

Pickering Integrated Sustainable Design Standards

Mid to High-Rise

Residential & Non-Residential Checklist



Instructions

The Pickering Integrated Sustainable Design Standards (ISDS) for Mid to High-Rise Residential & Non-Residential development, applies to residential buildings 4 storeys and higher, and all Industrial, Commercial and Institutional (ICI) buildings.

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:

Name (First, Last Name):

Telephone Number:

Email:

Address of Subject Land (Street Number and Name):

Registered Owner (First, Last Name):

Project Information:

Project Name:

Date Checklist Completed (yyyy-mm-dd):

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

Gross Floor Area (square metres):

Number of Storeys:

Non Residential Gross Floor Area (square metres):

Proposal Description (narrative of your project):

Education

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
E1	Resident Education	For residential buildings, 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 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.	

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	<p>Roof: For flat roofs (low slope $\leq 2:12$) over 500 m², buildings must provide.</p> <ol style="list-style-type: none"> Green roof for at least 50% of available roof space; <ul style="list-style-type: none"> Where possible, green roof area should be incorporated into visible or accessible locations such as podiums. Where the green roof is accessible, the common outdoor amenity space may be reduced by no more than 25%. Where green roof is edible landscaping, the whole garden area including pathways and adjacent terraces, may be counted as common outdoor amenity space. <p>or</p> <ol style="list-style-type: none"> Cool roof installed for 90% of available roof space and if the roof is over 2,500 m² a minimum of 1,000 m² will be designated solar ready. 	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/> Roof plan indicating heat island reduction measures, including the SRI values(s) of roof materials.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
		<p>or</p> <p>3. A combination of a green roof, cool roof and solar PV installed for at least 75% of available roof space.</p>					
		<p>Non-Roof: Treat 50% of the hardscapes (i.e., roads, sidewalks, and driveways) with heat island reduction measures such as:</p> <ul style="list-style-type: none"> • High-albedo paving materials with an initial solar reflectance of at least 0.33 or Solar Reflectance Index (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; and • Shade from structures with energy generation. 	<input type="checkbox"/>	<p>Non-Roof: Treat 75% of the hardscapes (i.e., roads, sidewalks, and driveways) with heat island reduction measures.</p>	<input type="checkbox"/>	<p>Plan(s), drawing(s), or other documentation indicating heat island reduction measures measure(s).</p>	

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 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"/>	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 and a Commissioning Closeout Report.	
ER3	Energy			Incorporate on-site renewable energy 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.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
ER4	Building Resilience			For high-rise residential buildings greater than 12 storeys, provide: <ul style="list-style-type: none"> • A 72 hour minimum back-up power system, preferably using a non-fossil fuel source, to ensure power is provided to the refuge area, and to the ground floor or the first two floors as applicable to the building use, to supply power to: building security systems, domestic water pumps, sump pumps, at least one elevator, boilers and hot water pumps to enable access and egress and essential building functions during a prolonged power outage. 	<input type="checkbox"/>	<input type="checkbox"/> Drawings, plans, or other documentation demonstrating that the project incorporates resilient measures.	

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 type="checkbox"/>			<input type="checkbox"/> Site plan(s) highlighting on-site walkways.	
N2	Private Play Area & Structures	All private play areas and play structures must be AODA compliant.	<input type="checkbox"/>			<input type="checkbox"/> Site plan(s) highlighting play areas with accessibility features.	
N3	Building Access	Provide the same means of entrance for all users to public entrances of buildings on site, or provide equivalent access when access by the same means is not possible.	<input type="checkbox"/>			<input type="checkbox"/> Plan(s), drawing(s), or other documentation indicating building entrance(s).	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
N4	Wayfinding Signage	Install AODA compliant wayfinding signage (e.g., braille and/or tactile signage) in all buildings and public spaces.	<input type="checkbox"/>			<input type="checkbox"/> Plan(s), drawing(s), or other documentation indicating implemented measure(s).	
N5	Community Safety	Design the project using CPTED principles to create a safe space.	<input type="checkbox"/>			<input type="checkbox"/> Report demonstrating community safety techniques.	

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 type="checkbox"/>	Meet Tier 1 and a minimum depth of 60 cm of high-quality topsoil for all planting beds.	<input type="checkbox"/>	<input type="checkbox"/> Landscape Plan(s) and/or other documentation indicating applicable soil characteristics (depth, pH, organic matter content) and planting depth.	
LN2	Light Pollution Reduction	Require 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-cutoff and with a colour temperature rating of 3000K or less.	<input type="checkbox"/>	Meet Tier 1 and use motion sensors or timers for outdoor lights to maintain security without excessively lighting the building's exterior.	<input type="checkbox"/>	<input type="checkbox"/> Exterior Lighting Plan, Schedule(s), or other documentation indicating lighting type, orientation and location.	
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 type="checkbox"/>	Plant 75% or greater with native plant species .	<input type="checkbox"/>	<input type="checkbox"/> Landscape Plan(s), drawings or other documentation demonstrating the percentage of native plant species, preferably are drought-tolerant and pollinator-friendly.	

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 type="checkbox"/>			<input type="checkbox"/> Landscape Plan(s), drawings or other documentation demonstrating that plant species are 100% native, drought-tolerant.	
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 to ensure no net loss. This applies to the removal of any existing trees that are 15 cm or more in diameter at breast height.	<input 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 type="checkbox"/>	<input 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.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
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 type="checkbox"/>	Meet Tier 1 and provide 30 m ³ high quality soil for street trees with a minimum top soil depth of 75 cm.	<input 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.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
LN7	Common Outdoor Amenity Space	<p>For residential buildings with 20 or more dwelling units, provide 4.0 square metres of common outdoor amenity space per dwelling unit (a minimum contiguous area of 40.0 square metres must be provided in a common location). Where lot areas are constrained in some cases, flexibility on providing the common outdoor amenity space requirement may be provided at the discretion of the Director, City Development.</p> <p>and</p> <p>Where a green roof functions as an amenity space, no more than 25% of the outdoor component may be on the green roof.</p>	<input type="checkbox"/>	<p>For residential buildings with 20 or more dwelling units, provide 6.0 square metres of common outdoor amenity space per dwelling unit (a minimum contiguous area of 40.0 square metres must be provided in a common location).</p>	<input type="checkbox"/>	<input type="checkbox"/> Site Plan(s), drawing(s), or other documentation indicating size and location of outdoor amenity area.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
LN8	Natural Heritage Features and Open Space Enhancement	<p>Protect key natural heritage features and key hydrologic features on site.</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 type="checkbox"/>	<p>Maintain and enhance key natural heritage features and key natural 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 type="checkbox"/>	<p><input type="checkbox"/> Landscape Plan(s), drawing(s), or other documentation highlighting implemented feature(s) and/or an Ecosystem Compensation Report where required.</p>	
LN9	Bird-Friendly Design	<p>For residential and non residential buildings, use a combination of bird-friendly design treatments for a minimum of 90% of all exterior glazing within the first 16 m of the building above grade or the height of the mature tree canopy (including all balcony railings, clear glass corners, parallel glass and glazing surrounding interior courtyards and other glass surfaces).</p>	<input type="checkbox"/>		<input type="checkbox"/>	<p><input type="checkbox"/> Elevations indicating bird-friendly glazing measures implemented, including treated area, type of treatment, density of visual markers, etc.</p> <p>Summary table of treated glazing areas for each elevation.</p>	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
		Where green roof is constructed with adjacent glass surfaces, glass is to be treated within 12 metres above green roof surface.	<input type="checkbox"/>			<input type="checkbox"/> Elevations indicating bird-friendly glazing measures implemented, including treated area, type of treatment, density of visual markers, etc.	

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	For multi residential buildings, 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 type="checkbox"/>	For multi-residential buildings, require EV Ready charging infrastructure capable of providing Level 2 charging or higher for 100% of the parking spaces excluding visitor parking.	<input type="checkbox"/>	<input type="checkbox"/> Parking plan(s) indicating the location of EV Rough-in or EV Ready parking spaces. <input type="checkbox"/> Electric Vehicle (EV) Charging Infrastructure Plan, drawings or other documentation.	
T2		For non-residential buildings, require EV Rough-in charging infrastructure for 20% of the parking spaces.		For non-residential buildings, require EV Ready charging infrastructure for 20% of the parking spaces.	<input type="checkbox"/>	<input type="checkbox"/> Parking plan(s) indicating the location of EV Rough-in or EV Ready parking spaces.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
T3	Bicycle Parking and Storage Facilities	For residential buildings, provide 0.5 long-term bicycle parking spaces (includes adaptive bikes, trikes, and scooters for people with disabilities) in weather protected areas located within a secure area of the building or common garage for each dwelling unit. and At least 15% of the required long-term bicycle parking spaces, or one parking space, whichever is greater, shall include an Energized Outlet (120 V) adjacent to the bicycle rack or parking space.	<input type="checkbox"/>	For residential buildings, provide 0.75 long-term bicycle parking spaces (includes adaptive bikes, trikes, and scooters for people with disabilities) in weather protected areas located within a secure area of the building or common garage for each dwelling unit. and At least 15% of the required long-term bicycle parking spaces, or one parking space, whichever is greater, shall include an Energized Outlet (120 V) adjacent to the bicycle rack or parking space.	<input type="checkbox"/>	<input type="checkbox"/> Plan(s) indicating location, number and type (long-term) of bicycle parking spaces.	
		For residential buildings, provide 0.1 short-term bicycle parking spaces per dwelling unit in locations that are highly visible and in close proximity to primary entrances.	<input type="checkbox"/>			<input type="checkbox"/> Plan(s) indicating location, number and type (short-term) of bicycle parking spaces.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory	Met	Tier 2 Optional	Met	Documentation	Comments
		For non-residential buildings and mixed use buildings, provide long-term bicycle parking spaces at a rate of 1.0 bicycle parking space for each 1,000 square metres of gross leasable floor area and at least one bicycle rack shall be installed for short-term bicycle parking.	<input type="checkbox"/>			<input type="checkbox"/> Plan(s) indicating location, number and type (long-term) of bicycle parking spaces.	
		For non-residential buildings and mixed use buildings, provide two trip-end facilities (i.e., showers and a change room) for every 60 long term bicycle parking spaces (minimum of 1 facility when more than 5 bicycle parking spaces are provided).	<input type="checkbox"/>			<input type="checkbox"/> Plan(s) indicating trip-end facilities.	

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 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.	
WM2	On-Site Storage	For multi-storey residential buildings, provide a tri-sorter or separate chutes to direct and separate materials into either recyclables, organics or waste. Ensure there is adequate storage space for accumulated recyclables, waste and organics generated between collection days and be designed to minimize litter and pests.	<input type="checkbox"/>	Meet Tier 1 and include a dedicated space for materials such as textiles, batteries and electronics is provided.	<input type="checkbox"/>	<input type="checkbox"/> Drawing(s) demonstrating compliance.	
		For non-residential development, provide a dedicated area or area attached to the building for the separate collection and storage for accumulated recyclables, waste and organics.	<input type="checkbox"/>			<input type="checkbox"/> Site plan(s) or Drawing(s) indicating location of waste storage area.	

Water

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory Requirement	Met	Tier 2 Optional Requirement	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 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:</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 type="checkbox"/>	<input type="checkbox"/> Stormwater Management Report, Plan(s), and drawing(s) to verify compliance.	

Performance Measures		Performance Criteria			For Submission		
Number	Development Feature	Tier 1 Mandatory Requirement	Met	Tier 2 Optional Requirement	Met	Documentation	Comments
W2	Building Water Efficiency	Install WaterSense® labeled water fixtures.	<input type="checkbox"/>	All buildings reduce indoor aggregate potable water consumption (not including irrigation) by 30% better than the Ontario Building Code baseline.	<input type="checkbox"/>	<input type="checkbox"/> Plumbing fixture specifications or other documentation demonstrating WaterSense® labelling and flush/flow rates. <input type="checkbox"/> Calculations demonstrating water use reduction. or Third party verification of water reductions with systems like Home Energy Rating System H2O or WaterSense® labeling. Hand calculations could be done according to LEED version 4.1 approach.	
W3	Rainwater Harvesting			For mid to high-rise residential development, each building includes a separate, non-potable subsurface watering system for irrigation and outdoor-reuse purposes.	<input type="checkbox"/>	Plan(s), drawing(s), or other documentation indicating non-potable water system.	