



DENVER AMENDMENT PROPOSAL FORM FOR PROPOSALS TO THE 2019 DENVER BUILDING CODE AMENDMENTS AND THE 2021 INTERNATIONAL CODES

DENVER
THE MILE HIGH CITY

2021 CODE DEVELOPMENT CYCLE

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2) One proposal per this document is to be provided with clear and concise information.

Is a separate graphic file provided ("X" to answer): ___ Yes or X No

3) Highlight the code and acronym that applies to the proposal

<u>Acronym</u>	<u>Code Name</u>	<u>Acronym</u>	<u>Code Name</u>
DBC-AP	Denver Building Code–Administrative Provisions	IPC	International Plumbing Code
IBC	International Building Code	IRC	International Residential Code
IECC	International Energy Conservation Code	IFGC	International Fuel Gas Code
IEBC	International Existing Building Code	IMC	International Mechanical Code
IFC	International Fire Code	DGC	Denver Green Code

AMENDMENT PROPOSAL

Please provide all the following items in your amendment proposal.

Code Sections/Tables/Figures Proposed for Revision

Instructions: If the proposal is for a new section, indicate (new), otherwise enter applicable code section.

(New) **501.4 Bird Safe Glazing Requirements.**

Proposal:

Instructions: Show the proposal using ~~strikeout~~, underline format.

Place an "X" next to the choice that best defines your proposal: ___ Revision X New Text ___ Delete/Substitute ___ Deletion

Add to Chapter 3, Definitions

Bird friendly material. A material or assembly that has, or has been treated to have a maximum threat factor of 25 in accordance with the American Bird Conservancy Bird Collision Deterrence Material Threat Factor Reference Standard, or with the American Bird Conservancy Bird-friendly Materials Evaluation Program at Carnegie Museum’s Avian Research Center test protocol, or with an approved relevant ASTM standard.

Bird hazard installations. Monolithic glazing installations that provide a clear line of sight on the exterior of buildings, including, but not limited to, glass awnings, glass handrails and guards, glass wind break panels, or glass acoustic barriers.

Fly-through conditions. One or more panels of glass that provide a clear line of sight through such elements creating the illusion of a void leading to the other side, including parallel glass elements, at a distance of 17 feet (5182 mm) or less, or a convergence of glass sides creating a perpendicular, acute or obtuse corner.

High Risk Surface Bird friendly material. A material or assembly that has, or has been treated to have a maximum threat factor of 15 in accordance with the American Bird Conservancy Bird Collision Deterrence Material Threat Factor Reference Standard, or with the American Bird Conservancy Bird-friendly Materials Evaluation Program at Carnegie Museum’s Avian Research Center test protocol, or with an approved relevant ASTM standard.

New language to be added in Chapter 5:

501.4 Bird friendly materials. Bird friendly materials shall be required in accordance with sections 501.4.1 through 501.4.2.

501.4.1 Exterior wall envelope. The exterior wall envelope, and any associated openings, shall be constructed with *bird friendly materials* up to 45' from grade plus an additional 45' up from any elevated landscaped amenities decks 90 feet (27,432mm) above grade. Materials other than *bird friendly materials* shall not exceed an aggregate of 10 square feet (0.93 m²) within any 10 feet (3048 mm) by 10 feet (3048 mm) square area of exterior wall below 90 feet (27,432mm) above grade. *Building projects* shall comply with 501.4.1.1 through 501.4.1.4:

501.4.1.1 Bird hazard installations. Bird hazard installations shall be constructed of *bird friendly materials* regardless of their height above grade.

501.4.1.2 Fly-through conditions. Fly-through conditions located 90 feet (27,432mm) or less above grade shall be constructed with *bird friendly materials*.

501.4.1.3 High Risk Surface Bird Friendly Materials. The exterior wall envelope, and any associated openings, installed within 50 feet (15240 mm) or less of attractants including but not limited to trees, shrubs, prairie, grassland, or open water (including green roofs with this type of vegetation) shall be constructed with *high risk bird friendly materials*.

501.4.1.4 Bird traps. No portion of the exterior wall envelope, and any associated openings with bird trap conditions listed in 501.4.1.4 a. through c. shall have a threat factor exceeding 25 regardless of height above grade.

a. Transparent exterior railings where all surfaces are exposed to exterior.

b. Transparent-sided walkways (e.g., skyways, covered walks with glass on two sides).

c. Any condition that offers a view from exterior to exterior that is 17 ft. or less across, such as a small atrium or glazed corners.

501.4.2 Reflective exterior features in site design. No mirrors shall be placed in or near planted areas or water features, or in locations where they would reflect trees, plants, or water.

Supporting Information

All proposals must include a written explanation and justification as to how they address physical, environmental, and/or customary characteristics that are specific to the City and County of Denver. The following questions must be answered for a proposal to be considered.

- Purpose: What does your proposal achieve?

According to the National Audubon Society, bird collision with building facades is known to be a leading cause of bird deaths. As many as one billion birds die in collisions each year. Requiring bird friendly materials on the building envelope as well as landscape and water features will help to protect birds from colliding with glass. The City and County of Denver is taking the lead in bird conservation through the Lights Out Denver Initiative which strives to conserve bird populations through monitoring and data collection, and encouraging building owners to turn off or dim their lights during migration seasons from midnight to dawn, as well as take measures to retrofit or make their buildings bird friendly.

- Reason: Why is your proposal necessary?

The American Bird Conservancy (ABC) cites that as many as one billion birds die each year in glass collisions. Volunteer monitoring organized by Lights Out Denver from 2019-2021 found 26 different species of dead or injured birds, including one species that is of particular conservation concern, the Common Nighthawk, which is in steep decline.

Denver was designated an Urban Bird Treaty city in 2014. Per the U.S. Fish and Wildlife Service: "Located in the Central Flyway, Denver and its environs provide a wide range of habitats for more than 300 bird species that migrate through or nest in the city's parks, refuges, backyards, schoolyards, and other natural areas. Denver's natural areas include open space, mountain parks and other parcels of lands where reservoirs, riparian woodlands, marshes, and grasslands support a variety of migratory waterbirds, shorebirds, and landbirds"

Additionally, areas of downtown Denver monitored by Denver Parks and Recreation, including the Downtown Denver Public Plaza and surrounding buildings, produce data showing that buildings and landscape in close proximity to each other result in "hot spots" for bird collisions.

From the Lights Out Denver program:

"Building collisions are a leading cause of bird fatality during migration in North America, with the American Bird Conservancy estimating that up to one billion birds die each year in the United States from building collisions.

Why do window strikes happen?

Birds cannot see glass, they can only see what the glass reflects.

Glass often reflects open sky, trees, and other vegetation that is desirable to the birds. Collisions occur when birds attempt to access this reflected habitat and fly into the glass.”

- Substantiation: Why is your proposal valid? (i.e. technical justification)

This proposal includes requirements and specific guidelines for bird safe glazing design and implementation. Per supporting documentation, there is code precedent in cities in the U.S. and Canada that present reasonable methods to decrease bird collision with glass. The language presented here follows specific recommendations from the ABC, and closely mimics New York City’s bird safety ordinance, Local Law 15.

Specific thresholds referenced in the proposed language that come from ABC’s include:

“The glass in the zone where birds are most active should always be the priority. Ideally, this would be from the ground to 100 feet”

“Another important question to answer is whether there is a maximum allowable area for a single pane of non-bird-friendly glass. In other words, does your ordinance state that pieces of glass under a certain size do not have to be bird friendly?

There is no easy answer here because even small panes of glass can be a threat to birds. The small birds that are the most frequent collision victims can and will fly through very small spaces. So, while smaller panes are safer, they alone are not sufficient to prevent collisions – especially when many small panes are placed side-by-side.”

Bibliography and Access to Materials (as needed when substantiating material is associated with the amendment proposal):

1. New York City Local Law 15: https://abcbirds.org/wp-content/uploads/2020/11/New-York-City-Local-Law-15-2020.pdf?_sm_au=iVV7SHP5PRPNQQtMj3tFjKtC88qJW
2. American Bird Conservancy Glass collision resources: <https://abcbirds.org/glass-collisions/resources/>
3. Denver’s Lights Out Program: <https://www.denvergov.org/Government/Agencies-Departments-Offices/Parks-Recreation/Trees-Natural-Resources/Wildlife/Lights-Out-Denver>

Other Regulations Proposed to be Affected

***For proposals to delete content from the 2019 Denver Green Code in conjunction with adding it to other mandatory Denver codes and/or regulations, only.**

Please identify which other mandatory codes or regulations are suggested to be updated (if any) to accept relocated content.

Referenced Standards

List any new referenced standards that are proposed to be referenced in the code.

Impact

How will this proposal impact cost and restrictiveness of code? (“X” answer for each item below)

Cost of construction:	<input checked="" type="checkbox"/> Increase	<input type="checkbox"/> Decrease	<input type="checkbox"/> No Impact
Cost of design:	<input checked="" type="checkbox"/> Increase	<input type="checkbox"/> Decrease	<input type="checkbox"/> No Impact
Restrictiveness:	<input checked="" type="checkbox"/> Increase	<input type="checkbox"/> Decrease	<input type="checkbox"/> No Impact