



Community Environmental Advisory Commission

ACTION CALENDAR

November 12, 2019

To: Honorable Mayor and Members of the City Council  
 From: Community Environmental Advisory Commission (CEAC)  
 Submitted by: Ben Gould, Chairperson, CEAC  
 Subject: Bird Safe Berkeley Requirements

RECOMMENDATION:

Refer to the Planning Commission and the City Attorney the attached ordinance amending Berkeley Municipal Code Title 23C, adding a new Chapter 23C.27 establishing bird safety requirements for new construction and significant renovations and a new Chapter 23C.28 establishing a dark skies ordinance, for review and approval.

FISCAL IMPACTS OF RECOMMENDATION:

Potential for small additional ongoing costs associated with slightly increased requirements for staff review of new construction proposals to ensure compliance.

CURRENT SITUATION AND ITS EFFECTS

Bird safety is aligned with the City of Berkeley's Strategic Plan, advancing our goal to be a global leader in addressing climate change, advancing environmental justice, and protecting the environment.

According to the Audubon Society, bird collisions with windows is a leading cause of human-induced bird deaths (second only to outdoor house cats). Berkeley is located in the midst of the Pacific Flyway, a major migratory route for birds including hummingbirds, robins, blackbirds, numerous shorebirds, raptors, and more. When these birds encounter unfamiliar urban areas along the migratory path, they are at particular risk for collisions and death.

At present, there are no bird safety measures required for new construction or renovations. As a result, it is possible that new and existing buildings may incorporate features which pose preventable hazards to local and migratory birds.

Unfettered outdoor lighting also poses known risks to birds, as well as generating unwanted light pollution. The City of Berkeley's Downtown Area Plan<sup>1</sup>, as well as

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<sup>1</sup> Lighting, City of Berkeley Downtown Area Plan. Accessed August 2019:  
[https://www.cityofberkeley.info/uploadedFiles/Planning\\_and\\_Development/Level\\_3\\_-\\_DAP/Chapter%2012%20Lighting.pdf](https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_DAP/Chapter%2012%20Lighting.pdf)

Southside zoning regulations (BMC 23E.52.070.F.7), provide guidance or limitations on outdoor lighting, but no general policy exists citywide to prevent excessive light pollution from outdoor lighting.

At its September 12, 2019 meeting, the Community Environmental Advisory Commission voted to recommend the adoption of Bird Safe Berkeley requirements. Moved by Goldhaber, second by Hetzel, carried 6-0-0-2 (Ayes: Simmons, Ticconi, Hetzel, De Leon, Goldhaber, Gould. Noes: None. Abstained: None. Absent: Varnhagen, De Leon).

### BACKGROUND

Berkeley is in the midst of the Pacific Flyway, a major migratory route for birds. The city is also adjacent to San Francisco Bay, one of North America's most ecologically important estuaries and a site of Western Hemispheric importance for shorebirds and waterfowl. Alameda County has recorded 407 species of resident and migratory bird species, including least terns, Ridgway's rails, and a variety of other uniquely local and/or threatened species.

New buildings can be designed to reduce bird deaths from collisions without compromising cost or aesthetics – in fact, many of the compliance methods in the attached ordinance can be incorporated into design or construction with virtually no additional cost or difficulty for architects or engineers, and in some cases facilitate achieving other environmental goals (like improved building energy efficiency).

Several other Bay Area cities have adopted bird safety ordinances, including San Francisco, Oakland, Alameda, and Richmond. The attached proposed ordinance is developed from the City of Alameda's adopted ordinance.

In addition, birds are drawn to light, whether from the moon or artificial lights, and lights affixed to buildings or structures pose a risk that birds may crash into them. A special danger comes from very bright lights, as well as lights aimed upward.

### ENVIRONMENTAL SUSTAINABILITY

Implementing the Bird Safe Berkeley ordinance will ensure new construction does not pose undue hazards to local and migratory birds, thereby reducing human impact and benefiting the environment.

### CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The proposed amendment to BMC Title 23C is categorically exempt from CEQA under CEQA Guidelines Sections 15061(b)(3), 15307, and 15308.

### RATIONALE FOR RECOMMENDATION

Berkeley's strategic plan calls for being a global leader in protecting the environment. The bird-safe glazing design standards contained within have been found to be effective at reducing or eliminating bird deaths, and can be implemented with little or no additional costs. The window size threshold for requiring implementation is the most stringent in the nation, and as a result adopting this policy strongly aligns with Berkeley's strategic plan. The dark skies ordinance is straightforward and simple, yet effective at reducing excessive and unwanted light pollution while conserving energy.

ALTERNATIVE ACTIONS CONSIDERED

CEAC considered taking no action on bird safety standards, but concluded that the environmental benefits substantially outweighed the burden imposed. CEAC also considered a less stringent window size requirement (of twenty-four (24) square feet instead of eight (8) square feet), but determined that window size was not a significant factor in either bird safety or cost or ease of compliance.

CEAC considered taking no action on dark skies, but concluded that the environmental benefits outweighed the burden imposed. CEAC also considered a more stringent dark skies ordinance, but concluded it would be unnecessarily difficult to enforce with minimal additional benefits.

CITY MANAGER

The City Manager takes no position on the content and recommendations of the Commission's Report.

CONTACT PERSON

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ORDINANCE NO. -N.S.

AMENDING BERKELEY MUNICIPAL CODE TITLE 23C TO ESTABLISH GENERAL REQUIREMENTS FOR BIRD SAFETY IN BUILDINGS AND EXTERIOR LIGHTING FIXTURES; ADDING CHAPTER 23C.27 AND CHAPTER 23C.28

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That the Berkeley Municipal Code Chapter 23C.27 is added to read as follows:

**Chapter 23C.27  
BIRD SAFETY**

**Sections:**

- 23C.27.010 Purpose**
- 23C.27.020 Applicability**
- 23C.27.030 Exemptions**
- 23C.27.040 Standards**

23C.27.010 Purpose

The purposes of the Bird Safety related regulations contained in this Chapter is to reduce bird mortality from windows or other specific building features known to increase the risk of bird collisions.

23C.27.020 Applicability

The bird-safe building standards apply to the following types of projects when such projects require a building permit:

A. New Construction. New buildings with two (2) or more stories, and one or more façades in which glass constitutes fifty percent (50%) or more of the area of the individual façade. The bird-safe glazing requirement must be met on any window with dimensions of at least two (2) feet by four (4) feet, or an area of eight (8) square feet or more, located on such façade.

B. Window Replacement. On buildings with two (2) or more stories, and one or more facades in which glass constitutes fifty percent (50%) or more of the area of the individual façade, replacement of any window or other rigid transparent material with dimensions of at least two (2) feet by four (4) feet, or an area of eight (8) square feet or more. The requirement does not apply on existing windows that are not proposed to be replaced.

C. New or Replaced Glass Structures. Any structure that has transparent glass walls twenty-four (24) square feet or more in size, including but not limited to freestanding glass walls, wind barriers, skywalks, balconies, greenhouses, and rooftop appurtenances.

#### 23C.27.030 Exemptions

The bird-safe building standards shall not apply to the following:

A. The replacement of existing glass on historic structures. However, the standards shall apply to new exterior additions to historic structures, and new construction on the site of historic structures, that are differentiated from the historic structures, if determined by the Planning Director to be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

B. Glazing on the ground floor of commercial storefronts directly fronting a public street, alley, or sidewalk.

#### 23C.27.040 Standards

A. Bird-Safe Glazing Requirement. At least ninety percent (90%) of the glazing on any building façade or freestanding glass structure shall include features that enable birds to perceive the glass as a solid object. The requirement can be satisfied by using one or more of the following treatments to be determined by the Planning Director as part of an application for a building permit:

1. External screens installed permanently over glass windows such that the windows do not appear reflective.
2. Light-colored blinds or curtains.
3. Opaque glass, translucent glass, or opaque or translucent window film.
4. Paned glass with mullions on the exterior of the glass.
5. Glass covered with patterns (e.g., dots, stripes, images, abstract patterns, lettering). Such patterns may be etched, fritted, stenciled, silk-screened, applied to the glass on films or decals, or another method of permanently incorporating the patterns into or onto the glass. Elements of the patterns must be at least one-eighth (1/8) inch tall and separated no more than two (2) inches vertically, at least one-quarter (1/4) inch wide and separated by no more than four (4) inches horizontally, or both (the "two-by-four rule").
6. Ultraviolet (UV)-pattern reflective glass, laminated glass with a patterned UV-reflective coating, or UV-absorbing and UV-reflecting film that is permanently applied to the glass. Where patterns are used, they shall meet the two-by-four rule.
7. Other glazing treatments providing an equivalent level of bird safety and approved by the Planning Director as part of building plan review.

B. Alternative Glazing Compliance. As an alternative to meeting subsection 4(a), Bird-Safe Glazing Requirement, an applicant may propose building and fenestration designs and/or operational measures that will minimize bird collisions and achieve an equivalent level of bird safety. The applicant shall submit a bird collision reduction plan along with the application for design review or other discretionary permit required for the project. The bird collision reduction plan shall be prepared by a qualified biologist. Design and operational solutions may include but need not be limited to the following techniques, singularly or in combination:

1. Layering and recessing glazed surfaces.
2. Angled or faceted glazing that minimizes reflectivity and transparency.
3. Louvres.
4. Overhangs and awnings.
5. Glass block.
6. Bird netting with openings one (1) square centimeter or smaller.
7. Decorative grilles that allow birds to perceive the grilles, together with the glass behind them, as solid.
8. Glass embedded with photovoltaic cells.
9. Placement of landscaping in such a way as to minimize bird collisions.

Section 2. That the Berkeley Municipal Code Chapter 23C.28 is added to read as follows:

**Chapter 23C.28  
DARK SKIES**

**Sections:**

- 23C.28.010 Purpose**
- 23C.28.020 Applicability**
- 23C.28.030 Exemptions**
- 23C.28.040 Standards**

23C.28.010 Purpose

The purpose of the Dark Skies ordinance is to ensure exterior light fixtures are pointed downwards and turn off whenever possible, minimizing light pollution, sky glow, and hazardous risks to birds, while ensuring adequate illumination for safety, security, and the enjoyment of outdoor areas, including travel on public roads.

23C.28.020 Applicability

The dark skies ordinance applies to any project that requires a building permit or electrical permit for:

A. New exterior lighting, including lighting fixtures attached to buildings, structures, poles, or self-supporting structures; or

B. Additions or replacements of existing exterior light fixtures, including upgrades and replacements of damaged or destroyed fixtures.

#### 23C.28.030 Exemptions

The following types of lighting are exempt from the requirements of this subsection:

A. Emergency lighting. Temporary emergency lighting used by law enforcement or emergency services personnel, a public utility, or in conjunction with any other emergency service.

B. Construction lighting. Temporary lighting used for construction or repair of roadways, utilities, and other public infrastructure.

C. Lighting Required by Building Code or Other Regulations. Lighting for exit signs, stairs, ramps, points of ingress/egress to buildings, and all other illumination required for building codes, OSHA standards, and other permitting requirements imposed by state, or federal agencies.

D. Signs. Signs and sign lighting.

E. Athletic Field Lights. Athletic field lights used within a school campus or public or private park.

F. Neon, Argon, and Krypton. All fixtures illuminated solely by neon, argon, or krypton.

G. Water Features. Lighting used in or for purposes of lighting swimming pools, hot tubs, decorative fountains, and other water features.

H. Flag Lighting. Lighting used to illuminate a properly displayed United States flag and/or State of California flag.

I. Holiday Displays. Seasonal and holiday lighting.

J. Temporary Lighting. Temporary lighting allowed under a permit.

K. Historic Fixtures. Historic lighting fixtures or fixtures that exhibit a historical period appearance, as determined by the Planning Director.

L. Architecture, Historic Structures, and Public Art. Lighting on historic structures, special architectural features, public art, monuments, and other similar objects of

interest shall be exempt if the lamps emit less than one thousand six hundred (1600) lumens per fixture and together draw less than one hundred (100) watts. However, the standards shall apply to new exterior additions to historic structures, and new construction on the site of historic structures, that are differentiated from the historic structures, if determined by the Planning Director to be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

M. Low-Voltage Landscape Lighting. Low-voltage landscape lighting such as that used to illuminate fountains, shrubbery, trees, and walkways, provided that it uses no more than sixty (60) watts and no more than seven hundred and fifty (750) lumens per fixture.

#### 23C.28.040 Standards

To minimize the harmful effects of light pollution, new construction and major renovation projects shall meet the following standards:

- A. Outdoor lighting shall be no brighter than 3000 Kelvin.
- B. Outdoor lighting shall be shielded and directed, with a full cut off fixture of no more than 2.5% of lamp lumens at or above 90°, and no more than 10% of lamp lumens at or above 80°.
- C. Wherever feasible, require motion sensors or timers to prevent unnecessary energy use and light pollution.
- D. Light shows and beams of light are not permitted during spring or fall migration seasons, roughly February 15 to May 31, and August 15 to November 30, respectively.