

# Town of Ajax Green Development and Environmental Design Guidelines

## INTRODUCTION

The Town of Ajax Green Development and Environmental Design Guidelines (GDEDG) is a tool designed to aid in evaluating development applications through the lens of sustainability and climate change mitigation and adaptation by providing a suite of mandatory and optional metrics. The GDEDG is rooted in existing best practices, common strategies, and progressive standards and regulations to promote sustainable site and building design. The GDEDG has been established in pursuit of a more sustainable and resilient Ajax community.

## APPLICABILITY

All new Site Plan and/or Draft Plan of Subdivision Applications submitted to the Town are required to complete the GDEDG Checklist as part of the application. The GDEDG is applicable to the following development types:

- **Low-Density Residential:** Residential developments less than 4 storeys with a minimum of 5 dwelling units.
- **Mid to High-Density Residential and Non-Residential:** Residential developments 4 storeys and higher and all industrial, commercial, and institutional developments.

Renovation and expansions to existing buildings are not required to meet the GDEDG requirements but are encouraged to implement relevant sections of the GDEDG where possible.

## LEVELS OF ACHIEVEMENT

There are two levels of achievement for the GDEDG: Tier 1 and Tier 2.

- **Tier 1** is the minimum required level of achievement. To achieve Tier 1, developments must meet all applicable Tier 1 requirements.
- **Tier 2** is a voluntary higher level of achievement. To achieve Tier 2, developments must meet all applicable Tier 2 Core requirements.

Exemptions from specific requirements in the GDEDG may be granted on a case-by-case basis at the discretion of the Town.

## PROCESS

- **Phase 1 Pre-consultation submission:** The GDEDG will be discussed. Town staff will review the application and provide comments related to the GDEDG Checklist.
- **Phase 2 Pre-consultation submission of Site Plan and/or Draft Plan of Subdivision Application:** A preliminary complete GDEDG Checklist will be required as part of the submission package at Phase 2 Pre-Con for Site Plan or Draft Plan of Subdivision Applications. Town staff will review the checklist and evaluate which metrics are implemented correctly based on the other documents and drawings in the submission.
- **Initial Complete Submission and Resubmission of Site Plan and/or Draft Plan of Subdivision Application:** A complete GDEDG checklist will be required as part of the submission package for Site Plan or Draft Plan of Subdivision Applications, for any re-submission and circulation of Site Plan or

Draft Plan of Subdivision applications, including any changes or updates. At the submission of the applications, the proponent will include a completed GDEDG Checklist. Town staff will review the checklist and evaluate which metrics are implemented correctly based on the other documents and drawings in the submission. When the town provides its comments back to the proponent, these comments will include consideration of the GDEDG Checklist: any mandatory metrics that are not met will be required to be addressed, any incorrectly claimed metrics will be noted, and an overall score will be provided to the proponent accompanied by the targets and incentives.

- **Final Submission:** The GDEDG Checklist will be included in the final submission, and the final attainment of GDEDG metrics will be the basis for providing applicable incentives.

## INCENTIVES

Non-financial incentives will be available to projects that achieve Tier 2 of the GDEDG. These incentives may include expedited reviews, improved marketing through Ajax networks, and annual awards presented by Mayor and Council. Incentives will be provided case-by-case basis at the discretion of the Town.

# Category Overview

## AIR

The Air Category focuses on improving local outdoor air quality by mandating requirements or restrictions on airborne pollutant source control and reductions. The category also focuses on minimizing impact on microclimates and human and wildlife habitats.

## ENERGY

The Energy Category focuses on buildings and their energy performance during the operational stage.

## NATURAL ASSETS AND HABITAT

The Natural Assets and Habitat Category focuses on the preservation, restoration, and enhancement of the site and surrounding areas.

## WASTE AND MATERIALS

The Waste and Materials Category focuses on reducing the waste generation during the construction and operational phases of the development.

## WATER

The Water category focuses on reducing the use of potable water for indoor and outdoor water uses, as well as rainwater management.

## OTHER

The Other Category contains the elements of sustainable development that do not fall within any of the other Impact Categories. These elements may affect factors such as human health, wellbeing, and satisfaction.

## LOW-DENSITY RESIDENTIAL

### AIR

| <b>A1. Electric Vehicle Infrastructure</b> |               |   |
|--|---------------|---|
| Intent                                     |               | Promote the use of electric cars by providing electric vehicle (EV) charging stations or infrastructure for the future installation of EV chargers (EV ready).  |
| Requirements                               | Tier 1        | Design and construct at least 50% of dwelling units to have EV chargers or be EV ready.   |
|  | Tier 2 (core) | Design and construct at least 75% of dwelling units to have EV chargers or be EV ready.   |
| Details                                    |               | To be EV ready, infrastructure that enables the future installation of Electric Vehicle Supply Equipment (EVSE) must be provided at the time of construction. This includes providing empty raceways starting in a junction box in the electrical room and terminating in a junction box central to each parking floor. Raceways will be empty to accommodate future wiring |
| Documentation                              |               | - Parking plan(s) indicating the location of EV chargers or EV Ready spaces   |

| <b>A2. Heat Island Effect – Roof</b> |        |   |
|--------------------------------------|--------|---|
| Intent                               |        | Reduce the heat island effect to minimize impact on microclimates and human and wildlife habitats.  |
| Requirements                         | Tier 1 | Include heat island reduction measures for 100% of the available roof area.   |
| Details                              |        | <ol style="list-style-type: none"> <li>1. Available roof area excludes any roof area covered by mechanical equipment, energy generation systems such as solar PV, or skylights.</li> <li>2. Examples of heat island reduction measures include:                             <ul style="list-style-type: none"> <li>- Cool roofing (high albedo/light-coloured)</li> <li>- Solar PV</li> </ul> </li> </ol> |
| Documentation                        |        | - Roof plan(s) indicating the heat island reduction measures, including the SRI value(s) of roofing material(s)   |

| <b>A3. Heat Island Effect – Non-Roof</b> |   |   |
|--|---|---|
| Intent                                   | Reduce the heat island effect to minimize impact on microclimates and human and wildlife habitats.  |   |
| Requirements                             | Tier 1  | Include a combination of heat island reduction measures for at least 50% of site hardscapes, not including surface parking. |
|  | Tier 2 (core)   | Include a combination of heat island reduction measures for at least 75% of site hardscapes, not including surface parking. |
|  | Tier 2 (optional)   | Include a combination of heat island reduction measures for at least 75% of all site hardscapes, including surface parking. |
| Details                                  | <p>Examples of non-roof heat island reduction measures include:</p> <ol style="list-style-type: none"> <li>1. Hardscape shading (such as shading from trees, architectural structures, or energy generation systems)</li> <li>2. High albedo paving materials with initial solar reflectance (SR) of at least 0.33 or SRI of 29</li> <li>3. Open grid pavers (greater than 50% perviousness)</li> </ol> |   |
| Documentation                            | - Site plan(s) indicating the heat island reduction measures  |   |

| <b>A4. Pedestrian Friendliness</b> |   |  |
|------------------------------------|---|--|
| Intent                             | Encourage a pedestrian friendly environment by promoting walkability and safety to reduce car use and thereby reduce environmental impacts such as pollution, traffic congestion, and noise.  |  |
| Requirements                       | Tier 1  | Construct a network of suitable pedestrian facilities and multi-use paths within the development. The pedestrian network should connect the development with surrounding neighbourhoods, be integrated with the Town’s trail system, and implement recommendations of the Town’s Integrated Transportation Master Plan.  |
|                                    |   | If cul-de-sacs are necessary, provide pedestrian connections in the cul-de-sacs.   |
|                                    |   | Provide continuous sidewalks on both sides of all public roads.  |
|                                    |   | Make all sidewalks/walking paths a minimum of 1.8 m wide to allow for physical distancing as well as to accommodate for wheelchair users and other people with disabilities.   |
|                                    | Tier 2 (core)   | In key locations where there is anticipated conflict between motorists and a high volume or high frequency of pedestrians, provide visible crossings or other pedestrian connections with the appropriate signage and pavement markings. The crossing or connection must provide connections between pedestrian facilities and destinations. Pedestrian connections should not connect to a driveway or other area that puts pedestrians exposed to vehicular traffic without appropriate signage and pavement markings. |
| Details                            | Pedestrians include people with disabilities using mobility aid devices. When providing pedestrian crossings, consider curb ramps and depressed curbs (designed according to AODA standards). |  |
| Documentation                      | - Site plan(s) highlighting targeted element(s)   |  |

## ENERGY

| E1. Energy Conservation Targets |                   |   |
|---------------------------------|-------------------|---|
| Intent                          |                   | Establish a minimum level of energy efficiency for buildings to reduce environmental and economic impacts associated with excessive energy use. |
| Requirements                    | Tier 1            | Design the building(s) to achieve or exceed ENERGY STAR® for New Homes, version 17, R-2000® requirements, or equivalent.                        |
|                                 | Tier 2 (core)     | Design the building(s) to be Net Zero ready in accordance with the CHBA Net Zero Home Labeling Program or equivalent.                           |
|                                 | Tier 2 (optional) | Design the building(s) to achieve or exceed CHBA Net Zero Home Labeling Program or the Passive House Standard requirements, or equivalent.      |
| References                      |                   | <a href="#">ENERGY STAR for New Homes R-2000 Standard</a><br><a href="#">CBHA Net Zero Home</a><br><a href="#">Passive House Canada</a>         |
| Documentation                   |                   | - Energy Modelling Report or other documentation demonstrating compliance with the targeted standard  |

| E2. Energy Conservation Measures |                   |   |
|----------------------------------|-------------------|---|
| Intent                           |                   | Increase energy efficiency to reduce electricity consumption, electricity costs, and grid related GHG emissions.  |
| Requirements                     | Tier 2 (optional) | Implement two or more of the following: <ol style="list-style-type: none"> <li>1. Commission building systems to ensure they function properly</li> <li>2. Provide zonal HVAC heating and cooling controls</li> <li>3. Supply on-demand water heating</li> <li>4. Install motion sensors for all exterior lighting fixtures</li> <li>5. Where the builder is providing appliances, all Energy Star eligible appliances must be Energy Star compliant</li> <li>6. Use Energy Star compliant lighting fixtures for 75% of all lighting fixtures installed</li> <li>7. Use triple pane windows with low emissive coatings to help reflect heat and sunlight</li> </ol> |
| Documentation                    |                   | - Drawings, cutsheets, or other documentation demonstrating implementation of the targeted Energy Conservation Measures   |

| <b>E3. On-Site Renewable Energy</b> |   |  |
|-------------------------------------|---|--|
| Intent                              | Encourage and recognize increasing levels of on-site renewable energy self-supply to reduce environmental and economic impacts associated with fossil fuel energy use.  |  |
| Requirements                        | Tier 2<br>(optional)  | Achieve one or more of the following: <ol style="list-style-type: none"> <li>1. Design all new buildings for solar readiness</li> <li>2. Use community or on-site renewable energy production to provide at least 10% of the energy needs of all buildings and communally owned infrastructure in the project</li> </ol> |
| Details                             | Strategies to design a building for solar readiness may include the following: <ol style="list-style-type: none"> <li>1. Install conduit from the roof to the mechanical room/electrical box</li> <li>2. Ensure that the building structure has adequate structural capacity to accommodate future installation of renewable energy systems</li> <li>3. Ensure that sufficient area is allocated for the future installation of renewable energy systems</li> </ol> Sources of on-site renewable energy production may include: <ol style="list-style-type: none"> <li>1. Solar PV</li> <li>2. Solar thermal</li> <li>3. Wind systems</li> <li>4. Georexchange</li> </ol> |  |
| Documentation                       | <ul style="list-style-type: none"> <li>- Drawings, plans, or other documentation demonstrating that the project is solar ready</li> <li>- Energy Modelling Report or other documentation demonstrating the percentage of the project’s energy needs provided by on-site renewable sources</li> </ul>  |  |

## NATURAL ASSETS AND HABITAT

| <b>N1. Habitat Corridors</b> |   |
|------------------------------|---|
| Intent                       | Provide continuous environments to support habitats.  |
| Requirements                 | Tier 1  |
|                              | Where appropriate, incorporate habitat corridors into roadway design.   |
|                              | Identify existing adjacent natural areas (potential wildlife habitat) and if feasible, consider providing continuous connection between these areas through the project site.   |
|                              | Maintain/protect vegetated buffer along watercourses as a habitat corridor to allow for unimpeded and protected wildlife movement.  |
|                              | Per TRCA Post-Construction Restoration Guidelines, provide native species for 100% of landscape plantings.  |
| Details                      | Per TRCA Post-Construction Restoration Guidelines, native plantings should be suitable given the soil, moisture, and light conditions of the site, as well as any specific stresses. Cultivars of native species are generally not acceptable. While invasive species are not permitted, non-invasive exotic species may be used in some limited areas. Plantings should also be compatible and complementary to the existing vegetation communities. |
| References                   | <a href="#">TRCA Post-Construction Restoration Guidelines</a>   |
| Documentation                | <ul style="list-style-type: none"> <li>- Site plan(s) highlighting implemented element(s)</li> <li>- Plant schedule(s) or other documentation demonstrating that plantings are native</li> </ul>  |

| <b>N2. Bird Friendly Design</b> |  |
|---------------------------------|--|
| Intent                          | Minimize impact of wildlife habitats.  |
| Requirements                    | Tier 1   |
|                                 | Design the building(s) in accordance with the guidelines laid out in the Canadian Standards Association 's (CSA) Bird Friendly Building Design Standard A460.  |
| Details                         | <p>Requirements of the CSA Bird Friendly Design Standard A460 include:</p> <ul style="list-style-type: none"> <li>- Glazing to be treated up to 16 to 20 m above grade or to the top of the mature tree canopy, whichever is greater</li> <li>- Treat a minimum of:                             <ul style="list-style-type: none"> <li>o 90% of glazing with collision deterrent markers</li> <li>o All glazing that creates fly-through conditions, including glass railing systems</li> <li>o All glazing adjacent to natural areas</li> <li>o All non-vision glazing, including spandrels</li> </ul> </li> <li>- Collision Deterrent Markers (visual markers):                             <ul style="list-style-type: none"> <li>o Size – minimum of 4 mm in diameter</li> <li>o Density – max 50 mm between markers</li> <li>o Contrast – high contrast under varying daylight conditions</li> <li>o Surface – must be applied to the first surface of glass</li> </ul> </li> </ul> |
| References                      | <a href="#">CSA Bird Friendly Building Design Standard A460</a>  |
| Documentation                   | <ul style="list-style-type: none"> <li>- Elevations indicating bird-friendly glazing measures implemented, including treated area, type of treatment, density of visual markers, etc.</li> <li>- Summary table of treated glazing areas for each elevation</li> </ul>  |



| <b>N3. Native Species</b> |               |  |
|---------------------------|---------------|--|
| Intent                    |               | Mitigate site damage by restoring native and adaptive vegetation.  |
| Requirements              | Tier 1        | Per the Ontario Invasive Species Act, do not plant any invasive species.<br>Use native species for 75% of the new landscaping planted areas (including grassed areas). For Habitat Corridors, use native species for 100% of new landscaping planted areas (including grassed areas).      |
|                           | Tier 2 (core) | Use native species for 100% of the new landscaping planted areas (including grassed areas). Do not use non-native species.   |
| References                |               | <a href="#">Ontario Invasive Species Act</a>   |
| Documentation             |               | <ul style="list-style-type: none"> <li>- Site plan(s) indicating the landscaped area(s) planted with drought-tolerant and low-maintenance species</li> <li>- Plant schedule(s) or other documentation demonstrating that plant species are drought-tolerant and low-maintenance</li> </ul> |

| <b>N4. Natural Heritage Systems (NHS)</b>  |               |   |
|--|---------------|---|
| Intent   |               | Conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.  |
| Requirements   | Tier 1        | Wherever possible, ensure that the plan maximizes views and vistas to visible landmarks, including NHS features.  |
|  |               | Ensure that all lands within the NHS are in public ownership.   |
|  |               | Designate all NHS features and associated vegetation protection zones (VPZs) for protection through a Natural Heritage Evaluation.  |
|  |               | Establish a Restoration & Enhancement Plan that contributes to the overall enhancement of the NHS in accordance with the Town’s restoration & securement strategies (e.g. Ajax Shoreline Improvement Strategy). |
|  | Tier 2 (core) | Integrate natural heritage features into the public green space and parks systems (i.e. by locating public spaces adjacent to natural features) and the Municipality’s trail system, where appropriate.         |
|  |               | Demonstrate ecological gain above and beyond the municipal natural heritage requirements.   |
| Maintain public views and accessibility to the NHS by maintaining 50 to 75% of the NHS bounded by a combination of roads and open space. |               |   |
| References   |               | Ajax Shoreline Improvement Strategy   |
| Documentation  |               | <ul style="list-style-type: none"> <li>- Plan(s), drawing(s), or other documentation highlighting implemented feature(s)</li> </ul>   |

| <b>N5. Drought-Tolerant Landscaping</b> |               |   |
|---|---------------|---|
| Intent                                  |               | Reduce (potable) water use for landscaping irrigation by planting drought-tolerant landscaping.   |
| Requirements                            | Tier 1        | Use drought-tolerant, low-maintenance plant species for at least 50% of the planted landscaped area to reduce irrigation and maintenance requirements.  |
|   | Tier 2 (core) | Use drought-tolerant, low-maintenance plant species for at least 75% of the planted landscaped area to reduce irrigation and maintenance requirements.  |
|   |               | Incorporate drought-tolerant species and xeriscaping for water conservation and incorporate bioswales, rain gardens, and rainwater harvesting for low-impact irrigation.  |
| Documentation                           |               | <ul style="list-style-type: none"> <li>- Site plan(s) indicating the landscaped area(s) planted with drought-tolerant and low-maintenance species</li> <li>- Plant schedule(s) or other documentation demonstrating that plant species are drought-tolerant and low-maintenance</li> <li>- Site plan(s) indicating water conservation and low-impact irrigation strategies implemented</li> </ul> |

| <b>N6. Topsoil</b> |               |   |
|--------------------|---------------|---|
| Intent             |               | Promote biodiversity and habitats for vegetation and wildlife by preserving topsoil.  |
| Requirements       | Tier 1        | Minimize exportation of non-hazardous topsoil from the site and maintain integrity of topsoil during removal, stockpile, and re-installation onsite.  |
|                    |               | Planting beds 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   |
|                    | Tier 2 (core) | Retain and reuse all uncontaminated on-site soil in areas not covered by the building and parking footprint or hard surfaces OR adjust, amend, or replace with soil of equal or better quality.   |
|                    |               | 60 cm topsoil layer for entire landscaped area consists of a native soil/amendment mixture as recommended by a Certified Arborist, based on native soils testing.   |
| Documentation      |               | <ul style="list-style-type: none"> <li>- Planting detail(s) or other documentation indicating applicable soil characteristics (depth, pH, organic matter content)</li> <li>- Results of (or commitment to conducting) a soil test which demonstrates suitability of existing soil for re-use as planting growth medium, with or without appropriate amendments</li> </ul> |

| N7. Healthy Trees |                   |   |
|-------------------|-------------------|---|
| Intent            |                   | Support vegetation in urban areas and ensure maintenance of trees.  |
| Requirements      | Tier 1            | Existing healthy trees are maintained and/or protected on site in accordance with the approved Tree Preservation Plan. Where existing trees must be removed, provide trees or cash-in-lieu in accordance with the Town’s tree replacement formula derived from Site Plan Review Manual Section 3.5.4 “Tree Replacement Program”   |
|                   |                   | Provide the following minimum soil volumes:<br>1. For small size trees (shared): 18 cubic metre per tree<br>2. For small size trees (individual): 20 cubic metre per tree<br>3. For medium size trees (shared): 28 cubic metre per tree<br>4. For medium size trees (individual): 30 cubic metre per tree<br>5. For large size trees (shared): 36 cubic metre per tree<br>6. For large size trees (individual): 40 cubic metre per tree |
|                   | Tier 2 (optional) | Implement one or more of the following:<br>1. Maintain all healthy on-site trees that are 30 cm or more DBH (diameter at breast height).<br>2. Do not plant more than 25% of the same tree species.<br>3. If soil volumes are limited, coordinate with utilities and install soil cells   |
| References        |                   | Town of Ajax Tree Replacement Formula   |
| Documentation     |                   | <ul style="list-style-type: none"> <li>- Tree Preservation Plan</li> <li>- Tree Planting Plan including soil volume (soil depth and area), species, and quantity for each planting area</li> <li>- Tree planting detail(s) indicating soil cells</li> </ul>   |

| N8. Street Tree Planting |               |   |
|--------------------------|---------------|---|
| Intent                   |               | Reduce the heat island effect by providing adequate shade from trees.   |
| Requirements             | Tier 1        | Where trees are planted in a row in an urban area (e.g. street trees, trees in a parking area, parks, etc.), alternate tree species at least every 2 trees or in accordance with approved municipal standards.  |
|                          |               | For all municipal street trees, provide medium sized trees with a minimum soil volume in accordance with the requirements of N6. Healthy Trees.   |
|                          | Tier 2 (core) | Provide shade within 10 years for at least 50 to 75% of the walkways/sidewalk lengths. All trees should be selected from the applicable municipal tree list.<br><br>If surface parking is provided, plant shade trees native to the Region at a minimum ratio of 1 tree for every 5 parking spaces supplied |
| Documentation            |               | <ul style="list-style-type: none"> <li>- Tree Planting Plan indicating species and quantity for each planting area</li> <li>- Plan(s) or drawings indicating walkway/sidewalk length shaded within 10 years</li> </ul>  |

## WASTE AND MATERIALS

| M1. Construction Waste Reduction and Management |               |  |
|---|---------------|--|
| Intent  |               | Facilitate the reduction of waste and the safe and proper disposal of waste generated during building construction. Diverting waste from landfills reduces the extraction of virgin natural resources and minimize land, water, and air pollution.   |
| Requirements                                    | Tier 1        | Develop and implement a Construction and Demolition Waste Management Plan to demonstrate diversion of 50% or more of all non-hazardous construction, demolition, and land clearing waste from landfill.  |
|   | Tier 2 (core) | Develop and implement a Construction and Demolition Waste Management Plan to demonstrate diversion of 75% or more of all non-hazardous construction, demolition, and land clearing waste from landfill.  |
|   |               | Provide at least one recycling or reuse station dedicated to separation, collection, and storage of materials for recycling (at a minimum, wood, gypsum board, paper, corrugated cardboard, glass, plastics, and metals).  |
| Documentation                                   |               | <ul style="list-style-type: none"> <li>- Construction and Demolition Waste Management Plan</li> <li>- Plan(s) highlighting the recycling or reuse station(s)</li> <li>- Waste Diversion Report indicating total Construction and Demolition Waste diversion rate(s) of the project.</li> </ul> |

## WATER

| W1. Water Conservation |                   |  |
|------------------------|-------------------|--|
| Intent                 |                   | Increase water efficiency to reduce the burden on municipal water supply and wastewater systems.   |
| Requirements           | Tier 1            | Install individual water meters for multi-unit and condo residential units, with a bulk municipal reader.  |
|                        |                   | Provide a watering program for trees for the first year after planting and use non-potable water through rainwater harvesting.   |
|                        | Tier 2 (core)     | Use WaterSense® water fixtures that obtain a 40% reduction over the baseline fixture (i.e. as mandated by the Building Code).  |
|                        | Tier 2 (optional) | <p>Implement one or more of the following:</p> <ol style="list-style-type: none"> <li>1. Provide a watering program for trees for the first 2 years after planting and use non-potable water through rainwater harvesting.</li> <li>2. Design dwelling units/buildings as "greywater ready" (i.e. plumbing infrastructure roughed in, adequate utility room space).</li> <li>3. Use a non-potable watering system for irrigation purposes.</li> <li>4. Use a system that recovers and uses non-sewage or grey water for flushing and irrigation purposes.</li> <li>5. Design and construct greywater and/or stormwater systems to capture and reuse at least 25% of greywater and stormwater.</li> <li>6. Install a drain water heat recovery unit.</li> </ol> |
| Documentation          |                   | <ul style="list-style-type: none"> <li>- Drawing(s) indicating water meters</li> <li>- Watering program methods and watering schedule</li> <li>- Plumbing fixture specifications or other documentation demonstrating WaterSense® labelling and flush/flow rates</li> <li>- Calculations demonstrating water use reduction over baseline fixtures</li> <li>- Plan(s), drawing(s), or other documentation demonstrating implementation of targeted element(s)</li> </ul>  |

| W2. Stormwater Management |   |   |
|---------------------------|---|---|
| Intent                    | Manage stormwater runoff to limit disruption and pollution of natural water flows by reducing impervious cover, promoting on-site infiltration, and capturing and treating stormwater runoff. |   |
| Requirements              | Tier 1  | Submit and implement a Stormwater Management Plan demonstrating at least 80% removal of total suspended solids for 90% of annual rainfall (ETV Qualified Treatment units to confirm removal rates).   |
|                           |   | A minimum of 25% of the site area not occupied by a building is permeable unpaved area.   |
|                           |   | For lots 2 ha or larger, provide erosion control to the threshold of the most “erosion-sensitive” portion of the receiving watercourse.   |
|                           |   | Retain runoff from all rainfall events up to 5 mm depth on site for infiltration or greywater reuse.  |
|                           |   | Design all ponds with Enhance Level of Protection (Level 1).  |
|                           | Tier 2 (optional)   | Achieve one or more of the following: <ol style="list-style-type: none"> <li>1. Achieve post-development runoff reductions to no more than 50% of annual precipitation (approx. 10mm rainfall event retention).</li> <li>2. Use an innovative Stormwater Management Design plan that demonstrates less reliance on end-of-pipe facilities and more on conveyance and at-source strategies. This may include employing a treatment train approach with a minimum of three treatment units.</li> <li>3. Provide erosion control by on-site detention of the 25mm design storm event for a minimum of 24 hours.</li> <li>4. Of the minimum of 25% permeable area required under W2. Stormwater Management, Tier 1, allot a portion of this area to constructing a minimum of one LID landscaping feature to provide both functional and aesthetic benefit to the site (Rain garden, bioswale, constructed wetland, vegetated filter strip).</li> </ol> |
| Documentation             | <ul style="list-style-type: none"> <li>- Stormwater Management Report, Plan(s), and drawing(s) to verify compliance</li> <li>- Site plan(s) highlighting permeable unpaved area(s)</li> </ul> |   |

| W3. Hydrology and Watershed Protection |                   |   |
|--|-------------------|---|
| Intent                                 |                   | Limit disruption of natural hydrology.  |
| Requirements                           | Tier 1            | Ensure specific objectives and targets of watershed and/or sub-watershed plans/studies applicable to the development are implemented within the Site Development Area or Project Area (boundaries).   |
|  |                   | Ensure specific targets for water balance/water budget and source water protection established in the MESP and Neighbourhood Plan are implemented.  |
|  |                   | Meet or exceed established groundwater recharge targets and compile with any use prohibitions as defined in an area ground water protection study which are above the minimum 5 mm retention target defined in W3 Stormwater Management.  |
|  |                   | Meet Water Quality Target for 80% Total Phosphorus removal through a combination of at-source, conveyance, and end-of-pipe stormwater management water quality controls, with an emphasis on the “treatment-train” approach to providing water quality management.  |
|  | Tier 2 (optional) | <p>Achieve one or more of the following:</p> <ol style="list-style-type: none"> <li>1. The Neighbourhood Plan establishes extraordinary opportunities to achieve a net environmental gain to the watershed to compensate for any unavoidable impacts (e.g. road/utility crossings of features, CO2 production, habitat/food land loss). Achievement will be evaluated by the Town in consultation with TRCA.</li> <li>2. Implement green infrastructure (e.g. bioswales) within some of the public rights-of-way subject to the Town approval.</li> </ol> |
| Documentation                          |                   | - Stormwater Management Report, Plan(s), and drawing(s) to verify compliance  |

**OTHER**

| 01. Green Upgrades |                   |  |
|--------------------|-------------------|--|
| Intent             |                   | Help home buyers and residents implement green options to conserve energy/water and reduce environmental/economic impact associated to living spaces.  |
| Requirements       | Tier 2 (optional) | <p>Provide 3 or more of the following green options/upgrades to home buyers:</p> <ol style="list-style-type: none"> <li>1. Rain barrel(s) with overflow to grade</li> <li>2. Xerophytic and/or rain garden landscape package</li> <li>3. LED lighting for 20 to 100% of lighting fixtures</li> <li>4. Geothermal ground source heating</li> <li>5. Heat pump or other more energy efficient alternative in lieu of a traditional air conditioning unit</li> <li>6. Tankless water heater</li> <li>7. Drain water heat recovery</li> <li>8. Net metering</li> <li>9. Smart metering</li> <li>10. Occupancy sensors for main interior living room</li> <li>11. Active solar hot water and space heating</li> <li>12. Other energy saving methods related to heating and cooling such as external awning over larger windows, shade landscape package, thermal window blinds</li> </ol> |
| Documentation      |                   | - Drawings, plans, or other documentation demonstrating implementation of the targeted green options/upgrades  |