performance level of 25% or better than the Ontario Building Code requirements in force at the time of application. or Design and construct all buildings to meet or exceed the Energy Performance Emissions' Total Energy Use Intensity (TEUI), Thermal Energy Demand Intensity (TEDI) and GHG Emission Intensity (GHGI) targets.	<input type="checkbox"/>	<input type="checkbox"/> Energy Modelling Report or other documentation demonstrating compliance with the target standard.	Energy Star Appliances are expected to be incorporated in all custom dwellings.
ER3	Renewable Energy	Design and construct all buildings to be solar ready . or Incorporate web-based Home Energy Management Systems (HEMS) .	<input checked="" type="checkbox"/>	Incorporate on-site renewable energy sources of power generation to meet 5% or more of the building energy needs. or Incorporate peak shaving devices like battery storage.	<input type="checkbox"/>	<input type="checkbox"/> Drawings, plans, or other documentation demonstrating compliance.	Solar ready roofs and /or Home Energy Management Systems will be offered to future buyers of the Estate Lots, who will customize their home.

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
ER4	Building Resilience	Implement at least two of the primary measures from the Durham Region Climate Resilience Standard for New Houses additional to those required by this Standard.	<input checked="" type="checkbox"/>	Implement at least two of the secondary measures from the Durham Region Climate Resilience Standard for New Houses .	<input type="checkbox"/>	<input type="checkbox"/> Drawings, plans, or other documentation demonstrating that the project incorporates resilient measures.	LIDs are proposed to capture pre-development infiltration in post-development scenario. See summary in Planning Justification Report. Dwellings are located outside flood areas.

Neighbourhood

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
N1	Private Pedestrian Walkways	Provide on-site private pedestrian walkways from buildings to features outside of the development site, such as public sidewalks, multi-use trails, transit stops and adjacent buildings. All connections must be AODA compliant.	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/> Site plan(s) highlighting on-site walkways.	Roads are private and include connections to adjacent Open Space Blocks
N2	Private Play Areas & Structures	All private play areas and play structures must be AODA compliant.	<input checked="" type="checkbox"/>			<input type="checkbox"/> Site plan(s) highlighting play areas with accessibility features.	Each Estate Lot will be comprised of a large backyard, permitting area for play structures which would be customized by each homeowner.
N3	Community Safety	Design the project using CPTED principles to create a safe space.	<input checked="" type="checkbox"/>			<input type="checkbox"/> or Report demonstrating community safety strategies.	The proposed Estate Subdivision layout is safe and considers CPTED principles with each Lot fronting onto a road and visible.

Land & Nature

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
LN1	Topsoil	The topsoil layer should have a minimum depth of 30 cm for all turf areas, and a minimum depth of 45 cm of high-quality topsoil for all planting beds and scarify hard packed subsoil in all soft landscape areas prior to placement of topsoil.	<input checked="" type="checkbox"/>	Meet Tier 1 and install a minimum depth of 60 cm of high-quality topsoil for all planting beds.	<input type="checkbox"/>	<input checked="" type="checkbox"/> Landscape Plan(s) and/or other documentation indicating applicable soil characteristics (depth, pH, organic matter content) and planting depth.	Additional Top Soil depth is recommended to increase storm water infiltration.
LN2	Light Pollution Reduction	All exterior lighting to be Dark Sky Compliant with the exemption of street lighting, which is governed by the City's Street Lighting Requirements . If a Dark Sky Fixture Seal of Approval is not available, fixtures must be full cut-off and with a colour temperature rating of 3000K or less.	<input checked="" type="checkbox"/>	Meet Tier 1 and install motion sensors or timers for outdoor lights to maintain security without excessively lighting the building's exterior.	<input type="checkbox"/>	<input checked="" type="checkbox"/> Exterior Lighting Plan, Schedule, or other documentation indicating lighting type, orientation and location.	Lighting is anticipated to be Dark Sky Compliant. To be confirmed at the Detailed Design Stage.
LN3	Native and Non-Invasive Species	Plant 50% native plant species , including trees, shrubs and herbaceous plants preferably drought-tolerant and pollinator-friendly outside of the buffer area and within the development limit. Remaining non-native species must be non-invasive.	<input checked="" type="checkbox"/>	Plant 75% or greater with native plant species .	<input type="checkbox"/>	<input checked="" type="checkbox"/> Landscape Plan(s), drawings or other documentation demonstrating the percentage of plant species, preferably are drought-tolerant and pollinator-friendly.	Significant Woodlands, on site, are protected.

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
LN4	Vegetated Buffers	The disturbed buffer area between the development limit and a key natural heritage feature shall be restored with 100% native plant species , including trees, shrubs and herbaceous plants, preferably drought- tolerant.	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/> Landscape Plan(s), drawings or other documentation demonstrating that plant species are 100% native, preferably drought-tolerant.	Open Space Blocks are buffered as required.
LN5	Tree Preservation and Removal Compensation	Plant 60 mm caliper deciduous trees and 1.8 m high coniferous trees in accordance with the tree compensation requirements . This applies to the removal of any existing trees that are 15 cm or more in diameter at breast height.	<input checked="" type="checkbox"/>	Provide a site design solution that includes the preservation and protection of existing mature trees and a net gain of tree canopy through additional tree plantings in accordance with the tree compensation requirements .	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> A Tree Inventory Report and Preservation Plan that includes all trees on the development site and those on adjoining lands that may be affected by the proposed construction activities.	The Natural Heritage Blocks are being preserved and Tree Compensation, as required will be undertaken within the noted Blocks.
LN6	Healthy Street Trees	Plant 60 mm caliper deciduous trees on both sides of private streets and in public boulevards at an interval rate of 1 tree per 8 m of street frontage or spaced appropriately having regard to site conditions; and Design, implement, and pay for a watering and fertilizing program for at least the first 2 years of planting.	<input checked="" type="checkbox"/>	Meet Tier 1 and provide 30 m ³ high quality soil for street trees with a minimum topsoil depth of 75 cm.	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tree Planting Plan(s), drawings or other documentation demonstrating species, and quantity for each planting area. <input type="checkbox"/> Watering program methods and watering schedule.	A Landscape Plan will be provided as part of the Detailed Design process. Restoration Planting Plans will also be provided.

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
LN7	Natural Heritage Features and Open Space Enhancement	<p>Protect key natural heritage features and key hydrologic features on site, including associated setbacks/buffers;</p> <p>or</p> <p>Where all alternatives to protect and enhance key natural heritage features and open spaces on site have been evaluated and determined to not be feasible, provide compensation for the loss of ecosystem functions due to development impacts.</p>	<input checked="" type="checkbox"/>	<p>Protect and enhance key natural heritage features and key hydrologic features on site and</p> <ul style="list-style-type: none"> • Create new natural heritage features on or off-site; <p>or</p> <ul style="list-style-type: none"> • Restore and enhance connectivity among natural heritage features on or off-site. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Landscape Plan(s), drawing(s) or other documentation highlighting implemented features(s) and/or an Ecosystem Compensation Report where required.	See Environmental Impact Study.

Transportation

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
T1	Electric Vehicles including plug-in hybrid vehicles	Require 40% EV Rough-in & 10% EV Ready charging infrastructure or equivalent electric vehicle energy management systems (load sharing/circuit sharing) capable of providing Level 2 or higher charging for the resident parking spaces; or Require EV Ready charging infrastructure capable of providing Level 2 charging or higher for 50% of the resident parking spaces.	<input checked="" type="checkbox"/>	Require EV Ready charging infrastructure capable of providing Level 2 charging or higher for 100% of the resident parking spaces.	<input type="checkbox"/>	<input type="checkbox"/> Electric Vehicle (EV) Charging Infrastructure Plan , drawings or other documentation.	Documentation will be provided as part of the Detailed Design process.

Waste Management

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
WM1	Construction Waste Reduction	Divert 50% or more of all non-hazardous construction, demolition, and land clearing waste from landfill.	<input checked="" type="checkbox"/>	Divert 75% or more of all non-hazardous construction, demolition, and land clearing waste from landfill.	<input type="checkbox"/>	<input type="checkbox"/> Commitment Letter to divert waste through a third-party hauler.	Commitment Letter can be a Condition of Draft Plan Approval.
WM2	On-Site Storage	For low rise multi-storey residential buildings, design the site so that all individual units can be served by curbside collection; and allocate space for separate recyclables, organics and garbage containers inside each dwelling unit.	<input checked="" type="checkbox"/>			<input type="checkbox"/> Drawing(s) demonstrating compliance.	Waste to be collected by Private Hauler as development is a Common Element Condo.

Water

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
W1	Stormwater Management	<p>Achieve a level one/enhanced stormwater treatment for all stormwater, and achieve runoff reduction of a minimum 5 mm of rainfall depth;</p> <p>and</p> <p>Demonstrate that the applicable groundwater recharge targets are met based on site-specific water balance/budget studies, in accordance with the CTC Source Protection Plan;</p> <p>and</p> <p>Provide an enhanced level of protection for water quality through the long-term average removal of 80% of Total Suspended Solids (TSS) on an annual loading basis from all runoff leaving the site, in accordance with the City of Pickering Stormwater Management Design Guidelines.</p>	<input checked="" type="checkbox"/>	<p>In a manner best replicating natural site hydrology processes, manage on-site runoff using at least two of the following low-impact development (LID) and green infrastructure techniques:</p> <ul style="list-style-type: none"> • permeable pavement • bioswales • soakaways • rain gardens • filtered strips • infiltration trenches <p>or</p> <p>Achieve post-development runoff reductions to no more than 50% of annual precipitation (approx. 10 mm of rainfall event retention from all site surfaces) through infiltration, evapotranspiration, water harvesting and reuse.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stormwater Management Report, Plan(s), and drawing(s) demonstrating compliance.	See Functional Servicing Report for LIDs and Water Balance Report.

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
W2	Water Efficiency	Implement two of the following: <ul style="list-style-type: none"> • Use WaterSense® labeled water fixtures. • Use a non-potable watering system for irrigation purposes. • Install a drain water heater recovery unit. • Install a hot water recirculation pump with an integrated adjustable timer or auto-adaptive controls to shut off during periods of low/no hot water use. • Use Energy Recovery Ventilation in lieu of conventional humidifier. 	<input checked="" type="checkbox"/>	Implement three of the following: <ul style="list-style-type: none"> • Use WaterSense® water fixtures that obtain a minimum 30% better than the Ontario Building Code baseline. • Use a non-potable watering system for irrigation purposes. • Design 25% of the dwelling units/buildings to be "greywater ready" (i.e., plumbing and infrastructure roughed in, adequate utility room space). • Install a hot water recirculation pump with an integrated adjustable timer or auto-adaptive controls to shut off during periods of low/no hot water use. • Use Energy Recovery Ventilation in lieu of conventional humidifier. 	<input type="checkbox"/>	<input type="checkbox"/> Plan(s), drawing(s), or other documentation demonstrating implementation of target element(s). <input type="checkbox"/> Plumbing fixtures specifications or other documentation demonstrating WaterSense® labelling and flush/flow rates. or <input type="checkbox"/> Third party verification of water reductions with systems e.g., Home Energy Rating System H2O or WaterSense® labeling.	Documentation to be provided at Permit Stage with commitment as a Condition of Draft Plan Approval.