

BIRD FRIENDLY BUILDING DESIGN REQUIREMENTS¹

REQUIREMENT LEVEL	% GLAZING TO BE TREATED ² TO ELIMINATE ALL FLY THROUGH CONDITIONS FROM 0-16m or 4m above height of tallest vegetation at maturity whichever is greater (include: guardrails and glazing 5m from building corners)	% OF ALL GLAZING TO BE TREATED ² FROM 0-16m height or 4m above tallest vegetation at maturity, whichever is greater	REQUIREMENTS NEAR VEGETATION AND WATER	INTERIOR LIGHTING REQUIREMENTS	EXTERNAL LIGHTING REQUIREMENTS	GRADE LEVEL VENTILATION GRILL REQUIREMENTS
TIER 1	100%	90%	Treat all glazing, from 0-16m, that is between 2 and 20m from vegetation and/or water features	Install occupancy sensors and/or task lights where possible	Install Dark Sky compliant fixtures	Grill porosity no greater than 20mm x 20mm or 40mm x 10mm
TIER 2	100%	85%		Install interior blinds		
TIER 3	100%	55%	Treat all glazing, from 0-16m, that is between 2 and 20m from large areas of vegetation (over 100m ²) and/or water features			
TIER 4 (minimum)	100%	0%	Treat all glazing, from 0-16m, immediately adjacent to existing bird habitat (e.g. stream, natural area) or known flight paths			

¹These requirements are based on CSA A460:19 Bird-friendly building design

²An alternate to glazing treatment is to cover glazing with building integrated structure

Note: For % of glazing to be treated calculation: glazing directly behind balcony guardrails that are treated (for example fritted) can be counted as having an applied bird friendly strategy

	ELIMINATE FLY THROUGH CONDITIONS	NON VISION GLAZING REQUIREMENTS	% OF GLAZING TO BE TREATED	REQUIREMENTS NEAR VEGETATION AND WATER	INTERIOR LIGHTING REQUIREMENTS	EXTERNAL LIGHTING REQUIREMENTS	GRADE LEVEL VENTILATION GRILL REQUIREMENTS
Issue description	Skywalks, glass corners, parallel glass, and glass guardrails create a fly through condition where birds have a sight to sky or vegetation on the other side; this causes a collision danger	Non-vision glazing (spandrel glass) can reflect the landscape or create a dark hole both of which are a collision danger for birds	Vision glazing can appear transparent or reflect the landscape, both of which are a collision danger for birds	Glazing near vegetation and water features has heightened collision danger because birds are attracted to these areas of habitat	Interior lighting visible at night can disorient birds and attract birds to windows causing collision danger	Exterior lighting that is not <i>dark sky compliant</i> can attract birds towards buildings and cause greater chance of collisions	Ventilation grills on a site can create a hazard for birds if they fall through and cannot get out
Explanation	<i>Fly through conditions</i> should be eliminated from the highest risk zones mentioned above to mitigate the worst conditions for collisions	Consider reducing worst collision risks for non vision glass by either: having max 15% reflected light or treat glazing with visual markers or cover with building integrated structures	Specific areas and percentages of the vision glazing need to be treated with visual markers or be covered by a building integrated structure in order to create visual markers or a visual barrier to mitigate the worst areas for collisions	Glazing near vegetation should be prioritized for treatment or cover since the danger of collision for birds is heightened in these areas	Lighting should be reduced between sunset and sunrise; prioritize occupancy sensors and task lighting to reduce night lighting; provide blinds to block light that cannot be shut off at night	In order to prevent collisions when it is dark, <i>dark sky compliant</i> external light fixtures should be used with minimum wattage and colour temperature rating should be 3000K or less; blue and green lights used not red or white	Providing grates will prevent birds from falling through and mitigate danger
Definitions	<p>Glass treatment : Glass must be treated in such a way as to have visual markers spaced at a maximum 50mm x 50mm; minimum 4 mm in diameter for individual elements or 2mm wide by 8mm long for linear elements, high contrast; on surface 1 (preferred) or surface 2. Any number of treatment methods can be used to render glass visible to birds; acid etch, UV markers, fritted glass, film, non film adhesive markers, closely spaced muntins. Emerging glazing technologies not meeting these criteria must be tested and proved over 80% effective for bird dternace by independent third party.</p> <p>B uilding integrated structure an architectual element affixed to exterior surfaces that is used to creat a visible barrier that birds can see and avoid</p> <p>Fly through conditions : Transparent skywalks, transparent corners, parallel glass, and transparent glass guardrails create a fly through condition where birds have a sight to sky or vegetation on the other side</p> <p>Non-vision glass : glazing materils such as spandrel glass or shadow boxes, used to hide structureal component of a building or to provide privacy whle allowing natural ight to enter the building.</p> <p>Dark sky compliant : outdoor lighting that minimizes glare and light trespass by using fixtures that are fully shielded and have reduced blue light emission</p>						
Cover as an alternative to glass treatment	<p>An alternate to glazing treatment is to cover the glass with building integrated structure including sunshades, screens, grills, mesh and nets, shutters</p> <p>To qualify as bird friendly treatment:</p> <p>Sunshades and louvers must be on the exterior of the building; should be parallel or angled to glass and at least 50 mm and less than 1m from the surface; made of opaque or non-reflective transparent material that has been perforated with holes no greater than 50mm and a solid-to-void ratio no less than 50%;</p> <p>Insect screens, grills, mesh and nets must be installed in front of the glazing: void spacing should be a maximum of 19mm x 19mm;</p> <p>Shutters : applied to the exterior of the building and with gaps 50 mm or less</p>						