Bird-Friendly Workgroup

Appendix 1

California Building Standards Commission (CBSC) received a petition (March 25, 2019) to include Bird-Friendly Design as a voluntary measure in the 2019 Intervening Code Cycle Rulemaking. The petition: “voluntary bird-friendly building design standards.”

During the 2019 intervening code cycle the bird-friendly design regulations were brought to the GREEN & PEME, AD HOC Code Advisory Committee (CAC) Meeting March 4, 2020. There were several questions brought up. At that time, BSC chose to withdraw the regulations and move forward in the 2022 intervening code cycle. Below is a list of questions brought up at the CAC meeting. CBSC is reaching out to design professionals to assist with research and answers to the questions and invite you to participate in this discussion at a virtual Zoom “Bird-friendly Design” workshop scheduled for June 7, 2022, 9 am to 12. To receive CBSC meeting notices, please sign up on our listserv at [Contact (ca.gov)](https://www.dgs.ca.gov/BSC/Contact?search=sign%20up)

Any information provided will be of value. And if you have any questions, please contact me:

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Questions

1. What is the normal percentage of glazing for newer, non-residential buildings up to 40 ft in height?
2. Is facade glazing commonly well in excess of 40% for many non-residential buildings?
3. For example, a visual inspection of the new high-rise office buildings in San Francisco shows glazed facades that greatly exceed 40% in a jurisdiction that has adopted a bird-friendly ordinance. Why is that?
4. What is the definition of “clear glazing”, “reflective glazing”, and “acrylic glass”? Does the CALGreen Code need to define these terms?

Glazing with visual markers that meets the energy requirements of the current *California Energy Code* and can include, but is not limited to, the following:

1. What mechanism in the CALGreen or other Parts of Title 24 ensure that energy consultants who performs the initial compliance modeling (and related documentation) coordinate with the person who oversees the application of the bird-strike prevention measures?

Etched or fritted glass with patterns of elements on the exterior having minimum dimensions of 1/4” (.64 cm) diameter for dots or 1/8” (.32 cm) width for stripes in a density of 2 inches (5.1 cm) maximum horizontally and vertically (the “2 X 2 Rule”);

**Note:** If the visual markers are on glass surface 2,they can be effective only if visible behind an exterior surface with reflectivity of 15% or less.

1. How is it possible to effectively provide adequate etching/fritting of the glazing material **without** negatively impacting the Solar Heat Gain Coefficient (SHGC) and/or insulation U-Value of the glass? It seems intuitive that any “architectural disruption” of the glazing surface would negatively impact the reflectivity value of the glazing, thus negatively impacting the SHGC, correct? Have window manufacturers tested their products via NFRC testing standards (required by the CEC) to ensure these bird-strike prevention modifications do not diminish the energy efficiency capabilities claimed in the permanent label required on each window?

Interior or exterior glazing films with 2 X 2 visual markers

1. Is there a need for more detail regarding what does (and does not) qualify as meeting the 2x2 rule? Once again, this is the type of discussion, accompanied by illustrations and photographs, where a guidance document is much better suited to this issue.

Laminated glass with 2 X 2 visual markers, patterned UV coating or use of contrasting patterned UV-absorbing and UV-reflecting films.

**Note:** Low-e coatings shall be behind the visual markers.

Glass block or channel glass

1. Will the glazing product line offered by the typical window manufacturer lend itself easily to the alterations/modifications described above?
2. Once again, how will these various modifications impact the NFRC testing (and rating label) required by the CEC? Is it safe to assume these modifications are made to the glazing prior to testing and certification?

Glazing protected by exterior features that create a visible barrier in front of the glazing, intended to be effective in preventing bird collisions, that may include, but not be limited to:

1. Horizontal or vertical slats of 1/8” (.32 cm) minimum face width with minimum 2” (5.1 cm) spacing that obscure 85% of glass when viewed from all feasible angles.
2. Grilles, screens or 1/8” (.32 cm) dia. welded wire mesh with openings no more than 2” (5.1 cm) maximum horizontally and vertically installed parallel to and no more than 3 ¼ ft. (1 m) from the first surface of glass.
3. Netting with 1” (2.5 cm) maximum openings, installed taut at least 6” (15 cm) away from the first surface of glass; or
4. Sunshades or louvers 9” (22.5 cm) deep vertically spaced a maximum 9” (22.5 cm) or 6” (15 cm) deep horizontally at maximum 6” (15 cm) spacing and parallel or angled to the glass surfaces
5. Are the features cited above realistic options for high-rise and mid-rise buildings?
6. How do these features impact window-washing and other regularly occurring maintenance?
7. How do these features impact fire safety considerations, especially in Wildland-Urban Interface areas? For example, could the netting option serve as an unintended “catcher’s mitt” for burning embers and other unwanted debris?

See-through passageways less than 5.5 ft. (5 m) wide; and

1. **U**nderstanding that the architectural features just mentioned could indeed present serious issues for birds, the “see-through” nature of these design features is what makes them so popular. And like the 40% glazing façade limitation cited earlier, see-through passageways and comers are commonplace in new San Francisco buildings (hotels for example).

**Nighttime conditions.** Nighttime building lighting at the top of the building, interiors of all floors, lobby and atria shall be controlled as follows:

1. Lighting is extinguished from 2 AM to dawn.
2. Time-switch control devices or occupancy sensors are installed, complying with the current *California Energy Code*, that can be programmed to turn off lights during those hours.

**Exception:** Emergency lighting and lighting required for nighttime security

1. How can this be enforced by a building official? Should a systems or operation and maintenance manual to include this information similar 5.410.2 Commissioning, 5.410.2.5 Documentation and training, System manual (CALGreen)? See below.
2. Since this includes nighttime lighting provided within the “interior of all floors, lobby and atria” the Exception does not include the ability to keep the lights on for the course of normal after-hour business and for other activities such as after-hour janitorial or maintenance services.
3. Due to rising energy costs (for nighttime lighting), it is safe to say that most building owners have already considered whether some of their nighttime lighting isn’t needed for nighttime security and can be turned off.

**Systems or operation and maintenance manual.** Include written recommendations that lighting is extinguished pursuant to Section A5.107.3 and janitorial services to the building are scheduled between sunrise and sunset.

19**.** Is the proponent suggesting that janitorial services to a given building be scheduled for completion during daylight hours? If so, is this reasonable?

20.How would something like this be enforced?

21. Do you think we should have areas where Bird-friendly Design

“**Riparian Project**” means any development or activity that is located within 300 feet of a Riparian Corridor’s top of bank or vegetative edge, whichever is greater.

Are these areas designated in a local jurisdictions General plan, zoning or other documentation?

Definition of Riparian: relating to or living or located on the bank of a natural watercourse (such as a river) or sometimes of a lake or a tidewater