

Appendix C

Avoidance and Minimization Measures

Avoidance and Minimization Measures

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 stream courses.
- ▲ 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.

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. To prevent injury and mortality of giant garter snake, western pond turtle, and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.

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 the project proponent. 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. The training may be accomplished through the distribution of informational materials with descriptions of sensitive biological resources, photographs of covered species, and regulatory protections to construction personnel prior to initiation of construction work.

AMM7, Control Night-Time Lighting of Project Construction Sites. Workers will direct all lights for night-time 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 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 seed mixes approved by the Conservancy that are free of noxious plant species seeds.

AMM9, Establish Buffers around Sensitive Natural Communities. The buffers for each sensitive natural community are as follows:

- ▲ Alkali prairie and vernal pools: The area necessary to provide the hydrologic conditions needed to support the wetlands within these natural communities (250 feet). Covered activities will avoid vernal pools or alkali seasonal wetlands by 250 feet, or other distance based on site specific topography to avoid indirect hydrologic effects.² 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.
- ▲ Valley foothill riparian: One hundred feet from canopy drip-line. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.
- ▲ Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks.³ Within urban planning units, 25 feet from the top of the banks. If any of the sensitive natural communities listed above are located adjacent to the lacustrine and riverine natural community, the buffer will be consistent with the requirements for the adjacent sensitive natural community and comply with Fish & Game Code Section 1602.
- ▲ Fresh emergent wetland: Fifty feet from the edge of the natural community.

AMM10, Avoid and Minimize Effects on Wetlands and Waters. Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under

¹ *Occupied* 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).

² *Alkali seasonal wetlands* are seasonal wetlands within the alkali prairie natural community.

³ Defined as the area within which water is contained in a channel.

National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the USACE, State Board, Regional Board, and CDFW.

AMM11, Minimize Take and Adverse Effects on Palmate-Bracted Bird's Beak. Palmate-bracted bird's-beak is covered by the Yolo HCP/NCCP only for the removal of suitable habitat and not for the removal of palmate-bracted bird's beak plants. This AMM ensures compliance with this provision. To determine if palmate-bracted bird's-beak is present and could be affected, the project proponent will conduct a planning-level survey for this species for any covered activities to be conducted within 250 feet of suitable habitat (as defined in Appendix A, *Covered Species Accounts*). The survey will be conducted during the period from May 31 to September 30 and will be consistent with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009).

The project proponent will avoid habitat that is intact and where palmate-bracted bird's beak has been located within any of the last 15 years (seed viability could be as little as three years and as much as six years, as described in HCP/NCCP Appendix A, *Covered Species Accounts*, Section A.1.2., *Species Description and Life History*); the project proponent also will avoid any new occurrences of this species identified during planning-level surveys. Avoidance will require a 250-foot setback from the current or historical occupied habitat, or greater distance depending on site specific topography to avoid hydrologic effects. A shorter buffer distance may apply if it is determined to avoid effects and is approved by the Conservancy, USFWS, and CDFW. Mortality of palmate-bracted bird's beak individuals will be avoided, except as needed through management activities that provide an overall benefit to the species.

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 identify suitable habitat during planning-level surveys and map all elderberry shrubs in and within 100 feet of the project footprint 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.

For elderberry shrubs that cannot be avoided with a 100-foot setback, the qualified biologist will quantify the number of stems greater than one inch in diameter to be affected and the presence or absence of exit holes for the Conservancy to plant stems or cuttings 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. 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. The project proponent will retain a qualified biologist to identify any suitable aquatic and upland habitats for California salamander (as defined in Appendix A, *Covered Species Accounts*) present in and within 500 feet of the project footprint during planning-level surveys. The qualified biologist will also assess whether critical habitat could be affected by the covered activity.

Except for habitat management and enhancement, all covered activities will provide a 500-foot setback from aquatic California tiger salamander habitat. If a covered activity is outside Critical Habitat Unit 1 and, as designed, will not avoid aquatic habitat by at least 500 feet, the project proponent will either conduct visual and dip-net surveys, consistent with CDFW protocol, during the period for November 1 to May 15 (California Department of Fish and Game 2003) or assume presence. If the species is present or assumed to be present, the covered activity will not remove aquatic habitat until at least four new breeding habitat occurrences are discovered or established in the Plan Area and protected in the Plan Area. After the four new occurrences are protected, and with concurrence of USFWS and CDFW, up to three occurrences discovered within the project footprint may be affected. The breeding habitat may not be removed if USFWS and CDFW determine that the covered activity would remove a significant occurrence of this species that could be necessary for maintaining the genetic diversity or regional distribution of the species. This AMM applies to California tiger salamander aquatic habitat and surrounding uplands, as defined by reference to the setbacks described above; it does not apply to cultivated agricultural lands (i.e., agricultural lands other than grazing lands) or other low-value upland habitat for California tiger salamander.

AMM14, Minimize Take and Adverse Effects on Habitat of Giant Garter Snake. The project proponent will avoid effects on areas where planning-level surveys indicate the presence of suitable habitat for giant garter snake. To avoid effects on giant garter snake aquatic habitat, the project proponent will conduct no in-water/in-channel activity and maintain a permanent 200-foot non-disturbance buffer from the outer edge of potentially occupied aquatic habitat. If the project proponent cannot avoid effects of construction activities, the project proponent will implement the measures below to minimize effects of construction projects (measures for maintenance activities are described after the following bulleted list).

- ▲ Conduct preconstruction clearance surveys using USFWS-approved methods within 24 hours prior to construction activities within identified giant garter snake aquatic and adjacent upland habitat. If construction activities stop for a period of two weeks or more, conduct another preconstruction clearance survey within 24 hours of resuming construction activity.
- ▲ Restrict all construction activity involving disturbance of giant garter snake habitat to the snake's active season, May 1 through October 1. During this period, the potential for direct mortality is reduced because snakes are expected to move and avoid danger.
- ▲ In areas where construction is to take place, encourage giant garter snakes to leave the site on their own by dewatering all irrigation ditches, canals, or other aquatic habitat (i.e., removing giant garter snake aquatic habitat) between April 15 and September 30. Dewatered habitat must remain dry, with no water puddles remaining, for at least 15 consecutive days prior to excavating or filling of the habitat. If a site cannot be completely dewatered, netting and salvage of giant garter snake prey items may be necessary to discourage use by snakes.
- ▲ Provide environmental awareness training for construction personnel, as approved by the Conservancy. Training may be implemented through the distribution of approved brochures and other materials that describe resources protected under the Yolo HCP/NCCP and methods for avoiding effects. If a live giant

garter snake is encountered during construction activities, immediately notify the project's biological monitor and USFWS and CDFW. The monitor will stop construction in the vicinity of the snake, monitor the snake, and allow the snake to leave on its own. The monitor will remain in the area for the remainder of the work day to ensure the snake is not harmed or, if it leaves the site, does not return. The qualified biologist will work with the Conservancy, USFWS and CDFW to redirect the snake away from the disturbance area within three days of reporting the snake's presence at the construction site to USFWS and CDFW.

- ▲ Employ the following management practices to minimize disturbances to habitat:
 - Install temporary fencing to identify and protect adjacent marshes, wetlands, and ditches from encroachment from construction equipment and personnel.
 - Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted practices. No plastic, monofilament, jute, or similar erosion-control matting that could entangle snakes or other wildlife will be permitted.

Ongoing maintenance covered activities by local water and flood control agencies typically involve removal of vegetation, debris, and sediment from water conveyance canals as well as resloping, rocking, and stabilizing the canals that serve agricultural water users. Maintenance of these conveyance facilities can typically occur only from mid-January through April when conveyance canals and ditches are not in service by the agency, although some drainages are used for storm conveyance during the winter and are wet all year. This timing is during the giant garter snake's inactive period. This is when snakes may be using underground burrows and are most vulnerable to take because they are unable to move out of harm's way. Maintenance activities, therefore, will be limited to the giant garter snake's active season (May 1 to October 1) when possible. All personnel involved in maintenance activities within giant garter snake habitat will first participate in environmental awareness training for giant garter snake, as described above for construction-related activities. To minimize the take of giant garter snake, the local water or flood control agency will limit maintenance of conveyance structures located within modeled giant garter snake habitat (Appendix A, *Covered Species Accounts*) to clearing one side along at least 80 percent of the linear distance of canals and ditches during each maintenance year (e.g., the left bank of a canal is maintained in the first year and the right bank in the second year). To avoid collapses when resloping canal and ditch banks composed of heavy clay soils, clearing will be limited to one side of the channel during each maintenance year.

For channel maintenance activities conducted within modeled habitat for giant garter snake, the project proponent will place removed material in existing dredged sites along channels where prior maintenance dredge disposal has occurred. For portions of channels that do not have previously used spoil disposal sites and where surveys have been conducted to confirm that giant garter snakes are not present, removed materials may be placed along channels in areas that are not occupied by giant garter snake and where materials will not re-enter the canal because of stormwater run-off.

Modifications to this AMM may be made with the approval of the Conservancy, USFWS, and CDFW.

AMM15, 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) 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 operations and maintenance activities that involve pruning or removal of a potential Swainson's hawk 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.

AMM16, Minimize Take and Adverse Effects on Habitat of Western Yellow-Billed Cuckoo. The project proponent will retain a qualified biologist to conduct planning-level surveys and assess whether habitat for western yellow-billed cuckoo (as defined in Appendix A, *Covered Species Accounts*) is present within 500 feet of covered activities. If habitat is present, the project proponent will redesign the project to avoid or minimize activities within 500 feet of western yellow-billed cuckoo habitat. If the activity will encroach within 500 feet of habitat and there are no breeding (or nesting) season records for the species within one-quarter mile of the covered activity within the previous three years, a qualified biologist will conduct planning-level surveys for active nests, consistent with USFWS protocol (Appendix N), during the period from June 1 to August 30. Operations and maintenance activities that do not occur during the breeding season (June 1 to August 30) and do not remove western yellow-billed cuckoo habitat are not required to conduct surveys or record searches; no further avoidance or minimization is necessary for such activities.

If an occupied territory is discovered during planning-level surveys, or there is a record of the species occurring within one-quarter mile of the covered activity within the previous three years, the project proponent will design the project to avoid activities within 500 feet of suitable habitat, unless the Conservancy, USFWS, and CDFW approve a shorter distance.

If an activity occurs within 500 feet of suitable habitat during the breeding season, regardless of whether or not a qualified biologist detected the species during planning-level surveys or there are records for the species in the area, a qualified biologist will conduct preconstruction surveys that are consistent with USFWS protocol (Appendix N) during the same season when the activity will occur. If the biologist finds active territories (i.e., presence of a singing male), the project proponent will avoid activity within 500 feet of suitable habitat that is contiguous with the territory from June 1 to August 30. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

AMM17, 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 or suitable burrowing owl burrows 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 designated 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). Activities that involve heavy equipment would be expected to constitute medium to high levels of disturbance for the species. 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 2 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 in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent 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 within three days hours prior to ground disturbance.

- ▲ If the biologist finds the site to be occupied⁴ by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites, as specified in Table 4-2, 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 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

⁴ 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.

concurrency 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 (September 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 nesting 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). 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 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.

AMM18, Minimize Take and Adverse Effects on Least Bell's vireo. The project proponent will retain a qualified biologist to conduct planning-level surveys and determine if habitat for least Bell's vireo (as defined in Appendix A, *Covered Species Accounts*) is present within 500 feet of covered activities. If habitat is present, the project proponent will redesign the project to avoid or minimize activities within 500 feet of least Bell's vireo habitat. If the activity will encroach within 500 feet of habitat and there are no breeding season records for the species within one-quarter mile of the covered activity within the previous three years, the qualified biologist will conduct planning-level surveys for active territories, consistent with USFWS (2001) guidelines, during the breeding season (April 1 to July 15). Operations and maintenance activities that do not

occur during the breeding season and do not affect least Bell's vireo habitat are not required to conduct surveys or record searches, and no further avoidance or minimization is necessary for such activities.

- ▲ If an occupied territory is discovered during planning-level surveys, or there is a record of the species occurring within one-quarter mile of the covered activity within the previous three years, the project proponent will design the project to avoid activities within 500 feet of suitable habitat, unless the Conservancy, USFWS, and CDFW approve a shorter distance.
- ▲ If an activity occurs within 500 feet of suitable habitat during the breeding season, regardless of whether or not the species was detected during planning-level surveys or there are records for the species in the area, a qualified biologist will conduct preconstruction surveys, consistent with USFWS (2001) guidelines, during the same season when the activity will occur. If active territories are found, the project proponent will avoid activity within 500 feet of the habitat from April 1 to July 15. This buffer may be reduced with approval from the Conservancy, USFWS, and CDFW.
- ▲ The project proponent will avoid disturbance of previous least Bell's vireo territories (up to three years since known nest activity) during the breeding season, unless the disturbance is to maintain public safety. Least Bell's vireo uses previous territories; disturbance during the breeding season may preclude birds from using existing unoccupied territories.
- ▲ The required buffer may be reduced in areas where barriers or topographic relief features are adequate for protecting the nest from excessive noise or other disturbance. Conservancy staff members will coordinate with the wildlife agencies and evaluate exceptions to the minimum nondisturbance buffer distance on a case-by-case basis. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.
- ▲ If occupied territories are identified, a qualified biologist will monitor construction activities in the vicinity of all active territories to ensure that covered activities do not affect nest success.

AMM19, Minimize Take and Adverse Effects on Habitat of Bank Swallow. The project proponent will retain a qualified biologist to identify and quantify (in acres) bank swallow nesting habitat (as defined in Appendix A, *Covered Species Accounts*) within 500 feet of the project footprint. If a 500-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy and CDFW to determine if bank swallow nesting colonies have been active on the site within the previous five years. If there are no records of nesting bank swallows on the site, the qualified biologist will conduct visual surveys during the period from March 1 to August 31 to determine if a nesting colony is present.

For operations and maintenance activities with temporary effects or other temporary activities that do not remove or modify nesting habitat and occur outside the nesting season (September 1 to February 28), it is not necessary to conduct a record search, planning and preconstruction surveys, or any additional avoidance measures.

If an active bank swallow colony is present or has been present within the last five years within the planning-level survey area, the Conservancy, USFWS and CDFW will be notified, and the project proponent will design the project to avoid adverse effects within 500 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW, based on site-specific conditions. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

AMM20, Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird. The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Appendix A, *Covered Species Accounts*) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy to determine if tricolored blackbird nesting colonies have been active in or within 1,300 feet of the project footprint during the previous five years. If there are no records of

nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008).

Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.

If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

Avoidance and Minimization Measures within the Reserve System

Reserve system activities, including agricultural activities, have the potential to result in take of covered species. Covered species potentially affected by ongoing reserve system activities, and measures to avoid and minimize these effects, are described below. Prohibited land uses and other restrictions on reserve lands will be stipulated in the conservation easements, as described in HCP/NCCP Section 7.5.5.3.2, *Minimum Restrictions within a Yolo HCP/NCCP Conservation Easement*. Management practices on reserve lands will be developed with landowners, further described in the management plans, and approved by the wildlife agencies. The species included below are the covered species most likely to be affected by covered activities in the reserve system because they are most likely to occur on cultivated lands. Cultivated lands consist of working landscapes on which agricultural activities take place on a regular basis. The potential scenarios described below for which take could occur are not exhaustive, however, and site-specific conditions could warrant different or additional measures to avoid and minimize take of the covered species found on cultivated lands that will count toward conservation commitments. The Conservancy will describe these avoidance and minimization measures as applicable in site-specific conservation easements or management plans that the wildlife agencies will approve. For bank swallow, agricultural practices on cultivated lands will comply with AMM19, *Bank Swallow*, above.

VALLEY ELDERBERRY LONGHORN BEETLE

On reserve lands whose primary conservation values include valley elderberry longhorn beetle conservation, agricultural and other activities that would potentially result in take of valley elderberry longhorn beetle will not occur within a 100-foot buffer around elderberry shrubs, thereby avoiding take. Management activities which would not result in take of valley elderberry longhorn beetle (e.g., hand weeding, planting native plants) may occur within the 100-foot buffer. If existing, ongoing activities (e.g., agricultural activities, such as a farming road) encroach within 100 feet of elderberry shrubs on reserve land, the valley elderberry longhorn beetle habitat within 100 feet of such activities will not count toward the habitat protection commitment for this species. The Conservancy will coordinate with the wildlife agencies if elderberry shrubs are present within the reserve system on or near cultivated lands to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

CALIFORNIA TIGER SALAMANDER

Reserve system activities will avoid harming, harassing, injuring, or killing California tiger salamanders. If California tiger salamanders are present in a pond or other water feature on a site enrolled in the reserve system, the management plan for the site will specify water management measures intended to reduce the potential establishment of predatory non-native species and will restrict pond maintenance activities, and

ground disturbing activities that may unearth California tiger salamanders in suitable upland habitat, to time periods when California tiger salamanders, in any lifestage, are not present. In the event that a salamander needs to be moved out of harm's way to avoid injuring or killing individuals, a qualified biologist will relocate the salamander to nearby habitat. The Conservancy will coordinate with the wildlife agencies where California tiger salamanders may be present within the reserve system, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

GIANT GARTER SNAKE

Canal and ditch maintenance on cultivated lands typically involves removal of vegetation, debris, and sediment from water conveyance channels. To minimize effects on giant garter snake, these activities within giant garter snake habitat will be limited to the giant garter snake's active season (May 1 to October 1) when possible. To minimize the take of giant garter snake, farmers and land managers on lands in the reserve system will limit maintenance of conveyance structures located within giant garter snake habitat to clearing one side along at least 80% of the linear distance of the channels during each maintenance year (e.g., the left bank of a canal is maintained in the first year and the right bank in the second year). In the event that a giant garter snake needs to be moved out of harm's way to avoid injuring or killing individuals, a qualified biologist will relocate the giant garter snake to nearby habitat.

For channel maintenance activities conducted within giant garter snake habitat, farmers on cultivated land within giant garter snake habitat in the reserve system will place removed material at least 200 feet from permanent aquatic habitat. For portions of channels that do not have previously used spoil disposal sites and the area has been checked by a qualified biologist to confirm that giant garter snakes are not in harm's way, removed materials may be placed along channels in areas that are at least 200 feet from permanent aquatic habitat and where materials will not re-enter the canal because of stormwater run-off. The Conservancy will coordinate with the wildlife agencies where giant garter snakes may be present within the reserve system on or near cultivated lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

WESTERN POND TURTLE

Western pond turtles may occur within canals and ditches in the reserve system. To minimize the take of western pond turtle, farmers and land managers on lands in the reserve system will limit maintenance of conveyance structures located within western pond turtle habitat to clearing one side along at least 80% of the linear distance of the channels during each maintenance year (e.g., the left bank of a canal is maintained in the first year and the right bank in the second year)..

For channel maintenance activities conducted within western pond turtle habitat, farmers and land managers within western pond turtle habitat in the reserve system will place removed material at least 200 feet from permanent aquatic habitat. For portions of channels that do not have previously used spoil disposal sites and the area has been checked by a qualified biologist to confirm that western pond turtles are not in harm's way, removed materials may be placed along channels in areas that are at least 200 feet from permanent aquatic habitat and where materials will not re-enter the canal because of stormwater run-off. In the event that a western pond turtle needs to be moved out of harm's way to avoid injuring or killing individuals, a qualified biologist will relocate the western pond turtle to nearby habitat. The Conservancy will coordinate with the wildlife agencies where western pond turtles may be present within the reserve system on or near cultivated lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

SWAINSON'S HAWK AND WHITE-TAILED KITE

Swainson's hawk prey species can be considered agricultural pests and rodenticides are sometimes used as part of general agricultural operations to control pest populations. Rodenticides both reduce available food

resources and can directly harm individual Swainson's hawks and white-tailed kites that ingest prey that have been poisoned by rodenticides. The use of rodenticides is prohibited on all lands in the reserve system, including cultivated lands, in order to avoid effects to Swainson's hawk and white-tailed kite.

The removal or cutting of trees on lands in the reserve system is prohibited except as reasonably necessary and/or prudent for (1) fire breaks, (2) prevention or treatment of disease; or (3) removing vegetation and debris which poses a health and safety hazard or a threat to standard agricultural operations including, but not limited to, downed trees or limbs. In cases where the cutting or removal of a tree is deemed necessary due to one of the reasons mentioned above, the removal of the tree shall not occur during the Swainson's hawk nesting season (February 1 through October 1) to avoid disturbance during the breeding season. No standing tree shall be removed until it has been verified that the tree is not an active Swainson's hawk or white-tailed kite nest tree. The Conservancy will coordinate with the wildlife agencies where Swainson's hawks are present within the reserve system on or near cultivated lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

WESTERN BURROWING OWL

Farmers and land managers on lands in the reserve system will avoid disturbing burrows occupied by western burrowing owls. The Conservancy will coordinate with the wildlife agencies if burrowing owls are found on actively farmed lands within the reserve system to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

TRICOLORED BLACKBIRD

Tricolored blackbirds can nest in triticale and other types of grain crops, although this has not been documented in Yolo County. In the rare event that tricolored blackbirds nest in cultivated lands within the reserve system, the farmer will delay harvesting the crop and other agricultural practices a sufficient distance from the active nest to avoid harming, harassing, injuring, or killing individuals until the tricolored blackbirds have finished nesting (i.e., fledglings are capable of acquiring food on their own). A qualified biologist will confirm the distance in which harvesting can occur and the time at which tricolored blackbirds have finished nesting (and therefore when the remaining harvest may occur). The Conservancy will coordinate with the wildlife agencies if tricolored blackbirds are found within the reserve system on or near actively farmed lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

Chapter 4

Application Process and Conditions on Covered Activities

4.1 Introduction

This chapter describes the process for the City of Woodland, City of Winters, City of Davis, City of West Sacramento, Yolo County, and the Yolo Habitat Conservancy (Conservancy) (collectively referred to as Permittees) to apply for coverage of individual projects and ongoing operations and maintenance activities included as covered activities in the Yolo HCP/NCCP. This chapter also describes the conditions through which covered activities will avoid and minimize take of covered species. The application process and avoidance and minimization measures (AMMs) are included in this chapter together to provide a single location in the document where project proponents can find descriptions of all relevant requirements related to project design and implementation, with the exception of fees. HCP/NCCP fees are described in Chapter 8, *Costs and Funding*. The Conservancy will prepare an implementation handbook to provide additional detail regarding the application process and implementation.

Section 4.2, *Receiving Take Authorization under the Yolo HCP/NCCP*, describes the process for applying to the Permittees for coverage under the Yolo HCP/NCCP. Section 4.2.1, *Authorization Process*, describes the authorization process under each of three categories: public projects proposed by the Permittees, private projects under the discretionary authority of Permittees, and Special Participating Entities. Section 4.2.2, *HCP/NCCP Application Package*, describes the required contents of the application package.

Section 4.3, *Avoidance and Minimization Measures*, describes conditions that project proponents must adopt to receive coverage under the Yolo HCP/NCCP. These avoidance and minimization measures specify how project proponents will avoid and minimize take of covered species during implementation of covered activities and are referred to herein as AMMs. Section 4.3.1, *General Project Design*, describes AMMs that apply to the design of all development projects. Section 4.3.2, *General Construction and Operations and Maintenance*, describes AMMs that apply to all construction and operations and maintenance activities. Section 4.3.3, *Sensitive Natural Communities*, describes AMMs that are specific to rare or sensitive natural communities, such as the rare alkali prairie natural community and other natural communities associated with wetlands, and therefore warrant specific avoidance and minimization measures. Section 4.3.4, *Covered Species*, describes AMMs that are specific to each covered species. Section 4.3.5, *Cache Creek Area Plan Projects*, describes the requirements for mining and maintenance activities under the *Cache Creek Area Plan* as well as implementing the applicable measures, consistent with specified existing plans. Section 4.3.6, *Avoidance and Minimization Measures within the Reserve System*, describes AMMs that apply to activities that occur in the reserve system. Section 4.3.7, *Qualified Biologists*, describes the process and conditions for a biologist to obtain approval as a qualified biologist, the types of covered activities that may be exempt from AMMs, and the process for revisions to Yolo HCP/NCCP AMMs.

4.2 Receiving Take Authorization under the Yolo HCP/NCCP

4.2.1 Authorization Process

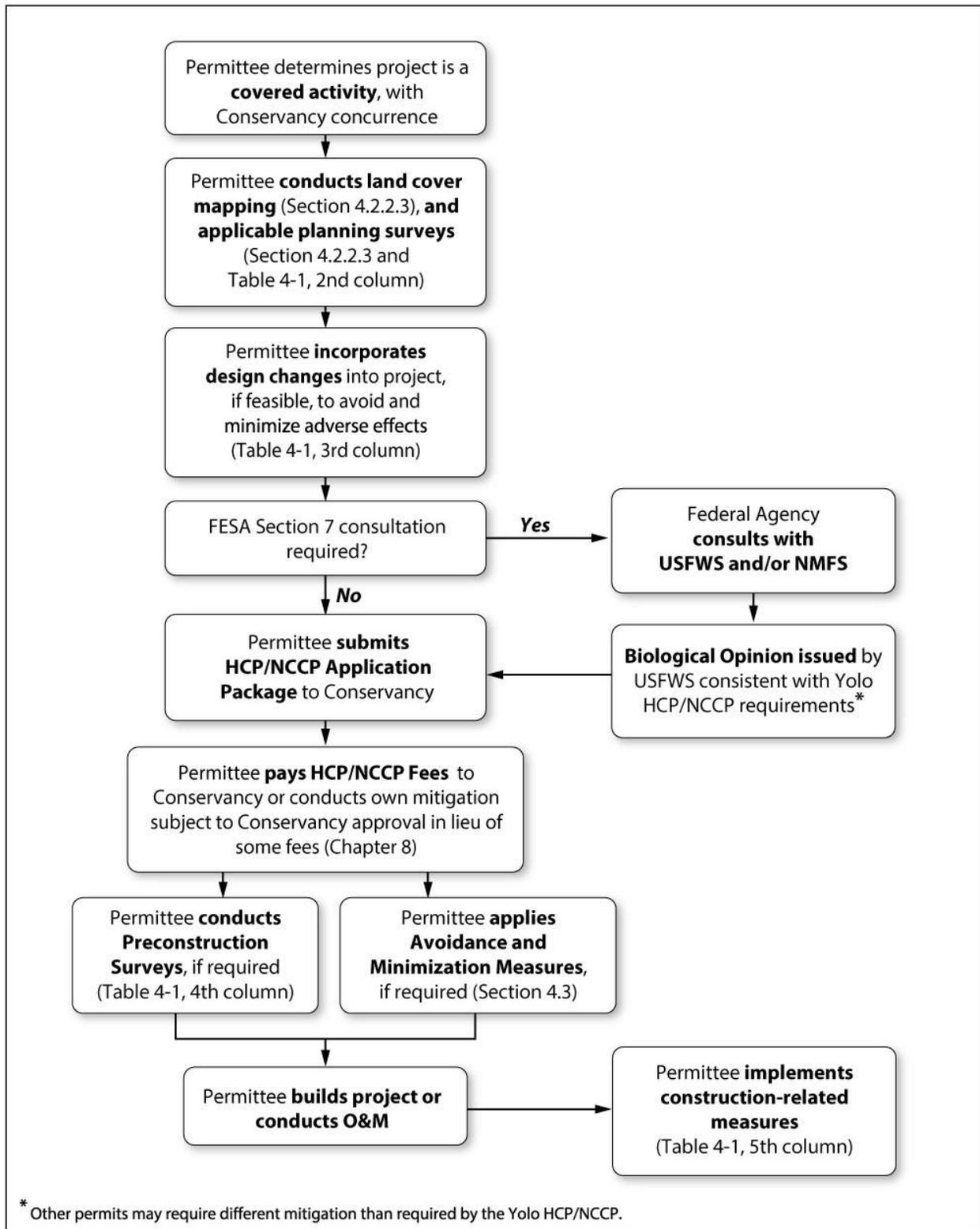
The Yolo HCP/NCCP incidental take permits (Permits) provide the Permittees with take authorization for implementing covered activities and allow the Permittees to extend this take authorization to project proponents when implementing covered activities. Permittees can extend take authorization through the local development approval process as long as the covered activities comply with the applicable AMMs in this chapter. As described in Chapter 3, *Covered Activities*, Permittees will provide take authorization under the Yolo HCP/NCCP for covered activities in the following three categories: public projects proposed by the Permittees (Section 4.2.1.1), private projects under the discretionary authority of the Permittees (Section 4.2.1.2), and projects by non-Permittees in the Plan Area that are approved for inclusion by the Conservancy as Special Participating Entities (Section 4.2.1.3). The incidental take authorization process for each of these situations is explained below.

The Conservancy will develop the process through which applicants apply for permits in coordination with the member agencies, including procedures for interaction between member agencies and the Conservancy to determine coverage. The Conservancy will develop implementation materials, including an implementation handbook. The handbook will describe the process through which applicants apply for permits in coordination with the member agencies and provide examples of how the process works. This process could include review of applications before they are complete and participating in a local Development Review Committee to make the requirements of the Conservancy process known early enough to influence process design.

4.2.1.1 Public Projects Proposed by Permittees

The Permits authorize incidental take associated with public projects proposed by Permittees and covered by the Yolo HCP/NCCP. Permittees must comply with the AMMs described in this chapter for each project and receive Conservancy approval in the form of an email or letter. The Permittees must document compliance and provide a copy of this documentation to the Conservancy for tracking and reporting purposes (e.g., to track the amount of take coverage the Conservancy has granted). Permittees must pay HCP/NCCP fees to the Conservancy or provide in lieu mitigation as described in Chapters 7 and 8, subject to Conservancy approval. The Conservancy will develop a form to assist the Permittees, as well as project proponents, when implementing covered activities with this documentation. Permittees may consult Conservancy staff members for technical assistance to ensure accurate completion of the required documentation. The process through which public projects can receive take authorization under this HCP/NCCP is shown in Figure 4-1.

Figure 4-1. Process for Project Compliance with HCP/NCCP for Public Projects (by Permittees)



4.2.1.2 Private Projects under the Discretionary Authority of Permittees

Project proponents will submit an HCP/NCCP application package (as described in Section 4.2.2, *HCP/NCCP Application Package*) to the relevant Permittee when implementing private projects that require discretionary land use approval from a Permittee. The Permittee will undertake review of take authorization applications concurrent with California Environmental Quality Act (CEQA) environmental review. This review will include consideration of CEQA exemptions and whether a project is covered by a prior programmatic or earlier CEQA document. To facilitate this approach, the Permittee should require project proponents to submit initial HCP/NCCP application package information as part of the land use approval application and CEQA process.

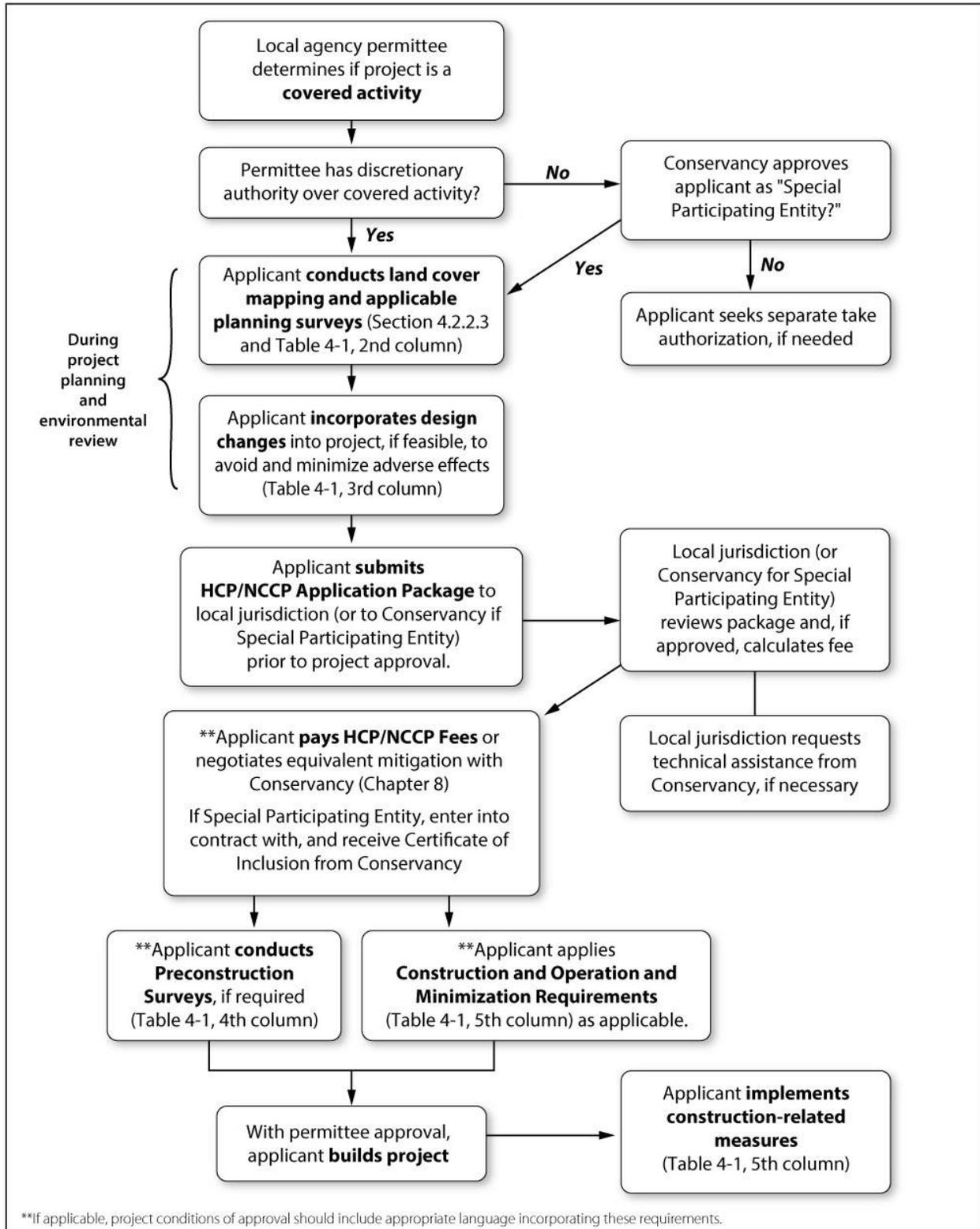
The submittal of the initial HCP/NCCP application package information during the land use approval/CEQA process allows for early identification of the various requirements of the HCP/NCCP that will be applicable to the proposed project. This approach also provides time for the project proponent to consider modifications to the project to minimize biological impacts and identify alternatives for CEQA analysis, if necessary. It also will allow the project analysis and CEQA review to incorporate and consider applicable AMM requirements from the HCP/NCCP. Based on a review of this initial information, the Permittee will develop and apply project conditions of approval that specify the HCP/NCCP AMMs and fee requirements.

The Conservancy will develop a checklist for evaluating HCP/NCCP applications from Permittees before the first ordinance for implementing this HCP/NCCP takes effect. During CEQA review of the project, the Permittee will review the HCP/NCCP application package for completeness, in accordance with the checklist. The determination regarding the completeness of the application package rests with the Permittee. Permittees may request technical assistance from Conservancy staff members. If an application package is not complete, the Permittee will provide the project proponent with a letter that explains why it is incomplete. The project proponent will then provide the missing information to the Permittee. Once the application package is complete, the Permittee will calculate the required fees, as described in Chapter 8, *Costs and Funding*, consistent with the local ordinance for implementing this HCP/NCCP.

The Permittee will specify all AMMs and fees as conditions of project approval, or as specified in the local ordinances for implementing this HCP/NCCP. The project proponent will pay fees prior to any project-related ground disturbance. If the project proponent requests to contribute land in lieu of fees or requests conditions that deviate from the AMMs, such requests must be reviewed and approved by the Conservancy, USFWS, and CDFW, as described in Section 4.2.2.6, *Item 6, HCP/NCCP Fees or Equivalent Mitigation*.

The process for receiving take authorization for private projects is shown in Figure 4-2. The HCP/NCCP review process will be integrated into the established land development permit processes of the member agencies.

Figure 4-2. Process for Project Approval under Yolo HCP/NCCP for Private Projects Covered by Plan and Special Participating Entities



4.2.1.3 Projects Proposed by Special Participating Entities

Special Participating Entities (SPEs) are involved with proposed projects or activities that are not subject to the land use authority of the Permittees under the CEQA process and therefore cannot receive coverage under this HCP/NCCP through the process described above. SPEs may include utilities or special districts that own land or provide public services. Proponents of private activities (e.g., ministerial activities, such as single-family building permits and most agricultural activities) that do not require discretionary approval from the Permittees may request coverage as an SPE. This includes activities that involve farm dwellings. These entities may choose to request coverage under this HCP/NCCP as SPEs to obtain take authorization for their projects or activities. If the entity qualifies as an SPE, the Conservancy may issue take coverage through a Certificate of Inclusion at the Conservancy's discretion. The Conservancy will base the determination of eligibility for SPE status on the factors described in Section 7.2.5, *Special Participating Entities*, including whether the SPE can meet HCP/NCCP conditions or whether the amount of take requested (i.e., acres of natural community or covered species habitat loss) is available for the project. The project also must not unduly reduce the take authorization of the Permittees.

To grant take authorization to an SPE, the Conservancy must establish a legally enforceable contractual relationship with the SPE. The SPE will submit a complete application package for the proposed activity directly to the Conservancy, with notification to the jurisdiction in which the project will occur. This application package will contain the components described in Section 4.2.2, *HCP/NCCP Application Package*, and an explanation as to how the proposed activity meets the eligibility requirements for SPE status, as provided in Chapter 7, *Plan Implementation*.

If the SPE meets HCP/NCCP requirements and take allowance is available, the Conservancy will execute a contract with the SPE, binding it to the relevant terms of the Permits, implementing agreement, and HCP/NCCP.¹ Upon approval of the contract by the Conservancy Board, execution of the contract with the SPE, payment of the fee specified in the contract, and completion of any other steps required by the contract, the Conservancy will issue a Certificate of Inclusion to the SPE. The Certificate of Inclusion will include an attached map depicting the area, parcel number, acreage, and owner of lands to which the take authorization(s) would apply.

The Conservancy will provide a template of the Certificate of Inclusion to the wildlife agencies for review and approval during plan implementation before the Conservancy approves the first SPE project. The Conservancy will track the amount of take authorization extended to SPEs against the total allowable take authorized under the Yolo HCP/NCCP. Requirements related to SPEs are further described in Section 7.2.5, *Special Participating Entities*.

4.2.2 HCP/NCCP Application Package

All public and private project proponents covered by the Yolo HCP/NCCP must complete an HCP/NCCP application package. Proponents of private projects under the discretion of Permittees must submit the application to the relevant Permittee for review and approval to receive coverage under this HCP/NCCP. The project proponent is responsible for preparing the application package and conducting any necessary field surveys, if required. SPEs submit their application package to the Conservancy for review and approval to receive coverage under this HCP/NCCP.

¹ In the event of failure to uphold the terms of the Permit, implementing agreement, and HCP/NCCP, the contract shall give the Conservancy the ability to force action by the Special Participating Entity through legal means.

The application package must contain the items listed below, if applicable. Each is described in detail in this section.

- *Item 1:* Project application form.
- *Item 2:* Project description, vicinity map, and detail map.
- *Item 3:* Land cover mapping and planning-level surveys.
- *Item 4:* Verification of land cover impacts.
- *Item 5:* Avoidance and minimization measure plan.
- *Item 6:* HCP/NCCP fees or equivalent mitigation.

The Conservancy will provide templates for all application components to each Permittee prior to the first authorization for coverage under the Yolo HCP/NCCP. The Conservancy also will post these templates on the Conservancy's website for use by Permittees, SPEs, and private project proponents and their consultants. Use of the templates will streamline the Permittee review and approval process. The Permittees may adjust the required components of the application package over time, consistent with the requirements of the Yolo HCP/NCCP. Permittees may charge a fee to recover the costs of accepting, reviewing, and processing these application packages (see Chapter 8, *Costs and Funding*, for details).

4.2.2.1 Item 1: Project Application Form

The project application form² will contain basic information about the project. The Conservancy will provide required forms through the websites of the Permittees and the Conservancy.

4.2.2.2 Item 2: Project Description, Vicinity Map, and Detail Map

The application package will include a brief project description, vicinity map, and detail map. The project description will include the location, assessor's parcel number(s), construction activity or maintenance methods, a description of the nature of the impacts (permanent or temporary), and timing (including duration) of the project or activity. The project description will document that the project is a covered activity (Chapter 3, *Covered Activities*). The vicinity map will document that the project site is in the Plan Area and include any streams or water bodies that fall within the project area. The detail map will show the fee area, also known as the *area of impact*. This is the area the Conservancy will use to determine fees, as described in Chapter 8, Section 8.4.1.2, *Land Cover Fee*. The Conservancy will provide further guidance in the implementation handbook for identification of the area of impact. The detailed map must also show any relevant landforms, roads, water bodies, and existing and proposed structures that will be affected by the proposed project.

4.2.2.3 Item 3: Land Cover Mapping and Planning-Level Surveys

The project proponent will retain a qualified biologist³ to conduct planning-level surveys and identify natural communities and important elements of covered species habitat in the area of impact. Planning-level surveys provide information on the natural communities and covered species present at a project site to comply with the AMMs (Section 4.3, *Avoidance and Minimization*

² The Conservancy will develop this form prior to allowing permittees to use the Permits.

³ Land cover mapping may be conducted by either a qualified biologist or another person familiar with identifying the land cover types in the Plan Area. *Qualified biologist* is defined in Section 4.4, *Qualified Biologists*.

Measures) and document key resources for tracking and reporting purposes. These surveys are required for all covered activities that result in ground disturbance or other effects that could result in take of covered species or natural communities. The biologist will use survey protocols specified in Section 4.3.

Prior to conducting surveys at the site, the biologist will review existing information, including aerial photographs, the Yolo HCP/NCCP database, the most recent California Natural Diversity Database (CNDDDB) records, and any other relevant sources of information. This literature and data review is intended to identify natural communities and covered species habitat or populations that are potentially present on the project site and that require specific project AMMs (Section 4.3, *Avoidance and Minimization Measures*). Based on the results of the initial information review, the biologist will conduct site-specific surveys, as identified in the required AMMs, to inform project design and incorporate site-specific avoidance and minimization actions. The project proponent will produce a land cover map based on these planning-level surveys, as described below.

Project proponents must include planning-level survey reports in the application package. These reports will include the following:

- Maps, description, and acreage of the land cover types present in the area of impact (defined in Section 8.4.1.2, *Land Cover Fee*).
- Maps of locations of suitable habitat and/or habitat features for covered species, as defined in the covered species accounts (Appendix A).
- Maps of covered species occurrences based on the Yolo HCP/NCCP database, the CNDDDB database, and other available information.
- Results of required planning-level surveys (Section 4.3, *Avoidance and Minimization Measures*).

Each planning-level survey will be valid for up to three years after the survey is conducted. If more than three years lapse between the planning-level surveys and project authorization under the Yolo HCP/NCCP, the Conservancy will require the project proponent to update the planning-level survey to reflect current project site avoidance and minimization measures. The Conservancy may choose to offer some or all of these services for a fee.

The project proponent will incorporate the required AMMs into the project design. Identification of occupied habitat or rare natural communities (e.g., alkali prairie) may result in the need to modify project design, as described in Section 4.3.

4.2.2.4 Item 4: Verification of Land Cover Impacts

Based on the maps created during planning-level surveys, as described in Section 4.2.2.3, *Item 3: Land Cover Mapping and Planning-Level Surveys*, the project proponent must provide the acres of effect (and linear feet of impacts for stream channels) in the area of impact (defined in Section 8.4.1.2, *Land Cover Fee*) by land cover type (Table 2-1, *Natural Communities and Other Land Cover Types*). The Conservancy will use these calculations to track natural community and covered species habitat loss under this HCP/NCCP by land cover type. The tracking must be based on actual loss of each land cover type. See Section 7.9.2, *Compliance Tracking*, for appropriate data sources for effect calculations. Permittee planning staff members or the Conservancy will verify that a qualified biologist completed the land cover mapping and calculations. Permittee planning staff members will verify land cover data determinations provided by all project proponents within the Permittee's jurisdiction, and the Conservancy will verify all land cover data determinations provided by SPEs (see Chapter 8, Section 8.4.1.2, *Land Cover Fee*, for a description of area of impact). The Permittee

and the Conservancy will verify land cover data determinations at the time applications are submitted because of the potential for land cover to change over time.

4.2.2.4.1 Operations and Maintenance Activities by Permittees

Land cover mapping is not required for operations and maintenance activities conducted by Permittees.⁴ Permittees will rely on the most recent land cover map developed by the Conservancy to quantify land cover loss. Permittees must still implement all applicable AMMs. As such, projects with operations and maintenance activities covered by the Yolo HCP/NCCP will require planning-level surveys to determine applicable AMMs, as described in Section 4.3.3, *Sensitive Natural Communities*.

4.2.2.5 Item 5: Avoidance and Minimization Measure Plan

Based on the results of steps 1 and 3, above, the project proponent will identify applicable AMMs and include these in an AMM plan, which will be submitted with the application package. The project proponent will include monitoring requirements in the AMM plan and surveys provided by a qualified biologists, as needed, based on requirements described in Section 4.3, *Avoidance and Minimization Measures*.

4.2.2.6 Item 6: HCP/NCCP Fees or Equivalent Mitigation

The project proponent will estimate fees based on the information provided in the items above, using a fee calculator developed by the Conservancy and the calculation methods described in Section 8.4.1.2, *Land Cover Fee*. If the project proponent proposes to purchase credits at a USFWS- or CDFW-approved mitigation bank, the proponent must indicate this upon project approval. The Conservancy may authorize use of an approved mitigation bank or mitigation receiving site for in-county mitigation if it meets HCP/NCCP requirements, including monitoring and adaptive management requirements, and pays all appropriate fees. Out-of-county mitigation may not rely on the Yolo HCP/NCCP for take authorization. Chapter 8, *Costs and Funding*, describes the fees the Conservancy will apply to the mitigation receiving site process.

4.3 Avoidance and Minimization Measures

This section describes the AMMs (i.e., conditions on covered activities to avoid and minimize take of covered species) required by the Federal Endangered Species Act (FESA) (Section 10[a][2][A][ii]) and Natural Community Conservation Planning Act (NCCPA) (California Fish and Game Code [Fish & Game Code] Sections 2820[a][6] and 2820[f]).

The AMMs described in this chapter are designed to ensure consistency and provide standard and predictable requirements for project proponents. The Permittees will evaluate all projects⁵ respective to their authorities to ensure that project proponents incorporate all applicable AMMs

⁴ Land cover mapping is required for these activities for all private project proponents and Special Participating Entity projects.

⁵ The term *project* is used here as defined in CEQA: The whole of a discretionary action that has the potential, directly or ultimately, to result in a physical change to the environment (State CEQA Guidelines Section 15378). This includes all phases of a project that are reasonably foreseeable and all related projects that are directly linked to the project.

described in this chapter into each project prior to a Conservancy decision to extend take coverage under the Yolo HCP/NCCP. Chapter 7, *Plan Implementation*, further describes project proponent responsibilities in the application process.

Section 4.3.7.2, *Exemptions from Avoidance and Minimization Measures*, describes the types of projects that are considered exempt from the avoidance and minimization measures. Section 4.3.7.3, *Revisions to Avoidance and Minimization Measures*, describes the process for revising AMMs, as needed, based on new scientific information and any problems that might arise during HCP/NCCP implementation related to the ability to carry out successful AMMs.

All projects that discharge dredged or fill material into waters of the United States, including federal jurisdictional wetlands, are required to obtain applicable permits (e.g., Clean Water Act Sections 404 and Section 401) from the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (Regional Board). Projects that place fill, alter the bed bank or channel, or divert the flow of streams; alter portions of streams above the ordinary high-water mark; or alter streams that lack a nexus to navigable waters, wetlands, or lakes under the jurisdiction of the state are required to obtain a waste discharge requirement from the Regional Board and enter into a Lake and Streambed Alteration Agreement with CDFW. Any project that requires a permit from the USACE, Regional Board, or CDFW for impacts on streams and other aquatic areas may be subject to avoidance and minimization requirements, which may differ from the AMMs in this HCP/NCCP. The AMMs described in this chapter have been designed to be compatible with state and federal wetland regulation. However, the AMMs do not constitute compliance with avoidance and minimization requirements of other federal, state, and local agencies that arise from legal requirements other than the federal and state endangered species acts.

Avoidance and minimization measures are grouped into six categories. AMMs for General Project Design (Section 4.3.1) and General Construction and Operations and Maintenance (Section 4.3.2) will apply to most covered activities. AMMs for sensitive natural communities (Section 4.3.3) and covered species (Section 4.3.4) will apply only to those covered activities with those natural communities or covered species (or habitat for those covered species) that are present or likely to be present on site. AMMs that apply only to covered aggregate mining projects and restoration in Cache Creek (Section 4.3.5). The final category of AMMs apply to activities, including agricultural activities, occurring in the reserve system (Section 4.3.6).

4.3.1 General Project Design

The measures below apply generally to all covered activities for designated sensitive natural communities and covered species. These measures involve adjusting project footprints or incorporating design measures to avoid and minimize effects on natural communities and covered species.

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.

4.3.2 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. To prevent injury and mortality of giant garter snake, western pond turtle, and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.

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 the project proponent. 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. The training may be accomplished through the distribution of informational materials with descriptions of sensitive biological resources, photographs of covered species, and regulatory protections to construction personnel prior to initiation of construction work.

AMM7, Control Night-Time Lighting of Project Construction Sites. Workers will direct all lights for night-time 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.⁶
- Nest sites for covered bird species and 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 seed mixes approved by the Conservancy that are free of noxious plant species seeds.

4.3.3 Sensitive Natural Communities

The following AMMs apply to sensitive natural communities. These AMMs are summarized in Table 4-1, *Avoidance and Minimization Measures for Sensitive Natural Communities and Covered Species*. AMMs for the natural communities not included below but providing covered species habitat are described in Section 4.3.4, *Covered Species*.

AMM9, Establish Buffers around Sensitive Natural Communities. The buffers for each sensitive natural community are as follows:

- *Alkali prairie and vernal pools:* The area necessary to provide the hydrologic conditions needed to support the wetlands within these natural communities (250 feet). Covered activities will avoid vernal pools or alkali seasonal wetlands by 250 feet, or other distance based on site specific topography to avoid indirect hydrologic effects.⁷ 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.

⁶ *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).

⁷ Alkali seasonal wetlands are seasonal wetlands within the alkali prairie natural community.

- *Valley foothill riparian*: One hundred feet from canopy drip-line. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy, based on the criteria listed in *AMM1*. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.
- *Lacustrine and riverine*: Outside urban planning units, 100 feet from the top of banks.⁸ Within urban planning units, 25 feet from the top of the banks. If any of the sensitive natural communities listed above are located adjacent to the lacustrine and riverine natural community, the buffer will be consistent with the requirements for the adjacent sensitive natural community and comply with Fish & Game Code Section 1602.
- *Fresh emergent wetland*: Fifty feet from the edge of the natural community.

AMM1, Establish Buffers, provides additional details for buffers around natural communities. Additional buffers may be necessary for covered species, as described below in Section 4.3.4, *Covered Species*.

AMM10, Avoid and Minimize Effects on Wetlands and Waters. Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the USACE, State Board, Regional Board, and CDFW.

⁸ Defined as the area within which water is contained in a channel.

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. ⁹ 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.	Design project (with the exception of transportation or utility crossings) 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 transportation or utility crossings) 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.		

⁹ 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 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> .
Amphibians				
California tiger salamander (AMM13)	For projects outside urban planning units, 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. No buffer is necessary inside urban planning units. 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	Design project to avoid any disturbance in California tiger salamander Critical Habitat Unit 1 (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 breeding habitat occurrences are discovered or established and protected in the Plan Area. After the four new occurrences are protected, with concurrence of USFWS and CDFW, up to three occurrences may be affected. ¹⁰	None.	See design requirements.
Reptiles				
Western pond turtle (AMM9 and AMM10)	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.	None	None
Giant garter snake (AMM14)	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.	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. No surveys required for operations and maintenance unless material spoils will be	For construction: <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.

¹⁰ 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
Birds				
Swainson’s hawk and white-tailed kite (AMM15)	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.	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 15 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 15	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. 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.
Western yellow-billed cuckoo (AMM16)	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. 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. Survey period: June 15–August 10	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. 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.	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. For operations and maintenance, same as above, unless activity does not remove habitat and happens outside the nesting season.	From June 1 to August 30, avoid activity within 500 feet of active nests (as identified through preconstruction surveys).
Western burrowing owl (AMM17)	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.	Design project to minimize activities in the vicinity of occupied burrows, consistent with Table 4-2.	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	Avoid all nest sites during the breeding season (February 1 to August 31), consistent with Table 4-2. Construction may occur inside the disturbance buffer if the project proponent

Covered Species or Sensitive Natural Community	Planning-Level Surveys ^a	Design Requirements ^b	Preconstruction Surveys ^c	Construction and Operations and Maintenance Requirements ^d
Least Bell's vireo (AMM18)	<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). Survey period: February 1–August 31 during the breeding season; December 1–January 31 during nonbreeding season</p> <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. 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. 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. 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>burrows in the area of impact (defined in Section 8.4.1.2, <i>Land Cover Fee</i>).</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. For operations and maintenance, same as above, unless activity does not remove habitat and happens outside the nesting season.</p>	<p>develops an avoidance, minimization, and monitoring plan, as described in <i>AMM17, 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), consistent with Table 4-2, unless specific criteria are met, as described in Section 4.3.4. A qualified biologist will monitor the site, as described in Section 4.3.4. Passive relocation (or active relocation upon wildlife agency approval) may be implemented, as described in Section 4.3.4. 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>
Bank swallow (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. 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. Survey period: March 1–August 15 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. 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.</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. 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>	

Covered Species or Sensitive Natural Community	Planning-Level Surveys ^a	Design Requirements ^b	Preconstruction Surveys ^c	Construction and Operations and Maintenance Requirements ^d
Tricolored blackbird (AMM20)	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. 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. Survey period: March 1–July 30 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.	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.	None	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).

^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*.

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4.3.4 Covered Species

The AMMs described in this section pertain specifically to covered species. These AMMs may change over time, depending on the most current guidelines developed by CDFW and based on the best available data.

The Yolo HCP/NCCP does not include specific AMMs for western pond turtle. The 100-foot setbacks from the valley foothill riparian natural community and 50-foot setbacks from the fresh emergent wetland and the riverine and lacustrine natural community are expected to minimize adverse effects on western pond turtle.

AMM11, Minimize Take and Adverse Effects on Palmate-Bracted Bird's Beak. Palmate-bracted bird's-beak is covered by the Yolo HCP/NCCP only for the removal of suitable habitat and not for the removal of palmate-bracted bird's beak plants. This AMM ensures compliance with this provision. To determine if palmate-bracted bird's-beak is present and could be affected, the project proponent will conduct a planning-level survey for this species for any covered activities to be conducted within 250 feet of suitable habitat (as defined in Appendix A, *Covered Species Accounts*). The survey will be conducted during the period from May 31 to September 30 and will be consistent with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009).

The project proponent will avoid habitat where palmate-bracted bird's beak has been located within any of the last 15 years (seed viability could be as little as three years and as much as six years, as described in Appendix A, Section A.1.2, *Species Description and Life History*). The project proponent also will avoid any new occurrences of this species identified during planning-level surveys. Avoidance will require a 250-foot setback from the current or historical occupied habitat, or greater distance depending on site-specific topography to avoid hydrologic effects. A shorter buffer distance may apply if it is determined to avoid effects and is approved by the Conservancy, USFWS, and CDFW. Mortality of palmate-bracted bird's beak individuals will be avoided, except as needed through management activities that provide an overall benefit to the species.

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 identify suitable habitat during planning-level surveys and map all elderberry shrubs in and within 100 feet of the project footprint 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.

For elderberry shrubs that cannot be avoided with a 100-foot setback, the qualified biologist will quantify the number of stems greater than one inch in diameter to be affected and the presence or absence of exit holes for the Conservancy to plant stems or cuttings 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. 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. The project proponent will retain a qualified biologist to identify any suitable aquatic and upland habitats for California salamander (as defined in Appendix A, *Covered Species Accounts*) present in and within 500 feet of the project footprint during planning-level surveys. The qualified biologist will also assess whether critical habitat could be affected by the covered activity.

Except for habitat management and enhancement, all covered activities will provide a 500-foot setback from aquatic California tiger salamander habitat. If a covered activity is outside Critical Habitat Unit 1 and, as designed, will not avoid aquatic habitat by at least 500 feet, the project proponent will either conduct visual and dip-net surveys, consistent with CDFW protocol, during the period for November 1 to May 15 (California Department of Fish and Game 2003) or assume presence. If the species is present or assumed to be present, the covered activity will not remove aquatic habitat until at least four new breeding habitat occurrences are discovered or established in the Plan Area and protected in the Plan Area. After the four new occurrences are protected, and with concurrence of USFWS and CDFW, up to three occurrences discovered within the project footprint may be affected. The breeding habitat may not be removed if USFWS and CDFW determine that the covered activity would remove a significant occurrence of this species that could be necessary for maintaining the genetic diversity or regional distribution of the species. This AMM applies to California tiger salamander aquatic habitat and surrounding uplands, as defined by reference to the setbacks described above; it does not apply to cultivated agricultural lands (i.e., agricultural lands other than grazing lands) or other low-value upland habitat for California tiger salamander.

AMM14, Minimize Take and Adverse Effects on Habitat of Giant Garter Snake. The project proponent will avoid effects on areas where planning-level surveys indicate the presence of suitable habitat for giant garter snake. To avoid effects on giant garter snake aquatic habitat, the project proponent will conduct no in-water/in-channel activity and maintain a permanent 200-foot non-disturbance buffer from the outer edge of potentially occupied aquatic habitat. If the project proponent cannot avoid effects of construction activities, the project proponent will implement the measures below to minimize effects of construction projects (measures for maintenance activities are described after the following bulleted list).

- Conduct preconstruction clearance surveys using USFWS-approved methods within 24 hours prior to construction activities within identified giant garter snake aquatic and adjacent upland

habitat. If construction activities stop for a period of two weeks or more, conduct another preconstruction clearance survey within 24 hours prior to resuming construction activity.

- Restrict all construction activity involving disturbance of giant garter snake habitat to the snake's active season, May 1 through October 1. During this period, the potential for direct mortality is reduced because snakes are expected to move and avoid danger.
- In areas where construction is to take place, encourage giant garter snakes to leave the site on their own by dewatering all irrigation ditches, canals, or other aquatic habitat (i.e., removing giant garter snake aquatic habitat) between April 15 and September 30. Dewatered habitat must remain dry, with no water puddles remaining, for at least 15 consecutive days prior to excavating or filling of the habitat. If a site cannot be completely dewatered, netting and salvage of giant garter snake prey items may be necessary to discourage use by snakes.
- Provide environmental awareness training for construction personnel, as approved by the Conservancy. Training may be implemented through the distribution of approved brochures and other materials that describe resources protected under the Yolo HCP/NCCP and methods for avoiding effects. If a live giant garter snake is encountered during construction activities, immediately notify the project's biological monitor and USFWS and CDFW. The monitor will stop construction in the vicinity of the snake, monitor the snake, and allow the snake to leave on its own. The monitor will remain in the area for the remainder of the work day to ensure the snake is not harmed or, if it leaves the site, does not return. The qualified biologist will work with the Conservancy, USFWS and CDFW to redirect the snake away from the disturbance area within three days of reporting the snake's presence at the construction site to USFWS and CDFW.
- Employ the following management practices to minimize disturbances to habitat:
 - Install temporary fencing to identify and protect adjacent marshes, wetlands, and ditches from encroachment from construction equipment and personnel.
 - Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted practices. No plastic, monofilament, jute, or similar erosion-control matting that could entangle snakes or other wildlife will be permitted.

Ongoing maintenance covered activities by local water and flood control agencies typically involve removal of vegetation, debris, and sediment from water conveyance canals as well as resloping, rocking, and stabilizing the canals that serve agricultural water users. Maintenance of these conveyance facilities can typically occur only from mid-January through April when conveyance canals and ditches are not in service by the agency, although some drainages are used for storm conveyance during the winter and are wet all year. This timing is during the giant garter snake's inactive period. This is when snakes may be using underground burrows and are most vulnerable to take because they are unable to move out of harm's way. Maintenance activities, therefore, will be limited to the giant garter snake's active season (May 1 to October 1) when possible. All personnel involved in maintenance activities within giant garter snake habitat will first participate in environmental awareness training for giant garter snake, as described above for construction-related activities. To minimize the take of giant garter snake, the local water or flood control agency will limit maintenance of conveyance structures located within modeled giant garter snake habitat (Appendix A, *Covered Species Accounts*) to clearing one side along at least 80 percent of the linear distance of canals and ditches during each maintenance year (e.g., the left bank of a canal is

maintained in the first year and the right bank in the second year). To avoid collapses when resloping canal and ditch banks composed of heavy clay soils, clearing will be limited to one side of the channel during each maintenance year.

For channel maintenance activities conducted within modeled habitat for giant garter snake, the project proponent will place removed material in existing dredged sites along channels where prior maintenance dredge disposal has occurred. For portions of channels that do not have previously used spoil disposal sites and where surveys have been conducted to confirm that giant garter snakes are not present, removed materials may be placed along channels in areas that are not occupied by giant garter snake and where materials will not re-enter the canal because of stormwater run-off.

Modifications to this AMM may be made with the approval of the Conservancy, USFWS, and CDFW.

AMM15, 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) 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 operations and maintenance activities that involve pruning or removal of a potential Swainson's hawk 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.

AMM16, Minimize Take and Adverse Effects on Habitat of Western Yellow-Billed Cuckoo. The project proponent will retain a qualified biologist to conduct planning-level surveys and assess whether habitat for western yellow-billed cuckoo (as defined in Appendix A, *Covered Species Accounts*) is present within 500 feet of covered activities. If habitat is present, the project proponent will

redesign the project to avoid or minimize activities within 500 feet of western yellow-billed cuckoo habitat. If the activity will encroach within 500 feet of habitat and there are no breeding (or nesting) season records for the species within one-quarter mile of the covered activity within the previous three years, a qualified biologist will conduct planning-level surveys for active nests, consistent with USFWS protocol (Appendix N), during the period from June 1 to August 30. Operations and maintenance activities that do not occur during the breeding season (June 1 to August 30) and do not remove western yellow-billed cuckoo habitat are not required to conduct surveys or record searches; no further avoidance or minimization is necessary for such activities.

If an occupied territory is discovered during planning-level surveys, or there is a record of the species occurring within one-quarter mile of the covered activity within the previous three years, the project proponent will design the project to avoid activities within 500 feet of suitable habitat, unless the Conservancy, USFWS, and CDFW approve a shorter distance.

If an activity occurs within 500 feet of suitable habitat during the breeding season, regardless of whether or not a qualified biologist detected the species during planning-level surveys or there are records for the species in the area, a qualified biologist will conduct preconstruction surveys that are consistent with USFWS protocol (Appendix N) during the same season when the activity will occur. If the biologist finds active territories (i.e., presence of a singing male), the project proponent will avoid activity within 500 feet of suitable habitat that is contiguous with the territory from June 1 to August 30. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

AMM17, 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 or suitable burrowing owl burrows 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 designated 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). Activities that involve heavy equipment would be expected to constitute medium to high levels of disturbance for the species. 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 4-2. 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 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 within three days hours prior to ground disturbance.

If the biologist finds the site to be occupied¹¹ by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites, as specified in Table 4-2, 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 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

¹¹ 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.

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 (September 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 nesting 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). 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 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.

AMM18, Minimize Take and Adverse Effects on Least Bell's vireo. The project proponent will retain a qualified biologist to conduct planning-level surveys and determine if habitat for least Bell's vireo (as defined in Appendix A, *Covered Species Accounts*) is present within 500 feet of covered activities. If habitat is present, the project proponent will redesign the project to avoid or minimize activities

within 500 feet of least Bell's vireo habitat. If the activity will encroach within 500 feet of habitat and there are no breeding season records for the species within one-quarter mile of the covered activity within the previous three years, the qualified biologist will conduct planning-level surveys for active territories, consistent with USFWS (2001) guidelines, during the breeding season (April 1 to July 15). Operations and maintenance activities that do not occur during the breeding season and do not affect least Bell's vireo habitat are not required to conduct surveys or record searches, and no further avoidance or minimization is necessary for such activities.

- If an occupied territory is discovered during planning-level surveys, or there is a record of the species occurring within one-quarter mile of the covered activity within the previous three years, the project proponent will design the project to avoid activities within 500 feet of suitable habitat, unless the Conservancy, USFWS, and CDFW approve a shorter distance.
- If an activity occurs within 500 feet of suitable habitat during the breeding season, regardless of whether or not the species was detected during planning-level surveys or there are records for the species in the area, a qualified biologist will conduct preconstruction surveys, consistent with USFWS (2001) guidelines, during the same season when the activity will occur. If active territories are found, the project proponent will avoid activity within 500 feet of the habitat from April 1 to July 15. This buffer may be reduced with approval from the Conservancy, USFWS, and CDFW.
- The project proponent will avoid disturbance of previous least Bell's vireo territories (up to three years since known nest activity) during the breeding season, unless the disturbance is to maintain public safety. Least Bell's vireo uses previous territories; disturbance during the breeding season may preclude birds from using existing unoccupied territories.
- The required buffer may be reduced in areas where barriers or topographic relief features are adequate for protecting the nest from excessive noise or other disturbance. Conservancy staff members will coordinate with the wildlife agencies and evaluate exceptions to the minimum nondisturbance buffer distance on a case-by-case basis. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.
- If occupied territories are identified, a qualified biologist will monitor construction activities in the vicinity of all active territories to ensure that covered activities do not affect nest success.

AMM19, Minimize Take and Adverse Effects on Habitat of Bank Swallow. The project proponent will retain a qualified biologist to identify and quantify (in acres) bank swallow nesting habitat (as defined in Appendix A, *Covered Species Accounts*) within 500 feet of the project footprint. If a 500-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy and CDFW to determine if bank swallow nesting colonies have been active on the site within the previous five years. If there are no records of nesting bank swallows on the site, the qualified biologist will conduct visual surveys during the period from March 1 to August 31 to determine if a nesting colony is present.

For operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (September 1 to February 28), it is not necessary to conduct a record search, planning and preconstruction surveys, or any additional avoidance measures.

If an active bank swallow colony is present or has been present within the last five years within the planning-level survey area, the Conservancy, USFWS and CDFW will be notified, and the project proponent will design the project to avoid adverse effects within 500 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW, based on site-specific conditions. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

AMM20, Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird. The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Appendix A, *Covered Species Accounts*) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy to determine if tricolored blackbird nesting colonies have been active in or within 1,300 feet of the project footprint during the previous five years. If there are no records of nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008).

Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.

If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

4.3.5 Cache Creek Area Plan Projects

AMM21, Implement Performance Standards of the Off-Channel Mining Plan and the Cache Creek Resources Management Plan. In addition to the applicable AMMs described above, aggregate mine operators will implement all of the applicable performance standards of the *Off-Channel Mining Plan* (Yolo County 1996). Channel maintenance and restoration in Cache Creek will require implementation of all applicable performance standards of the *Cache Creek Resources Management Plan and Cache Creek Improvement Program* (Yolo County 2002).

4.3.6 Avoidance and Minimization Measures within the Reserve System

Reserve system activities, including agricultural activities as described in Appendix M, *Yolo County Agricultural Practices*, have the potential to result in take of covered species. Covered species potentially affected by ongoing reserve system activities, and measures to avoid and minimize these effects, are described below. Prohibited land uses and other restrictions on reserve lands will be stipulated in the conservation easements, as described in Section 7.5.5.3.2, *Minimum Restrictions within a Yolo HCP/NCCP Conservation Easement*. Management practices on reserve lands will be developed with landowners, further described in the management plans, and approved by the

wildlife agencies. The species included below are the covered species most likely to be affected by covered activities in the reserve system because they are most likely to occur on cultivated lands. Cultivated lands consist of working landscapes on which agricultural activities take place on a regular basis. The potential scenarios described below for which take could occur are not exhaustive, however, and site-specific conditions could warrant different or additional measures to avoid and minimize take of the covered species found on cultivated lands that will count toward conservation commitments. The Conservancy will describe these avoidance and minimization measures as applicable in site-specific conservation easements or management plans that the wildlife agencies will approve. For bank swallow, agricultural practices on cultivated lands will comply with AMM19, *Bank Swallow*, above.

4.3.6.1 Valley Elderberry Longhorn Beetle

On reserve lands whose primary conservation values include valley elderberry longhorn beetle conservation, agricultural and other activities that would potentially result in take of valley elderberry longhorn beetle will not occur within a 100-foot buffer around elderberry shrubs, thereby avoiding take. Management activities which would not result in take of valley elderberry longhorn beetle (e.g., hand weeding, planting native plants) may occur within the 100-foot buffer. If existing, ongoing activities (e.g., agricultural activities, such as a farming road) encroach within 100 feet of elderberry shrubs on reserve land, the valley elderberry longhorn beetle habitat within 100 feet of such activities will not count toward the habitat protection commitment for this species. The Conservancy will coordinate with the wildlife agencies if elderberry shrubs are present within the reserve system on or near cultivated lands to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.3.6.2 California Tiger Salamander

Reserve system activities will avoid harming, harassing, injuring, or killing California tiger salamanders. If California tiger salamanders are present in a pond or other water feature on a site enrolled in the reserve system, the management plan for the site will specify water management measures intended to reduce the potential establishment of predatory non-native species and will restrict pond maintenance activities, and ground disturbing activities that may unearth California tiger salamanders in suitable upland habitat, to time periods when California tiger salamanders, in any lifestage, are not present. In the event that a salamander needs to be moved out of harm's way to avoid injuring or killing individuals, a qualified biologist will relocate the salamander to nearby habitat. The Conservancy will coordinate with the wildlife agencies where California tiger salamanders may be present within the reserve system, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.3.6.3 Giant Garter Snake

Canal and ditch maintenance on cultivated lands typically involves removal of vegetation, debris, and sediment from water conveyance channels. To minimize effects on giant garter snake, these activities within giant garter snake habitat will be limited to the giant garter snake's active season (May 1 to October 1) when possible. To minimize the take of giant garter snake, farmers and land managers on lands in the reserve system will limit maintenance of conveyance structures located within giant garter snake habitat to clearing one side along at least 80% of the linear distance of the channels during each maintenance year (e.g., the left bank of a canal is maintained in the first year

and the right bank in the second year). In the event that a giant garter snake needs to be moved out of harm's way to avoid injuring or killing individuals, a qualified biologist will relocate the giant garter snake to nearby habitat.

For channel maintenance activities conducted within giant garter snake habitat, farmers on cultivated land within giant garter snake habitat in the reserve system will place removed material at least 200 feet from permanent aquatic habitat. For portions of channels that do not have previously used spoil disposal sites and the area has been checked by a qualified biologist to confirm that giant garter snakes are not in harm's way, removed materials may be placed along channels in areas that are at least 200 feet from permanent aquatic habitat and where materials will not re-enter the canal because of stormwater run-off. The Conservancy will coordinate with the wildlife agencies where giant garter snakes may be present within the reserve system on or near cultivated lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.3.6.4 Western Pond Turtle

Western pond turtles may occur within canals and ditches in the reserve system. To minimize the take of western pond turtle, farmers and land managers on lands in the reserve system will limit maintenance of conveyance structures located within western pond turtle habitat to clearing one side along at least 80% of the linear distance of the channels during each maintenance year (e.g., the left bank of a canal is maintained in the first year and the right bank in the second year).

For channel maintenance activities conducted within western pond turtle habitat, farmers and land managers within western pond turtle habitat in the reserve system will place removed material at least 200 feet from permanent aquatic habitat. For portions of channels that do not have previously used spoil disposal sites and the area has been checked by a qualified biologist to confirm that western pond turtles are not in harm's way, removed materials may be placed along channels in areas that are at least 200 feet from permanent aquatic habitat and where materials will not re-enter the canal because of stormwater run-off. In the event that a western pond turtle needs to be moved out of harm's way to avoid injuring or killing individuals, a qualified biologist will relocate the western pond turtle to nearby habitat. The Conservancy will coordinate with the wildlife agencies where western pond turtles may be present within the reserve system on or near cultivated lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.3.6.5 Swainson's Hawk and White-tailed Kite

Swainson's hawk prey species can be considered agricultural pests and rodenticides are sometimes used as part of general agricultural operations to control pest populations. Rodenticides both reduce available food resources and can directly harm individual Swainson's hawks and white-tailed kites that ingest prey that have been poisoned by rodenticides. The use of rodenticides is prohibited on all lands in the reserve system, including cultivated lands, in order to avoid effects to Swainson's hawk and white-tailed kite.

The removal or cutting of trees on lands in the reserve system is prohibited except as reasonably necessary and/or prudent for (1) fire breaks, (2) prevention or treatment of disease; or (3) removing vegetation and debris which poses a health and safety hazard or a threat to standard agricultural operations including, but not limited to, downed trees or limbs. In cases where the

cutting or removal of a tree is deemed necessary due to one of the reasons mentioned above, the removal of the tree shall not occur during the Swainson's hawk nesting season (February 1 through October 1) to avoid disturbance during the breeding season. No standing tree shall be removed until it has been verified that the tree is not an active Swainson's hawk or white-tailed kite nest tree. The Conservancy will coordinate with the wildlife agencies where Swainson's hawks are present within the reserve system on or near cultivated lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.3.6.6 Western Burrowing Owl

Farmers and land managers on lands in the reserve system will avoid disturbing burrows occupied by western burrowing owls. The Conservancy will coordinate with the wildlife agencies if burrowing owls are found on actively farmed lands within the reserve system to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.3.6.7 Tricolored Blackbird

Tricolored blackbirds can nest in triticale and other types of grain crops, although this has not been documented in Yolo County. In the rare event that tricolored blackbirds nest in cultivated lands within the reserve system, the farmer will delay harvesting the crop and other agricultural practices a sufficient distance from the active nest to avoid harming, harassing, injuring or killing individuals. The restriction will be maintained until the tricolored blackbirds have finished nesting (i.e., fledglings are capable of acquiring food on their own). A qualified biologist will confirm the distance in which harvesting can occur and the time at which tricolored blackbirds have finished nesting (and therefore when the remaining harvest may occur). The Conservancy will coordinate with the wildlife agencies if tricolored blackbirds are found within the reserve system on or near actively farmed lands, to develop additional protection measures as needed to maintain the conservation values of the easement and comply with the Yolo HCP/NCCP.

4.4 Qualified Biologist

Qualified biologists will conduct several types of surveys and monitoring for the Yolo HCP/NCCP, including species surveys, planning-level habitat surveys, preconstruction surveys, construction monitoring, and effectiveness monitoring conducted on the reserve system. This requirement applies to all monitoring described in this HCP/NCCP that calls for a qualified biologist, including avoidance and minimization measures described in this chapter and the effectiveness monitoring described in Chapter 6, *Conservation Strategy*.

Qualified biologists are those biologists who have the experience, education, and training necessary to perform the tasks described in the Yolo HCP/NCCP accurately and in an unbiased fashion. The term *qualified biologist* is used generically to mean a biologist who is trained to perform the given task. Such a person is, more specifically, a wildlife biologist, botanist, or biological consultant who has been trained in wildlife biology or botany. Training must be in the field to which the task is related. For example, a wildlife biologist may not perform a covered plant survey or delineate land cover types for a project application unless the individual is competent in those fields.

If the task does not have the potential to result in take of covered species (e.g., land cover mapping or monitoring of the compliance of construction crews), applicants (or Permittees) may choose their own biologists to conduct these specialized tasks.

If the task has the potential to result in take of covered species (e.g., handling a California tiger salamander, establishing perimeters around an active nest or burrows, or conducting the effectiveness monitoring described in Section 6.5, *Monitoring and Adaptive Management*), the Conservancy must approve the biologist before the biologist can conduct such tasks. To be approved, the biologist must provide the Conservancy with credentials that demonstrate that he or she has an understanding of the monitoring protocols, data collection techniques, and handling procedures for the covered species. Upon Conservancy approval, the Conservancy will maintain a list of pre-approved qualified biologists who may conduct monitoring work for a 5-year period. The Conservancy will provide the list of qualified biologists in annual reports to the wildlife agencies. The Conservancy will keep resumes of the qualified biologists on file, available upon request by the wildlife agencies. Individuals who are not pre-approved by the Conservancy to conduct monitoring with the potential for take may conduct monitoring if they have the appropriate valid permits or authorizations from CDFW and USFWS for the species that they are monitoring. In either case, the biologist will possess all of the qualifications that would otherwise be required under a recovery permit.

4.5 Exemptions from Avoidance and Minimization Measures

These following covered activities are not subject to the avoidance and minimization measures described in this chapter¹². For activities that are exempt from the avoidance and minimization measures, project proponents will report quantifiable natural community and covered species habitat losses (the Conservancy will not track effects that cannot be quantified) but will not submit an application package. Although these covered activities are exempt from the avoidance and minimization measures, all activities that are described as covered in Chapter 3, *Covered Activities*, will receive take coverage under the Yolo HCP/NCCP. Additionally, activities that are not covered under the Yolo HCP/NCCP are not subject to the avoidance and minimization measures in this chapter.

The Conservancy will base its determination as to whether an activity qualifies for an exemption on land cover types mapped for the Yolo HCP/NCCP at the time of permit issuance and the nature of covered activities previously permitted on the site.

Many of the covered activities that are exempt from the avoidance and minimization measures in this chapter may also be exempt from the land cover fees, as described in Chapter 8, Section 8.4.1.1, *Exemptions from HCP/NCCP Fees*.

¹² Activities that are exempt from the avoidance and measures may still be subject to fees as described in Section 8.4.1.1, *Exemptions from HCP/NCCP Fees*. Similarly, some activities that are exempt from fees may still be subject to the avoidance and minimization measures.

The following covered activities and projects are exempt from all of the avoidance and minimization measures in this chapter, and the Conservancy will not track these activities.

- Projects that do not result in ground disturbance, do not affect Swainson's hawk or white-tailed kite nests, do not result in the release of potential water quality contaminants, and do not create new wildlife barriers.
- Any covered activity described in Chapter 3, *Covered Activities*, that occurs on developed land cover types (see Table 2-1 for land cover types classified as developed), as verified in the field, unless the activity may affect covered species; may affect mapped or unmapped stream, riparian, pond, or wetland land cover types; may remove trees during the nesting season; or occurs in a stream setback.
- Routine infrastructure maintenance by Permittees or SPEs that occurs inside an urban planning unit (Planning Units 19, 20, 21, or 22) and does not affect stream, riparian, pond, or wetland land cover types.
- Natural community and species habitat enhancement activities implemented as a component of the Yolo HCP/NCCP conservation strategy, provided that a qualified biologist determines that such activities would have no adverse direct or indirect effects on sensitive natural communities or covered species habitat, and upon approval by the wildlife agencies on a case-by-case basis.

These exemptions overlap with the exemptions from conditions on covered activities described in land cover fees described in Section 8.4.1.1, *Exemptions from HCP/NCCP Fees*.

4.6 Revisions to Avoidance and Minimization Measures

The Conservancy may revise avoidance and minimization measures over the course of the permit term in response to problems that may arise during implementation. Avoidance and minimization measures may be modified through the adaptive management process, based on results of implementation. The wildlife agencies will review proposed revisions to avoidance and minimization measures and respond within 30 days. The Conservancy will not adopt revised avoidance and minimization measures until they are approved by the wildlife agencies. Allowing such revisions will ensure that out-of-date or ineffective avoidance and minimization measures do not persist and that best available science can be incorporated into the avoidance and minimization measures, as appropriate for the Yolo HCP/NCCP.

The Conservancy may also update survey protocols during the permit term, based on changes to the accepted protocol, with the concurrence from CDFW and USFWS.