



Yolo Habitat Conservancy

County of Yolo • City of Davis • City of Winters • City of West Sacramento
 City of Woodland • University of California, Davis

DRAFT Initial Project Yolo HCP/NCCP Evaluation for Applicable AMMs Project Site 4699 Alhambra (APN: 071-100-17)

Activity: Assumption is that the proposed project is general urban development, which is an HCP/NCCP covered activity.

Initial site assessment: The HCP/NCCP land cover dataset shows the project site as developed. Aerial photography from 7/8/16 shows trees/shrubs along the southern and eastern edges of the property and the remaining area of the site as barren. The current (6/2/18) CDFW CNDDDB data was reviewed for known species occurrence records. No CNDDDB species records, known nest sites, or modeled habitat were identified on the project site during the initial desktop assessment.

Table 1: Summary of initial desktop evaluation for 4699 Alhambra (APN: 071-100-17)

Location	CNDDDB records	HCP/NCCP land cover	known SwHa/WhKi nest sites	HCP/NCCP modeled habitat
On project site:	None	Developed	None	None
within 1/4 mi:	burrowing owl	Developed, Cultivated Ag	None	white-tailed kite (foraging), Swainson's hawk (foraging), tricolored blackbird (foraging)
within 1 mi:	burrowing owl, Swainson's hawk, white-tailed kite	Developed, Cultivated Ag	3 SwHa nests	burrowing owl, western pond turtle, white-tailed kite (nesting & foraging), Swainson's hawk (nesting & foraging), tricolored blackbird (foraging)

Planning-level Surveys: A qualified biologist must conduct planning-level surveys to validate the land cover on the project site and determine if any natural communities and/or covered species are present on or near the project site as described in Section 4.2.2.3 and Table 4-1 of the Yolo HCP/NCCP. Based on an initial review of existing data (summarized above), the following are additional specific items the biologist should include as part of the site survey: 1) identify and quantify (in acres) any burrowing owl habitat and occupied habitat located in and within 500 feet of the project footprint, 2) identify if any of the trees on the project site are suitable nest trees for Swainson's hawk and white-tailed kite and if any active nests are present on or within 1,320 feet of the project footprint, and 3) identify if any of the plants on the project site are elderberry shrubs.

Application of Yolo HCP/NCCP AMMs to 4699 Alhambra:

Below is a summary of the AMMs most likely to apply to the project site based on the initial evaluation. Full descriptions of each of the following AMMs are included in Attachment A.

If any natural communities, covered species habitat, or covered species are identified during planning-level surveys then the following AMMs apply:

AMM1, Establish Buffers

AMM2, Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces

AMM3, Confine and Delineate Work Area

AMM5, Control Fugitive Dust

AMM6, Conduct Worker Training

AMM7, Control Night-Time Lighting of Project Construction Sites

The following AMMs are the species-specific AMMs most likely to apply to this site based on the initial site evaluation. Actual applicability of these The application of these AMMs is dependent on the absence or presence of covered species or their habitat on or near the project site as identified during the planning-level surveys conducted in accordance with the survey criteria listed in the attached Yolo HCP/NCCP

Table 4-1 (Attachment B):

AMM12, Valley elderberry longhorn beetle

AMM15 and 16, Swainson's hawk and white-tailed kite

AMM18, Western burrowing owl

Attachments:

Attachment A -- Descriptions of AMMs

Attachment B -- Yolo HCP/NCCP Table 4-1



DRAFT Yolo HCP/NCCP Avoidance and Minimization Measures for 4699 Alhambra (APN 071-100-17)

Below are the anticipated AMMs for 4699 Alhambra (APN 071-100-17). Final AMMs for this site will be determined after a planning-level survey is completed that verifies land cover on the project site and presence/absence of any covered species on the project site or within buffer areas identified in Table 4-1 of the Yolo HCP/NCCP.

AMM1, Establish Buffers. Project proponents will design projects to avoid and minimize direct and indirect effects of permanent development on the sensitive natural communities specified in Table 4-1 (herein referred to as *sensitive natural communities*) and covered species habitat specified in Table 4-1 by providing buffers, as stipulated in the relevant sensitive natural community AMMs (Section 4.3.3) and covered species AMMs (Section 4.3.4). On lands owned by the project proponent, the project proponent will establish a conservation easement, consistent with Section 6.4.1.3, *Land Protection Mechanisms*, to protect the buffer permanently if that land is being offered in lieu of development fees, as described in Section 4.2.2.6, *Item 6: HCP/NCCP Fees or Equivalent Mitigation*. The project proponent will design buffer zones adjacent to permanent residential development projects to control access by humans and pets (**AMM2, Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces**).

Where existing development is already within the stipulated buffer distance (i.e., existing uses prevent establishment of the full buffer), the development will not encroach farther into the space between the development and the sensitive natural community.

This AMM does not apply to seasonal construction buffers for covered species, which are detailed for each species in Section 4.3.4, *Covered Species*.

A lesser buffer than is stipulated in the AMMs may be approved by the Conservancy, USFWS, and CDFW if they determine that the sensitive natural community or covered species is avoided to an extent that is consistent with the project purpose (e.g., if the purpose of the project is to provide a stream crossing or replace a bridge, the project may encroach into the buffer and the natural community or species habitat to the extent that is necessary to fulfill the project purpose).

AMM2, Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces. For development projects implemented adjacent to non-agricultural natural communities and covered species habitats, project proponents will incorporate urban-habitat interface elements into project design to minimize the following indirect effects of the development on adjacent habitat areas:

- Noise and visual disturbances that diminish the ability of covered and other native wildlife species to use the habitat.
- Increased numbers of pets (e.g., dogs, cats) that can result in harassment and mortality of covered and other native wildlife species.
- Increased levels of direct habitat disturbances associated with increased human access to habitats (e.g., destruction of vegetation and injury or mortality of wildlife associated with use of off-road vehicles).
- Escape or planting of invasive nonnative plants.

This AMM does not apply to development where it is immediately adjacent to existing developed lands.

The project proponent will implement the following urban-habitat interface design elements and activities, as applicable, to each discretionary project:

- Place roads or other non-residential spaces, such as parks or greenbelts, rather than lots at the urban-natural community interface. The benefits of this may include a reduction in the number of incidences of pets entering the natural communities.
- Design roads, bike paths, and trails to discourage entry of humans and pets into adjacent natural communities and promote citizen policing at the natural community periphery.
- Establish barriers that discourage entry of humans and pets into natural community areas.
- Design fences to prevent pets from escaping yards into adjacent natural communities, control entry and dumping of trash into adjacent natural communities, and when appropriate, shield adjacent natural communities from visual disturbances that may interfere with normal wildlife behavioral patterns.
- Fence new public roads associated with developments to prevent unauthorized public access into habitat areas and effectively direct wildlife to specially designed crossing structures.
- Design development drainage systems and implement appropriate best management practices to avoid changes to overland flow and water quality in natural community areas, including streamcourses.
- Design development lighting to avoid projecting light into adjacent natural community areas. For lights at or near the urban-natural community interface, use low-glare lighting to minimize lighting effects on natural communities.

General Construction and Operations and Maintenance

The measures below apply to covered activities for all natural communities and covered species. The applicants will incorporate these measures into construction or operations and maintenance procedures to avoid and minimize effects on natural communities and covered species.

AMM3, Confine and Delineate Work Area. Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.

AMM4, Cover Trenches and Holes during Construction and Maintenance. – *Not applicable, specific to giant garter snake, western pond turtle, and California tiger salamander which do not have habitat on or near the project site.*

AMM5, Control Fugitive Dust. Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.

AMM6, Conduct Worker Training. All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a

qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the FESA and NCCPA Permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.

AMM7, Control Nighttime Lighting of Project Construction Sites. Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.

AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas. Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the following:

- Serpentine, valley oak woodland, alkali prairie, vernal pool complex, valley foothill riparian, and fresh emergent wetland land cover types.
- Occupied western burrowing owl burrows.¹
- Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.

Project proponents will follow specific AMMs for sensitive natural communities (Section 4.3.3, *Sensitive Natural Communities*) and covered species (Section 4.3.4, *Covered Species*) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present.

Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.

AMM9, Establish Buffers around Sensitive Natural Communities. *Not applicable. No alkali prairie, vernal pools, Valley foothill riparian, Lacustrine and riverine, Fresh emergent wetland on or within buffer area of the project site.*

AMM10, Avoid and Minimize Effects on Wetlands and Waters. *Not applicable. No wetlands on or within buffer area of the project site.*

AMM11, Minimize Take and Adverse Effects on Palmate-Bracted Bird's Beak. *Not applicable. No palmate-bracted bird's-beak habitat on or within buffer area of the project site.*

¹ *Occupied* for the purpose of AMM8 means at least one burrowing owl has been observed occupying the burrow within the last three years. Occupancy of a burrow may also be indicated by owl sign at the burrow entrance, including molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site (California Department of Fish and Game 2012, Appendix L).

AMM12, Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle.

The project proponent will retain a qualified biologist who is familiar with valley elderberry longhorn beetle and evidence of its presence (i.e., exit holes in elderberry shrubs) to map all elderberry shrubs in and within 100 feet of the project footprint with stems that are greater than one inch in diameter at ground level. To avoid take of valley elderberry longhorn beetle fully, the project proponent will maintain a buffer of at least 100 feet from any elderberry shrubs with stems greater than one inch in diameter at ground level. *AMM1, Establish Buffers*, above, describes circumstances in which a lesser buffer may be applied. For elderberry shrubs that cannot be avoided with a designated buffer distance as described above, the qualified biologist will quantify the number of stems one inch or greater in diameter to be affected, and the presence or absence of exit holes. The Conservancy will use this information to determine the number of plants or cuttings to plant on a riparian restoration site to help offset the loss, consistent with Section 6.4.2.4.1, *Valley Elderberry Longhorn Beetle*. Additionally, prior to construction, the project proponent will transplant elderberry shrubs identified within the project footprint that cannot be avoided.

Transplantation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub. If the project proponent chooses, in coordination with a qualified biologist, not to transplant the shrub because the activity would not likely result in death of stems of the shrub, then the qualified biologist will monitor the shrub annually for a five-year monitoring period. The monitoring period may be reduced with concurrence from the wildlife agencies if the latest research and best available information at the time indicates that a shorter monitoring period is warranted. If death of stems at least one inch in diameter occurs within the monitoring period, and the qualified biologist determines that the shrub is sufficiently healthy to transplant, the project proponent will transplant the shrub as described in the following paragraph, in coordination with the qualified biologist. If the shrub dies during the monitoring period, or the qualified biologist determines that the shrub is no longer healthy enough to survive transplanting, then the Conservancy will offset the shrub loss consistent with the preceding paragraph.

The project proponent will transplant the shrubs into a location in the HCP/NCCP reserve system that has been approved by the Conservancy. Elderberry shrubs outside the project footprint but within the 100-foot buffer will not be transplanted.

Transplanting will follow the following measures:

1. **Monitor:** A qualified biologist will be on-site for the duration of the transplanting of the elderberry shrubs to ensure the effects on elderberry shrubs are minimized.
2. **Timing:** The project proponent will transplant elderberry plants when the plants are dormant, approximately November through the first two weeks of February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.
3. **Transplantation procedure:**
 - a. Cut the plant back three to six feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. Replant the trunk and stems measuring one inch or greater in diameter. Remove leaves that remain on the plants.
 - b. Relocate plant to approved location in the reserve system, and replant as described in Section 6.4.2.4.1, *Valley Elderberry Longhorn Beetle*.

AMM13, Minimize Take and Adverse Effects on Habitat of California Tiger Salamander. Not applicable. No California tiger salamander habitat on or within buffer area of the project site.

AMM14, Minimize Take and Adverse Effects on Habitat of Western Pond Turtle. Not applicable. No western pond turtle habitat on or within buffer area of the project site.

AMM15, Minimize Take and Adverse Effects on Habitat of Giant Garter Snake. Not applicable. No giant garter snake habitat on or near the project site.

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

AMM17, Minimize Take and Adverse Effects on Habitat of Western Yellow-Billed Cuckoo. Not applicable. No western yellow-billed cuckoo habitat on or within buffer area of the project site.

AMM18, Minimize Take and Adverse Effects on Western Burrowing Owl. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A, *Covered Species Accounts*) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (Appendix L).

If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows. Occupied habitat is considered fully avoided if the project footprint does not impinge on a nondisturbance buffer around the suitable burrow. For occupied burrowing owl nest burrows, this nondisturbance buffer could range from 150 to 1,500 feet (Table 4-2, *Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls*), depending on the time of year and the level of disturbance, based on current guidelines (California Department of Fish and Game 2012). The Yolo HCP/NCCP generally defines low, medium, and high levels of disturbances of burrowing owls as follows.

- **Low:** Typically 71-80 dB, generally characterized by the presence of passenger vehicles, small gas-powered engines (e.g., lawn mowers, small chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar). Management and enhancement activities would typically fall under this category. Human activity in the immediate vicinity of burrowing owls would also constitute a low level of disturbance, regardless of the noise levels.
- **Moderate:** Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Also includes power saws, large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools. Construction activities would normally fall under this category.
- **High:** Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include large diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. Very few covered activities are expected to fall under this category, but some construction activities may result in this level of disturbance.

The project proponent may qualify for a reduced buffer size, based on existing vegetation, human development, and land use, if agreed upon by CDFW and USFWS (California Department of Fish and Game 2012).

Table 4-1. Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls

Time of Year	Level of Disturbance (feet) from Occupied Burrows		
	Low	Medium	High
April 1–August 15	600	1,500	1,500
August 16–October 15	600	600	1,500
October 16–March 31	150	300	1,500

If the project does not fully avoid direct and indirect effects on nesting sites (i.e., if the project cannot adhere to the buffers described above), the project proponent will retain a qualified biologist to conduct preconstruction surveys and document the presence or absence of western burrowing owls that could be affected by the covered activity. Prior to any ground disturbance related to covered activities, the qualified biologist will conduct the preconstruction surveys within three days prior to ground disturbance in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent with CDFW preconstruction survey guidelines (Appendix L, *Take Avoidance Surveys*). The qualified biologist will conduct the preconstruction surveys three days prior to ground disturbance. Time lapses between ground disturbing activities will trigger subsequent surveys prior to ground disturbance.

If the biologist finds the site to be occupied² by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites, based on the buffer distances described above, during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups that forage on or near the site following fledging). Construction may occur inside of the disturbance buffer during the breeding season if the nest is not disturbed and the project proponent develops an AMM plan that is approved by the Conservancy, CDFW, and USFWS prior to project construction, based on the following criteria:

- The Conservancy, CDFW, and USFWS approves the AMM plan provided by the project proponent.
- A qualified biologist monitors the owls for at least three days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
- The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.
- If the qualified biologist identifies a change in owl nesting and foraging behavior as a result of construction activities, the qualified biologist will have the authority to stop all construction related activities within the non-disturbance buffers described above. The qualified biologist will report this information to the Conservancy, CDFW, and USFWS within 24 hours, and the Conservancy will require that these activities immediately cease within the non-disturbance

² Occupancy of burrowing owl habitat during preconstruction surveys is confirmed at a site when at least one burrowing owl or sign (fresh whitewash, fresh pellets, feathers, or nest ornamentation) is observed at or near a burrow entrance.

buffer. Construction cannot resume within the buffer until the adults and juveniles from the occupied burrows have moved out of the project site, and the Conservancy, CDFW, and USFWS agree.

- If monitoring indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use by owls, the project proponent may remove the nondisturbance buffer, only with concurrence from CDFW and USFWS. If the burrow cannot be avoided by construction activity, the biologist will excavate and collapse the burrow in accordance with CDFW's 2012 guidelines to prevent reoccupation after receiving approval from the wildlife agencies.

If evidence of western burrowing owl is detected outside the breeding season (December 1 to January 31), the project proponent will establish a non-disturbance buffer around occupied burrows, consistent with Table 4-2, as determined by a qualified biologist. Construction activities within the disturbance buffer are allowed if the following criteria are met to prevent owls from abandoning important overwintering sites:

- A qualified biologist monitors the owls for at least three days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl roosting and foraging behavior as a result of construction activities, these activities will cease within the buffer.
- If the owls are gone for at least one week, the project proponent may request approval from the Conservancy, CDFW, and USFWS for a qualified biologist to excavate and collapse usable burrows to prevent owls from reoccupying the site if the burrow cannot be avoided by construction activities. The qualified biologist will install one-way doors for a 48-hour period prior to collapsing any potentially occupied burrows. After all usable burrows are excavated, the buffer will be removed and construction may continue.

Monitoring must continue as described above for the nonbreeding season as long as the burrow remains active.

A qualified biologist will monitor the site, consistent with the requirements described above, to ensure that buffers are enforced and owls are not disturbed. Passive relocation (i.e., exclusion) of owls has been used in the past in the Plan Area to remove and exclude owls from active burrows during the nonbreeding season (Trulio 1995). Exclusion and burrow closure will not be conducted during the breeding season for any occupied burrow. If the Conservancy determines that passive relocation is necessary, the project proponent will develop a burrowing owl exclusion plan in consultation with CDFW biologists. The methods will be designed as described in the species monitoring guidelines (California Department of Fish and Game 2012) and consistent with the most up-to-date checklist of passive relocation techniques³. This may include the installation of one-way doors in burrow entrances by a qualified biologist during the nonbreeding season. These doors will be in place for 48 hours and monitored twice daily to ensure that the owls have left the burrow, after which time the biologist will collapse the burrow to prevent reoccupation. Burrows will be

³ The Conservancy will maintain a checklist of passive relocation techniques. The wildlife agencies will approve the initial list prepared by the Conservancy, and the Conservancy will update as needed in coordination with the wildlife agencies.

excavated using hand tools. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure, such as piping, into the burrow to prevent collapsing until the entire burrow can be excavated and it can be determined that no owls are trapped inside the burrow. The Conservancy may allow other methods of passive or active relocation, based on best available science, if approved by the wildlife agencies. Artificial burrows will be constructed prior to exclusion and will be created less than 300 feet from the existing burrows on lands that are protected as part of the reserve system.

AMM19, Minimize Take and Adverse Effects on Least Bell's Vireo. Not applicable. No western yellow-billed cuckoo habitat on or within buffer area of the project site.

AMM20, Minimize Take and Adverse Effects on Habitat of Bank Swallow. Not applicable. No bank swallow habitat on or within buffer area of the project site.

AMM21, Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird. Not applicable. No tricolored blackbird nesting habitat on or within buffer area of the project site.

ATTACHMENT B

Yolo HCP/NCCP Table 4-1. Avoidance and Minimization Measures for Sensitive Natural Communities and Covered Species

Covered Species or Sensitive Natural Community	Planning-Level Surveys^a	Design Requirements^b	Preconstruction Surveys^c	Construction and Operations and Maintenance Requirements^d
Sensitive Natural Communities				
Alkali prairie and vernal pool complex (AMM9 and AMM10)	Map natural community in and within 250 feet of project footprint.	Design project to avoid vernal pools or alkali seasonal wetlands by 250 feet, or other distance based on site specific topography to avoid indirect hydrologic effects. ¹ A buffer of less than 250 feet around vernal pools or alkali seasonal wetlands will be subject to wildlife agency concurrence that effects will be avoided. Considerations that may warrant a buffer of less than 250 feet may include topography (i.e., if the surrounding microwatershed extends less than 250 feet from the pool or wetland), intervening hydrologic barriers such as roads or canals, or other factors indicating that the proposed disturbance area does not contribute to the pool's hydrology. Other considerations may include temporary disturbance during the dry season where measures are implemented to avoid disturbance of the underlying claypan or hardpan, and the area is returned to pre-project conditions prior to the following rainy season.	None	See design requirements.
Valley foothill riparian (AMM9 and AMM10)	Map natural community in and within 100 feet of project footprint.	Except for projects expected to remove Valley foothill riparian (transportation, utility crossings, flood control and drainage management improvements), design project to avoid this natural community by including a 100-foot (minimum) permanent buffer zone from the canopy drip-line (the farthest edge on the ground where water will drip from the tree canopy, based on the outer boundary of the tree canopy). A lesser buffer or encroachment into the natural community may be allowed if approved by the Conservancy, USFWS, and CDFW, based on the criteria listed in AMM1, and all covered species AMMs are followed.	None	See design requirements.
Lacustrine and riverine (AMM9 and AMM10)	Identify streams, rivers, lakes, and ponds in and within 25 feet of project footprint inside urban planning units, and within 100 feet of project footprint outside urban planning units.	Within urban planning units, design development (with the exception of projects expected to affect lacustrine and riverine, such as transportation, utility crossings, and flood control projects) to include a 25-foot (minimum) permanent buffer zone (setback easement) from the top of bank along both sides of all natural (i.e., not including manmade ditches and canals) perennial and intermittent (excluding ephemeral) stream corridors. Outside urban planning units, the setback will be 100 feet. Any riparian habitat within this setback buffer will be avoided and protected, consistent with <i>AMM8 Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas</i> . If an aquatic feature provides habitat for California tiger salamander, setbacks will be consistent with AMM13.	None	See design requirements.
Fresh emergent wetlands (AMM9 and AMM10)	Map natural community in and within 50 feet of project footprint.	Design project to avoid this natural community by including a 50-foot (minimum) buffer zone from the edge of the natural community (including the supporting hydrologic area), unless there is an intervening hydrologic barrier.		

¹ Alkali seasonal wetlands are seasonal wetlands within the alkali prairie natural community.

Covered Species or Sensitive Natural Community	Planning-Level Surveys ^a	Design Requirements ^b	Preconstruction Surveys ^c	Construction and Operations and Maintenance Requirements ^d
Plants				
Palmate-bracted bird's beak (AMM11)	Identify and quantify (in acres) suitable habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 250 feet of project footprint. If suitable habitat is present, conduct survey within this habitat for palmate-bracted bird's beak, consistent with CDFW guidance (California Department of Fish and Game 2009) or most current guidance. Survey period: May 31–September 30	Design project to avoid activity within 250 feet of occupied habitat, or greater distance depending on site specific topography to avoid hydrologic effects, unless a shorter distance is determined to avoid effects and approved by the Conservancy, USFWS, and CDFW.	None	See design requirements. Avoid mortality of individuals, except as needed through management activities that provide an overall benefit to the species.
Invertebrates				
Valley elderberry longhorn beetle (AMM12)	Identify and map all elderberry shrubs in and within 100 feet of project footprint with stems greater than one inch in diameter at ground level. For mapped shrubs that cannot be avoided, quantify the number of stems greater than one inch in diameter at ground level, and identify any such stems with valley elderberry longhorn beetle exit holes, consistent with USFWS (1999a) guidelines. Survey period: Year-round	Design project to avoid mapped elderberry shrubs. To avoid effects on shrubs, a setback of at least 100 feet from any elderberry shrubs with stems measuring one inch or greater in diameter at ground level is required; protective measures are required, consistent with USFWS (1999a) guidelines. All restoration projects will avoid removal of elderberry shrubs.	None	Prior to construction, the project proponent will transplant elderberry shrubs identified within project footprint that cannot be avoided and quantify affected stems, as described in greater detail in AMM12 (Section 4.3.4, <i>Covered Species</i>) and in Section 6.4.2.4.1, <i>Valley Elderberry Longhorn Beetle</i>). Transplantation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub.
Amphibians				
California tiger salamander (AMM13)	Identify and quantify (in acres) suitable aquatic and upland habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 500 feet of project footprint, and avoid this buffer area if possible. If a project outside an urban planning unit, as designed, will not avoid aquatic habitat by at least 500 feet, either conduct visual and dip-net surveys, consistent with CDFW protocol (California Department of Fish and Game 2003), or assume presence. Survey period: After rainfall, November 1 to May 15.	Design project to avoid any disturbance in California tiger salamander within designated critical habitat in the Dunnigan Creek Unit (70 FR 49380). If species is present or assumed to be present in aquatic habitat, design the project to avoid adverse effects within 500 feet of habitat outside urban planning units. If the species is present or assumed to be present, the covered activity will not remove aquatic habitat until at least four new occupied breeding pools are discovered or established and protected in the Plan Area. After the four new occupied breeding pools are protected, with concurrence of USFWS and CDFW, up to three occupied breeding pools may be affected. ²	None.	See design requirements.
Reptiles				
Western pond turtle (AMM14)	Identify species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) within project footprint.	No design requirements are specified for western pond turtle; follow design requirements for the valley foothill riparian and lacustrine and riverine natural communities described above for AMMs 9 and 10. These require 100-foot setbacks.	If modeled upland habitat will be impacted, a qualified biologist will assess the likelihood of western pond turtle nests occurring in the disturbance area (based on sun exposure, soil conditions, and other species habitat requirements).	If a qualified biologist determines that there is a moderate to high likelihood of western pond turtle nests within the disturbance area, the qualified biologist will monitor all initial ground disturbing activity for nests that may be unearthed during the disturbance, and will move out of harm's way any turtles or hatchlings .

² See Chapter 6, Section 6.3.4.3.3, *Species-Specific Goals and Objectives, Objective CTS1.3, for additional detail regarding this requirement.*

Covered Species or Sensitive Natural Community	Planning-Level Surveys ^a	Design Requirements ^b	Preconstruction Surveys ^c	Construction and Operations and Maintenance Requirements ^d
Giant garter snake (AMM15)	Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 200 feet of project footprint.	Avoid development in habitat. For avoidance, there must be no activity in or within 200 feet of aquatic habitat.	<p>For construction, if habitat cannot be avoided, conduct clearance surveys using USFWS (1997) protocol within 24 hours prior to construction activities. If construction activities stop for a period of two weeks or more, conduct another preconstruction survey within 24 hours of resuming activity.</p> <p>No surveys required for operations and maintenance unless material spoils will be placed anywhere other than an existing material spoils site within giant garter snake habitat.</p>	<p>For construction:</p> <ul style="list-style-type: none"> • Restrict construction to snakes' active season. • Dewater aquatic habitat and allow snakes to leave area prior to construction. • Confine land clearing to minimum area necessary to facilitate construction activities. • Provide environmental awareness training. • Employ best management practices. <p>For operations and maintenance:</p> <ul style="list-style-type: none"> • When possible, restrict construction to snakes' active season. • Provide environmental awareness training. • Limit channel clearing to one side along at least 80 percent of the linear distance of canals and ditches during each maintenance year. • Confine land clearing to minimum area necessary to facility construction activities. • Place removed material in existing dredged material spoil sites. If no sites exist, place spoils only where preconstruction surveys confirm snakes are not present. • See Section 4.3.4, <i>Covered Species</i>, for further details.
Birds				
Swainson's hawk and white-tailed kite (AMM15AMM16)	Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 1,320 feet of project footprint. Identify suitable nest trees.	Avoid potential nesting trees, with 1,320-foot setbacks from the trees during nesting, to the extent practicable. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the course of the permit term, but not while occupied by Swainson's hawks during the nesting season.	<p>For construction, if activity would occur within 1,320 feet of nesting habitat, conduct preconstruction surveys for active nests, consistent with Swainson's Hawk Technical Advisory Committee (2000). Survey period: March 15–August 30</p> <p>For operations and maintenance, if activity involves pruning or removal of suitable nest trees, conduct preconstruction surveys for active nests, consistent with Swainson's Hawk Technical Advisory Committee (2000). Survey period: March 15–August 30</p>	<p>For construction, from March 15 to August 30, no activity within 1,320 feet of active nests (as identified through preconstruction surveys), unless a qualified biologist has determined that the young have fledged and the nest is no longer active or the Conservancy, USFWS, and CDFW agree to a lesser buffer distance.</p> <p>For operations and maintenance, if occupied nest sites are present within 1,320 feet, tree pruning and removal will be deferred until the nest is no longer being used by adults and young.</p>

Covered Species or Sensitive Natural Community	Planning-Level Surveys ^a	Design Requirements ^b	Preconstruction Surveys ^c	Construction and Operations and Maintenance Requirements ^d
Western yellow-billed cuckoo (AMM17)	<p>Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 500 feet of project footprint.</p> <p>If project, as designed, will not avoid habitat by 500 feet (or a lesser distance if approved by the Conservancy) and there are no breeding records for the species within one-quarter mile of the site from the previous three years, conduct planning-level surveys, consistent with USFWS protocol (Appendix L), to determine if an occupied territory is present.</p> <p>Survey period: June 1–August 30</p>	<p>For construction projects, avoid or minimize activities within 500 feet of suitable nesting habitat. If the covered activity would encroach within 500 feet of habitat and an occupied territory is identified during planning-level surveys, or there are records of the species occurring within one-quarter mile of the activity within the last three years, the project must be designed to avoid activities within 500 feet of suitable nesting habitat, unless a shorter distance is approved by the Conservancy, USFWS, and CDFW.</p> <p>For operations and maintenance activities, follow the same requirements as for construction, unless activity does not remove habitat or occur during nesting season (June 1–August 30). If activity does not remove habitat or occur during the nesting season, no design requirements are necessary.</p>	<p>For construction, if activity within 500 feet of nesting habitat (whether or not active nests were discovered during planning-level surveys) must occur between June 1 and August 30, conduct preconstruction surveys, consistent with USFWS protocol (Appendix L), during the same season when the activity will occur.</p> <p>For operations and maintenance, same as above, unless activity does not remove habitat and happens outside the nesting season.</p>	<p>From June 1 to August 30, avoid activity within 500 feet of active nests (as identified through preconstruction surveys).</p>
Western burrowing owl (AMM18)	<p>Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 500 feet of project footprint.</p> <p>If the activity will occur in western burrowing habitat, a qualified biologist will conduct planning-level surveys for occupied habitat, consistent with CDFW guidelines for Phase II burrow surveys (California Department of Fish and Game 2012).</p> <p>Survey period: February 1–August 31 during the breeding season; December 1–January 31 during nonbreeding season</p>	<p>Design project to minimize activities in the vicinity of occupied burrows, consistent with Table 4-2.</p>	<p>If burrows cannot be avoided, consistent with Table 4-2, a qualified biologist will conduct preconstruction surveys up to 30 days prior to construction to identify active burrows in the area of impact (<i>area of impact</i> is defined in Section 8.4.1.2, <i>Land Cover Fee</i>).</p>	<p>Avoid all nest sites during the breeding season (February 1 to August 31) with a buffer consistent with Table 4-2, or as otherwise approved by the Conservancy and wildlife agencies. Construction may occur inside the disturbance buffer if the project proponent develops an avoidance, minimization, and monitoring plan, as described in <i>AMM18, Minimize Take and Adverse Effects on Habitat of Western Burrowing Owl</i> (Section 4.3.4, <i>Covered Species</i>).</p> <p>Avoid all occupied burrows outside the breeding season (February 1 to August 31) with a 250-foot buffer, unless specific criteria are met, as described in Section 4.3.4.</p> <p>A qualified biologist will monitor the site, as described in Section 4.3.4.</p> <p>Passive relocation (or active relocation upon wildlife agency approval) may be implemented, as described in Section 4.3.4.</p>
Least Bell's vireo (AMM19)	<p>Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 500 feet of project footprint.</p> <p>If project, as designed, will not avoid habitat by 500 feet (or a lesser distance if approved by the Conservancy, USFWS, and CDFW) and there are no breeding season (or nesting) records for the species within one-quarter mile of the site from the previous three years, conduct planning-level surveys, consistent with USFWS (2001), to determine if an occupied territory is present.</p> <p>Survey period: April 1–July 15</p>	<p>For construction projects, avoid or minimize activities within 500 feet of suitable nesting habitat. If the covered activity would encroach within 500 feet of habitat and an occupied nest is identified during planning-level surveys, or there are records of the species occurring within one-quarter mile of the activity within the last three years, the activity must be designed to avoid activities within 500 feet of suitable nesting habitat, unless a shorter distance is approved by the Conservancy, USFWS, and CDFW.</p> <p>For operations and maintenance activities, follow the same requirements as for construction, unless activity does not remove habitat or occur during nesting season (April 1 to July 15). If activity does not remove habitat or occur during the nesting season, no design requirements are necessary.</p>	<p>For construction, if activity within 500 feet of nesting habitat (whether or not active territories were discovered during planning-level surveys) must occur between April 1 and July 15, conduct preconstruction surveys, consistent with USFWS (2012), during the same season when the activity will occur.</p> <p>For operations and maintenance, same as above,</p>	<p>From April 1 to July 15, avoid activity within 500 feet of active nests (as identified through preconstruction surveys), unless a lesser distance is approved by the Conservancy, USFWS, and CDFW.</p>

Covered Species or Sensitive Natural Community	Planning-Level Surveys ^a	Design Requirements ^b	Preconstruction Surveys ^c	Construction and Operations and Maintenance Requirements ^d
Bank swallow (AMM20)	<p>Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 500 feet of project footprint.</p> <p>If project cannot avoid nesting habitat by 500 feet, conduct visual surveys to determine if an active colony is present. CDFW will be notified of any active colony located during surveys.</p> <p>Survey period: March 1–August 15</p> <p>If project, as designed, will not avoid nesting habitat by 500 feet, check records maintained by Conservancy and CDFW to determine if bank swallow nesting colonies have been active within the previous five years.</p> <p>Operations and maintenance activities with temporary effects or other temporary activities that do not remove or modify nesting habitat and do not occur during the nesting season (March 1 to August 15) do not need to conduct nest surveys and do not need to implement additional avoidance measures for this species.</p>	<p>If active colony is present or has been present within the last five years, design project to avoid adverse effects within 500 feet of the colony site(s), unless a shorter distance is approved, based on site-specific conditions, by the Conservancy, USFWS, and CDFW. If colony is not present or has not been present within the last five years, a 500-foot buffer is not necessary.</p>	<p>None unless activity does not remove habitat and happens outside the nesting season.</p>	<p>From March 1 to August 15, no activity within 500 feet of nesting colony that has been active within the last five years (as identified through planning-level surveys and record search), unless approved by the Conservancy, USFWS and CDFW.</p> <p>From July 31 to April 14, a buffer distance of less than 200 feet may be applied if approved by the Conservancy, USFWS, and CDFW.</p>
Tricolored blackbird (AMM21)	<p>Identify and quantify (in acres) species habitat (as defined in Appendix A, <i>Covered Species Accounts</i>) in and within 1,300 feet of project footprint.</p> <p>If project, as designed, will not avoid nesting habitat by 1,300 feet, conduct planning-level surveys, consistent with Kelsey (2008), to determine if an active colony is present.</p> <p>Survey period: March 1–July 30</p> <p>If project, as designed, will not avoid nesting habitat by 1,300 feet, check records maintained by Conservancy to determine if there have been active tricolored blackbird nesting colonies within the previous five years.</p>	<p>If active colony is present or has been present within the last five years, design project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved, based on site-specific conditions, by the Conservancy, USFWS, and CDFW.</p>	<p>None</p>	<p>From March 1 to July 30, no activity within 1,300 feet of nesting colony that has been active within the last five years (as identified through planning-level surveys and record search).</p>

^a Planning-level surveys are described in Section 4.2.2.3, *Item 3: Land Cover Mapping and Planning-Level Surveys*.

^b This column includes only sensitive natural community or species-specific design requirements, as summarized from Sections 4.3.3, *Sensitive Natural Communities*, and 4.3.4, *Covered Species*. Additional design requirements are described in Section 4.3.1, *General Project Design*.

^c Although planning-level surveys are conducted well in advance of initiating the project and used to inform project design, preconstruction surveys are conducted immediately prior to initiating the project, within time windows specified for each relevant covered species, to determine necessary construction-related avoidance and minimization measures (e.g., setbacks from an active Swainson’s hawk nest until the young have fledged).

^d This column includes only sensitive natural community or species-specific design requirements, as summarized from Sections 4.3.3, *Sensitive Natural Communities*, and 4.3.4, *Covered Species*. Additional construction and operations and maintenance requirements are described in Section 4.3.2, *General Construction and Operations and Maintenance*.