February 23, 2022

Subject: CEQA Statutory Exemption for Restoration Projects (SERP) Lead Agency Determinations for the Lakeville Creek Restoration Project

Project Title: Lakeville Creek Restoration Project

Lead Agency: County of Sonoma

Lead Agency Contact: Rich Stabler, rich.stabler@sonoma-county.org

Project Proponent: Sonoma Land Trust

Contact: Julian Meisler, julian@sonomalandtrust.org

Project location: Lakeville Creek is an intermittent watercourse with perennial pools that drains 0.7 square miles of grassland-covered hills on the northwestern edge of San Pablo Bay, near the mouth of the Petaluma River. The project site is located on the east side of Lakeville Highway about halfway between Cougar Mountain Road and Highway 37 in southern Sonoma County (Attachment 1), primarily on property owned and managed by Sonoma Land Trust, with a limited portion on the adjacent property owned by Sonoma Raceway. It is mapped on the Sears Point USGS 7.5' quadrangle (38.84242°N and 122.29409°W) at 15 to 75' in elevation, and encompasses approximately 60 acres. The project area is 9.2 acres. Land uses surrounding the site include diked agricultural lands, restored and protected baylands and grasslands, horse ranches, raceway, rural residential properties, and grazing lands.

Funding for this project has been provided through the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 (Proposition 68) via the Rivers and Streams Restoration Grant Program implemented by the California Department of Fish and Wildlife (CDFW).

Project Summary and Expected Environmental Benefits: Sonoma Land Trust (SLT) plans to implement restoration of a 4,240-foot reach of Lakeville Creek that flows through SLT's 1,142-acre Sears Point Ranch Preserve and the adjacent Sonoma Raceway property in summer/fall 2023. The project reach is deeply incised, resulting in reduced connectivity with its floodplain for the majority of the channel length. The channel and overall site conditions make the area suitable for restoration of a multi-threaded channel with extensive floodplain inundation (a "Stage Zero" wetland complex)(Cluer & Thorne 2013, Attachment 10)[1].

The design will bring the current channel back to its original grade and provide the contours for natural establishment of an anastomosing network of channels. A complex mosaic of channels, wetlands and uplands is expected to provide more diverse plant and wildlife habitat, allow for greater infiltration and storage of water, and result in a greater likelihood of sustaining wetlands into the future. The process will reconnect the channel to the surrounding floodplain and increase the duration of the seasonal water table in the adjacent floodplains and seasonal wet meadows.

[1] Cluer, B. and Thorne, C. 2013. A Stream Evolution Model Integrating Habitat and Ecosystem Benefits. *River Research and Applications* 30(2): 135-154.

The overarching project goal is to create a functioning coastal alluvial fan ecosystem that more closely resembles historic conditions, is self-sustaining, and is more resilient to climate change.

Project objectives and the expected beneficial outcomes are:

Objective	Project Beneficial Outcomes
Halt channel incision and reconnect the channel to its alluvial valley floodplains by re-establishing a "Stage Zero" valley condition across 4.2 acres.	• Maximized groundwater infiltration. • Maximized groundwater retention. • Increased water table elevation and connectivity to floodplain, increasing resilience to extreme precipitation conditions related to climate change. • Preventing the loss of wetlands currently in process due to channel incision, and expanded wetland area and quality. • Increased native vegetation diversity and native plant regeneration. • Reduced erosion.
Facilitate the development of a 4.2-acre of ecologically-complex native wet meadow/wetland/grassland habitat	• Increased resilience to climate change through development of stable native perennial plant communities that are more robust to disturbances such as extreme floods, droughts, and managed livestock grazing. Improved and expanded habitat for California native wildlife species, including riparian habitat for California red-legged frog and upland habitat for Callippe silverspot butterfly by increasing nectar plants (USFWS 2020). • Expanded habitat and diversity for native plants, including host and nectaring plants for silverspot butterfly and other native grassland and wetland species.
Improve aquatic and migratory habitat for California red-legged frogs	• Restored non-breeding wetland habitat. • Retained existing depressions that could potentially support breeding. • Increased native plant cover to provide shelter, predator avoidance, and breeding habitat.
Improve habitat conditions for Callippe silverspot butterflies	• Expanded presence of *Viola pedunculata* (Johnny jump-up) by incorporating plantings into the revegetation plan • Increased the amount and variety of plant nectar sources by incorporating these species into the revegetation plan

Project Description: Project implementation requires grading to restore the creek from its deeply incised current condition to its historic condition. Much of the project reach has undergone significant changes from its historical condition, including anthropogenic fill, incision, and bank erosion. The site has been grazed by cattle for a century or more, with heavy year-round grazing until the past couple of years, when SLT has reduced access to this area and prepared a grazing plan to enhance ecological function for the entire property. Grazing

continues on the property under an agricultural easement held by SLT. The upper Lakeville Creek watershed, and the valley within the project reach, was manipulated and actively modified multiple times in the 1900s. There appears to have been several phases of tributary and hillside grading. Soil derived from these erosion control, smoothing, and flattening operations was used to extend the hill toes—narrowing and filling the valley. The channel was rerouted in several locations in the upper portion of the project reach to accommodate the fill and road alignments. Livestock grazing has been the dominant land use in the upper watershed and within the project reach for over a century. All of these factors have led to severely degraded channel, wetland, and valley conditions. Groundwater infiltration and storage mechanisms have been disrupted by channel incision and floodplain disconnection. Wetlands have largely disappeared or are in poor condition. Critical habitats for native species are absent or limited in extent due to impacts of land use and historic modifications.

Restoring Lakeville Creek to a distributary channel network and wet meadow ecosystem, similar to what was most likely present historically and what will provide the highest hydrologic and biologic function, requires eliminating the single thread, incised channel and converting the site to a “Stage Zero” wetland complex. The term “Stage Zero” refers to a class of dynamic, anastomosing (multi-threaded) wetland channel forms that were widely distributed in many landscapes pre-disturbance, and which provide high levels of habitat and ecosystem benefits.

The proposed project consists of the following components:

- Grading throughout the project reach to replace the incised channel with a broad “Stage Zero” wetland complex with no defined channel; grading will consist primarily of excavation in the upper project reach and fill in the lower reach
- Revegetation with native perennial seed and plugs throughout the restored “Stage Zero” valley wetland complex, willow cuttings in clusters (sausals) along the reach, and limited upland woody plantings
- Fencing to exclude livestock while vegetation is establishing and to facilitate limited grazing access after establishment

Stage Zero Wetland Complex Grading

The restoration of Lakeville Creek along the approximate 4,240-foot reach within the project area entails grading of the incised channel, revegetating with native wet meadow species and bands of willows, and protecting the site long-term from overgrazing impacts (see Attachment 1). The restoration method selected for this “Stage Zero” wetland complex project is the valley reset approach, which involves restoring the channel bottom to its historic geomorphic grade line through a combination of excavation of anthropogenic fill in the upper project reach to create a wider, inset valley floor and filling the incised channel sections in the middle and lower reaches to the existing valley floor/alluvial fan elevations and slope.

The project area will be approximately 9.2 acres with grading activities occurring in a planned area of 5.4 acres. Channel material from the upper portion of the project reach will be removed and placed in the lower portion of the reach that is experiencing downcutting and bank erosion. The project has been designed to have a balance of soil cut and soil fill to eliminate the need for material off haul or soil import. Upon funding of the project, grading would begin after July 15 and will cease by October 15. Erosion control and revegetation efforts will begin after grading.

Erosion Control and Revegetation

Topsoil will be salvaged during initial grading for use during erosion control and revegetation, which will begin following grading activities. Erosion control treatment varies throughout the

project reach based on reach slope. Graded areas with slopes less than 2% (the lower project reach) will have salvaged topsoil replaced before being seeded with a native seed mix and covered with flexible growth medium, a type of hydraulically applied, biodegradable mulch. Wet meadow plug plantings will also be planted in bands along this reach. Restoration areas with slopes greater than 2% slopes (the upper reach) will be heavily planted with wet meadow plug plantings in addition to seeding and applying flexible growth medium. In this section, straw wattles will also be installed perpendicular to the flow path every 25 feet. Additional plug and shrub planting will occur adjacent to the upper reach in the upland area of the project. Both the lower and upper reaches will be planted with bands of willow pole plantings.

Upland grass areas impacted during construction to provide access to the site and for staging equipment and materials will be de-compacted and native upland grass seed mix will be spread and covered with flexible growth medium to stabilize the area and protect against erosion.

Access and Staging
Existing ranch roads will be used to access the project site wherever feasible. New temporary access routes will be graded to areas along the project reach. Staging for equipment and construction material will occur in specified staging areas. Staging areas will be prepared by removing and storing topsoil. At the end of the construction period the contractor will remove temporary access materials and restore the access routes through decompaction, replacement of topsoil to restore original grade, seeding, and mulching. Repairs to the ranch roads will be made as needed to restore to pre-project conditions, and staging areas will be restored to preconstruction conditions.

Project History and Stakeholder Outreach:

The Lakeville Creek project has a long history. In 1999, the Baylands Ecosystem Habitat Goals Report set ambitious goals to conserve and restore tidal wetlands and the adjacent habitats of the San Francisco Bay estuary to offset enormous losses that occurred since 1850. It reported that roughly 70% of tidal marsh, 62% of moist grasslands, and 69% of riparian habitats were lost in the North Bay. A more focused look from the 2018 Petaluma River Historical Hydrology and Ecology Study found that tributary streams flowing from the hills within the Petaluma River watershed did not connect directly with the estuary historically but deposited sediment and freshwater into adjacent seasonal wetland habitats. During reclamation, drainage ditches were built across diked agricultural baylands to shunt water through the system to the estuary, resulting in an artificial increase in channel length of 50%, partly contributing to the 84% decrease in non-tidal wetlands.

SLT began a focused effort to conserve the baylands in the 1980s, steadily acquiring land and collaborating on restoration and management over the years with state and federal agencies (e.g. Carl's Marsh, CDFW, Sonoma Baylands, Coastal Conservancy). In 2005, SLT acquired the 2,327-acre Sears Point property, a vital link along the northern San Pablo Bay shoreline connecting nearly five miles of protected and restored tidal marsh habitat from the Petaluma River to Tolay Creek. Unique among nearly all shoreline conservation properties, Sears Point extends far into the adjacent uplands, reaching elevations of nearly 400 feet. Some nine miles of riparian corridors traverse its grasslands, willow groves, and broad plains of seasonal wetlands to connect upland to bay. Slated for casino development prior to SLT's acquisition, Sears Point and several thousand acres adjacent and nearby are protected in perpetuity offering an unparalleled opportunity for landscape-scale restoration of multiple habitats. (Note:

In 2016, SLT completed the transfer of 1,433 acres of Sears Point and a 279-acre adjacent parcel to San Pablo Bay National NWR.).

Since completing the Preliminary Sears Point Wetlands and Watershed Restoration Plan (Plan) in 2007, SLT has worked to implement landscape-scale restoration at Sears Point. Over the past decade, SLT restored nearly 1,000 acres of diked agricultural baylands to tidal wetland, constructed three breeding ponds for the California red-legged frog, developed and implemented an ecological grazing plan to promote native grass and forb diversity, installed eleven artificial burrows for western burrowing owls, repaired headcuts, and managed invasive species. These projects were funded by a variety of agencies and foundations including the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, U.S. Department of transportation, NOAA, California Department of Fish and Wildlife, Wildlife Conservation Board, State Coastal Conservancy, California Department of Water Resources, Caltrans, PG&E, Bay Trail, Moore Foundation and others.

Among other things, the 2007 Plan broadly characterized the geomorphology, biology and function of the property's streams and offered general ideas for stream restoration. In 2017, SLT contracted two consultants to look more closely at the property's most vital streams. The first consultant prepared plans for streams requiring only simple fencing and revegetation work to improve stream function and we are pursuing implementation of this work through other grant opportunities. The second consultant, PCI, prepared more detailed recommendations for three streams suffering more complicated issues of incision, headcutting, disconnection from floodplain, and associated loss of riparian and seasonal wetland habitats. The largest and most important of these streams was Lakeville Creek. SLT worked with PCI to develop the current design for the "Stage Zero" project using funds from Prop 68.

Scientific input was solicited through site visits with staff from CDFW, Regional Water Board, NMFS, and USFWS. Through the planning process, SLT engaged a 12-person technical working group to review the designs and provide valuable input. In addition to the technical experts on the working group, SLT and PCI engaged regulatory staff from the agencies listed above and with staff from the Army Corps of Engineers to help develop a regulatory strategy for the "Stage Zero" design.

This project has widespread support from local, state and federally elected leaders, and conservation organizations. The original 2007 Plan won the San Francisco Estuary Partnership's "Outstanding Comprehensive Conservation and Management Plan Implementation Project" from the Friends of the SF Estuary Project in 2005. An enduring partnership with the San Pablo Bay National Wildlife Refuge has lent countless hours of in-kind support for previous projects at Sears Point through use of heavy machinery and staff time and volunteers have contributed hundreds of hours sprigging willows, planting native grasses and pulling weeds.

SLT commissioned an archaeological survey of the project area in 2020 prior to development of detailed designs. ALTA Archaeological Consultants (ALTA) conducted the study that included database searches, a pedestrian survey, and shovel test pits. A single isolated chert fragment was located in the northern part of the Project area. The study findings concluded the isolated artifact did not appear to be in close association or in sufficient quantity to merit formal recordation as an archaeological resource. ALTA recommended no further treatment or management of the artifact or the surrounding area.

As part of the evaluation, ALTA contacted the Native American Heritage Commission (NAHC) to review Sacred Land Files for any resources present within the project area and to request the contact information for the Native American groups in the area. The NAHC supplied a list of tribal groups with ancestral ties to the area. In February 2021, a letter was sent via email or regular mail to all parties listed by the NAHC to inform them about the project, to solicit any knowledge regarding cultural resources within the area and to provide an opportunity to express any concerns. To date, two responses have been received. The Dry Creek Rancheria Band of Pomo Indians indicated the project is outside of their territory and did not have any further comments. The Federated Indians of the Graton Rancheria (FIGR) indicated that they wish to receive a copy of the results of the present study when it is available, and a copy of the report was provided. FIGR did not provide comments on the assessment report.

In February 2022, SLT consulted with the Federated Indians of Graton Rancheria Tribal Heritage Preservation Officer, Buffy McQuillen, and Tribal leader, Gene Buvelot, to discuss the project. SLT reviewed the project components in a meeting with FIGR representatives and invited comments about the Project. FIGR expressed general support for the restoration project, while noting that additional surveys would be needed to determine whether buried tribal resources are on site and to determine how to protect the resources if they are present. On February 28, 2022, FIGR and ALTA conducted an additional buried resource site assessment. Numerous pits (12) were excavated to survey the interface between the anthropogenic fill material and the native soil surface to search for artifacts. No cultural resources have been observed within the project's footprint. The result of any findings will be used to complete National Historic Preservation Act Section 106 compliance as the Project moves forward through permitting to ensure cultural resource protection. FIGR has agreed to continue working with SLT on project review as it moves toward implementation.

Lead Agency Determinations, per Public Resources Code 21080.56

21080.56. (a) – Exclusively Conserve, Restore, Protect, or Enhance, and assist in recovery of California native fish and wildlife and the habitat which they depend.

As lead agency, the County of Sonoma has determined that the Project is exclusively intended to restore and enhance habitat for native wildlife, including California red-legged frog (*Rana draytonii),* and directly contribute to the recovery of the species and the habitat upon which they depend. The Project will create approximately 4.2 acres of wetland complex along ~4,240 feet of Lakeville Creek. The wetland complex will restore, and stop the loss of, non-breeding wetland habitat and protect existing depressions that could potentially support breeding habitat. It will also increase native plant cover to provide shelter, predator avoidance, and breeding habitat.

The Project would protect existing stands of *Viola pedunculata* (Johnny jump-up) present in the project area. The *Viola* is the larval host plant for the callippe silverspot butterfly (*Speyeria callippe callippe*). The only population of callippe silverspot butterfly in Sonoma County is reported in the project vicinity, at Sears Point (USFWS 2020, Attachment 13). In addition to protection of the host plant, the Project includes the addition of the *Viola* to the revegetation plans as a means to expand existing habitat to support recovery of the species. Nectaring plants are also included in the Project revegetation plans, to expand food sources for the butterfly across the project area.

The extent of native grasslands in the Project area will expand as a result of revegetation efforts. Currently, grassland is eroding as channel incision continues at a rapid pace and banks collapse. Significant stands of native purple needlegrass, California oat grass, and diverse

wildflower fields occur in the project area, but these are threatened by ongoing erosion. Over time, declining water tables also poses a threat to native grass and forb persistence. Restoring the degraded channel to a stable complex of wet meadow and grassland will protect existing native grassland and expand on it. All upland areas will be seeded with a diverse mix of native grass and forb species and plug plantings of grasses and callippe nectar plants will be installed in selected locations. Existing native grassland stands have been mapped and will be protected from any construction impacts.

The Project is designed to forestall the loss of wetlands on the site, which is currently occurring due to channel incision and dropping water tables. With restoration, wetland extent will stabilize or expand relative to current conditions. Native plant cover within wetlands will be improved with the installation of thousands of diverse native rushes, spikerushes, and other moisture-adapted perennial grasses and forbs. These native perennial-dominated wetlands will provide habitat complexity for wildlife, protect soils from erosion, and improve water absorption and storage.

21080.56. (b) – An eligible project may have incidental public benefits, such as public access and recreation.

As lead agency, the County of Sonoma has determined that the sole purpose of the project is to enhance and restore habitat for California red-legged frog (*Rana draytonii)*, callippe silverspot butterfly (*Speyeria callippe callippe*), wetlands, and native grasslands. The Project has no incidental public benefits. The Project is located on lands owned and managed by the Sonoma Land Trust, which does not afford public access.

21080.56. (c) – Results in long-term net benefits to climate resiliency, biodiversity, and sensitive species recovery. Includes procedures and on-going management for protection of the environment.

As lead agency, the County of Sonoma has determined that the Project will result in long-term net benefits to climate resiliency, biodiversity, and sensitive species recovery. As part of their land stewardship and regional efforts to restore the San Pablo tidal baylands, SLT is undertaking restoration of a severely degraded ~4,240-foot reach of Lakeville Creek that flows from the adjacent Sonoma Raceway property and through SLT's Sears Point Ranch Preserve to the historic baylands. The intent of the Lakeville Creek Restoration Project is to restore ecological form and function to the alluvial valley that has been lost due to valley modifications, channel incision, wetland draining, and decades of intensive grazing. The proposed "Stage Zero" wetland complex will provide a stable, resilient network of wetlands that allows streamflow to spread across a large swath of the valley bottom by raising the bed of incised and downcut channels and lowering aggraded floodplains to the same grade as the adjacent valley. See the attached Basis of Design Memo (PCI 2022, Attachment 3).

Long-term Net Benefits to Climate Resiliency

The Project goals are to reconnect the channel to its alluvial valley floodplains; raise the seasonal water table level to re-establish and maintain freshwater wetlands; facilitate the development of ecologically complex habitats that support native plants and wildlife; and create a functioning coastal alluvial fan ecosystem that more closely resembles historic conditions, is self-sustaining, and is more resilient to climate change.

Seavy et al. (2009, Attachment 11) convincingly argue that riparian habitat restoration will become even more important with climate change as these systems are naturally resilient, provide habitat connectivity between aquatic and terrestrial ecosystems, and serve as thermal refugia for wildlife. At Lakeville Creek, SLT expects that reconnecting the creek with its

floodplain will promote the conditions in which riparian vegetation will thrive and the hydroperiod of adjacent seasonal wetlands will increase to provide habitat for a variety of species across multiple taxa. Improving water infiltration and raising the water table will help plants and wildlife survive in warmer, dryer, and more variable conditions. Stabilizing and enhancing wetlands with a diverse palette of native perennial species will enable the site to experience high flow events, which may occur more often, without damage or significant soil erosion. The project will also increase hydration of the site's vegetation, reducing its vulnerability to wildfires, which are also increasingly frequent as climate changes. Planted willow sausals will provide thermal refugia for wildlife. The increased spatial heterogeneity of functioning habitats (riparian, seasonal wetland, grassland) that will be achieved is also considered vital to achieving climate resilience (Timpane-Padgham et al. 2017, Attachment 12).

In the bigger picture, California is projected to continue to warm, heat waves will increase in intensity and duration, sea level will rise at least a few feet, and extreme storms and droughts are expected to become more frequent. The bay will be impacted by all these stressors, as acknowledged in the 2015 Baylands Ecosystem Habitat Goals Science Update. One of the primary recommendations of the 2015 report is to restore complete ecosystems by connecting tidal ecosystems to their upland watersheds. The Lakeville Creek restoration will occur just above the historic baylands margin, and is a step towards making this connection. Restoring bay-adjacent wetland and riparian habitat will support the abilities of native vegetation and wildlife to shift in response to rising sea level.

Long-term Net Benefits to Biodiversity

The Project will have a net benefit to biodiversity in the area, both by itself and in conjunction with related regional efforts, and both in terms of supporting special-status and non-listed, but locally limited, species and plant alliances. See the next section, Long-Term Benefits to Sensitive Species Recovery, for further discussion of benefits to special-status species.

Currently, wetland habitat on the Project site is declining due to channel incision and lowering water tables. Native grassland and native forb stands are also being lost, as erosion from channel incision eats into the adjacent upland areas. The loss of these types would represent a reduction of biodiversity in the region. Native freshwater wetland, and native grass and wildflower stands, have undergone extensive historic losses in the region due to development and intensive agricultural uses in low-lying grassland, riparian and wetland areas. The Project will reverse this loss, supporting long-term viability of vegetation types that would otherwise be lost over time as non-native, disturbance-tolerant weedy vegetation expanded. Specific vegetation types that will be restored include stands of Baltic rush marsh, brownheaded rush marsh, spike rush marsh, meadow barley and California oat grass meadow, and *Viola pedunculata* stands. In addition to these dominant species, restoration palettes include a diversity of supplemental native forb, rush, and grass species to increase the species richness present.

The expansion of the amount and diversity of native wetland, grassland, and woody riparian habitat along the reach of Lakeville Creek will improve conditions for both special-status and non-listed wildlife species. See next section for discussion of benefits to special-status wildlife. Common wildlife populations, including birds, bats, mammals, and butterflies, will benefit from the Project. Adding willow sausals where almost no woody vegetation currently exists will provide improved foraging and roosting habitat for many bird species, such as western bluebird and Say's phoebe, as well as for bats. The added woody cover will also provide protective cover for mammals such as coyotes and gray fox traversing the open grasslands and moving among

the area's uplands, valley floor, and baylands. Reversing the decline of wetlands, with improved structural diversity, will provide cover, foraging, and nesting opportunities for many bird species, such as marsh wren, great blue heron, and great egret. Plantings of nectar-producing species including California buckeye will provide new food sources for many butterfly species.

Restoration of Lakeville Creek also contributes to biodiversity as part of the larger restoration work throughout the region. The Project builds upon more than thirty years of conservation work and tens of millions of dollars of investment in the baylands and adjacent watersheds of Sonoma County. Most recently, SLT restored nearly 1,000 acres of tidal wetland, now part of San Pablo Bay National Wildlife Refuge. Long-term survival of varied native habitats depends on extensive, well-connected areas with high ecological function. Each smaller restoration project, including the Lakeville Creek Project, plays an essential part in sustaining the regional fabric of diverse native wetland, riparian, and grassland systems.

Long Term Benefits to Sensitive Species Recovery
Implementation of the Project will provide a net benefit for multiple special-status species to aid in species recovery.

The Project will expand potentially suitable seasonal habitat for Western pond turtle (listed as SSC). Marginal habitat is currently present in isolated areas along the bed of the existing incised channel, but habitat quality is low due to the lack of habitat complexity. Implementation of the Project will improve habitat complexity, adding cover and foraging resources, and expand quality habitat by expanding the wetlands across the 4.2-acre project area.

Tricolored blackbird (*Agelaius tricolor,* State threatened) are uncommon summer and rare winter residents in Sonoma County. A breeding colony is reported within 0.5 mile to the north of the project area with confirmed nesting nearby. This species depends on wetland vegetation, which is currently limited in the project area. Implementation of the project will increase cover and forage available for the species and may expand use of the area by tricolored blackbirds as nesting already occurs on nearby sites.

The project area currently supports marginally suitable aquatic and migratory habitat for California red-legged frog (federally threatened and State SSC). The restoration effort is designed to improve this potential; in the upper reach, several existing depressions in the channel which could potentially support breeding will be retained. In the lower reach, final grading will be intentionally rough to allow topographic variability and differential settling to create seasonally flooded depressions over time; these could also potentially support breeding. Restoration with structurally diverse native vegetation will provide improved cover and foraging resources for CRLF.

The only population of callippe silverspot butterflies (federally endangered) within Sonoma County is reported for the Sears Point area based on Hill (2018) cited in USFWS (2020). USFWS (2020) notes there are over "1,200 acres of contiguous grassland habitat surrounding the Sears Point population, although not all of this land is protected. The upland habitat of the San Pablo Bay NWR, managed by the Sonoma Land Trust, consists of 900 acres, with the Sonoma Raceway to the east." USFWS (2020) notes that host plants are widespread, but nectar plants are low in density. Overall, "the Sears Point population is in low condition" (USFWS 2020). The callippe silverspot butterfly occurs sympatrically with the *Speyeria zerene sonomensis,* and genetic analysis is the only way to distinguish between the two species. A limited number of *Speyeria* were observed in 2019, but the species is unknown based on the

potential for both closely related species to occur there (USFWS 2020). Adult butterflies were observed nectaring in the area, and the area supports large stands and individual *Viola penduculata*, the larval host plant. The project will have a net benefit on silverspot butterflies. Grading and access routes have been planned to avoid *Viola* populations, and *Viola* is included in the revegetation planting as a means to expand the host plant population. In addition, adult nectar sources will also be planted, including buckeye (*Aesculus californicus*) and mule's ears (*Wyethia angustifolia*) to further improve habitat and increase biodiversity of the area.

Implementation of the project will provide long term benefits for species recovery. The Project will also provide long-term benefits to special-status bird species known to use the site, including northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), and sharp-shinned hawk (*Accipiter striatus*). The improved habitat diversity and reversal of wetland decline will provide greater foraging, roosting, and nesting opportunities for these species.

Procedures and Ongoing Management for Protection of the Environment
Protection and conservation measures will be implemented during construction to avoid and minimize impacts to sensitive resources and to protect the environment to the greatest extent practicable. The construction work window will be limited to July 15 to October 15 when Callippe silverspot butterfly are not in their flight period. Additional protection measures are designed to avoid impacts on federally listed California red-legged frogs and other wildlife species and their habitats, protect native plants and plant communities, protect aquatic species, protect nesting birds, and protect water quality. Following construction, the site will be stabilized and erosion control measures will be implemented. Revegetation will be implemented as per the revegetation plan in the construction documents and will include native plant salvage and replanting, wetland plug planting, willow staking, re-seeding of disturbed uplands, and restoring access and staging areas to pre-construction conditions. A preliminary monitoring plan has been developed for the Project and will ensure that the plantings are successful, the Project elements are stable, and the overall Project meets its success criteria (PCI 2022, Attachment 8). Revegetation success will be monitored through annual assessments of plant survival and establishment of wetland species cover. If revegetation metrics are falling below targets, needs for maintenance measures or remedial actions will be identified. These could include invasive species removal, replanting, improved herbivory protection, supplemental irrigation, or other measures.

The proposed "Stage Zero" conditions along Lakeville Creek have been designed to not require long-term maintenance or management. The proposed grading has been designed to maintain long-term connectivity between the floodplain and improve habitat conditions for native plants and wildlife in perpetuity. At the same time, SLT is committed to stewardship of the entire preserve in perpetuity. Ongoing land management needs that will apply here and elsewhere on the preserve include careful management of livestock grazing to support conservation goals; monitoring and treatment of high-priority invasive plant species; oversight of limited human uses such as educational field trips; and management for wildfire resilience or recovery. SLT will continue to address all of these needs in perpetuity.

21080.56. (d) – Construction activities solely related to habitat restoration
As lead agency, the County of Sonoma has determined that the Project does not include any construction activities, except those solely related to habitat restoration.

Proposed construction activities are intended solely to enhance floodplain habitat in Lakeville Creek. The following construction activities are proposed:

- Mobilization/Demobilization. The contractor will coordinate construction access, schedule, timing, and safety protocols. Project start-up meetings and general construction materials procurement will occur. Equipment and materials will be hauled to the site. At the end of the Project all remaining materials and the equipment will be hauled out.
- Access and Staging. The contractor will prepare the access and staging areas for construction by prepping staging areas (remove and store topsoil), improving access routes sufficient to handle construction traffic, installing temporary boundary fencing, and installing composite mats for driving across wetland areas. At the end of the construction period, the contractor will remove temporary access materials and restore the access routes and staging areas through decompaction, seeding, and mulching.
- "Stage Zero" Grading. The contractor will grade the Lakeville Creek channel per the construction plans. Grading has been designed so that soil cut and fill grading quantities are balanced and no spoils off haul or soil import are necessary. Care will be taken to minimize impacts to surrounding wetlands and habitat protection zones. Measures will be in place to prevent turbid water from entering flowing water in the active channel. Flexible growth medium and straw wattles will be installed per plans to provide erosion control until plants are established.
- Revegetation. The contractor will salvage, stockpile and replace topsoil. In wetland areas, the top 6" of soil, including vegetation, will be salvaged and replaced. Restoration areas with slopes greater than 2% will be heavily planted with wet meadow plug plantings and straw wattles will be installed to prevent runoff. Willow pole planting will occur in key locations. Additional plug and shrub planting will occur in upland areas. Revegetation is shown on the construction plans.

Lead Agency Certification
I certify that this Project meets all the requirements described in Public Resources Code section 21080.56, and that I have submitted all the determinations required therein necessary to obtain the concurrence of the Director of Fish and Wildlife.

Richard Stabler March 9, 2022

Permit Sonoma, County of Sonoma

Attachments:
Attachment 1: SLT Project Area Map
Attachment 2: Project Designs
Attachment 3: Basis of Design Report
Attachment 4: Hydrology and Hydraulic Report
Attachment 5: Biological Resources Assessment Report
Attachment 6: Aquatic Resources Assessment Report
Attachment 7: Project Protection Measures
Attachment 8: Preliminary Monitoring Plan (2022)

Attachment 9: Cultural Resources Assessment Report
Attachment 10: Cluer & Thorn. 2013 Stream Evolution Model
Attachment 11: Seavy etal. 2009. Ecological Restoration
Attachment 12: Timpane, Padgham. 2017. Systemic Review
Attachment 13: USFWS. 2020.SSA Callippe Silverspot Butterfly