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Subject: Mossdale Tract Area Urban Flood Risk Reduction Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2022040471, San Joaquin County

Dear Mr. Elias:

The California Department of Fish and Wildlife (CDFW) reviewed the Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) provided for the Mossdale Tract Area Urban Flood Risk Reduction (UFRR) Project (Project) located San Joaquin County.

CDFW is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA) §15386 for commenting on projects that could impact fish, plant and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as the California Endangered Species Act (CESA) Permit, the Native Plant Protection Act Permit, the Lake and Streambed Alteration (LSA) Agreement and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources. Pursuant to our jurisdiction, CDFW has the following concerns, comments, and recommendations regarding the Project.

PROJECT DESCRIPTION AND LOCATION

The Project will rehabilitate and improve flood risk reduction infrastructure to achieve a 200-year Urban Level of Protection (ULOP) for the Mossdale Tract Area. The flood risk reduction components of the Project are fix in place and potential setback levee improvements and dryland levee extension. The fix in place and potential setback levee improvements include raising and widening the existing dryland levee and construction of a drained seepage berm; constructing cement/bentonite slurry cutoff walls of varying depth along portions of the existing levee alignment; construction of a drained seepage berm of varying width along portions of the existing levee alignment; using riprap rock slope protection on the waterside of the levee to conduct erosion repairs; removal of encroachments; reconstructing pipe penetrations that cross the levee; raising the height of the levee along portions of the existing levee alignment and extending the landside

toe to meet levee slope design standards; and construction of a setback levee to meet the ULOP standards at a sharp bend in the San Joaquin River and connection to existing levee segments. The dryland levee extension will extend the existing dryland levee by one to two miles to the east to prevent flanking during flood events.

The multi-benefit components of the Project are ecosystem restoration and recreational features along the levee system. Ecosystem restoration will involve locating undeveloped land on the water side of the levee system to create ecosystem restoration sites. Recreational features will be developed, such as recreational paths along the top of the levee and the landside toe.

The Mossdale Tract area covers 22,400 acres and includes Reclamation District (RD) 17 (16,110 acres), portions of the cities of Stockton, Lathrop, and Manteca, and unincorporated San Joaquin County (*See* Figure 1 at the end of this letter). The RD 17 levee system is comprised of State-Federal Project levees along the San Joaquin River and French Camp Slough, which form the west and north borders of RD 17, and a non-Project dryland levee to the south. There is no levee along the east side of the RD17 jurisdiction, so the interior drainage watershed extends to the east of RD 17. The proposed Project area includes the State-Federal Project levees, RD 17's non-Project dryland levee, the Mossdale Tract area, and areas to the west along the San Joaquin River identified for the potential development of ecosystem restoration features. The Project is planned to begin in 2025 and be completed in 2028.

The CEQA Guidelines (§§15124 & 15378) require that the draft EIR incorporate a full Project description, including reasonably foreseeable future phases of the Project, and that contains sufficient information to evaluate and review the Project's environmental impact. Please include a complete description of the following Project components in the Project description, as applicable:

- Footprints of proposed permanent Project features and temporarily impacted areas, such as staging areas and access routes;

- Permanent or temporary impacts to riparian habitats, wetlands, shallow water habitat, shaded riverine aquatic habitat, emergent marsh habitat, or other sensitive areas, including impacts to hydrology;

- Staging area and plans for any ground disturbing activities, fencing, paving, and placement or storage of stationary machinery;

- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise, traffic generation, and other features;

- Construction schedule, activities, equipment, and crew sizes;
- Maps and representative cross-sections showing the location of each of the Project components such as seepage berms, bentonite/slurry cutoff walls, rock slope protection placement, levee height increase locations, setback levee, and recreational features;
- Descriptions of each aforementioned component – the purpose, materials, equipment, and a step-by-step narrative of construction;
- Description of operation and maintenance activities after the components are constructed;
- Description of the source of fill material (e.g., borrow locations) and transport routes, if applicable; and
- Mitigation, monitoring, and reporting program.

ENVIRONMENTAL SETTING

The draft EIR should provide sufficient information regarding the environmental setting ("baseline") to understand the Project's, and its alternative's (if applicable), potentially significant impacts on the environment (CEQA Guidelines, §§15125 & 15360). CDFW recommends that the draft EIR prepared for the Project provide baseline habitat assessments for special-status plant, fish, wildlife species, and habitat types located and potentially located within the Project area and surrounding lands, including all rare, threatened, or endangered species (CEQA Guidelines, §15380).

The draft EIR should describe aquatic habitats, such as wetlands, vernal pools, breeding ponds, and/or waters of the U.S. or State, the existence of upland burrows for species such as western bumblebee, giant garter snake, California tiger salamander and burrowing owl, historic nesting sites, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project site (for sensitive natural communities see: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities). It should also have a biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type on-site and within adjacent areas that could be affected by the Project. CDFW recommends that the California Natural Diversity Database (CNDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. A search parameter, composed of nine United States Geologic Survey (USGS) 7.5-minute quadrangles, is recommended to determine what species may occur in the region, larger if the Project area extends past one quad (see *Data Use Guidelines* on CDFW's

webpage www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data). Please review the webpage for information on how to access the database to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the Project. CDFW recommends that CNDDB Field Survey Forms be completed and submitted to CNDDB to document survey results. Online forms can be obtained and submitted at: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. Please note that CDFW's CNDDB is not exhaustive in terms of the data it houses, nor is it intended to be relied on to prove absence of any species or resource. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the Project site.

Fully protected, threatened or endangered, candidate, and other special-status species that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to those listed in the table below:

Scientific Name	Common Name	Status
Acipenser medirostris	**Green sturgeon**	**State species of special concern (SSC)**
Agelaius tricolor	Tricolored blackbird	CESA listed as threatened
Ambystoma californiense	**California tiger salamander**	**CESA listed as threatened; Central California Distinct Population Segment ESA listed as threatened**
Athene cunicularia	Burrowing owl	SSC
Bombus occidentalis	**Western bumble bee**	**SSC**
Buteo swainsoni	Swainson's hawk	CESA listed as threatened
Cirsium crassicaule	**Slough thistle**	**State rank S1, California Rare Plant Rank (CRPR)[1] 1B.1**
Elanus leucurus	White-tailed kite	California Fully Protected species
Eryngium racemosum	**Delta button-celery**	**State rank S1, CRPR 1B.1, CESA listed as endangered**
Emys marmorata	Western pond turtle	SSC
Hypomesus	**Delta smelt**	**CESA listed as endangered, ESA**

[1] CRPR rank definitions are available in CDFW's *Special Vascular Plants, Bryophytes, and Lichens List* (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline) and on the California Native Plant Society website (https://www.cnps.org/rare-plants/cnps-rare-plant-ranks).

transpacificus		**listed as threatened**
Lanius ludovicianus	Loggerhead shrike	SSC
Melospiza melodia	**Song sparrow ("Modesto" population)**	**SSC**
Oncorhynchus mykiss irideus	Steelhead	ESA listed as threatened
Oncorhynchus tshawytscha	Central Valley spring-run Chinook salmon	CESA listed as threatened, ESA listed as threatened
Sylvilagus bachmani riparius	Riparian brush rabbit	CESA listed as endangered, ESA listed as endangered
Sprinuchus thaleichthys	**Longfin smelt**	**CESA listed as threatened, candidate species for listing under ESA**
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	State rank S1, CRPR 2B.1
Tropidocarpum capparideum	Caper-fruited tropidocarpum	**State rank S1, CRPR 1B.1**
Xanthocephalus xanthocephalus	Yellow-headed blackbird	SSC

RECOMMENDATIONS AND COMMENTS

CDFW offers the following comments and recommendations to assist the San Joaquin Area Flood Control Agency in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on biological resources.

Habitat descriptions and species profiles should include information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, and findings from "positive occurrence" databases such as CNDDB. Other sources for identification of species and habitats near or adjacent to the Project area should include, but may not be limited to, State and federal resource agency lists, California Wildlife Habitat Relationship (CWHR) System, California Native Plant Society (CNPS) Inventory, agency contacts, environmental documents for other projects in the vicinity, academics, and professional or scientific organizations. Based on the data and information from the habitat assessment, the draft EIR should adequately assess which special-status species are likely to occur on or near the Project site, and whether they could be impacted by the Project.

CDFW recommends that, prior to Project implementation, surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocol. The EIR should include the results of focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable. Species-specific surveys should be conducted in order to ascertain the presence of species with the potential to be directly, indirectly, on or within a reasonable distance of the Project activities.

Botanical surveys for special-status plant species, including those including those with a California Rare Plant Rank listed by the California Native Plant Society (http://www.cnps.org/cnps/rareplants/inventory/), must be conducted during the blooming period for all sensitive plant species potentially impacted by the Project within the Project area and require the identification of reference populations. Please refer to CDFW protocols for surveying and evaluating impacts to rare plants, and survey report requirements, available at: https://www.wildlife.ca.gov/Conservation/Plants. A thorough, recent (within the last two years), 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 Natural Communities* is recommended to inform the draft EIR.

Comment 1: Avoid Deferred Mitigation

CDFW recommends that the draft EIR include fully enforceable measures to mitigate potentially significant impacts and should not defer these measures to a future time (CEQA Guidelines § 15126.4). For example, avoidance, minimization, and compensatory measures should be quantifiable and enforceable and not a statement that mitigation, restoration plans, special-status plant species translocation, etc. will be determined in conjunction with regulatory agencies at the time of permitting.

Comment 2: Project Design

Riprap. CDFW recommends exploring all other possible stabilization and bioengineering techniques (e.g., native vegetation plantings) before installing riprap. If riprap is deemed necessary, CDFW recommends planting riprap with native vegetation or identifying if riprap can be covered with sediment or stream simulation bed material to provide habitat for fish and wildlife.

Installation of riprap may have direct and cumulative adverse impacts on fish and wildlife resources within the San Joaquin River. Riprap could cause stream erosion and decrease fish and wildlife habitat. Please discuss these effects in the analysis and include appropriate mitigation measures to address significant impacts. Please

indicate in the Project description where riprap is pre-existing and where it is being proposed for installation on native soil.

Lighting. CDFW recommends the Project not install new artificial light sources, especially in areas where no artificial light previously existed. If artificial light must be installed, CDFW recommends that all LED's or bulbs installed as a result of the Project should be rated to emit or produce light at or under 2700 kelvin that results in the output of a warm white color spectrum. All light poles or sources of illumination that are new or replacement installations of existing light sources should be installed with appropriate shielding to avoid excessive light pollution into natural landscapes or aquatic habitat within the Project alignment. Light pole arm length should be modified to site specific conditions to reduce excessive light spillage into natural landscapes or aquatic habitat within the Project alignment. In areas with sensitive natural landscapes or aquatic habitat, the lead agency should analyze and determine if placing the light poles at non-standard intervals has the potential to further reduce the potential for excessive light pollution caused by decreasing the number of light output sources in sensitive areas.

Comment 3: Federally Listed Species

CDFW recommends consulting with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), respectively, on potential impacts to federally listed species including, but not limited to, steelhead. Take under ESA is more broadly defined than CESA; take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS and NMFS, respectively, in order to comply with ESA is advised well in advance of any ground disturbing activities.

SPECIES COMMENTS

Comment 4: Riparian Brush Rabbit (RBR)

RBR is designated as a State of California Endangered Species and impacts to the species and its habitat is prohibited without meeting certain conditions. The Project's alignment passes through an area containing the only known populations of the RBR in the Legal Delta. RBR is endemic to the Central Valley of California and considered the most sensitive mammal in the state (Larsen 1993). The current population is approximately 1% of the historic population, primarily as a result of habitat destruction, fragmentation, and degradation. Approximately 90% of the Central Valley riparian forests that once existed have been eliminated. The species is also threatened by modification of riparian habitat through dams, diversions, and

flood control activities as well as from rodenticides (Larsen 1993). Based on the foregoing, Project impacts would potentially substantially restrict the range of RBR.

Vegetation removal for Project activities may impact RBR as they require dense ground cover for breeding (Larsen 1993). Additionally, vegetation clearing can cause habitat loss, fragmentation, and create edge effects that permeate far beyond the Project site (Harris 1988, Murcia 1995). A major issue for RBR is the availability of refugia from floods. Refugia sites must be above the level of inundation for catastrophic floods and must contain wild rose, native and non-native blackberry vines, and/or willows for cover as well as enough forage (forbs and grasses) to sustain populations of RBR for several weeks until floodwaters have receded.

Artificial light has been shown to suppress the immune system of some mammals (Bedrosian et al. 2011), and it can cause disruption of normal circadian rhythms. Rabbits often decrease foraging in higher light levels due to higher risk of predation (Gilbert and Boutin 1991).

Another consideration is the disturbance construction noise represents to RBR. When the ambient noise level is above baseline conditions, the ability to discern predators is reduced. Construction noise will increase the noise level above baseline conditions and could increase the predation risk to RBR.

It should be noted that RBR will occupy sub-optimal habitat, as so little suitable habitat remains. RBR have been known to utilize stands of pepperweed when no other suitable habitat is available.

All effects of habitat modification are synergistically deleterious to this small remnant population of RBR. CDFW recommends that the draft EIR should assume presence of RBR include measures to avoid or minimize loss of RBR habitat, and fully mitigate to offset impacts to RBR and their habitat. CDFW recommends early consultation to discuss how to design and implement the Project to avoid take of RBR. If avoidance is not feasible, CDFW recommends applying for an ITP, pursuant to Fish and Game Code Section 2081(b), prior to any ground-disturbing activities.

Work Window. Avoid clearing riparian vegetation January through mid-June to avoid inadvertent take of kits. Work as close to the 10 AM to 4 PM window as possible, as rabbits are most active during morning and dusk hours.

Exclusion Fencing. A buffer area should include foraging areas adjacent to cover and be fenced to preclude RBR from entering the construction area.

Decontamination and Reporting. Due to the spread of rabbit hemorrhagic disease (RVHD2), sanitize boots and equipment with 10% bleach solution when working in potential RBR habitat and use gloves if handling live animals or carcasses. All

observed morbidities/mortalities of any rabbit species should be immediately reported to CDFW. More information about rabbit hemorrhagic disease can be found at https://wildlife.ca.gov/Conservation/Laboratories/WildlifeHealth/Monitoring#55671861-rabbit-hemorrhagic-disease.

Flood Refugia. If possible, design flood refugia into the restoration portions of the Project that are in potential RBR habitat. The Project design should ensure that it does not create blockages to RBR dispersal along the Project alignment or prevent adequate gene flow between existing populations of RBR.

Compensatory Mitigation. Compensatory mitigation should focus on protecting and enhancing corridors between known populations of RBR. On-site, in-kind mitigation is preferred, followed by off-site, in-kind mitigation. If on-site restoration is not possible, a conservation easement can be put on RBR habitat off-site. The conservation easement should be put on land of equal or greater conservation value as the Project site, include a management plan, and provide an endowment to manage the easement in perpetuity. The management plan should be developed prior to acquisition of the mitigation land. The conservation easement should be put on potential RBR habitat within San Joaquin County and within the range of the South Delta RBR habitat. Any permanent loss of RBR habitat should be mitigated at a minimum of a 3:1 ratio. CDFW strongly recommends identifying RBR mitigation prior to Project implementation to avoid Project delays.

Comment 5: Western Bumble Bee (WBB)

On June 28, 2019, the Fish and Game Commission published findings of its decision to advance WBB to candidacy as endangered. Pursuant to Fish and Game Code Section 2074.6, CDFW then initiated a status review report to inform the Commission's decision on whether listing of WBB, pursuant to CESA, is warranted. A lawsuit[2] was subsequently filed to challenge the listing, but the Court of Appeal, Third District, ruled on May 31, 2022, that WBB is eligible for listing under CESA. In the absence of further legal action, the Commission will reconsider WBB's candidacy for listing in due course. If WBB becomes a candidate species, during the candidacy period, consistent with CEQA Guidelines, Section 15380, the status of the WBB as an endangered candidate species under CESA (Fish and Game Code, § 2050 et seq.) qualifies it as an endangered, rare, or threatened species under CEQA. It is unlawful to import into California, export out of California or take, possess, purchase, or sell within California, WBB and any part or product thereof, or attempt any of those acts, except as authorized pursuant to CESA. Under Fish and Game Code

[2] Almond Alliance of California et al. v. Fish and Game Commission et al, Xerces Society For Invertebrate Conservation et al, intervenors; California Court of Appeal, Third Appellate District, No. C093542.

Section 86, take means to hunt, pursue, catch, capture, or kill, or to attempt to hunt pursue, catch, capture, or kill. Consequently, take of WBB during the status review period is prohibited unless authorization pursuant to CESA is obtained.

WBB have the potential to occur within the vicinity of the Project site. WBB was once common throughout western North America. However, WBB has experienced serious declines in relative abundance averaging a decline value of 40.32% over the past decade (Hatfield et al. 2014). Suitable WBB habitat includes areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows. WBB primarily nest in late February through late October underground in abandoned small mammal burrows but may also nest under perennial bunch grasses or thatched annual grasses, under brush piles, in old bird nests, and in dead trees or hollow logs (Williams et al. 2014; Hatfield et al. 2015). Overwintering sites utilized by WBB mated queens include soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Therefore, ground disturbance and vegetation removal associated with Project implementation has the potential to significantly impact local WBB populations.

Without appropriate avoidance and minimization measures for WBB, potentially significant impacts associated with ground- and vegetation-disturbing activities associated with construction of the Project include loss of foraging plants, changes in foraging behavior, burrow collapse, nest abandonment, reduced nest success, reduced health and vigor of eggs, young and/or queens, in addition to direct mortality in violation of Fish and Game Code.

CDFW recommends incorporating the following mitigation measures into the EIR prepared for this Project, and implementing as a condition of approval for the Project.

WBB Surveys. CDFW recommends that a qualified biologist conduct focused surveys for WBB, and their requisite habitat features to evaluate potential impacts resulting from ground- and vegetation-disturbance associated with the Project, and potential impacts resulting from inundation as a result of the new reservoir.

Take Avoidance. If surveys cannot be completed, CDFW recommends that a buffer radius of at least 50 feet be applied to all small mammal burrows and thatched/bunch grasses within the Project footprint, to avoid take and potentially significant impacts. If ground-disturbing activities will occur during the overwintering period (October through February), consultation with CDFW is warranted to discuss how to implement Project activities and avoid take. Any detection of WBB prior to or during Project implementation warrants consultation with CDFW to discuss how to avoid take.

Comment 6: Western Pond Turtle (WPT)

WPT have the potential to occur in the Project site. WPT are known to nest in the spring or early summer within 100 meters of a water body, although nest sites as far away as 500 meters have also been reported (Thomson et al. 2016).

To evaluate potential impacts to WPT, CDFW recommends conducting the following evaluation of the Project site, incorporating the following measures specific to WPT in the EIR for the Project, and that these measures be made conditions of approval for the Project.

Habitat Assessment and Exclusion Fencing. CDFW recommends that a qualified biologist survey the Project area for potential nesting habitat for WPT (e.g., friable or sandy soils). If potential nesting habitat will be disturbed by Project activities, CDFW recommends that exclusion fencing is erected around potential nesting habitat to exclude WPT from accessing the Project site to nest. The exclusion fencing should be installed prior to the nesting season (in early to mid-April) and it should be maintained for the entirety of the Project.

WPT Relocation. CDFW recommends that if any WPT are discovered at the site immediately prior to or during Project activities, they should be allowed to move out of the area on their own. If a WPT is unable to move out of the Project area on its own, a qualified biologist will relocate WPT out of the Project area into habitat similar to where it was found.

Comment 7: California Tiger Salamander (CTS)

The proposed Project has the potential to impact CTS, a species listed as threatened under CESA. The draft EIR should determine and quantify the impacts to CTS, and then present biological measures, such as surveys, take avoidance and minimization measures, and mitigation for any impacts to potential breeding and/or upland habitat, to conclude that the impacts have been mitigated to less-than-significant levels. The assessment should include any impacts to hydrology on-site and adjacent to the site in the case of breeding ponds. In addition, because CTS is a federally listed species, CDFW also recommends consultation with USFWS regarding potential impacts to this species.

CTS Surveys. CDFW recommends that a qualified biologist conduct focused surveys for CTS, and their requisite habitat features (upland fossorial mammal burrows, ponded areas) to evaluate potential impacts resulting from ground- and vegetation-disturbance associated with the Project. Survey guidance can be obtained at https://wildlife.ca.gov/Conservation/Survey-Protocols#377281282-amphibians.

Comment 8: Swainson's Hawk (SWHA)

CDFW recommends conducting protocol-level surveys for Swainson's hawk nest sites to determine the appropriate mitigation to reduce impacts to less-than-significant. CDFW recommends using the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (TAC Report) available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols.

To mitigate for the loss of Swainson's hawk foraging habitat in a method consistent with the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California,* CDFW 1994, (SWHA Staff Report), CDFW recommends the draft EIR incorporate the following language:

- For projects within one-mile of an active nest tree (the SWHA Staff Report defines an active nest as used during one or more of the last five years), provide one-acre of land for each acre of development authorized (1:1 ratio).

- For projects within five miles of an active nest tree, but greater than one mile from the nest tree, provide 0.75 acres of land for each acre of development authorized (0.75:1 ratio).

- For projects within 10 miles of an active nest tree, but greater than 5 miles from an active nest tree, provide 0.5 acres of land for each acre of development authorized (0.5:1 ratio).

CDFW recommends that Project-related disturbance within a minimum of 0.25 miles (and up to 0.5 miles depending on site-specific conditions) of active SWHA nest site should be reduced or eliminated during the critical phases of the nesting cycle (March 15 through September 15) in order to avoid significant impacts to SWHA. If Project activities must be conducted during this critical phase, then appropriate buffers should be established by a qualified biologist.

Comment 9: Burrowing Owl

Burrowing owl surveys should be conducted by a qualified CDFW-approved biologist. Consistent with the CDFW *Appendix D: Breeding and Non-breeding Season Surveys* of the CDFW *Staff Report on Burrowing Owl Mitigation* (Staff Report), the draft EIR should propose a minimum of four survey visits should be conducted within 500 feet of the Project area during the owl breeding season which is typically between February 1 and August 31. A minimum of three survey visits, at least three weeks apart, should be conducted during the peak nesting period, which is between April 15 and July 15, with at least one visit after June 15. Pre-construction surveys should be conducted no-less-than 14 days prior to the start of

construction activities with a final survey conducted within 24 hours prior to ground disturbance.

If suitable burrowing owl nest sites are present within or adjacent to the Project area, then the draft EIR should include "take" avoidance and minimization measures for the owl. Please refer to the Staff Report, section on *Mitigation Methods*, on avoiding disturbance of occupied burrows through establishment of exclusion zones. Please be advised that CDFW does not consider exclusion of burrowing owls or "passive relocation" as a "take" avoidance, minimization or mitigation method, and considers exclusion as a significant impact. The long-term demographic consequences of exclusion techniques have not been thoroughly evaluated, and the survival rate of evicted or excluded owls is unknown. All possible avoidance and minimization measures should be considered before temporary or permanent exclusion and closure of burrows is implemented in order to avoid "take."

The draft EIR for the Project should also include measures to avoid or minimize loss of burrowing owl foraging habitat. Any permanent impacts to owl foraging habitat should be effectively mitigated, and the draft EIR should outline the mitigation. Mitigation lands for owls should include presence of burrows, burrow surrogates, presence of fossorial mammal dens, well-drained soils, abundant and available prey within close proximity to burrows, as well as foraging, wintering, and dispersal areas. The location of mitigation areas for burrowing owls should be approved by CDFW prior to the start of Project-related activities. Mitigation may be partially or fully accomplished in conjunction with mitigation associated with loss of burrowing owl foraging habitat.

Comment 10: Tricolored Blackbird (TRBL)

TRBL is a species listed under CESA as threatened. TRBL aggregate and nest colonially, forming colonies of up to 100,000 nests (Meese et al. 2014). Increasingly, TRBL are forming larger colonies that contain progressively larger proportions of the species' total population (Kelsey 2008). In 2008, for example, 55% of the species' global population nested in only two colonies, which were located in silage fields (Kelsey 2008). In 2017, approximately 30,000 TRBL were distributed among only 16 colonies in Merced County (Meese 2017). Nesting can occur synchronously, with all eggs laid within one week (Orians 1961). For these reasons, depending on timing, disturbance to nesting colonies can cause abandonment, significantly impacting TRBL populations (Meese et al. 2014).

CDFW recommends that the document include measures to avoid or minimize loss of TRBL nesting and foraging habitat, and full mitigation to offset any unavoidable losses. Loss of nesting habitat is considered a significant impact; therefore, mitigation should be identified and included in the draft EIR.

Project Timing. CDFW recommends that Project activities be timed to avoid the typical bird breeding season (February 1 through September 15). However, if Project activities must take place during that time, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting TRBL no more than 10 days prior to the start of implementation to evaluate presence/absence of TRBL nesting colonies in proximity to Project activities and to evaluate potential Project-related impacts.

No Disturbance Buffer. If an active TRBL nesting colony is found during pre-activity surveys, CDFW recommends implementation of a minimum 300-foot no-disturbance buffer in accordance with CDFW's "*Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015*" (CDFW 2015b). CDFW advises that this buffer remain in place until the breeding season has ended or until a qualified biologist has determined that nesting has ceased, the birds have fledged, and are no longer reliant upon the colony or parental care for survival. It is important to note that TRBL colonies can expand over time and for this reason, the colony may need to be reassessed to determine the extent of the breeding colony within 10 days prior to Project initiation.

Comment 11: Fully Protected Species Avoidance

In the event a fully protected species is found within or adjacent to the Project site, CDFW recommends that a qualified wildlife biologist develops an appropriate no-disturbance buffer to be implemented. The qualified wildlife biologist should also be on-site during all Project activities to ensure that the fully protected species is not being disturbed by Project activities.

Comment 12: Nesting Birds

Trees are present within the Project boundary and in adjacent residential areas. Both native and non-native trees provide nesting habitat for birds. CDFW recommends that the following measures be included in the draft EIR:

CDFW encourages that Project implementation occur during the non-nesting season (typically February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors); however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections.

Pre-Construction Surveys. To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than seven (7) days prior to the start of ground or vegetation disturbance and with a final survey conducted within 48 hours prior to construction to

maximize the probability that nests that could potentially be impacted are detected. Appropriate minimum survey radii surrounding the work area are typically the following: i) 250 feet for non-raptors; ii) 500 feet for small raptors such as accipiters; and iii) 1,000 feet for larger raptors such as buteos. Surveys should be conducted at the appropriate times of day and during appropriate nesting times.

Active Nest Buffers. If the qualified biologist documents active nests within the Project area or in nearby surrounding areas, an appropriate buffer between the nest and active construction should be established. The buffer should be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist should conduct baseline monitoring of the nest to characterize "normal" bird behavior and establish a buffer distance which allows the birds to exhibit normal behavior. The qualified biologist should monitor the nesting birds daily during construction activities and increase the buffer if the birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman should have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active.

Comment 13: Bats

The Project area is home to native bats. The Project's potential impacts include possible roost tree removal and Project-related disturbance to bats. CDFW recommends incorporating the following mitigation measures into the subsequent draft EIR as conditions of approval for the Project.

Bat Habitat Assessment. A qualified biologist should conduct a habitat assessment within the Project limits for suitable bat roosting habitat. The habitat assessment should include a visual inspection of features within 200 feet of the work area for potential roosting features including trees, crevices, and hollow areas (bats need not be present). A report should be provided by the qualified biologist and incorporated into the subsequent draft EIR that includes a section discussing the locations of suitable bat habitat and if any bats or signs of bats (feces or staining at entry/exit points) are discovered. The surveys should occur at least two seasons in advance of Project initiation.

Bat Habitat Monitoring. If potentially suitable bat roosting habitat is determined to be present based on the recommended mitigation measure above, a qualified biologist shall conduct focused surveys at the trees, bridge(s), culverts and overpasses. Methods should include utilizing night-exit surveys, sound analyzation equipment and visual inspection within open expansion joints and portholes of structures and trees 25 inches diameter at breast height and larger. Surveys should

occur from March 1 to April 15 or August 31 to October 15 prior to construction activities. If the focused survey reveals the presence of roosting bats, then the appropriate exclusionary or avoidance measures should be implemented prior to construction during the period between March 1 to April 15 or August 31 to October 15. Potential avoidance methods may include temporary, exclusionary blocking, one way-doors or filling potential structural cavities with foam. Methods may also include visual monitoring and staging of work at different ends of the Project to avoid work during critical periods of the bat life cycle or to allow roosting habitat to persist undisturbed throughout the course of construction. Exclusion netting or adhesive roll material shall not be used as exclusion methods. If presence/absence surveys indicate bat occupancy, then construction should be limited from March 1 through April 15 and/or August 31 through October 15.

Bat Avoidance. If active bat roosts are observed during environmental assessments or during construction, at any time, all Project activities should stop until the qualified biologist develops a bat avoidance plan to be implemented at the Project site. Once the plan is implemented, Project activities may recommence in coordination with the natural resource agencies. The bat avoidance plan should utilize seasonal avoidance, phased construction as well as temporary and permanent bat housing structures developed in coordination with CDFW.

Comment 14: Fish

The Project could have impacts to fish and fish habitat and may result in take of special-status fish species within the Project area. CDFW recommends incorporating the following mitigation measures into the subsequent draft EIR as conditions of approval for the Project.

Work Window. The construction timing for all in-water Project related activities should be limited from August 1 to November 30 to avoid Project impacts to special-status fish species. This window coincides with the timeframe when listed fish are unlikely to be within the Project area and Project impacts to fish can be avoided.

Compensatory Mitigation. If fish impacts cannot be avoided, CDFW recommends compensatory mitigation for impacts to special-status fish species at a minimum of a 3:1 mitigation ratio (conserved habitat to impacted habitat) for permanent impacts from Project activities to mitigate impacts to less-than-significant. CDFW also recommends identifying either the specific CDFW-approved mitigation bank that credits will be purchased from, or develop an enforceable mitigation strategy in the event appropriate credits are not available for purchase.

IMPACT ANALYSIS AND MITIGATION MEASURES

The CEQA Guidelines (§§ 15126, 15126.2 & 15358) necessitate that the draft EIR

discuss all direct and indirect impacts (temporary and permanent), including reasonably foreseeable impacts, that may occur with implementation of the Project. This includes evaluating and describing impacts such as:

- Potential for "take" of special-status species;
- Potential direct and indirect impacts on biological resources, including resources in areas adjacent to the Project footprint, such as nearby public lands (e.g., National Forests, State Parks, etc.), open space, adjacent natural habitats, riparian ecosystems, wetlands, breeding ponds, nesting areas, burrow habitat, wildlife corridors, or other sensitive areas, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Conservation or Recovery Plan, or other conserved lands);
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alteration of soils and hydrology, soil erosion, and removal of habitat structural features (e.g., snags, roosts, breeding ponds, burrows, overhanging banks, nesting trees);
- Permanent and temporary habitat disturbances associated with ground disturbance such as noise, lighting, reflection, air pollution, traffic or human presence;
- Obstruction of movement corridors or access to water sources and other core habitat features;
- Project-related changes to drainage patterns and water quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project fate of runoff from the Project site.

The draft EIR also should identify reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the project's contribution to the impact (CEQA Guidelines, §15355). Although a project's impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact – e.g., reduction of available habitat for a listed species – should be considered cumulatively considerable without mitigation to minimize or avoid the impact. A cumulative effects analysis should be developed as described under CEQA Guidelines section 15130. The draft EIR should discuss the Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The draft EIR should include a list

of present, past, and probable future projects producing related impacts to biological resources or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of vegetation and habitat reductions within the area and their potential cumulative effects. Please include all potential direct and indirect Project-related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and/or special-status species, open space, and adjacent natural habitats in the cumulative effects analysis. Based on the comprehensive analysis of the direct, indirect, and cumulative impacts of the Project, the CEQA Guidelines (§§ 15021, 15063, 15071, 15126.2, 15126.4 & 15370) direct the lead agency to consider and describe all feasible mitigation measures to avoid potentially significant impacts in the draft EIR and mitigate significant impacts of the Project on the environment. This includes a discussion of take avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with USFWS, NMFS, and CDFW. These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels.

Of particular concern is habitat for riparian brush rabbit (RBR). CDFW is aware of other immediately adjacent projects, including an outfall installation project and the Manthey Road Replacement Project in Lathrop. Together with this Project, all will have direct impacts on the same geographic area, within RBR habitat. The City of Lathrop's General Plan shows that full buildout will significantly impact RBR habitat, if not eliminate what is currently left, in the future. Therefore, CDFW strongly recommends that a robust and comprehensive mitigation strategy to mitigate for the Project's impacts to RBR be developed prior to Project impacts, and mitigation solution should include adequate riparian and understory replacement planting of native species on the levees to restore RBR habitat.

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in take[3] of plants or animals listed under CESA or NPPA, either during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA or NPPA listed species, including but not limited to: tricolored

[3] Take is defined in Fish and Game Code section 86 as hunt, pursue, catch, capture, or kill, or attempt any of those activities.

blackbird, California tiger salamander, western bumblebee, Swainson's hawk, Delta button-celery, Delta Smelt, Longfin Smelt, spring-run Chinook salmon, and riparian brush rabbit, early consultation with CDFW is encouraged, as significant modification to the Project and development of adequate mitigation measures may be required in order to obtain an ITP.

Fully protected species such as white-tailed kite may not be taken or possessed at any time (Fish and Game Code § 3511). Therefore, the draft EIR should include measures to ensure complete take avoidance of any fully protected species with potential to occur within the Project's alignment or area of influence.

CEQA requires a Mandatory Finding of Significance if a Project is likely to substantially impact, substantially restrict the ranger of, or reduce the population of threatened or endangered species (Public Resources Code §§ 21001(c), 21083, & CEQA Guidelines §§ 15380, 15064, 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code § 2080.

Lake and Streambed Alteration Agreement

CDFW will require an LSA Agreement, pursuant to Fish and Game Code §§ 1600 et. seq. for Project-related activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that will 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, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW, as a Responsible Agency under CEQA, will consider the CEQA document for the Project. CDFW may not execute the final LSA Agreement until it has complied with CEQA (Public Resources Code § 21000 et seq.) as the responsible agency.

ENVIRONMENTAL DATA

CEQA requires that information developed in EIRs 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 CNNDB online field survey form and other methods for submitting data can be found at: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish & Game Code, § 711.4; Pub. Resources Code, § 21089). 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.

If you have any questions, please contact Andrea Boertien, Environmental Scientist, at (707) 317-0388 or Andrea.Boertien@wildlife.ca.gov; or Michelle Battaglia, Senior Environmental Scientist (Supervisory), at (707) 339-6052 or Michelle.Battaglia@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

ec: State Clearinghouse
Billie Wilson, CDFW Region 2 – Billie.Wilson@wildlife.ca.gov
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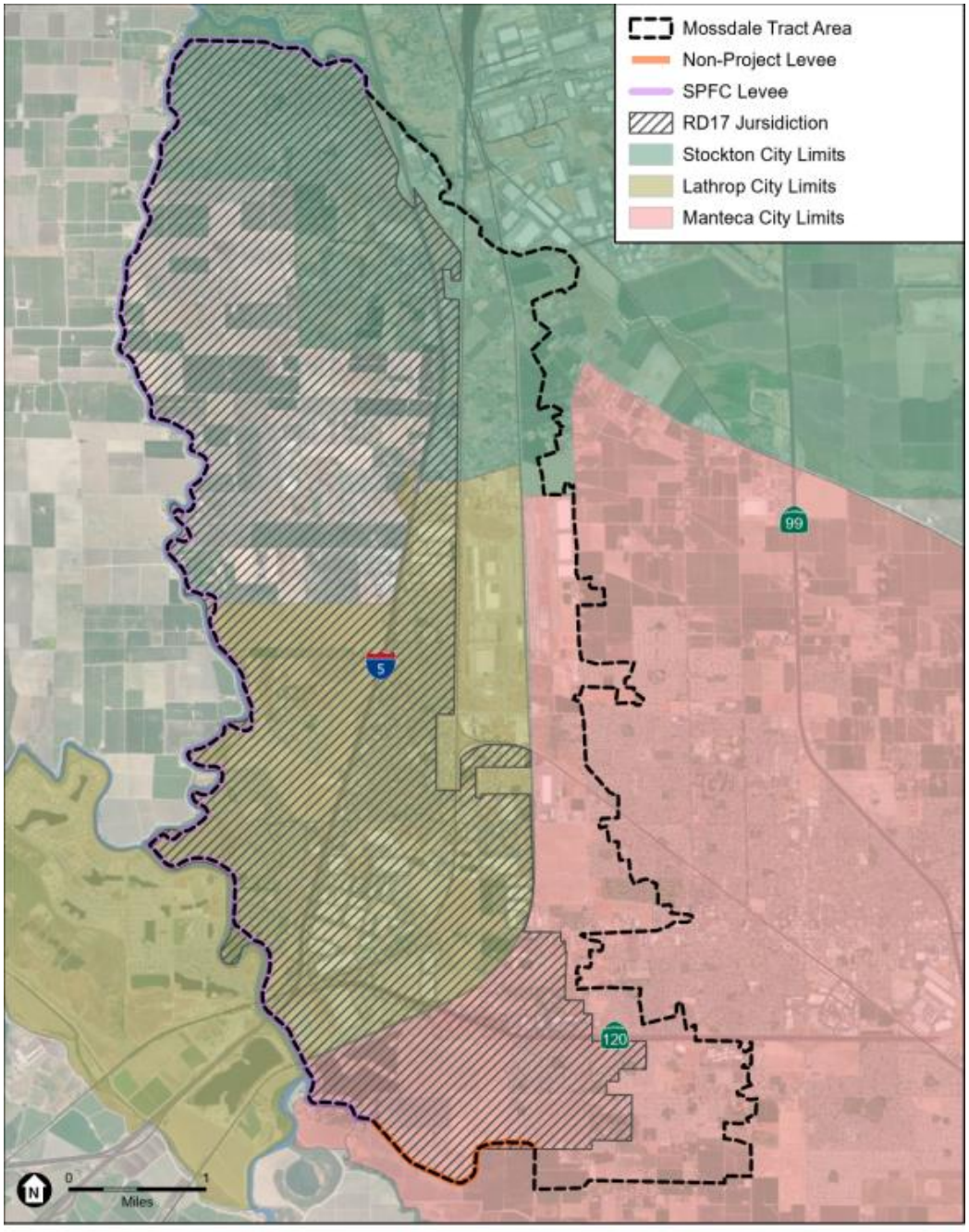
Figure 1: Mossdale Tract Area



SOURCE: MAXAR, 2021; KSN, 2022; PBI, 2022; ESA, 2022

Mossdale Tract Area Urban Flood Risk Reduction Project