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December 12, 2025

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Subject: Notice of Preparation of a Draft Programmatic Environmental Impact Report for the University of California- Irvine 2027 Long Range Development Plan Project, SCH No. 2025110458, Orange County, CA

Dear Lindsey Hashimoto:

The California Department of Fish and Wildlife (CDFW) reviewed the Notice of Preparation (NOP) from University of California- Irvine (UCI) for the University of California- Irvine 2027 Long Range Development Plan Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines[1].

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law[2] of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.) or the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

CDFW also administers the Natural Community Conservation Planning (NCCP) program, a California regional habitat conservation planning program (Fish and Game Code 2800 et seq.). The University of California - Irvine (UCI) participates in the NCCP through its role as a Participating Landowner under the County of Orange Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (Central/Coastal NCCP/HCP).

PROJECT DESCRIPTION SUMMARY

Proponent: The University of California - Irvine (UCI)

Objective: The Project is an updated Long Range Development Plan (2027 LRDP) to guide planning and future infrastructure development at UCI consistent with its teaching, research and public service missions through the next 20 years. The 2027 LRDP will generally maintain the same land use designations of the current 2007 LRCP, with some adjustments to support redevelopment and infill development on underutilized sites; expand student and faculty/staff housing; and further differentiate between the Open Space and Athletics and Recreation land use designations.

Location: The Project site, namely UCI, is in the southern portion of the City of Irvine (City), Orange County, California. It is adjacent to the City of Newport Beach, and the City of Costa Mesa, approximately 0.5 miles to the west of the campus. The City of Santa Ana and the City of Lake Forest are situated approximately 2.5 miles to the north and 5 miles to the east, respectively. UCI is bounded generally by Campus Drive and Jamboree Road on the north, Culver Drive on the east, Bonita Canyon Drive on the south, and State Route 73 and MacArthur Boulevard on the west. The Project site also includes open space areas within the Central/Coastal NCCP/HCP Reserve, specifically designated as the UCI's Ecological Reserve. The Central/Coastal NCCP/HCP estimates UCI will own and/or manage a total of approximately 135 acres of conserved habitat reserves.

[2] "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

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Timeframe: The Project will accommodate for growth through the next 20 years, though facility development may not keep pace with projections in the LRCP. The LRDP will not commit UCI to any specific enrollment level, campus population, or development.

Biological Setting: UCI is significantly urbanized and developed; however, the existing open space reserve areas, as well as the directly adjacent parcels of the Irvine Ranch Water District's (IRWD) San Joaquin Marsh wildlife sanctuary, contain a variety of sensitive habitats, wildlife, and plant species. Notably, UCI holds and manages lands within the Central/Coastal NCCP/HCP Reserve System. These open space areas within UCI and in the adjacent San Joaquin Marsh function as valuable wildlife corridors, migratory bird stopovers, and refugia for several sensitive species. Per the California Natural Diversity Data Base (CNDDB), focal species that are recognized in the Central/Coastal NCCP/HCP and occur within the vicinity of UCI include coastal California gnatcatcher (*Polioptila californica californica*; CDFW Species of Special Concern (SSC), federal Endangered Species Act (ESA) listed-Threatened) and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; CDFW SSC), least Bell's vireo (*Vireo bellii pusillus*; CESA listed-Endangered, ESA listed-Endangered).

Per CNDDB and the San Joaquin Marsh Reserve species list (UCI 2025), the following special status species have recent occurrences within or adjacent to UCI;

Birds:

- Light-footed Ridgway's rail (*Rallus obsoletus levipes*; CESA listed-Endangered; ESA listed-Endangered; CDFW Fully Protected)
- California least tern (*Sternula antillarum browni*; CESA listed -Endangered; ESA listed- Endangered; CDFW Fully Protected)
- Bald Eagle (*Haliaeetus leucocephalus;* CESA listed- Endangered; CDFW Fully Protected)
- White-tailed kite (*Elanus leucurus*; CDFW Fully Protected)
- American Peregrine Falcon (*Falco peregrinus anatum*; CDFW Fully Protected)
- Least Bell's vireo (*Vireo bellii pusillus*; CESA listed-Endangered, ESA listed-Endangered).
- Coastal California gnatcatcher (*Polioptila californica californica*; CDFW SSC, ESA listed- threatened)
- Burrowing owl (*Athene cunicularia*; CDFW SSC; CESA listed- Candidate)
- Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; CDFW SSC)
- Northern Harrier (*Circus hudsonius*; CDFW SSC)
- Yellow Warbler (*Setophaga petechia;* CDFW SSC)
- Yellow-breasted Chat (*Icteria virens;* CDFW SSC)

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Plants:

- Southern tarplant (*Centromadia parryi ssp. australis*; California Native Plant Society (CNPS): Rank 1B.1)

Invertebrates:

- American bumble bee (*Bombus pensylvanicus*; ESA Petitioned- Endangered)
- Crotch's bumble bee [*Bombus crotchii*; CESA listed- Candidate; California Terrestrial and Vernal Pool Invertebrates of Conservation Priority (TVPICP)]

Reptiles:

- Southwestern pond turtle (*Actinemys pallida*; ESA Petitioned- Threatened; CDFW SSC)

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist UCI in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources and to ensure Project consistency with regional conservation objectives in the County of Orange Central and Coastal Subregion NCCP/HCP.

Specific Comments

1) Consistency with Regional Plans. CDFW issued NCCP Approval and Take authorization for the County of Orange Central and Coastal Subregion NCCP/HCP per section 2800, *et seq*., of the California Fish and Game Code on July 17, 1996. The Central/Coastal NCCP/HCP establishes a multiple species conservation program to minimize and mitigate habitat loss and provides for the incidental take of covered species in association with activities covered under the permit. Compliance with approved habitat plans, such as Central/Coastal NCCP/HCP, is discussed in CEQA. Specifically, section 15125(d) of the CEQA Guidelines requires that the CEQA document discuss any inconsistencies between a proposed Project and applicable general plans and regional plans, including habitat conservation plans and natural community conservation plans. The draft Programmatic Environmental Impact Report (PEIR) should include an assessment of the proposed Project impacts to the Central/Coastal NCCP/HCP to address CEQA requirements. The proposed Project occurs within the area and is subject to the provisions and policies of the Central/Coastal NCCP/HCP. To be considered a covered activity, Permittees need to demonstrate that proposed actions are consistent with the Central/Coastal NCCP/HCP and its associated Implementing Agreement.

2) IRWD San Joaquin Marsh. CDFW considers impacts to San Joaquin Marsh as a result of the Project potentially cumulatively considerable, and as such, we

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recommend that UCI consult with CDFW during the preparation of the PEIR to evaluate any components of the Project that may have potential direct, indirect, or cumulative impacts on the San Joaquin Marsh (Marsh). The Marsh provides critical ecological functions and supports sensitive species such as southwestern pond turtle, light-footed Ridgway's rail, least tern, western burrowing owl, and many other migrating birds, within the Central/Coastal NCCP/HCP Reserve system, and includes riparian mitigation areas associated with many Orange County projects; of note, the SAMS-1 site at the Marsh is being enhanced as part of IRWD's Syphon Reservoir Improvement Project (SCH# 2019080009). Because of the on-site compensatory riparian mitigation, any Project-related impacts- in particular, those involving hydrology, groundwater interactions, or potential water drawdown- should be evaluated in coordination with CDFW. The PEIR should fully analyze and disclose potential effects to Marsh water levels, habitat quality, and ecological function. UCI should work with CDFW to ensure that any impacts are adequately addressed, minimized, and mitigated. If water management or infrastructure changes may influence Marsh conditions, early consultation with CDFW is strongly advised to determine appropriate protective measures and mitigation requirements.

3) Crotch's bumble bee. The PEIR should discuss and analyze impacts to Crotch's bumble bee because the Project site may contain suitable foraging or nesting habitat for the bee (Xerces 2025). Crotch's bumble bee can use a variety of upland land cover types for foraging and often nest underground, sometimes occupying abandoned rodent burrows (Hatfield et al., 2015). If Crotch's bumble bees are using burrows on the Project site for nesting, direct impacts could result from ground-disturbing activities, which could lead to death or injury of adults, eggs, and larva, burrow collapse, nest abandonment, and reduced nest success. Additionally, the Project may result in temporal or permanent loss of foraging habitat. Any use of pesticides on site also has the potential to directly harm or kill Crotch's bumble bee.

   a. Protection Status. The California Fish and Game Commission accepted a petition to list the Crotch's bumble bee as threatened or endangered under CESA, determining the listing "may be warranted" and advancing the species to the candidacy stage of the CESA listing process. Crotch's bumble bee is granted full protection under CESA. Take of any endangered, threatened, candidate species that results from the Project is prohibited, except as authorized by State law (Fish & G. Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, §786.9). In addition, Crotch's bumble bee has a State ranking of S1/S2. This means that Crotch's bumble bee is considered critically imperiled or imperiled and is extremely rare (often five or fewer populations). Crotch's bumble bee is also listed as an invertebrate of conservation priority under the Terrestrial and Vernal Pool Inverts of Conservation Priority List[3]. Crotch's bumble bee also meets the CEQA definition of rare, threatened, or endangered species (CEQA

[3] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=149499&inline

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Guidelines, § 15380). Therefore, take of Crotch's bumble bee could require a mandatory finding of significance by UCI (CEQA Guidelines, § 1565).

b. Surveys and Disclosure. CDFW recommends the Project Proponent retain a qualified biologist familiar with the species to survey the Project site for Crotch's bumble bee and suitable habitat. Surveys should be conducted during the flying season when the species is most likely to be detected above ground, between March 1 to September 1 (Thorp et al. 1983). Surveys should also occur within one year prior to vegetation removal and/or ground disturbance and adhere to the Survey Considerations for CESA Candidate Bumble Bee Species[4]. The draft Programmatic Environmental Impact Report (PEIR) should provide full disclosure of the presence of Crotch's bumble bee and the Project's potential impact on Crotch's bumble bee.

c. Avoidance, Minimization, and Mitigation. If the site is determined to be occupied by Crotch's bumble bee, the PEIR should include measures to avoid impacts on Crotch's bumble bee. If Crotch's bumble bee is present, the qualified biologist should identify the location of all nests in or adjacent to the Project site. If nests are identified, 50-foot no-disturbance buffer zones should be established around nests to reduce the risk of take. Additionally, the PEIR should require consultation with CDFW to determine if a CESA Incidental Take Permit (ITP) is required. In addition, the Project Proponent should provide compensatory mitigation for removal or damage to any floral resource associated with Crotch's bumble bee. Floral resources should be replaced as close to their original location as is feasible.

4) White-Tailed Kite and other Fully Protected Birds. White-tailed kites, bald eagles, and peregrine falcons have been observed within the Project site and in adjacent habitat. These bird species are State Fully Protected Species under Fish & G. Code § 3511 and Fully Protected Species may not be taken or possessed at any time except with authorization from CDFW and only under specific circumstances which would not apply to the Project. The PEIR should include a complete, recent habitat assessment for suitable nesting and foraging habitat for fully protected bird species. To avoid take of these fully protected bird species, CDFW recommends Project work activities occur outside of the respective nesting season for each species, and a qualified biologist conduct focused surveys within the Project area prior to the start of construction activities. If fully protected birds are detected nesting in trees within the Project disturbance areas, CDFW recommends the qualified biologist establish a minimum of 500-foot no work buffer around each nest. Additionally, the PEIR should include a discussion of how potential direct, indirect, and cumulative impacts to fully protected bird species will be fully avoided. Permanent impacts to any foraging habitat for fully protected bird species should be described in the PEIR and should be considered significant unless mitigation is provided.

[4] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline

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5) Coastal California Gnatcatcher. Gnatcatchers have been observed within the Project site and in adjacent habitat. The PEIR should include a complete, recent habitat assessment for suitable habitat and the Project Proponent should conduct protocol-level surveys within any suitable habitat following the United States Fish and Wildlife Service (USFWS) Survey Guidelines for the Coastal California Gnatcatcher[5] (USFWS 1997) to confirm the presence or absence. If gnatcatcher is detected during surveys, CDFW recommends UCI consult with USFWS to identify appropriate avoidance, minimization, and mitigation measures. The PEIR must analyze and disclose potential direct, indirect, and cumulative impacts to species and its habitat.

6) Least Bell's Vireo. Least Bell's vireo have been observed within the Project site and in adjacent habitat. The PEIR should include a complete, recent habitat assessment for suitable habitat and protocol-level surveys should be conducted within any suitable habitat following the USFWS Least Bell's Vireo Survey Guidelines[6] (USFWS 2001) to confirm the presence or absence. If least bell's vireo is detected during surveys, CDFW recommends UCI consult with USFWS and CDFW to identify appropriate avoidance, minimization, and mitigation measures. The PEIR must analyze and disclose potential direct, indirect, and cumulative impacts to species and its habitat. If impacts cannot be avoided, the PEIR should indicate that a CESA ITP may be required.

7) Cactus Wren Mitigation within the UCI Ecological Reserve. The PEIR should include a detailed analysis of potential direct, indirect, and cumulative impacts to the UCI Ecological Reserve particularly with respect to existing conservation and mitigation lands that support coastal cactus wren, a CDFW Species of Special Concern. The Orange County Transportation Authority (OCTA) approved funding to restore coastal sage scrub habitat to support coastal cactus wren within portions of the Reserve through commitments in OCTA Measure 2 NCCP/HCP (OCTA 2016). Because OCTA holds long-term management and mitigation responsibilities of these restoration areas, UCI should consult with OCTA during the planning and design stages of campus facility development especially when directly adjacent to the Reserve. Early coordination is recommended to ensure that Project implementation does not conflict with or impair ongoing habitat management, monitoring requirements or the ecological integrity of the established mitigation areas. The PEIR should identify where Project design modifications or mitigation measures will be needed to avoid or reduce potential impacts to these sensitive resources.

8) General Avian Impact Avoidance. The PEIR should address impacts to migratory avian species and include mitigation measures to reduce the impacts to below significant. Project activities (e.g., noise, vegetation removal, human activity, dust, vibrations) occurring during the breeding season of nesting birds could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment in habitats directly adjacent to the Project boundary. The Project could also lead to the

[5] https://www.fws.gov/sites/default/files/documents/survey-protocol-for-coastal-california-gnatcatcher.pdf
[6] survey-protocol-for-least-bells-vireo.pdf

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loss of foraging habitat for sensitive bird species. Given these likely impacts to avian species, CDFW recommends that measures be developed to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code, which prohibits take of all birds and their active nests including raptors and other migratory nongame birds. Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 15 through August 31 (and as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to survey for migratory birds in suitable nesting habitats. Survey areas include all areas that would be disturbed by the Project, adjacent areas as allowed, and any other habitat within 300-feet of the disturbance area (or 500-feet within the disturbance area for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be allowable depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

9) Open Space Conservation and Recreational Pressures. The PEIR should include a detailed analysis of potential direct, indirect, and cumulative impacts to biological resources associated with increased development pressures and human use within and adjacent to Open Space areas. In particular, the PEIR should address the potential for creation or expansion of unauthorized trails, increased recreational pressures, and associated disturbance to the Central/Coastal Reserve, sensitive habitats, and/or special status species. CDFW recommends PEIR develop measures to avoid, minimize, and mitigate these impacts, and ensure that management of Open Space areas remains consistent with the Central/Coastal NCCP/HCP requirements and conservation objectives.

10) Impacts to Sensitive Habitat from Artificial Light. CDFW recommends the PEIR include a mitigation measure or measures which require UCI to adopt an artificial light policy and/or mitigate the impacts of artificial light as part if it's LRDP update. Artificial light at night (ALAN) is increasing in extent and intensity across the globe. It has been shown to interfere with animal sensory systems, orientation, and distribution, with the potential to cause significant ecological impacts (Barrientos et al. 2023). ALAN also causes changes in reproductive timing or success of birds in response to light leading to phenological mismatches and lower fitness (Barrientos et al. 2023). The impacts of light pollution also cause responses from biodiversity that include advance of spring leaf budding in deciduous trees, inhibition of mating insects under artificial light, wildlife shifts to darker/brighter areas where perceived predation risk is lower, and avoidance of lit wildlife crossings by mammals creating a barrier effect for linear infrastructure (Barrientos et al. 2023). The issue of light pollution and the associated impacts to wildlife should be considered when planning

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for additional development within UCI due to its inclusion of and adjacency to Central/Coastal NCCP/HCP Reserve lands.

11) Herbicides. The PEIR should include information on invasive species management within UCI in the absence of herbicide application, especially in open space areas. This information should include details on methodology and adaptive management to control invasive species. The City of Irvine (City) has implemented a ban on applications of certain synthetic herbicides. CDFW has ongoing concerns about the ban due to the potential for highly invasive species spread, especially within Central/Coastal NCCP/HCP Reserve areas and Non-Reserve open space areas. After habitat loss, invasive species are one of the greatest threats to conservation of biodiversity due to their potential to proliferate and colonize disturbed areas. Management of invasive plant species on and adjacent to open space areas within Orange County is essential to conserving regional biodiversity and is an ongoing challenge with land managers. While it's clear to see why the City chose to limit and/or ban the use of synthetic herbicides, CDFW is concerned that this policy does not adequately consider the risks to biodiversity within the City and adjoining open space areas. One of the primary commitments made by the permittees of the Central/Coastal NCCP/HCP is to maintain the long-term habitat value of the reserve system and its ability to support viable populations of covered species (Section 4.4 Central/Coastal NCCP/HCP Implementation Agreement; Section 5.2 Central/Coastal NCCP/HCP). Control of non-native invasive plant species is essential to maintain the long-term habitat value of the reserve system. CDFW recommends the UCI use and reference the document created by the Natural Communities Coalition: Best Practices for Implementation of Invasive Plant Control for Resource Management on the Nature Reserve of Orange County[7].

General Comments

1) Disclosure. The PEIR should provide an adequate, complete, and detailed disclosure about the effects which a proposed project is likely to have on the environment (Pub. Resources Code, § 20161; CEQA Guidelines, § 15151). Such disclosure is necessary so CDFW may provide comments on the adequacy of proposed avoidance, minimization, or mitigation measures, as well as assess the significance of the specific impact relative to plant and wildlife species impacted (e.g., current range, distribution, population trends, and connectivity).

2) Project Description and Alternatives. To enable adequate review and comment on the proposed Project from the standpoint of the protection of fish, wildlife, and plants, CDFW recommends the following information be included in the PEIR.

   a. A complete discussion of the purpose and need for, and description of the proposed Project.

[7] NCC-Approved-Best-Practices-with-2-Letters-06.26.18.pdf

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b. A range of feasible alternatives to the Project location to avoid or otherwise minimize direct and indirect impacts on sensitive biological resources and wildlife movement areas. CDFW recommends UCI select Project designs and alternatives that would avoid or otherwise minimize direct and indirect impacts on biological resources. CDFW also recommends UCI consider establishing appropriate setbacks from sensitive and special status biological resources. Setbacks should not be impacted by ground disturbance or hydrological changes from any future Project-related construction, activities, maintenance, and development. As a general rule, CDFW recommends reducing or clustering a development footprint to retain unobstructed spaces for vegetation and wildlife and provide connections for wildlife between properties and minimize obstacles to open space.

c. Project alternatives should be thoroughly evaluated, even if an alternative would impede, to some degree, the attainment of the Project objectives or would be more costly (CEQA Guidelines, § 15126.6). The PEIR shall include sufficient information about each alternative to allow meaningful evaluation, public participation, analysis, and comparison with the proposed Project (CEQA Guidelines, § 15126.6).

d. Where the Project may impact aquatic and riparian resources, CDFW recommends UCI select Project designs and alternatives that would fully avoid impacts to such resources. CDFW also recommends an alternative that would not impede, alter, or otherwise modify existing surface flow, watercourse and meander, and water-dependent ecosystems and natural communities. Project designs should consider elevated crossings to avoid channelizing or narrowing of watercourses. Any modifications to a river, creek, or stream may cause or magnify upstream bank erosion, channel incision, and drop in water level, which may cause the watercourse to alter its course of flow.

3) Biological Baseline Assessment. An adequate biological resources assessment should provide a complete assessment and impact analysis of the flora and fauna within and adjacent to the Project site and where the Project may result in ground disturbance. The assessment and analysis should place emphasis on identifying endangered, threatened, rare, and sensitive species; regionally and locally unique species; and sensitive habitats. An impact analysis will aid in determining the Project's potential direct, indirect, and cumulative biological impacts, as well as specific mitigation or avoidance measures necessary to offset those impacts. CDFW also considers impacts to SSC a significant direct and cumulative adverse effect without implementing appropriate avoidance and/or mitigation measures. The PEIR should include the following information.

a. Information on the regional setting is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines, § 15125(c)). The PEIR should include measures to

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fully avoid and otherwise protect Sensitive Natural Communities. CDFW considers Sensitive Natural Communities as threatened habitats having both regional and local significance. Natural communities, alliances, and associations with a State-wide rarity ranking of S1, S2, and S3 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by visiting the Vegetation Classification and Mapping Program - Natural Communities webpage[8].

b. A thorough, recent, floristic-based assessment of special status plants and natural communities following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*[9]. Botanical field surveys should be comprehensive over the entire Project site, including areas that will be directly or indirectly impacted by the Project. Adjoining properties should also be surveyed where direct or indirect Project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Botanical field surveys should be conducted in the field at the times of year when plants will be both evident and identifiable. Usually, this is during flowering or fruiting. Botanical field survey visits should be spaced throughout the growing season to accurately determine what plants exist in the Project site. This usually involves multiple visits to the Project site (e.g., in early, mid, and late season) to capture the floristic diversity at a level necessary to determine if special status plants are present.

c. Floristic alliance- and/or association-based mapping and vegetation impact assessments conducted on the Project site and within adjacent areas. The Manual of California Vegetation[10], second edition, (Sawyer, Keeler-Wolf, & Evens, 2009) should also be used to inform this mapping and assessment. Adjoining habitat areas should be included in this assessment where the Project's construction and activities could lead to direct or indirect impacts offsite.

d. A complete and recent assessment of the biological resources associated with each habitat type on the Project site and within adjacent areas. A full literature review includes but is not limited to CDFW's CNDDB[11]. The CNDDB should be accessed to obtain current information on any previously reported sensitive species and habitat. An assessment should include a minimum nine-quadrangle search of the CNDDB to determine a list of species potentially present on the Project site. A nine-quadrangle search should be provided in the Project's

[8] https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities
[9] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline
[10] https://vegetation.cnps.org/
[11] https://wildlife.ca.gov/Data/CNDDB

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CEQA document for adequate disclosure of the Project's potential impact on biological resources.

e. A complete, recent, assessment of endangered, rare, or threatened species and other sensitive species within the Project site and adjacent areas, including SSC and California Fully Protected Species (Fish & G. Code, §§ 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare, or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of the Project site should also be addressed such as wintering, roosting, nesting, and foraging habitat. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, may be required if suitable habitat is present. See CDFW's Survey and Monitoring Protocols and Guidelines webpage[12] for established survey protocol. Acceptable species-specific survey procedures may be developed in consultation with CDFW and U.S. Fish and Wildlife Service.

f. A recent wildlife and rare plant survey. A lack of records in the CNDDB does not mean that rare, threatened, or endangered plants and wildlife do not occur. Field verification for the presence or absence of sensitive species is necessary to provide a complete biological assessment for adequate CEQA review (CEQA Guidelines, § 15003(i)). CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if Project implementation build out could occur over a protracted time frame or in phases.

4) Direct and Indirect Impacts on Biological Resources. The PEIR should provide a thorough discussion of direct and indirect impacts expected to affect biological resources with specific measures to offset such impacts. The PEIR should address the following.

a. A discussion of potential impacts from lighting, noise, temporary and permanent human activity, and exotic species, and identification of any mitigation measures. A discussion regarding Project-related indirect impacts on biological resources. These include resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (Fish & G. Code, § 2800 et. seq.)).

b. A discussion of both the short-term and long-term effects of the Project on species population distribution and concentration, as well as alterations of the

[12] https://wildlife.ca.gov/conservation/survey-protocols

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ecosystem supporting those species impacted (CEQA Guidelines, § 15126.2(a)).

c. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in areas adjacent to the Project, should be fully analyzed and discussed in the PEIR.

d. A discussion of post-Project fate of drainage patterns, surface flows, and soil erosion and/or sedimentation in streams and water bodies. The discussion should also address the potential water extraction activities and the potential resulting impacts on habitat supported by the groundwater. Measures to mitigate such impacts should be included.

e. An analysis of impacts from proposed changes to land use designations and zoning, and existing land use designation and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the PEIR.

5) Cumulative Impact. Cumulative impacts on biological resources can result from collectively significant projects which are individually insignificant. The Project, when considered collectively with prior, concurrent, and probable future projects, may have a significant cumulative effect on biological resources. The Project may have the potential to substantially reduce the number or restrict the range of endangered, rare, or threatened species. Species that may be impacted by the Project include, but are not limited to, the biological resources described in this letter.

Accordingly, CDFW recommends the PEIR evaluate the Project's potential cumulative impacts on biological resources. The Project may have a "significant effect on the environment" if the possible effects of the Project are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (Pub. Resources Code, § 21083(b)). UCI's conclusions regarding the significance of the Project's cumulative impact should be justified and supported by evidence to make those conclusions. Specifically, if UCI concludes that the Project would not result in cumulative impacts on biological resources, UCI, "shall identify facts and analysis supporting the Lead Agency's conclusion that the cumulative impact is less than significant" (CEQA Guidelines section § 15130(a)(2)).

6) Nesting Birds. To avoid impacts to nesting birds, CDFW recommends clearing of vegetation occur outside of the peak avian breeding season, which generally runs from February 1 through September 30 (as early as January 1 for some raptors). If Project construction is necessary during the bird breeding season, a qualified biologist with experience in conducting breeding bird surveys should conduct a

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nesting bird survey within three days prior to work in the area. If an active nest is identified, a buffer shall be established between the construction activities and the nest so that nesting activities are not interrupted. For the given Project site, CDFW generally recommends a 100-foot buffer from common avian species, 300 feet for listed or highly sensitive, and 500 feet for raptors. The buffer should be delineated by temporary fencing and remain in effect as long as construction is occurring. No Project construction shall occur within the fenced nest zone until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the Project. Reductions in the nest buffer distance may be allowable depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

7) Mitigation Measures. Public agencies have a duty under CEQA to prevent significant, avoidable damage to the environment by requiring changes in a project through the use of feasible alternatives or mitigation measures (CEQA Guidelines, §§ 15002(a)(3), 15021). Pursuant to CEQA Guidelines section 15126.4, an environmental document shall describe feasible measures which could mitigate impacts below a significant level under CEQA. Mitigation measures must be feasible, effective, implementable, and fully enforceable/imposed by the lead agency through permit conditions, agreements, or other legally binding instruments (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, § 15126.4).

   a. The PEIR should provide mitigation measures that are specific and detailed (i.e., responsible party, timing, specific actions, location) in order for a mitigation measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097).

   b. If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the proposed Project, the PEIR should include a discussion of the effects of proposed mitigation measures (CEQA Guidelines, § 15126.4(a)(1)). In that regard, the PEIR should provide an adequate, complete, and detailed disclosure about the Project's proposed mitigation measure(s). Adequate disclosure is necessary so CDFW may assess the potential impacts of proposed mitigation measures.

8) Compensatory Mitigation. The PEIR should include compensatory mitigation measures for the Project's significant impacts (direct and/or through habitat modification) to sensitive and special status plants, animals, and habitats. Mitigation measures should emphasize avoidance and minimization of Project-related impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore inadequate to mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands

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should be protected in perpetuity with a conservation easement and financial assurance and dedicated to a qualified entity for long-term management and monitoring.

9) Long-term Management of Mitigation Lands. For proposed mitigation lands, the PEIR should include measures to protect the targeted habitat values in perpetuity. The mitigation should offset Project-induced qualitative and quantitative losses of biological resources. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate endowment should be set aside to provide for long-term management of mitigation lands.

10) CESA. CDFW considers adverse impacts to a species protected by CESA to be significant. Take of any endangered, threatened, candidate species, or NPPA-listed plant species that results from the Project is prohibited, except as authorized by state law (Fish & G. Code §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project or any Project-related activity will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options (Fish & G. Code, §§ 2080.1, 2081, subds. (b) and (c)). Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required to obtain a CESA Permit.

To ensure CDFW will be able to use UCI CEQA document for the issuance of an ITP, the PEIR should address all Project impacts to CESA-listed species and specify a mitigation, monitoring, and reporting program that will meet the requirements of an ITP.

11) Salvage, Relocation and Translocation of Plants and Animal Species. Salvage, relocation and translocation require the collection, handling, capturing or possession of wildlife and/or plants with the goal of moving or removing them from one location and permanently moving them to a new location. CDFW generally does not support the use of relocation or translocation as mitigation measure for unavoidable impacts to endangered, rare, or threatened plants and animals. These efforts are often not monitored over the long-term and successful outcomes are dubious. CDFW has found that permanent preservation and management of habitat to support affected species is often a more effective long-term strategy for conserving plants and animals and their habitats.

12) Scientific Collecting Permit and Voucher Collecting Permit. A Scientific Collecting Permit would be necessary if there is anticipation to capture and relocate wildlife.

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Pursuant to the California Code of Regulations, title 14, section 650, qualified biologist(s) must obtain appropriate handling permits to capture, temporarily possess, and relocated wildlife to avoid harm or mortality in connection with Project-related activities. CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). A Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650). For more information, please see CDFW's Scientific Collecting Permit webpage[13].

A voucher collection permit is required to collect state-listed plant species for identification purposes during field surveys, or to collect voucher specimens to document a newly-discovered or previously unvouchered occurrence of a state-listed plant. There is no charge to apply for a voucher collection permit. Anyone who collects scientific plant specimens of state-listed species, or who may encounter a state-listed species during field surveys should have a plant voucher collection permit. To apply for a Voucher Collecting Permit please see CDFW's Voucher Collecting Permit webpage[14].

13) Lake and Streambed Alteration. CDFW has regulatory authority over activities in streams that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of any river, stream, or lake or use material from a river, stream, or lake. For any such activities, the Project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a Lake and Streambed Alteration Agreement (LSAA) with the applicant is required prior to conducting the proposed activities. CDFW's issuance of a LSAA for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. CDFW recommends that UCI assess whether notification is appropriate. A Notification package for a LSAA may be obtained by accessing CDFW's Lake and Streambed Alteration Program webpage[15].

14) Wetland Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's (Commission) policies[16]. Through its Wetlands Resources policy, the Commission "…seek[s] to provide for the protection, preservation, restoration, enhancement, and expansion of wetland habitat in California" (California Fish and Game Commission, 2005). It is the policy of the Commission to strongly discourage development in or conversion of wetlands. It

[13] https://wildlife.ca.gov/Licensing/Scientific-Collecting
[14] https://wildlife.ca.gov/Conservation/Plants/Permits
[15] http://www.wildlife.ca.gov/Conservation/LSA
[16] https://fgc.ca.gov/About/Policies/Miscellaneous

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opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

a. The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, a project should include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions benefiting local and transient wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts are included in the PEIR and these measures should compensate for the loss of function and value.

b. The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this State that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this State; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & G. Code, § 5650).

15) Use of Native Plants and Trees. CDFW recommends UCI require the Project Applicant to provide a native plant palette for the Project. The Project's landscaping plan should be disclosed and evaluated in the PEIR for potential impacts on biological resources such as natural communities adjacent to the Project site (e.g., introducing non-native, invasive species). CDFW supports the use of native plants for the Project, especially considering the Project's location adjacent to protected open space and natural areas. CDFW strongly recommends avoiding non-native, invasive species for landscaping and restoration, particularly any species listed as

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'Moderate', 'High', 'Limited', and 'Watch' by the California Invasive Plant Council[17] CDFW supports the use of native species found in naturally occurring plant communities within or adjacent to the Project site. In addition, CDFW supports planting native species of trees, such as oaks (Quercus genus), and understory vegetation (e.g., ground cover, vines, subshrubs, and shrubs) that create habitat and provide a food source for birds. CDFW recommends retaining any standing, dead, or dying tree (snags) where possible because snags provide perching and nesting habitat for birds and raptors. Finally, CDFW supports planting species of vegetation with high insect and pollinator value.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to CNDDB. The CNDDB website[18] provides directions regarding the types of information that should be reported and allows on-line submittal of field survey forms.

In addition, information on special status native plant populations and sensitive natural communities, should be submitted to CDFW's Vegetation Classification and Mapping Program using the Combined Rapid Assessment and Relevé Form[19].

UCI should ensure data collected for the preparation of the PEIR is properly submitted.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

[17] https://www.cal-ipc.org/plants/inventory/
[18] https://wildlife.ca.gov/Data/CNDDB
[19] https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit

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CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the University of California- Irvine in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Paola Perez, Environmental Scientist, at (858) 354- 2413 or Paola.Perez@wildlife.ca.gov.

Sincerely,

Signed by:
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