wra
Environmental
Consultants

March 6, 2026

Attn: Maria Kisyova
David J. Powers & Associates, Inc.
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Subject: 1215 Bordeaux Drive Residential Development Project, Sunnyvale, Landscape Design and Bird Safe Design Review Summary Letter

Dear Maria,

This letter addresses the landscape and bird safe design review of the 1215 Bordeaux Drive Residential Development Project (Project) conducted by WRA, Inc.. A desktop review of materials including the project description, Project Plan Set dated November 7, 2025, and the 2023 Moffett Park Specific Plan (Plan) was conducted. Additionally, a site visit was conducted on January 29, 2026, to assess site conditions.

The 1215 Bordeaux Drive Residential Development Project falls within the Moffett Park area of northern Sunnyvale, which adopted the Moffett Park Specific Plan (Plan) in July of 2023. All development projects within the Moffett Park area are required to adhere to the Plan, which includes policies that encourage plant assemblages drawn from local native ecosystems (DS-5.2) and integrate bird-safe design (DS-5.1) into all new developments.

Below is a summary of the review of the Project and how it aligns with the Plan, as well as any recommended design adjustments, such as planting and lighting plans, so that they comply with the Plan's Best Practices for Urban Ecology and the Sunnyvale Bird Safe Design Guidelines.

1.0 LANDSCAPE DESIGN REVIEW

The proposed 1215 Bordeaux Drive Development includes the removal of the existing office building and surface parking and will construct a new eight-story building with 265 multi-family residential units and 217 parking spaces. The Project also proposes to construct landscaped roof terraces on floors three and eight of the residential building. At the north end of the residential building, the Project proposes to construct a portion of the proposed Bordeaux Neighborhood Park (Park) laid forth in the Plan. As communicated by the City (David J. Powers 2025), the remainder of the park will be constructed by future development(s) and would also be required to comply with the Plan.

Per the Plan, the Park is designated as a "Neighborhood Park" open space type with an ecology type of "Habitat Patch". Specific design guidelines for Neighborhood Parks and Habitat Patches

are detailed in the Plan. These guidelines require that this open space and ecology type be designed to provide ecosystem services, biodiverse landscapes, habitat, shade, and stormwater management. Neighborhood Parks and Habitat Patches must also adhere to standards dictating scale and shape, suitable plant palette and lighting plan, and availability for appropriate public programming and access. Because this development is only constructing a small portion of the park, full compliance with the Plan is not feasible. However, some Plan elements are not dependent on the Park's full build out and thus are evaluated here as to whether they are in alignment with the Plan.

The landscaped roof terraces must also follow the Ecological Development Standards laid out in the Plan which state that: "landscapes and exterior improvements for private development shall achieve the standards and guidelines for parks and open spaces". Together, the proposed portion of the Bordeaux Neighborhood Park and the landscaped roof terraces in the Project Plan Set were compared with the standards outlined in the Plan. The proposed landscape design was evaluated and findings are summarized in **Table 1** below and recommendations are summarized in **Section 1.1**. Plan criteria that are dependent on the Park's full buildout and that cannot be feasibly complied with from this project alone are listed in Table 1 as N/A.

Table 1. Landscape Design Evaluation

Design Criteria	Moffett Park Specific Plan Standards	Current Project Design	Comply? (Yes / No / N/A)	Recommendation
1215 Bordeaux Drive Development Bordeaux Neighborhood Park Portion				
Scale	Habitat Patches: 2+ acres of high-quality native habitat Neighborhood Parks: 3-8 acres; minimum dimension of 100-feet	To-be-constructed portion is ~ 0.3 acre and therefore not subject to this standard.	N/A	N/A
Shape	Habitat Patches should be square or circular in shape rather than long and narrow.	Park footprint is rectangular in shape but is not long and narrow. Plantings are designed with soft edges.	Y	-
Service Area	• Community/District	Accessible to the public	Y	-
Program	• Preservation and restoration of habitat • Programming shall be balanced with high quality native habitat • Multi-use trails • Nature trails and bird watching • Limited public and pet access	There is no existing native habitat to preserve or restore. Proposed design has incorporated native vegetation and multi-use trails which can be used as nature trails. Public access is limited to proposed multi-use trails. Pet access is emphasized via a sizeable synthetic turf dog park.	N/A	N/A
Landscape Design	Existing site vegetation management includes: • Preserving natives • Implementing BMPs for invasive removal • Conducting Special-Status Species surveys	The site is not occupied by naturally occurring native plant species and some non-native invasive species were observed. Park designs do not include any invasive species removal BMPs. Site visit assessed for presence of special-status species and none were observed.	N	Implement invasive species BMPs for English Ivy and Kikayu grass removal. See **Section 1.1.1** for additional BMP details. to control invasive species.

	Landscape area planting is recommended to be 100% but will be at minimum 80% native vegetation. Non-native species may only be used if they support wildlife. Species locally native to Santa Clara Valley will be prioritized.	• 3/10 tree species, 8/10 shrub, 7/10 perennial, and 8/10 grass species in the Project Plans are native. • Proposed non-native species do not support local wildlife. • Project Plan proposes to plant Mendocino reed grass (*Calamagrostis foliosa*) which is not locally native to Santa Clara Valley.	N	Increase native species cover and remove non-native and locally non-native species from the proposed Planting Schedule. See **Section 1.1.3** for additional landscape design recommendations.
	Installing invasive species is prohibited.	Project Plan proposes the following invasive species: • Olive tree (*Olea europaea*, Cal-Invasive Plant Council (Cal-IPC) rating: "Limited") • Many species of *Euphorbia sp.* are non-native in California and have invasive species listings.	N	Remove invasive species from proposed Planting Schedule and replace with native species, See Section **1.1.3** for additional landscape design recommendations.
	Plant assemblage will provide a mixture of groundcover, shrub, and tree species that mimic native ecosystems. Configure plantings in multi-layered clusters, placing groundcover, shrub, and tree canopy layers in same area to provide vertical structure.	Plant assemblage includes a mixture of ground cover, shrub, and tree species. Planting plan includes vertical structure in configuration.	Y	-
	Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan and the lighting plan.	Ecologist Review and recommendations contained herein.	Y	-
Landscaped Courtyard				

Landscape Design	Landscape area planting is recommended to be 100% but will be at minimum 80% native vegetation. Non-native species may only be used if they support wildlife. Species locally native to Santa Clara Valley will be prioritized.	• 1/5 tree species, 4/6 shrub, 7/7 perennial, 5/6 grass, and 0/3 succulent species are native. • Proposed non-native species do not support local wildlife • Project Plan proposes to plant California fan palm *(Washingtonia filifera)* and Mendocino Reed Grass *(Calamagrostis foliosa)*, which are not locally native to Santa Clara Valley.	N	Increase native species cover and remove non-native and locally non-native species from the proposed Planting Schedule. See Section **1.1.4** for additional landscape design recommendations.
	Installing invasive species is prohibited.	Proposed invasive species: • Olive tree (*Olea europaea*, Cal-IPC rating: "Limited") • Many species of *Euphorbia sp.* are non-native in California and have invasive species listings.	N	Remove invasive species from the proposed Planting Schedule and replace with native species. See Section **1.1.4** for additional landscape design recommendations.
	Plant assemblage will provide a mixture of groundcover, shrub, and tree species that mimic native ecosystems. Configure plantings in multi-layered clusters, placing groundcover, shrub, and tree canopy layers in same area to provide vertical structure.	Plant assemblage includes a mixture of ground cover, shrub, and tree species. Planting plan includes vertical structure in configuration.	Y	-

1.1 Recommendations

As detailed in **Table 1**, the following recommendations are summarized for the proposed 1215 Bordeaux Drive Development portion of the Park and the landscaped courtyards to better align with the guidelines set forth in the Plan. These include guidance for invasive species removal and landscape design recommendations that are in accordance with the Plan.

1.1.1 Invasive Species Best Management Practices:

The Plan includes instructions in Section 6.6.6. 1b. for existing site vegetation management, specifying that when removing invasive species present on site, Best Management Practices (BMPs) are followed. Invasive species observed on site include English ivy (*Hedera helix*, Cal-IPC rating: "High") and Kikayu grass (*Pennisetum clandestinum*, Cal-IPC rating: "Limited"). For these species, BMPs for removal should include full stem, root, and rhizome removal as well as disposal off-site to prevent regrowth. It is recommended that these BMPs are implemented for these species to be effectively removed and to prevent future invasion into proposed landscaped areas.

1.1.2 *Portion* of Bordeaux Neighborhood Park - Landscape Design Recommendations

As stated in **Table 1**, the Plan requires landscape area plantings to meet 80 percent native minimum composition; however, per the Project's planting schedule, 30 percent of tree species, and 70 percent of perennial species are native composition. The planting schedule also includes one species that is not locally native to Santa Clara Valley (Mendocino reed grass) and two invasive species (Olive tree and *Euphorbia sp.*).

The Plan's Appendix B, Table 34 (**Attachment B**) is organized by ecosystem type and should be referred to for suggested native plant palettes for amending the plant palette to meet the minimum 80% native vegetation requirement.

In addition to increasing native species composition, removing species not locally native to Santa Clara Valley (California fan palm and Mendocino reed grass) and invasive species (Olive tree and *Euphorbia sp.*) from the Planting Schedule and replacing with locally native species is required to be alignment with the Plan. To replace the non-native tree species [Strawberry Tree (*Arbutus 'Marina'*), Flame bottletree (*Brachychiton acerifolius*), Southern Magnolia *(Magnolia grandiflora*), Canary Island Pine (*Pinus canariensis*), Chinese Pistache (*Pistacia chinensis*), Eldarica Pine (*Pinus brutia var. eldarica*)] and the invasive Olive tree (*Olea europaea*) prescribed in the planting schedule, native tree species in the Specific Plan that are best adapted. The Plan's native tree species that are best adapted to conditions within the Project Area can be found in the Oak Savanna & Oak Woodland Palette. The following Oak Savanna & Oak Woodland species are suggested based on existing site conditions, and can be found in plant palettes within Appendix B (**Attachment B**):

- California buckeye (*Aesculus californica*)
- Coast live oak (*Quercus agrifolia*)
- Blue oak (*Quercus douglasii*)
- Valley oak (*Quercus lobata*)
- Foothill pine (*Pinus sabiniana*)
- Pacific madrone (*Arbutus menziesii*)

To replace non-native perennial species [Kangaroo Paw (*Anigozanthos flavidus*), rock purslane (*Calandrinia spectabilis*), and Mexican bush sage (*Salvia leucantha*)] and potentially invasive *Euphorbia sp.*, native perennial species in the Specific Plan that are best adapted to conditions within the Project Area can be found in the Oak Savanna & Oak Woodland Palette. Based on existing site conditions, the following species are suggested, and can be found in Appendix B (**Attachment B**):

- Sticky monkey flower (*Diplacus auranticus*)
- California fuschia (*Epilobium canum*)
- Blue-eyed grass (*Sisyrinchium bellum*)
- Ajuga hedge nettle (*Stachys ajugoides)*
- Yerba buena (*Clinopodium douglasii*)

To replace Mendocino reed grass, which is not locally native to Santa Clara Valley, the following locally native grasses are suggested replacements, and can be found within Appendix B (**Attachment B**):

- Purple needle grass (*Stipa pulchra*)
- Blue wild rye (*Elymus glaucus*)
- California oatgrass (*Danthonia californica*)

1.1.3 Landscaped Courtyard – Landscape Design Recommendations

As stated in **Table 1**, the perennial and grass layer in the planting schedule do achieve 80 percent native composition for the Landscaped Courtyard. However, the tree, shrub, and succulent layer do not meet 80 percent native minimum composition required to be in alignment with the Plan. The Planting Schedule also includes two species that are not locally native to Santa Clara Valley and two invasive species.

Similar suggestions are included for the Landscaped Courtyard as above, as these areas must also follow the Ecological Development Standards. The Plan's Appendix B, Table 34 (**Attachment B**) is referred to for re-designing the landscaped courtyard with native replacements to meet the minimum 80% native vegetation requirement. In addition to increasing native species composition, removing the species not locally native to Santa Clara Valley and invasive species specified above and replacing them with locally native species is required to be alignment with the Plan.

Because of the artificial nature of the landscaped courtyard, raised above ground level within the building structure, existing site conditions do not play as large of a role in the ecotypes that are best suited to the location. Therefore, any of the trees or shrubs listed in the Riparian, Willow Grove, and Oak Savannah & Oak Woodland plant palettes within Appendix B (**Attachment B**) can be referenced for replacements to non-native tree and shrub species ['Red Star' Red Star cordyline (*Cordyline australis*), Mediterranean fan palm *(Chamaerops humilis*), Dwarf umbrella tree (*Schefflera arboricola*)] locally non-native tree species (California fan palm and Mendocino reed grass), and invasive species (Olive tree, *Euphorbia sp.*) in the Planting Schedule. Small and large shrubs in these ecotypes are suitable to as replacements for non-native succulents.

2.0 BIRD SAFE DESIGN REVIEW

As stated above, the 1215 Bordeaux Drive Residential Development Project is located within the Moffett Park area of Sunnyvale, which has been identified by the City as a critical piece of

Sunnyvale's cultural and built environment – an "ecological innovation district". Bird-safe policies applicable to the Project include the Moffett Park Specific Plan ("Plan", Chapters 5.4.2 and 6.6.9) and the City of Sunnyvale Bird Safe Design Guidelines ("Guidelines"). These two sets of standards are compiled and provided in Attachment A.

WRA has reviewed the Project Plan Set dated November 7, 2025 in the context of bird-safe design, against these standards. Several design elements were identified that are inconsistent with these standards. The sections below indicate the policies and standards against which the design was reviewed, followed by the proposed Project components that pose potential hazards to both resident and migratory birds, and recommendations that would ensure the design complies with each set of standards.

Moffett Park Specific Plan Chapter 5.4.2 Bird Safe Design Standards

2. Skyways, walkways, or glass walls. *New construction and building additions shall avoid building glass skyways or walkways, freestanding glass walls, and transparent building corners. If such features are incorporated, all glazing on those features shall be treated as described under 3a, Glazing treatment.*

HAZARDS IDENTIFIED:

- Glass railings on northern, eastern, and southern balconies
- Glass railings on the eastern side third floor at courtyard A and B
- Transparent building corners at northeast and southeast corners

RECOMMENDATIONS:

Glass surfaces ("glazing") incorporated into exterior building design can pose a hazard to both migratory and resident native birds. Transparency occurs when the area behind the glass is as bright as the area in front of it. Such conditions are found at the corners of buildings and glass balustrades, both of which are proposed in the Project plans. Birds are often unable to perceive these transparent surfaces, which can greatly increase the frequency of harmful collisions or "bird-strikes" (Schmid et al. 2013). Breaking up transparent surfaces even moderately through "glazing" treatment or use of semi-transparent surfaces can contribute to a significant reduction in harm to native birds. To reduce this potential harm to native birds due to transparent surfaces, we recommend the Project incorporate the following considerations.

- **Option A.** Remove all glass railings and transparent corners from the Project design and replace with non-reflective materials such as metal or non-transparent paneling.
- **Option B.** Implement glazing treatment to all proposed glass railings and surfaces for the Project per the Moffett Park Specific Plan's specifications.

3. Façade treatment. *At a minimum no more than 10% of the surface area of a building's total exterior façade between the ground and 60 feet or within 15 feet above a green roof shall have untreated glazing. Bird-friendly glazing treatments can include the use of opaque glass, the covering of clear glass surface with patterns, the use of paned glass with fenestration patterns, and the use of external screens and/or netting over non-reflective glass. All façade glazing shall have reflectivity ratings no greater than 15%.*

> ***a. Glazing treatment.*** *Bird-friendly glazing treatments shall include elements with a minimum horizontal width of 1/4 inch and minimum vertical height of 1/8 inch with a maximum vertical spacing of 2 inches and maximum horizontal spacing of 2 inches.*

HAZARDS IDENTIFIED:

- Building façade proposes extensive amounts of glazing
- No specifications given on percentage of total glazing on building façade or reflectivity of glass
- Eastern side of building proposes large expanse of glazing on the first floor

RECOMMENDATIONS:

Reflectivity of glass, as opposed to transparency, is another factor that contributes to the risk of bird strikes. Reflection occurs when there is a difference in the brightness in front of and behind the pane. Since the difference between the interior and exterior of buildings is very high, reflections will usually remain. For this reason, glazing with low reflectivity can still be a hazard and it is best to limit the amount of glazing on a building's façade where birds are most likely to be present which is from the ground up to 60 feet. Reflectivity can be dangerous for birds for several reasons, but the most important is that birds will interpret the sky or trees reflected off glass as potential habitat, leading to fatal collisions (City of Toronto 2016). To reduce the potential harm to native birds from reflective surfaces, we recommend the Project incorporate the following considerations.

- Reduce the amount of overall glazing from the grade up to 60 feet, or incorporate glazing treatments as specified in the above referenced standards.
- Ensure reflectivity of glass is below 15%.

Moffett Park Specific Plan Chapter 6.6.9 Exterior Lighting Standards

3. Full cutoff - light shielding. *All exterior lighting shall be shielded from the top, directed downward, and avoid excessive light trespass.*

a. *Uplighting on buildings or landscaped areas is prohibited*

b. *Light fixtures shall meet the Backlight-Uplight-Glare (BUG) rating system requirements for the lighting zone corresponding to the land use where the light fixture is located (ex. residential, commercial, etc.) under the International Dark-Sky Association's model lighting ordinance.*

HAZARDS IDENTIFIED:

- Tree uplighting identified
- Lighting specifications not listed in plans

RECOMMENDATIONS:

Artificial night lighting has been shown to attract nocturnally migrating birds toward buildings, further increasing the risk of collisions and other unintended consequences; lighting that faces upward (skyward) has the greatest potential to attract and/or disorient birds (New York City Audubon Society 2007). For these reasons, it is advisable to use light shielding that directs light downward and limit the overall amount of artificial lighting, especially near habitat areas. Where lighting is necessary for safety reasons, it is advisable to use low-temperature high-wavelength bulbs. To reduce the potential harm to birds, we recommend incorporating the following lighting considerations in the Project plans.

- Eliminate all proposed uplighting.
- Ensure lighting proposed for the Bordeaux Neighborhood Park (Designated as a Habitat Patch in the Moffett Park Specific Plan) meets standards listed in Section 6.6.9 Exterior Lighting Standards for lighting near habitat areas.

City of Sunnyvale Bird Safe Building Design Guidelines

City of Sunnyvale Bird Safe Building Design Guidelines:

8. *Avoid placing tall landscaping in front of highly reflective glass and the use of green roofs and water features near glass.*

HAZARDS IDENTIFIED:

- Eastern first floor features expansive glazing directly adjacent to large trees
- Northeastern corner glazing adjacent to Bordeaux Neighborhood Park landscaping
- Southeastern corner glazing adjacent to the entry plaza landscaping
- Courtyards A and B feature tall vegetation and water features adjacent to glass railings

RECOMMENDATIONS:

As discussed above, buildings that feature extensive amounts of clear or especially reflective glass on the exterior can result in a relatively high incidence of bird collisions (Schmid et al. 2013). This risk is compounded where heavily vegetated areas are adjacent to glazed surfaces. To reduce this risk and better comply with bird-safe guidelines, we recommend the Project incorporate the following considerations into Project plans.

- Use bird friendly glazing treatments as specified in the Plan's guidelines for any glass where reflections of trees or vegetation will occur.
- Ensure reflectivity of glass is below 15%

If you have any questions or concerns regarding this review and recommendations, please reach out at caroline.erickson@wra-ca.com.

Sincerely,
Caroline Erickson
Project Manager

3.0 REFERENCES

California Invasive Plant Council (Cal-IPC). 2026. Berkeley, California. Available: https://www.cal-ipc.org/ (Accessed: Jan 30, 2026).

Calflora: Information on California plants for education, research and conservation. 2026. Berkeley, California: The Calflora Database [a non-profit organization]. Available: https://www.calflora.org/ (Accessed: Jan 30, 2026).

“Bird-Friendly Building with Glass and Light” (Schmid et al. 2013)

“Bird-friendly Best Practices - Glass” (City of Toronto 2016)

“Bird-Save Building Guidelines” (New York City Audubon Society 2007)

“Bird-Safe Building Design Guidelines” (City of Sunnyvale, accessed February 2026) https://www.sunnyvale.ca.gov/business-and-development/planning-and-building/permit-center/design-guidelines-and-standards

Email communication from Maria Kisyova (of David J. Powers), dated March 4, 2026.

“Moffet Park Specific Plan” (City of Sunnyvale, July 2023) https://www.sunnyvale.ca.gov/home/showpublisheddocument/1584/638324724770000000

Attachment A. Applicable Local Bird-Safe Design Measures

Bird-Safe Building Design Guidelines

Final

BIRD SAFE BUILDING DESIGN GUIDELINES

There are two types of design guidelines to address bird safe building. The first option is for projects within 300 feet of a body of water or projects adjacent to a landscaped or open space area larger than one acre in size. The second option is criteria to be used in reviewing new projects located in all other areas of the city.

Option 1: If within 300 feet of a body of water larger than one acre in size or located immediately adjacent to a landscaped area, open space or park larger than one acre in size.

If the project meets any of the prior criteria, projects should include specific bird safe design elements into the building and site design and operation. These would include:

1. Avoid the use of multi-floor expanse of reflective or transparent glass in the first 60 feet of the building design, specifically in these area facing the water or open space;
2. Building glass shall be limited to low reflectivity levels such as 25% or less;
3. Limit the amount of glass on ground level stories, especially in areas adjacent to landscaping;
4. Add architectural devices, such as louvers, awnings, sunshades or light shelves to building design to reduce massing of glass;
5. Consider use of opaque, fritted or etched glass on ground floor in areas adjacent to landscaped areas;
6. If site is near water features, use soil berms, furniture, landscaping or other features to prevent reflection of water in glass building facades;
7. Consider using angled glass (20-40 degrees) from vertical to reflect ground instead of adjacent habitat or sky buildings with an expanse of glass near water or landscaping areas
8. Avoid placing tall landscaping in front of highly reflective glass and the use of green roofs and water features near glass;
9. Avoid the funneling of open space towards a building face;
10. Avoid glass skyways or freestanding glass walls;
11. No up lighting or spot lights on site;
12. Ensure all site lighting uses shielded fixtures;
13. Turn building lights off at night or incorporate blinds into window treatment to use when lights are on at night;
14. Create smaller zones in internal lighting layouts to discourage wholesale area illumination;
15. Place signs at several locations near building with the telephone number an authorized bird conservation organization or museum to aid in species identification and to benefit scientific study;
16. Monitoring efforts shall include a bird-safe program developed by the project owner of the methods to ensure necessary steps are taken to reduce bird strikes. These efforts would include how each dead bird will be handled and donated to scientific study, providing a yearly inventory to the City of the number of birds found and locations, and the steps necessary to resolve any consistent location's bird deaths. Options include shades to reduce transparency and night lighting, fritted glass, netting, stickers, etc.

Option 2: All other locations in city

Efforts should be taken to reduce bird strikes in all locations of the city. The following items should be included regardless of location. These guidelines could be used as part of a project's review. Staff could include a discussion relative to the guidelines in staff reports in order to give decision-makers information necessary to review this aspect of a project's impact.

1. Avoid large expanse of glass near open areas, especially when tall landscaping is immediately adjacent to the glass walls;
2. Avoid the funneling of open space towards a building face;
3. Prohibit glass skyways or freestanding glass walls;
4. Avoid transparent glass walls coming together at building corners to avoid birds trying to fly through glass;
5. Reduce glass at top of building, especially when incorporating a green roof into the design;
6. Prohibit up lighting or spotlights;
7. Shield lighting to cast light down onto the area to be illuminated;
8. Turn commercial building lights off at night or incorporate blinds into window treatment to use when lights are on at night;
9. Create smaller zones in internal lighting layouts to discourage wholesale area illumination;

Monitoring efforts

The following options should be considered by each project owner for all locations in order to learn more about the subject and to avoid further issues:

1. Reduce the use of night lighting in the building without incorporating blinds into the window design;
2. Donation of discovered dead birds to an authorized bird conservation organization or museum;
3. Consider placing signs in several locations around the building with the telephone number an authorized bird conservation organization or museum to aid in species identification and to benefit scientific study.

5.4.2 BIRD SAFE DESIGN

To minimize adverse effects on resident and migratory birds, new construction and major renovations will incorporate design measures to promote bird safety. These measures will help reduce the likelihood of building collision fatalities - typically occurring between grade and 60 feet above grade - through building design, façade treatments, and reduction of light pollution from indoor sources. These measures apply to both residential and non-residential land uses except where specified. Section 6.6.9, Exterior Lighting, includes additional measures to reduce the impacts of artificial light at night to birds and other wildlife. The standards below are in addition to the City's Bird Safe Design Guidelines.

STANDARDS

1. **Applicability.** All new construction, building additions, and/or building alterations shall adhere to the Bird Safe Design standards in this section.
2. **Skyways, walkways, or glass walls.** New construction and building additions shall avoid building glass skyways or walkways, freestanding glass walls, and transparent building corners. If such features are incorporated, all glazing on those features shall be treated as described under 4a, Glazing treatment.
3. **Façade treatment.** At a minimum no more than 10% of the surface area of a building's total exterior façade between the ground and 60 feet or within 15 feet above a green roof shall have untreated glazing. Buildings within 300 feet of a body of water larger than one acre in size or located immediately adjacent to a landscaped area, open space or park larger than one acre in size shall have treated glazing at all heights. Bird-friendly glazing treatments can include the use of opaque glass, the covering of clear glass surface with patterns, the use of paned glass with fenestration patterns, and the use of external screens and/or netting over non-reflective glass. All façade glazing shall have reflectivity ratings no greater than 15%.
   a. **Glazing treatment.** Bird-friendly glazing treatments shall include elements with a minimum horizontal width of 1/4 inch and minimum vertical height of 1/8 inch with a maximum vertical spacing of 2 inches and maximum horizontal spacing of 2 inches.
4. **Interior occupancy sensors.** Occupancy sensors or other switch control devices in non-residential development shall be installed on non-emergency interior lights. These lights should be programmed to shut off during non-work hours and between 10:00 pm and sunrise. Using smaller zones in internal lighting layouts will increase the effectiveness of occupancy sensors.
5. **Exceptions to the bird safe design requirements.** The City may waive or reduce bird safe design requirements based on analysis by a qualified ornithologist with bird safety expertise which indicates that proposed construction will not pose a collision hazard to birds.

GUIDELINES

1. **Flight paths.** New construction shall avoid the funneling of flight paths along buildings or trees towards a building façade.
2. **Reduced glazing.** New construction and building additions should reduce glass at tops of buildings, especially when incorporating a green roof into the design.
3. **Avoiding visual traps.** Visual traps such as areas of glass through which trees, landscape areas, water features or the sky are visible from the exterior, should be avoided unless a bird safety treatment is used.
4. **Collision monitoring.** Building owners and tenants are encouraged to monitor locations of bird collisions (e.g., based on dead or injured birds or imprints of feathers on windows) and implement retrofit measures, such as application of bird-friendly patterns to existing windows or use of internal blinds, where collisions occur.
5. **Interior lighting.** Building design and operation should reduce the amount of light that escapes through windows during the night.
6. **Window coverings.** Building owners and tenants are encouraged to install window coverings above the ground floor to reduce the amount of light escape from the building at night.
7. **Workstation lighting.** Businesses are encouraged to turn off lighting at employee workstations and draw office window coverings at the end of the day.
8. **Migration periods.** Building managers should place particular focus on limiting nighttime light escape during bird migration periods (February 15 - May 31 and August 15 - November 30th)
9. **Maintenance.** Businesses are encouraged to schedule maintenance during the day or to conclude before 10:00 pm.

Building with exterior window coverings in Seoul, South Korea

Birds migrating

6.6.9 EXTERIOR LIGHTING

Exterior lighting shall be installed for safety, identifying building entrances and circulation routes, and activating outdoor spaces. Public and Private open spaces shall be illuminated based on the type and function of the space and based on the following standards and guidelines. Exterior lighting includes, but is not limited to, the following:

- Free-standing site lighting features, including pathway lights, bollards, spotlights, lampposts, light poles, athletic field lighting, and street lights.
- Exterior lighting attached to buildings.

STANDARDS

1. **General.**
   - **a.** Design lighting systems to provide safety, visual comfort with low energy use.
   - **b.** Incorporate 'state of the art' lighting controls to meet the standards and guidelines herein.
2. **Design and illumination standards.** Lighting Design and Illuminations standards shall be consistent with the current Illuminating Engineers Society (IES) Standards applicable to outdoor lighting.
   - **a.** ANSI/IES LP-2-20: Lighting Practice: Designing Quality Lighting for People in Outdoor Environments
   - **b.** ANSI/IES LP-6-20: Lighting Practice: Lighting Control Systems – Properties, Selection and Specification
   - **c.** ANSI/IES LP-10-20: Lighting Practice: Sustainable Lighting – An Introduction to the Environmental Impacts of Lighting
   - **d.** ANSI/IES LP-11-20: Lighting Practice: Environmental Considerations for Outdoor Lighting
   - **e.** ANSI/IES LP-13-21: Lighting Practice: Introduction to Resilient Lighting Systems
   - **f.** ANSI/IES TM-15-20: Luminaire Classification System for Outdoor Luminaires
3. **Full cutoff - light shielding.** All exterior lighting shall be shielded from the top, directed downward, and avoid excessive light trespass.
   - **a.** Uplighting on buildings or landscaped areas is prohibited.
   - **b.** Light fixtures shall meet the Backlight-Uplight-Glare (BUG) rating system requirements for the lighting zone corresponding to the land use where the light fixture is located (ex. residential, commercial, etc.) under the International Dark-Sky Association's model lighting ordinance.
4. **Lighting near habitat areas.** Exterior light design shall minimize the potential to impact open spaces intended to provide wildlife habitat as identified in this Chapter, including the Ecological Combining District ECD, areas within 150 feet of the ECD boundary, habitat areas within Greenbelts- Ecological Corridors and Natural Areas-Habitat Patches, and the East and West Channels. Within these areas the following standards shall apply.
   - **a.** Light fixtures shall be designed and maintained to only illuminate pathways and other surfaces or features necessary for safety, building entrances, and circulation. Light shall be diverted away from wildlife habitat. Light fixtures shall meet the Backlight-Uplight-Glare (BUG) rating system requirements for Lighting Zone 1 (LZ1) under the International Dark-Sky Association's model lighting ordinance.
   - **b.** Interior and exterior lighting that is not necessary for safety, building entrances, and circulation shall be automatically shut off from 10 pm to sunrise.
   - **c.** All light fixtures near habitat areas shall have a light temperature of ≤ 2,700 kelvin.

GUIDELINES

1. **Correlated color temperature.** Whenever possible, outdoor luminaires should have a light temperature ≤ 3,000 kelvin. Exceptions may be considered in spaces intended for nighttime social gatherings or commercial areas.
2. **Lighting studies.** Conduct modeling during the exterior lighting design process to confirm that the project will minimize the addition of indirect artificial light at night to habitat areas.
3. **Migration shutoffs.** Where feasible, extinguish exterior lights from 10 pm to sunrise during bird migration periods (February 1 - May 31 and August 1 - November 30th). If possible, interior lights should also follow this same schedule to avoid attracting birds.
4. **Safety lighting.** Where feasible, outdoor lighting which must remain on throughout the night (e.g., light used for security purposes or to illuminate walkways, roadways, equipment yards, parking lots and building entrances) should be designed and managed to avoid unnecessary light pollution.
   a. Use of specialized fixtures to focus light where needed and avoid light trespass into areas where lighting is not needed.
   b. Use of dimmers, motion sensors, and/or a control system to reduce light intensity when spaces are unoccupied.

6.6.10 MULTI-USE FLEX FIELDS

STANDARDS

1. **Multi-use flex field definition.** Multi-use flex fields shall be integrated into designated parks as defined during the implementation process. They are intended for flexible and informal athletic and recreational use i.e., informal soccer, volleyball, frisbee, picnicking, community gatherings, etc. They are not intended to be marked with permanent facilities for designated sports.
2. **Small flex fields.** A minimum of 3 open field/flexible recreation areas, 35 x 65 yards minimum or equivalent to a 10U soccer field as defined by the US Youth Soccer Association shall be provided. Potential locations for flex fields are designated in Figure 40. Final locations shall be determined during plan implementation.
3. **Soils and drainage.** A sand-based soil with underdrainage systems consistent with best practices for high use recreational fields shall be used.
4. **Surface.** Drought tolerant natural turf sod mix designed for high use recreational areas shall be used. Synthetic turf may be used in locations approved by the City as part of the design review process.

GUIDELINES

1. **Large flex fields.** A large flex field, 50 x 100 yards minimum or equivalent to a high school soccer field as defined by the US Youth Soccer Association, should be included within one of the community or neighborhood parks within Moffett Park.

Attachment B. Moffett Park Specific Plan - Appendix B. Planting Palettes

Appendix B
Planting Palettes

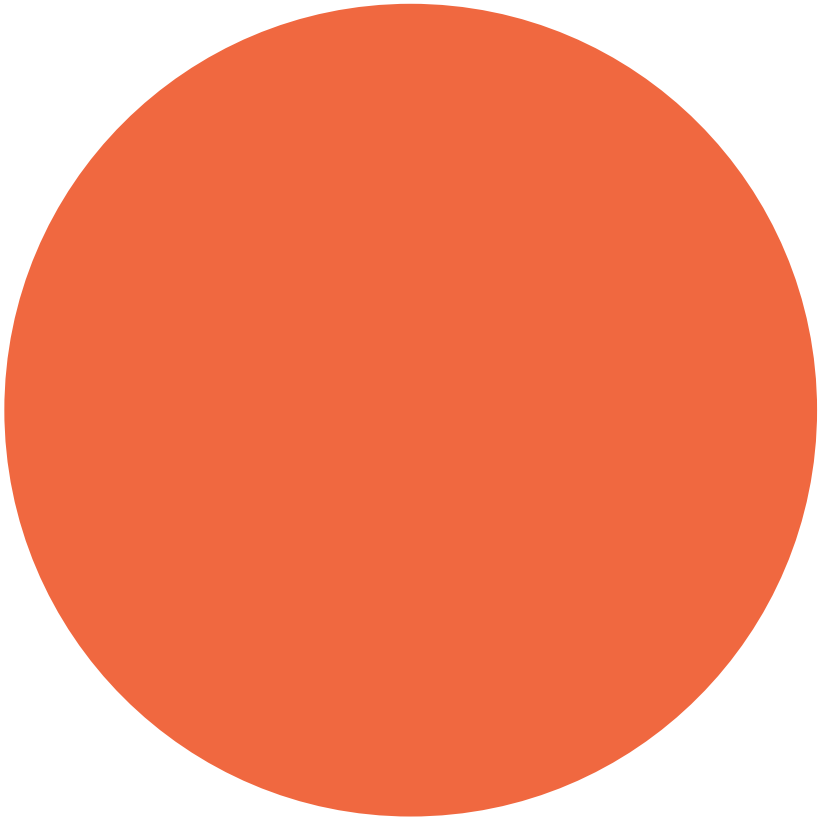

Table 33. Landscape/Habitat Zone Archetypes and Ecosystem Recommendations

Table 34. Ecosystem Plant Palettes

The plant palettes in Table 34 represents a subset of locally native species selected in accordance with historical ecosystem composition in Santa Clara Valley, as these are the species expected to best tolerate local environmental conditions and support locally adapted biodiversity.

As noted in Section 6 of the document, the City may consider additional species/varieties outside what is included in the Planting Palette, in coordination with the City's Department of Public Works as part of a development review process. Species locally native to Santa Clara Valley should be prioritized. If the plant palette is expanded beyond species locally native to Santa Clara County, careful consideration should be given to a number of factors to ensure that the plantings are ecologically beneficial and suitable for local site conditions, such as native range, native habitat association(s), water requirements, salinity tolerance, sun/shade tolerance, soil tolerance, wildlife support, depth to groundwater, and climate change resilience.

TABLE 33 Landscape / Habitat Zone Archetypes and Ecosystem Recommendations

Landscape / Habitat Zone Archetypes	Landscape / Habitat Zone Archetype Plant Selection Factors					Local Native Ecosystem Recommendation (See Plant Palette Tables for species mix)				
	Aspect / sun exposure	Drainage	Depth to groundwater (which is saline in this portion of Sunnyvale)	Visibility / safety considerations or requirements	Proximity to sensitive habitat areas, channels, and habitat patches	Local native ecosystems	Trees (overstory)	Small trees / large shrubs (midstory)	Small shrubs (understory)	Herbaceous vegetation (understory)
Lawn–functional amenity	sun	well	shallow- deep	yes	-	Coastal grassland	x (clusters/ edges)	-	x (clusters/ edges)	x (clusters/ edges)
Lawn–visual amenity	sun	well	shallow- deep	yes	-	Coastal grassland	x (clusters / edges)	-	x (clusters/ edges)	x (clusters/ edges)
Stormwater treatment areas–linear	sun (meadow) shade (riparian)	engineered	shallow	depending on location	-	Alkali wet meadow Wet meadow Riparian	x	-	x	x
Stormwater treatment areas–basins	sun	engineered	shallow	depending on location	-	Alkali wet meadow Wet meadow Willow grove	x	-	x	x
Small planting areas	sun	well	deep	depending on location	-	Oak savanna and oak woodland	x	-	x	x

Landscape / Habitat Zone Archetypes	Landscape / Habitat Zone Archetype Plant Selection Factors					Local Native Ecosystem Recommendation (See Plant Palette Tables for species mix)				
	Aspect / sun exposure	Drainage	Depth to groundwater (which is saline in this portion of Sunnyvale)	Visibility / safety considerations or requirements	Proximity to sensitive habitat areas, channels, and habitat patches	Local native ecosystems	Trees (overstory)	Small trees / large shrubs (midstory)	Small shrubs (understory)	Herbaceous vegetation (understory)
Small planting areas	shade	well-poorly	mid	depending on location		Riparian	x	-	x	x
Large planting areas	sun	well-poorly	shallow- mid	-	-	Willow grove	x	x	x	x
Large planting areas	sun overstory shade understory	well-poorly	mid	-	channels	Riparian	x	x	x	x
Large planting areas	matching sensitive habitat area or habitat patch			-	sensitive habitat area or habitat patch	matching sensitive habitat area or habitat patch	x	x	x	x
High visibility / entry planting areas (building entrances, campus entrances)	sun	well	deep	yes	-	Oak savanna and oak woodland	x	x	x	x

Landscape / Habitat Zone Archetypes	Landscape / Habitat Zone Archetype Plant Selection Factors					Local Native Ecosystem Recommendation (See Plant Palette Tables for species mix)				
	Aspect / sun exposure	Drainage	Depth to groundwater (which is saline in this portion of Sunnyvale)	Visibility / safety considerations or requirements	Proximity to sensitive habitat areas, channels, and habitat patches	Local native ecosystems	Trees (overstory)	Small trees / large shrubs (midstory)	Small shrubs (understory)	Herbaceous vegetation (understory)
High visibility / entry planting areas (building entrances, campus entrances)	sun overstory shade understory	well-poorly	mid	yes	-	Riparian	x	x	x	x
Pedestrian area planting (plazas, mixing zones)	sun	well	deep	yes	-	Oak savanna and oak woodland	x	-	x	x
Pedestrian area planting (plazas, mixing zones)	sun overstory shade understory	well-poorly	mid	yes	-	Riparian	x	-	x	x
Vehicular area planting (street medians, street parking strips, parking lots)	sun	well	deep	yes	-	Oak savanna and oak woodland	x	x (where feasible*)	x	x
Vehicular area planting (street medians, street parking strips, parking lots)	sun overstory shade understory	well-poorly	mid	yes	-	Riparian	x	x (where feasible*)	x	x

* Small shrubs capture tailpipe emissions -- incorporate them adjacent to vehicular areas where visibility/safety requirements allow

TABLE 34 Ecosystem Plant Palettes

Alkali Wet Meadow

Scientific Name	Common Name
Small trees / large shrubs	
Baccharis douglasii	Marsh baccaris
Baccharis pilularis	Coyote bush
Small shrubs	
Frankenia salina	Alkali heath
Limonium californicum	Marsh rosemary
Herbaceous vegetation	
Distichlis spicata	Salt grass
Euthamia occidentalis	Western goldenrod
Jaumea carnosa	Jaumea
Limonium californicum	Marsh rosemary

Wet Meadow/Bioswale****

Scientific Name	Common Name
Small trees / large shrubs	
Baccharis pilularis	Coyote bush
Cornus sericea	Red osier dogwood
Morella californica	Pacific wax myrtle
Sambucus nigra ssp. *caerulea*	Blue elderberry
Small shrubs	
Baccharis salicifolia	Mulefat
Rosa californica	California wild rose
Herbaceous vegetation	
Agrostis pallens	Diego bent grass
Anemopsis californica	Yerba mansa
Asclepias fascicularis	Narrowleaf milkweed
Carex barbarae	Santa Barbara sedge
Carex praegracilis	Clustered field sedge

Wet Meadow/Bioswale****

Scientific Name	Common Name
Deschampsia cespitosa ssp. *holciformis*	Pacific hairgrass
Elymus triticoides	Creeping wildrye
Festuca rubra	Red fescue
Hemizonia congesta ssp. *luzulifolia*	Hayfield tarweed
Hordeum brachyantherum	Meadow barley
Juncus balticus	Baltic rush
Juncus patens	Common rush
Juncus xiphioides	Irisleaf rush
Ranunculus californicus	California buttercup

Riparian

Scientific Name	Common Name
Trees	
Acer macrophylum	Bigleaf maple
Acer negundo	Boxelder maple
Aesculus californica	California buckeye
Alnus rhombifolia	White alder
Alnus rubra	Red alder
Fraxinus latifolia	Oregon ash
Juglans hindsii	Northern California black walnut
Platanus racemosa	California sycamore
Populus fremontii	Fremont cottonwood
Populus trichocarpa	Black cottonwood
Salix laevigata	Red willow
Salix lasiandra	Shining willow
Salix lasiolepis	Arroyo willow

Riparian

Scientific Name	Common Name
Small trees / large shrubs	
Cornus glabrata	Brown dogwood
Cornus sericea	Red osier dogwood
Corylus cornata var. *californica*	Hazelnut ***
Heteromeles arbutifolia	Toyon
Ribes californicum	Hillside gooseberry
Ribes sanguineum	Red flowering currant
Salix exigua	Sandbar willow
Salix scouleriana	Scouler's willow
Salix sitchensis	Sitka willow
Sambucus nigra ssp. *caerulea*	Blue elderberry
Sambucus racemosa	Red elderberry

Willow Grove

Scientific Name	Common Name
Small shrubs	
Baccharis salicifolia	Mulefat
Rosa californica	California rose
Symphoricarpos albus	Common snowberry
Herbaceous vegetation	
Aquilegia formosa	Western columbine
Artemisia douglasiana	Mugwort
Asclepias fascicularis	Narrow leaf milkweed
Clematis ligusticfolia	Virgin's Bower
Cyperus eragrostis	Tall flatsedge
Rubus ursinus	Seep monkeyflower
Iris douglasiana	Douglas iris
Juncus patens	Common rush
Oenanthe sarmentosa	Pacific oenanthe
Rubus ursinus	California blackberry

Willow Grove

Scientific Name	Common Name
Trees	
Acer negundo	Box elder maple
Fraxinus latifolia	Oregon ash
Populus fremontii	Fremont cottonwood
Salix laevigata	Red willow
Salix lasiandra	Shining willow
Salix lasiolepis	Arroyo willow
Small trees / large shrubs	
Cornus sericea	Red osier dogwood
Physocarpus capitatus	Ninebark
Salix exigua	Sandbar willow
Salix scouleriana	Scouler's willow
Salix sitchensis	Sitka willow
Sambucus nigra ssp. *caerulea*	Blue elderberry

Willow Grove

Scientific Name	Common Name
Small shrubs	
Baccharis salicifolia	Mulefat
Rosa californica	California rose
Rubus ursinus	California blackberry
Herbaceous vegetation	
Artemisia douglasiana	Mugwort
Juncus patens	Common rush

Coastal Grassland

Scientific Name	Common Name
Small shrubs	
Eriogonum fasciculatum	California buckwheat
Lupinus albifrons	Silver bush lupine
Herbaceous vegetation	
Achillea millefolium	Yarrow
Asclepias fascicularis	Narrow leaf milkweed
Bromus carinatus	California brome grass
Calochortus luteus	Yellow mariposa lily
Danthonia californica	California oatgrass
Elymus triticoides	Creeping wildrye
Epilobium canum	California fuchsia
Eschscholzia californica	California poppy
Festuca rubra	Red fescue
Iris douglasiana	Douglas iris
Koeleria macrantha	Junegrass
Melica californica	California melicgrass

Coastal Grassland

Scientific Name	Common Name
Ranunculus californicus	California buttercup
Sidalcea malviflora	Checkerbloom
Sisyrinchium bellum	Blue eyed grass
Stipa pulchra	Purple needlegrass
Triteleia laxa	Ithuriel's spear
Viola pedunculata	Johnny jump up

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Trees	
Aesculus californica	California buckeye
Arbutus menziesii	Pacific madrone
Fraxinus dipetala	California ash
Pinus sabiniana	Foothill pine
Platanus racemosa	California sycamore
Ptelea crenulata	Western hoptree
*Quercus agrifolia***	Coast live oak**
Quercus chrysolepis	Canyon live oak
Quercus douglasii	Blue oak
Quercus garryana	Garry's oak
*Quercus lobata**	Valley oak*
Quercus wislizeni	Interior live oak

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Small trees / large shrubs	
Corylus cornata ssp. *californica****	Hazelnut****
Frangula californica	Coffeeberry
Heteromeles arbutifolia	Toyon
Prunus ilicifolia	Hollyleaf cherry
Prunus virginiana var. demissa	Western chokecherry
Quercus durata	Leather oak
Rhamnus crocea	Spiny redberry
Sambucus racemosa	Red elderberry
Solanum umbelliferum	Blue witch
Small shrubs	
Artemisia californica	California sage
Lupinus albifrons	Silver lupine
Mimulus aurantiacus	Sticky monkeyflower
Symphoricarpos albus	Common snowberry

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Herbaceous vegetation	
Achillea millefolium	Yarrow
Asclepias fascicularis	Narrow leaf milkweed
Cardamine californica	Milk maids
Clinopodium douglasii	Yerba buena
Elymus glaucus	Blue wild rye
Epilobium canum	California fuchsia
Eschscholzia californica	California poppy
Koeleria macrantha	Junegrass
Lupinus bicolor	Miniature lupine
Melica californica	California melicgrass
Monardella villosa	Coyote mint
Sisyrinchium bellum	Blue-eyed grass

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Stachys ajugoides	Ajuga hedge nettle
Stipa pulchra	Purple needle grass
Symphyotrichum chilense	California aster
Viola pedunculata	Johnny jump up

* Dominant tree species in Valley oak mix
** Dominant tree species in Coast live oak mix
*** Plant upslope of immediate riparian area
**** See Riparian plant palette for trees appropriate for bioswale settings