

City of Vaughan's Bird Safe Standards

Film, Frit and Acid Etched Markers

Best efforts should be made to treat all buildings from finished grade to 16m with Bird Safe Design treatments. Where not feasible, for 85% of contiguous glass larger than 2m² in area from finished grade to 16m should be treated. Such treatments include visual external markers in the form of stripes, dots or other patterns. A variation of patterns can be used to create individuality in building design through Bird Safe Design treatments.

Balcony railing and interior courtyards with clear glass should be treated. Green roofs can often be situated as low as the second storey of a building, these should be treated. Also, a green roof up to 4m from landscaped feature when above 16m above grade should also be treated.

Standards for Visual Markers

- **Size:** The size of a marker pattern should be 0.32cm (1/8 inch) or greater. These visual marker standards can change based on current research observations.
- **Density:** To deter bird-window collisions for most species, visual markers should be spaced vertically at 5cm horizontally and 5cm vertically. FLAP Canada's research confirmed these standards.
- **First Surface Application:** To effectively disrupt the illusion of an environment or thoroughway to an open space beyond the clear or reflective surface, markers must be applied to the exterior (first) surface of the glass.
- **Contrast and Visibility:** Markers must have high contrast from clear or reflective exterior surfaces and be visible under varying weather conditions.
- For the 15% remaining glass surface should be applied if the area of continuous glass is greater than 2m² or is near open spaces, green roofs or natural heritage features. Such treatments include closer-spaced window mullions and decorative grills.



Figure 1 - Image provided on page 11 of Ottawa's Bird-Safe Design Guidelines

Bird Safe Landscaping Principles

All building facades where trees and vegetation are proposed adjacent to the windows should be treated. If locating trees near glass, plant trees and vegetation within 1m from glass areas or further than 30m from glass areas. The use of fruit-bearing trees and vegetation that attracts birds should be minimized near untreated glass and reflective surfaces. As an alternative to planting trees near glass, plant low shrubs and groundcover.

Lighting Controls and Design

Birds migrating at night may be drawn to urban areas by artificial light, especially during inclement weather. The artificial light may confuse and disorient the birds, causing birds to collide with buildings and other structures, or become exhausted and highly vulnerable to predators. The harmful impacts of interior and exterior lighting can be mitigated through lighting controls and design.

Interior Lighting

Interior lighting should be shut off from 11 p.m. to 6 a.m., minimal light should be used during spring (March to June) and fall (August to November) bird migration periods, and motion sensors or an auto shutoff system with a maximum 30-minute vacant period should be installed. Automated blackout blinds can be installed and drawn for intensely lighted interior spaces.

Exterior Lighting

For all exterior lighting, up-lighting should be avoided at all times by attaching cut-off shields for streetlights and external building lights. Exterior lighting should be limited to areas where lighting is needed for safety and security. Avoid creating “pools”, “spots” or “floods” of light that could attract birds. As per the City of Vaughan’s [Property Standards By-law](#), light is not permitted to spill out from the property line.

Best Practice Standards

Please see the following for best practice Bird Safe standards:

- [Fatal Light Awareness Program Canada](#)
- [CSA Bird Friendly Building Design \(2020\)](#)
- [City of Ottawa Bird Safe Design Guidelines \(2020\)](#)
- [City of Markham's Bird Friendly Guidelines \(2014\)](#)
- [Toronto Green Standard v3 Tier I: Ecology \(EC4.1\) \(CF, LR, MHR\); Tier II: Ecology \(EC4.3\) \(LR\), \(EC4.4\) \(MHR\)](#)