



February 12, 2019

via email

Leila Hakimizadeh
Supervising Urban Designer/Planner
Planning, Building and Code Enforcement
City of San Jose

RE: DRAFT SAN JOSE DOWNTOWN DESIGN GUIDELINES AND STANDARDS

Dear Ms. Hakimizadeh,

Santa Clara Valley Audubon Society and the Sierra Club Loma Prieta Chapter are non-profit organization. Together, our organizations have over twenty thousand supporters in San Jose. We reviewed the Draft San Jose Downtown Design Guidelines and Standards and offer the following comments on Section 4.4 Building Elements, Section 4.6 Lighting, and Section 5.8 Lighting - Pedestrian Level.

1. Bird Safe Design:

We ask that any requirement of transparent glass in structures and buildings (with the exception of store fronts) should consider bird safe design. In addition:

Section 4.4 Building Elements; 4.4.3.b Windows and Glazing: Bird Safety

We suggest that San Jose adopts the same STANDARDS as the City of San Francisco (attached), which provide a benchmark for protecting birds in urban environments. If this is not feasible, then at the very least strengthen the Standards as follows:

STANDARDS

- Add: Avoid transparent see-through barriers such as atria, free-standing walls or transparent skyways.
 1. Reasoning: While all glass is hazardous, see through structures are the deadliest for birds
- Add: Patterns in the glass as well as screens, shades etc. should follow the 2x4 rule (meaning that the protective visual cues are added across the pane, spaced two inches apart horizontally, and/or four inches apart vertically).
- Remove: “Placing landscaping in front of large glass areas helps reduce views through glass” (Standards b.).
 1. Reasoning: This language is confusing because it is not specific. In fact, the type of landscaping and distance from the glass are critically important and can

decrease or increase bird collision hazards, depending on specifics of the site and the vegetation. This language can even be construed as placing vegetation inside the building near glass, which is hazardous and should be expressly avoided.

Section 4.4 Building Elements 4.4.3.d Windows and Glazing: Balconies STANDARDS

Add: For transparent railings, apply patterns to the glass using the 2x4 rule (meaning that the protective visual cues are added across the pane, spaced two inches apart horizontally, and/or four inches apart vertically).

Section 4.4 Building Elements 4.4.9 Pedestrian Bridges

STANDARDS

Standard d. - We appreciate the attention to bird safety. Similar requirement should apply to all skyways, walkways and other see-through structures!

2. Light pollution: Section 4.6 Lighting

Artificial light is harmful to almost all biological beings and a new phenomenon for life on Earth. For millions of years, Earth's species have evolved under natural cycles of light and dark. The circadian rhythms of nearly all living things, including humans, are regulated by light. Thus, artificial light at night contributes to light pollution, and is biologically disruptive for living beings. Migratory birds are attracted to light and collide with buildings and other structures. Their migratory flight paths can be altered, and in some extreme cases, birds become trapped in beams of artificial light and die of exhaustion. Many species of mammals will avoid areas illuminated by artificial light at night.

There are many recommendations and best practices for lighting that optimizes safety and at the same time protects the night sky and the health of ecosystems and people. Core recommendations emphasize:

- Eliminate excess light
- Prohibit up lighting or spotlights;
- Plan control capabilities for LED lights
- Reduce lumen output
- Avoid high contrast
- Shield lighting to cast light down onto the area to be illuminated;
- Turn commercial building lights off at night or incorporate blinds into window treatment to use when lights are on at night; and,
- Create smaller zones in internal lighting layouts to discourage wholesale area illumination
- Set a maximum lighting temperature (measured in Kelvin) to restrict the emission of blue light, which is significantly more harmful than other color temperatures to humans and wildlife.
- Set a maximum lighting intensity (measured in Lumens) to reduce the impacts of artificial light.

- Set a maximum height allowances for specific types of structures to protect migratory birds and reduce sky glow.
- Establish a Lights Out Program, which sets “Dark Hours” from 10:00 pm, or when people are no longer present, or close of business, whichever is latest, until sunrise. During Dark hours:
 - Turn off exterior decorative lighting
 - Turn off interior lighting, or install blinds to block light emissions, especially on higher stories

Cities from around the world are creating lighting ordinances to combat the negative effects of light pollution. This provides a wealth of existing practices that San Jose can use as a model. A notable international example is France, which on January 1st 2019 enacted a country-wide Decree to Reduce Light Pollution. The French law shares a lot in common with light pollution ordinances passed in California cities, including Ojai, Malibu, and Alameda. The City of Sunnyvale is currently studying the issue of light pollution.

Sections 4.6.1 Lighting - Podium Level and 4.6.2 Lighting - Skyline Level are inconsistent with the above guidelines and defy most best practices for human and environmental health. We understand there is a desire for light in Downtown San Jose, but believe that lighting should be avoided within 300-ft of creek corridors, and must be adaptable and regulated to avoid harm to wildlife, especially migratory birds.

We appreciate sections 4.6.1 (Standards a,b,c) and section 4.6.2 (Standard d) which outline mitigation measures to reduce light pollution. However, we believe that these Standards are orthogonal to and contradicted by the corresponding Rationale and Guidelines in the same sections.

Both photographs (labeled "DO") in 4.6.1 show the use of up-lighting and the use of non-shielded lights, both of which are incompatible with the principles of dark sky and bird safe design. These photographs should not be included, as they contradict Standards (a,b,c). Any photographs used in these documents should reflect the Standards of the document.

4.6.1 Guidelines (a,b,c) all encourage the decorative illumination of outside building features at night. Dark Sky ordinances, such as those passed in Malibu, Ojai, and Alameda, include provisions that mandate turning off exterior decorative lighting at night. Many of these ordinances include a Lights-Out provision, which mandates that such exterior lighting must be turned off after 10pm, or when the building becomes unused. Guidelines (a,b,c) are in fundamental contradiction with Dark Sky and Bird Safe Design policy, and should not be encouraged, especially without a specific, enforceable, lights-out provision.

4.6.1 Rationale states, "several larger parks and open spaces within Downtown provide good views of surrounding buildings. Buildings in these locations along the highways and around major parks have an opportunity to help define the image of the area with accentuated lighting." Parks and Open Spaces are areas that need to be especially protected from light pollution, given that they often contain wildlife habitat. The "accentuated" illumination of structures near these locations encourages lighting in areas where it is most harmful.

The 4.6.2 Skyline Level Lighting Techniques are not adequately mitigated by Standard (d). The techniques of Beacon, Lantern, Outline, Color, and Artistic, all encourage an increase in artificial light at night and will therefore increase light pollution. Artificial light at night at high altitudes is even more damaging than artificial light at the ground level in terms of both contribution to sky glow and effects on migratory birds. Dark Sky ordinances (as previously referenced) mitigate skyline level lighting by completely turning off these lights when buildings are not in use, after a specific time at night, and during migration season. Standard (d) recommends "reducing" or "shielding lights", which is a step in the right direction, but is not sufficient to adequately mitigate the negative effects of artificial light, and is not consistent with the standards of existing Dark Sky ordinances.

We believe that as proposed, the design guidelines and standards are inconsistent with the following Envision San Jose General Plan policies:

- Policy ER-2.3 Design new development to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise and toxic substances into the riparian zone
- Policy ER-6.3 Employ low-glare lighting in areas developed adjacent to natural areas, including riparian woodlands. Any high-intensity lighting used near natural areas will be placed as close to the ground as possible and directed downward or away from natural areas.
- Policy ER-6.4 Site public facilities such as ballparks and fields that require high-intensity night lighting at least 0.5 mile from sensitive habitats to minimize light pollution, unless it can be demonstrated that lighting systems will not substantially increase lighting within natural areas (e.g., due to screening topography or vegetation).

We thank you for providing us with the opportunity to comment on the Draft San Jose Downtown Design Guidelines and Standards. We hope a robust dark sky/lights out guidelines can be developed to protect night-flying migratory birds, people, and the night.

Thank you,

Shani Kleinhaus, Ph.D.
Environmental Advocate
Santa Clara Valley Audubon Society

Katja Irvin
Conservation Committee co-chair
Sierra Club Loma Prieta Chapter

References

France's Decree:

<https://www.legifrance.gouv.fr/eli/arrete/2018/12/27/TREP1831126A/jo/texte>
<https://www.darksky.org/france-light-pollution-law-2018/>

Malibu Dark Sky Ordinance: <https://www.malibucity.org/DocumentCenter/View/22417/Dark-Sky-Ordinance-Ordinance-No-434>

Ojai Ordinance:

https://docs.vcrma.org/images/pdf/planning/ordinances/Ojai_Valley_Dark_Sky_-_Public_Brochure.pdf

Alameda Ordinance:

<https://alameda.legistar.com/LegislationDetail.aspx?ID=3756063&GUID=2E8203B6-7841-42FC-A8B8-552FA7D9D246&Options=&Search=>

The International Dark Sky Association

<https://www.darksky.org/>

Carcinogenicity of shift-work involving Circadian Disruption

https://firefightercancersupport.org/wp-content/uploads/2013/06/carcinogenicity_of_shiftwork_painting_and_firefighting.pdf

Physiology of Growth Hormone Secretion During Sleep

<https://www.ncbi.nlm.nih.gov/pubmed/8627466>

National Audubon Lights out recommendations

<https://www.audubon.org/conservation/project/lights-out>

Campus Illumination: A road map to exterior lighting at the University of Washington Seattle Campus

<https://www.lightingdesignlab.com/sites/default/files/pdf/Campus-Illumination-Roadmap-final.pdf>