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May 19, 2025

Jeff Philliber, Senior Site & Environmental Planner
Lawrence Berkeley National Laboratory
1 Cyclotron Road, M/S 50A-4112
Berkeley, CA 94720
Planning@lbl.gov

Subject: LBNL 2025 Long Range Development Plan, Draft Environmental Impact Report, SCH No. 2024050545, Alameda County

Dear Jeff Philliber:

The California Department of Fish and Wildlife (CDFW) has reviewed Lawrence Berkeley National Laboratory's (Lead Agency) Draft Environmental Impact Report (EIR) for the LBNL 2025 Long Range Development Plan (Project, LRDP) 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 fish and wildlife resources of the State. Please be advised, by law, CDFW may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW is providing the Lawrence Berkeley National Laboratory, as the Lead Agency, with specific detail about the scope and content of the environmental information related to CDFW's area of statutory responsibility that must be included in the EIR (Cal. Code Regs., tit. 14, §15082, subd. (b)).

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. (*Id.*, § 1802.) 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 is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. For example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority, if the Project impacts the bed, channel or bank of any river, stream or lake within the State (Fish & G. Code, § 1600 et seq.). Likewise, to the extent the Project may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

REGULATORY REQUIREMENTS

California Endangered Species Act

A CESA Incidental Take Permit (ITP) must be obtained from CDFW if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Under CESA, "take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code, § 86.) CDFW's issuance of an ITP is subject to CEQA and to facilitate permit issuance, any project modifications and mitigation measures must be incorporated into the CEQA document analysis, discussion, and mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA permit.

CEQA requires a mandatory finding of significance if a project is likely to substantially impact threatened or endangered species. Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064 & 15065.) In addition, pursuant to CEQA, the Lead Agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports Findings of Overriding Consideration (FOC) for impacts that remain significant despite the implementation of all feasible mitigation. FOC under CEQA, however, do not eliminate the Project proponent's obligation to comply with the Fish and Game Code.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting river, lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage

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ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements**.** Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final EIR and complied with its responsibilities as a responsible agency under CEQA.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

PROJECT DESCRIPTION AND LOCATION SUMMARY

Proponent: Lawrence Berkeley National Laboratory

Objective: The proposed Project is the adoption and implementation of the proposed LBNL 2025 Long Range Development Plan (LRDP). Under the proposed 2025 LRDP, approximately 574,000 gross square feet (gsf) of new building space would be constructed on the campus. Subtracting out the estimated 278,500 gsf of demolition, the resulting net new building space under the proposed 2025 LRDP would be about 295,500 gsf. In addition, the proposed 2025 LRDP provides for approximately 63,000 gsf of “flex space allowance,” under which up to 63,000 gsf of existing buildings might be vacated but not demolished within the 2045 planning period. Therefore, at full development under the proposed 2025 LRDP and with inclusion of the flex space allowance, there could be a total of 2,420,000 gsf of campus building space by year 2045. This would represent a building space increase of approximately 17 percent over existing conditions.

Location: The Berkeley Lab campus occupies approximately 202 acres in the East Bay hills and straddles the border between the cities of Berkeley and Oakland. The campus is surrounded on the west by University of California, Berkeley’s (UC Berkeley) Campus Park and Hill Campus West, and City of Berkeley multi-unit residential developments; on the north by City of Berkeley single-family residential neighborhoods and various UC Berkeley Hill Campus East facilities and open space; on the east by UC Berkeley’s Hill Campus East open space; and on the south by UC Berkeley’s Hill Campus West

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and East, Botanical Garden, and by the Strawberry Canyon recreation area and open space.

Timeframe: 2025 - 2045

CDFW COMMENTS

CDFW offers the comments and recommendations below to assist the Lead Agency in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

COMMENT 1: Alameda whipsnake

The Project could permanently impact the habitat of Alameda whipsnake (*Masticophis lateralis euryxanthus*), a state and federally threatened species. Alameda whipsnake has been documented using the following habitats: annual grassland, oak savanna, oak-bay woodland, mixed evergreen forest, riparian and areas with rock outcrop features. These habitats occur in the eastern and southern portion of the Project area and includes federally designated critical habitat. Alameda whipsnake can move substantial distances within home ranges which have been reported to encompass between at least 1.9-8.7 hectares depending on sex and length of tracking.

Furthermore, throughout the year, Alameda whipsnake may be present but difficult to detect in a given area due to their secretive behavior. During their inactive season (roughly November through February/March, dependent on weather conditions), Alameda whipsnakes will use rodent burrows or crevices in rock outcrops for brumation (Hammerson 1979; Swaim 1994; U.S. Fish and Wildlife Service [USFWS] 2002). During their active season (roughly February/March through October, dependent on weather conditions; Swaim 1994; USFWS 2002; Alvarez et al. 2021), Alameda whipsnake will utilize rodent burrows and other refugia (e.g., rocks, rock outcrops, logs, vegetation piles, or cracks between cement foundation and native substrate) to oviposit, thermoregulate, estivate and/or evade potential threats including people.

Alameda whipsnakes will also use vegetation structure (e.g., shrubs or other similar vegetation), rocks and open soil to bask on the ground or within the shrub layer (Swaim and McGinnis 1992; Swaim 1994; Miller and Alvarez 2016; Alvarez and Murphy 2022). Alameda whipsnake have also been observed on a few documented occasions in trees (e.g. 15 feet up, Shafer and Hein 2005 in Alvarez and Murphy 2022).

Analysis of existing data has found that a minimum of 30-days focused drift-fence funnel trapping during peak activity (typically April-May, though dependent on weather conditions) may be necessary to assess presence/ absence of this species (Richmond

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et al. 2015). For these reasons, single-day visual surveys are not adequate to detect or determine absence from a location for this species.

Impacts to the Alameda whipsnake from the Project could occur as a result of 1) use, maintenance and/or replacement of existing uses, including utility infrastructure, roadways and parking, trails, sampling stations, storage units, and small support structures and 2) vegetation management under the Lab's Vegetation Management Program (VMP) including removal of leaf litter, shrubs, and small, individual trees and use of large equipment such as vehicles, cranes, chippers, chain saws, and ground-clearing or excavation equipment.

Mitigation Measure BIO-1b should be modified to include the below methods.

Recommended Mitigation Measure #1: Habitat Assessment and Buffers

A detailed habitat assessment shall be conducted by a qualified biologist knowledgeable of the life history and ecological requirements of Alameda whipsnake. The habitat assessment shall be used to determine ecologically appropriate avoidance buffers. The habitat assessment shall include all suitable basking, burrowing, dispersal, overwintering, and foraging habitats within the Project area and surrounding areas. This can include but is not limited to burrows and other refugia (e.g., rocks, rock outcrops, logs, vegetation piles, or cracks between cement foundation and native substrate).

Recommended Mitigation Measure #2: Clearance Surveys

No more than 24 hours prior to the date of initial ground disturbance and vegetation clearing, a CDFW-approved biologist with experience in the identification of the Alameda whipsnake will conduct clearance surveys and monitoring within 100 feet of the Project site. The biologist will investigate all areas that could be used by Alameda whipsnakes for sheltering, movement, and other essential behaviors. This includes an adequate examination of rock outcroppings and mammal burrows. Safety permitting, the approved biologist will investigate areas of disturbed soil for signs of the listed species within 30 minutes following the initial disturbance of that given area. The biologist will conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may result in take of Alameda whipsnake.

Recommended Mitigation Measure #3: Compensatory Mitigation

The draft EIR should include effective and feasible compensatory mitigation measures to offset all permanent and temporary impacts of the Project on Alameda whipsnake and its habitat. To ensure impacts to Alameda whipsnake are mitigated to less-than-significant levels, CDFW recommends inclusion of compensatory mitigation at a minimum of a 3:1 mitigation ratio (conservation to loss) for permanent impacts to

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habitat, and a 1:1 ratio for temporary impacts to the species' habitats. CDFW recommends that priority for conserved lands be given to on-site locations. Conservation lands should be placed under a conservation easement, an endowment should be funded for managing the lands for the benefit of the conserved species in perpetuity, and a long-term management plan should be prepared and implemented by a land manager. The Grantee of the conservation easement should be an entity that has gone through the due diligence process for approval by CDFW to hold or manage conservation lands.

Recommended Mitigation Measure #4: Take Permit

CDFW recommends that the Project applicant consult with CDFW on the necessity to obtain an ITP pursuant to Fish and Game Code Section 2081(b) prior to Project implementation. The Project Proponent should apply for an ITP to cover impacts of the Project to Alameda whipsnake. Through the ITP, CDFW will work with the Project Proponent to develop adequate measures to minimize and mitigate potential for take of this species due to Project activities

COMMENT 2: San Francisco Dusky-Footed Woodrat

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) houses on the ground and in trees could be destroyed by tree removal, vegetation management, vehicular traffic, leading to direct and indirect mortality of San Francisco dusky-footed woodrat.

Habitat for this species is present within Blackberry Canyon in the western part of the campus (North Fork of Strawberry Creek) and in the northern portion of the campus in Seaborg Glen.

Recommended Mitigation Measure #5: Nest Dismantling and Relocation

Mitigation Measure BIO-1b should be modified to include the below methods.

CDFW recommends a phased removal dusky-footed woodrat nests where disturbance to nests is unavoidable. Mitigation Measure BIO-8b should be revised to include the following measures:

- A qualified biologists should monitor and direct all activities associated with the removal of dusky-footed woodrat nests (structures);

- Only as necessary and to the minimal extant possible, Project site vegetation should be removed to provide access to the dusky-footed woodrat nest(s);

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- Vegetation should be removed to access dusky-footed wood rat structures using hand tools. Small amounts of vegetation may be removed as needed by a qualified biologist. If significant amounts of vegetation must be removed to access a house such as dense poison oak or scrub, contractors with hand-tools should remove vegetation with a qualified biologist monitoring the activity. Gas-powered tools should be used as little as possible to reduce disturbance to occupied dusky-footed woodrat structures;

- Over a two-week period and prior to any construction activities, dusky-footed woodrat structures or nest(s) should slowly and progressively be dismantled to allow individuals of an occupied nest(s) to allow for gradual movement away from the exposed section of the nest;

- The dismantling of the nest should occur during daylight hours and mostly in the early morning (between 0700 and 1000 hours) to reduce the likelihood of a predation event and minimize sunlight exposure;

- To enhance adjacent habitat a portion of the woody vegetation that was removed from the Project site should be placed in adjacent habitat to provide cover for dispersing dusky-footed woodrat;

- Dusky-footed woodrat nest material and other woody vegetation should be relocated at least 200 feet from the Project site to ensure that the area is not re-colonized and potentially impacted by the construction activities;

- Where feasible, nest material, food caches and woody debris should be salvaged from the dismantled woodrat nest(s) and used to create cover and provide supplemental shelter for dispersing individual(s). Noting that food from the dismantled nest should be placed under the created cover;

- If dusky-footed woodrat young are located, the removal of vegetation and/or dismantling of nest should immediately be suspended for a period of two to four weeks in order for the young eyesight to develop and become mobile. Noting that the removed material should be placed back onto the nest to re-cover the exposed litter and young. After 2-to-4-week period, based on the development of the young, and in agreement with CDFW, the above phased-removal procedure of the dusky-footed wood rat nest may resume; and

- Within 24 hours of vegetation removal and completion of the nest dismantling, an additional visual survey of the work area should be conducted to ensure that no new dusky-footed woodrat nests have been constructed.

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COMMENT 3: Crotch's Bumble Bee

The draft EIR does not analyze potential impacts to Crotch's bumble bee (*Bombus crotchii*) which is currently a Candidate endangered species under CESA. The Project will result in temporary and permanent impacts to grassland and oak woodland habitats, which may be suitable to support Crotch's bumble bee. Absence of or lack of specificity in occurrence locations should not be interpreted as absence of the species at or near a given site. The Project location is within the Crotch's bumble bee range (https://wildlife.ca.gov/Conservation/CESA) and grassland within and adjacent to the Project site may contain potential habitat for Crotch's bumble bee. In 2015, a Crotch's bumblebee was found just west of the Project area.

The proposed Project includes work that will occur within grasslands and herbaceous vegetation that may be potential Crotch's bumble bee nesting and foraging habitat, including but not limited to 1) maintenance or replacement of existing uses, including utility infrastructure, roadways and parking, trails, sampling stations, storage units, and small support structures and 2) vegetation management under the Lab's VMP including removal of leaf litter, shrubs, and small, individual trees and use of large equipment such as vehicles, cranes, chippers, chain saws, and ground-clearing or excavation equipment.

Direct mortality through crushing or filling of active bee colonies and hibernating bee cavities, reduced reproductive success, loss of suitable breeding and foraging habitats, loss of native vegetation that may support essential foraging habitat.

Recommended Mitigation Measure #6: Habitat Assessment

A habitat assessment shall be conducted by a qualified entomologist knowledgeable with the life history and ecological requirements of Crotch's bumble bee. The habitat assessment shall include all suitable nesting, overwintering, and foraging habitats within the Project area and surrounding areas. Potential nest habitat (February through October) could include that of other *Bombus* species such as bare ground, thatched grasses, abandoned rodent burrows or bird nests, brush piles, rock piles, and fallen logs. Overwintering habitat (November through January) could include that of other *Bombus* species such as soft and disturbed soil or under leaf litter or other debris. The habitat assessment shall be conducted during peak bloom period for floral resources on which Crotch's bumble bee feed. Further guidance on habitat surveys can be found within *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (https://wildlife.ca.gov/Conservation/CESA).

Recommended Mitigation Measure #7: Survey Plan

If Crotch's bumble bee habitat is present within the Project area, the Project should include a pre-construction survey plan as a mitigation measure. The survey plan should be submitted to CDFW for review. Surveys should be conducted by a qualified

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entomologist familiar with the behavior and life history of Crotch's bumble bee. If CESA candidate bumble bees will be captured or handled, surveyors should obtain a 2081(a) Memorandum of Understanding from CDFW.

Surveys should be conducted during the colony active period (i.e. April through August) and when floral resources are in peak bloom. Bumble bees move nests sites each year, therefore, surveys should be conducted each year that Project work activities will occur. Further guidance on presence surveys can be found within Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (https://wildlife.ca.gov/Conservation/CESA).

Recommended Mitigation Measure #8: Crotch's Bumble Bee Avoidance or Take Authorization

If Crotch's bumble bee are detected during pre-construction surveys, a Crotch's bumble bee avoidance plan should be developed and provided to CDFW for review prior to work activities involving ground disturbance or vegetation removal.

If full take avoidance is not feasible, CDFW strongly recommends that the draft EIR state that the Project proponent will apply to CDFW for take authorization under an ITP.

Recommended Mitigation Measure #9: Herbicide Application

To minimize impacts to bumble bees, avoid the bloom periods for herbicide application and mowing activities. If this is not possible, CDFW recommends that the Project obtain take authorization under an ITP, pursuant to Fish and Game Code section 2081 subdivision (b).

Recommended Mitigation Measure #10: Compensatory Mitigation

CDFW recommends that the draft EIR include compensatory mitigation for the loss of all suitable Crotch's bumble bee habitat. Bumble bee floral resources should be mitigated at a 3:1 ratio for permanent impacts in the absence of information regarding the compensatory mitigation site. Floral resources should be replaced as close to their original location as is feasible. If active Crotch's bumble bee nests have been identified and floral resources cannot be replaced within 600 feet of their original location, floral resources should be planted in the most centrally available location relative to identified nests. This location should be no more than 4,900 feet (1.5-kilometers) from any identified nest. Replaced floral resources may be split into multiple patches to meet distance requirements for multiple nests. The draft EIR should state that mitigation lands will be protected in perpetuity under a conservation easement with an endowment established for long-term management of the lands.

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III. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

COMMENT 4 Riparian Habitat and Sensitive Natural Communities

The largest tract of riparian habitat is located in the far western portion of the campus in Blackberry Canyon (Strawberry Creek North Fork) and includes mature eucalyptus as well as California bay and coast live oak trees.

Wetlands and seeps are present throughout the Project area including isolated wetlands surrounding horizontal drains (hydraugers) on the central campus, as well as open seeps and unculverted channels in the northern portion of the campus around Seaborg Glen. Seeps and channels contain open surface water under riparian trees, including coast redwood, coast live oak, and California bay.

Impacts to the riparian habitat and wetlands from the Project could occur as a result of 1) use, maintenance and/or replacement of existing uses, including utility infrastructure, roadways and parking, trails, sampling stations, storage units, and small support structures and 2) vegetation management under the Lab's VMP including removal of leaf litter, shrubs, and small, individual trees and use of large equipment such as vehicles, cranes, chippers, chain saws, and ground-clearing or excavation equipment.

The draft EIR should revise Mitigation Measure BIO-2 to include the following.

Recommended Mitigation Measure #11: Lake and Streambed Alteration Agreement

The Project is likely to impact aquatic resources such as streams, riparian areas, and seeps/wetlands. CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting river, lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification.

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Recommended Mitigation Measure #12: Compensatory Mitigation

Temporarily impacted areas within the riparian zone or other sensitive natural community shall be restored and planted with native trees, shrubs and grasses. Permanently impacted areas within the riparian zone or other sensitive natural community, such as from channel crossings, should be restored at a 3:1 mitigation to impact ratio for acreage and linear feet impacted.

Restoration should occur on-site to the extent feasible. If off-site restoration is necessary, it should be as close to the Project site as possible and within the same watershed, unless otherwise approved in writing by CDFW. Restoration should occur in the same year of the impacts. Trees within the riparian zone or sensitive natural community shall be replaced at the following mitigation to impact ratios, unless otherwise approved in writing by CDFW:

Oak (Quercus sp.) trees:

- 4:1 replacement for trees up to 7 inches diameter at breast height (DBH);
- 5:1 replacement for trees greater than 7 inches and up to 15 inches DBH; and
- 10:1 replacement for trees greater than 15 inches DBH, which are considered old-growth oaks.

Non-oak trees:

- 1:1 replacement of non-native trees with native trees.

IV. Would the Project interfere substantially with movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede use of native wildlife nursery sites?

COMMENT 5: Wildlife Corridors and Habitat Connectivity

The Project area and adjacent lands are important for providing habitat connectivity for the dusky-footed woodrat (BIOS ds860), California Quail (*Callipepla californica*, BIOS ds872), California kingsnake (*Lampropeltis californiae*, BIOS ds884), American badger (*Taxidea taxus*, BIOS ds854), and Alameda whipsnake (BIOS ds883) based on *Connectivity Modeling for the California Bay Area Linkage Network.*

The Project could result in direct and indirect mortality, reduced reproductive success, reduced frequency of care for young resulting in reduced health or vigor of young, forcing wildlife into movement paths and areas that could increase their vulnerability to vehicle strikes and predation, and reduction in genetic exchange affecting intra-species

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diversity. Isolation of subpopulations limits the genetic exchange of populations and increases the risk of local extirpation.

Maintaining connectivity though these linkages is critical to ensure current and future wildlife populations' abilities to move and adapt to a changing climate and habitat conditions. As part of this, CDFW recommends the draft EIR assess compliance with AB1889 and provide recommendations for local policy integration.

CDFW therefore recommends that the draft EIR include feasible mitigation measures to reduce significant impacts of the Project on wildlife connectivity for species, including, but not limited to, dusky-footed woodrat, California Quail, California kingsnake, American badger, and Alameda whipsnake.

Recommended Mitigation Measure #13: Analysis and Monitoring of Wildlife Corridors

CDFW recommends in-depth studies on existing use of wildlife corridors within the Project area and surrounding areas in order to evaluate extent of future impacts of the Project on wildlife connectivity, and to provide a basis for infrastructure and Project component redesign. Data collection methods should enable detection of species that have been found to utilize the existing movement corridors, including species mentioned in the comment above.

Pre-construction study results should be used to develop biologically feasible movement corridor improvements. Post-construction monitoring should assess the use of wildlife movement corridors.

CDFW recommends that monitoring data be analyzed, summarized, and results discussed in reports that may be posted to the Project webpage and be submitted to CDFW and other agencies or organizations that have a duty or interest in the effectiveness of wildlife movement corridors.

Recommended Mitigation Measure #14: Infrastructure and Project Component Design

CDFW recommends that on-site features that contribute to habitat connectivity should be evaluated and implemented. Aspects of the Project that could create physical barriers to wildlife movement, including direct or indirect Project-related activities, should be identified, and addressed in the draft EIR. CDFW recommends the Project avoid developing and encroaching onto wildlife corridors, essential connectivity blocks, critical wildlife passage areas, or potential linkage areas.

CDFW recommends coordination with regional CDFW and Conservation Engineering staff on the design of connectivity minimization measures including, but not limited to

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wildlife passage undercrossings, directional fencing to prevent animals from crossing roads to reduce wildlife-vehicle strikes, removal of accumulated sediment that may block undercrossings, removal of vegetation debris, control of invasive plant species, signage to alert drivers of wildlife crossings, and education and training on wildlife crossing minimization.

The recommended movement studies should be used to determine locations for design modifications that support the maximum movement and connectivity for impacted species. CDFW recommends thorough monitoring of wildlife crossings both before and after construction to assess their effectiveness. This monitoring should include the use of camera traps, track beds, and other methods.

Recommended Mitigation Measure #15: Compensatory Mitigation – Local Area Movement Corridor

On or off-site compensatory mitigation should be implemented to completely offset unavoidable impacts if Project infrastructure redesigns, and other measures to avoid significant impacts to existing wildlife corridors within the Project area do not fully avoid impacts to wildlife corridors. The draft EIR should include an analysis of beneficial and feasible wildlife movement corridors and/or crossings at off-site locations that could be improved or constructed, to improve wildlife connectivity.

The Project should evaluate the development of advanced mitigation credits to support mitigation for future projects and to support connectivity impacts. Fish and Game Code Section 1955 et seq. (Senate Bill 790) allows CDFW to approve compensatory mitigation credits for projects that improve wildlife connectivity. These actions should lead to measurable improvements in aquatic or terrestrial habitat connectivity, wildlife migration, recolonization, and breeding opportunities, especially where these are hindered by infrastructure or habitat fragmentation and may include building road overpasses or underpasses. The Project may be able to provide additional value for wildlife connectivity, depending on the design. Additionally, the Project could seek out the development of Mitigation Credit Agreements as part of the East Bay Regional Conservation Investment Strategy, which could serve as advanced mitigation, and can be used to create credits from excess mitigation from a project.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to prepare subsequent CEQA documents or to make supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (d) & (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB field survey form can be filled out and submitted online here:

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https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found here: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

CDFW anticipates that the proposed Project, will have an impact on fish and/or wildlife, and assessment of environmental document 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 environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (See Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the draft EIR to assist the Lead Agency in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Marcus Griswold, Senior Environmental Scientist (Specialist), at (707) 815-6451 or Marcus.Griswold@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
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Erin Chappell
Regional Manager
Bay Delta Region

Attachment: Attachment 1: Special-Status Species and Commercially/Recreationally Important Species

ec: Office of Planning and Research, State Clearinghouse, Sacramento
Craig Weightman, CDFW Bay Delta Region – Craig.Weightman@wildlife.ca.gov
Jason Faridi, CDFW Bay Delta Region – Jason.Faridi@wildlife.ca.gov

REFERENCES

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ATTACHMENT: Special-Status Species

Species	Status
Fish and Invertebrates	
Crotch's bumble bee (*Bombus crotchii*)	State candidate (SC)
monarch - California overwintering population (*Danaus plexippus plexippus pop. 1*)	None
Mammals	
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	Species of Special Concern (SSC)
Townsend's big-eared bat (*Corynorhinus townsendii*)	SSC
Reptiles and Amphibians	
Alameda whipsnake (*Masticophis lateralis euryxanthus*)	Federally Threatened (FT), State Threatened (ST)
Plants	
bent-flowered fiddleneck (*Amsinckia lunaris*)	S3, 1B.2
Diablo helianthella (*Helianthella castanea*)	S2, 1B.2
Oregon meconella (*Meconella oregana*)	S2, 1B.1
pallid manzanita (*Arctostaphylos pallida*)	S1, 1B.1
western leatherwood (*Dirca occidentalis*)	S2, 1B.2