



February 4, 2020

Eric Flodine
Director of Community Development
Strata Equity Group, Real Estate Investments
4370 La Jolla Village Drive, Suite 960
San Diego, California 92122

Subject: Hazardous Wildlife Attractants Analysis of 13 Water Quality Control Basins for the Proposed Rancho Diamante Residential Development in Hemet, Riverside County, California

Dear Mr. Flodine:

Per your request, LSA presents this letter with our analysis of the potential for 13 proposed water quality control basins (WQCBs) to attract hazardous wildlife at the above-referenced residential development project site near the Hemet-Ryan Airport (airport). I am a qualified airport wildlife biologist per the Federal Aviation Administration (FAA) Advisory Circular (AC) No. 150/2500-36B requirements.

INTRODUCTION

The proposed project is a residential development on an approximately 245-acre site (Assessor's Parcel Numbers 465-100-016, 465-100-022, 465-110-020, 465-110-021, 465-110-022, 465-110-023, and 465-110-027) in the western/southwestern portion of Hemet. The project includes 13 new WQCBs (infiltration basins 1-11 and bioretention basins 12 and 13) (Figure 1). These basins are necessary to comply with the Regional Water Quality Control Board, Riverside County (County), and City of Hemet (City) requirements for the project. Table A provides the footprint (in acres) of the proposed basins and the surrounding available footprint (i.e., open space) within which the WQCBs are located.

Table A: Water Quality Control Basins

WQCB No./Type	Proposed WQCB Footprint (acres)	Surrounding Available Footprint (acres)
1/Infiltration	0.46	1.65
2/Infiltration	0.16	2.45
3/Infiltration	0.11	0.47
4/Infiltration	0.23	8.97
5/Infiltration	0.08	0.61
6/Infiltration	0.02	0.13
7/Infiltration	0.03	0.19
8/Infiltration	0.01	0.07
9/Infiltration	0.08	0.43
10/Infiltration	0.09	0.16
11/Infiltration	0.27	1.30
12/Bioretention	0.12	0.25
13/Bioretention	0.05	0.14

The project site is located within the 10,000-foot (1.8 miles) wildlife hazard separation zone of the airport per FAA AC No. 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports*. AC 150/5200-33C, Section 2.3.2, identifies new stormwater management facilities, such as the proposed project WQCBs, as potential hazardous wildlife attractants.

Additionally, the Riverside County Airport Land Use Commission (ALUC) has identified land use compatibility zones around county airports; the proposed WQCBs are located within Compatibility Zone C and/or D of the airport. Proposed land uses (e.g., WQCBs) that could cause hazards to flight, such as an increase in large flocks of birds (ALUC: Policy 4.3.7 *Other Hazards* (d)), are prohibited in Compatibility Zones C and D.

Pursuant to the ALUC's brochure entitled "*Airports, Wildlife and Stormwater Management*," infiltration/bioretention basins are potentially suitable in Compatibility Zone C if designed with appropriate modifications such as drawdown within 48 hours of a rainfall event (24-hour storm) or manufactured cover to prevent view and access to water by wildlife, as well as absence of landscaping or landscaping approved by a qualified biologist. Compatible basins also are required to have steep slopes, equal to or greater than 3:1 slopes.

The ALUC's brochure does not specifically address infiltration basins in Compatibility Zone D; therefore, they are presumably a compatible land use in this zone. However, it is important that these infiltration basins be designed so that they are not attractive to wildlife that presents a hazard to aviation.

Bioretention basins are potentially suitable in Compatibility Zone D only: 1) if 30 feet or less in length and width (0.02 acres); 2) if vegetation is selected to discourage hazardous wildlife; and 3) if reviewed by a qualified airport biologist.

Therefore, based on the location of the proposed project within the 10,000-foot wildlife hazard separation zone and the ALUC land use Compatibility Zones C and D of the Hemet-Ryan Airport, the ALUC has requested an analysis of the potential for these proposed WQCBs to attract wildlife hazardous to aviation.

FIELD SURVEY

To gain a better understanding of the structure and function of the proposed WQCBs and their potential to attract hazardous wildlife, LSA conducted a field survey of seven existing WQCBs (depicted as basins A-G) in residential developments near the project site (Figure 2). The WQCBs surveyed were similar in size and function to the proposed features for the Rancho Diamante project site. The large (8.97-acre) triangular basin depicted on Figure 2 as basin A will be included as part of the water quality control system (infiltration basin 4) for the project (Figure 1). LSA wildlife biologist Lonnie Rodriguez conducted the field survey on January 13, 2020.

During the survey, 26 species of birds were observed (see attached Animal Species Detected list) in and adjacent to the features. Most of these species were common resident and/or wintering

songbirds or other small (3.3-92 grams)¹ bird species typical of residential/rural landscapes in western Riverside County, such as black phoebe (*Sayornis nigricans*), bushtit (*Psaltiriparus minimus*), western bluebird (*Sialia mexicana*), house finch (*Haemorrhous mexicanus*), cedar waxwing (*Bombycilla cedrorum*), and yellow-rumped warbler (*Setophaga coronata*). A number of other bird species likely occur during migration and during the breeding season, but most of these species would likewise be small songbirds typical of residential/rural landscapes. Mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), and Eurasian collared-dove (*Streptopelia decaocto*), the latter two non-native species, are larger (120-270 grams) species that were also observed during the field survey. Only one American crow (*Corvus brachyrhynchos*) was observed; however, this larger (450 grams) species is common throughout residential areas in western Riverside County.

Northern harrier (*Circus hudsonius*) was another large (420 grams) bird observed during the field survey; this raptor occurs widely in open scrub, grasslands, and marshes in western Riverside County, being most abundant during the winter when migrant/wintering individuals are present. The turkey vulture (*Cathartes aura*) and red-tailed hawk (*Buteo jamaicensis*) were not observed during the field survey, but these large raptors, 1,830 and 1,080 grams, respectively, are common large birds in the western Riverside County; however, they generally occur in low densities.

Water birds observed during the field survey included 40 American wigeon (*Mareca americana*) and a flock of 14 least sandpipers (*Calidris minutilla*) present in existing WQCBs C and E, respectively. The American wigeon is a large (720 grams) duck that is a potential hazardous species to aviation, particularly in large flocks. This species occurs in western Riverside County as a migrant and winter visitor and is generally closely associated with water bodies. Least sandpipers are the smallest (20 grams) species of North American shorebird, but they can form large flocks that could pose an aviation hazard. Nonetheless, large flocks are generally associated with extensive areas of wetlands and mudflats, which are not present in the WQCBs near the airport.

One species of amphibian, the Pacific treefrog (*Hyla regilla*), and one mammal, the California ground squirrel (*Otospermophilus beecheyi*) (see attached Animal Species Detected list), were also observed during the field survey, but these small non-flying vertebrates would not pose a hazard to aviation. The California ground squirrels could be attractive prey items for larger diurnal raptors, but these mammals would not likely be present given the residential setting in densities that would attract large numbers of raptors.

During the survey, LSA noted that most of the existing WQCBs surveyed (Figure 2) were generally well maintained, but basin C held enough standing water to attract the 40 American wigeon noted above and basin E held a shallow pool attractive to the least sandpipers. There had been no rain in the week previous to the survey, so these basins were apparently not draining in the recommended 48-hour drawdown time. WQCBs F and G supported mowed grass, which is an attractive feeding and loafing habitat for Canada geese (*Branta canadensis*). However, no geese were observed during the survey and there was no evidence (e.g., droppings) of recent use in any of the surveyed WQCBs.

¹ Bird weights are from: Sibley, D.A. 2014. *The Sibley Guide to Birds*. Alfred A. Knopf, New York.

Basin A, within the proposed development footprint, was dry during the survey and the only species observed were small songbirds that would not be a hazard to aviation.

FAA WILDLIFE STRIKE DATABASE REVIEW

As part of this analysis, LSA reviewed the FAA Wildlife Strike Database² for reported wildlife strikes at the Hemet-Ryan Airport. Over the past 28 years, only six strikes have been reported, including five “unknown small birds” and one red-tailed hawk. The latest reported strike involved an “unknown small bird” on April 7, 2017. According to the strike reports, four of the strikes resulted in no damage to the aircraft and two, including the red-tailed hawk strike, resulted in moderate damage. Based on this strike record, wildlife strikes at the airport appear to be uncommon events.

WILDLIFE HAZARD ANALYSIS

With the exception of the birds observed in WQCBs C and E, the birds observed in and adjacent to the existing WQCBs near the project site suggest that these features are not a significant attractant to hazardous wildlife that would pose a threat to aviation at the Hemet-Ryan Airport. Birds observed during the field survey were mostly songbirds and other small species that are not a high hazard to aviation due to their small mass and the fact that they generally do not form large flocks or aggregations. American crows, rock pigeons, Eurasian collared-doves, and mourning doves, on the other hand, are relatively large species and under certain conditions can form large flocks that are potentially hazardous to aircraft. Crows are widespread throughout urban/residential landscapes in western Riverside County; however, large numbers would not be particularly attracted to WQCBs because the features are unlikely to provide a concentrated food source or extensive roosting habitat for large flocks.

Rock pigeons, Eurasian collared-doves, mourning doves, and European starlings can form large flocks especially during the non-breeding season (fall and winter), but such flocks generally occur in agricultural landscapes with fallow fields, feedlots, or other sources of abundant food. The existing WQCBs provide some potential foraging and/or nesting habitat for these species but would not be expected to attract large numbers that would be hazardous to aviation at the Hemet-Ryan Airport due to the lack of an abundant and concentrated food source.

Turkey vultures, northern harriers, and red-tailed hawks, being large raptors, pose a potential hazard to aircraft. However, these species are territorial and/or occur in low population densities, and would be expected throughout the area around the Hemet-Ryan Airport. Although turkey vultures, northern harriers, and red-tailed hawks would likely forage occasionally over the larger WQCBs, such features would not attract large numbers of these species due to their generally low population densities and territorial behavior. The presence of a mid-sized to large dead animal could attract an aggregation of turkey vultures, but the presence of dead animals within a WQCB is not expected to be any more likely than in other surrounding landscapes. Additionally, dead animals

² Wildlife Strike Database. Available: https://www.faa.gov/airports/airport_safety/wildlife/ (accessed January 29, 2020).

would more likely be associated with busy roadways where mid-sized to large mammals are often killed by vehicles.

No Canada geese were observed during the field survey, but this large flocking bird is particularly problematic to aviation and resident Canada geese populations are increasing in many urban areas in California. As noted above, several of the existing WQCBs near the airport provide suitable foraging and loafing habitat for resident Canada geese. Canada geese do not appear to be common in the area around the project site, but there are scattered observations around the general airport area and throughout other urbanized areas in western Riverside County³. Resident Canada geese in urban landscapes are attracted to open water and areas supporting irrigated turf grass, such as school athletic fields, urban parks, and golf courses. As previously noted, all but two of the existing WQCBs observed during the field survey lacked surface water and all the WQCBs lacked wetland vegetation. Two WQCBs supported mowed green grass. Due to the lack of standing water, with the exception of WQCBs C and E, and the lack of irrigated turf grass within these existing WQCBs, they would not likely be particularly attractive to Canada geese. Likewise, if the proposed WQCBs resemble the existing features in structure and function (provided they drain within 48 hours of a rainfall event), they would not likely be a significant attractant to Canada geese or other water birds.

The 13 proposed WQCBs include two types, infiltration basins (1-11) and bioretention basins (12 and 13) (Table A). As noted above, the ALUC considered bioretention basins to be compatible in Compatibility Zone D only if 30 feet or less in length and width (0.02 acres). Both proposed bioretention basins 12 and 13 are larger than 0.02 acres, being 0.12 and 0.05 acres in area, respectively. Nonetheless, they are designed, as required, to control water quality for their representative water management areas (Figure 1). To mitigate for the bioretention basins' larger size, the applicant proposes the following mitigation measures to reduce or eliminate the potential attractiveness of the proposed bioretention features to hazardous wildlife:

- All WQCBs (infiltration and bioretention types) are designed to provide a 48-hour drawdown time during a 24-hour rainfall event.
- Regular maintenance will be provided to eliminate seeding, shelter, and unsuitable vegetation.
- The Homeowners Association will develop a planting, maintenance, and management plan for the WQCBs and the surrounding available WQCB footprint areas (Figure 1) to ensure compliance with the ALUC requirements.
- Plantings in the proposed features will comply with ALUC's landscaping brochure recommendations.
- Per the ALUC landscaping near airports brochure recommendations, native shrub species, such as brittlebush (*Encelia farinosa*), sage (*Salvia* sp.), buckwheat (*Eriogonum* sp.), and prickly-pear

³ eBird. 2020. eBird: An online database of bird distribution and abundance. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: <http://www.ebird.org> (accessed January 15, 2020).

(*Opuntia* sp.), would be preferred for the surrounding available WQCB footprint areas. In addition, other native shrubs such as California sagebrush (*Artemisia californica*), though not specifically mentioned in the ALUC landscaping brochure, would be another suitable species in combination with those mentioned above.

- A mixture of native and non-native plant species are proposed for the bioretention basin, non-native species include small cape rush (*Chondropetalum tectorum*), fortnight lily (*Dietes bicolor* or *D. iridoides*), all non-native plant species, and deer grass *Muhlenbergia rigens*), a native species; all four are considered acceptable species in the ALUC landscaping near airports brochure (see attachment). The developer would also like to include red fescue (*Festuca rubra*), a native grass, sedges (*Carex* sp.) and rushes (*Juncus* sp.). However, Canada geese could feed on sedges and rushes⁴ and these plants are not on the ALUC acceptable list, so they will be avoided. Another non-native plant the developer proposes for the bioretention basins are daylilies (*Heemerocallis* sp.). Daylilies are perennials with large showy flowers and are popular ornamental plants; they are not on the ALUC acceptable species list. Daylilies, however, have no special attraction as a food source or habitat for hazardous birds such a geese, other waterfowl, turkey vultures, and crows, and therefore, would be an acceptable choice for use in the bioretention basins.
- The WQCB design includes slopes greater than 3:1 in the “hydromod” portions of the facilities in order to minimize shelter and nesting opportunities for hazardous wildlife.

If the above measures are followed, the proposed WQCBs are unlikely to be attractive to large numbers of hazardous wildlife, such as Canada geese and other waterfowl, American crows, and/or European starlings.

CONCLUSIONS

WQCBs, including infiltration and bioretention basins, can be attractants to birds that are hazardous to aviation; therefore, the FAA and Riverside County ALUC discourage the construction of new WQCBs within the 10,000-foot wildlife hazard separation zone around airports. However, if WQCBs are designed and maintained specifically to eliminate or minimize use by bird species that present a high hazard to aviation, such as Canada geese, other waterfowl, and turkey vultures, these facilities can be compatible with airports.

Based on the above analysis and mitigation measures, the proposed WQCBs for the Rancho Diamante residential development in Hemet are unlikely to attract large numbers of birds that would pose a hazard to aviation at the Hemet-Ryan Airport. Please do not hesitate to contact me at

⁴ Mowbray, T. B., C. R. Ely, J. S. Sedinger, and R. E. Trost (2002). Canada Goose (*Branta canadensis*), version 2.0. In *The Birds of North America* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.cangoo.02>

510-376-5694 or eric.lichtwardt@lsa.net if you have questions and/or require further information regarding this analysis.

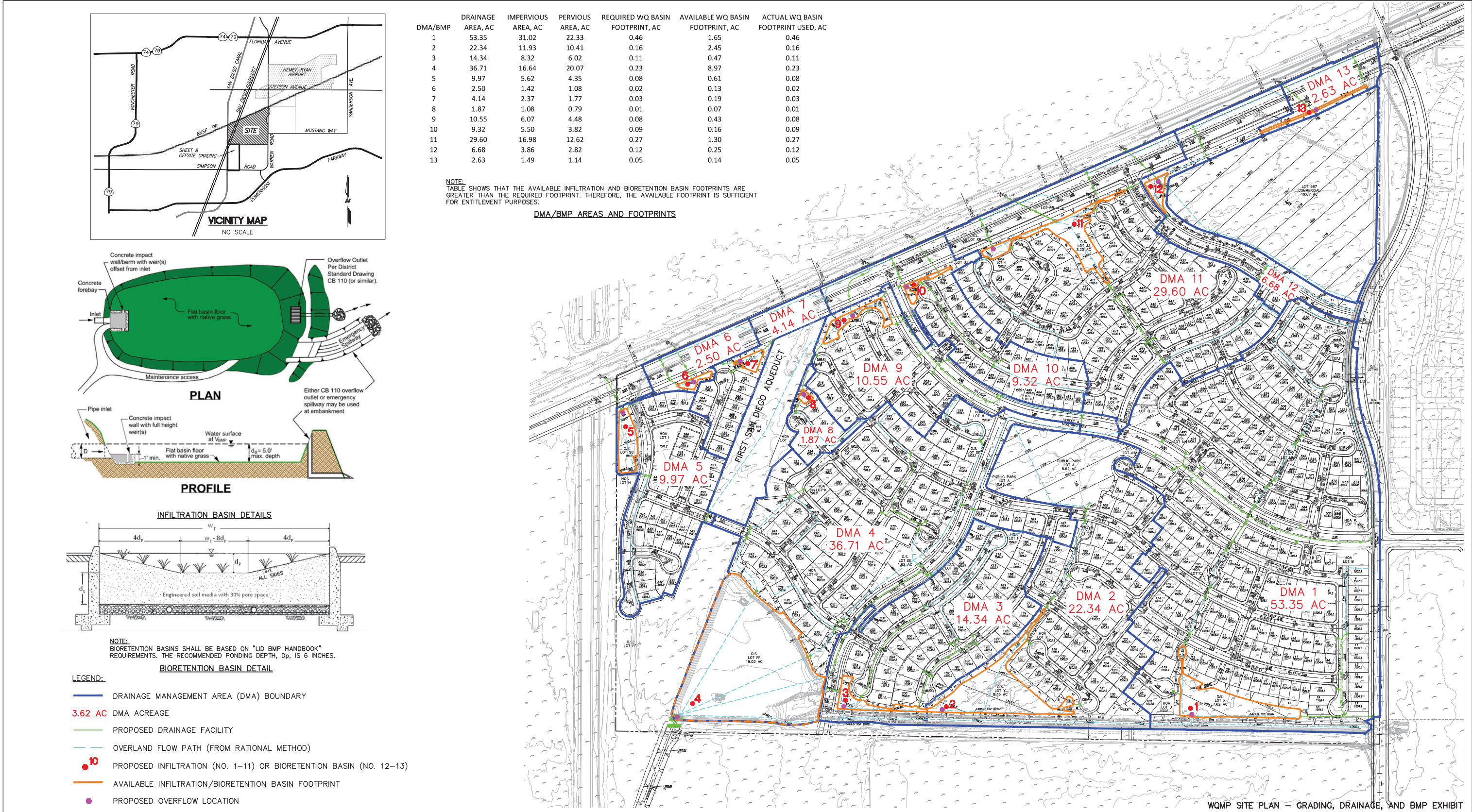
Sincerely,

LSA Associates, Inc.



Eric Lichtwardt
Associate/Senior Biologist

Attachments: Figure 1: Proposed Water Quality Control Basins
Figure 2: Project Location and Existing Water Quality Control Basins List of Animal Species Detected
Landscaping Near Airports: Special Consideration for Preventing or Reducing Wildlife Hazards



LSA

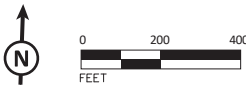


FIGURE 1



LSA

LEGEND

- Project Area
- Water Quality Control Basins



0 750 1500
FEET

SOURCE: Google Maps Sat (01/2020).

I:\HET1601\GIS\Maps\Figure 2_Project Location and Existing Water Quality Control Basins.mxd (1/30/2020)

FIGURE 2

Rancho Diamante Residential Development
Riverside County, California
 Project Location and Existing
 Water Quality Control Basins

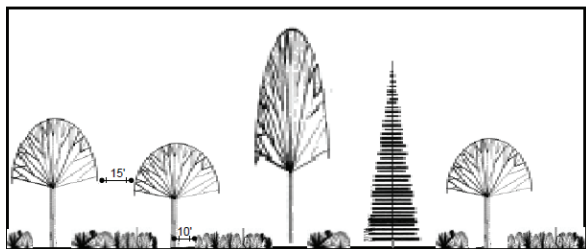


Figure 1. Selection of shrubs should be a mix of deciduous and coniferous species with no more than 50 percent evergreen species.

Plant Selection, Irrigation, and Wildlife Management. Riverside County requires landscaping for proposed development and redevelopment projects, and it is also committed to the use of native and drought-tolerant plants to reduce landscape-related water use. The County of Riverside Guide to California Friendly provides a lengthy plant palette to help landscape architects, planners, and the public select plant materials that will reduce water use in accordance with local and state goals: (http://rctlma.org/Portals/7/documents/landscaping_guidelines/Guide_to_California_Friendly_Landscaping.pdf).

Many of the plants on the "County of Riverside California Friendly Plant List" could attract potentially hazardous wildlife species. Table 2 provides a reduced species list, nearly all of which were excerpted from the Friendly Plant List, but are less likely to support potentially hazardous wildlife. Project sponsors should use this list for projects within an AIA.

The list is not meant to be exhaustive, and other species may be appropriate based on the project location or other project-related circumstances. Sponsors who wish to propose plant materials that are not included in Table 1 will need to demonstrate to the ALUC that proposed species will be unlikely to attract hazardous wildlife to the AIA.

General Guidelines. Other factors can affect wildlife behavior. Landscaping can provide a food source, opportunities for shelter, nesting and perching. Proposed landscaping can help to discourage wildlife through the application of the following guidelines summarized below and described in Table 1.

- **Close the Restaurant!** Do not use plant material that produce a food source, such as edible fruit, seeds, berries, drupes, or palatable forage for grazing wildlife. When possible, select a non-fruiting variety or male cultivar.
- **No Vacancy!** Avoid densely branched or foliated trees; they provide ideal nesting habitat and shelter.
- **Prevent Loitering!** Select tree species that exhibit a vertical branching structure to minimize nesting and perching opportunities (Figure 1).

Table 1. Design Guidance for Plant Materials

TREES	Avoid/Prevent Contiguous Canopy <ol style="list-style-type: none"> 1. Prevent overlapping crown structures. Contiguous crowns can provide safe passage for wildlife. Provide sufficient distance between plants to ensure that at least 15 feet of open space will remain between mature crowns (Figure 1). 2. Prevent homogenous canopy types and tree height. Variable canopy height will reduce thermal cover and protection from predators. <ul style="list-style-type: none"> ■ Provide significant variation between the type of canopy and height of the species, both at planting and at maturity. ■ Provide no more than 20% evergreen species on site, and never plant evergreens in mass or adjacent to each other.
	Limit Coverage <p>Limit the amount of cover and avoid massing to prevent the creation of habitat for birds or small mammals.</p> <ul style="list-style-type: none"> ■ Mix deciduous, herbaceous, and evergreen species. ■ Do not plant species in mass. At a minimum, provide sufficient spacing to equal the width of each species at maturity. Avoid species with the potential to creep near shrubs (Figure 2). ■ Provide at least 10 feet between trees and other species greater than 1 foot in height.
SHRUBS/ACCENTS/GRASSES	Prevent the natural succession of landscape! <p>Groundcover plays a transitional role between shrubs, grasses, and trees, and this succession creates an ideal habitat for diverse wildlife (see Figure 2).</p> <ol style="list-style-type: none"> 1. Provide a buffer and sharp edges between groundcover, turf, shrubs and trees, using hardscape or mulching. 2. When possible, use alternative groundcovers, such as decorative paving and hardscapes instead of planted groundcover/turf. 3. The use of groundcover/turf may be impractical or undesirable based on irrigation needs or site-specific conditions. Consider using the following: <ul style="list-style-type: none"> ■ Artificial turf in place of groundcover, which can reduce maintenance and eliminate irrigation needs (Figure 2A). ■ Porous concrete to cover smaller areas (Figure 2B). ■ Permeable pavers to provide visual interest while promoting drainage (Figure 2C).
VINES	Limit Coverage <p>Limit the amount of cover and avoid massing to prevent the creation of habitat for birds or small mammals.</p> <ul style="list-style-type: none"> ■ Do not use vines to create overhead canopy or to cover structures. ■ Do not plant vines to grow on the trunk or branches of trees. ■ Minimize vines to areas of 5 feet or less in width. Vines require considerably more maintenance than other plant materials.

Acceptable plants from the Riverside County Landscaping Guide



Chinese Elm

Heavenly Bamboo

California Fuchsia

Deer Grass

Society Garlic

LANDSCAPING NEAR AIRPORTS: Special Considerations for Preventing or Reducing Wildlife Hazards to Aircraft

Landscaping makes a visual statement that helps to define a sense of space by complementing architectural designs and contributing to an attractive, inviting facility. In some cases, a landscaping plan can be used to restore previously disturbed areas. However, such landscape plans are not always appropriate near airports.

Wildlife can pose hazards to aircraft operations, and more than 150 wildlife strikes have been recorded at Riverside County. The Riverside County Airport Land Use Commission (ALUC) prepared this guidance for the preparation of landscape designs to support FAA's efforts to reduce wildlife hazards to aircraft. This guidance should be considered for projects within the Airport Influence Area (AIA) for Riverside County Airports. The following landscape guidance was developed by planners, landscape architects and biologists to help design professionals, airport staff, and other County departments and agencies promote sustainable landscaping while minimizing wildlife hazards at Riverside County's public-use airports.

Discouraging Hazardous Wildlife. Plant selections, density, and the configuration of proposed landscaping can influence wildlife use and behavior. Landscaping that provides a food source, perching habitat, nesting opportunities, or shelter can attract raptors, flocking birds, mammals and their prey, resulting in subsequent risks to aviators and the traveling public.



Figure 2. Alternative hardscapes and groundcover/turf



Acceptable.

The trees above have a vertical branching structure that minimizes perching and nesting opportunities.



Not acceptable.

Examples of trees that are attractive to birds because of horizontal branching structure.



Not acceptable.

Trees, shrubs and plants that produce wildlife edible fruit and seeds should be avoided.



Landscaping needs to be aesthetically pleasing, but it must coincide with the responsibility for aviation safety.

TABLE 2. Acceptable Plants from Riverside County Landscaping Guide

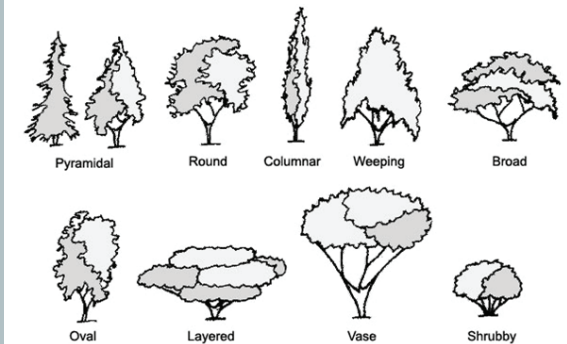
	Scientific Name	Common Name	WOCOLS Region 1, 2	Sunset Zone
TREES	<i>Cercis occidentalis</i>	Western Redbud	VL: 1, 2, L: 3, 4	2-24
	<i>Olea europaea</i> 'Swan Hill'	Fruitless Olive	GL: 1, 2; L: 3, 4, M: 5, 6	8, 9; 11-24
	<i>Pinus spp.</i>	Pine, various species	Varies by species	Varies by species
	<i>Rhus lancea</i>	African Sumac	L: 1-4; M: 5-6	8-9; 12-24
	<i>Robinia neomexicana</i> *	Desert Locust	L: 1-4; M: 5-6	2-3, 7-11, 14, 18-24
	<i>Robinia x ambigua</i>	Locust	L: 1-4; M: 5-6	2-24
	<i>Ulmus parvifolia</i>	Chinese Elm	M: 1-6	3-24
SHRUBS	<i>Aloysia triphylla</i>	Lemon Verbena	L: 1-6	9-10; 12-21
	<i>Cistus spp.</i>	Rockrose	L: 1-6	6-9, 14-24
	<i>Dalea pulchra</i>	Bush Dalea	L: 6	12, 13
	<i>Encelia farinosa</i>	Brittlebush	VL: 3; L: 3-6	
	<i>Gravellia Noelli</i>	Noel's Grevellia	L: 1-4; M: 6	
	<i>Justicia californica</i>	Chuparosa	M: 1, 6; VL: 3; L: 4-5	
	<i>Langana camara</i>	Busn lantana	L: 1-4; M: 6	
	<i>Lavendula spp.</i>	Lavender	L: 105; M: 5-6	2-24; varies
	<i>Nandina domestica species</i>	Heavenly Bamboo	L: 1-4; M: 5-6	
	<i>Rosmarinus officinalis</i> 'Tuscan Blue'	Tuscan Blue Rosemary	L: 1-4; M: 5-6	
GROUND COVER	<i>Salvia greggia</i>	Autumn sage	L: 1-4; M: 5-6	
	<i>Artemisia pycnocephala</i>	Sandhill Sage	VL: 1	
	<i>Oenothera caespitosa</i>	White Evening Primrose	L: 1-2, 3-5	103, 7-14, 18-21
	<i>Oenothera stubbei</i>	Baja Evening Primrose	L: 1-6	10-13
	<i>Penstemon baccharifolios</i>	Del Rio	L: 4-6	10-13
	<i>Trachelospermum jasminoides</i>	Star Jasmine	M: 1-6	8024
	<i>Zauschneria californica</i>	California Fuchsia	L: 1, 2, 4; VL: 3; M: 5-6	2011, 14-24
GRASSES	<i>Cortaderia dioica</i> [syn. <i>C. selloana</i>]	Pampass Grass	N/A	N/A
	<i>Festuca spp.</i>	Fescue	Varies by Species	Varies by Species
	<i>Zoysia 'Victoria'</i>	Zoysia Grass	60% of ETO	8-9, 12-24
ACCENT GRASSES	<i>Agave species</i>	Agave	L: 1-4, 6	10, 12-24 (Varies)
	<i>Aloe species</i>	Aloe	L: 1-4, 6	8-9, 12-24
	<i>Chondropetalum litorum</i>	Cape Rush	H: 1; M: 3	8-9, 12-24
	<i>Dasyllirion species</i>	Desert Spoon	VL: 1, 4-6	10-24
	<i>Deschampsia caespitosa</i>	Tufted Hair Grass	L: 1-4	2-24
	<i>Festuca (ovina) glauca</i>	Blue Fescue	L: 1-2; M: 3-6	1-24
	<i>Diets bicolor</i>	Fortnight Lily		VL: 1, L: 3-6
	<i>Echinocactus grusonii</i>	Golden Barrel Cactus	VL: 1-2, L: 3-4, 6	12-24
	<i>Fouquieria splendens</i>	Octillio	L: 1, 4-6; VL: 3	10-13, 18-20
	<i>Hesperaloe parviflora</i>	Red / Yellow Yucca	VL: 3, L: 4-6	2b, 3, 7-16, 18-24
	<i>Muhlenbergia rigens</i>	Deer Grass	L: 1, 3; M: 2, 4-6	4-24
	<i>Opuntia species</i>	Prickly Pear, Cholla	VL: 1-3; L: 4-6	Varies by Species
	<i>Penstemon parryi</i>	Parry's Beardtongue	L: 1-6	10-13
	<i>Penstemon superbus</i>	Superb Beardtongue	L: 1-6	10-13
	<i>Tulbaghia violacea</i>	Society garlic	M: 1-4, 6	13-24
	<i>Yucca species</i>	Yucca	L: 1-6	Varies by Species



Not recommended are trees that overlap, allowing birds to move safely from tree to tree without exposure to the weather or predators.



Tree species should be selected and planted so that, at maturity, overlapping crown structures will be minimized.



Trees approved for planting should have varied canopy types and varied heights, both at time of planting and at maturity. A combination of the styles illustrated above is recommended.