



SAMPLE GREEN DEVELOPMENT STANDARDS METRICS AND COMPARISON TABLES

Sample Metrics for Low-Rise Residential Development

Notes:

- These metrics are a suggested list of sustainability metrics to be included in a municipality’s Green Development Standards. They might not all apply to your municipality.
- Rural municipalities may not be able to implement these metrics related to transportation, connectivity, and proximity to amenities. They may need to be modified to suit the municipality’s rural character. For example, these metrics may be able to be applied to certain areas, neighbourhoods, or developments.

1. Energy Efficiency

Metric	Energy Efficiency
Applies to	Site Plan and Draft Plan
Tier 1	Design buildings to achieve at least ENERGY STAR for New Homes, version 17.1 or R-2000 requirements
Tier 2	Design buildings to achieve at least ENERGY STAR for New Homes, version 17.1 or R-2000 requirements Where supplied, for each unit, provide ENERGY STAR® labeled refrigerators, ceiling fans, clothes washers and dishwashers.
Tier 3	Design and construct the building to be Net Zero ready in accordance with the CHBA Net Zero Home Labelling Program.
Tier 4	Design and construct the building in accordance with the CHBA Net Zero Home Labelling Program, Passive House Standards, or Living Building standards.
How It is Demonstrated	<ul style="list-style-type: none"> • Provide a letter of intent signed by a professional • Commit by signing a Site Plan Agreement / Letter of Undertaking including conditions to follow through. • request builders fill out draft EEDs forms so site plan intentions can be compared directly to permit applications. • For buildings greater than 2000 m2, submit an Energy Modeling Report
Who is Responsible for Reviewing	Planning Staff
Rationale	Reduce energy use and greenhouse gas emissions with consequent reductions in air, water, and land pollution and adverse environmental effects from energy production and consumption. Lessen environmental impacts such as climate change.

2. Energy management

Metric	Energy Management
Applies to	Block, Draft and Site Plans
Mandatory	<p>Develop an energy strategy for the development, identifying opportunities for conservation, energy sharing, renewables, with a focus on reducing the use of natural gas.</p> <p>In an intensification area, where district energy has been deemed viable by the municipality, carry out a district energy feasibility study.</p>
Voluntary	For new buildings with a gross floor area of greater than 100 m ² , install renewable energy devices to supply at least 20% of the buildings total energy load from one or a combination of energy sources (with a focus on thermal energy to maximize carbon impacts).
How It is Demonstrated	<p>Included in an Energy Report issued and signed by a professional.</p> <p>Submission requirements:</p> <p>1) Submit an Energy Report outlining the energy strategy for the development. The report should highlight:</p> <ul style="list-style-type: none"> • Energy conservation measures that will be adopted and the expected savings (energy, GHG emissions, operating cost, peak demand, etc...). • Opportunities for renewable energy/energy sharing between buildings <p>*IF APPLICABLE: In intensification areas, where district energy has been deemed viable by the municipality:</p> <p>2) Submit and Energy Report, outlining the viability of renewable district energy for the site, with a focus on renewable thermal networks over natural gas. The report should quantify and highlight:</p> <ul style="list-style-type: none"> • The projected annual energy consumption for the site, broken out by heating (space heating and hot water, cooling and electricity). • The projected electricity demand for the site (average seasonally and peak demand) • Identified technologies/equipment to be considered for energy supply. • The relative savings (energy, GHG emissions, peak demand, operating cost) for each relevant technology. • Final recommendations for district energy viability and technologies.
Who is Responsible for Reviewing	Development Planning
Rationale	District energy systems can provide more efficient heating and cooling for residential and commercial customers (providing there is density of development). This aids governments in reaching reduction targets for greenhouse gas emissions while also benefitting customers in reduced ongoing energy expenses and reduced one-time first costs for mechanical equipment.

3. Connectivity

Metric	Connectivity
Applies to	Site Plan

Tier 1	<p>Connect buildings on the site to off- site pedestrian paths, surface transit stops, parking areas (car and bike), existing trails or pathways, or other destinations (e.g. schools). Outdoor waiting areas located on the site must offer protection from weather.</p> <p>Where a transit stop is located within a walking distance of the project site boundary, the building main entrance should have a direct pedestrian linkage to that transit stop</p> <p>Provide amenities and street furniture (benches, additional bike parking, landscaping) along connections provided on the site and between the site and adjacent destinations.</p> <p>If cul de sacs are necessary, provide pedestrian and / or bicycle connections in the cul de sacs.</p>
How It is Demonstrated	<p>Included in the Site or Landscaping Plan</p> <p>Submission requirements:</p> <ol style="list-style-type: none"> 1) On a site or landscaping plan, identify existing or proposed transit routes that are within walking distance to the building (e.g. 200m). If applicable, highlight a linkage that connects a building entry to the transit stop. 2) On a site or landscape plan, identify the linkages that connect a building entry to pedestrian paths, surface transit stops, parking areas (car and bike), schools, etc. 3) Identify outdoor waiting areas located within the site and highlight the weather protection elements included in the design. 4) List the amenities and street furniture (benches, public art, landscaping, bioswales, etc...) that help connect the site to adjacent destinations.
Who is Responsible for Reviewing	<p>Planning</p>
Rationale	<p>Encourage walking and transit use, which improves health and reduces dependence on automotive travel.</p> <p>Connected streets reduce the length of trips and reduce greenhouse gas emissions.</p>

4. Pedestrian Infrastructure

Metric	Walkable Streets/ Pedestrian Infrastructure
Applies to	Block, Draft and Site Plans
Tier 1	<p>Follow municipal street design guidelines/ standards and incorporate accessibility and universal design.</p>

Tier 2	<p>Weather Protection- Provide covered outdoor waiting areas for pedestrian comfort and protection from inclement weather.</p> <p>Pedestrian Specific Lighting- Provide pedestrian-scale lighting that is evenly spaced, continuous and directed onto sidewalks, pathways, entrances, outdoor waiting areas and public spaces.</p> <p>Accessible and universal design – Design for all mobility types</p> <p>Pedestrianized areas- prevent use of automobiles</p>
How It is Demonstrated	<p>Included in the Site Plan Drawings and Transportation Study (Draft and Block Plans). Submission requirements:</p> <ol style="list-style-type: none"> 1) Verify and document that the sidewalks comply with Municipal Standards 2) Quantify the total length of streets included in the project boundary 3) Quantify the % street length where sidewalks are continuous and included on both sides of the street. 4) List pedestrian amenities (see glossary) that are included on the sidewalks.3) If applicable, identify the additional features that advance the objectives of the applicable pedestrian and cycling master plan and provide reference to relevant language in the master plan.
Who is Responsible for Reviewing	Planning/Transportation
Rationale	

5. Proximity to Basic Amenities (VOLUNTARY)

Note: in a municipality with mainly infill development and urban form, this may not be applicable. This metric can be included as a voluntary option, and it may be feasible to make it mandatory in the future after significant development.

Metric	Proximity to Lifestyle/Basic Amenities
Applies to	Draft, Block, Site Plans
Voluntary Metric	<p>50% of DU and jobs are within an 800m walking distance to existing or planned Basic Amenities</p> <p>Basic amenities include:</p> <ol style="list-style-type: none"> 1. Grocery store/farmers market, place to buy fresh produce 2. Community/Recreation Centre 3. Pharmacy 4. Library 5. General retail 6. Convenience store 7. Theatre 8. Coffee store 9. Hair salon

	10. Bank 11. Place of worship 12. Daycare 13. Restaurant/Pub Other 14. School 15. Transit Stop
How It is Demonstrated	Identify clusters/circles that capture 50% of the Dwelling Units (DU) and jobs within the proposed plan. Apply radial circles to the plan demonstrating if 50% of the planned development is within 800m walking distance to planned or existing amenities.
Who is Responsible for Reviewing	Development Planning
Rationale	Recognize sites with good community connections to services and/or promote services to encourage compact communities and multi-modal transportation options. Recognizes a fine grain mix of uses as promoted in municipal official plans. The metric and targets are adapted from the point scoring system used in LEED ND.

6. Green Building (Alternate Pathway to Energy Metric)

Metric	Green Building
Applies to	Draft
Voluntary	Site includes 1 or more green buildings certified under a recognized third party standard (i.e. Energy Star, LEED NC, CS, CI, EB, Homes) Development plans include 5 or more buildings on site certified under a recognized third party standard (i.e. Energy Star, ASHRAE 189, LEED NC, CS, EB, Homes, etc...) + points if 50% to 75% of buildings are certified + points if 76% to 100% of buildings are certified
How It is Demonstrated	<ul style="list-style-type: none"> • Commit to or demonstrate that at least 1 building within the project boundary will be certified to a recognized third party green rating system. • For sites that include 5 or more buildings, identify the percentage (%) of buildings that will be certified to a recognized third party green rating system. • Request proof of registration, and preliminary checklist or other document for the certification program
Who is Responsible for Reviewing	Planning/ Sustainability
Rationale	Recognize appropriate independent third-party certification systems incorporated into development proposals.

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7. Tree Canopy- within proximity to building/pedestrian infrastructure

Metric	Tree Canopy- within proximity to building/pedestrian infrastructure
Applies to	Site Plan
Mandatory	<p>Provide shade within 10 years for at least 50% of the walkways/sidewalk lengths All trees should be selected from the applicable municipal tree list.</p> <p><u>Parking lots</u> Parking Lots: If surface parking is permitted and provided, plant large growing shade trees throughout the parking lot interior at a minimum ratio of one tree planted for every five (5) parking spaces supplied.</p> <p><u>Watering program</u> Provide a watering program for trees for at least the first 2 years after planting.</p>
Voluntary	<p>Provide shade within 10 years for at least 75% of the walkways/sidewalk lengths. All trees should be selected from the applicable municipal list.</p> <p><u>Parking lots</u> Parking Lots: If surface parking is permitted and provided, plant large growing shade trees throughout the parking lot interior at a minimum ratio of one tree planted for every three (3) parking spaces supplied</p> <p><u>Watering program</u> Provide a watering program for trees for at least the first 2 years after planting.</p>
How It is Demonstrated	<p>Included in Landscape Plan/Drawings</p> <p>Submission requirements:</p> <p>Tree Lined Streets</p> <ol style="list-style-type: none"> 1) Review Municipal Standards and confirm that the plan includes street trees planted on both sides of the street (in accordance with Municipal Standards). 2) On a plan, identify the new and existing streets included in the plan. 3) On a plan, identify the trees that are included along new and existing streets (between vehicle travel lane and walkways). 4) Quantify the average interval spacing between trees (in meters) for all street trees included in the plan. Shaded Streets 5) See Document Compliance description
Who is Responsible for Reviewing	Parks/Natural Heritage Planning

Rationale	As part of the urban forest, street trees provide a range of ecosystem services including: cleaning air; intercepting rainfall that helps to mediate storm flows; evaporative cooling and summer shade to reduce building cooling loads; wind breaks; and carbon sequestration. As community amenities, street trees promote active transportation by providing a more walkable pedestrian environment.
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8. Tree Canopy- Maintaining existing trees

Metric	Tree Canopy- Maintaining existing trees and Soil Fertility
Applies to	Draft and Site Plans
Mandatory	Arborist Report provided that identifies and evaluates where onsite healthy mature trees will be protected (in-situ or moved) or removed. Where healthy mature trees must be removed, new trees (not including street trees) are provided on site or as determined by the municipality to mitigate the lost canopy coverage of the trees removed.
Voluntary	75% of healthy mature trees greater than 20 cm. DBH are preserved in situ on site.
How It is Demonstrated	Arborist Report that clearly reports total number of trees removed, to be protected, and to be moved. Also include percentages of tree health.
Who is Responsible for Reviewing	Parks/Natural Heritage Planning
Rationale	As part of the urban forest, street trees provide a range of ecosystem services including: cleaning air; intercepting rainfall that helps to mediate storm flows; evaporative cooling and summer shade to reduce building cooling loads; wind breaks; and carbon sequestration. As community amenities, street trees promote active transportation by providing a more walkable pedestrian environment.

9. Soil Quantity and Quality

Metric	Soil Quantity and Quality
Applies to	Draft and Site Plans
Mandatory	Pits, trenches or planting beds should have a topsoil layer with an organic matter content of 10 to 15 % by dry weight and a pH of 6.0 to 8.0. The topsoil layer should have a minimum depth of 60 cm. The subsoil should have a total uncompacted soil depth of 90 cm. Minimum soil volume of 30 cubic meters per tree. Undertake a Topsoil Fertility Test for the entire site and implement its recommendations.

	Avoid development on highly permeable soils following TRCA and CVC Low Impact Development Stormwater Management Planning and Design Guide (or other local LID SWMP guides)
Voluntary	<p>Minimum 200 mm of top soil is provided across the entire site (2 points);</p> <p>Minimum 30 cubic metres of soil per tree is provided (1 point);</p> <p>Provide 25% more soil volume than the 30 cubic metres per tree (1 point).</p>
How It is Demonstrated	<p>Provide an arborist report that identifies and evaluates the healthy, mature trees that will be protected (in-situ or moved) or removed. Where healthy, mature trees are removed, quantify the number of new trees required to mitigate the lost canopy.</p> <p>NOTE 1 – This metric (and associated points) are excluded if there are no healthy, mature trees within the project boundary.</p> <p>NOTE 1 – This metric applies for healthy, mature trees on the developable portion of the site (e.g. not in the protected natural heritage system). Compensation may be used to enhance the Municipal natural heritage system in accordance with the Municipal policies.</p> <p>Soil Fertility test</p>
Who is Responsible for Reviewing	Parks/Natural Heritage Planning
Rationale	Limit disturbance of healthy soil to: protect soil horizons and maintain soil structure; support biological communities (above-ground and below-ground); minimize runoff and maximize water holding capacity; improve biological decomposition of pollutants; and moderate peak stream flows and temperatures.

10. Connection to Natural Heritage

Metric	Connection to Natural Heritage
Applies to	Block, Draft and Site Plans
Mandatory	<p>Plant the landscaped area within the Natural Heritage System and the Ravine Protected Area with 100% native plants (including trees, shrubs and herbaceous plants).</p> <p>EC 2.2 Ravine and Protected Areas Buffers</p> <p>Where a setback from the toe-of-slope or the top-of-bank is required within the Natural Heritage System or the Ravine Protected Area prepare and implement a stewardship plan for the area.</p> <p>Visual and physical connections (such as public access blocks, single loaded roads) are provided to 25% of the natural heritage system and parks.</p>

Voluntary	Visual and physical connections (such as public access blocks, single loaded roads) are provided to 50% of the natural heritage system, with efforts to mitigate impact of the connections (ie. Erosion control, invasive species managment).
How It is Demonstrated	Included in Urban Design Submission and Landscape Plan. Submission requirements: 1) Identify if a natural heritage system is included within the project boundary. If one or 400m Neighbourhood Radius 14 multiple systems are included, identify the natural heritage elements on the landscape plan 2) Highlight strategies that have been used to enable a visual and/or physical connection to the natural heritage system 3) Quantify the % connection for the natural heritage system
Who is Responsible for Reviewing	Parks/Natural Heritage Planning
Rationale	Improve natural heritage system function with respect to wildlife habitat and/or ecological functions, including ecosystem services.

11. Pedestrian connections-traffic calming

Metric	Pedestrian connections-traffic calming
Applies to	Block, Draft and Site Plans
Mandatory	100% of new residential-only streets designed with traffic calming strategies.
Voluntary	75% of new non-residential and/or mixed-use streets are designed with traffic calming strategies
How It is Demonstrated	Included in the Transportation Study or Traffic Impact Study Submission requirements: 1) Highlight the new residential-only and new non-residential / mixed use streets in the project (if any) 2) Identify the % of street length (broken out by resident only and non-resident) that include street calming techniques. 3) On a drawing, identify the traffic calming strategies that are included in the project.
Who is Responsible for Reviewing	Planning/Sustainability
Rationale	Provide walkable streets to encourage active transportation.

12. School Proximity to Transit routes & Bikeway

Metric	School Proximity to Transit routes & Bikeway
Applies to	Block, Draft and Site Plans
Voluntary	50% of dwelling units are within 800 meters walking distance to public/private elementary, Montessori, and middle schools 50% of dwellings units are within 1600 meters to a high school 75% of dwelling units are within 400 meters walking distance to public/private elementary, Montessori, and middle schools 75% of dwellings units are within 1000 meters to a high school

How It is Demonstrated	Included in the Planning Justification Report, Urban Design Submission or Transportation Study or Traffic Impact Study Submission requirements: 1) On a project map, identify the: <ul style="list-style-type: none"> • existing or planned school(s) • existing or planned transit stops • existing or planned dedicated bike network 2) For all of the existing or planned schools, quantify the radial walking distance (in meters) to existing or planned transit stops and dedicated bike networks.
Who is Responsible for Reviewing	Planning/Urban Design
Rationale	Promote walking and cycling to schools and reduce traffic congestion at school sites.

13. Cultural Heritage Conservation

Metric	Cultural Heritage Conservation
Applies to	Block, Draft and Site Plans
Mandatory	Comply with Cultural Heritage Conservation policies under provincial legislation (i.e. the Ontario Heritage Act, Planning Act and PPS, etc.), Standards and Guidelines for Historic Places, municipal Official Plan, municipal by-laws, Municipal Register of Cultural Heritage Resources and/or Municipal Heritage Inventory. 100% evaluation of properties included in the Municipal Heritage Inventory and/or Register, and 100% retention and protection of cultural heritage resources that qualify for designation under the Ontario Heritage Act.
Voluntary	100% conservation of cultural heritage resources identified in the Municipal Heritage Register or Inventory and their associated landscapes and ancillary structures in accordance with the Standards and Guidelines for the Conservation of Historic Places in Canada.
How It is Demonstrated	Included in the Heritage Impact Assessment Submission requirements: 1) On a plan, identify the cultural heritage resources that are located within the project boundary (if any). If there are no cultural heritage resources on the site, this Metric is not applicable and points will not be counted in the Applicant score. 2) If cultural heritage resources are located on the site, verify that the proposed plan complies with the Cultural Heritage Conservation policies under provincial legislation (Ontario Heritage Act, Planning Act and PPS, etc), Standards and Guidelines for Historic Places, Municipal Official Plan, Municipal by-laws, Municipal Register of Cultural Heritage Resources and/or Municipal Heritage Inventory.

	<p>3) Verify and document that 100% of cultural heritage resources included in the Municipal Heritage Inventory and/or Register have been evaluated.</p> <p>4) Verify and document that 100% of the cultural heritage resources that qualify for designation under the Ontario Heritage Act are retained and protected.</p> <p>5) Verify and document that 100% of the cultural heritage resources identified in the Municipal Heritage Register or Inventory and their associated landscapes and ancillary structures are conserved in accordance with the Standards and Guidelines for the Conservation of Historic Places in Canada.</p>
Who is Responsible for Reviewing	Planning/Cultural Heritage Planning
Rationale	Minimize the negative impacts of grading and other soil and landform disturbances from construction activities. Retaining natural topography is a factor in maintaining pre-development water balance and stream flow regimes as well as the aesthetic appeal of cultural heritage landscapes.

14. Connectivity

Note:

- In order for the mandatory metric to be included, it should be implemented through the Official Plan and Zoning By-law, and included in Municipal Urban Design Guidelines and Pedestrian/Parks and Trails Masterplans

Metric	Connectivity
Applies to	Site Plan
Mandatory	Connect buildings on the site to offsite pedestrian paths, surface transit stops, parking areas (car and bike), existing trails or pathways, or other destinations (e.g. schools). Outdoor waiting areas located on the site must offer protection from weather. Where a transit stop is located within a walking distance of the project site boundary, the building main entrance should have a direct pedestrian linkage to that transit stop.
Voluntary	Provide amenities and street furniture (benches, additional bike parking, landscaping) along connections provided on the site and between the site and adjacent destinations.
How It is Demonstrated	<p>Included in the Site or Landscaping Plan Submission requirements:</p> <ol style="list-style-type: none"> 1) On a site or landscaping plan, identify existing or proposed transit routes that are within walking distance to the building (e.g. 200m). If applicable, highlight a linkage that connects a building entry to the transit stop. 2) On a site or landscape plan, identify the linkages that connect a building entry to pedestrian paths, surface transit stops, parking areas (car and bike), schools, etc. 3) Identify outdoor waiting areas located within the site and highlight the weather protection elements included in the design. 4) List the amenities and street furniture (benches, public art, landscaping, bioswales, etc...) that help connect the site to adjacent destinations. <p>Submit a plan illustrating the offsite paths/stops and the connections to them from the site.</p>

Who is Responsible for Reviewing	Planning
Rationale	Encourage walking and transit use

15. Distance to public transit

Note:

➤ This would apply for municipalities with public transportation systems. Municipalities without public transportation may exclude this as mandatory.

Metric	Distance to public transit
Applies to	Block, Draft and Site Plans
Mandatory	Site is within 800m walking distance to an existing or planned commuter rail, light rail, bus rapid transit or subway with stops or Site is within 400m walking distance to 1 or more bus stops with frequent service. .
Voluntary	Site is within 400m walking distance to an existing or planned commuter rail, light rail , bus rapid transit, or subway with frequent stops or Site is within 200m walking distance to 1 or more bus stops with frequent service.
How It is Demonstrated	Included in the Urban Design Submission and/or Transportation Study (Block and Draft Plans) and Traffic Impact Study and/or Transportation Demand Management Plan (Site Plan) Submission requirements: 1) List the Municipal Plan Targets and document if compliance is achieved. 2) On a map, identify the existing or planned commuter rail, subway, light rail and bus stops with frequent service 3) Quantify the expected residential and employment population for the proposed plan 4) Quantify the % of residents and employees that are within an 800m and 400m walking distance to existing or planned commuter rail, light rail or subways with frequent service 5) Quantify the % of residents and employees that are within a 400m and 200m walking distance to 1 or more bus stops with frequent service
Who is Responsible for Reviewing	Transportation Engineering/Active Transportation
Rationale	Support alternative transportation modes to vehicle use.

16. Active Transportation- Proximity to Cycling Network

Metric	Active Transportation- Proximity to Cycling Network
Applies to	Block, Draft and Site Plans
Voluntary	75% of residents/jobs are within 400 meters of existing or approved by council path/network
How It is Demonstrated	Included in the Traffic Impact study or Transportation Demand Management Plan (Site Plan), Urban Design Guidelines, Planning Justification Report or Transportation Study (Draft and Block Plans). Submission requirements: 1) Identify if there are any existing or municipally approved cycling networks within the project boundary

	2) Quantify the expected residential and employment population for the proposed plan 3) Quantify the % of residents and jobs that are within 400m of existing or planned cycle networks. NOTE 1 – Points are only awarded if a cycling network is included in the project boundary and the bike parking requirement is satisfied.
Who is Responsible for Reviewing	Development Planning/Transportation Engineering/Active Transportation
Rationale	Enhance pedestrian and cycling trails to further promote active forms of transportation

17. Parks

Metric	Parks
Applies to	Block, Draft and Site Plans
Voluntary	Provide 2 road frontages for each urban square, parkette, and neighborhood park provided and 3 road frontages for each community park provided.
How It is Demonstrated	Included in the Site Plan Drawings and Urban Design Submission and Landscape Plan (Draft and Block Plans). Submission requirements: 1) Highlight the urban squares, parkettes, neighbourhood parks and community parks included within the application. 2) Quantify the number of road frontages for each park type.
Who is Responsible for Reviewing	Park/ Natural Heritage Planning
Rationale	Provide visual and physical access to public parks

18. Stormwater quantity

Note:

- The minimum stormwater engineering requirement may increase after publication of this document, and thus this metric should be updated to reflect current requirements.
- Your municipal stormwater requirements can be integrated into this metric.

Metric	Stormwater quantity
Mandatory	Retain runoff volume from the 10mm fall event on site. (OR CURRENT MINIMUM STORMWATER ENGINEERING REQUIREMENT).
Voluntary	Retain runoff volume from the 15mm rainfall event on site.
How It is Demonstrated	Included in the Site Plan Drawings or Stormwater Management Plan (Site Plans) and Functional Servicing Report or Stormwater Management Plan (Block and Draft Plans). Submission requirements: 1) List and describe the design measures used to retain stormwater runoff on site. Measures could include (but not limited to): <ul style="list-style-type: none"> • Low impact development measures; • Stormwater ponds; • Bioswales.

	2) Highlight the location of design measures (if any) on a plan. 3) Confirm that the quantity and flood controls are in accordance with applicable Municipal and conservation authority requirements. 4) Calculations and signoff by a professional quantifying the amount of runoff that will be retained on site.
Who is Responsible for Reviewing	Development Engineering
Rationale	Implement a treatment-train approach to stormwater management that emphasizes source controls and conveyance controls to promote infiltration, evaporation, and/or re-use of rainwater. 26 The objective is to maintain stream flows and thermal regimes within natural ranges of variation.

19. Dedicate land for local food production

Note:

- Your municipality may want to give consideration around preventing or mitigating for scenarios where development is on potential farmland.
- Depending on developer feedback, you may wish to use this to offset some of the greenspace requirements
- Municipalities may need to allow for areas zoned for food production to be permitted in the Vegetation Protection Zone of natural features or to count towards parkland dedication.

Metric	Dedicate land for local food production
Applies to	Block, Draft and Site Plans
Voluntary	Provide 80ft ² of garden space per Development Unit. (Commercial, Retail, Institutional Developments are exempt from minimum targets) Dedicate 15% of roofspace for local food production. (Commercial, Retail, Institutional and Single Family Developments are exempt from minimum targets)
How It is Demonstrated	Included in a Landscape Plan or Urban Design Submission. Submission requirements: 1) Identify the locations within the project that are dedicated for food production. 2) List the garden space elements included/considered for the project. 3) Quantify the total number of DU within the project. 4) Quantify the total garden space available per DU (i.e. ft ² /DU). For Multi-Use Residential Buildings (only) 5) Quantify the available roof area. 6) Quantify the % of available roof area that is dedicated to food production. 7) Highlight the dedicated roof area on a drawing.

Who is Responsible for Reviewing	Planning/Sustainability
Rationale	Promote community-based food production and provide alternative passive recreational uses.

20. Solar Readiness

Note: This metric may require a Letter of Credit (LoC). This document could be prepared to identify several metrics and the associated LoC payment and what is required to release the LoC.

Metric	Solar Readiness
Applies to	Site Plan
Mandatory	100% of all new buildings designed for solar readiness (i.e. electrical conduit/plumbing riser roughed in) (may include structural requirements)
Voluntary	Produce 1%-13% of annual energy consumption from an on-site renewable energy source. Off-setting 1% of annual energy use earns X additional Point(s). Each additional 2% earns X point(s).
How It is Demonstrated	<p>Included in the Roof Plan, Site Plan or Letter of Intent.</p> <p>Submission requirements:</p> <ol style="list-style-type: none"> 1) Submit a Letter of Intent (signed by a professional) committing that all new buildings will be designed for solar readiness (i.e. electrical conduit/plumbing riser built into base building, roof capacity accounts for weight/lift of renewable energy technologies, delivery and space allocation for fuel delivery/storage, etc...). 2) Submit a Letter of Intent (signed by a professional) committing the % of renewable energy that will be included onsite. The % of renewable energy generated can be quantified by the following steps: <ul style="list-style-type: none"> • List the types of buildings (office, commercial, retail, multi-family, single family); • Quantify the total GFA for each building type; • List the expected/approximate energy use intensities (EUIs) for each building type; • Quantify the total building annual energy use for the site; • List the renewable energy technologies being considered for the site; • Quantify the expected annual energy generated from renewable technologies; • Quantify the % of annual energy generated on site, relative to the total energy consumed.
Who is Responsible for Reviewing	Planning
Rationale	Encourage on-site renewable energy generation.

21. Passive solar alignment

Note:

➤ This metric may be used if tools for enforcing energy targets are limited

Metric	Passive solar alignment
Applies to	Block and Draft Plans (Greenfield) and Site Plans
	Applies to 50% of new buildings
Voluntary	Applies to 75% of new buildings
How It is Demonstrated	Included in the Urban Design Submission and Site Plan. Submission requirements TBD.
Who is Responsible for Reviewing	Planning
Rationale	Promote energy efficiency by creating the conditions for the use of passive solar design as well as solar photovoltaic and/or solar thermal strategies.

22. Reduce potable water used for irrigation

Note: This metric may also address other landscaping concerns here such as invasive species, and bio diversity

Metric	Reduce potable water used for irrigation
Applies to	Site Plans
Mandatory	Reduce potable water used for irrigation by 50%, compared to a midsummer baseline case. 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).
Voluntary	No potable water is used for irrigation.
How It is Demonstrated	Included in a Letter of Intent or Landscape/Irrigation Plan signed by a Professional. Submission requirements: 1) Submit a Letter of Intent (signed by a professional) committing that the project will be designed to reduce potable water requirements for irrigation. 2) Quantify the % reduction in potable used to irrigate, relative to a midsummer baseline case. 3) Identify the strategies used to reduce potable water demands (i.e. drought tolerant vegetation, controls, drip irrigation, rainwater harvesting/storage).
Who is Responsible for Reviewing	Development Engineering
Rationale	Promote water use efficiency.

23. Water Conserving Fixtures

Metric	Water Conserving Fixtures
Applies to	Site Plans
Tier 1	Install water fixtures that achieve at least a 40 per cent reduction in potable water consumption for the building (not including irrigation) over the baseline water fixtures.
Tier 2	Install greywater re-use systems
Voluntary	Include plumbing fixtures with lower flow rates.
How It is Demonstrated	Included in a Letter of Intent signed by a Professional. Submission requirements: 1) Submit a Letter of Intent (signed by a professional) committing that the project will include water conserving fixtures with flow rates that satisfy OBC and applicable municipal standards. 2) Quantify the relative potable water savings from the fixtures selected. 3) Include sample cutsheets for some of the fixtures being considered to yield the targeted potable water reduction.
Who is Responsible for Reviewing	Building
Rationale	Promote water use efficiency.

24. Reduce light pollution

Metric	Reduce light pollution
Applies to	Draft and Site Plans
Mandatory	All exterior fixtures must be Dark Sky compliant. Shield exterior light fixtures >1000 lumens to prevent night sky lighting No up lighting allowed
Voluntary	Develop lighting controls that reduces night time spillage of light by 50% from 11pm to 5am. No architectural lighting allowed between 11pm and 5am
How It is Demonstrated	Included in the Lighting Plan or Letter of Intent. Submission requirements: 1) Confirm that the applicable municipal standards have been satisfied. 2) To prevent night sky lighting, include shields on all exterior fixtures that have a lumen output of 1000 or greater. 3) Confirm that the design will not include any uplighting.
Who is Responsible for Reviewing	Development Engineering

Rationale	Reduce nighttime glare and light trespass from the building and the site.
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25. Bird Friendly Design

Notes:

- It is recommended that this metric is mandated through the Official Plan
- Bird Friendly Design guidelines can be found in Vaughan and Markham as well

Metric	Bird Friendly Design
Applies to	Site Plan (excluding single family developments)
Mandatory	<p>Municipal guidelines on Bird Friendly Design or Buildings abutting ravines or natural areas: Use a combination of the following strategies to treat a minimum of 85% of all exterior glazing within the greater of first 12 m of the building above grade or the height of the mature tree canopy:</p> <ul style="list-style-type: none"> • Low reflectance, opaque materials • Visual markers applied to glass with a maximum spacing of 100 mm x 100 mm • Building-integrated structures to mute reflections on glass surfaces <p>All Buildings: Balcony railings: Treat all glass balcony railings within the first 12 m of the building above grade, glass parapets and at-grade guardrails with visual markers provided with a spacing of no greater than 100 mm x 100 mm.</p> <p>Fly-through conditions: Treat glazing at all heights resulting in a fly-through conditions with visual markers at a spacing of no greater than 100 mm x 100 mm. Fly through conditions that require treatment include: Glass corners Parallel glass Building integrated or free-standing vertical glass At-grade glass guardrails Glass Parapets</p> <p>Grate Porosity Ensure ground level ventilation grates have a porosity of less than 20 mm X 20 mm (or 40 mm x 10 mm).</p>
How It is Demonstrated	<p>Included in the Elevation Plans. Submission requirements:</p> <ol style="list-style-type: none"> 1) Elevation plans should clearly highlight the bird friendly design features, adopted on the first 12m above grade. Bird friendly design features can include, but aren't limited to: <ul style="list-style-type: none"> • visual patterns on glass

	<ul style="list-style-type: none"> • window films • fenestration patterns • angled glass downwards • sunshades • reduced night sky lighting <p>2) Confirm that the visual markers on the glass have spacing no greater than 10cm x 10cm.</p> <p>3) Confirm that 85% of the building glass (12m above grade) has been treated with bird friendly design strategies.</p>
Who is Responsible for Reviewing	Parks/Natural Heritage Planning/Policy Planning
Rationale	Prevention of bird deaths from glazing.

26. Recycled / Reclaimed Materials

Metric	Recycled / Reclaimed Materials
Applies to	Draft and Site Plans
Mandatory	Minimum 25% of recycled/reclaimed materials should be used for new infrastructure including roadways, parking lots, sidewalks, unit paving, etc.
Voluntary	Minimum 30% of recycled/reclaimed materials should be used for new infrastructure including roadways, parking lots, sidewalks, unit paving, etc.
How It is Demonstrated	<p>Included in an Engineering Drawing Set</p> <p>Submission requirements:</p> <p>1) Confirm that applicable municipal standards have been satisfied.</p> <p>2) Identify the expected % of reclaimed/recycled material that will be used for new infrastructure (i.e. roadways, parking lots, sidewalks, unit paving, etc...).</p>
Who is Responsible for Reviewing	Parks/Natural Heritage Planning
Rationale	Reduce the adverse environmental effects of extracting and processing virgin materials

27. Material Re-use and Recycled Content

Metric	Material Re-use and Recycled Content
Applies to	Site Plan
Mandatory	At least 5% reused content in building materials and/or landscaping materials (hardscaping such as paving or walkways) is provided. At least 10% recycled content in building materials and/or landscaping materials (hardscaping such as paving or walkways).

Voluntary	At least 10% reused content in building materials and/or landscaping materials (hardscaping such as paving or walkways) is provided. At least 15% recycled content in building materials and/or landscaping materials (hardscaping such as paving or walkways). Reduced embodied carbon through use of concrete infused with CO2 and concrete mixed with hemp fibre.
How It is Demonstrated	Included in an Engineering Drawing Set Submission requirements: 1) Confirm that applicable municipal standards have been satisfied. 2) Identify the expected % of reclaimed/recycled material that will be used for new infrastructure (i.e. roadways, parking lots, sidewalks, unit paving, etc...).
Who is Responsible for Reviewing	Development Engineering
Rationale	Reduce the adverse environmental effects of extracting and processing virgin materials

28. Electric Vehicle Charging

Metric	Electric Vehicle Charging
Applies to	Site Plan
Mandatory	Design the building to provide 20 per cent of the parking spaces with electric vehicle supply equipment (EVSE). The remaining parking spaces must be designed to permit future EVSE installation.
Voluntary	Design the buildings to provide 25 per cent of the parking spaces with electric vehicle supply equipment (EVSE). The remaining parking spaces must be designed to permit future EVSE installation.
How It is Demonstrated	Project parking statistics include number and location of EVSE spaces. Notations indicate location of EVSE spaces and roughed-in spaces on parking plans.
Who is Responsible for Reviewing	Development Planner
Rationale	Support the uptake of electric vehicles by providing charging infrastructure. Improve air quality and reduce GHG emissions.

29. Bicycle Parking

Metric	Bicycle Parking
Applies to	Site Plan, Block Plan
Mandatory	Bicycle parking rates in accordance with municipal bylaw.
Voluntary	Provide a minimum of 0.3 bike parking spots per dwelling unit. AND Provide a minimum 10% of bike parking at grade (X POINTS) AND Place bike parking in weather protected areas (X POINTS)
How It is Demonstrated	Include number and location of bicycle parking spaces.
Who is Responsible for Reviewing	Development Planner
Rationale	Promote active transportation in order to reduce GHG emissions from private vehicles.



GREEN DEVELOPMENT STANDARDS COMPARISON ACROSS MUNICIPALITIES

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Indicator	Toronto				Vaughan/Brampton/Richmond Hill			Halton Hills	Rationale
	Tier 1	Tier 2	Tier 3	Tier 4	Mandatory	Recommended Minimum	Aspirational	Mandatory	
Energy Efficiency	GHG 1.1 Building Energy Performance Design the building(s) to achieve at least ENERGY STAR® for New Homes, version 17 or R-2000® requirements.	Design, construct and label the building(s) to achieve at least ENERGY STAR® for New Homes, version 17 or R-2000® requirements. City-owned buildings (Agencies, Corporations and Divisions) Residential uses: Design, construct and label the building to achieve at least ENERGY STAR® for New Homes, version 17 or R-2000® requirements. The CHBA Net Zero Home Labelling	Design and construct the building to be Net Zero ready in accordance with the CHBA Net Zero Home Labelling Program	Design and construct the building in accordance with the CHBA Net Zero Home Labelling Program or Passive House Standards	Design all buildings in accordance with OBC.	Single family homes or multiunit residential buildings (3 story or lower) must be built to EnerGuide 83 (or equivalent) (2 POINTS)	Single family homes or multiunit residential buildings (3 story or lower) must be built to EnerGuide 85 (or equivalent) (2 POINT)	<p>Energy Conservation 1 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>Energy Conservation 2 Supply all Energy Star® compliant light fixtures.</p> <p>Energy Conservation 3 Developers install solar panels on streetlights.</p> <p>Energy Conservation 4 Install occupancy sensors in the main living areas of the home, as well as motion sensors for all exterior lighting fixtures.</p> <p>Energy Conservation 5 Provide zonal HVAC heating and cooling controls.</p> <p>Energy Conservation 6 Supply on-demand water heating.</p>	Reduce energy use and greenhouse gas emissions with consequent reductions in air, water, and land pollution and adverse environmental effects from energy production and consumption. Lessen environmental impacts such as climate change. Sources: Toronto Green Standard (Minimum Energy Performance); LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – GIB Prerequisite 2 and Credit 2.

		<p>Program, Passive House or an alternative zero emissions standard certification is encouraged</p> <p>Where supplied, for each unit, provide ENERGY STAR® labeled refrigerators, ceiling fans, clothes washers and dishwashers</p>						<p>Energy Conservation 7 Use triple pane windows with low emissive coatings to help reflect heat and sunlight.</p> <p>Energy Conservation 8 Install an indoor (basement) and outdoor clothesline.</p> <p>Energy Conservation 9 Street and block alignments are designed to achieve passive solar gain.</p> <p>Energy Conservation 10 Identify opportunities for maximizing solar gain through site layout and building orientation in an Energy Efficiency Report.</p>	
Energy Management	<p>City-owned buildings</p> <p>residential buildings: For new buildings with a gross floor area of greater than 100 m2 install renewable energy devices to supply at least 5% of the buildings total energy load from one or a combination of energy sources</p>				<p>Develop an energy strategy for the development, identifying opportunities for conservation, energy sharing, renewables, etc... (2 POINTS)</p>	<p>In an intensification area, where district energy has been deemed viable by the municipality, carry out a district energy feasibility study. (3 POINTS)</p>			<p>Rationale: District energy systems can provide more efficient heating and cooling for residential and commercial customers (providing there is density of development). This aids governments in reaching reduction targets for greenhouse gas emissions while also benefitting customers in reduced ongoing energy expenses and reduced</p>

									<p>one-time first costs for mechanical equipment.</p> <p>Sources: Canadian District Energy Association (Web site, https://www.cdea.ca/faq/what-are-mainadvantages-district-energy); York Region Official Plan (policy 5.6.10 regarding community energy planning); LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – GIB Credit 12.</p>
Connectivity	<p>AQ 1.1 Connectivity Provide safe, direct, universally accessible pedestrian routes, including crosswalks and midblock crossings that connect the buildings onsite to the off-site pedestrian network and priority destinations.</p>				<p>Mobility-Site Permeability-Connectivity Metric #20 Connect buildings on the site to off-site pedestrian paths, surface transit stops, parking</p>	<p>Provide amenities and street furniture (benches, additional bike parking, landscaping) along connections provided on the site and between the site and adjacent destinations. (2 POINTS)</p>	<p>Community Design #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.</p> <p>Community Design #2 Create street and block patterns that the emphasize connectivity and linkage by encouraging grid or modified</p>	<p>Encourage walking and transit use, which improves health and reduces dependence on automotive travel.</p> <p>Connected streets reduce the length of trips and reduce greenhouse gas emissions</p>	

					<p>areas (car and bike), existing trails or pathways, or other destinations (e.g. schools). Outdoor waiting areas located on the site must offer protection from weather.</p> <p>Where a transit stop is located within a walking distance of the project site boundary, the building main entrance should have a direct pedestrian linkage to</p>			<p>grid patterns and discourage the use of cul de sacs except where necessary for grading and topography</p> <p>Community Design #3 If cul de sacs are necessary, provide pedestrian and / or bicycle connections in the cul de sacs</p>	
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					that transit stop				
	AQ 1.2 Sidewalk Space Provide a context-sensitive pedestrian clearway that is a minimum of 2.1 m wide , to safely and comfortably accommodate pedestrian flow.				Mobility-Walkability - Promote walkable streets Metric 23 Sidewalks must be in accordance with the applicable Municipal Standards. Sidewalk width must be at least 1.5 meters.	On 75% of streets, continuous sidewalks or equivalent provisions must be provided on both sides of streets, where not a	On 100% of street, continuous sidewalks or equivalent provisions must be provided on both sides of streets, where not a mandatory requirement. (2 POINTS) Provide pedestrian amenities to further encourage walkable streets. (2 POINTS)	Community Design 4 Design streets with medium (400 m) to short (less than 250 m) block lengths. Community Design 5 Where the block perimeter exceeds 400 m provide mid-block pedestrian connections. Community Design 6 Provide streetscape amenities such as benches, street trees, and waste receptacles.	Rationale: Promote walking and other forms of active transportation by providing safe and comfortable street environments. Sources: Pickering Sustainable Development Guidelines criterion 7.2; LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 1 (Walkable Streets).
	AQ 1.3 Weather Protection Provide covered outdoor waiting areas for pedestrian comfort and protection from								

	inclement weather.								
	AQ 1.4 Pedestrian Specific Lighting Provide pedestrian-scale lighting that is evenly spaced, continuous and directed onto sidewalks, pathways, entrances, outdoor waiting areas and public spaces.								
Compact Development Floor area ratio/ Floor space Index					Satisfy Municipal Official Plan requirements				

Proximity to Basic Amenities						<p>Built Environment- Land use mix and Diversity- Proximity to Basic Amenities</p> <p>50% of DU and jobs are within a 800m walking distance to existing or planned Basic Amenities</p> <p>Basic amenities include:</p> <ol style="list-style-type: none"> 1. Grocery store/farmers market, place to buy fresh produce 2. Community/Recreation Centre 3. Pharmacy 4. Library <p>(UP TO 6 POINTS)</p>	<p>75% of DU and jobs are within a 400m walking distance to existing or planned Basic Amenities</p> <p>Basic amenities include:</p> <ol style="list-style-type: none"> 1. Grocery store/farmers market, place to buy fresh produce 2. Community/Recreation Centre 3. Pharmacy 4. Library <p>(UP TO 6 POINTS)</p>	<p>Community Design #7</p> <p>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.</p>	<p>Rationale: Recognize sites with good community connections to services and/or promote services to encourage compact communities and multi-modal transportation options. Recognizes a fine grain mix of uses as promoted in municipal official plans. The metric and targets are adapted from the point scoring system used in LEED ND.</p> <p>Sources: LEED Canada 2009 for New Construction, SS Credit 2; LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) - SLL Credit 3; VOP 2010 Policy 4.2.2.14 ("To encourage the provision of transit service within 500 metres of at least 90% of residences and the majority of jobs, and consistent with approved YRT service standards and</p>
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									guidelines and within 200 metres of at least 50% of residents in the urban area.”)
Proximity to Lifestyle Amenities						50% of DU and jobs are within a 800m walking distance to existing or planned Lifestyle amenities Lifestyle Amenities include: 1. General retail 2. convenience store 3. Theatre 4. Coffee store 5. Hair salon 6. Bank 7. Place of worship 8. Daycare 9. Restaurant/Pub Other (UP TO 3 POINTS)	75% of DU and jobs are within a 400m walking distance to existing or planned Lifestyle amenities Lifestyle Amenities include: 1. General retail 2. Convenience store 3. Theatre 4. Coffee store 5. Hair salon 6. Bank 7. Place of worship 8. Daycare 9. Restaurant/Pub Other (UP TO 3 POINTS)		
Green buildings					Municipal buildings greater than 500m ² must be designed to LEED Silver or alternative equivalent	Site includes 1 or more green buildings certified under a recognized third party standard (i.e. Energy Star, LEED NC, CS, CI, EB, Homes) (2 POINTS)	Additional aspirational points are available for development plans that include 5 or more buildings. Buildings on site will be certified under a recognized third party standard (i.e. Energy Star, ASHRAE 189, LEED NC, CS, EB, Homes, etc...) 2 points if 50% to 75% of buildings are certified +2 points if 76% to 100% of buildings are certified		Recognize appropriate independent third-party certification systems incorporated into development proposals. Sources: LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – Green Infrastructure and Buildings (GIB) Prerequisite 1.

Universal Design					Design 10% of Multi-residential units to provide a barrier-free path of travel from the suite entrance door to the doorway of at least one bedroom at the same level, and at least one bathroom in accordance with OBC.	Design a minimum of 20% of the DU in accordance with ICC/ANSI A117.1 Universal Design Standards (or equivalent) (1 POINT)	Design a minimum of 30% of the DU in accordance with ICC/ANSI A117.1 Universal Design Standards (or equivalent) (1 POINT)		
Number of universally accessible points of entry to building					100% of primary entrances	100% of emergency e	100% of all entries and exits (1 POINT)		

gs and sites									
Design for life cycle housing						<p>The housing types includes a diversified mix of ownership, housing and accommodation types. Ownership - More than 10% of Development properties are low income = 1 Point</p> <p>Housing Types (Attached, Detached, Townhomes, Mid/Hi-Rise) - Two of Four Housing Types = 1 points Three of Four Housing Types = 2 points Four of Four Housing Types = 3 points</p> <p>Accommodation Type (Live Work, Multi-generational Living, Mixed Use, 1 Bedroom, >2 Bedroom) - Two of Five Accommodation Types = 1 point Three of Five Accommodation</p>			

						Types = 2 points Four of Five Accommodation Types = 3 Points (7 POINTS)			
% Tree canopy within proximity to building/pedestrian infrastructure	<p>EC 1.1 Tree Planting Areas and Soil Volume Create tree planting areas within the site and in the adjacent public boulevard that meet the soil volume and other requirements necessary to provide tree canopy. Determine the total amount of soil required by following the following formula: 40% of the site area ÷ 66 m² x 30 m³ = total soil volume Ensure that each separate tree planting area has a minimum of 30m³ soil.</p> <p>EC 1.2 Trees Along Street Frontages Plant large growing shade trees along street</p>	<p>EC 1.5 Enhanced Trees in Parking Lots (Optional) If surface parking is provided, plant large growing shade trees at a minimum ratio of one tree planted for every three parking spaces supplied.</p> <p>EC 1.6 Enhanced Tree Planting and Soil Volume (Optional) Provide 25% more than the total soil volume required as per EC 1.1. Soil shall be deployed on-</p>			Satisfy municipal planting requirements	Provide shade within 10 years for at least 50% of the walkways/sidewalk lengths All trees should be selected from the applicable municipal tree list. (2 POINT)	Provide shade within 10 years for at least 75% of the walkways/sidewalk lengths. All trees should be selected from the app	<p>Air Quality 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</p> <p>Air Quality 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.</p>	

	<p>frontages that are spaced appropriately having regard to site conditions and have access to a minimum of 30 m³ of soil per tree.</p> <p>EC 1.3 Parking lots Parking Lots: If surface parking is permitted and provided, plant large growing shade trees throughout the parking lot interior at a minimum ratio of one tree planted for every five parking spaces supplied.</p> <p>EC 1.4 Watering program Provide a watering program for trees for at least the first 2 years after planting.</p>	<p>site or on adjacent properties as approved by the City of Toronto.</p> <p>EC 1.7 Enhanced Tree Protection During Construction (Optional) Provide double the minimum tree protection zones for all existing trees on sites outside of the Ravine Protected Area.</p>							
Maintain existing healthy trees					Arborist Report provided that identifies and evaluates	Where healthy mature trees must be removed, new trees (not including street trees) are provided on site or as determined by the municipality to mitigate the lost	75% of healthy mature trees greater than 20 cm. DBH are preserved in situ on site. (3 POINTS)		As part of the urban forest, street trees provide a range of ecosystem services including: cleaning air; intercepting rainfall that helps to mediate storm flows;

					where onsite healthy mature trees will be protected (in-situ or moved) or removed.	canopy coverage of the trees removed. (2 POINTS)			<p>evaporative cooling and summer shade to reduce building cooling loads; wind breaks; and carbon sequestration. As community amenities, street trees promote active transportation by providing a more walkable pedestrian environment.</p> <p>Sources: LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 14.</p>
Soil Quantity and Quality					Satisfy Municipal Tree Planting Standards	<p>Pits, trenches or planting beds should have a topsoil layer with an organic matter content of 10 to 15 % by dry weight and a pH of 6.0 to 8.0. The topsoil layer should have a minimum depth of 60 cm. The subsoil should have a total uncompacted soil depth of 90 cm. Minimum soil volume of 30 cubic meters per tree (2 POINTS)</p>		<p>Water Conservation and Quality 5 Provide a minimum of 15 cm of high quality, noncompacted topsoil on all lawn and garden areas</p>	<p>Limit disturbance of healthy soil to: protect soil horizons and maintain soil structure; support biological communities (above-ground and below-ground); minimize runoff and maximize water holding capacity; improve biological decomposition of pollutants; and moderate peak stream flows and temperatures.</p>

									<p>Sources: The Sustainable Sites Initiative: Guidelines and Performance Benchmarks, 2009; Low Impact Development Stormwater Management Planning and Design Guide (CVC and TRCA 2010); Preserving and Restoring Healthy Soil: Best Practices for Urban Construction (TRCA 2012).</p> <p>References: The Sustainable Sites Initiative: Guidelines and Performance Benchmarks, 2009 (http://www.sustainable-sites.org/report/Guidelines%20and%20Performance%20Benchmarks_2009.pdf)</p>
<p>Connection to Natural Heritage</p>	<p>TIER 1 EC 2.1 Ravine and Natural Feature Protected Areas and Natural Heritage System Plant the landscaped area within the Natural Heritage System</p>					<p>Visual and physical connections (such as public access blocks, single loaded roads) are provided to 25% of the natural heritage system and parks. (1 POINTS)</p>	<p>Visual and physical connections (such as public access blocks, single loaded roads) are provided to 50% of the natural heritage system. (1 POINTS)</p>		<p>Rationale: Improve natural heritage system function with respect to wildlife habitat and/or ecological functions, including ecosystem services.</p>

	<p>and the Ravine Protected Area with 100% native plants (including trees, shrubs and herbaceous plants). EC 2.2 Ravine and Protected Areas Buffers Where a setback from the toe-of-slope or the top-of-bank is required within the Natural Heritage System or the Ravine Protected Area prepare and implement a stewardship plan for the area.</p>								<p>Sources: Municipal natural heritage system plans.</p>
<p>Pedestrian connections-traffic calming</p>						<p>Built Environment – Public Health – Traffic calming 75% of new residential-only streets designed with traffic calming strategies. (1 POINT) 50% of new non-residential and/or mixed-use streets are d</p>	<p>Built Environment – Public Health – Traffic calming 100% of new residential-only streets designed with traffic calming strategies. (1 POINT) 75% of new non-residential and/or mixed-use streets are designed with traffic calming strateg</p>		<p>Provide walkable streets to encourage active transportation.</p> <p>Sources: LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 1; Gilbert and Obrien. 2009. Child- and Youth-Friendly Land-Use And Transport Planning Guidelines for Ontario,</p>

									Version 2. (http://www.kidsonthemove.ca/uploads/Guidelines%20Ontario%20v2.7.pdf)
School Proximity to Transit routes & Bikeway						50% of dwelling units are within 800 meters walking distance to public/private elementary, Montessori, and middle schools (2 POINTS) 50% of dwellings units are within 1600 meters to a high school (1 POINT)	75% of dwelling units are within 400 meters walking distance to public/private elementary, Montessori, and middle schools (2 POINTS) 75% of dwellings units are within 1000 meters to a high school (1 POINT)		<p>Rationale: Promote walking and cycling to schools and reduce traffic congestion at school sites.</p> <p>Sources: LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 15; Forum: School Siting and School Site Design for a Healthy Community, 2012, City of Hamilton Public Health Services.</p>
Cultural Heritage Conservation					Comply with Cultural Heritage Conservation policies under provincial legislation (i.e. the Ontario Heritage Act,	100% evaluation of properties included in the Municipal Heritage Inventory and/or Register, and 100% retention and protection of cultural heritage resources that qualify for designation under the Ontario Heritage Act. (2 POINT)	100% conservation of cultural heritage resources identified in the Municipal Heritage Register or Inventory and their associated landscapes and ancillary structures in accordance with the Standards and Guidelines for the Conservation of Historic Places in Canada. (2 POINTS)		<p>Natural Environment and Open Space – Soils and Topography – Topography and landform conservation</p> <p>Rationale: Minimize the negative impacts of grading and other soil and landform disturbances from construction activities. Retaining natural topography is a factor in maintaining pre-</p>

					Planning Act and PPS, etc.), Standards and Guidelines for Historic Places, municipal Official Plan, municipal by-laws, Municipal Register of Cultural Heritage Resources and/or Municipal Heritage Inventory.				<p>development water balance and stream flow regimes as well as the aesthetic appeal of cultural heritage landscapes.</p> <p>Explanatory Note: Point allocation has not yet been defined for various approaches to either (1) minimize the area graded or otherwise disturbed or (2) where lands are disturbed, the grades are kept within certain slope thresholds to minimize changes to natural topography. This metric will be the subject of ongoing research.</p>
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<p>Connectivity</p>					<p>Connect buildings on the site to offsite pedestrian paths, surface transit stops, parking areas (car and bike), existing trails or pathways, or other destinations (e.g. schools). Outdoor waiting areas located on the site must offer protection from weather. Where a transit stop is located within a walking</p>		<p>Provide amenities and street furniture (benches, additional bike parking, landscaping) along connections provided on the site and between the site and adjacent destinations. (2 POINTS)</p>		<p>Mobility – Site Permeability - Connectivity</p> <p>Rationale: Encourage walking and transit use.</p> <p>Source: Toronto Green Standard Tier 1 requirement (Pedestrian Infrastructure).</p> <p>Mobility - Street Networks/Blocks – Intersection density</p> <p>Rationale: Promote well-connected street networks that allow for multiple active transportation routes through the neighbourhood, and reduces traffic through alternative vehicular routes.</p> <p>APPENDIX B Rationale and Sources Used to Inform Metrics</p> <p>4 Page -DRAFT- Sources: Pickering Sustainable Development Guidelines (criterion</p>
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					distance of the project site boundary, the building main entrance should have a direct pedestrian linkage to t				<p>6.5); Neptis Foundation “Shaping the Toronto Region” report (see Figure 35).</p> <p>References: Taylor, Z.T and von Nostrand, J. 2008. Shaping the Toronto region past, present and future: an exploration of potential effectiveness of changes to planning policies governing greenfield land development in the Greater Golden Horseshoe. Neptis Foundation. 198 pp</p> <p>Mobility – Transit Supportive - Distance to transit</p> <p>Rationale: Support alternative transportation modes to vehicle use.</p> <p>Sources: LEED Canada 2009 for New Construction, SS Credit 4.1; Pickering Sustainable Development Guidelines (criterion 6.10).</p>
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									<p>Mobility – Walkability - Promote safe and walkable streets</p> <p>Rationale: Promote walking and other forms of active transportation by providing safe and comfortable street environments.</p> <p>Sources: Pickering Sustainable Development Guidelines criterion 7.2; LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 1 (Walkable Streets).</p>
Distance to public transit						<p>Site is within 800m walking distance to an existing or planned commuter rail, light rail, bus rapid transit or subway with stops or Site is within 400m walking distance to 1 or more bus stops with frequent service. (3 POINTS)</p>	<p>Site is within 400m walking distance to an existing or planned commuter rail, light rail, bus rapid transit, or subway with frequent stops or Site is within 200m walking distance to 1 or more bus stops with frequent service. (3 POINTS)</p>		

Active Transportation-Proximity to Cycling Network						75% of residents/jobs are within 400 meters of existing or approved by council path/network	100% of residents/jobs are within 400 meters of existing or approved by council path/network		
Promote walkable streets					Sidewalks must be in accordance with the applicable Municipal Standards. Sidewalk width must be at least 1.5 meters.	On 75% of streets, continuous sidewalks or equivalent provisions must be provided on both sides of streets, where not a mandatory requirement. (2 POINTS)	On 100% of street, continuous sidewalks or equivalent provisions must be provided on both sides of streets, where not a mandatory requirement. (2 POINTS) Provide pedestrian amenities to further encourage walkable streets. (2 POINTS)		<p>Mobility – Walkability - Promote safe and walkable streets</p> <p>Rationale: Promote walking and other forms of active transportation by providing safe and comfortable street environments.</p> <p>Sources: Pickering Sustainable Development Guidelines criterion 7.2; LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 1 (Walkable Streets).</p>

Parks						Provide 2 road frontages for each urban square, parkette, and neighborhood park provided and 3 road frontages for each community park provided. (3 POINTS)	Provide 3 or more road frontages for all parks provided. (3 POINTS)		
Storm water quantity						Retain runoff volume from the 10mm fall event on site. (3 POINTS)	Retain runoff volume from the 15mm rainfall event on site. (3 POINTS)	Water Conservation and Quality 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.	
Storm water quality					Remove 80% of Total Suspended Solids (TSS) on an annual loading basis from all runoff leaving the site (based on the post development level of impervious				<p>Natural Environment and Open Space – Stormwater – Stormwater quality</p> <p>Rationale: Protect receiving water bodies from the water quality degradation that may result from development and urbanization (TRCA 2012)</p> <p>Sources: Stormwater Management Criteria (TRCA 2012) (http://www.sustainabletechnologies.ca/Portals/_Rainbow/Docume)</p>

					ness). All ponds will be designed with Enhance Level of Protection (Level 1).				nts/72d1cb7b-eea6-4582-8e9e87e668af62d5.pdf); Toronto Green Standard (Stormwater Quality – Stormwater Run-off).
Dedicate land for local food production						Provide 80ft ² /DU of garden space (2 POINTS)			<p>Natural Environment and Open Space – Urban Agriculture – Dedicate land for local food production</p> <p>Rationale: Promote community-based food production and provide alternative passive recreational uses.</p> <p>Sources: LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – NPD Credit 13.</p>
Solar Readiness						100% of all new building designed for solar readiness (i.e. electrical conduit/plumbing riser roughed in) (1 POINT)	Produce 1%-13% of annual energy consumption from an on-site renewable energy source. Off-setting 1% of annual energy use earns 1 Point. Each additional 2% earns 1 Point. (7 POINTS)		<p>Infrastructure and Buildings – Energy Conservation – Solar readiness</p> <p>Rationale: Encourage on-site renewable energy generation.</p>

									Sources: LEED NC EA Credit 2; York Region Official Plan (policy 5.2.26).
Passive solar alignment						Applies to 50% of new buildings: The building(s)'s long axis is within 15degrees of E-W The building(s) E-W lengths are at least as long as the N-S lengths (3 POINTS)	Applies to 75% of new buildings: The building(s)'s long axis is within 15degrees of E-W The building(s) E-W lengths are at least as long as the N-S lengths (3 POINTS)	Identify opportunities for maximizing solar gain through site layout and building orientation in an Energy Efficiency Report.	<p>Infrastructure and Buildings - Energy Conservation – Passive solar alignment</p> <p>Rationale: Promote energy efficiency by creating the conditions for the use of passive solar design as well as solar photovoltaic and/or solar thermal strategies.</p> <p>Sources: LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – GIB Credit 10.</p>
Reduce potable water used for irrigation						Reduce potable water used for irrigation by 50%, compared to a midsummer baseline case.	No potable water is used for irrigation. (4 POINTS)	<p>Water Conservation and Quality 6</p> <p>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).</p>	<p>Infrastructure and Buildings – Potable Water - Reduce Potable Water Used for Irrigation</p> <p>Rationale: Promote water use efficiency.</p> <p>Sources: Toronto Green Standard (Water Efficiency); York Region Official</p>

									Plan (policy 5.2.31); LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – GIB Credit 4; LEED Canada 2009 for New Construction, WE Prerequisite 1.
Water Conserving Fixtures					<p>Include plumbing fixtures with the following maximum flow rates:</p> <p>Residential Toilets: 6LPF Faucets: 8.3LPM Showerhead: 9.5LPM CRI Same as Residential with: Urinals 3.8LPF Faucets 8.3LPM (private applications)</p>	<p>Include water fixtures that obtain a 10% to 20% reduction over the baseline fixture (Mandatory target fixture or applicable municipality)</p>	<p>Include water fixtures that obtain > 20% reduction over the baseline fixture (Mandatory target fixture). (3 POINTS)</p>	<p>Water Conservation and Quality 1 Use WaterSense® water fixtures, including faucets and showers, in all areas.</p> <p>Water Conservation and Quality 2 Provide purple-pipe rough-in plumbing for future onsite water reuse.</p> <p>Water Conservation and Quality 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.</p>	<p>Infrastructure and Buildings – Potable Water – Water conserving fixtures</p> <p>Rationale: Promote water use efficiency.</p> <p>Sources: Toronto Green Standard (Water Efficiency); York Region Official Plan (policy 5.2.21 and 5.2.23); LEED 2009 for Neighbourhood Development with Canadian Alternative Compliance Paths (2011) – GIB Credit 3; LEED Canada 2009 for New Construction, WE Credit 1</p>

					ns only), 1.9LPM all other Satisfy applicable municipal standards (e.g. York Region Official Plan policy 5.2.22)				
Parking garage lighting					Minimum level of illuminati on of 50 lux				
Reduce light polluti on	EC 5.1 Exterior Lighting All exterior fixtures must be Dark Sky compliant.				Satisfy applicable municipal standards	Shield exterior light fixtures >1000 lumens to prevent night sky lighting No up lighting allowed (1 POINT)			
Energy Conser ving Lightin g					Satisfy applicable municipal standards				
Bird Friendl y Design	EC 4.1 Bird Friendly Glazing Buildings abutting ravines or natural areas: Use a	EC 4.3 Enhanced Bird Friendly Glazing (Optional)							

	<p>combination of the following strategies to treat a minimum of 85% of all exterior glazing within the greater of first 12 m of the building above grade or the height of the mature tree canopy: Low reflectance, opaque materials Visual markers applied to glass with a maximum spacing of 100 mm x 100 mm Building-integrated structures to mute reflections on glass surfaces All Buildings: Balcony railings: Treat all glass balcony railings within the first 12 m of the building above grade., glass parapets and at-grade guardrails with visual markers provided with a spacing of no greater than</p>	<p>Use a combination of the following strategies to treat a minimum of 95% of all exterior glazing within the greater of the first 12 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): Low reflectance, opaque materials Visual markers applied to glass with a maximum spacing of 100</p>							
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	<p>100 mm x 100 mm. Fly-through conditions: Treat glazing at all heights resulting in a fly-through conditions with visual markers at a spacing of no greater than 100 mm x 100 mm. Fly through conditions that require treatment include: Glass corners Parallel glass Building integrated or free-standing vertical glass At-grade glass guardrails Glass Parapets EC 4.2 Grate Porosity Ensure ground level ventilation grates have a porosity of less than 20 mm X 20 mm (or 40 mm x 10 mm). TIER</p>	<p>mm x 100 mm Building-integrated structures to mute reflections on glass surfaces.</p>							
Recycled / Reclaimed					Satisfy applicable municipal standards	Minimum 25% of recycled/reclaimed materials should be used for new	Minimum 30% of recycled/reclaimed materials should be used for new infrastructure including	Waste management 1 Utilize a minimum of 25% of wood based materials and products that are certified in accordance with the Forest	

Materials						infrastructure including roadways, parking lots, sidewalks, unit paving, etc. (1 POINT)	roadways, parking lots, sidewalks, unit paving, etc. (1 POINT)	Stewardship Council's principles and criteria for wood building components.	
Material Re-use and Recycled Content						At least 5% reused content in building materials and/or landscaping materials (hardscaping such as paving or walkways) is provided. (1 POINT) At least 10% recycled content in building materials and/or landscaping materials (hardscaping such as paving or walkways). (1 POINT)	At least 10% reused content in building materials and/or landscaping materials (hardscaping such as paving or walkways) is provided. (1 POINT) At least 15% recycled content in building materials and/or landscaping materials (hardscaping such as paving or walkways). (1 POINT)		
Waste	SW 1.1 Waste Storage Space Provide a ventilated internal space, external to the living area and on private property, for the storage of separated recycling, organics, and garbage	SW 1.2 In-suite Waste Storage Space (Optional) Provide separated cabinet space in all kitchen suites for segregated collection of: • Recyclables •							

	<p>generated between collections. Materials must be consistent with the City of Toronto's waste diversion programs. Minimum floor space requirements are as follows: • 2 m2 for every 5 units for garbage • 2 m2 for every 4 units for recycling/bulky items • 2 m2 for every 4 units for organics</p>	<p>Organics • Garbage</p>							
Building reuse		<p>SW 2.1 Building Lifecycle Impact Reduction (Optional) Reuse or salvage building materials from off-site or on-site equal to 50% of the surface area of the existing building</p>							

Air quality								<p>Air Quality 1 Use low or no VOC paints and finishes (e.g. adhesives, sealants, paints, carpet)</p> <p>Air Quality 2 Install HVAC systems that reduce exposure to indoor air quality pollutants by ventilating with outdoor air.</p>	
Communication								<p>Communication 1 Familiarize the homeowner(s) with all of the dwelling's green building features as part of the Pre-Delivery Inspection</p> <p>Communication 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</p>	

Innovation								<p>Each home purchaser(s) shall be provided with an option to select one (1) or more of the following green building options: i. Solar water and space heating ii. 100% native to Halton region, non-invasive species and/or droughtresistant 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).</p> <p>Innovative design or performance features not listed that receive prior approval from the Town have been provided.</p>	
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