



BIRD-FRIENDLY BUILDING DESIGN

LATEST CANADIAN STANDARD UPDATE
CSA A460:19

THIRSTY THURSDAY

JUNE 20, 2019

PRESENTED BY: SYLVAIN DENIS
WALKER GLASS COMPANY LTD.





AGENDA

- Presentation goals
- Background – CSA
- CSA bird friendly standard
- North American bird friendly regulations



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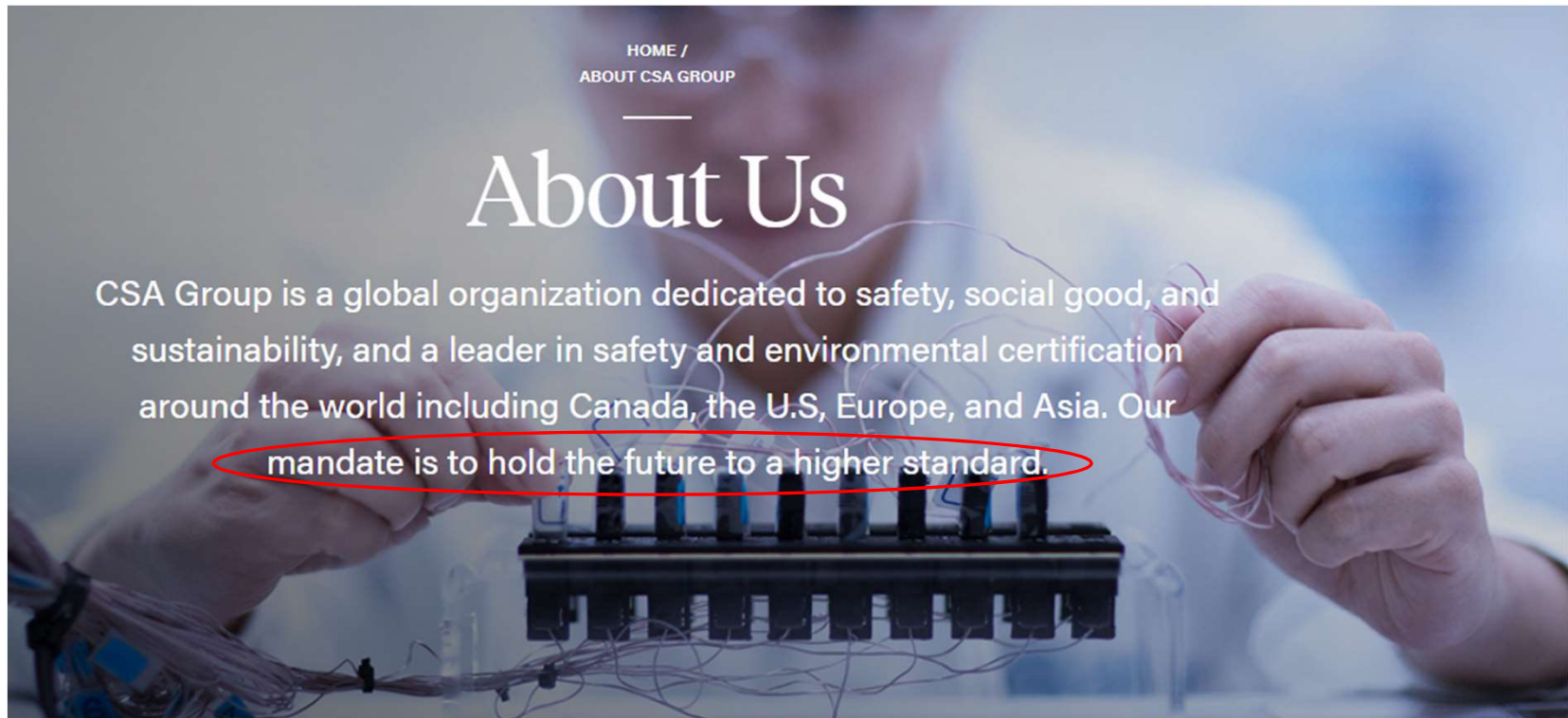
PRESENTATION GOALS

- Understand CSA and their goal in developing a bird friendly building standard
- CSA's approach in creating the standard & the **implications** for the Canadian and US markets
- CSA A460:19 in detail
- Standards adopted by cities and municipalities across **North America** to date



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CSA GROUP – ABOUT US FROM THEIR WEBSITE



- Similar “raison d’être” as ASTM

CSA GROUP – TWO ORGANIZATIONS

CSA Group

At CSA Group, we excel in addressing emerging, complex issues and technologies. CSA Group is comprised of two organizations: Standards Development and Testing, Inspection, & Certification.

Not-for-Profit Standards Development

The mission of CSA Group's Standard Development organization is to enhance the lives of Canadians through the advancement of standards in the public and private sectors. We are a leader in standards research, development, education, and advocacy. The technical and management standards developed with our 10,000 members improve safety, health, the environment, and economic efficiency in Canada and beyond.

CSA – STANDARDS DEVELOPMENT GROUP

Standards Development

Helping hold the future to a higher standard

CSA Group has a member base of over 9,000 volunteer experts with deep technical knowledge and expertise. These members help to develop standards that meet the needs of a broad array of industries and stakeholders. CSA Group:

- Has more than 1,300 committees focused on standards development
- Has developed and maintained over 3,000 codes and standards – many referenced in legislation
- Develops training and other value-added products that provide additional understanding of our standards and support their implementation
- Proactively conducts research that facilitates future standards development and provides guidance into new and emerging topics and technologies

Implications for NAbf market

Accredited by Standards Council of Canada (SCC) in Canada and American National Standards Institute (ANSI) in the U.S, CSA Group actively participates in international standards development and harmonization efforts through other global organizations, including the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

CSA – STANDARDS DEVELOPMENT APPROACH

Standards Development

Why CSA?

For a century, CSA Group has relentlessly led the drive for a better, safer, more sustainable world. Today, CSA achieves this vision through standards development, supported by technical research and training.

CSA Group harnesses the knowledge, experience and expertise of volunteer members from all walks of life. We help create real solutions – full-scale standards documents or other deliverables, such as guidelines or workshop agreements.

The CSA standards development process combines technical rigor with a transparent, consensus-based approach that:

- Integrates feedback from a range of voices, so everyone has an opportunity to be heard
- Draws on the expertise of over 1,600 in-house technical experts and more than 9,000 volunteer subject-matter experts from across the globe

CSA reached out to
NA glass industry
stakeholders and
supply chain



CSA BIRD FRIENDLY BUILDING DESIGN COMMITTEE

- Municipalities
- Interest groups
- Floaters
- Transformers
- Fabricators
- Building owners
- Architects
- Ornithological experts



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Date: September 26th, 2018

Draft Minutes

Meeting of the Bird Friendly Building Design TC (A505)

September 26th, 2018 from 9:30 am – 4:00 pm

Metro Hall of Toronto, Executive Boardroom 22nd Floor

TC meeting #2

Members Present

Members Present	Affiliation
Kelly Snow (Chair)	City of Toronto
Michael Mesure **	FLAP
Christian Friis	Environment and Climate Change Canada (Ontario)
Bob Alsip **	FLAP
Jens Harnest	Prelco
Dan Klem **	Acopian Centre for Ornithology
Charles Alexander	Walker Glass
Sylvain Denis	Walker Glass
Kayla Natividad	NSG
Paul Groleau	Convenience Group
Terry Flynn	Bentall Kennedy (Canada)
Bala Gnanam	BOMA
John Robert Carley	Architect Incorporated
Mauro Carreno	Quadangle
Ronza Haddad **	Prokaska Engineering

Staff Present

Andy Kwong (Project Manager)	CSA Group
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Regrets

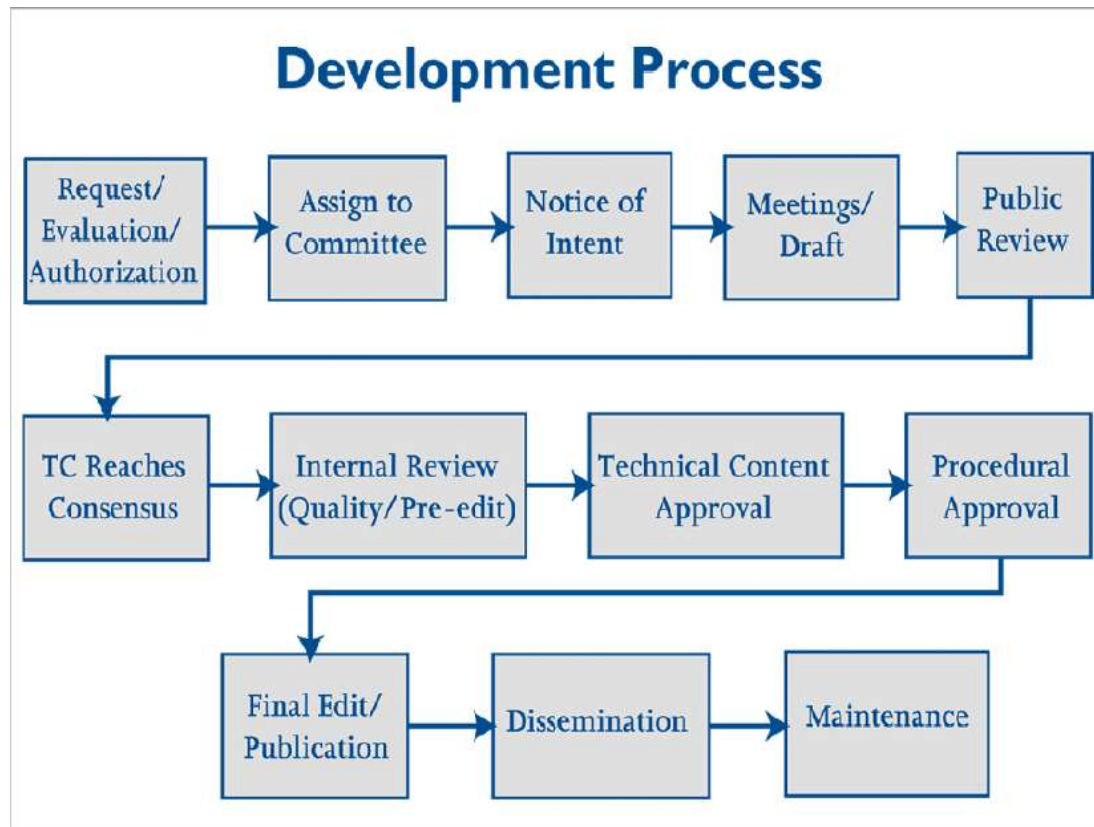
Regrets	Affiliation
Glenn De Baeremaeker	City of Toronto
Bruno Drolet	Environment and Climate Change Canada (Quebec)
Jamie Flagal	MOECC
Keith Hobson	University of Western Ontario
Erin Bayne *****	University of Alberta
Neil McSporran	Pilkington North America
Stephen Morren	Walker Glass
Alan Vrabec	City of Toronto
Shayna Stott	City of Toronto
Yvonne Yeung	City of Markham

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CSA – STANDARDS DEVELOPMENT PROCESS



Public review
ended Jan
20th, 2019.

Standard was
approved &
published in
May 2019.

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CSA A460:19 TABLE OF CONTENT 1 / 3

Technical Committee on Bird-Friendly Building Design 2

Preface 5

1 Scope 6

1.1 General 6

1.2 Exclusions 6

1.3 Terminology 6

2 Definitions 6

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CSA A460:19 TABLE OF CONTENT 2/3

3	Bird collision mitigation strategies	8
3.1	General	8
3.2	Required elevation treatment	9
3.3	Glazing	9
3.3.1	General	9
3.3.2	Full-surface glazing treatment for non-vision glazing	9
3.3.3	Visual markers	9
3.3.4	Fly-through conditions	10
3.3.5	Emerging glazing technologies	10
3.4	Building-integrated structures	10
3.4.1	General	10
3.4.2	Shades	10
3.4.3	Screens, grilles, and mesh	11
3.4.4	Shutters	11
3.4.5	Louvers	11
3.5	Overall site and building design	11
3.5.1	Site design	11
3.5.2	Ventilation grates	11
3.6	Lighting	11
3.6.1	Exterior lighting	11
3.6.2	Interior lighting	11
3.7	Other considerations	11
3.7.1	Interior vegetation	11
3.7.2	Bird feeders	11



CSA A460:19 TABLE OF CONTENT 3/3

Annex A (informative) — Bird-friendly building design — Overview and background rationales for requirements	12
Annex B (informative) — Protection of birds — Current legal context in Canada	21
Annex C (informative) — Jurisdictions with bird-friendly initiatives	23
Annex D (informative) — Bird collision monitoring protocol	27
Annex E (informative) — Establishing regional criteria for bird monitoring programs — Terrestrial ecoregions of Canada	31
Annex F (informative) — Bibliography	33



CSA A460:19 – BIRD-FRIENDLY BUILDING DESIGN

Preface

This is the first edition of CSA A460, Bird-friendly building design.

CSA A460 covers bird-friendly building design in both new construction and existing buildings.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.



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CSA A460 – 1 SCOPE

1.1 General

This Standard covers bird-friendly building design in both new construction and existing buildings and is intended to reduce bird collisions with buildings. The Standard provides bird-friendly design requirements for glazing, building-integrated structures, and overall building and site design.

1.2 Exclusions

This Standard considers design aspects of glazing, buildings, and sites only from the point of view of bird strikes. Other standards and codes make recommendations regarding building characteristics that are not addressed in this Standard (e.g., energy efficiency, building occupant comfort, glazing safety).

Certification procedures are not part of this Standard.



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CSA A460 – 3 BIRD COLLISION MITIGATION STRATEGIES

3.2 Required elevation treatment

Bird collision mitigation strategies shall be present to a height of 16m from grade or to the height of the adjacent mature tree canopy, whichever is greater.

Where there is glazing adjacent to green roofs and/or other rooftop vegetation, the bird collision mitigation strategy shall be applied to a height of 4m from the surface of the green roof or the height of the adjacent mature vegetation, whichever is greater.



CSA A460 – 3 BIRD COLLISION MITIGATION STRATEGIES

3.3.1 General

To minimize the risk of bird collision, treatment of glazing within the elevation specified in clause 3.2 shall apply to

- a) a minimum of 90% of all glazing material;
- b) all glazing material that creates fly-through conditions; and
- c) all glazing material adjacent to natural heritage features.

Fly-through condition – a condition created when architectural elements provide birds with a clear line of sight to sky or vegetation on the other side.

IE: glass corners, parallel glass, glass parapets...



CSA A460 – 3 BIRD COLLISION MITIGATION STRATEGIES

3.3.2 Full-surface glazing treatment for non-vision glazing

When vision is not required (e.g., in application involving spandrel glass, shadow boxes, privacy glazing), a full-surface treatment that renders the glazing visible, with a maximum of 15% reflected light on the first surface, may be used as described in Clause 3.3.1 to deter bird strikes.



CSA A460 – 3 BIRD COLLISION MITIGATION STRATEGIES

3.3.3 Visual markers

3.3.3.1 General

Visual markers shall consist of absorbing and reflecting elements that creates a visible barrier that can be seen by birds. Visual markers may consist of, but are not limited to, the following:

- a) acid etch visual markers;
- b) UV markers;
- c) fritted glass;
- d) film; or
- e) non-film adhesive markers.



CSA A460 – 3 BIRD COLLISION MITIGATION STRATEGIES

3.3.3.2 Size

Visual markers shall be a minimum of

- a) 4mm in diameter for individual elements; or
- b) 2mm wide by 8mm long for linear elements.

3.3.3.3 Density pattern

There shall be no more than 50mm (2 inches) between visual markers.



CSA A460 – 3 BIRD COLLISION MITIGATION STRATEGIES

3.3.3.4 Contrast

Visual markers shall be in high contrast to the glazing material on which they are present.

3.3.3.5 Glass surface

Visual markers shall be on the first (exterior) surface of the glazing.



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CSA A460:19 TABLE OF CONTENT 2/3

3	Bird collision mitigation strategies	8
3.1	General	8
3.2	Required elevation treatment	9
3.3	Glazing	9
3.3.1	General	9
3.3.2	Full-surface glazing treatment for non-vision glazing	9
3.3.3	Visual markers	9
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3.3.5	Emerging glazing technologies	10
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3.6.2	Interior lighting	11
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3.7.1	Interior vegetation	11
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CSA A460:19 TABLE OF CONTENT 3/3

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Bird Friendly Guidelines by City or State

State	City	Mandatory/Voluntary	Description/Markers	Surface	Portion of Building Affected
OR	Portland	Mandatory	2 x 4 Rule	#1 if acid etch; otherwise #2	If > 3000 sf glass façade, then treat below 60', 90% affected
CA	San Francisco	Mandatory	"Visual Markers"	Not Specified	60' up from grade, primary façade and sides of bldg
CA	San Francisco	Mandatory	"Visual Markers"	Not Specified	Free standing glass (walkways, screen walls) > 24 sf
CA	Oakland	Mandatory	2 x 4 Rule	Not Specified	60' up from grade
CA	San Jose	Voluntary	Per ABC	Not Specified	40' up from grade
CA	Sunnyvale	Mandatory	"Visual Markers"	Not Specified	60' up from grade
MI	Minneapolis	Voluntary	specified (refers to Toronto practices, but also	not specified	would prefer all glazing treated
IL	Chicago	Voluntary	not specified , but they refer to Toronto's practices	not specified	not specified
NY	New York City (written by NY Audubon society)	Voluntary	2" x 4" spacing necessary, size of marker not specified. UV ok but" not effective for some species".	either surface	not specified

Bird friendly Guidelines - Canada

Province	City	Mandatory/Voluntary	Description/Markers	Surface	Portion of Building Affected
Ontario	Markham	Mandatory	2 X 4 rule,dot to be greater than 5mm. UV products	not specified for frit or etch. #1 surface if using	16 metres up from grade, 85% of glazing
Ontario	Toronto (city owned buildings)	Mandatory	2 x 2 spacing 5mm dot or larger, markings must be high contrast to the glazing. UV products allowed	#1 preferred but #2 acceptable	16 metres up from grade, 85% of glazing to be treated,,
Ontario	Toronto (private development)	Mandatory	4" x 4" dots 5mm or larger (changing to 2" x 2" in 2020), high contrast	#1 or #2, (#1 only in 2020)	16 metres up from grade , 85% of surface to be treated
Ontario	Vaughn	Mandatory	2" x 4" spacing, 3mm minimum size marker	#1 surface mandatory	treat glazing 16 metres up from grade, 85% to be treated.
Ontario	Ottawa	Voluntary	2" x 2" spacing, any pattern of high contrast markers on low reflectance glass markers	#1 surface	
Quebec	Montreal	non existant			
British Columbia	Vancouver	Voluntary	2" x4" spacing, size of marker not specified.	#1 surface (" markers on interior surface are less effective")	up to 4th floor of building
Alberta	Calgary	Voluntary	4" x 4" spacing. No size of marker specified.	not specified	up 16 metres from grade

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KYLE WANTS TO EAT YOUR LUNCH.
DON'T LET KYLE EAT YOUR LUNCH.

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AUGUST 13-15, 2019

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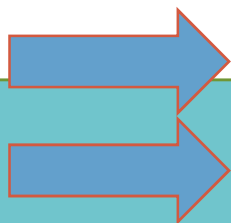
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glass fabrication*

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+Thirsty Thursday

June 20, 2019

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