



## COMMUNITY DEVELOPMENT DEPARTMENT

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### PLANNING COMMISSION STAFF REPORT

Meeting: October 28, 2019

#### Subject

Study Session related to Bird-Safe Development policies and guidelines

#### Recommended Action

Provide direction to Staff on the areas of regulation related to bird-safe development.

#### Discussion

##### *Background*

The Planning Commission has shown interest in the effects of building design on bird populations and City Council has incorporated the review and development of Bird-Safe Development standards into its FY 2019-2020 work program. Considering the rising concern regarding bird collisions specifically due to design decisions on building material, exterior and interior lighting, and placement of buildings and other architectural and landscaping features on a site, this study session will provide the Planning Commission an opportunity to evaluate the standards that other cities use to review development proposals and to provide input on possible implementation practices in Cupertino.

Birds provide significant value to the environment and are critical species to the ecosystem. They provide benefits such as plant pollination, seed dispersal, and insect control. The National Audubon Society<sup>1</sup> through its Bird-Friendly Communities conservation program believes that communities can provide essential, safe habitats for birds by using native plants in landscaping, constructing bird-friendly buildings, and incorporation of avian-friendly architecture (providing bird-houses, roosting towers and other nesting infrastructure). This Work Program item and study session is focused on bird-friendly construction practices.

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<sup>1</sup> Founded in 1905, the National Audubon Society's mission is to protect birds and the places they need, today and tomorrow, throughout the Americas using science, advocacy, education, and on-the-ground conservation.

The San Francisco Bay Area is a major destination along the Pacific Flyway, which is one of the four major flyways that cross the United States. More than a billion birds travel along the Pacific Flyway for the twice a year north-south migration between Canada and Mexico. Over 200 species of birds migrate through the Bay Area each spring and fall, and Cupertino's setting on the boundary between the Valley Floor and the Santa Cruz mountains effectively makes the entire city potential bird habitat.

In recent decades, technology advancements and architectural preferences have promoted the increased use of glass and exterior lighting in many construction projects, which have contributed significantly to bird strikes. A recent study states that since 1970, North America has lost more than 2.9 billion birds<sup>2</sup>. While the issue of bird strikes due to development decisions within urban environments has been known for decades, only relatively recently have local jurisdictions begun adopting specific policies. North American cities have adopted bird-safety specific building design standards as early as 2007, when the City of Toronto adopted "Bird-Friendly Development Guidelines" (see Attachment 2). Since then, several Bay Area cities including San Francisco, Oakland, Alameda, Richmond, Sunnyvale, and Santa Cruz have adopted city-wide regulations related to Bird-safe Development. Other jurisdictions have adopted guidelines that apply only to specific areas of the city that are considered bird-sensitive areas such as Mountain View's North Bayshore Precise Plan, and San Jose's Riparian Corridor area (north of Interstate 237).

Cupertino does not currently have bird-safe/bird-friendly design standards. However, existing policies to protect environmental resources and to ensure high-quality site design exist in the current general plan, General Plan: Community Vision 2015-2040:

- Policy LU-3.3 Building Design: Ensure that building layouts and design are compatible with the surrounding environment and enhance the streetscape and pedestrian activity.
- Policy ES-5.1 Urban Ecosystem: Manage public and private development to ensure the protection and enhancement of its urban ecosystem

Furthermore, every jurisdiction in the state of California that is a potential habitat or a migration corridor for protected birds must address bird strikes as part of performing environmental review for projects subject to the California Environmental Quality Act (CEQA). However, these CEQA and city General Plan policies either do not provide a clear or defined set of mandatory requirements

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<sup>2</sup> Rosenberg, Kenneth V., Dokter, Adriaan M., et al (2019). Decline of the North American avifauna. *Science*, Vol. 366, Issue 6461, pp. 120-124

that specifically address concerns about bird strikes for all projects, or are only required for larger projects that are not exempt from CEQA review.

### *Analysis*

Bird collisions are linked to several building design factors such as:

- Large expanses of exposed reflective glass that cause birds to fly into buildings with extensive glazing that reflects the sky, water, or landscaping when they believe it is an extension of the outdoor environment;
- Large expanses of exposed transparent glass that cause birds to continue flying since they do not perceive it as a solid barrier;
- Bright levels of nighttime lighting that can cause confusion for some migratory birds. Although most birds migrate during the day, most species of songbirds migrate at night. Inclement weather, such as rain or fog, can force birds to fly below the clouds and navigate the dense urban maze of buildings. Since lighting is an attractant for birds, they may fly into beams of light, get disoriented in a dense urban environment, and collide with the surrounding buildings or collapse due to the exhaustion from flying around in confusion (known as “fatal light attraction”).

Regulations regarding glazing and lighting are generally incorporated in Bird-Safe Development policies and standards. The following section describes these and other aspects that Bird-Safe ordinances regulate. A comparison matrix of the different areas of regulation is attached as Attachment 1.

### *Applicability*

Regulations can be categorized as voluntary and mandatory. Some cities have adopted policies and guidelines that are not incorporated into the Municipal Code but are enforced during the entitlement process while only a few cities have codified the requirements in the Municipal Code or adopted in a precise/conceptual plan.

In most cities, the Bird-Safe Development requirements apply to new buildings that are located within, or adjacent to (within about 300' of) an open space, body of water, or vegetated park. Some cities also specify a size of the building (e.g., exceeding 10,000 square feet) in addition to one of the location characteristics stated before. Some cities apply the requirements to certain building retrofit projects (e.g., new additions to existing buildings or window replacements, etc.)

### *Glazing Requirements*

Cities typically require the use of highly reflective glass or highly transparent glass be avoided in building design and that specified treatments be applied if a project is subject to the Bird-Safe Development standards.

Since most bird strikes occur closer to the ground where glass reflects the landscaped environment, some jurisdictions specify that the glazing requirements are applicable up to a height between 40 feet to 60 feet from the ground, while others specify that glazing requirements are applicable if a building faces an open space or body of water. The percentage of glazing to which glazing treatments apply varies between 80 and 100% depending on the location of the building within a jurisdiction or within a site.

The most common glazing treatment is the marking of glass with patterns (known as “fritting”) and is often a solution to address the lack of bird-friendly visual cues that reflective and/or transparent glass have. Typically, the regulations prescribe a menu of other types of bird-safe building treatments including installation of blinds, opaque glass, window muntins (grid patterns), screens, netting, or special glass features to provide visual cues and reduce the likelihood of bird collisions, as suggested by the American Bird Conservancy.

Building features such as glass skyways or walkways, freestanding glass walls, and transparent building corners, or other design elements through which trees, landscape areas, water features or the sky are visible from the exterior are often typically prohibited or discouraged.

#### *Lighting Requirements*

Most cities regulations are explicit about prohibiting searchlights, up-lighting, and aerial lasers, with some specifying that the restrictions are limited to migration season (February 15 to May 31 and August 1 to November 30). Some cities also list exceptions that allow such illumination in cases where the lighting was determined to be minimal and approved through a Special Events permit, or in cases where the lighting is operated by law enforcement or emergency services personnel.

Some cities also provide general guidelines regarding exterior lighting which include variations on “minimal lighting,” “minimal exterior lighting,” “exterior lighting shielding,” etc. In some cities, such as the City of Alameda, where bird-safe regulations were developed in conjunction with new dark sky regulations, the bird-safe regulations deferred to the dark sky regulations for lighting standards, rather than having separate bird-safe development lighting standards.

Additional requirements include limitations on interior lighting, with some cities requiring the use of technology, or stipulations for building occupants to turn off desk lights and/or pull-down opaque shades. However, from an implementation perspective, behavior-based standards such as the ones listed above are typically less successful as a stand-alone mitigation measure. For some cities, these

behavior-based measures are encouraged to be implemented in conjunction with other feature-based mitigation measures rather than as the sole mitigation measure.

#### *Other Regulations*

*Alternative Solutions:* Some cities allow applicants to choose alternate compliance methods recommended by a qualified biologist, including architectural solutions to prevent bird collisions, such as large overhangs, recessed glazing, layering etc.

*Exemptions:* For most jurisdictions, historical structures are generally exempted from the requirements, although a few cities specify that new additions to historic buildings are not exempt. In addition, some cities exempt smaller residential buildings that are below a certain height (e.g., 45 feet) and percentage of exterior glazing (e.g., 50% or less) as additional criteria. In a select few cities, exemptions are also allowed for retail or neighborhood specific facades.

*Additional Requirements or Voluntary solutions:* Some cities, such as Oakland, require a Bird Collision Plan that incorporates all features and design decisions and solutions used to reduce bird strikes be submitted as part of a development application. Educational materials for building occupants and donations of dead species to organizations are among a few of the other best management practices that are typically encouraged but are not mandatory. The value of these non-standard solutions may not be apparent, but they should not be underestimated since a multi-faceted approach to bird conservation is more effective than strict building development regulations.

#### Next Steps

The Planning Commission's comments and direction from this study session will be incorporated into the development of a draft ordinance/policy.

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#### Attachments:

1 – Comparison Matrix of Other Cities' Regulations

2 – Example Guidelines and Regulations from Other Jurisdictions

(Oakland, San Jose, Santa Cruz, Sunnyvale, San Francisco, and Toronto)