Kelly Farm Mitigation Bank

Initial Study / Proposed Mitigated Negative Declaration

City of Santa Rosa

16 January 2026

IS/MND
Kelly Farm Mitigation Bank

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1. Project Information

Project Title	Kelly Farm Mitigation Bank ("Project" or "Bank")
Lead Agency Name & Address	City of Santa Rosa 69 Stony Circle Santa Rosa, CA 95401
Contact Person & Phone Number	Andy Wilt, Associate Civil Engineer 707-543-3878; awilt@srcity.org
Project Location	5300 Occidental Road Santa Rosa, Sonoma County APN 060-020-001 and 1 acre of APN 060-020-081
General Plan Land Use Designation	Agriculture
Zoning	RR Rural Residential

1.1 CEQA Requirements

This project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the City of Santa Rosa (City). The purpose of this Initial Study is to provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration or a Negative Declaration. This Initial Study is intended to satisfy the requirements of CEQA (Public Resources Code, Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Sec 15000-15387). CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts.

Section 15063(d) of the State CEQA Guidelines indicates that an Initial Study should include the following:

1. A description of the project including the location of the project;
2. An identification of the environmental setting;
3. An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
4. A discussion of the ways to mitigate the significant effects identified, if any;
5. An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;
6. The name of the person or persons who prepared or participated in the Initial Study.

1.2 Project Background

The City of Santa Rosa, serving as the Bank Sponsor and Land Manager, proposes to establish a single-client mitigation bank to mitigate impacts from in-house projects. Credit types include California tiger salamander (CTS) upland habitat, CTS breeding habitat, re-established vernal pool habitat, rehabilitated vernal pool habitat, and enhanced vernal pool habitat. The proposed Kelly Farm Mitigation Bank is currently being reviewed and requires approval by the Interagency Review Team (IRT), comprised of the U.S. Army

Corps of Engineers, Region IX of the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW). A conservation easement would be placed over parcel 060-020-001 and held by a third-party Easement Holder.

1.3 Project Location and Existing Setting

The Project site is in Sonoma County along the south side of Occidental Road between Hepworth Road and a vineyard (see **Figure 2**). The Project site includes approximately 100 acres within the greater Kelly Farm property that is owned and operated by the City of Santa Rosa for recycled water irrigation and leased to local farmers for hay production. The proposed mitigation bank is a 99-acre parcel (APN 060-020-001) within the 100-acre Project site. The Project site also includes an approximately 1-acre portion of a parcel (APN 060-020-081) to the west. The 1-acre area includes a row of trees that would be retained and a fence that would be constructed to the west to protect the trees (see **Figure 3**, proposed fence is shown set back from property line).

Historically, the site supported dense vernal pool habitat. However, decades of hay farming, placement of biosolids, and irrigation have degraded the vernal pool habitats on the site. Existing botanical resources on site include annual grassland, hay field/ruderal, oak savanna, landscape trees, and wetland features. Hayfield tarplant, designated as California Rare Plant Rank 1B.2, exists along the northeastern edge of the Project site (see **Figure 2 Existing Conditions**).

The region is characterized by relatively small-scale agricultural operations interspersed with residential and commercial/industrial land uses. Agriculture in the area includes wine grape-growing, dairying, hay farming, horse pasture, and other moderate-intensity agriculture. Occidental Road borders the north of the site with rural residential beyond. To the east is a vineyard and associated structures. The site is bordered by a gravel road along the eastern half of the south side, with a horse pasture and intact vernal pools and oak savanna beyond the road. To the west and southwest is the greater Kelly Farm property.

1.4 Project Description

The City proposes to establish a mitigation bank over the 99-acre parcel within the Project site by rehabilitating and enlarging the degraded seasonal wetlands and re-establishing historic vernal pools that have been destroyed. In addition, some existing seasonal wetlands would be deepened to create CTS breeding ponds. CTS upland habitat would be enhanced by the cessation of farming and enactment of a grazing and vegetation management plan.

Table 1-1, below, summarizes the temporary impacts to aquatic resources. Construction activities would avoid the existing vernal pools and “other waters” along the edges of the property and the southeast quadrant. The remaining wetlands in the northeast quadrant and west half of the site would be temporarily disturbed during fine grading.

Table 1-1 Temporary Impacts during Construction

	Existing Wetlands (acre)	Temporary Impact (acre)
Vernal Pool	0.573	None/Avoided
Seasonal Wetland	8.779	4.243
Other Waters	0.297	None/Avoided
TOTAL	**9.65**	**4.24**

The existing degraded seasonal wetlands have depths ranging from 2 to 13 inches. Most of the existing seasonal wetlands would be rehabilitated and enlarged, with depths ranging from 6 to 18 inches. Three of the existing seasonal wetlands would be enlarged and deepened to create 0.89 acre of CTS breeding ponds with a maximum depth of three feet, sloping toward a shallower bench area of approximately one foot.

Post construction, the vernal pools on site would increase from 0.57 acre to 14.06 acres. Since many of the existing degraded seasonal wetlands would be converted to vernal pools, with a handful converted to CTS breeding ponds (considered seasonal wetlands for the purpose of these calculations), seasonal wetlands would decrease from 8.78 to 1.40 acre. Overall, vernal pools and CTS breeding ponds would total approximately 15.46 acres. Factoring in the existing "other waters," which would be left unmodified by the Project, the total onsite aquatic features would be approximately 15.76 acres. See **Figure 2 Existing Conditions**, **Figure 3 Site Plan,** and **Table 1-2 Pre- and Post-construction Aquatic Features**.

Table 1-2 Pre- and Post-construction Aquatic Features

	Existing Aquatic Features (acre)	Proposed Aquatic Features (acre)
Vernal Pool	0.573	14.059
Seasonal Wetland	8.779	1.404
Other Waters (avoided)	0.297	0.297 (no change)
TOTAL	**9.65**	**15.76**

Fence and Gate

Existing fencing is along the northern, eastern, and eastern half of the southern edge of the parcel. There are four existing gates dispersed along the fence, two of which would remain as part of the Project and the other two would be replaced with fencing. The existing fencing is aging and would be replaced. Similar style fencing would be installed just west of the western parcel boundary and along the western half of the southern parcel boundary to enclose the Bank site. In addition, fencing would be installed down the center of the property to manage grazing activities. An access gate would be installed along the western fence adjacent to the existing dirt road (referred to as Hepworth Road) that traverses the greater Kelly Farm property (see **Figure 3**).

Livestock Infrastructure

As described below under **Section 1.5 Bank Development and Interim Management Plan and Long-term Management Plan**, grazing by livestock could be used to support vegetation management within the mitigation bank parcel. Therefore, a permanent source of water and/or related infrastructure would be needed. This would include a well, pump, storage tank, watering troughs, water distribution piping, and electrical connections as further described below.

The number and type of livestock to be grazed onsite has not been determined. However, for the purpose of sizing the watering infrastructure, and based on the size of the property, it is estimated the site can support approximately 25 to 50 cattle and during hot summer days approximately 20 gallons would be needed per cattle (CFAD 2012). Assuming the herd is split evenly between the two pastures, an approximate 300-gallon trough would be placed in each pasture.

To provide water to the troughs, a new 6-inch diameter groundwater well would be constructed that extends a total of 200 feet below ground surface. Preliminary well design consists of 100 feet of blank polyvinyl

chloride (PVC) casing and 100 feet of 0.032-inch slotted PVC screen with 180 feet of sandpack and a 20-foot slurry cement surface seal. The well would be housed in an 8x10 foot concrete masonry unit pump house. The pump house would include a small sink and indoor and outdoor lighting on a timer switch to prevent extended operation without anyone onsite.

Water would be pumped to a 5,000-gallon storage tank set on a 13x13 foot concrete slab. The design pumping rate for the well is 10 gallons per minute which would fill the storage tank in 8 hours and operate on a timer. A manual override switch would be installed to turn off the well when the pasture is not being used for grazing. Final pump design would be performed following well completion and pump testing to fit field conditions.

Approximately 450 linear feet of electrical conduit and 500 feet of a 1.5-inch water line would be trenched in to support the watering infrastructure. In addition, one overhead utility pole would be installed along the Occidental Road frontage to provide electrical service to the well pump.

In addition, a small corral, loading ramp squeeze chute, or other appropriate livestock handling facilities may be installed in the upland area near the proposed gate and western fence line. The infrastructure that may be used to support livestock grazing would be determined in negotiation with a potential licensee through a Grazing License Agreement.

Project Construction

Construction would involve grubbing, fine grading, and excavation throughout the site to rehabilitate and enhance degraded seasonal wetlands, re-establish historic vernal pools, and deepen existing seasonal wetlands to create CTS breeding ponds. The estimated size of the construction workforce at any one point in time during construction is anticipated to range between 10 and 20 workers.

Construction Duration and Hours

Grading would be completed in one construction season over an estimated four-month period. Although exact dates are not known at this time, construction is expected to occur between June and October 2026. Construction hours would be 7:00 a.m. to 7:00 p.m. Monday through Saturday. No night-time work would occur.

Construction Access, Staging, and Stockpiling

Access to the site would occur from Occidental Road at the entrance to Hepworth Road. A soil stockpile and equipment staging area would be located centrally on the site (see **Figure 3**). Excavated soils would be stockpiled in this area with some returning to the deepened and re-contoured pools and ponds, while the remaining would be spread in the upland soil disposal area. No importing or exporting of soil material is anticipated.

Water trucks for dust control are expected to use a temporary recycled water filling station located within the southern portion of the greater Kelly Farm property.

Following informal consultation with CDFW and USFWS on the project design, Project work areas were modified to reduce overall disturbance area from approximately 60 acres to approximately 45 acres, avoiding the most sensitive upland habitat for CTS. Construction access would be limited to the work areas identified on **Figure 3** and would avoid the remainder of the Project site.

Environmental Sensitive Area Fencing

Prior to the start of construction, CTS exclusion fencing will be placed around the perimeter of the work area and high-visibility temporary fencing would be installed around sensitive areas within the work are, preventing accidental disturbance to some CTS upland habitat, hayfield tarplant populations, and the dripline of all oak trees, to protect these resources during construction activities (see **Figure 3**).

1.5 Bank Development and Interim Management Plan and Long-term Management Plan

The mitigation bank would be placed under a conservation easement and the Development and Interim Management Plan and Long-term Management Plan would dictate the short-term and long-term use and management of the site. These plans would be overseen by the Bank Sponsor (City of Santa Rosa) in the short-term and the Conservation Easement Holder in the long-term, with implementation on the ground by the Land Manager (City of Santa Rosa). The Development and Interim Management Plan includes the initial monitoring and land management activities. The interim period begins the first year after construction and continues until all performance standards have been met, typically around year five. In general, the monitoring and land management activities are similar under the two periods with additional monitoring activities occurring during the interim period until the performance standards have been met. Monitoring activities during the interim period would include multiple field visits throughout the year related to observing and documenting site conditions. This would include observing and assessing habitat conditions, mapping of various conditions using global positioning system (GPS) equipment, and photo monitoring. Some field visits would involve the use of hand tools to collect soil samples and measure water levels in the CTS breeding ponds and vernal pools. Vegetation would be assessed for cover, diversity, and abundance of native and invasive species. Monitoring of CTS breeding would include capture and handling of CTS larvae by appropriately permitted biologists.

After the interim management period is complete, the Bank would transition into the Long-term Management Plan. Maintenance and management activities under both the interim and long-term periods would be similar and are therefore collectively discussed below.

Maintenance activities would include as-needed repairs to the gates, fences, and grazing livestock infrastructure. In addition, maintenance related to the existing infrastructure (recycled water pipeline, control valve box, stormwater culvert, groundwater monitoring well) may occur in the future. This maintenance would be restricted to non-ground-disturbing activities such as maintenance of the existing valve boxes or trenchless pipe repair.

Management of the land would include thatch removal, soil erosion prevention, invasive species control, chemical treatment, trash removal, and perimeter mowing for fire hazard reduction. Vegetation management could include:

- Low-intensity, intermittent livestock grazing and/or targeted grazing.
- Removal with hand tools.
- Properly timed mowing and raking.
- Targeted application of herbicides for certain invasive species that cannot be readily controlled by other methods.

Overall, land management would be dictated by adaptive management which would include actions implemented as necessary to maintain the aquatic resources on-site and to meet performance standards.

Monitoring, described above, would identify if any such actions are required and inform the most appropriate action(s). If monitoring indicates that any performance standards have not been met or an adverse impact has occurred to the Bank site, the Bank Sponsor would prepare an analysis of the cause(s) of failure or impact and propose remedial actions for approval.

Minor adaptive management actions such as fence and water system repairs, exotic species treatment or removal, and localized re-seeding would be undertaken as necessary to maintain bank resources. If monitoring determines that the resources are failing to meet any performance standard, or are likely to fail, remedial actions such as extensive supplemental seeding or earthwork to modify pool depths would be conducted at appropriate times of the year with approval from the IRT.

1.6 Compliance with Existing Regulations and Standard BMPs

The Project would abide by the following regulations and industry-accepted best management practices (BMPs) to reduce or avoid potential adverse effects that could result from construction or operation of the Project. In addition to these BMPs, mitigation measures are presented in the following analysis sections in Chapter 3, Environmental Analysis, to reduce potentially significant environmental impacts below a level of significance.

Implementation of Air Quality Control Measures during Construction

To limit dust, criteria pollutants, and precursor emissions associated with the construction activity, the following Bay Area Air Quality Management District (Bay Area Air District) recommended Basic Construction Measures will be included in construction contract specifications and required during implementation of the Project:

– All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day;
– All haul trucks transporting soil, sand, or other loose material off-site shall be covered or shall have at least two feet of freeboard;
– All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited;
– All vehicle speeds on unpaved areas shall be limited to 15 miles per hour;
– All paving shall be completed as soon as possible after trenching work is finished;
– Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure CCR Title 13, Section 2485). Clear signage shall be provided for construction workers at all access points;
– All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation;
– A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Implementation of Stormwater Pollution Prevention Plan

The project will seek coverage under State Water Resources Control Board (Water Board) Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with

Construction and Land Disturbance Activities. The City will submit permit registration documents (notice of intent, risk assessment, site maps, stormwater pollution prevention plan (SWPPP), annual fee, and certifications) to the Water Board. The SWPPP will address pollutant sources, best management practices, and other requirements specified in the Order. The SWPPP will include erosion and sediment control measures, and dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner will oversee implementation of the Project SWPPP, including visual inspections, sampling and analysis, and overall compliance.

Use of Herbicides

As part of the vegetation management at the Project site, the use of herbicides may be necessary. Prior to the use of any herbicides, the City would prepare a State of California Department of Fish and Wildlife Pesticide Use Recommendation Form 880 and submit to CDFW's Pest Control Advisor for approval. Herbicide types, application rates, application method and equipment used, and required conditions specified in Form 880 would be adhered to.

1.7 Required Agency Approvals

The Project may require the following approvals by other agencies.

U.S. Army Corps of Engineers

A Clean Water Act Section 404 permit may be required if the Project results in temporary or permanent impacts to federal jurisdictional waters. At this time, no federal jurisdictional waters have been identified. In addition, the U.S. Army Corps will be an approver of the Bank and signatory on the conservation easement.

U.S. Fish and Wildlife Service

The U.S. Army Corps will initiate Section 7 Consultation with USFWS regarding potential impacts to federally listed species during construction, in particular CTS. In addition, USFWS will be an approver of the Bank and signatory on the conservation easement.

Regional Water Quality Control Board

The RWQCB will issue waste discharge requirements (WDR) and/or 401 Water Quality Certification for temporary impacts to federal and state jurisdictional waters.

California Department of Fish & Wildlife

The CDFW may need to issue either an Incidental Take Authorization (2081b) or Memorandum of Understanding (2081a) related to potential impacts to CTS during construction.

Sonoma County Agricultural Preservation and Open Space District

The District will subordinate the portion of the existing conservation easement that covers parcel 060-020-001 to the new Bank conservation easement.

1.8 Tribal Consultation

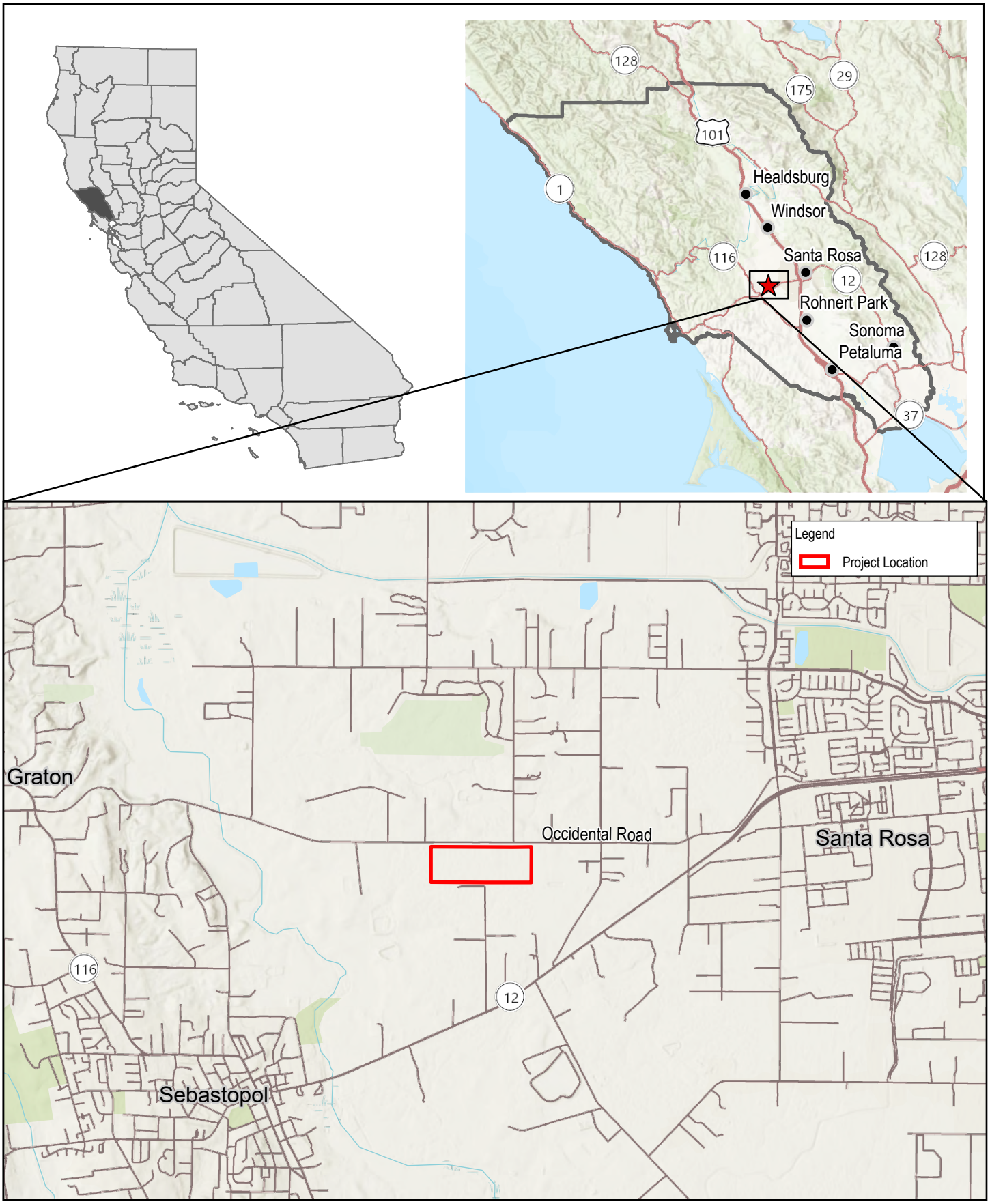
In June of 2021, the City notified Lytton Rancheria of California (Lytton) and Federated Indians of Graton Rancheria (FIGR) of the City's intent to conduct soil investigations at the site. Lytton responded, indicating that based on the information provided the Tribe was not requesting further consultation. No response was

received from FIGR. On October 27, 2021, the City of Santa Rosa sent both Lytton and FIGR an AB52 tribal consultation invitation. No response was received from either tribe.

The Anthropological Studies Center (ASC) contacted the Native American Heritage Commission (NAHC) in June 2021, requesting a review of the Sacred Lands File for information on Native American cultural resources within the Project site. On July 1, 2021, the NAHC responded that results of the Sacred Lands File search were negative and provided a list of groups and individuals who may have further knowledge of cultural resources within the Project area. Correspondence letters were mailed to the list of individuals on July 2, 2021 which included: FIGR, Pinolevile Pomo Nation, Robinson Rancheria of Pomo Indians, Guidiville Indian Rancheria, Kashia Band of Pomo Indians of the Stewarts Point Rancheria, Mishewal-Wappo Tribe of Alexander Valley, Cloverdale Rancheria of Pomo Indians, Lytton, Middletown Rancheria, Middletown Rancheria of Pomo Indians, and Dry Creek Rancheria of Pomo Indians. A response was received on July 13, 2021, from Federated Indians of Graton Rancheria THPO Administrative Assistant Hector Garcia Cabrales on behalf of Tribal Heritage Preservation Officer (THPO) Buffy McQuillen. The Tribe indicated that the Project area is within the Tribe's ancestral territory and therefore could contain archeological resources. No other responses were received.

In support of the US Army Corps of Engineers authorization process, ASC updated the Archaeological Resources Study in 2025. As part of that process, ASC again contacted the NAHC in October 2025, requesting a review of the Sacred Lands File for information on Native American cultural resources. On October 15, 2025, the NAHC responded that results of the Sacred Lands File search were negative and provided a list of groups and individuals who may have further knowledge of cultural resources within the Project area. Correspondence letters were mailed to the list of individuals on October 16, 2025 which included: FIGR, Pinolevile Pomo Nation, Robinson Rancheria of Pomo Indians, Guidiville Indian Rancheria, Kashia Band of Pomo Indians of the Stewarts Point Rancheria, Mishewal-Wappo Tribe of Alexander Valley, Cloverdale Rancheria of Pomo Indians, Lytton, Middletown Rancheria, Middletown Rancheria of Pomo Indians, Dry Creek Rancheria of Pomo Indians, and Koi Nation of Northern California. A response was received on November 4, 2025, from Federated Indians of Graton Rancheria Administrative Assistant Heather Torres on behalf of Tribal Heritage Preservation Officer (THPO) Buffy McQuillen. FIGR indicated that the Project area is within the Tribe's ancestral territory and requested the results of the research efforts and recommendations. In a subsequent communication on November 5, 2025, FIGR accepted an invitation to visit the site. ASC, accompanied by FIGR Tribal Cultural Monitor Owen Knight, carried out the pedestrian archaeological field survey on December 9th, 2025. A response also was received from Koi Nation on October 17, 2025, indicating the Project site is in proximity to a Koi settlement and trade trails, and requested to discuss further. ASC subsequently reached out to Koi Nation several times without connecting. The last communication received from Koi Nation was on November 4, 2025, where it was indicated, Koi Nation would try to find someone to assist. Two additional inquiries by ASC have not received a response as of November 21, 2025. No other tribes responded.

For a summary of the investigation and mitigation measures related to cultural and tribal resources, see **Section 3.5 Cultural Resources** and **Section 3.17 Tribal Resources**.



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Miles

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet

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GHD

City of Santa Rosa
Kelly Farm Mitigation Bank

Project No. **11228674**
Revision No. **-**
Date **Oct 2025**

Project Location

FIGURE 1

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Data source: World Topographic Map - labelless: Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS; transportation: USGS The National Map: National Transportation Dataset; U.S. Census Bureau – TIGER/Line; U.S. Forest Service. Data Refreshed October, 2021.; World Topographic Map - labelless: Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA; World Hillshade: Esri, NASA, NGA, USGS, FEMA; World Hillshade: Esri, CGIAR, USGS. Created by: jlopez4

FIGURE 2
Existing Conditions Plant Communities

Kelly Farm Mitigation Bank Sonoma County, CA

Occidental Road

Piezzi Road

Hepworth Road

Legend

- Occurrence of Hayfield Tarplant (0.37 ac., population is ~2,000)
- Survey Boundary (99 ac.)

Plant Communities*

- Annual Grassland (3.9 ac.)
- Hay Field/Ruderal (78.4 ac.)
- Oak Savanna (5.7 ac.)
- Drainage Channel (0.3 ac.)
- Planted Trees (1.4 ac.)
- Seasonal Wetland (8.8 ac.)
- Vernal Pool (0.6 ac.)

* Many wetland habitats are also farmed for hay and/or may be under wooded habitats

N
W E
S

1:3,360
(1 inch = 280 feet at tabloid layout)

0 50 100 Meters

0 140 280 560 Feet

Vollmar NATURAL LANDS CONSULTING

Data Sources: VNLC, 2020 | City of Santa Rosa, 2020
USGS, various | USDA NAIP (Air Photo), 2012 | SFEI, 2015
GIS/Cartography by Jake Schweitzer, July 2020
Map File: Fig6_RP_344_B-L_2025-0131.mxd

GENERAL NOTES

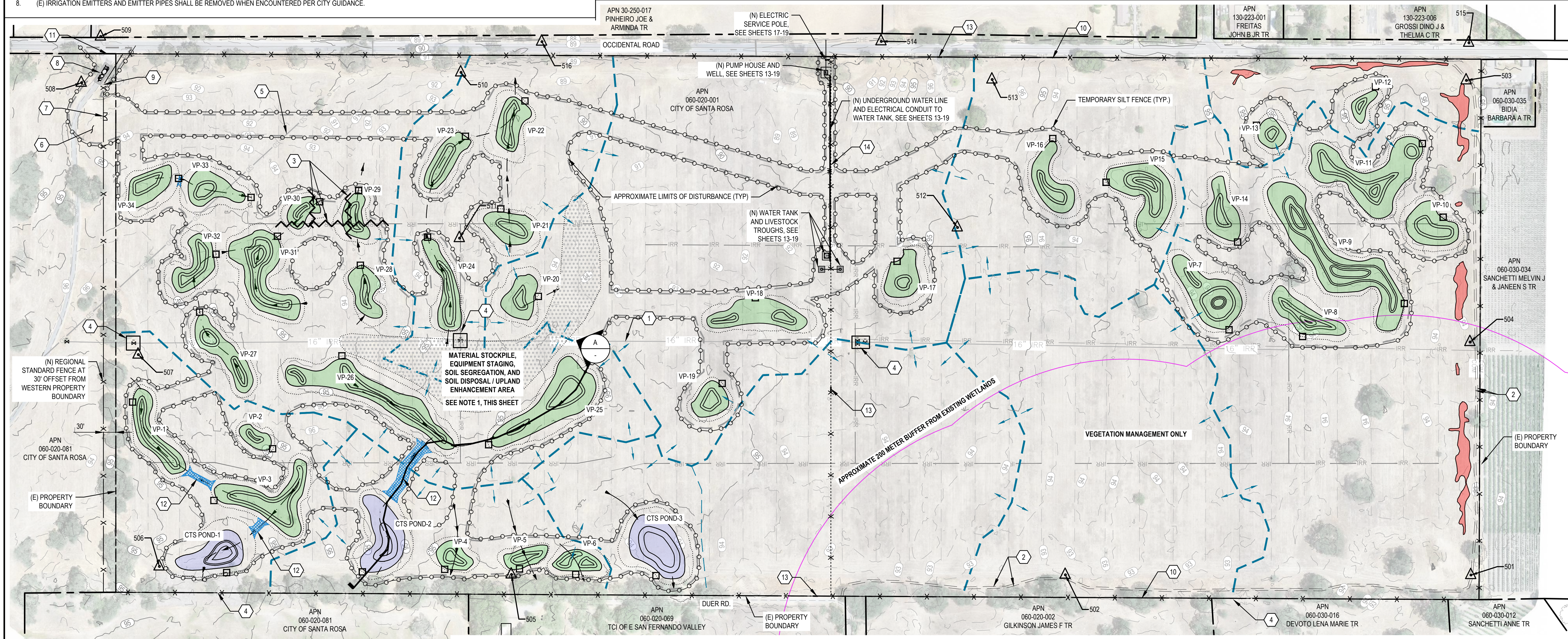
1. SOIL DISPOSAL AREA SHOWN HEREON SHALL BE UTILIZED FOR EXCESS SOILS (CLAYS AND LOAMS) EXCAVATED FROM PROPOSED POOLS AND PONDS. HORIZONTAL EXTENT SHOWN REPRESENTS THE MAXIMUM LIMIT OF FILL PLACEMENT. FILL DEPTH SHALL NOT EXCEED 4-FT ABOVE EXISTING GROUND WITH MAXIMUM FILL SLOPES OF 6.0%. SEE EARTHWORK SPECIFICATIONS FOR SOIL SEGREGATION AND FILL REQUIREMENTS.
2. IRRIGATION LINES SHOWN HEREON ARE APPROXIMATE. EXACT LOCATION OF IRRIGATION LINES MUST BE VERIFIED PRIOR TO START OF CONSTRUCTION. SEE UTILITY NOTES SHEET 2.
3. PROPERTY BOUNDARY SHOWN HEREON IS FROM RECORD SURVEY DATA. ALL PROPERTY BOUNDARIES OUTSIDE OF THE PROJECT PARCEL IS FROM SONOMA COUNTY GIS DATA.
4. TREES SHOWN HEREON ARE NOT SURVEYED. TREES ARE LOCATED FROM AVAILABLE AERIAL IMAGERY (GOOGLE EARTH, 2021). NO TREES SHALL BE REMOVED AS PART OF THIS PROJECT. IF A CONFLICT IS DISCOVERED BETWEEN PROPOSED GRADING LIMITS AND EXISTING TREES, THE PROJECT MANAGER OR ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
5. MAINTAIN HAUL ROUTES AWAY FROM FINAL GRADED VERNAL POOLS AND CTS PONDS. CONTRACTOR TO ALSO MINIMIZE HAUL ROUTES AND COMPACTING OF SOILS AT PROPOSED POND LOCATIONS IN THEIR NON-GRADED STATE. USE OF LIGHT-WEIGHT CONSTRUCTION VEHICLES IS ENCOURAGED.
6. (E) RECYCLED WATER LATERALS THAT PROVIDE IRRIGATION WATER TO THE PROJECT PROPERTY EXIST AT 3 LOCATIONS. THESE LOCATIONS SHALL BE VERIFIED IN FIELD AND CONFIRMED WITH CITY STAFF, PRIOR TO START OF CONSTRUCTION. CITY OF SANTA ROSA WILL PROVIDE DIRECTION ON METHOD OF CAPPING AT THESE 3 LOCATIONS. ADDITIONALLY, BURIED PVC IRRIGATION PIPES ARE ANTICIPATED TO BE ENCOUNTERED DURING EXCAVATION. DEPTH TO PIPE MAY VARY FROM 24-48 INCHES BELOW GROUND SURFACE. IF IRRIGATION PIPE IS ENCOUNTERED WITHIN EXCAVATED REGION OF PROPOSED PONDS, PIPE SHALL BE EXPOSED, CUT AND CAPPED 10-FT BEYOND POND FINISHED GRADING. TRENCHING SECTION FOR PIPE REMOVAL SHALL BE FILLED WITH COMPACTED NATIVE CLAY.
7. (E) 16" PVC POND SUPPLY PIPE EXISTS ALONG THE CENTER OF THE PARCEL RUNNING EAST TO WEST WHICH SUPPLIES WATER TO THE SANCHETTI PROPERTY POND AT APN 060-030-034. BURIED DEPTH OF THIS PIPE IS APPROXIMATELY 36 - 48 INCHES BELOW GROUND. THIS PIPE SHALL BE PROTECTED IN PLACE. LOCATION OF SUPPLY PIPE SHOWN HEREON IS APPROXIMATE. EXACT LOCATION OF SUPPLY PIPE SHALL BE VERIFIED BY CONTRACTOR PRIOR TO START OF CONSTRUCTION.
8. (E) IRRIGATION EMITTERS AND EMITTER PIPES SHALL BE REMOVED WHEN ENCOUNTERED PER CITY GUIDANCE.

LEGEND

SOIL DISPOSAL AREAS (SEE NOTE 1)
VERNAL POOL HABITAT AREA
CTS POND HABITAT AREA
EXISTING HAYFIELD TARPLANT (DO NOT DISTURB)
(E) 16" DIA. PVC RECYCLED WATER SUPPLY PIPES (BURIED, SEE NOTE 2 AND 7 THIS SHEET AND UTILITY NOTES, SHEET 2)
(E) PROJECT AREA IRRIGATION LATERALS (BURIED, SEE NOTE 2 AND 6, THIS SHEET AND UTILITY NOTES, SHEET 2)
(E) IRRIGATION IRRIGATION EMITTER PIPE (ON GROUND SURFACE, SEE NOTES 2 AND 8)
PROPERTY LINE (SEE NOTE 3)
(E) STORM DRAIN (SEE NOTE 2)
(E) TREE (SEE NOTE 4)
GRADING DAYLIGHT
LIMITS OF DISTURBANCE
TEMPORARY SILT FENCE
VP-1_T1.A / CTS-1 — VP = "VERNAL POOL", CTS = "CTS POND"; SUB-WATERSHED IDENTIFIER; POND SEQUENCE
(N) REGIONAL STANDARD FENCE
(N) WILDLIFE FRIENDLY FENCE
TEMPORARY CONTROL POINT
SUB-WATERSHED BOUNDARY ACHIEVED DURING FINISHED GRADING
DRAINAGE PATHWAYS (HYDROLOGIC CONNECTION)

KEYNOTES

1. (E) 16" WATER PIPE TO REMAIN AND BE PROTECTED
2. (E) COMCAST EASEMENT (TYP)
3. ALL BURIED IRRIGATION PIPE WITHIN LIMITS OF POND / POOL GRADING TO BE REMOVED 10-FT BEYOND FINISHED GRADING LIMITS AND DISPOSED OF. CAP END OF PIPE REMAINING IN PLACE. TRENCH FROM PIPE REMOVAL SHALL BE BACKFILLED WITH NATIVE SOIL AND COMPACTED TO MIN. 90% RC. (TYP. ALL AREAS WHERE GRADING OCCURS)
4. (E) VALVE BOXES TO BE PROTECTED
5. (E) STORM DRAIN PIPE TO REMAIN AND BE PROTECTED
6. ADDITIONAL EQUIPMENT STAGING AREA
7. (2) 10-FT WIDE GATES AT ENTRANCE AT COMPACTED DRIVE LANE. VERIFY LOCATION WITH CITY OF SANTA ROSA REPRESENTATIVE
8. STABILIZED CONSTRUCTION ENTRANCE BMP PER DETAIL D, SHEET 12
9. (E) GATE TO REMAIN AND BE PROTECTED
10. (N) REGIONAL STANDARD FENCE
11. PROJECT ACCESS AT OCCIDENTAL ROAD
12. GRADE SHALLOW 12' WIDE X 1' DEEP DEPRESSION TO PROVIDE (N) HYDROLOGIC CONNECTION.
13. (N) GATE PER DETAIL C, SHEET 12
14. (N) WILDLIFE FRIENDLY FENCE PER DETAIL A & B, SHEET 12



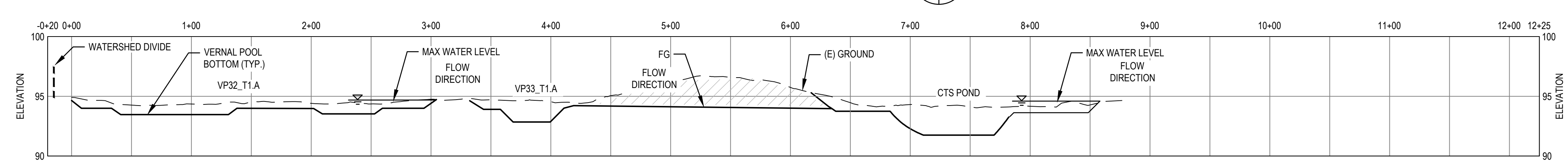
PLAN VIEW

0 125' 250'

N

SURVEY CONTROL POINT TABLE				
POINT #	EASTINGS	NORTHINGS	ELEVATION	DESCRIPTION
501	6333873.33	1915711.70	94.10	60D
502	6332891.58	1915712.19	92.98	60D
503	6333862.01	1916909.67	94.60	60D
504	6333871.19	1916275.99	94.26	60D
505	6331550.99	1915713.06	94.59	60D
506	6330698.71	1915732.53	94.73	60D
507	6330647.86	1916245.49	95.73	60D
508	6330510.39	1916903.91	95.75	60D

SURVEY CONTROL POINT TABLE				
POINT #	EASTINGS	NORTHINGS	ELEVATION	DESCRIPTION
509	6330556.77	1917015.74	93.57	60D
510	6331428.72	1916928.90	92.20	60D
511	6331425.24	1916527.62	94.30	60D
512	6332630.53	1916553.34	95.39	60D
513	6332714.37	1916911.67	96.30	60D
514	6332445.88	1917004.22	90.56	60D
515	6333868.25	1917000.73	93.24	60D
516	6331624.58	1917003.33	89.10	60D



PROFILE - TYPICAL VERNAL POOL TO CTS POND DRAINAGE

0 60' 120' HORIZONTAL
0 6' 12' VERTICAL

[AutoCAD file name: N:\US\Santa Rosa\Projects\561\11228674\Digital_Design\ACAD\Sheets\11228674-GHD-DWG-G-003_SITE PLAN_SHEET INDEX_SURVEY CNTL.dwg]
[Xref files: xr-11228674_TBLK; xr-11228674_ESITE CONTOURS; xr-11228674_NSITE; xr-11228674_ESITE LINEWORK; 11228674_BOUNDARY_SoCo_GIS; xr-11228674_AGG WELL]
[May 22, 2025 - 3:27pm]

City of Santa Rosa

NO. | DATE | REVISION | BY

KELLY FARM MITIGATION PROJECT

SITE AND SURVEY CONTROL PLAN

CHK BY:	S. ALLEN
DATE:	05/22/2025
DWN BY:	C.H.
SCALE:	AS SHOWN

CONTRACT NO. C02046

FILE NO. 2022-0018

95% DESIGN

Figure 3

REGISTERED PROFESSIONAL ENGINEER STEVEN A. ALLEN No. C62021 Exp. 9/30/25 CIVIL STATE OF CALIFORNIA DRAFT

2. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages:

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agricultural & Forestry Resources	☐ Hazards & Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology & Water Quality	☐ Transportation
☐ Energy	☐ Land Use & Planning	☐ Tribal Cultural Resources
☐ Biological Resources	☐ Mineral Resources	☐ Utilities & Service Systems
☐ Cultural Resources	☐ Noise	☐ Wildfire
☐ Geology & Soils	☐ Population & Housing	☐ Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.

☐ I find that the proposed MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Monet Sheikhali
Monet Sheikhali (Jan 16, 2026 10:34:36 PST)

Monet Sheikhali, Supervising Planner

1/16/2026
Date

3. Environmental Analysis

3.1 Aesthetics

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

The Project site is located adjacent to Occidental Road, a major arterial road that is well traveled and is identified as a Scenic Corridor in the *Sonoma County General Plan 2020* (Sonoma County Permit and Resource Management Department 2008). A Scenic Corridor provides variety and beauty in the landscapes as viewed from rural roadways. The Project site is visible to motorists and passengers, cyclists, and others who use Occidental Road. The site is mostly obscured by intervening topography and trees from those using the Laguna de Santa Rosa Trail located west of the Project site.

a, c) Have a substantial adverse effect on a scenic vista or in non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Less than Significant Impact)

A scenic vista is commonly defined as a view that has remarkable scenery or a broad or outstanding view of the natural landscape. Existing views of the Project site from Occidental Road are characterized by open space vistas and scattered oak trees. The site is relatively flat, undeveloped (besides the presence of irrigation infrastructure) and is currently used for hay production. During construction portions of the site would be fine-graded and minor infrastructure installed, with equipment such as excavators, trucks, drill rig, and graders staged throughout the site at any given time. Activities during construction would alter the existing view. However, construction would be

temporary (approximately four months), and upon completion equipment would be removed from the site and disturbed areas reseeded.

The post-construction visual changes to the Project site include the removal of the above-ground irrigation system, replacement of the existing fencing, installation of a small water tank and associated infrastructure, and restoration and enhancement of historical vernal pools resulting in little change to the visual character of the site, as seen from Occidental Road. No trees would be removed as part of the Project. Following construction, the Project site would remain an open space vista, retaining its visual character and agricultural setting.

Due to the temporary nature of construction, the construction phase of the Project would result in a less-than-significant impact on a scenic vista, and the visual character of the site, as seen from Occidental Road. While the post-construction restored aspect of the Project site, would have no impact to the scenic nature or visual character of the site.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

The Project is located adjacent to Occidental Road and approximately 0.75 north of State Route 12, neither of which are state scenic highways. The Project site is not located within or adjacent to a state scenic highway nor would substantially damage scenic resources. No impact would occur.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less than Significant)

Project construction would not occur at night, and therefore no lights would be used during construction.

Operation of the project would include as-needed maintenance of the water infrastructure. A single exterior light would be installed at the pump house. The light would be on a timer switch to prevent operation without anyone onsite. It is anticipated the light would be used infrequently and limited to the rare occasion there was a maintenance issue at night. In addition, the pump house would be installed between two eucalyptus trees, set back approximately 40 feet from Occidental Road. Given the rare need for use of the small outdoor light, and the partial shielding provided by the trees, the Project would not result in substantial light or glare to those traveling on Occidental Road or nearby residences. The potential impact from the new source of light would be less than significant.

3.2 Agriculture and Forest Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			✓	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			✓	

The Project site has been used for hay farming since the late 1970s. Recycled water historically was used to irrigate the site. A majority of the Project site is under an active agricultural lease for hay production, which historically yielded up to three hay harvests per year when irrigation is available in non-drought years. Currently, hay is produced opportunistically yielding one crop in the spring irrigated by rain.

The Project site is currently under a conservation easement (Easement) which runs with the land in perpetuity and is held by the Sonoma County Agricultural Preservation and Open Space District ("District"). The Easement is over the entire Kelly Farm Property, which includes the Project site. Although the District's Easement allows agricultural uses within the designated upland area, it does not identify agriculture in the conservation purpose and does not purport to protect agriculture. The purpose of the Easement is to "…preserve the open space, scenic and biotic values of the Property, and each of them, and to prevent any uses of the Property that will significantly impair or interfere with those values". In a letter dated March 12, 2021, the District stated that the conversion of productive hayfield to wetland habitat is entirely consistent with, and indeed furthers, the conservation purpose of the Easement, and therefore approved the City's request to establish a mitigation bank at the site (SCAPOSD 2021).

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (Less than Significant)

According to the California Department of Conservation's Farmland Mapping and Monitoring Program, approximately 70 percent of the Project site (or 70 acres) is considered Farmland of Statewide Importance (CDOC 2021). Prior to European settlement, the Project site supported dense vernal pool habitat and ecosystem functions including CTS habitat; however, decades of hay farming, placement of biosolids and summertime irrigation have severely degraded the vernal pool habitats on the Project site. The crop the Project site has been producing (hay) is not a unique crop with geographical or climate constraints for growth. Rather it is a ubiquitous crop that is grown and harvested in a variety of climates and locations without irrigation ("volunteer") or intentionally with the use of irrigation. In 2019 volunteer hay was harvested from 701 acres across Sonoma County, and irrigated hay (including rye and oat) were harvested from 4,100 acres across Sonoma County (Sonoma County 2020). Both volunteer and irrigated hay are produced at the Project site, depending on available irrigation supply. If there is no water available, then only one crop is harvested.

Implementation of the Project would result in a conversion of agricultural land to non-agricultural use. However, this impact can be considered less than significant because there are abundant other lands producing hay across Sonoma County, and because other regional land can be utilized to produce hay given it is a ubiquitous crop that does not require rare or geographically specific soils. The proposed Project would restore natural conditions at the Project site which pre-date agricultural land uses. In addition, the mission of the District (who holds the existing Conservation Easement over the Project site) is to permanently protect the diverse agricultural, natural resource, and scenic open space lands of Sonoma County for future generations. Upon review of the proposed Project, the District has found that the conversion of productive hayfield to wetland habitat is entirely consistent with, and furthers, the conservation purpose of, the existing Easement.

Due to the abundant available land for future hay farming, ubiquitous nature of hay, non-agricultural state of the Project site in its natural form, and importance of the Project at the County level to provide mitigation credits, the conversion of approximately 70 acres of Farmland of Statewide Importance out of agricultural use would result in a less than significant impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? (No Impact)

The Project site is zoned RR Rural Residential which allows for agricultural production. The Project site is not located on a parcel that is covered by a Williamson Act contract. Therefore, implementation of the Project (construction and maintenance) does not conflict with existing agricultural zoning or a Williamson Act contract. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code

section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (No Impact)

The Project would not conflict with or cause rezoning of forest land or timber land because there are no forest resources at the Project site nor is the site zoned for timberland production. No impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use? (No Impact)

There is no forest land present at the Project site, therefore implementation of the Project would have no impact on forest land or potential conversion of forest land.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (Less than Significant Impact)

As stated under Impact a), the Project would convert land uses out of agricultural productivity in order to restore the Project site to its historically natural condition (presence of vernal pools) for endangered CTS habitat and ultimately to serve as a mitigation bank for the City. This impact is considered less than significant because the crop that has been produced at the Project site (hay) is ubiquitous, not regionally-dependent, and can be grown on other available agricultural lands. This conversion would serve the greater ecosystem in Sonoma County, and the loss of hay productivity can easily be replaced in another location. A less than significant impact would occur.

3.3 Air Quality

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

The air quality analysis utilizes the thresholds of significance, screening criteria and levels, and impact assessment methodologies presented in the Bay Area Air Quality Management District (Bay Area Air District) CEQA Air Quality Guidelines (Bay Area Air District 2022). As provided by the Bay Area Air District's CEQA Air Quality Guidelines, if a project meets the screening criteria for an impact category, and the analysis is consistent with the methodology used to develop the screening criteria, then its air quality impact for that category may be considered less than significant.

a) Conflict with or obstruct implementation of the applicable air quality plan? (No Impact)

The Bay Area Air District *2017 Clean Air Plan* is the most recently adopted regional air quality plan that pertains to the Project site (Bay Area Air District 2017). The 2017 Clean Air Plan builds upon and enhances the Bay Area Air District's efforts to reduce emissions of fine particulate matter ($PM_{2.5}$) and toxic air contaminants (TACs). The 2017 Clean Air Plan contains 85 individual control measures in nine economic sectors: stationary (industrial) sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-greenhouse gas pollutants. Many of these control measures require action on the part of the Bay Area Air District, the California Air Resources Board (CARB), or local communities, and are not directly related to the actions undertaken for an individual infrastructure project. The Project would not prevent the Bay Area Air District from implementing these actions.

The *2017 Clean Air Plan's* control measures for natural and working lands focus on removing, or 'sequestering' carbon dioxide, a greenhouse gas pollutant, from the atmosphere. The control measures focus on increasing carbon sequestration on rangelands and wetlands. Natural and working lands control measure NW3, Carbon Sequestration in Wetlands, provides:

> *Identify federal, state and regional agencies, and collaborative working groups that the Air District can assist with technical expertise, research or incentive funds to enhance carbon*

sequestration in wetlands around the Bay Area. Assist agencies and organizations that are working to secure the protection and restoration of wetlands in the San Francisco Bay.

The Bank would further control measure NW3, as it would enhance and increase wetland acreage within the Project site.

In addition, the Project would not result in a growth in population or jobs in the project area; therefore, the Project would not exceed the growth assumptions contained in the *2017 Clean Air Plan*. Implementation of the Project would not conflict with or obstruct the *2017 Clean Air Plan*. As a result, no impact would occur.

b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? (Less than Significant)

According to California standards, the San Francisco Bay Area Air Basin (Air Basin) is currently designated as a nonattainment area for $PM_{2.5}$ and PM_{10} and ozone (Bay Area Air District 2025). Under national standards, the Air Basin is currently designated as nonattainment for 8-hour ozone, and nonattainment for $PM_{2.5}$. The Air Basin is in attainment (or unclassified) for all other air pollutants (Bay Area Air District 2025). Therefore, the non-attainment pollutants of concern for this impact question are ozone, PM_{10} and $PM_{2.5}$.

Exposure to levels of ozone above current State or federal standards can lead to human health effects such as lung inflammation and tissue damage and impaired lung functioning. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms (Bay Area Air District 2022). Ozone is not emitted directly into the air, but is a regional pollutant formed by a photochemical reaction in the atmosphere. Ozone precursors, reactive organic gases (ROG) and oxides of nitrogen (NOx), react in the atmosphere in the presence of sunlight to form ozone. Therefore, the Bay Area Air District does not have a recommended ozone threshold, but has thresholds of significance for project-emitted NOx and ROG. In developing thresholds of significance for air pollutants, Bay Area Air District considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (Bay Area Air District 2022).

Construction – Criteria Pollutants

Overall construction activities would occur over approximately 4 months and would consist primarily of fine grading and shallow excavation. The types of air pollutants generated by construction activities are typically nitrogen oxides (NOx) and particulate matter, such as dust and exhaust. Construction activities could temporarily increase levels of $PM_{2.5}$ and PM_{10} downwind of construction activity. These are temporary emissions that vary considerably from day-to-day and by the type of equipment and weather conditions. In addition, reactive organic gases (ROG) are emitted during operation of gas and diesel-powered construction-equipment.

Project construction would result in regional air pollutant and precursor emissions from equipment exhaust and worker trips to the Project site. The Bay Area Air District's 2022 Air Quality Guidelines provides screening criteria for determining if a project could potentially result in significant construction-phase impacts from criteria pollutants and precursors. Construction of the Project would

result in a less-than-significant impact to air quality if the screening criteria are met. The following are the Bay Area Air District construction screening criteria:

1. The project is below the applicable construction screening level size shown in Bay Area Air District's Air Quality Guidelines Table 4-1;
2. All Basic Construction Mitigation Measures would be included in the project design and implemented during construction.
3. Construction-related activities would not overlap with operational activities.
4. Construction-related activities would not include any of the following:
    - Demolition;
    - Simultaneous occurrence of more than two construction phases;
    - Extensive site preparation;
    - Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity; or
    - Stationary sources (e.g. backup generators) subject to Bay Area Air District rules and regulations.

The Bay Area Air District's criteria pollutant construction-related screening level most applicable to the project is the "City Park" land use, with a screening size of 10 acres of construction. The Project would fine-grade approximately 13.5 acres and does not involve demolition or extensive building. As noted in **Section 1.6 Compliance with Existing Regulations and Standard BMPs**, the Project would comply with Bay Area Air District's basic construction measures. None of the listed construction-related activities apply to Project construction. The Project would balance soils onsite. Therefore, no import or export of soil material is anticipated. Grading activity would be consistent with similar restoration projects and would not include extensive site preparation. However, construction-period emissions were conservatively estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.30. The Project's calculated total construction exhaust emissions were averaged over the estimated working days (4 months, 22 working days per month, for 88 total working days). The average daily emissions were then compared to the Bay Area Air District thresholds of significance for criteria pollutants. As shown in **Table 3.3-1**, the estimated construction-related emissions are less than the thresholds of significance adopted by the Bay Area Air District. Therefore, the impact from construction related emissions would be less than significant.

Table 3.3-1 Construction Exhaust Air Emissions

Parameter	Air Pollutant Emissions (average lbs/day)			
	ROG	NOx	PM10	PM2.5
Project Construction Emissions	1.6	11.4	0.5	0.5
Bay Area Air District Threshold of Significance	54	54	82	54
Exceed Threshold?	No	No	No	No

Operation – Criteria Pollutants

Operation of the Bank would consist of site inspections, maintenance of the fence, gates and access point, and vegetation management. Vegetation management could include intermittent livestock grazing, removal of vegetation with handtools, mowing and raking, or targeted application of herbicides. The Project would not include stationary sources of air emissions and would not result in new employees or increased operational activity that would result in substantial air emissions.

The Bay Area Air District provides a screening size for operational criteria pollutants for City Park land uses, which would be the applicable land use category to evaluate the Project's operational impacts. The Bay Area Air District's operational screening size for the "City Park" land use is 175 acres. The Project site is substantially less than the screening size at 100 acres. Per the Bay Area Air District, if a project meets the screening criteria, the project would not result in the generation of operational-related criteria air pollutants and/or precursors that exceed the Bay Area Air District's adopted thresholds of significance. As the Project is less than the screening size, the Project would not result in substantial long-term operational emissions of criteria air pollutants. Therefore, the Project's operational contribution to a cumulative nonattainment criteria pollutant impact would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations? (Less than Significant)

Sensitive receptors are defined by the Bay Area Air District as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. The Project site is located in a rural area with few nearby residences. Potential sensitive receptors adjacent to the Project include residences along the north side of Occidental Road, and south of the Project site off of Duer Road. At the closest point, the nearest residence is approximately 10 feet east of the Project's northeast corner property line, but more than 100 feet from the nearest proposed grading area within the Project site.

Construction – Pollutant Concentrations

For construction-related dust, the Bay Area Air District recommends incorporation of BMPs to reduce localized dust impacts to less than significant. As described in **Section 1.6 Compliance with Existing Regulations and Standard BMPs**, Air Quality Control Measures during Construction, the Project would incorporate the Bay Area Air District recommended basic construction measures during construction. Therefore, the Project's potential to generate localized pollutant concentrations, such as PM_{10} or $PM_{2.5}$, during construction would be less than significant.

Construction equipment and associated heavy-duty truck traffic generate diesel particulate matter (DPM) exhaust, which is a known toxic air contaminant. As stated above, the Project would incorporate the Bay Area Air District recommended basic construction measures during construction. Such measures include minimizing idling times for trucks and equipment to five minutes (as required by the California airborne toxics control measure CCR Title 13, Section 2485), ensuring that construction equipment is maintained in accordance with manufacturer's specifications, watering exposed surfaces twice a day to minimize fugitive dust emissions, and other measures.

In addition, fine-grading and excavation related to the restoration and enhancement of the vernal pool and seasonal wetlands would shift around the site and would not be concentrated in one location for more than a few days. The majority of the grading would be hundreds of feet from the residences

along Occidental Road and in excess of 700 feet from the closest residence along Duer Road. Because the construction activities would shift from one side of the Project site to the other and occur over an overall short duration (4 months), prolonged exposure of sensitive receptors to construction equipment exhaust would not occur.

Exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

Operation – Pollutant Concentrations

The primary source of operational emissions from the Project would be episodic vegetation management similar to or less intense than existing hay production activities on the Project site. The Project would not result in new City employees or maintenance trips to and from the Project site, which would be expected to be similar to the existing trips related to hay production and current maintenance activities. Establishment of the Bank during the interim management period would result in additional trips related to inspections of the site, but these would be expected to be minimal ranging from 8 to 10 per year and reduce when the Bank transitioned into the long-term management period. Therefore, operation of the Project would not create emissions that could expose sensitive receptors to substantial pollutant concentrations. No impact would occur from operation.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less than Significant)

During construction, odors from the use of equipment during construction activities would be intermittent and temporary. Such odors generally dissipate rapidly from the source with an increase in distance. The impact during construction would be less than significant.

Facilities known to produce odors include landfills, coffee roasters, and wastewater treatment facilities. Bay Area Air District's Air Quality Guidelines provides that an odor source with five or more confirmed complaints in the new source area per year averaged over three years, is considered to have a significant impact on receptors. The proposed Project is not a land use that is known to produce adverse odors. The Project would not result in substantial adverse odors over existing conditions. No operational impact to odors would occur.

3.4 Biological Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			✓	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			✓	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		✓		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

The following analysis is based on the findings of *Biological Resource Evaluation* prepared by Vollmar Natural Lands Consulting in December 2020 (VNLC 2025). This report is included as **Appendix A**. The report was supported by extensive field work including: a habitat assessment in January 2020; delineation of waters in April 2020; California Rapid Assessment Method assessment in April 2020; and protocol-level plant surveys in April, May, and July 2020.

The greater Kelly Farm property historically encompassed extensive complexes of vernal pool wetlands with interspersed valley oak savanna, but the property has been managed as a hay farm since the 1970s, and this has resulted in degradation of the vernal pool and associated grassland habitats. Existing habitats within the Project site include hay field/ruderal, aquatic jurisdictional features, oak savanna, annual grassland, and planted trees (in the area of the previous home site). Refer to **Figure 4** of **Appendix A**.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Less than Significant with Mitigation)

Special-status Plant Species

Special-status plants include species that are designated rare, threatened, or endangered as well as candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered, such as those plant species identified by the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1A, 1B, and 2 in the Inventory of Rare and Endangered Vascular Plants of California. Although there is suitable or marginal habitat within the Project site for five federal- and/or state-listed plant species and 14 species with a CRPR status, only one of these species was observed during the protocol-level plant surveys. Hayfield tarplant was documented along the north-eastern corner and eastern property line of the Project site.

Hayfield tarplant - *Hemizonia congesta* ssp. *congesta* (CRPR 1B.2)

Hayfield tarplant is designated by the California Native Plant Society (CNPS) as CRPR 1B.2, indicating that it is "rare, threatened, or endangered in California and elsewhere" ("1B") and "moderately threatened in California" ("0.2"). Hayfield tarplant is an annual forb in the sunflower family (Asteraceae) that grows to a height of approximately 80 centimeters (31 inches) and features white flowers. The flowers bloom from May to November, though its peak bloom is in mid-to late summer. This subspecies of *Hemizonia congesta* is primarily differentiated from the other five subspecies by its crowded inflorescence, long phyllary tips, the structure of hairs on the upper leaves, and its large white ray flowers. The taxon is listed as occurring within "grassy sites and marsh edges" at elevations below 100 meters (~330 feet). Its natural range extends along the outer Coast Ranges, from northern San Mateo County to southern Humboldt County.

An estimated 2,000 hayfield tarplants were observed within the Project site, covering an area amounting to 0.15 hectare (0.37 acre). All of the onsite populations are restricted to the northeastern and eastern margins of the site, in areas that are not actively managed for hay farming. There has been little to no disking, irrigation, or application of manure in this portion of the Project site. The area is, however, regularly mowed as part of the haying and for fire protection. The timing of the haying, in late spring and in mid-summer, has been conducive to the persistence of this plant—as noted above, its peak blooming period is in mid-to late summer. The mowing likely serves to reduce competition from more competitive invasive plants, especially grasses, and the reduction of grasses also reduces thatch (which is often problematic for native wildflowers). Its microhabitat in the Project site is within slightly acidic, moist soils within shallow vernal pools or along the margins of larger seasonal wetlands. Associated plant species observed include Italian rye grass (*Festuca perennis*), Queen Anne's lace (*Daucus carota*), hawkbit (*Leontodon saxatilis*), salvation echium (*Echium plantagineum*), and chicory (*Cichorium intybus*). All of these most common associates are introduced species that pose a threat to the hayfield tarplant populations, but they are likely kept in check by mowing. All of the associated species are also indicative of moist soils.

As noted in **Section 1.4 Project Description**, and presented on **Figure 2 Site Plan**, the limits of construction exclude the area of hayfield tarplant. Existing wetlands in these areas will be left undisturbed. CTS exclusion fencing will be placed between the active construction areas and the

hayfield tarplant to avoid inadvertent trespass. Therefore, impacts to hayfield tarplant would be less than significant.

Special-status Wildlife Species

Special-status animal species include those listed by the USFWS and/or CDFW as threatened or endangered, as well as those proposed for listing or that are candidates for listing as threatened or endangered. Based on habitat requirements and regional distribution, 9 special-status species have potential to occur at the Project site, including 2 State and/or Federally Threatened (ST and FT) wildlife species.

California Tiger Salamander - *Ambystoma californiense* (ST and FT)

CTS is a California-endemic salamander. The entire species is listed as Threatened under the California Endangered Species Act (CESA); the Sonoma Distinct Population Segment (DPS) is listed as Endangered under the Endangered Species Act (ESA; the Central California DPS is listed as Threatened under ESA). The species typically breeds in long-ponding vernal pools and seasonal wetlands, as well as stock ponds and other waters which are ponded for at least 90 days in the winter and early spring. Shallow vernal pools typically are not suitable CTS breeding habitat. Following metamorphosis, CTS migrate into the uplands to spend most of their lives in mammal burrows. During this period of their lives, they prefer grasslands, but also use scrub and oak savanna; oak woodland may be used but is not preferred. CTS can migrate up to 2 kilometers (about 1.26 mile), though most stay within 556 meters (0.35 mile) of their natal ponds, and about 95 percent stay within about 1,867 meters (1.16 mile). CTS has been repeatedly observed in the southeast portion of the Project site, with 19 adults and 17 juveniles captured in a trap array in 2003, and larvae captured in 3 pools in 2017. In 2020, VNLC biologists observed a dead adult CTS in one large, deep pool near the southern boundary of the Project site near the location where CTS had previously been documented.

As noted in **Section 1.4 Project Description**, construction would occur between June and October. During this timeframe, existing on-site and nearby vernal pools would have dried, and CTS migrated into the uplands. The upland habitat on the Project site is scattered with small mammal burrows to support adult and recently metamorphosed juveniles for estivation. Construction involves ground disturbance of approximately 37 percent of the site, some surficial with other areas disturbed to varying depths up to 3 feet. There would be no impacts to larvae as construction would begin after the CTS have metamorphosed and the pools have dried. However, impacts could occur to juvenile and adult CTS who have migrated to small mammal burrows. Impacts to CTS sheltering in uplands would be reduced by avoiding the most sensitive upland habitat and installation of temporary fencing to prevent accidental access to these areas. However, CTS in the other uplands could be injured or killed during the grading and related construction activities, which would result in a significant impact. See **Mitigation Measure BIO-1 Protect CTS and WPT during Construction**, below, for the proposed avoidance and minimization measures to reduce impacts to CTS to less than significant.

Tricolored Blackbird - *Agelaius tricolor* (ST)

The Tricolored Blackbird (nesting colony) is listed as State Threatened, and is a CDFW Species of Special Concern and USFWS Bird of Conservation Concern. Tricolored Blackbirds are most often found in large freshwater marshes, especially those which are saturated with cattails and tule. They tend to nest in areas with protective, spiny vegetation and high abundances of insect prey, and form the largest nesting colonies of any bird in North America. They prefer areas with adequate foraging

area and areas which provide sufficient insect prey within a short radius of the colony. The closest known occurrence of the Tricolored Blackbird relative to the Project site is 0.6 mile away.

The Project site provides potential foraging habitat for Tricolored Blackbird, but does not provide suitable nesting habitat. Due to the lack of suitable nesting habitat, the Project is unlikely to have any significant effects on nesting Tricolored Blackbirds. Foraging habitat would be temporarily impacted during the short 2-month construction period. However, there is adequate foraging in and around adjacent fields and the Laguna de Santa Rosa to off-set the temporarily reduced foraging area of the Project site. The impact to foraging habitat during construction would be less than significant. Post construction, the restored site would have increased biotic value and diversity and therefore offer better foraging habitat.

Cooper's Hawk - *Accipiter cooperii* (State Watch List)

Cooper's Hawk is on the CDFW watch list. This species tends to nest in dense stands of pines, oaks, Douglas-firs, and other large trees, often next to streams, rivers, creeks, or other riparian habitat. They are also commonly found in wooded suburban areas (including parks, quiet neighborhoods, fields, and busy streets with sufficient tree cover). Cooper's Hawks often prefer more patchy stands of trees for perching. The closest documented occurrence of Cooper's Hawk is 3.3 miles from the Project site.

The large, mature oak trees within the eastern portion of the Project site, as well as along the borders of the site, provide potential nesting habitat for Cooper's Hawk. If project activities commence during raptor nesting/breeding season, nesting Cooper's Hawks could be harmed. If a nest were to fail, this would be a significant impact. See **Mitigation Measure BIO-2 Protect Nesting Birds during Construction**, below, which reduces the impact to nesting birds to less than significant.

White-tailed Kite - *Elanus leucurus* (State FP)

White-tailed Kites are listed as CDFW Fully Protected. White-tailed Kites forage in grasslands, meadows, wetlands, farmlands and other open areas with high small-mammal prey abundances. They are known to nest in dense stands of oaks, willows or other tree species. White-tailed Kite nests also tend to be surrounded by more agriculture, grassland, riparian, and woodland habitat, and significantly less chaparral habitat.

The closest known occurrence of White-tailed Kite is approximately 3.9 miles from the Project site. The large, mature oak trees within the eastern portion of the Project site and directly outside the boundaries of the Project site provide potential nesting habitat for White-tailed Kite. Additionally, the grassland provides potential foraging habitat for this species. If project activities commence during raptor nesting/breeding season, individual nesting White-tailed Kites could be harmed. If a nest were to fail, this would be a significant impact. See **Mitigation Measure BIO-2 Protect Nesting Birds during Construction**, below, which reduces the impact to nesting birds to less than significant.

American Badger - *Taxidea taxus* – State Species of Special Concern

American Badgers are listed as a Species of Special Concern by the CDFW due to population decline. A member of the weasel family, Mustelidae, the American badger is a heavy bodied, short-legged, grayish mammal that features a white medial stripe from its nose over the top of the head and down its back. The species occurs in a variety of open, arid habitats throughout much of western North America, but are most commonly associated with grasslands, savannas, and open scrub along low to moderate slopes. Badgers require friable soils for digging burrows and their presence can often

be determined by the presence of burrows with large openings. A Badger den may approach 30 feet in length, and a sizeable pile of excavated earth can often be found to one side of the burrow entrance. Badgers are carnivorous and feed primarily on small rodents but also consume reptiles, insects, birds and bird eggs, and carrion.

The closest documented occurrence of American badger is 1.2 mile from the Project site. Extensive on-site evidence of American badger was observed during the site visits. As the Project site contains suitable habitat for American badger, construction activities could disrupt or result in the loss of existing den sites. Such loss would be a significant impact. See **Mitigation Measure BIO-3** below, which would reduce potential impacts to American Badger to less than significant.

Northwestern Pond Turtle - *Actinemys marmorata* (State Species of Special Concern)

Northwestern pond turtle (commonly referred to as “WPT”, an acronym for its former name western pond turtle) is a CDFW Species of Special Concern. The only turtle native to California, it is a small turtle which is generally brown, olive brown or dark brown. Its shell is often marked with a network of spots, lines, or dashes of brown or black that radiate from growth centers of shields.

Northwestern pond turtles often bask outside of the water, but quickly re-enter if they are threatened. They are found in rivers, streams, lakes, ponds wetlands, reservoirs, and brackish estuarine waters. They prefer habitats with areas for cover (vegetation, logs) and basking sites (rocks and other substrates). Summer droughts and cold winters are survived by aestivating or burying in loose soil or mud. Females leave drying creeks from May to July to lay eggs in sunny upland habitats, including grazed pastures.

The nearest documented occurrence of northwestern pond turtle is approximately 0.8 mile from the Project site in Laguna de Santa Rosa. Potentially suitable habitat may be present closer to the Project site in the form of nearby agricultural ponds and other aquatic habitat within approximately 500 meters (0.3 mile) of the site.

There is no suitable habitat for northwestern pond turtle within the Project site. However, the species is highly mobile and may disperse through dry areas. While the nearby ponds have not been surveyed or assessed, given their proximity to the Laguna de Santa Rosa (i.e. the known occurrence) a conservative assumption has been made that they are present at the ponds. Because it cannot be ruled out with 100 percent certainty that a pond turtle would not enter the Project site during construction, the potential impact to northwestern pond turtle would be significant. See **Mitigation Measure BIO-1** below, which would reduce impacts to northwestern pond turtle to less than significant.

California linderiella - *Linderiella occidentalis* (No Status)

California linderiella does not have a special status but is included in the CNDDB. This species is endemic to California, occurring in a wide range of vernal pool habitats in the Central Valley, Coast Ranges, and southern California. California linderiella’s historical range likely coincided with vernal pool habitat throughout the Central Valley, which is now considerably fragmented and likely only occupies about 25 percent of its historic area. California linderiella is the most widely distributed fairy shrimp species in California, with documentations on most land forms, geologic formations, and soil types that support vernal pools.

The nearest documented occurrence of California linderiella is approximately 2.2 miles from the Project site. Although the existing vernal pools present within the Project site are degraded, they have

the potential to support California linderiella. If construction activities occur during the wet season in the vernal pools or other wetland features within the Project site in, California linderiella may be impacted. However, as noted in **Section 1.4 Project Description**, construction would occur during the dry season between June and October. Therefore, potential impacts to California linderiella would be less than significant.

Pallid bat - *Antrozous pallidus* (State Species of Special Concern)

Pallid bat is a California Species of Special Concern and is listed as “high” priority by the Western Bat Working Group (WBWG). Pallid bats range from southern British Columbia through the western U.S. to Mexico. This species is found in low elevations throughout California in a wide variety of habitats including grasslands, shrublands, woodlands, and forests. Pallid bat is most commonly found in open dry habitats with rocky areas for roosting. They roost in caves, crevices, mines, cliffs, and hollow trees. This species forages for insects and arachnids over open ground. Pallid bats mate from late October to February, with young born from April to July. Pallid bat is very sensitive to disturbance of their roosting sites, which are important for conserving energy and juvenile growth.

The nearest documented occurrence of pallid bat is approximately 4.8 miles from the Project site. This bat species could use the mature oak trees in the eastern portion and on the edges of the Project site for roosting if they have suitable cavities, crevices, and exfoliating bark and/or bark fissures. No trees are planned for removal. However, if construction activities occurred close to a maternity roost the elevated noise could disturb the bat to the extent they abandon their young. Such disturbance would result in a significant impact. See **Mitigation Measure BIO-4 Protect Roosting Bats,** below, which would reduce impacts to roosting bats, if present, to less than significant.

Hoary bat - *Lasiurus cinereus* (State Special Animal List)

Hoary bat is on the CDFW Special Animal list and is listed as “medium” priority by the WBWG. The hoary bat is the most widespread North American bat and can be found in almost all areas of California. This species winters along the coast and in southern California. They breed and roost in woodlands and forests with medium to large-sized trees with dense foliage, and can be found in foothills, deserts, mountains, lowlands, and coastal valleys during their migration. Hoary bat requires a source of water nearby, and prefers open habitats, with access to open areas for foraging and trees for cover. They mate in autumn, with young born from May through July.

The nearest documented occurrence of hoary bat is approximately 4.8 miles from the Project site. This bat species could use the mature oak trees in the eastern portion and on the edges of the Project site for roosting that have suitable cavities, crevices, and exfoliating bark and/or bark fissures. No trees are planned for removal. However, if construction activities occurred close to a maternity roost the elevated noise could disturb the bat to the extent they abandon their young. Such disturbance would result in a significant impact. See **Mitigation Measure BIO-4 Protect Roosting Bats,** below, which would reduce impacts to roosting bats, if present, to less than significant.

Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503) prohibits the take of migratory birds, or disturbance to the active nests of most native birds. Several migratory birds have potential to occur within the regional vicinity of the Project site. These include the Tricolored Blackbird, Oak Titmouse (*Baeolophus inornatus*), Black Swift (*Cypseloides niger*), Lewis’s Woodpecker (*Melanerpes lewis*), Song Sparrow (*Melospiza melodia*), Long-billed Curlew (*Numenius*

americanus), Rufous Hummingbird (*Selasphorus rufus*), and Lawrence's Goldfinch (*Spinus lawrencei*).

Additionally, due to the presence of large trees along the boundaries of the Project site, raptors are likely to use the site for foraging and nesting. Nesting raptors (and most other nesting birds) are protected under the California Fish and Game Code Section 3503. If project activities commence during nesting bird season, individual nesting birds could be harmed. If so, this would be a significant impact. See **Mitigation Measure BIO-2 Protect Nesting Birds during Construction**, below, which reduces the impact to nesting birds to less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (Less than Significant)

Sensitive plant communities include those designated as such by the CDFW, either in the CNDDB, the list of California Sensitive Natural Communities (CDFW 2020), or as sensitive alliances classified in the Manual of California Vegetation (MCV) (Sawyer et al. 2009). Alliances included within the MCV that are designated as global or state rank ("G" or "S") 1-3 are considered "rare or threatened" at the global and/or state level and are therefore considered sensitive. Wetland habitats also are considered sensitive.

No riparian habitat exists within the Project site. There are no ranked sensitive natural communities within the Project site. Therefore, no impact would occur to riparian or ranked sensitive natural communities. For a discussion of impacts to wetland resources see Impact c), below, which found that impacts to wetlands would be less than significant given the site restoration.

Oak Savanna

Although Oak Savanna is not a sensitive natural community, oak trees and oak woodlands are afforded protection at both the state and county levels. Woodlands including mature oak trees with a diameter-at-breast-height (DBH) of greater than or equal to five inches are under the potential jurisdiction of the State Oak Woodlands Protection Act and/or local protection ordinances.

Approximately 5.3 acres of mature Oak Savanna exist in the southeast corner of the Project site and along the southern and western boundaries. No trees would be removed as part of the project. No grading would occur within the dripline of any oak tree and protective fencing would be installed at the outer dripline of any oak tree within the limits of disturbance (see **Figure 3**). As Project construction would avoid the oak trees, the impact would be less than significant.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Less than Significant)

Approximately 9.65 acres of potential jurisdictional Waters of the Unites States and of the State of California have been delineated within the Project site (see **Table 3.4-1**). No wetlands would be permanently filled as part of the Project. Approximately 4.24 acres of seasonal wetland would be temporarily disturbed during the fine-grading and restoration process. The vernal pools and other waters along the edge of the Project site would be avoided during construction. As some existing wetlands would be enlarged, post construction wetland acreage would be 15.76. The Project would

result in the cessation of hay farming practices and restore, enhance, and enlarge existing on-site wetlands, thus improving the biotic value at the site. Therefore, the temporary impact during construction would be less than significant.

Table 3.4-1 Temporary Impacts

Aquatic Feature	Existing	Temporary Impact	Post-Project
Vernal Pool	0.573	None/Avoided	14.059 (seasonal wetland to vernal pool)
Seasonal Wetland	8.779	4.243	1.404 (seasonal wetland to vernal pool)
Other Waters	0.297	None/Avoided	0.297 (no change)
TOTAL	**9.65 acres**	**4.24 acres**	**15.76 acres**

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (Less than Significant)

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link undisturbed areas that would otherwise be fragmented. While the Project site is used by wildlife for a variety of activities such as foraging or nesting, no established wildlife corridors or native wildlife nursery sites are known within the Project site. There would be no substantial interference with the movement of native resident or migratory species. General movement of species across the Project site would be temporarily restricted during the 4-month construction period. However, hundreds of acres of open fields, similar in nature to the Project site, exist to the west and south for use by wildlife. The impact would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less than Significant with Mitigation)

The Santa Rosa General Plan 2050 (City of Santa Rosa 2025) contains numerous goals, policies and action items to conserve and protect creeks, wetlands, vernal pools, wildlife ecosystems, rare plant habitats, and waterways. The policies require conservation of wetlands and waterways so that there is no net loss of wetlands, preservation of significant vegetation, trees, and biotic habitats and recommends exploring options that help enhance these resources like habitat restoration and creation. As the Project will restore and enhance wetland resources, the Project would not conflict with policies related to aquatic resources.

No trees would be removed as part of the Project; therefore, the Project would not conflict with the City's Tree Ordinance.

Construction of the Project would potentially conflict with applicable City policies protecting wildlife ecosystems. As discussed under Impact a), the Project could result in significant impacts to special-status species during construction. Implementation of **BIO-1 Protect CTS and WPT during Construction**, **BIO-2 Protect Nesting Birds during Construction**, **BIO-3 Protect American**

Badger during Construction, and **BIO-4 Protect Roosting Bats during Construction** would reduce the impacts to less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan exists for the project area. The Project site is included within the Santa Rosa Plain Conservation Strategy (SRPCS) study area. Several local jurisdictions, including the City of Santa Rosa, have adopted the SRPCS Agreement that supports the conservation approach set forth in the Strategy and recognizes that a number of important implementation issues still need to be finalized before the Strategy can be put into full effect. An implementation plan has yet to be finalized for the Strategy. As summarized in Impact a), above, with implementation of **Mitigation Measure BIO-1 Protect CTS and WPT during Construction**, which requires protection of California tiger salamander, the Project would not conflict with the SRPCS Agreement. No impact would occur.

Mitigation Measures

Mitigation Measure BIO-1 Protect CTS and WPT during Construction would avoid and minimize impacts to CTS and northwestern pond turtle by outlining a process to identify habitat and then find and relocate CTS prior to the start of construction. Mitigation Measure BIO-1 also includes construction personnel awareness training for all on-site sensitive species and habitats, so construction workers are aware of the potential for these species to be on site and to avoid and notify the on-site biologist if seen. The construction personnel awareness training portion of BIO-1 would reduce potential impacts to northwestern pond turtle to less than significant. **Mitigation Measure BIO-4 Protect Roosting Bats** would require the identification of roosting habitat and implementation of avoidance measures if roosts are found, prior to the start of construction, and would therefore reduce the potential impacts to bats to less than significant.

Mitigation Measure BIO-1: Protect CTS and WPT during Construction

The City shall implement the following avoidance and minimizations measures to reduce potential impacts to CTS during construction.

1. Prepare CTS and WPT Salvage and Relocation Plan

A qualified biologist shall prepare a CTS and WPT Salvage and Relocation Plan prior to the start of construction. The CTS and WPT Salvage and Relocation Plan shall include, but not be limited to, a discussion (and map) of the portion of the work area which represents potential breeding and upland habitat for CTS and northwestern pond turtle; those areas within 1.26 miles of known breeding habitat for CTS; an identification of the survey, hand excavation, capture handling, and relocation methods; identification of relocation area(s); and identification of a wildlife rehabilitation center or veterinary facility that routinely evaluates or treats amphibians. The CTS and WPT Salvage and Relocation Plan shall be submitted to CDFW for approval prior to the beginning of construction. Construction within the work area may not proceed until the CTS and WPT Salvage and Relocation Plan is approved in writing by CDFW. Only approved Designated Biologist(s) are authorized to capture and handle CTS or WPT.

2. Survey Construction Area Prior to Construction

No more than 14 days prior to starting construction, a qualified biologist shall survey the work area(s) located within that portion of the construction footprint that has identified habitat features suitable for CTS or northwestern pond turtle. These surveys shall provide 100 percent visual coverage of the work area(s) and a 50-foot buffer zone.

If any CTS are found within the work area or 50-foot buffer zone(s), the Designated Biologist(s) shall relocate them from the work area or buffer zone(s) in accordance with the CTS Salvage and Relocation Plan. Any potentially suitable burrows which cannot be avoided by at least a 50-foot buffer will be subject to excavation or other inspection according to the terms of the approved CTS and WPT Salvage and Relocation Plan. The Designated Biologist(s) shall submit a report documenting the results of the pre-construction surveys to CDFW within five days after performing the surveys.

3. Construction Personnel Awareness Training

All construction personnel involved in the Project shall attend environmental awareness training prior to the commencement of potential Project disturbance activities. The training shall be conducted by a qualified biologist and shall involve the presentation of sensitive species and habitats documented or potentially occurring in the Project site. The training should include handouts that describe each resource with respect to listing status, habitat preferences, distinguishing physical characteristics, causes of its decline, and potential protection and avoidance measures. The handout shall be distributed among construction personnel and shall include photographs of the resources in order to facilitate identification by the personnel. Personnel shall be directed to contact the on-site biologist or designated staff if any of these species are observed.

Mitigation Measure BIO-2: Protect Nesting Birds during Construction

The City shall implement the following measures to reduce potential impacts to nesting birds during construction. If construction activities commence anytime during the nesting/breeding season of raptors or other migratory birds (typically February 1 through August 31) a pre-construction bird nesting survey shall be conducted by a qualified biologist within one week of the commencement of construction activities. If there is a two-week or longer lapse in construction activities, the pre-construction survey will be repeated.

If active nests are found in areas that could be directly affected or are within 500 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone should be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zone and types of construction activities restricted within it should be determined through coordination with the CDFW, taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;
- Distance and amount of vegetation or other screening between the construction site and the nest; and
- Sensitivity of individual nesting species and behaviors of the nesting birds.

Mitigation Measure BIO-3 Protect American Badger during Construction

The City shall implement the following the measure to reduce potential impacts to American badger during construction. A pre-construction survey for potential den sites shall be conducted by a qualified biologist to confirm the locations of American badger within the Project site. This survey shall be conducted no more than four weeks before commencement of initial ground disturbance activities. If an occupied den is found (and if young are not present), then any badgers present shall be removed from the den either by trapping or the use of exclusionary devices. Prior to implementation, the removal method shall be approved by CDFW. If trapped, the badgers shall be moved to other suitable habitat. Once any badgers are trapped or excluded, the dens shall be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the badgers are successfully excluded from the site, as determined by a qualified biologist. Badgers shall not be relocated if it is determined by the biologists that young are or may be present.

Mitigation Measure BIO-4 Protect Roosting Bats during Construction

A qualified biologist shall conduct a roosting bat habitat evaluation prior to the commencement of construction activities. The evaluation shall determine if any trees that are located near the work sites provide potential bat roosting habitat. If suitable roost trees or an active roost are confirmed, then a site-specific bat protection plan shall be developed by a qualified biologist to prevent disturbance of an active maternity or hibernation roost.

Potential measures to protect a roost include not allowing work directly under or adjacent to the roost, not restricting airspace access to and from the roost, avoiding clearing and grubbing within 100 feet of the roost, not allowing use of combustion equipment such as generators, pumps, and vehicles under or adjacent to the roost, and not allowing personnel directly under the colony during seasons when it is in use.

3.5 Cultural Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?		✓		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

A site-specific archaeological resources study was completed in July 2021 by the Anthropological Studies Center of Sonoma State University (ASC 2021). The study included a cultural and historic records and literature search for the Project site and 0.25-mile buffer study area, and field pedestrian survey within the Project site. The records search found no previously recorded cultural resources within the Project site. Two historic-era sites and two small prehistoric archaeological sites have been recorded within the 0.25-mile buffer around the Project site. The pedestrian archaeological survey identified no cultural resources within the Project site.

a) Cause a substantial adverse change in the significant of a historical resource pursuant to 15064.5? (Less than Significant with Mitigation)

No historical resources have been recorded within the Project site. Review of U.S. Geological Survey quadrangle maps indicate a farmhouse and barn, located centrally along the Project site's frontage with Occidental Road, was removed in the late 1980s. During the pedestrian survey several historic-era artifacts (e.g., glass, pottery, and brick fragments) associated with the former structures were observed. However, the fragments do not constitute significant cultural importance (ASC 2021). Although little to no ground disturbing activities would occur within and around the location of the previous farmhouse and barn, discovery of a concentration of historic-era material, such as a filled privy or well, cannot be discounted. If such a concentration were discovered during construction, it could result in a significant impact if not handled properly. With incorporation of **Mitigation Measure CR-1**, potential impacts would be eliminated or reduced to less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Less than Significant with Mitigation)

The Project site has been previously studied seven times. No archaeological resources have been recorded within the Project site. During the pedestrian survey no surface archaeological resources were observed. However, the broader Laguna de Santa Rosa area is sensitive for pre-contact habitation and resource processing activities. Therefore, the sensitivity of the Project site for buried pre-contact cultural resources is considered moderate.

Research of historic maps and aerial photographs indicate there was once a residence and outbuilding on the property. Although these structures have been removed from the property, there is a potential for buried features associated with these structures, such as privies or wells. Therefore, the sensitivity of the Project site for buried historic-era archaeological resources is moderate. An archaeological resource may be inadvertently discovered during Project construction, which could result in a potentially significant impact. With incorporation of **Mitigation Measure CR-1 Protect Unknown Archaeological and Historical Resources during Construction**, potential impacts would be reduced to less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries? (Less than Significant Impact with Mitigation)

There is no indication of human remains within the Project site (ASC 2021). However, all projects that propose subsurface disturbances have the potential for inadvertent discoveries which could result in a potentially significant impact to human remains. In the event that human remains are unearthed, **Mitigation Measure CR-2** would be implemented to ensure that the remains are handled properly, and the potential impact would be reduced to less than significant.

Mitigation Measures

Implementation of Mitigation Measure CR-1 and Mitigation Measure CR-2 would reduce potential impacts to a less-than-significant level by addressing discovery of unanticipated buried historical and archaeological resources and human remains following appropriate notification and evaluation procedures and requirements.

Mitigation Measure CR-1: Protect Unknown Archaeological and Historical Resources during Construction

If potential archaeological or historical resources are uncovered during construction, the City shall immediately halt work and construction workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. Prehistoric archaeological materials might include a concentration of obsidian and/or chert flaked-stone tools such as projectile points, knives, or scraping implements; the debris from making, sharpening, and using them (“debitage”); culturally darkened soil containing shell, dietary bone, heat-altered rock, and carbonized plant material (“midden”); or stone milling equipment such as mortars, pestles, handstones, or milling slabs. Historic-era materials might include buried adobe, stone, brick, or concrete footings or walls; filled privies or wells; or concentrated deposits of metal, glass, and/or ceramic.

A qualified professional archaeologist shall evaluate the find and provide appropriate recommendations. If the archaeologist determines that the find potentially qualifies as a historic resource or unique archaeological resource for purposes of CEQA (per CEQA Guidelines Section 15064.5), all work must remain stopped in the immediate vicinity to allow the archaeologist to evaluate any materials and recommend appropriate treatment. A Native American monitor shall be present for the investigation if the local Native American tribe requests. Avoidance of impacts to the resource are preferable (e.g., preserved in place or left in an undisturbed state). In considering any suggested measures proposed by the professional archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the City shall determine whether avoidance is feasible in light of factors such as

the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures as recommended by the archaeologist (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project while mitigation for historic resources or unique archaeological resources is being carried out.

Mitigation Measure CR-2: Protect Human Remains if Encountered during Construction

If human remains, associated grave goods, or items of cultural patrimony are encountered during construction, the City shall halt work in the vicinity of the find and notify the County Coroner immediately. The City shall follow the procedures in Public Resources Code § 5097.9 and Health and Safety Code § 7050.5. If the human remains are determined to be of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of the determination. The Native American Heritage Commission shall then notify the Most Likely Descendant (MLD), who has 48 hours to make recommendations to the landowner for the disposition of the remains. A qualified archaeologist, the City and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects. The agreement would take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects.

3.6 Energy Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (Less than Significant)

Construction

Construction of the Project would involve grading as discussed under Section 3.3 (Air Quality). Construction would require the use of fuels, primarily gas, diesel, and motor oil. The precise amount of construction-related energy consumption that would occur is uncertain. However, construction would not require a large amount of fuel or energy usage because of the short construction duration and the moderate number of construction vehicles and equipment, and worker trips that would be required for a project of this scale. Use of these fuels would not be wasteful or unnecessary because their use is necessary to complete the Project.

Excessive idling and other inefficient site operations would be prohibited. Equipment idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes or less (as required by the California airborne toxics control measure Title 13, Section 2485 of the CCR). Finally, as noted in **Section 1.6 Compliance with Existing Regulations and Standard BMPs**, all construction equipment would be maintained and properly tuned in accordance with manufacturer's specifications.

Because construction would not result in the use of large amounts of fuel and energy in a wasteful manner, impacts related to the inefficient use of construction-related energy resources would be less than significant.

Operation

The Project would convert open space currently used for hay farming to open space used for mitigation banking that would increase the wetland resources on site. The Project would not result in new employees or increased vehicle miles travelled (VMT). Operation would include minor on-site maintenance activities, including intermittent vegetation management and monitoring of the site, as described in **Section 1.5 Bank Development and Interim Management Plan and Long-term Management Plan**. Additionally, operation would include intermittent use of the proposed new well, which would utilize an electric pump to pump groundwater to a tank. The activities, as related to equipment use and energy consumption, would be similar to, or less than, existing conditions. For

example, rather than tilling, manure spreading, hay cutting, and hay bailing equipment being hauled to and from, and used at, the site as under existing conditions, operational activities would include the transport of grazing animals to and from the site, as well as supplement mowing equipment as needed. In addition, maintenance and monitoring visits would occur throughout the year. The Project would not result in a substantial increase or intensification of operational activities over existing conditions.

Because the Project would not substantially increase or intensify operational activities at the site, operational-related energy impacts would also be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

In 2003, the California Energy Commission (CEC), the California Power Authority (CPA), and the California Public Utilities Commission (CPUC) jointly adopted an Energy Action Plan (EAP) that listed goals for California's energy future and set forth a commitment to achieve these goals through specific actions (CEC 2003). In 2005, the CPUC and the CEC jointly prepared the EAP II to identify the further actions necessary to meet California's future energy needs. Additionally, the CEC prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with the other state, federal, and local agencies. The alternative fuels plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production (CEC 2005).

Locally, the City of Santa Rosa General Plan 2050 includes goals and policies to promote energy conservation in the City and support the transition to low-carbon sources of energy for buildings and transportation (Goal 3-7, Policies 3-7.1 to 3-7.25 and Actions 3-7.1 to 3-7.33) (City of Santa Rosa 2025). Reduced energy use and a shift to clean and renewable energy sources in housing, commercial structures, public facilities, and transportation can help support the local economic vitality, reduce costs, reduce GHG emissions, and enhance sustainability and reliability of the energy grid. Policy 3-7.5 focuses on continuing the City's role as a leader in sustainability and climate action and Action 3-7.25 focuses on the City's ability to optimize energy use, minimize energy costs, prepare for emergencies, and power provider outages, protect public health, sustain natural resources, and reduce municipal GHG emissions. Project implementation will contribute to sustaining natural resources thus the proposed Project is in alignment with the general plan. The other Goals, Policies and Actions are not applicable to the proposed Project.

Construction and operation of the Project would not conflict with or obstruct implementation of either the EAP, EAP II, the State Alternative Fuels Plan or local City general plan goals and policies. Project construction would not require a large amount of fuel or energy usage because of the limited extent and nature of the proposed improvements and the minimal number of construction vehicles and equipment, worker trips, and truck trips that would be required for a project of this scale. Project operation would not require substantial additional energy use beyond existing conditions. No conflicts with a state or local plan for renewable energy or energy efficiency have been identified. Therefore, no impact would result.

3.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				✓
ii. Strong seismic ground shaking?			✓	
iii. Seismic related ground failure, including liquefaction?				✓
iv. Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

a.i) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State

Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (No Impact)

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures used for human occupancy. The main purpose of the act is to prevent the construction of buildings used for human occupancy on top of the traces of active faults. The Project site is not located within or immediately adjacent to a known Alquist-Priolo earthquake fault. The nearest known fault is the Rodgers Creek Fault located approximately 5.5 miles to the east (CGS 2021). In addition, the Project would not construct any buildings for human occupancy. Therefore, implementation of the Project would not result in risk of loss, injury, or death involving rupture of a known fault. No impact would occur.

a.ii) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking? (Less than Significant)

The Project site is located within the general region of the San Andreas Fault system, which is strongly affected by seismic activity. Therefore, strong seismic shaking should be anticipated at the Project site. The proposed Project would restore and enhance historic vernal pools at the site to establish a mitigation bank. No component of the Project would be utilized for human occupancy, nor does the Project include any buildings or other structures that are typically related to loss, injury, or death during an earthquake. Because no aspect of the Project would create a hazard in the event of strong seismic ground shaking, the impact would be less than significant.

a.iii, a.iv, c, d) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving liquefaction, landslides, unstable, or expansive soils? (Less than Significant)

The Project site consists of Wright loam with 0 to 2 percent slopes and Wright loam shallow with 0 to 2 percent slopes. The Wright series consists of somewhat poorly drained and moderately well-drained loams that have a clay subsoil and low to high shrink-swell potential.

Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Liquefaction is known to occur in loose or moderately saturated granular soils with poor drainage. The Project would not include construction of any structures for which liquefiable soils would be a concern. Restoration of the vernal pools would not result in an increase of risk of loss, injury, or death should liquefaction occur at the Project site.

The Project area is relatively flat and is not located adjacent to or in the immediate vicinity of a hillside or steeply sloped area. Based on this, the Project site does not present a great risk of landslides. Additionally, the Project would not include any habitable structures or buildings. None of the Project components would present a landslide hazard, nor would the Project increase landslide risk.

The Project site is underlain with sandy clay loam and clay. This soil type is generally expansive. However, as the Project would establish a mitigation bank and does not include any habitable structures or buildings that would be subject to expansive soils.

The Project would not result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse, or substantial direct or indirect risks to life or property once implemented. Therefore, no impact would occur.

b) Result in substantial soil erosion or the loss of topsoil? (Less than Significant)

Construction of the Project would require fine grading and disturbance of undeveloped areas. As stated in **Section 1.6**, the Project would comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), which includes BMPs to prevent soil erosion during construction. Compliance with the NPDES permit requirements would ensure that potential impacts from soil erosion or loss of topsoil during construction would be less than significant.

Maintenance of the Bank following construction would not result in soil erosion or loss of topsoil as upland areas would be re-seeded and monitored annually during site inspections. Although grazing may be allowed for vegetation management, the number of animals allowed on site, timing of grazing activities, and length of grazing would be closely regulated to avoid erosion. If any erosion is found during the site inspections, it would be reported to the Land Manager for correction and adaptive management of the Project site. Therefore, no substantial soil erosion or loss of topsoil would occur during operation of the Bank. The operational impact to soil erosion or loss of topsoil would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (No Impact)

The Project would not involve the construction or use of septic tanks or other alternative wastewater disposal systems. No impact would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (No Impact)

No paleontological resources are known to be on or adjacent to the Project site. When the City established Kelly Farm for recycled water irrigation three mainline recycled water pipes were installed evenly spaced in an east-west direction across the Project site, at a depth of approximately 40 inches. Lateral pipelines were installed at a similar depth in a north-south direction spaced approximately 75 feet apart. During this extension trenching, no resources were encountered. Fine grading associated with the restoration of the vernal pools would extend to approximately 18 inches in depth. Excavation related to establishment of the breeding ponds would extend to a similar depth as the recycled water pipeline infrastructure. As excavation would be shallow and similar to previous construction within the site, paleontological resources are not expected to be destroyed. No impact would occur.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				✓
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

Assembly Bill (AB) 32 and the California Global Warming Solutions Act of 2006 required California to reduce its GHG emissions to 1990 levels by 2020. Additionally, Senate Bill (SB) 32 requires California to reduce GHG emission to 40 percent below 1990 levels by 2030.

In December 2008, pursuant to AB 32, the CARB adopted the Climate Change Scoping Plan (Scoping Plan), which outlined measures to attain the 2020 GHG emissions limit. California achieved its 2020 GHG emissions reductions target of returning to 1990 levels 4 years earlier than mandated by AB 32. The Scoping Plan has been updated three times; the current version is the 2022 Scoping Plan Update. The 2022 Scoping Plan identifies and addresses the network of California major climate legislation and executive orders adopted and enacted since the original 2017 Scoping Plan.

The 2022 Scoping Plan identifies a path to meet the SB 32 GHG emission reduction goals, as well as reducing anthropogenic GHG emissions to 85 percent below 1990 levels by 2045, and achieving carbon neutrality by 2045 or earlier, consistent with AB 1279. The 2022 Scoping Plan includes measures to move to a zero-emissions (decarbonized) transportation sector and phasing out the use of natural gas in residential and commercial buildings. The 2022 Scoping Plan would also reduce emissions of short-lived climate pollutants (SLCPs) and includes mechanical CO_2 removal and carbon capture and sequestration actions, as well as natural working lands management and nature-based strategies.

The 2022 Scoping Plan states that local action by municipalities can support and amplify efforts to reduce GHGs. Local government decisions play a critical role in supporting state-level measures to contain the growth of GHG emissions associated with the transportation system and the built environment. Local actions, included in Appendix D of the 2022 Scoping Plan, are not required by statutory or gubernatorial direction, and are not binding, but contain guidance and information regarding actions that other jurisdictions may choose to take that complement the 2022 Scoping Plan measures.

In June 2012, the City of Santa Rosa adopted a Community Climate Action Plan (CCAP) which examines community-wide sources of greenhouse gas (GHG) emissions, identifies reduction targets, and outlines strategies for reducing emissions (Santa Rosa 2012). In August 2013, the City adopted the Municipal Operations Climate Action Plan (MCAP) as a companion document to the CCAP. In June 2025, the City of Santa Rosa adopted the General Plan 2050, which includes a Community-Wide Greenhouse Gas Reduction Strategy (2025 GHG Reduction Strategy) as an update to and replacement of the City's 2012 CCAP (City of Santa Rosa 2025). The 2025 GHG Reduction Strategy

includes some measures from the MCAP, but does not fully replace it. The 2025 GHG Reduction Strategy applies to both private and public projects and contains emission reduction goals for year 2030 and 2045, consistent with State-mandated emission reduction targets. The 2025 GHG Reduction Strategy meets the criteria of CEQA Guidelines Section 15183.5(b), which establishes the requirements for programmatic GHG reduction plans that may be used for streamlining the GHG analysis of later, subsequent projects. Additionally, the Project site is included in the 2050 General Plan and, by extension the 2025 GHG Reduction Strategy, as within the City's planning area. According to the *Bay Area Air District CEQA 2022 Air Quality Guidelines*, a project that is consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b) can be presumed to have less-than-significant greenhouse gas emission impacts.

The MCAP is a companion document to the 2012 CCAP and addresses GHG emissions from the City's municipal operations. The municipal emissions inventory in the MCAP includes fleet emissions, building and facilities, employee commute, wastewater operations, and similar municipal sectors. However, the MCAP does not identify whether it meets the criteria of CEQA Guidelines Section 15183.5. Therefore, because the 2025 GHG Reduction Strategy applies to both private and public projects, contains an emission reduction goal for year 2030 and 2045, and meets the criteria of CEQA Guidelines 15183.5(b), it is appropriate to use as the applicable plan for the Project's impact analysis.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (No Impact)

The evaluation of whether the Project would generate GHG emissions in a manner that would impact the environment is based on the Project's consistency with applicable GHG reduction strategies identified in the Santa Rosa 2025 GHG Reduction Strategy. Much of the measures in the 2025 GHG Reduction Strategy relate to land use development as opposed to a conservation project such as the Kelly Farm Mitigation Bank. Based on a review of the Santa Rosa 2025 GHG Reduction Strategy, the only measures applicable to the Project are Measure 6 (Transition to zero-emission motorized equipment, including construction and landscaping equipment) and Measure 14 (Increase local natural carbon sequestration opportunities). The Project's compliance with the measures and implementing actions are outlined below.

Measure 6 Transition to zero-emission motorized equipment, including construction and landscaping equipment.

The City's 2025 GHG Reduction Strategy Measure 6 focuses on reducing emissions from all motorized equipment, including construction and landscaping equipment. Implementing Program 6.2 includes requiring the use of hybrid or zero-emission construction equipment for new development projects as a condition of approval. The document includes performance targets for the conversion of equipment to electric for years 2030, 2045, and 2050. The Project is not considered a 'new development' such as a new residential or commercial project. Additionally, the Project construction would be complete in 2026. Therefore, the Project would be compliant with Measure 6 and related implementing programs.

Measure 14 Increase local natural carbon sequestration opportunities

The City's 2025 GHG Reduction Strategy Measure 14 focuses largely on increasing natural carbon sequestration through open space, parks, agricultural lands, and increased tree canopy. Implementing Program 14.14, 14.15, and 14.16 include inventorying wetlands to support climate adaptation and

mitigation (e.g. carbon sequestration), conducting carbon sequestration farming pilot projects and research as part of ongoing ecological restoration of degraded habitats, and implementing regenerative land management practices to improve watershed and human health. The Project is an ecological restoration action that consists of restoration of degraded wetlands on existing agricultural land. Therefore, the Project would be compliant with Measure 14 and related implementing programs.

The Project is consistent with the applicable GHG reduction strategies to reduce GHG emissions; therefore, there is no impact.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (No Impact)

CEQA Guidelines Section 15183.5 provides that projects may streamline their analysis of GHG by using a publicly-adopted programmatic plan for reducing GHG emissions if that programmatic plan meets minimum criteria established in CEQA Guidelines Section 15183.5(b). As described in the section above, the Santa Rosa 2025 GHG Reduction Strategy was adopted by the City as part of the 2050 General Plan. The 2025 GHG Reduction Strategy is consistent with CEQA Guidelines (Section 15183.5) and contains GHG emission reduction goals for 2030 and 2045, consistent with State-mandated emission reduction targets. these CEQA-qualified GHG reduction plans along with their associated environmental review documents to assess the cumulative impacts of proposed development projects on GHG emission levels. As detailed in Impact (a), above, the Project would be consistent with the 2025 GHG Reduction Strategy. The Project is consistent with the applicable adopted plans to reduce GHG emissions; therefore, there is no impact.

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

a, b) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or create reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less than Significant)

Construction activities would involve the use of hazardous materials, such as fuels, lubricants, paints, and solvents. These materials are commonly used during construction, are not acutely hazardous and would be used in small quantities.

Regular transport of such materials to and from the Project site during construction could result in an incremental increase in the potential for accidents. However, numerous laws and regulations ensure

the safe transportation, use, storage, and disposal of hazardous materials. For example, Caltrans and the California Highway Patrol regulate the transportation of hazardous materials and wastes, including container types and packaging requirements, as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers.

Worker safety regulations address hazards related to the prevention of exposure to hazardous materials and release to the environment from hazardous materials use. The California Division of Occupational Safety and Health (Cal-OSHA) also enforces hazard communication program regulations, which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees. Because contractors would be required to comply with existing hazardous materials laws and regulations, the potential impact associated with transport, use, and disposal of hazardous materials is considered less than significant.

Following construction, operation of the Project would not result in the need for new hazardous materials to be transported, used or disposed. No operational impact would occur.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (No Impact)

The nearest school is located approximately 1.2 miles northeast of the Project site. Therefore, the Project is not located within a quarter mile of an existing or proposed school and no impact associated with emitting or handling hazardous materials, substances, or waste within a quarter mile of a school would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (No Impact)

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List." A search of the Cortese List was completed for the Project to determine if any known hazardous waste sites have been recorded on or adjacent to the Project site. These include:

- Department of Toxic Substances Control EnviroStor database;
- List of Leaking Underground Storage Tank Sites from the Water Board GeoTracker database;
- List of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

A Phase I Environmental Site Assessment was prepared for the Project, which included a search of the Cortese List in order to determine if any known hazardous waste sites have been recorded on or adjacent to the project site (GHD 2025).

The Project site is listed in the Historical UST database as having a UST. According to the State Water Resources Control Board a 15,000-gallon, unlined, earthen-walled irrigation wastewater lagoon container was installed in 1978. The City of Santa Rosa is listed as the container owner and Kelly Irrigation Site is listed as the facility. The contents of the lagoon are listed as wastewater (process or industrial). There are no records of the decommissioning of this lagoon. However, there was no evidence of the lagoon during site reconnaissance nor in aerial imagery. The address for the location of the lagoon is listed as 5200 Occidental Road. There is no known location on record for 5200 Occidental Road. The Project site is designated as 5140 Occidental Road. Therefore, it is not anticipated that construction of the proposed Project would encounter any hazardous materials. No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (No Impact)

The Project is not located within the jurisdictional boundaries of the Sonoma County Comprehensive Airport Land Use Plan (Sonoma County 2016), or within two miles of a public airport or public use airport. No impact would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)

The City's adopted Emergency Operations Plan (Santa Rosa 2022) does not include policies or procedures with which the Project would conflict. With the exception if the grazing infrastructure, the Project site would remain undeveloped, with no offsite improvements proposed. Therefore, the Project would not impair implementation of or physically interfere with the plan. No impact would occur.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (No Impact)

The Project is not located within the Santa Rosa Wildland Urban Interface zone, or within a CAL FIRE designated fire hazard severity zone (Santa Rosa 2009, CAL FIRE 2021). The Project does not include habitable structures and would largely remain open space. No impact would occur. Please refer to Section 3.20 (Wildfire) for a more comprehensive discussion regarding wildfire.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			✓	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?			✓	
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				✓
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				✓
iv. Impede or redirect flood flows?				✓
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

A Project-specific hydrology and water quality memo (GHD 2025) was prepared to inventory baseline hydrologic conditions and proposed post-Project hydrologic conditions to evaluate potential impacts. Hydrological conditions at the site will change under the Project, predominantly involving an increase in water retention onsite due to the restored vernal pools and created CTS breeding ponds which act as intentional impoundments. The existing hydrological setting is included in this section to provide the basis of change between pre- and post-Project conditions. This section is largely based upon this hydrology and water quality memo (GHD 2025).

Background Soils Data and Soil Investigation

The topography across the Project site generally consists of gentle slopes ranging from 0 to 9 percent with the predominant historic vegetation cover being oak savanna with dense grasses and poorly drained soils. According to the NRCS Soil database, soils at the site consist of two variations of Wright loam soil series. On-site test pits were dug by backhoe and by hand digging on July 27, 2021 to determine soil horizons and depth to the restrictive clay layer. Results from this work indicated that a clay layer started at a range of 5 inches to 20 inches from the surface, and terminated at a range from 25 to 37 inches from the surface. The thickness of the clay layer ranged from 15 to 28 inches thick. The clay layer was encountered on all test pits except test pit TP03 (located in the south-central portion of the Project site). The poorly draining clay layer and gentle sloped depressions have created the ephemeral vernal pools observed across the Project site.

Regional Climate

The regional climate is characterized by long, warm and arid summers followed by cool, rainy winters. Most of the rainfall occurs from October to April. Based on climate data for Santa Rosa (1902 – 2013; NOAA 2021), December is the coldest month, with an average maximum temperature of 58.1°F and an average minimum temperature of 37.7°F. The warmest month of the year is August with an average maximum temperature of 82.5°F and an average minimum temperature of 50.3°F. The Project site is situated close enough to the Pacific Ocean that weather is moderated and prone by a lesser degree to the extreme heat of the Central Valley. Precipitation near the Project site is heavily seasonal and falls primarily between October and April at approximately 31 inches, annually (1902 – 2013; NOAA 2021).

Existing Site Hydrology and Drainage

The Project site is situated along the lower elevations and western region of the Laguna de Santa Rosa watershed, which is a component of the Russian River watershed. The Project site is located on a divide of two drainage basins. The site drainage divide runs east to west centrally across the Project site with the northern area draining water to the north toward Occidental Road, and the southern area draining water to the south and overland, toward adjacent properties.

Sub-drainages were delineated from available topographic survey data (GHD 2021), LiDAR data and aerial imagery. The following sections describe each sub-drainage in further detail.

Northern Drainage

The northern drainage consists of approximately 49.7 acres of land. Occidental Road lies on the Project site's northern perimeter line and drains runoff from the northern drainage area through a series of roadway cross culverts where water continues to flow across adjacent lands to the north eventually flowing into Laguna de Santa Rosa. A single earthen ditch on the southern edge of Occidental Road delivers runoff to each culvert. Existing vernal pools are along the northern edge of the Project site where elevations are lowest.

Southern Drainage

The southern drainage consists of approximately 47.7 acres of land. From west to east, a portion drains southward along the southern portion of the Project site at local surface depressions. Centrally, Duer Road cuts off drainage where it flows westward along Duer Road. While the remainder (easterly

portion) of the southern drainage, drains surface water overland across the Project site's southern boundary toward drainages to the south.

Site Surface Water Quality

No pollutants of concern are known to exist at the Project site. An existing recycled water irrigation system, maintained and operated by the City, supplies irrigation water to the site. Prior to its current use, the Project site was occupied as a farmstead which consisted of a small dairy and orchard. In 1990, all site structures were demolished and the remaining leach field was abandoned in place. No evidence of chemical waste or other hazardous substances were found on site.

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Less than Significant)

Water quality standards and objectives are achieved primarily through the establishment of NPDES permits and waste discharge requirements.

State Water Resources Control Board NPDES Order No. 2009-0009, as amended by Order No. 2012-0006, applies to public and private construction projects that include one or more acres of soil disturbance. Construction of the Project would disturb more than one acre of land and has the potential to degrade water quality because of erosion caused by earthmoving activities during construction or the accidental release of hazardous construction chemicals. Exposed soil from stockpiles, excavated areas, and other areas where ground cover would be removed could be transported elsewhere by wind or water. If not properly managed, this could increase sediment loads in receiving water bodies, thereby adversely affecting water quality. As described under **Section 1.6,** implementation of a construction Storm Water Pollution Prevention Plan (SWPPP) would ensure dust control practices to prevent wind erosion, sediment tracking, dust generation by construction equipment, management of concrete slurry, to avoid discharge to storm drains from such work. Therefore, with implementation of the SWPPP, the Project would not violate water quality standards or substantially degrade surface or ground water quality. A less than significant impact during construction would occur.

The Project includes approximately 250 square feet of new imperious surface from the water tank concrete pad and well house. However, this small area does not trigger requirements for low impact development, which are part of the City's stormwater NPDES permit and Low Impact Development Technical Design Manual.

No other applicable waste discharge requirements are anticipated to apply to the Project. No operational impact would occur from implementation of the Project.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (No Impact)

The Project is in the Santa Rosa Valley-Santa Rosa Plain Groundwater Basin 1-055.01 (DWR 2021) and is not listed as a basin in Critical Conditions of Overdraft (DWR 2021). On-site recycled water or contractor-supplied water would be used during construction for dust suppression on work areas. Use of groundwater is not anticipated for construction of the Project. Similarly, the Project would not

decrease groundwater supplies or interfere with groundwater management. No construction-related impact would result.

Operation of the Project would utilize a small 6-inch groundwater well as a water source during managed grazing. For certain times of the year, it is anticipated cattle would be used to graze the Project site as part of the vegetation management plan. Water usage can vary depending on the time of year. During hot summer days, cattle could use up to 1,000 gallons per (assuming a herd of 50, each drinking 20 gallons). This small periodic usage would not be expected to impede sustainable groundwater management of the basin.

The Project would restore and create vernal pools and CTS breeding ponds. The vernal pools and ponds would retain surface water which would result in a greater amount and frequency of saturated soils, and slower percolation of surface water through the soil, recharging the groundwater table.

The Project would not deplete groundwater supplies or interfere with groundwater recharge given the soil permeability will not be altered. The footprint of the pump house and water storage tank would introduce a negligible area of impervious surface at 250 square feet within the 100-acre site. Therefore, operation of the Project would not interfere with groundwater recharge.

c.i) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site? (Less than Significant Impact)

Under existing conditions, there are 10 sub watersheds at the Project site. While drainage within some of the sub watersheds would be slightly modified because of restoration of the pools, deepening of the ponds, and placement of soil in the uplands, the 10 sub watersheds would remain intact. The Contractor will be required to verify elevations and contours post-construction. Impervious area within the 100-acre site would be approximately 250 square feet. This small area would not alter the broader drainage patterns at the Project site nor would it result in substantial erosion or siltation. The impact from altered drainage patterns and increased impervious surfaces would be less than significant.

c.ii, iv) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or redirection of flood flows? (No Impact)

Approximately 250 square feet of impervious surface would be added to the 100-acre site. There would be no increase in the rate or amount of surface runoff. Restoration of the vernal pool system, which includes deepening of the existing wetlands, could reduce overland flow and retain smaller storm events on site. There would be no impact to on or offsite flooding.

c.iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (No Impact)

The Project is designed to retain stormwater within the site and therefore would not contribute more stormwater to the drainage system as compared to current conditions. No impact to the surrounding stormwater drainage system, a ditch and culvert system along Occidental Road and Duer Road, would occur.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (No Impact)

The Federal Emergency Management Agency (FEMA) delineates regional flooding hazards as part of the National Flood Insurance Program. According to local Flood Insurance Rate Maps, the Project area is located outside a 100-year floodplain. The Project site is outside inundation areas caused by failure of a dam or downstream of any large bodies of water. The Project is also outside of areas subject to inundation from tsunami. Therefore, there is no risk of pollutant release from these types of inundation because the Project is not located within these areas.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (No Impact)

An evaluation of Project consistency relative to the *Water Quality Control Plan for the North Coast Region* (2025 Basin Plan) and the *Santa Rosa Plain Groundwater Sustainability Plan* (GSP) is provided below.

2025 Basin Plan

The Project site is within the area subject to the 2025 Basin Plan.

The 2025 Basin Plan contains the regulations adopted by the North Coast Regional Water Quality Control Board to control the discharge of waste and other controllable factors affecting the quality of waters of the state within the boundaries of the North Coast Region. The Basin Plan establishes the beneficial uses of water within the region; the water quality objectives necessary to protect those uses, including an Anti-degradation policy; the prohibitions, policies, and action plans, by which protections are implemented; and the monitoring, which is conducted to ensure attainment of water quality standards.

Beneficial uses outlined in the 2025 Basin Plan specific to wetlands include provision of habitat, flood peak attenuation/flood water storage, and water quality enhancement. The Project site is not within a 100-year floodplain and therefore flood attenuation or storage would not apply. The Project would however support wetland habitat through restoration and enhancement activities and water quality enhancement with the cessation of agricultural activities.

The 2025 Basin Plan establishes water quality thresholds for key water resource protection objectives for both surface water and groundwater. Specific objectives for the Laguna de Stanta Rosa is limited to pH.

The Project site is not located adjacent to a stream or river. Potential impacts to water quality would be indirect from increased stormwater runoff. The Laguna de Santa Rosa is approximately 0.8 mile to the west and a small tributary to the Laguna is located approximately 0.2 mile to the north. As discussed above, there are two main drainages on the Project site. Neither drain directly to the Laguna de Santa Rosa. The southern drainage drains to the south while the northern drainage drains to the north. Between the Project site and the tributary to the north are two roadside ditches along Occidental Road that collect and convey stormwater before it can reach the tributary.

During construction, erosion control BMPs would be required to be implemented to prevent erosion and protect overall water quality (see Impact “a”). Operation of the project would not contribute to increased stormwater run-off. With implementation of the Project, manure would no longer be spread

across the site in association with the hay production. Ceasing this activity could potentially improve on-site water-quality.

Neither construction nor operation of the Project would alter water quality parameters established in the 2025 Basin Plan; therefore, there would be no conflict with the 2025 Basin Plan.

Santa Rosa Plain Groundwater Sustainability Plan

The Project site is located with the area subject to the *Groundwater Sustainability Plan for Santa Rosa Plain Groundwater Subbasin* (GSP). The GSP includes management criteria for five sustainability indicators. Sustainability indicators refer to any of the effects caused by groundwater conditions occurring throughout the Basin that, when significant and unreasonable, cause undesirable results, as described in Water Code Section 10721(x). The Santa Rosa Plain GSP identifies undesirable results, minimum thresholds, measurable objectives, and interim milestones for each of the following sustainability indicators:

– Chronic lowering of groundwater levels

– Reduction in groundwater storage

– Degraded groundwater quality

– Land subsidence

– Depletion of interconnected surface water

However, the Sustainable Groundwater Management Act identifies de minimis extractors who may not be subject to GSPs. De minimis is defined as less than two acre-feet of water per year. Assuming up to 50 cattle are grazing the Project site for up to 6 months per year, during the hottest months of the year, it is estimated the herd would conservatively need 180,000 gallons per year. This equates to 0.55 acre-foot.

Operation of the proposed agricultural groundwater well would be de minimis; therefore, the Project could not conflict with the GSP. No impact would occur.

3.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

a) Physically divide an established community? (No Impact)

Division of an established community typically occurs when a new physical feature, such as a highway, railroad, or large development, physically transects an area, thereby removing mobility and access within an established community. The Project would restore wetlands in an open agricultural field and would remain as open space after construction. No aspect of the Project would create a physical barrier or structure that would transect the area and reduce mobility and access. Therefore, the Project would not physically divide an established community. No impact would occur.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (No Impact)

The Project site is covered by a Conservation Easement with the Sonoma County Agricultural Preservation and Open Space District that restricts development. In a letter from the Agricultural Preservation and Open Space District to the City of Santa Rosa, dated March 2021, the District determined that the City's proposal to establish a CTS and wetland mitigation bank, including restoring and enhancing the project site and associated surface alteration, the conveyance of a new easement in furtherance of the mitigation bank, and use of the resulting mitigation credits only for public projects is consistent with the Conservation Easement.

The Project site is designated Agriculture in the *City of Santa General Plan 2050* and is included in the Rural Residential zone. Preferred uses in the Agricultural designation include orchards, croplands, grasslands, livestock, and related facilities. Operation of the mitigation bank would be consistent with grassland and livestock.

Furthermore, the Project would enhance and restore wetlands, vernal pools, and CTS breeding ponds, which is consistent with General Plan Goal 3-5 to protect, expand, maintain, and restore natural resources and open space. Implementation of the Project would have a beneficial effect on the existing habitat and is consistent with the City's land use plan and policies.

Other specific City of Santa Rosa General Plan 2050 policies adopted for the purpose of avoiding environmental effects are evaluated throughout this Initial Study under the corresponding issue areas. Therefore, the Project would not conflict with adopted policies and no impact would occur.

3.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

a, b) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (No Impact)

Under the Surface Mining and Reclamation Act, the State Geologist classifies areas into Mineral Resource Zones (MRZs). The Project is not located in an area classified as MRZ-2 and therefore is not located in an area of known economic mineral deposits of value to the region or state (California Geological Survey 2013). No impact would occur.

The Sonoma County General Plan and the Sonoma County Aggregate Resources Management Plan do not identify MRZ-2 resource areas on or in the vicinity of the Project site (Sonoma County 2016, Sonoma County 2010). No impact would occur.

3.13 Noise

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Result in generation of excessive groundborne vibration or noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

The Project site is in a rural area with few nearby residences. Potential sensitive receptors adjacent to the Project site include three residences to the north and one to the northeast along Occidental Road, and two to the south of the Project site off of Duer Road. At the closest point, the nearest residence is approximately 10 feet east of the Project's northeast corner property line, but more than 125 feet from the nearest proposed construction activity within the Project site. The closest residence along Duer Road is more than 600 feet from the Project site. According to the *Sonoma County General Plan 2020*, Occidental Road is identified as a "Noise Impacted Road Segment," defined as an area exposed to exterior noise levels exceeding 60 decibels (dB).

a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less Than Significant Impact)

The City of Santa Rosa has adopted a quantitative noise ordinance in Chapter 17-16 of the Municipal Code. Section 17-16.120 regulates noise from machinery and equipment:

> *"It is unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than 5 decibels."*

The City of Santa Rosa Municipal Code does not have regulations specific to construction noise. For the purposes of this analysis "substantial" noise increase can be defined as an increase in noise levels to that which causes interference with activities normally associated with established nearby land uses during the day and/or night.

The City of Santa Rosa 2050 General Plan (City of Santa Rosa 2025) provides guidance on what is normally acceptable, conditionally acceptable, normally unacceptable and clearly unacceptable. For agricultural sites, production of noise at or greater than 75 dB is normally unacceptable.

Construction

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. Maximum construction noise levels for ground clearing and excavation typically range from about 80 to 90 dBA Lmax at 50 feet from the noise source.

The Project involves fine grading, trenching, and installation of a small well which would involve the use of standard construction equipment. Equipment anticipated to be used during construction includes excavators, backhoes, drill rig, and graders. Typical noise levels emitted by this type of equipment peak at 85 dBA, measured at 50 feet (FHA 2017). Given the nature of the Project, construction is not expected to linger in any one area for more than 2 to 3 weeks.

Assuming the inverse square law, which states that a doubling of distance from the noise source would reduce the sound by 6 dB, construction noise would be approximately 79 dB at 100 feet, approximately 73 dB at 200 feet away, and approximately 67 dB at 400 feet. Although the closest sensitive receptor is approximately 100 feet from the northeastern corner of the Project disturbance area, the vast majority of construction would occur in excess of 500 feet from sensitive receptors.

At the four closest residential receptors, located along Occidental Road, outdoor noise could range from 73 dB to 79 dB when construction occurs nearest to those receptors (100 to 200 feet). Attenuation within the structures, assuming standard residential construction and closed windows, would be an approximate 20 dB reduction. While the two residential receptors to the south would experience outdoor noise levels of less than 67 dB.

Due to the shifting and short-term nature of the construction, and the noise attenuation achieved based on the varying distances to the nearest residential receptors, the temporary increase in construction noise would not be considered substantial. Construction noise impacts on nearby residential receptors would be less than significant.

Operation

Operation of the Project would include a small well pump enclosed in a pump house. The pump would run intermittently to provide water to during certain times when cattle are onsite. The pump house would be centrally along the north edge of the Project site, adjacent to Occidental Road. The nearest receptor is a residence more than 700 feet to the northeast, on the north side of Occidental Road.

Given the pump will be enclosed in a structure, and ambient traffic noise along Occidental Road exceeds 60 dB, it is not anticipated that operation of the well pump will be audible from the residential property. The Project would not result in permanent increase in ambient noise; therefore, the impact would be less than significant.

b) Result in generation of excessive groundborne vibration or noise levels? (Less than Significant)

The City of Santa Rosa does not specify any construction vibration limit. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 inches per second peak particle velocity (PPV) for buildings structurally sound and designed to modern engineering standards,

0.3 inches per second PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.25 inches per second PPV for historic and some old buildings. The 0.3 inches per second PPV vibration limit would be applicable to properties in the immediate vicinity of the Project site since there are no known historic buildings nearby.

Proposed construction would include grading, trenching, and installation of the well. Perceptible vibration may occur when heavy equipment is used near sensitive receptors. However, the proposed Project does not require pile driving, which can cause excessive vibration.

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. At a distance of 100 feet a small bulldozer can generate vibration levels of 0.001 inches per second PPV, well below the 0.3 inches per second threshold. Construction-related gourndborne vibration would result in a less-than-significant impact.

During operation, no groundborne vibration would occur. The Project would not result in exposure of persons to or generation of excessive groundborne vibration levels. Therefore, no operational impact would result.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)

The Project is not located in the vicinity of a private airstrip or an airport land use plan, or within two miles of a public airport. Therefore, no impact would occur.

3.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)

The Project would not directly or indirectly induce population growth. The Project does not include residential or commercial uses, that would provide new homes or generate new employment opportunities. The Project would also not extend infrastructure into new areas not already served by the City. Therefore, no impact to population growth would occur.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)

No homes or people would be displaced as a result of Project construction or operation, and no replacement housing would be needed. Therefore, no impact would occur.

3.15 Public Services

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire Protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public services? (No Impact)

As discussed in Section 3.13, Population and Housing, implementation of the Project would not induce population growth and, therefore, would not require expanded fire or police protection facilities to maintain acceptable service ratios, response times, or other performance objectives. The Project would also not result in an increase in the City's student population, and therefore, no new or expanded schools would be required.

The Project would not result in the increased use of existing parks and other public facilities because it would not induce population growth. The Project would also not require the expansion of recreational facilities to maintain acceptable service ratios in parks and would not require the expansion of other public facilities. No impact on public services would occur.

3.16 Recreation

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				✓

a, b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (No Impact)

The Project would not increase employees or population in the surrounding community, so the use of existing neighborhood and regional parks or other recreational facilities would not change because of the Project. The Project would not result in the physical deterioration of public recreational facilities and would not require construction of parks and recreational facilities. No impact would occur.

3.17 Transportation

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				✓
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				✓
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
d) Result in inadequate emergency access?			✓	

Occidental Road fronts the Project site and is used as the main access route. It is a rural, two-lane road with no curb, gutter, or sidewalks. Occidental Road currently does not have bike lanes or pedestrian facilities on either side of the roadway. There are no existing bus routes or bus stops along Occidental Road.

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (No Impact)

The number of construction-related vehicles traveling to and from the Project site would vary daily. Project construction is not anticipated to result in on-road hauling of soils or other materials, or other material delivery trips, which sometimes constitutes the majority of construction-related traffic. The estimated size of the construction workforce at any one time during construction is anticipated to range between 10 and 20 workers. The addition of construction-related traffic would occur during daytime hours between 7:00 a.m. to 7:00 p.m. Monday through Saturday. No night-time work will occur.

Vehicle trips related to operation and maintenance of the Project would be infrequent and similar to existing trips. Rather than 14 to 20 truck-trips per year related to hay production, there would be 4 to 8 truck trips per year related to cattle grazing. Maintenance and monitoring would result in approximately 12 vehicle trips per year.

Implementation of the Project would not modify Occidental Road or use the surrounding road network any differently than existing conditions. Therefore, there would be no interference with any future changes to Occidental Road such as roadway, bicycle, or pedestrian improvements. The Project would not conflict with a plan, ordinance, or policy related to the circulation system; therefore, there would be no impact.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (No Impact)

CEQA Guidelines § 15064.3, Subdivision (b) includes criteria for analyzing the transportation impacts of land use projects (such as residential or commercial projects) and transportation projects (such as roadway capacity projects). However, the proposed Project is neither a land use nor transportation project. Additionally, the Project would not result in new employees or other sources of operational VMT. Therefore, the Project would not conflict with CEQA Guidelines Section 15064.3, Subdivision (b) and would result in no impact.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (No Impact)

Operation of the Project would not increase traffic hazards because it would not alter existing roadways, driveways, and does not include new roadways or driveways. The Project would not introduce any new curves or intersections. Entry and exit to the site would occur at the existing entrance to Hepworth Road and would not introduce new hazards or incompatible uses to the site or project area. Once installed, the Project would not pose a hazard to any vehicle, bicyclist, or pedestrian in the vicinity. No impact would occur.

d) Result in inadequate emergency access? (Less than Significant)

Construction-period access to the Project site would be from Occidental Road at the entrance to Hepworth Road. Construction of the Project may temporarily slow emergency response times during on-road transport of large construction equipment; however, on-road transport would occur only at the start and end of construction. The Project would balance soils onsite. Therefore, no import or export of soil material is anticipated, and no material hauling would occur. Due to the limited scope and duration of construction equipment delivery and removal, the Project's construction-period impact to emergency access would be less than significant.

Access to the Project site is provided from Occidental Road to an existing gated driveway located near the northwest corner of the property. This access location would remain. No new entrance points are proposed. Additionally, the Project does not include new roadways, intersections, occupied structures (such as residences), trip-generating land uses (such as parks), or require the regular transport of large equipment. Therefore, the Project would have no impact to emergency access during operations. No operational impact would occur.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k)?		✓		
b) Cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1? In applying the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.		✓		

The CEQA Guidelines define tribal cultural resources as: (1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resource to a California Native American Tribe.

Refer to Section **1.8 Tribal Consultation** for a description of the City's AB 52 consultation process.

a, b) Cause a substantial adverse change in the significance of a tribal cultural resource)? (Less than Significant with Mitigation)

There are no tribal cultural resources within the Project site that are listed in the California Register of Historic Resources and no known tribal cultural resources eligible for listing on the Register. A review of the Sacred Lands file for information on Native American cultural resources in the study area did not indicate the presence of Native American cultural resources. In consultation with the tribes affiliated with the geographic area of the Project site, no known tribal cultural resources were identified within the Project site. ASC, accompanied by FIGR Tribal Cultural Monitor Owen Knight, carried out a pedestrian archaeological field survey on December 9th, 2025, and found no archaeological resources.

Although no evidence of known tribal cultural resources has been found, the discovery of unknown tribal cultural resources cannot be entirely discounted. If unknown tribal cultural resources were

encountered during construction of the Project a potentially significant impact would occur if the resources were subject to substantial adverse change.

Mitigation Measure

Mitigation Measure TCR-1 would reduce the impact to unknown tribal resources to a less-than-significant level because a treatment plan to address the discovery of unanticipated resources and to preserve and/or record those resources consistent with appropriate laws and requirements would be implemented.

Mitigation Measure TCR-1: Protect Unknown Tribal Cultural Resources

If previously unknown tribal cultural resources are uncovered, the Applicant shall halt work, and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. The Applicant shall notify the City and the California Native American tribes culturally affiliated with the project area. The Applicant, in coordination with Native American tribes, shall determine if the resource qualifies as a tribal cultural resource under CEQA. If it does, then all work must remain stopped in the immediate vicinity to allow evaluation of any materials. The Applicant shall ensure that qualified resources are avoided, protected in place, or moved to an appropriate location in accordance with the requests of Native American tribes, to the extent feasible. Work may proceed on other parts of the project while mitigation for tribal cultural resources is being carried out.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				✓
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (No Impact)

The Project would not alter wastewater characteristics or result in an increase in the generation of wastewater resulting in the need for new or expanded wastewater treatment. Similarly, the Project would not result in increased demand for water, storm water, electrical power, natural gas, or telecommunications facilities. Therefore, the Project would not require or result in the construction of new or expanded off-site facilities or expansion of existing facilities. The Project does include installation of a small self-contained agricultural well on site, the impacts of which are evaluated throughout this Initial Study as part of the Project. No impact would occur to existing utilities and services.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (Less than Significant)

During construction a small amount of water would be used for dust suppression. Construction-related water demands would be short-term and small in volume and would be sufficiently served by existing entitlements. During operation, the Project is conservatively estimated to use 180,000 gallons per year during certain times of the year when cattle or on site as part of the vegetation management plan. Sufficient groundwater is available to meet this small demand. Refer to **Section 3.10 Hydrology and Water Quality** for a discussion on the Project's de minimus impact on groundwater supplies. Impacts on water supplies would be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (No Impact)

As described above under Impact a), the Project would not result in an increase in the generation of wastewater. Because there would be no increase in wastewater discharges, the Project would not impair the ability of City's Laguna Treatment Plant to continue serving existing commitments. No impact would occur.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (Less than Significant)

All excavated material is anticipated to be re-balanced on site, with excess material excavated from the CTS breeding ponds spread in the upland area. Construction waste with no practical reuse or that cannot be salvaged or recycled would be disposed of at a local landfill. Active permitted regional landfills include the Central Disposal Site (8.3 million cubic yards remaining capacity), Redwood Landfill (26 million cubic yards remaining capacity), Clover Flat Resource Recovery Park (2.2 million cubic yards remaining capacity), and Vasco Road Sanitary Landfill (11.5 million cubic yards remaining capacity), (CalRecycle 2025). The construction material to be off-hauled would be a marginal amount of the daily permitted tonnage of these facilities. Therefore, the Project's construction solid waste need would be sufficiently accommodated by existing landfills, and due to the temporary nature of the construction phase would not impair the attainment of solid waste goals.

During operation of the Project solid waste would not be generated on an on-going basis. Some small amounts of debris may be created during repairs of on-site infrastructure such as the fence or management of the vegetation. This minor, intermittent waste could be accommodated by local landfills, as noted above. The impact from solid waste generation during construction and operation of the Project would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

The City has entered into a franchise agreement to provide construction and demolition debris collection service within the City in accordance with Municipal Code Chapter 9-12. The existing franchise agreement requires that the franchisee recycle 50 percent of all construction and demolition

debris collected within the City. Compliance with applicable statutes and regulations regarding construction waste would be conditionally required as part of Project. Therefore, no impact would occur.

No applicable federal solid waste regulations would apply to the Project. At the State level, the Integrated Waste Management Act mandates a reduction of waste being disposed and establishes an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance. The Project would not conflict with or impede implementation of such programs.

Following construction, Project operation would not generate additional solid waste. Therefore, no operational impact would occur.

3.20 Wildfire

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slop instability, or drainage changes?				✓

The Project site is located approximately 1.8 miles east of the nearest State Responsibility Area (SRA) and approximately 6.3 miles southwest of the nearest very high fire severity zone (CalFire 2021, City 2009). The site is currently subject to perimeter mowing to reduce vegetation as a fire prevention tool.

a) Substantially impair an adopted emergency response plan or emergency evacuation plan? (No Impact)

The City's adopted Emergency Operations Plan (Santa Rosa 2017) does not designate specific evacuation routes or emergency shelter locations or include policies or procedures with which the Project would conflict. Therefore, the Project would not impair implementation of or physically interfere with the plan. No impact would occur.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (Less than Significant)

The Project site is relatively flat with an undulating topography. The Project site consists of grassland and vegetation that would be graded slightly in order to create the vernal pools and CTS breeding ponds. The vegetated areas could be susceptible to wildfire during Project construction, because of accidental ignition. However, during construction, all fuel and flammable substances, and construction equipment would be appropriately stored pursuant to all required State and local regulations. During

operation, the Project site would receive regular vegetation management that could include low-intensity, intermittent livestock grazing, removal of vegetation with hand tools, properly timed mowing and raking, and/or targeted application of herbicides for certain invasive species. Vegetation management would reduce the available fuel on-site and therefore reduce wildfire risk. Therefore, a less than significant impact would occur.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (No Impact)

Implementation of the proposed Project would not result in a need to expand infrastructure at or in the vicinity of the Project. No new roads for fire defense, expanded water sources, new power lines, or the development of other utilities would be required. No impact would result.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slop instability, or drainage changes? (No Impact)

The Project site is located on relatively flat terrain. If a wildfire were to occur, post-fire slope instability would be unlikely. Furthermore, the proposed Project would establish a mitigation bank. No residential uses or other structures are proposed that would expose people or structures to significant risks because of post-fire instability or drainage changes. Therefore, flooding is unlikely should a fire occur. There would be no impact.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant w/ Mitigation Incorporated	Less-than-Significant Impact	No Impact
Does the project:				
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				✓
c) Have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?				✓

Text

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Less than Significant with Mitigation)

As evaluated in this IS/Proposed MND, the Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

Compliance with existing regulations (see **Section 1.6 Compliance with Existing Regulations and Standard BMPs**) would reduce impacts related to air quality, geologic hazards, stormwater run-off, greenhouse gas emissions, tree replacement, and water quality. Mitigation measures are listed herein to reduce impacts related to biological resources, cultural resources, and tribal cultural resources. With implementation of the required mitigation measures, impacts would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (Less than Significant)

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over time.

The cumulative impact analysis in this Initial Study uses the list approach. A search was undertaken for reasonably foreseeable projects in the vicinity of the Project area that may have overlapping or cumulative impacts with the proposed Project. No specific projects with potentially overlapping impacts in the Project area, were identified. A similar mitigation bank has been proposed, and is under review by the IRT, immediately south of the proposed Kelly Farm Mitigation Bank. However, this bank does not include any construction activities and therefore there would be no overlapping construction impacts. Operation of both banks would collectively improve and protect the CTS and wetland habitat within the Santa Rosa Plain. There would be no impact from operation of the banks. Implementation of the Project would not contribute to potential cumulative impacts.

c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? (Less than Significant)

As discussed in the analysis throughout Chapter 3 of this Initial Study, the Project would not have environmental effects that would cause substantial adverse direct or indirect effects on human beings after compliance with existing regulations.

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Appendices

Appendix A

Biological Resources Evaluation

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Biological Resource Evaluation

Kelly Farm Mitigation Bank
City of Santa Rosa, Sonoma County, California

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Prepared on Behalf of
GHD, Santa Rosa, California

Prepared December 2020
Revised March 2025

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FIGURES AND APPENDICES

1 INTRODUCTION

This report presents the methods and results of a biological habitat evaluation conducted by Vollmar Natural Lands Consulting, Inc. (VNLC) on behalf of GHD within the Kelly Farm Mitigation Bank (Study Area). The Study Area is located along the rural western edge of the City of Santa Rosa, in Sonoma County, California (**Figure 1**). The Study Area encompasses approximately 99 acres of Kelly Farm, a 397-acre property that is owned and managed by the City of Santa Rosa (City) Water department. The City is considering establishing a mitigation bank within the Study Area, in order to offset City project-related impacts to jurisdictional Waters as well as associated protected biological resources. Kelly Farm historically encompassed extensive complexes of vernal pool wetlands with interspersed valley oak savanna, but the property has been managed as a hay farm since the 1970s, and this has resulted in degradation of the vernal pool and associated grassland habitats. The area has been repeatedly disked and planted with introduced grasses and forbs, which are fertilized with manure and irrigated with treated recycled water throughout the summer dry season.

This habitat evaluation was conducted to identify and characterize existing conditions as well as assess the potential for special-status species, sensitive habitats, and jurisdictional features to occur within the Study Area.

1.1 Special-status Species

Based on habitat requirements and regional distribution, three State and/or Federal Threatened or Proposed Threatened (ST, FT, FPT) wildlife species are present or have potential or low potential to occur within the Study Area (also see **Section 5.1.1** and **Appendix A**):

- California tiger salamander (*Ambystoma californiense*) – FT, ST;
- Tricolored Blackbird (*Agelaius tricolor*) – ST, CDFW Species of Special Concern (SSC);
- Northwestern pond turtle (*Actinemys marmorata* [Western pond turtle, *Emys marmorata*]) – FPT, CDFW SSC

In addition to these species, seven special-status animals which are not listed under the Endangered Species Act (ESA) or CESA have potential or low potential to occur within the Study Area. These species are considered to have special status based on their listing by other authorities, including listing by California Department of Fish and Wildlife (CDFW) as Fully Protected (FP), SSC or on a Watch List (WL), listing by the Western Bat Working Group (WBWG), or their inclusion in the California Natural Diversity Database (CNDDB) for other reasons (see **Section 5.1.2** and **Appendix A**). (Migratory bird species with some level of potential to occur within the Study Area are discussed in **Section 4.2.1.3** and are not included in the following list.)

Olivet Road
Fulton Road
Santa Rosa
Guerneville Road
W College Road
Green Valley Road
Forestville
Hall Road
Slippery Rock Mitigation Bank
Wright Conservation Bank
12
Occidental Road
Wright Road
Llano Road
Ludwig Ave
Stony Point Road
Sebastopol
Todd Road
101
116
Rohnert Park
Cotati

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FIGURE 1
Vicinity Map

Kelly Farm Mitigation Project
Sonoma County, CA

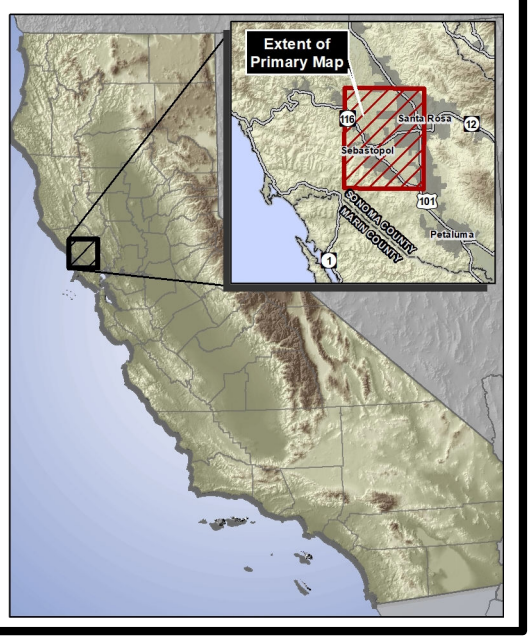
Legend

- Highway
- Bank Boundary
- Reference Site

N
W E
S

1:63,360
(1 inch = 1 mile at tabloid layout)

0 0.5 1 2 Kilometers
0 0.5 1 2 Miles



Data Sources: CNDDB, March 2019 | GHD, 2020
ESRI/Digital Globe (aerial imagery), 2018
GAP Analysis Project, 1998
Map Produced by: Vollmar Natural Lands Consulting
GIS/Cartography by E. Smith, Jan. 2022
Map File: Fig1_344_KF2_Vicinity_B-P_2025-0131.mxd

These species are:

- Cooper's Hawk (*Accipiter cooperii*) – WL;
- Blennosperma vernal pool andrenid bee (*Andrena blennospermatis*) – N/A;
- Pallid bat (*Antrozous pallidus*) – SSC, WBWG: High;
- White-tailed Kite (*Elanus leucurus*) – FP;
- Hoary bat (*Lasiurus cinereus*) – WBWG: Medium;
- California linderiella (*Linderiella occidentalis*) – N/A; and
- American badger (*Taxidea taxus*) – SSC.

Two special-status species are currently known from the Study Area. American badger (*Taxidea taxus*) has been documented by City employees, and signs of the animal were observed by VNLC ecologists during 2020 surveys. One special-status plant, hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), was documented by VNLC during 2020 botanical surveys. The plant is designated by the California Native Plant Society (CNPS) as rare California Rare Plant Rank (CRPR) 1B.2.

Although there is suitable or marginal habitat within the Study Area for five federal- and/or state-listed plant species and 13 non-listed species, they have been excluded from this report based on recent protocol-level survey findings. According to survey results, these 18 species have marginal potential to occur within the Study Area, and were not observed during the protocol-level surveys:

- bent-flowered fiddleneck (*Amsinckia lunaris*) (CRPR 1B.2);
- Sonoma sunshine (*Blennosperma bakeri*) (FE, SE, CRPR 1B.2);
- bristly sedge (*Carex comosa*) (CRPR 2B.1);
- johnny-nip (*Castilleja ambigua* var. *ambigua*) (CRPR 4.2);
- pappose tarplant (*Centromadia parryi* ssp. *parryi*) (CRPR 1B.2);
- dwarf downingia (*Downingia pusilla*) (CRPR 2B.2);
- Boggs Lake hedge-hyssop (*Gratiola heterosepala*) (SE, CRPR 1B.2);
- hogwallow starfish (*Hesperevax caulescens*) (CRPR 4.2);
- harlequin lotus (*Hosackia gracilis*) (CRPR 4.2);
- Burke's goldfields (*Lasthenia burkei*) (FE, SE, CRPR 1B.1);
- Contra Costa goldfields (*Lasthenia conjugens*) (FE, CRPR 1B.1);
- legenere (*Legenere limosa*) (CRPR 1B.1);
- Sebastopol meadowfoam (*Limnanthes vinculans*) (FE, SE, 1B.1);
- marsh microseris (*Microseris paludosa*) (CRPR 1B.2);
- Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*) (CRPR 1B.1);
- Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*) (CRPR 4.2);
- Lobb's aquatic buttercup (*Ranunculus lobbii*) (CRPR 4.2); and
- saline clover (*Trifolium hydrophilum*) (CRPR 1B.2).

The project site could also support nesting and migrating birds protected by the Migratory Bird Treaty Act (see **Section 5.1.3**) and California Fish and Game Code 3503.

1.2 Critical Habitat

The site is located within designated critical habitat for the Sonoma Distinct Population Segment (DPS) of the California tiger salamander (CTS) (see **Figure 5**, **Section 4**).

1.3 Potential Impacts to Additional Resources

There are a series of large, mature oak trees (*Quercus* spp.) within the eastern portion of the Study Area as well as along the margins of the Study Area which may provide valuable nesting bird and raptor habitat as well as bat roosting habitat, and may be protected under local ordinances. There are 9.657 acres of potential jurisdictional Waters of the Unites States and/or of the State of California within the Study Area.

2 PROJECT LOCATION

The Study Area encompasses a single 99-acre parcel (Assessor's Parcel Number 060-020-001) that is located south of Occidental Road and east of Hepworth Road, at the western edge of Santa Rosa, California. The parcel is divided by the City into management blocks, including Blocks 6, 7, 8, and 9. The Study Area is mapped on the Sebastopol U.S. Geological Survey (USGS) 7½ minute topographic quadrangle, within Township 07 and Ranges 09 and 08 West. Most of the Study Area is within Section 25, but the eastern edge falls within Section 30 (**Figure 2**). The site is accessed from State Highway 12 by exiting to the north on Fulton Road, then immediately turning left (west) on to Occidental Road. The entrance to the site is at the intersection of Occidental Road and Hepworth Road, approximately 2.3 miles west of Fulton Road.

3 METHODS

3.1 Preliminary Review

Prior to the site visit, VNLC biologists reviewed the most recent version of the CNDDB to identify special-status plant and wildlife observations in the project vicinity (CNDDB 2020 and 2024). Additionally, the U.S. Fish and Wildlife Service (USFWS) Information Planning and Consultation System (IPaC) (USFWS 2020) was reviewed to help evaluate the potential for federally listed species to occur in the Study Area. A nine-quad search for rare and listed plants was conducted through the CNPS online Inventory of Rare and Endangered Plants (CNPS 2020). The species potentially present in the quadrant containing the project site are listed in **Appendix A**. The site's aerial imagery, project description, and general regional conditions were also reviewed prior to the site visit.

FIGURE 2
USGS Topographic Map

Kelly Farm Mitigation Project
Sonoma County, California

Kelly Farm Mitigation Bank

LEGEND

Stream (from SFEI CARI)

Bank Boundary

Note: USGS Quadrangle is "Sebastopol."

N
W E
S

1:24,000
(1in = 2,000 feet at tabloid layout)

0 0.5 1 Km

0 0.5 1 Miles

Data Sources: Vollmar Natural Lands, 2020
USGS DRG Series
GAP Analysis Project, 1998
GIS/Cartography by: Jake Schweitzer, July 2020
Map File: Fig2_DRG_344-05_B-L_2025-0131.mxd

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3.2 Field Surveys

VNLC Senior Ecologists Jake Schweitzer and Eric Smith, and Staff Ecologist Henry Hwang conducted a habitat assessment on January 17, 2020. They walked the project site to gain complete visual coverage, and recorded all observed flora and wildlife species, general conditions, and notable habitat features. A search was conducted for jurisdictional features (wetlands and other waters, etc.), sensitive habitats (native grasslands, etc.), and habitat potential for special-status species (nesting potential, burrows or dens, etc.).

VNLC Senior Ecologists Jake Schweitzer and John Vollmar, and Staff Ecologist Henry Hwang conducted a formal delineation of Waters of the U.S. and State of California on April 23 and 24, 2020. Prior to conducting the field delineation, the project ecologists reviewed site aerial photography, topographic data, existing preliminary wetland and watershed mapping, and geology and soil survey maps of the Study Area and surrounding areas. High-resolution topographic data was available for the Study Area, in the form of 1-meter pixel resolution light detection and ranging (LiDAR) data. The LiDAR data were processed to render topographic depression and slope maps. (**Figure 3**, below, shows topographic depressions and contours.) This information was used to help characterize the Study Area, identify any potential Waters of the United States on a preliminary basis, and guide the field surveys. Background imagery and a project boundary map were loaded on to a professional GPS unit (Trimble GeoXH 6000) for use in navigation and mapping in the field.

VNLC Senior Ecologists Eric Smith and John Vollmar, and Staff Ecologist Henry Hwang visited the site on April 23rd, 2020 to conduct a California Rapid Assessment Method (CRAM) assessment. All three are trained CRAM practitioners for the vernal pool module. They assessed the entire site using the CRAM Vernal Pool Systems Module Version 6.2 (CWMW 2020). The CRAM Vernal Pool Systems Module is designed to be applied to vernal pools. Most of the wetlands and non-wetland depressions on the site currently do not meet the definition of a vernal pool due to the degradation described above. However, the project team has applied the module regardless in order to provide a point of comparison before the restoration. Following the completion of the CRAM assessment, possible improvements to each score across the site were estimated based on the potential to change site characteristics with a restoration project including partial re-grading of the site, introduction of inoculum material (seed), and cessation of current agricultural practices, to be replaced with an appropriate grazing regime.

Protocol-level botanical field surveys were conducted in the Study Area by Jake Schweitzer, VNLC Senior Ecologist. The surveys were conducted on April 9, May 20, and July 2, 2020. In addition, some plant taxa were recorded during wetland delineation surveys, CRAM surveys, and other habitat assessments conducted within the Study Area by other ecologists from VNLC (see above).

Prior to conducting the field surveys, Mr. Schweitzer visited the CDFW Santa Rosa Plain Ecological Reserve (see **Figure 5**, **Section 4**, below), which is being used as a potential reference

FIGURE 3
Topography and Soil Units

Kelly Farm Mitigation Project
Sonoma County, CA

Tributary of Laguna de Santa Rosa (unnamed)

Ephemeral Swales (flow north)

Ephemeral Swale (flows south)

Tributary of Laguna de Santa Rosa (unnamed)

Occidental Road

Occidental Rd

Piezzi Road

Hepworth Road

Hepworth Rd

Wright loam, wet

Wright loam, shallow, wet

Legend

- Primary Culvert
- Stream (from SFEI CARI)
- Contour (0.25 meter/~10 inches) (NAVD)
- Soil Unit Boundary
- Bank Boundary (99 ac.)

Depression Depth

-1 inch

Low : -13 inches

N
W E
S

1:6,000
(1 inch = 500 feet at tabloid layout)

0 125 250 Meters

0 250 500 1,000 Feet

Data Sources: City of Santa Rosa, 2020 | USGS, various GHD, 2020 | USDA NAIP (Air Photo), 2017 | SFEI, 2015
GIS/Cartography by Jake Schweitzer, July 2020
Map File: Fig3_Soils-Topo_344_B-L_2025-0131.mxd

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site for the restoration of the Study Area. The Reserve is known to support all of the primary targeted listed vernal pool-associated plant species. The purpose of the visit was to compare vernal pool habitat conditions there with conditions in the Study Area, to assess the potential for the species to occur in the Study Area. It was determined that the vernal pools at the Reserve are notably deeper and more topographically defined than any of the remnant vernal pools in the Study Area. It is worth noting that no *Lasthenia* or *Blennosperma* species have been observed in the Study Area during many years (since 1992) of non-protocol botanical surveys (Cadman pers. comm.). In April, Mr. Schweitzer also visited City property adjacent to the nearby Laguna Treatment Plant, which is known to support Sebastopol meadowfoam (*Limnanthes vinculans*). Meadowfoam species have been observed within the Study Area—one of only two vernal pool associated species observed in the Study Area (the other being annual semaphoregrass [*Pleuropogon californicus*]) (ibid). Therefore, it was considered important to confirm the phenological condition of Sebastopol meadowfoam in the region. This species was observed to be in bloom within this known reference population, and was therefore assumed to be identifiable if it were to occur within the Study Area.

The botanical field surveys conformed to the CNPS 'Intuitive Controlled' method as well as the protocol for botanical resource surveys as recommended by the CDFW (2018). The entire Study Area was carefully investigated, though areas with higher potential to support special-status plants were surveyed with greater intensity. Examples of habitats that were surveyed more intensively include the few remnant vernal pools as well as other seasonal wetlands (former vernal pools), oak-dominated habitats, and relatively un-disturbed (e.g., un-disked) grassland habitats. Areas featuring a relatively high cover of native plants were considered to have the highest potential to support special-status plants. All plant taxa present were recorded according to the lowest taxonomic level (i.e., species, subspecies, or variety as applicable) and dominant species and general habitat conditions were noted throughout the Study Area. GPS points were established at each distinct habitat type, where dominant plant taxa and ecological notes were recorded to document habitat conditions. Field manuals, particularly the "Jepson Manual" (Baldwin et al. 2012), were used to confirm the taxonomy of some plants as necessary.

Occurrences of all special-status plants within the Study Area (see **Section 4.2.1.4**) were mapped with a professional GPS unit (Trimble GeoXH 6000). All plants within approximately 50 feet of each other were surveyed as individual polygons—clusters of rare plants more than 50 feet from other clusters were mapped separately. A data dictionary that includes standardized attributes from the CNDDB was used to record attributes for each population. Parameters collected for the populations include the range of population (number of individuals), slope and aspect of the local area, soil characteristics, plant phenology (blooming/fruiting conditions), threats to the populations, and associated plant species. Representative photographs were recorded of the populations and of individual plants.

4 RESULTS

4.1 Existing Conditions

The Study Area is located approximately halfway between the Cities of Santa Rosa and Sebastopol, a little over one mile from the edge of intensive suburban development associated with each city. The vicinity of the Study Area is depicted in **Figure 1**. This region is characterized by relatively small-scale agricultural operations interspersed with residential and commercial/industrial land uses. Agriculture in the area includes wine grape-growing, dairying, hay farming, horse pasture, and other moderate-intensity agriculture. Though there are patches of mostly natural grassland and oak savanna habitat throughout the region, especially on dairy ranches, large open range is limited, making the site a potentially important block of relatively extensive restorable habitats. Representative site photographs are included in **Exhibit C-1, Attachment 2**.

4.1.1 Climate

The climate in the region is characterized as "Mediterranean," with cool, wet winters and warm, fairly dry summers as well as high inter- and intra-annual variability in precipitation. The Study Area is near (only two miles east of) the boundary of ACOE's "Western Mountains, Valleys, and Coast Region," which receives more precipitation and generally features colder winter temperatures than the Arid West region. The site is east of relatively low hills that allow fog to roll in from the coast (particularly during summer), moderating temperatures and providing summer moisture. Mean annual precipitation and temperature at the Study Area are 36.6 inches and 58 degrees Fahrenheit, respectively (PRISM 2020). More than 98 percent of annual precipitation occurs during the "wet season," which extends from October to May. The 2019-2020 wet season experienced lower than average precipitation and temperatures. Specifically, precipitation was 51 percent of normal (18.3 versus 36.01 inches), and mean temperatures were 99 percent of normal (53.4 versus 53.7 degrees F) (ibid). However, the timing of the precipitation was highly erratic, with October and January receiving only a small fraction of normal precipitation (there was no measurable precipitation in January), and December and April receiving higher than average precipitation. Although the majority of the site is irrigated during the dry season, no irrigation takes place during the winter.

4.1.2 Land-Use History

Although the Study Area encompasses vernal pool grasslands and oak savanna, the vernal pools and associated grasslands have been degraded by current land use practices, which are carried out in support of hay farming. City recycled water is used to irrigate seeded hay grasses (all non-native species), which are mowed several times per year. Unlike neighboring dairy farms, there is no grazing on the site, though manure is imported and applied to the hay crop. The majority of the site is disked every few years.

The entire Study Area has been used since the 1970s as an irrigated hay farm. The crop grown on the site is mowed and used for silage by nearby dairies. The recycled water is treated effluent from the City of Santa Rosa Laguna Treatment Plant (LTP), a subregional system serving the Cities of Cotati, Rohnert Park, Santa Rosa, and Sebastopol. Until recently, irrigation was typically conducted throughout the dry summer months, allowing up to three irrigated crops per year, depending on water availability. In 2003, irrigation was reduced when recycled water was diverted to the Geysers Recharge Project. Biosolids were formerly applied to the site for fertilization , but this practice has been discontinued. However, currently hay farmers apply manure to the site, yielding a similar outcome.

In 2011, the City ceased recycled water irrigation in an approximately 3.1-acre area in the southeastern portion of the Bank site, This was done in coordination with USFWS to offset impacts to a wetland caused by a riparian restoration project located off-site. The mitigation activity in this approximate 3.1-acre area consisted only of the cessation of irrigation. No topographic restoration, seeding, or other rehabilitation was conducted, nor were any restrictions placed on this portion of the site. The area was included in the California Rapid Assessment Method for Wetlands (CRAM) assessment of the Bank. The CRAM score for this area was 55.6%, indicating low function. Although irrigation has ceased, other farming practices, including hay production and regular plowing, were allowed to continue. There is no conservation easement recorded over the area, except for the agricultural conservation easement that covers the entire Bank.

In 2020, in preparation for Bank Establishment, all irrigation, manuring, and fertilization of the site were ceased. Hay cutting continued in order to reduce soil nutrient loads, but without irrigation, typically only a single hay cutting can be made per year.

4.1.3 Topography

Based on high-resolution digital elevation models (USGS 2018 1-meter LiDAR), elevation within the Study Area ranges from approximately 87 feet to 98.5 feet (26.5m – 30m) above sea level (NAVD). Topography consists of gently rolling mounds and depressions, with an average slope of approximately 2.2 percent over the entire site (ibid). The disking has resulted in a partial levelling of topography, as soil from the hill slopes has been displaced into the depressions in small quantities over many decades. The plow lines are visible as microtopographic features on high-resolution topographic data as well as aerial photography.

4.1.4 Soils

Soils in the Study Area are mapped as two closely related units: Wright loam, wet (50.5% of the Study Area), and Wright loam, shallow, wet (49.5% of the area) (**Figure 3**). Both of these units have the topographic modifier of “0 to 2 percent slopes” (USDA 2020). They are both derived from alluvium of sedimentary materials, and both feature high concentrations of fine clay and silt materials. The Wright loam, wet unit consists of 17.5 percent clay, while the Wright loam, shallow, wet unit consists of 27.4 percent clay. Both units have a silt content rating of 39.5 percent. Both

units are rated as “partially hydric,” a result of featuring a majority of fine materials that cause relatively poor percolation and thus drainage. An indurated sub-surface is described for both units, at 64 inches for Wright loam, wet, and at 38 inches for Wright loam, shallow, wet (ibid). It is presumed that the sub-surface is an indurated claypan, which is typical for vernal pool landscapes on the Santa Rosa plain.

In the soil pits excavated during the wetland delineation field survey, silt, silt loam, or clay soils were observed throughout, sometimes with minor layers of gravel. Redox concentrations and concretions (concentrations of oxidized iron, indicative of wetland soils) were observed in most of the low-lying areas, though they were generally more prominent in the former large pools. The Wright soil series is slightly acid, with the typical profile having a pH of 5.5 – 6.0 in the A horizon and 5.0 – 7.0 in the B horizon (NRCS 2020). See **Photo 12** (in **Exhibit C-1**, **Attachment 2**) for an example of clay observed in a soil pit on the site.

4.1.5 Hydrology

As shown in **Figure 1**, the entire vicinity is within the Russian River Watershed. Waters in the northern portion of the Study Area flow north across Occidental via culverts, and thence to an unnamed tributary (a USGS “blue-line” stream) of the Laguna de Santa Rosa (Laguna) (**Figure 3**). Waters from the southern portion of the Study Area drain to the south along an ephemeral swale that empties into a separate unnamed tributary of the Laguna. In turn, the Laguna merges with Mark West Creek approximately 5.5 air miles northwest of the Study Area, and Mark West Creek flows westward into the Russian River (**Figure 1**). The Russian River discharges into the Pacific Ocean at the town of Jenner, in central-southern Sonoma County.

All of the potentially jurisdictional Waters are seasonal—there are no habitats that remain inundated all year long and no plants indicative of perennial sub-surface saturation. All of the depressional wetlands are remnant vernal pools or degraded vernal pools that no longer support vernal pool indicator plant species. The remnant vernal pools are differentiated by virtue of having been observed to support at least a 20 percent relative cover or at least two species of vernal pool indicator plants (as defined by the CDFW [1998]). However, the vernal pools are also moderately degraded, in that they all support at least a modest cover of introduced, often weedy plants. Vernal pools are restricted to the far northern edge of the site, in a portion of the Study Area that is not actively managed for hay farming—the area has never been disked, there is no planting of hay crops, no irrigation, and no application of manure. All remaining depressions in the Study Area have been more substantially altered and support few if any vernal pool indicator species or any other native plants. Conditions observed in the Study Area following recent rain events suggest that essentially all of the features are hydrologically connected, as water readily ponds in topographic basins and flat areas throughout the site, and likely flows slowly north and south toward drainage channels. The drainage channels generally support few or no hydrophytic plant species, but clearly convey water off the site and into swales that connect to the Laguna and,

ultimately, the Russian River (see **Figures 1-3**). See **Exhibit I** for a complete delineation of aquatic resources, including maps.

4.1.6 Vegetation

A total of 133 plant taxa were identified within the Study Area during the 2020 protocol-level botanical field surveys (**Appendix B**). Of all plant taxa identified within the Study Area, 41 (31%) are native to California, while 92 (69%) are introduced and naturalized in the state. Among the introduced species, 36 (27% of all taxa) are considered invasive by the California Invasive Plant Council (Cal-IPC) (2020), including three taxa that are rated as "High," 18 rated as "Moderate," and 15 rated as "Limited." The percentage of non-native and invasive plants is exceptionally high, and is largely the result of the active and ongoing management of the property as a hay farm. According to a City land manager (Rebello pers. comm.), a majority of the site is planted with three plant species: Italian rye grass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum* ssp. g*ussoneanum*), and common vetch (*Vicia sativa*). All three of these are introduced herbaceous species, with the two grasses providing the hay crop, and the vetch serving as a nitrogen-fixing legume that helps to foster vigorous growth among the grasses. The grasses are further supported by dry season irrigation and the application of manure. The grasses are harvested for hay at least twice per year, in late spring and in summer. Both of the grass species are facultative, thereby increasing the likelihood of a given area to qualify as a wetland, especially given the partially hydric soils. Incidentally, the soils also often feature indicators of wetland hydrology in the form of surface soil cracks and oxidized rhizospheres along living roots.

Other planted species include historically planted trees, including California native species such as Douglas fir (*Pseudotsuga menziesii*) and English walnut (*Juglans regia*) grafted on to northern California black walnut (*Juglans hindsii*). Non-native tree species planted include London plane tree (*Platanus x hispanica*), Tasmanian blue gum (*Eucalyptus globulus*), and cherry plum (*Prunus cerasifera*). Most of these are found at the central-northern portion of the Study Area (**Figure 4**), a historical homesite (though no structures remain in the area).

Nearly all of the other woody species, both trees and shrubs, are native or have colonized the site without being planted. The most abundant native tree species include valley oak (*Quercus lobata*), coast live oak (*Q. agrifolia*), and black oak (*Q. kelloggii*). There are just a couple of native willow trees (*Salix lasiolepis*), which are also the only hydrophytic woody species. The shrub/vine stratum consists primarily of the invasive Himalayan blackberry (*Rubus armeniacus*), a species that thrives in moist, fine-textured soils, and which is scattered across the site. The native poison oak (*Toxicodendron diversilobum*) and coyote brush (*Baccharis pilularis*) are fairly common along the margins of the Study Area, where they occur in association with the native tree species. None of the woody plant species occurred within wetland habitats in the Study Area.

The herbaceous plants that dominate the wetlands vary in composition between the vernal pools and other seasonal wetlands, which as noted above are a function of the level of disturbance from the hay farming practices. Remnant vernal pools occur only along the northern edge of the Study

Area, in areas that have not been disked and are not irrigated or fertilized. The vernal pools are, however, included in the mowing operations. Vernal pool indicator plants observed in and around these habitats consist primarily of California semaphoregrass (*Pleuropogon californicus* var. *californicus*) as well as relatively small patches of snow white meadowfoam (*Limnanthes douglasii* ssp. *nivea*). These habitats are sufficiently intact that the rare hayfield tarplant occurs along the edges of the vernal pools—the species likely benefits from the mowing just prior to its growth phase, as the mowing reduces competition from upland grasses and weedy forbs. However, all of the vernal pools do feature at least a modest cover of non-native wetland plants, including both Italian rye grass and Mediterranean barley. Associated non-native plants noted in the vernal pools include English plantain (*Plantago lanceolata*), hyssop loosestrife (*Lythrum hyssopifolia*), green dock (*Rumex conglomeratus*), and dog fennel (*Anthemis cotula*). With the exception of dog fennel, all of these non-native species are dominants within the seasonal wetlands that have been degraded by disking, seeding, irrigation, and manure application. Additional species commonly observed in these degraded wetlands include bristly ox-tongue (*Helminthotheca echioides*), common plantain (*Plantago major*), prickly sow thistle (*Sonchus asper*), curly dock (*Rumex crispus*), fat hen (*Atriplex prostrata*), tall nutsedge (*Cyperus eragrostis*), and knotweed (*Polygonum aviculare*). The onsite drainage channels are either un-vegetated or vegetated by a majority of upland plants. The most common plant species observed in these habitats are Harding grass (*Phalaris aquatica*), wild oat (*Avena fatua*), and unplanted Italian rye grass as an associate.

Aside from scattered individuals and occasional small stands of trees and shrubs, mostly along the margins of the Study Area, uplands adjacent to the wetlands are likewise mostly occupied by herbaceous plants. Most of the species are the same as those occurring within the wetlands, including the planted grasses and vetch as well as other facultative upland species. Commonly occurring herbs that grow primarily in the uplands and only occasionally in the wetlands include field mustard (*Brassica rapa*), Mediterranean mustard (*Hirschfeldia incana*), wild oat (*Avena fatua* and *A. barbata*), soft chess (*Bromus hordeaceus*), chicory (*Cichorium intybus*), and bindweed (*Convolvulus arvensis*). Salvation echium (*Echium plantagineum*), is a garden escape that is quite widespread in the area, but mostly on convex slopes and other uplands.

FIGURE 4
Bank Plant Communities
Kelly Farm Mitigation Project
Sonoma County, CA

Occidental Road

Piezzi Road

Hepworth Road

Legend

- Occurrence of Hayfield Tarplant (0.37 ac., population is ~2,000)
- Survey Boundary (99 ac.)

Plant Communities*

- Annual Grassland (3.9 ac.)
- Hay Field/Ruderal (78.4 ac.)
- Oak Savanna (5.7 ac.)
- Drainage Channel (0.3 ac.)
- Planted Trees (1.4 ac.)
- Seasonal Wetland (8.8 ac.)
- Vernal Pool (0.6 ac.)

* Many wetland habitats are also farmed for hay and/or may be under wooded habitats

N
W E
S

1:3,360
(1 inch = 280 feet at tabloid layout)

0 50 100 Meters

0 140 280 560 Feet

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Data Sources: VNLC, 2020 | City of Santa Rosa, 2020
USGS, various | USDA NAIP (Air Photo), 2012 | SFEI, 2015
GIS/Cartography by Jake Schweitzer, July 2020
Map File: Fig6_RP_344_B-L_2025-0131.mxd

4.2 Special-Status Species and Avoidance Measures

This section provides background information and lists recommended avoidance and/or minimization measures to reduce the potential for the project to impact special-status species and sensitive habitats within the Study Area. Only listed species and/or special-status species with the greatest potential to occur within the Study Area are addressed here.

In addition to species-specific avoidance measures listed below, the following general avoidance and mitigation measures are recommended:

Measure 1: All construction personnel involved in the project shall attend environmental awareness training prior to the commencement of potential project disturbance activities. The training shall be conducted by a qualified biologist and shall involve the presentation of sensitive species and habitats documented or potentially occurring in the Study Area. The training should include handouts that describe each resource with respect to listing status, habitat preferences, distinguishing physical characteristics, causes of its decline, and potential protection and avoidance measures. The handout shall be distributed among construction personnel and shall include photographs of the resources in order to facilitate identification by the personnel.

Measure 2: To prevent impacts to protected waters during construction, a stormwater pollution pretention plan (SWPPP) will be developed, which will prescribe Best Management Practices (BMPs) such as silt fencing or other sediment control infrastructure. To prevent impacts from spills, construction equipment should be staged away from wetlands or sensitive habitat, and a spill prevention plan shall be in place to prevent runoff and contamination into the surrounding wetlands and drainage ditches. Excavated materials will be stockpiled away from sensitive habitat, in areas that are relatively level, and relatively free of vegetation. Stockpiles will be located as far as reasonably feasible from the limits of sensitive habitat avoidance habitat, and runoff control measures as described above will be used to prevent delivery of sediment to wetlands and watercourses. If wattles are used, they will consist of certified sterile, weed-free materials, as identified above. Any excavated materials not reused on site will be promptly removed to appropriate permanent disposal locations at the end of project construction. All avoided wetlands and sensitive habitat will be flagged or fenced by a qualified biologist prior to the commencement of ground disturbing activities.

Special-status animal species targeted and analyzed in this report include those listed by the USFWS and/or CDFW as threatened or endangered, as well as those proposed for listing or that are candidates for listing as threatened or endangered. The listing of “Endangered, Rare, or Threatened” is defined in Section 15380 of the *California Environmental Quality Act* (*CEQA*)

Guidelines. Section 15380(b) states that a species of animal or plant is "endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. A species is "rare" when either "(A) although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (B) the species is likely to become endangered within the foreseeable future throughout all or a portion of its range and may be considered 'threatened' as that term is used in the ESA.

Animal species are designated as "Species of Special Concern" (SSC) or "Fully Protected" by the CDFW. Although these species have no legal status under CESA, the CDFW recommends their protection as their populations are generally declining and they could be listed as threatened or endangered (under CESA) in the future. "Fully Protected" species generally may not be taken or possessed at any time. The CDFW may only authorize take for necessary scientific research and may authorize live capture and relocation of "fully protected" birds to protect livestock.

Birds are designated by the USFWS as "Birds of Conservation Concern." Although these species have no legal status under ESA, the USFWS recommends their protection as their populations are generally declining, and they could be listed as threatened or endangered (under ESA) in the future.

Special-status plants include species that are designated rare, threatened, or endangered as well as candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those plant species identified by the CNPS as CRPR 1A, 1B, and 2 in the Inventory of Rare and Endangered Vascular Plants of California. Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included as CRPR Lists 3 and 4 in the CNPS Inventory.

For the purposes of this report, 'sensitive plant communities' include those designated as such by the CDFW, either in the CNDDB, the list of California Sensitive Natural Communities (CDFW 2020), or as sensitive alliances classified in the Manual of California Vegetation (MCV) (Sawyer et al. 2009). Alliances included within the MCV that are designated as global or state rank ("G" or "S") 1-3 are considered "rare or threatened" at the global and/or state level, and are therefore considered sensitive.

In addition, wetland and riparian habitats, regardless of MCV status, are considered sensitive. Wetlands, streams, and permanent and intermittent drainages are subject to the jurisdiction of the ACOE under Section 404 of the Federal Clean Water Act (CWA). The CDFW also generally has jurisdiction over these resources, together with other aquatic features that provide an existing fish and wildlife resource pursuant to Sections 1602- 1603 of the California Fish and Game Code. The CDFW asserts jurisdiction to the outer edge of vegetation associated with a riparian corridor. The

Regional Water Quality Control Board (RWQCB) also generally has jurisdiction over streams and wetlands. Any grading, excavation, or filling of jurisdictional drainage corridors or wetlands would require a Section 404 permit and will require mitigation.

Figure 5, below, shows the distribution of special-status species documented in CNDDB in the surrounding area. These and other special-status species known from the project region are listed in **Tables 1 and 2 of Appendix A**, along with their regulatory status, habitat requirements, and an evaluation of their potential to occur on or near the Study Area.

4.2.1.1 Federal or State Listed Wildlife Species

There are three Federal or State listed wildlife species with potential or low potential to occur with the Study Area: northwestern pond turtle, California tiger salamander, and Tricolored Blackbird. These species are discussed in detail below.

Northwestern pond turtle (*Actinemys marmorata*) – Federal Proposed Threatened, State SSC
Northwestern pond turtle (NWPT) is Proposed Threatened under ESA and is a CDFW Species of Special Concern. A native California chelonian, NWPT is a small turtle which is generally brown, olive brown, or dark brown. Its shell is often marked with a network of spots, lines, or dashes of brown or black that radiate from growth centers of shields. The legs and head usually have black spots and can show cream or yellow coloring (Holland 1994; Jennings and Hayes 1994).

NWPT often bask outside of the water but quickly re-enter if threatened. They are found in rivers, streams, lakes, ponds, wetlands, reservoirs, and brackish estuarine waters (Holland 1994; Jennings and Hayes 1994). They prefer habitats with areas for cover (vegetation, logs) and basking sites (rocks and other substrates) (Holland 1994). Summer droughts and cold winters are survived by aestivating or burying in loose soil or mud. Northwestern pond turtles are omnivores, with the potential to be opportunistic predators and scavengers (Holland 1985a, 1985b, Bury 1986). Females leave drying creeks from May to July to lay eggs in sunny upland habitats, including grazed pastures (Zeiner et al. 1990).

NWPT is declining in most of its range. It is almost extinct in the San Joaquin Valley and has seen extensive habitat loss, in part due to predation as well as competition from introduced animals, including exotic pet turtles that have been released into the wild (Zeiner et al.1990). The nearest documented occurrence of NWPT is approximately 0.8 miles from the Study Area in Laguna de Santa Rosa (**Figure 5**). Potentially suitable habitat may be present closer to the Study Area in the form of agricultural ponds and other aquatic habitat within approximately 500m (0.3 mi) of the Study Area; these ponds have not been surveyed or assessed.

Potential Project Impacts

There is no suitable basking, foraging, or nesting habitat for northwestern pond turtle in the Study Area itself. However, the species is highly mobile and may disperse through dry areas when moving between ponds, and it has been reported to travel up to 457 meters (0.28 miles) from

Rincon Ridge ceanothus
western pond turtle
foothill yellow-legged frog, red-bellied newt
western pond turtle
western pond turtle
western pond turtle
Jepson's leptosiphon
coho salmon - central California coast ESU
Rincon Ridge ceanothus, Rincon Ridge manzanita
dwarf downingia
narrow-anthered brodiaea
hoary bat, pallid bat
Sonoma alopecurus
Vine Hill manzanita
Vine Hill ceanothus
Blennosperma vernal pool andrenid bee
western pond turtle
holly-leaved ceanothus
dwarf downingia
California linderiella
California linderiella
white beaked-rush
thin-lobed horkelia
Pitkin Marsh paintbrush
Vine Hill clarkia
dwarf downingia
Baker's navarretia
California beaked-rush, round-headed beaked-rush
thin-lobed horkelia, two-fork clover
two-fork clover
Vine Hill clarkia
Baker's navarretia
Pitkin Marsh lily
Pitkin Marsh paintbrush, swamp harebell, Thurber's reed grass
Sonoma alopecurus
Baker's navarretia
dwarf downingia
bent-flowered fiddleneck
brownish beaked-rush
Vine Hill ceanothus
Vine Hill manzanita
Peruvian dodder
western pond turtle
obscure bumble bee, Santa Cruz clover
coho salmon - central California coast ESU
Baker's navarretia
CDFW Ecological Reserve
American badger
California freshwater shrimp
golden larkspur
two-fork clover
Baker's navarretia
Cooper's hawk
12
western pond turtle
saline clover
Baker's navarretia
California linderiella
brownish beaked-rush, California beaked-rush, round-headed beaked-rush, swamp harebell
western pond turtle
white-tailed kite
Vine Hill ceanothus
saline clover
tricolored blackbird
legenere
Baker's navarretia
dwarf downingia
American badger
101
California freshwater shrimp
dwarf downingia
Baker's navarretia
fragrant fritillary
Baker's goldfields, fragrant fritillary, oval-leaved viburnum, Sonoma spineflower, thin-lobed horkelia
saline clover
Blennosperma vernal pool andrenid bee
western bumble bee
western pond turtle
marsh microseris
California beaked-rush, Cunningham Marsh cinquefoil
Sonoma alopecurus
western pond turtle
saline clover
California red-legged frog, two-fork clover
116
California linderiella
Sonoma alopecurus
western pond turtle
California red-legged frog, Pitkin Marsh lily
western yellow-billed cuckoo
fragrant fritillary
California freshwater shrimp
American badger

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Legend

- Highway
- California tiger salamander critical habitat
- Bank Boundary

Special-status Plant Occurrences

- Burke's goldfields
- congested-headed hayfield tarplant
- Sebastopol meadowfoam
- Sonoma sunshine

Special-status Animal Occurrences

- California tiger salamander
- Other Special-status Plant or Animal (see map label)

Data Sources: CNDDB, 05/2020 | GHD, 2020
USDA NAIP, 2016 | USGS, various
GAP Analysis Project, 1998
GIS/Cartography by K. Chinn, Dec.. 2020
Map File: Fig4_344_KF2_CNDDB_B-P_2025-0131.mxd

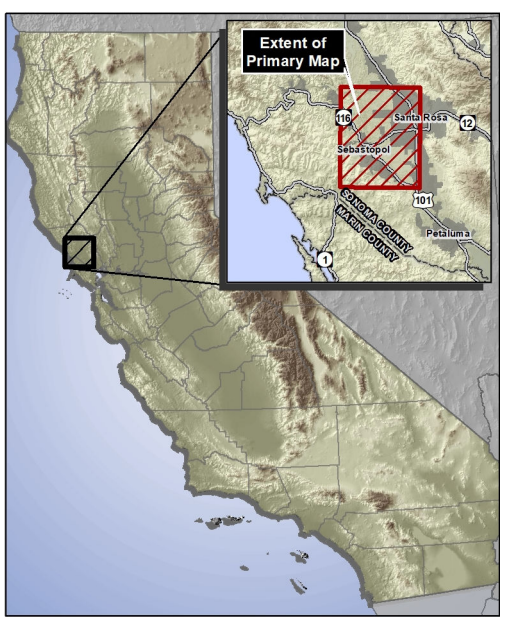
FIGURE 5
Regional Special-Status Species Map

Kelly Farm Mitigation Project
Sonoma County, CA

N W E S

1:63,360
(1 inch = 1.0 mile at tabloid layout)

0 0.5 1 2 Kilometers
0 0.5 1 2 Miles



aquatic habitat to nesting sites (Alvarez and Del Vecchio 2024; Nerhus 2016). Therefore, it is possible that individual turtles may be present during construction activities and could be harmed if not avoided or mitigated.

Recommended Avoidance and Mitigation Measures

Measure 3: The City will develop a NWPT Relocation Plan, prepared by a qualified biologist and subject to approval by USFWS. The Relocation Plan will include specific and appropriate areas to which the qualified biologist may relocate individual NWPT that are at risk from project-related activities, if any should be found. It will also include provisions for the biologist to monitor the translocated animal until it is determined that it is not at risk from predators or other factors, and it will identify a wildlife rehabilitation center or veterinary facility that routinely evaluates or treats reptiles. The NWPT Relocation Plan shall be submitted to USFWS for approval prior to the beginning of construction. Construction within the work area may not proceed until the Relocation Plan is approved in writing by USFWS. Only approved Designated Biologist(s) are authorized to capture and handle NWPT.

Measure 4: Between May and September prior to the date of initial ground disturbance, a pre-construction visual encounter (VES) survey for the northwestern pond turtle will be conducted by a qualified biologist at the project site in accordance with protocols developed by Samara Group and Oregon Native Turtle Working Group (2020). The survey will consist of walking the project limits to ascertain suitable habitat and possible presence of the species. The qualified biologist will investigate all potential areas that could be used by NWPT. If suitable aquatic or upland habitat for NWPT (determined by qualified biologist) is found, construction activities will occur 350 feet from any such habitat. If no NWPT individuals are observed, construction activities may begin. If any individual NWPT are observed and cannot be avoided, consultation with USFWS and CDFW will be necessary to determine how to implement the Project and avoid take. If take cannot be avoided, take authorization from USFWS and CDFW will be necessary before beginning construction activities.

Measure 5: A qualified biologist will remain on call during construction activities. If NWPT is encountered on the site during construction activities, the biologist will have authority to stop any work that may result in the take of NWPT and to ensure the adherence to all required AMMs. USFWS will be notified of any “stop-work” orders issued by the biologist. If a known or potential NWPT individual is encountered during any Project-related activity, all work that could harm the individual animal will cease immediately, and the biologist will be notified. The biologist will take appropriate action to secure the individual (relocation per the

Relocation Plan and/or veterinary care if appropriate) and will notify USFWS by telephone or email.

California tiger salamander (*Ambystoma californiense*) – Federal Endangered, State Threatened

CTS is a California-endemic mole salamander. The entire species is listed as Threatened under CESA; the Sonoma Distinct Population Segment (DPS) is listed as Endangered under ESA. (The Central California DPS is listed as Threatened under ESA). The species typically breeds in long-ponding vernal pools and seasonal wetlands, as well as stock ponds and other waters which are ponded for at least 90 days in the winter and early spring (USFWS 2014). Shallow vernal pools typically are not suitable CTS breeding habitat (Wang et al. 2010). Following metamorphosis, CTS migrate into the uplands to spend most of their lives in mammal burrows (Loredo 2010). During this period of their lives, they prefer grasslands, but also use scrub and oak savanna; oak woodland may be used but is not preferred (Laabs 2002). CTS can migrate up to 2 kilometers (about 1.26 miles), though most stay within 556 meters (0.35 miles) of their natal ponds, and about 95% stay within about 1,867 meters (1.16 miles) (Searcy et al. 2011, Searcy et al. 2013).

CTS has been repeatedly observed in the southeast corner of the Study Area, as well as on and adjacent to the southern boundary of the Study Area, just east of center. 19 adults and 17 juveniles were captured in a trap array in winter of 2003, and 94 larvae were captured in 3 pools in March of 2017. In 2020, VNLC biologists observed a dead adult CTS in one large, deep pool near the southern boundary of the Study Area near the location where CTS had previously been documented. CTS larvae and adults have also been observed approximately 1.6 miles southeast of the Study Area multiple times between 1990 and 2006. In 2003, individual adult females were observed less than half of a mile south of the Study Area on two separate occasions, including one that was recovered from a residential swimming pool and relocated to nearby upland habitat. There are several other documented sightings of CTS in the vicinity, but they are over 30 years old, further away, and/or in areas that have since been developed (CNDDB 2024).

Potential Project Impacts

Based on visual assessment of habitat conditions, it appears most likely that the major source of CTS is one or a handful of natural pools about 50 meters (160 feet) to the south of the Kelly Farm parcel on a neighboring horse ranch on the east side of Duer Road. CTS may also be breeding on the property on the west side of Duer Road, also immediately south of the site. These private properties are not conserved, so the CTS population is threatened until further action is undertaken (such as the restoration and preservation of the Study Area). It is unlikely that this population would persist in the Study Area in the absence of the neighboring pools. This situation could be changed by enhancing the hydrology of the pools in the Study Area. There are mammal burrows present in the Study Area which could potentially be used by CTS. (See examples in **Photos 10 and 14** in **Exhibit C-1**, **Attachment 2**.)

There are two CNDDB records for CTS within and/or overlapping the Study Area. There are also four other CNDDB records for CTS within 2 kilometers (1.2 miles) of the Study Area, and several

more slightly further away, but these are unlikely to provide CTS migrants or gene flow based on the intervening development and roads.

Recommended Avoidance and Mitigation Measures

Measure 6: A qualified biologist shall prepare a CTS Salvage and Relocation Plan prior to the start of construction. The CTS Salvage and Relocation Plan shall include, but not be limited to, a discussion (and map) of the portion of the work area which represents potential breeding and upland habitat; those areas within 1.26 miles of known breeding habitat for CTS; an identification of the survey, hand excavation, capture handling, and relocation methods; identification of relocation area(s); and identification of a wildlife rehabilitation center or veterinary facility that routinely evaluates or treats amphibians. The CTS Salvage and Relocation Plan shall be submitted to CDFW and/or USFWS for approval prior to the beginning of construction. Construction within the work area may not proceed until the CTS Relocation Plan is approved in writing by CDFW and/or USFWS. Only approved Designated Biologist(s) are authorized to capture and handle CTS.

Measure 7: No more than 14 days prior to starting construction, a qualified biologist shall survey the work area(s) located within that portion of the construction footprint that has identified habitat features suitable for CTS. These surveys shall provide 100 percent visual coverage of the work area(s) and a 50-foot buffer zone. All burrows found during the preconstruction survey which provide potential CTS refugia will be flagged with a 50-foot avoidance buffer. If avoidance is impractical for project development, the burrows will be excavated or otherwise inspected and any CTS inside them relocated in accordance with the CTS Salvage and Relocation Plan.

If any CTS are found within the work area or 50-foot buffer zone(s), the Designated Biologist(s) shall relocate them from the work area or buffer zone(s) in accordance with the CDFW/USFWS-approved CTS Salvage and Relocation Plan. The Designated Biologist(s) shall submit a report documenting the results of the pre-construction surveys to CDFW and USFWS within five days after performing the surveys.

Tricolored Blackbird (*Agelaius tricolor*) – State Threatened, State SSC

The Tricolored Blackbird (nesting colony) is listed as State Threatened, and is a CDFW Species of Special Concern and USFWS Bird of Conservation Concern. A member of the blackbird and oriole family, the male Tricolored Blackbird is distinguished from the common red-winged blackbird by its red shoulder patch bordered in white. These birds forage in flocks, mostly on the ground, but occasionally in shrubs and trees. During summer months, they feed on a variety of insects including caterpillars, beetles, and grasshoppers. In fall and winter, they eat the seeds of grasses, weeds, and waste grain (Kaufman 2005). The nesting behavior of the Tricolored Blackbird

is highly social. They form the largest colonies of any North American land bird, forming breeding groups of tens of thousands of individuals (Cook and Toft 2005). The birds in these colonies pack their nests closely together in dense cattail or bulrush marshes. The density of these colonies is more densely packed than those of the Red-winged Blackbird, with nests found only one to two feet apart. Breeding takes place from mid-March through July (Kaufman 2005).

Unlike the Red-winged Blackbird, which is abundant throughout the continent, the Tricolored Blackbird has a very small range in the Pacific states. Tricolored Blackbird populations have seriously declined in recent decades due to habitat destruction. It is speculated that its habit of nesting in dense colonies make the Tricolored Blackbird more susceptible to population decline (Cook and Toft 2005).

Tricolored Blackbirds are most often found in large freshwater marshes, especially those which are saturated with cattails and tule (*Schoenoplectus* spp.). They tend to nest in areas with protective, spiny vegetation and high abundances of insect prey, and form the largest nesting colonies of any bird in North America. They prefer areas with adequate foraging space and areas which provide sufficient insect prey within a short radius of the colony (Shuford et al. 2008). The closest known occurrence of the Tricolored Blackbird relative to the Study Area is 0.6 miles away (**Figure 5**).

Potential Project Impacts

The Study Area provides potential foraging habitat for Tricolored Blackbird, but does not provide suitable nesting habitat. Due to the lack of suitable nesting habitat, the project is unlikely to have any significant effects on nesting Tricolored Blackbirds, and therefore no mitigation measures are recommended other than the general and bird-specific measures mentioned above and below (Measures 1 and 8).

4.2.1.2 Non-listed Special-Status Wildlife Species

Seven other special-status species have some potential to occur within the Study Area: Cooper's Hawk, Blennosperma vernal pool andrenid bee, pallid bat, White-tailed Kite, hoary bat, California linderiella, and American badger. These species are not federally or state listed as endangered or threatened. However, their designation as special-status species by CDFW or USFWS warrants consideration, and avoidance and mitigation measures are recommended.

Cooper's Hawk (*Accipiter cooperii*) – CDFW Watch List

Cooper's Hawk is on the CDFW watch list. In the past 50 years, Cooper's Hawks' breeding numbers have decreased due to the degradation and destruction of their nesting habitat, in addition to bioaccumulation of pesticides (Polite 1988). This species tends to nest in dense stands of pines, oaks, Douglas-firs, and other large trees, often next to streams, rivers, creeks, or other riparian habitat. They are also commonly found in wooded suburban areas (including parks, quiet neighborhoods, fields, and busy streets with sufficient tree cover). Cooper's Hawks often prefer

more patchy stands of trees for perching (Polite 1988). The closest documented occurrence of Cooper's Hawk is 3.3 miles from the Study Area (**Figure 5**).

Potential Project Impacts

The large, mature oak trees (*Quercus* sp.) within the eastern portion of the Study Area and directly outside the boundaries of the Study Area provide potential nesting habitat for Cooper's Hawk. If project activities commence during raptor nesting/breeding season, nesting Cooper's Hawks could be harmed.

Recommended Avoidance and Mitigation Measures

Measure 8: If construction activities would commence anytime during the nesting/breeding season of raptors or other migratory birds (typically February 1 through August 31) a pre-construction survey for nesting birds should be conducted by a qualified biologist within two weeks of the commencement of construction activities. If there is a two-week or longer lapse in construction activities within the Study Area, the pre-construction survey will be repeated.

If active nests are found in areas that could be directly affected or are within 500 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone should be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zone and types of construction activities restricted within it should be determined through coordination with the CDFW, taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;
- Distance and amount of vegetation or other screening between the construction site and the nest; and
- Sensitivity of individual nesting species and behaviors of the nesting birds.

Blennosperma vernal pool andrenid bee (*Andrena blennospermatis*) – No status

Blennosperma vernal pool andrenid bee (BVPAB) does not have a special status, but is included in the CNDDB. BVPAB are slender, dark-olive green bees with pale bands on the back of the abdominal segments (Shanks n.d.). This species excavates nests in upland areas near vernal pools. Adults emerge in early spring, mate, and then begin excavating nests that consist of a shallow tunnel terminating in a brood chamber where the larvae develop into adults (Thorp and Leong 1995). BVPAB is named for its associate with *Blennosperma* plants, which it forages on (Leong et al. 1995). Its range extends from the inner Coast Ranges to the Sierra Nevada in Contra Costa,

Lake, Sonoma, Yolo, Tehama, Solano, San Joaquin, Sacramento, El Dorado, and Place Counties (Thorp and Leong 1998). The closest known occurrence of BVPAB relative to the Study Area is approximately 1.8 miles (**Figure 5**).

Potential Project Impacts

BVPAB could excavate nests in the upland areas near vernal pools within the Study Area. If project activities commence during their nesting season, active BVPAB colonies could be harmed.

Recommended Avoidance and Mitigation Measures

Measure 9: A qualified biologist(s) shall conduct a preconstruction survey prior to the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. If bees of any species are observed, they shall be identified by the qualified biologist. If bumble bee species are observed, they will be photographed for identification following the USFWS guidance in *Survey Protocols for the Rusty Patched Bumble Bee* (*Bombus affinis*) (USFWS 2019). If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active BVPAB colonies. If individual BVPABs are observed during preconstruction surveys, they shall be avoided to ensure no "take" occurs. This may require biological monitoring or avoidance buffers until the bees have left the work area. If BVPAB colonies are identified, these colonies shall be demarcated with a flagged avoidance buffer, as determined by a qualified biologist, and shall be avoided during the active season from March 1 through November 1, or until the qualified biologist has determined that the colony is no longer active. All sightings of BVPAB shall be reported to the CNDDB.

Pallid bat (*Antrozous pallidus*) – State Species of Special Concern

Pallid bat is a California Species of Special Concern, and is listed as "high" priority by the WBWG. Pallid bats range from southern British Columbia through the western U.S. to Mexico (Weber 2009). This species is found in low elevations throughout California in wide variety of habitats including grasslands, shrublands, woodlands, and forests (Harris 1998b). Pallid bat is most commonly found in open dry habitats with rocky areas for roosting (Weber 2009). They roost in caves, crevices, mines, cliffs, and hollow trees. This species forages for insects and arachnids over open ground. Pallid bats mate from late October to February, with young born from April to July. Pallid bats are very sensitive to disturbance of their roosting sites, which are important for conserving energy and juvenile growth (Harris 1998b). The nearest documented occurrence of pallid bat is approximately 4.8 miles from the Study Area (**Figure 5**).

Potential Project Impacts

This bat species could use the mature oak trees in the eastern portion and on the edges of the Study Area for roosting if they have suitable cavities, crevices, and exfoliating bark and/or bark fissures.

Breeding typically occurs in the fall or winter seasons. Though trees are specifically planned for removal, tree removal could result in the loss of an active bat roost.

Recommended Avoidance and Mitigation Measures

Measure 10: A qualified biologist shall conduct a roosting bat habitat evaluation prior to the commencement of construction activities. The evaluation shall determine if any trees proposed for removal or that are located near the work sites provide potential bat roosting habitat. If suitable roost trees or an active roost are confirmed, then a site-specific bat protection plan shall be developed by a qualified biologist to prevent disturbance of an active maternity or hibernation roost.

Potential measures to protect a roost include disallowing work directly under or adjacent to the roost, not restricting airspace access to and from the roost, avoiding clearing and grubbing within 100 feet of the roost, disallowing use of combustion equipment such, as generators, pumps, and vehicles under or adjacent to the roost, and not allowing personnel directly under the colony during seasons when it is in use.

White-tailed Kite (*Elanus leucurus*) – CDFW Fully Protected

White-tailed Kites are listed as CDFW Fully Protected. White-tailed Kite populations were threatened with extinction in the early 20th century due to shooting and egg collecting, but have recovered as available habitat areas have been produced with year-round irrigation of agricultural land. Their numbers are lower in riparian areas as compared to fields near rivers due to their foraging habits (Briden and Thompson 1995). Land development can threaten the species by depriving them of nest trees, and modern farming techniques can eliminate vegetation for its main prey (Dunk 1995). White-tailed Kite forages in grasslands, meadows, wetlands, farmlands and other open areas with high small-mammal prey abundances. They are known to nest in dense stands of oaks, willows or other tree species. White-tailed Kite nests also tend to be surrounded by more agriculture, grassland, riparian, and woodland habitat, and significantly less chaparral habitat (Niemela 2007). The closest known occurrence of White-tailed Kite is approximately 3.9 miles from the Study Area (**Figure 5**).

Potential Project Impacts

The large, mature oak trees (*Quercus* sp.) within the eastern portion of the Study Area and directly outside the boundaries of the Study Area provide potential nesting habitat for White-tailed Kite. Additionally, the grassland provides potential foraging habitat for this species. If project activities commence during raptor nesting/breeding season, individual nesting White-tailed Kites could be harmed.

Recommended Avoidance and Mitigation Measures

See Measure 8.

Hoary bat (*Lasiurus cinereus*) – WBWG: Medium

Hoary bat is listed as "medium" priority by the WBWG. The hoary bat is the most widespread North American bat, and can be found in almost all areas of California. This species winters along the coast and in southern California. They breed and roost in woodlands and forests with medium to large-sized trees with dense foliage, and can be found in foothills, deserts, mountains, lowlands, and coastal valleys during their migration. Hoary bat requires a source of water nearby, and prefers open habitats, with access to open areas for foraging and trees for cover. They mate in autumn, with young born from May through July (Harris 1998a). The nearest documented occurrence of hoary bat is approximately 4.8 miles from the Study Area (**Figure 5**).

Potential Project Impacts

This bat species could use the mature oak trees in the eastern portion and on the edges of the Study Area for roosting that have suitable cavities, crevices, and exfoliating bark and/or bark fissures. Breeding typically occurs in the fall or winter seasons. Therefore, tree removal could result in the loss of an active bat roost.

Recommended Avoidance and Mitigation Measures

See Measure 10.

California linderiella (*Linderiella occidentalis*) – No status

California linderiella does not have a special status, but is included in the CNDDB. This species is endemic to California, occurring in a wide range of vernal pool habitats in the Central Valley, Coast Ranges, and southern California (USFWS 2005). California linderiella's historical range likely coincided with vernal pool habitat throughout the Central Valley, which is now considerably fragmented, and likely only occupies about 25% of its historic area (Holland 1998). California linderiella is the most widely distributed fairy shrimp species in California, with documented observations on most land forms, geologic formations, and soil types that support vernal pools (USFWS 2005). The nearest documented occurrence of California linderiella is approximately 2.2 miles from the Study Area (**Figure 5**).

Potential Project Impacts

Although the vernal pools present within the Study Area are degraded, they have the potential to support California linderiella. If construction activities occur in the vernal pools or other wetland features within the Study Area, California linderiella may be impacted.

Recommended Avoidance and Mitigation Measures

Measure 11: Any required construction activities within the project site will be conducted during the dry season (from May to October or November), or will avoid impacts to ponded features to avoid potential negative effects on California linderiella.

See Measure 2.

American badger (*Taxidea taxus*) – State Species of Special Concern

A member of the weasel family, Mustelidae, the American badger is a heavy bodied, short-legged, grayish mammal that features a white medial stripe from its nose over the top of the head and down its back. The species occurs in a variety of open, arid habitats throughout much of western North America, but are most commonly associated with grasslands, savannas, and open scrub along low to moderate slopes (Stephenson and Calcarone 1999). Badgers require friable soils for digging burrows and their presence can often be determined by the presence of burrows with large openings. A Badger den may approach 30 feet in length, and a sizeable pile of excavated earth can often be found to one side of the burrow entrance. Badgers are carnivorous and feed primarily on small rodents but also consume reptiles, insects, birds and bird eggs, and carrion (Ahlborn 2005).

American Badgers are listed as a Species of Special Concern by the CDFW due to population decline. The primary threat to the American badger is habitat conversion, as much of its habitat has been lost to agriculture and urban development. Other threats include heavy traffic volume (which leads to road kills), indiscriminate trapping and poisoning, and a reduction in prey base as a result of rodent control (Ahlborn 2005). The species has experienced significant population declines over the past century, particularly in southern California (Williams 1986). Extensive evidence of American badger was observed by VNLC biologists during their site visits, and City of Santa Rosa personnel have observed American badger in the Study Area. Additionally, the closest documented occurrence of American badger is 1.2 miles from the Study Area (**Figure 5**).

Potential Project Impacts

The Study Area contains suitable habitat for American badger, as the species has been observed within the Study Area. Construction activities could disrupt or result in the loss of existing or potential den sites.

Recommended Avoidance and Mitigation Measures

Measure 12: A pre-construction survey for potential den sites shall be conducted by a qualified biologist to confirm the locations of American badger within the Study Area. This survey shall be conducted no more than four weeks before commencement of initial ground disturbance activities. If an occupied den is found (and if young are not present), then any badgers present shall be removed from the den either by trapping or the use of exclusionary devices. Prior to implementation, the removal method shall be approved by CDFW. If trapped, the badgers shall be moved to other suitable habitat. Once any badgers are trapped or excluded, the dens shall be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the badgers are successfully excluded from the site, as determined by a qualified biologist. Badgers shall not be relocated if it is determined by the biologists that young are or may be present.

4.2.1.3 Migratory and Nesting Birds

The Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503) prohibits the take of migratory birds, or disturbance to the active nests of most native birds. Several migratory birds have potential to occur within the regional vicinity of the Study Area. These include the Tricolored Blackbird, Oak Titmouse (*Baeolophus inornatus*), Black Swift (*Cypseloides niger*), Lewis's Woodpecker (*Melanerpes lewis*), Song Sparrow (*Melospiza melodia*), Long-billed Curlew (*Numenius americanus*), Rufous Hummingbird (*Selasphorus rufus*), and Lawrence's Goldfinch (*Spinus lawrencei*).

Additionally, due to the presence of large trees along the boundaries of the Study Area, raptors are likely to use the site for foraging and nesting. Nesting raptors (and most other nesting birds) are protected under California Fish and Game Code 3503.

Potential Project Impacts

If project activities commence during nesting bird season, individual nesting birds could be harmed.

Recommended Avoidance and Mitigation Measures

See Measure 8.

4.2.1.4 Special-Status Plant Species

One special-status plant was documented during the on-site botanical surveys—hayfield tarplant (*Hemizonia congesta* ssp. *congesta*). This taxon is designated by the California Native Plant Society (CNPS) as CRPR 1B.2, indicating that it is "rare, threatened, or endangered in California and elsewhere" ("1B") and "moderately threatened in California" ("0.2") (CNPS 2020). Hayfield tarplant is an annual forb in the sunflower family (Asteraceae) that grows to a height of approximately 80 centimeters (31 inches) and features white flowers. The flowers bloom from May to November, though its peak bloom is in mid-to late summer. The common name of "tarplant" derives from its resinous glands that make the plant sticky and fragrant. This subspecies of *Hemizonia congesta* is primarily differentiated from the other five subspecies by its crowded inflorescence, long phyllary tips, the structure of hairs on the upper leaves, and its large white ray flowers. The taxon is listed as occurring within "grassy sites and marsh edges" at elevations below 100 meters (~330 feet) (Baldwin et al. 2012). Its natural range extends along the outer Coast Ranges, from northern San Mateo County to southern Humboldt County (ibid). It is primarily threatened by competition from introduced annual grasses and forbs.

An estimated 2,000 hayfield tarplants were observed within the Study Area, covering an area amounting to 0.15 hectare (0.37 acre). **Figure 5** displays the location and distribution of the documented populations, and **Photo 9** (in **Exhibit C-1**, **Attachment 2**) shows one of these populations in bloom. All of the onsite populations are restricted to the northeastern and eastern margins of the site, in areas that are not actively managed as part of the hay operations. There has

been little to no disking, no irrigation, and no application of manure in this portion of the Study Area. The area is, however, regularly mowed as part of the haying. The timing of the haying, in late spring and in mid-summer, has been conducive to the persistence of this plant—as noted above, its peak blooming period is in mid-to late summer. The mowing likely serves to reduce competition from more competitive invasive plants, especially grasses, and the reduction of grasses also reduces thatch (which is often problematic for native wildflowers). As its common name suggests, it is among the few rare plants that occurs on hay farms. Its microhabitat in the Study Area is within slightly acidic, moist soils within shallow vernal pools or along the margins of larger seasonal wetlands. Associated plant species observed include Italian rye grass, Queen Anne's lace (*Daucus carota*), hawkbit (*Leontodon saxatilis*), salvation echium, and chicory. All of these most common associates are introduced species that pose a threat to the hayfield tarplant populations, but they are likely kept in check via the mowing. All of the associated species are also indicative of moist soils.

No other special-status plant taxa are considered to have a high likelihood of occurring within the Study Area, due to the fact that the great majority of the site is managed as a hay farm—it is disked, planted with the seeds of non-native species, and is irrigated and fertilized. There is a narrow band of habitat that remains fairly intact, but the grasslands are likewise dominated by non-native species, and the vernal pools are exceptionally shallow and likewise support a high cover of introduced species. The only listed species known to occur in the immediate vicinity is Burke's goldfields (*Lasthenia burkei*, Federal and State Endangered, CRPR 1B.1). There is a mapped population in the CNDDB that was mapped as "Specific" in 2017. The population is across Occidental Road and west of the Study Area (**Figure 5**). No populations of any goldfield species were observed noted during the 2020 protocol-level botanical surveys, and none have been observed during numerous reconnaissance-level botanical surveys in the Study Area over nearly 30 years (Cadman pers. comm.). All special-status plants documented in the vicinity of the Study Area are listed in **Table 2** in **Appendix A**, along with their potential to occur in the Study Area. The taxa with the greatest potential to occur in the Study Area are shaded gray—these are taxa that occur within habitats prevalent within the Study Area (e.g., grasslands and seasonal wetlands) and occur at elevations that are within the range documented within the site.

Potential Project Impacts

The documented populations of hayfield tarplant are located around the edges of the Study Area (**Figure 5**). If restoration activities occurred within these areas, the hayfield tarplant could be impacted.

Although there is suitable or marginal habitat within the Study Area for five federal- and/or state-listed plant species and 13 non-listed plant species, they have been excluded from this report based on a recent protocol-level survey that found none of these species. For more details regarding the plant species habitat descriptions and potential to occur in the Study Area, see **Table 2** in **Appendix A**.

Recommended Avoidance and Mitigation Measures

To avoid impacts to or net loss of CRPR 1B or 2 taxa, including the hayfield tarplant, the following measures shall be implemented:

Measure 13: Special-status Plant Taxa

i. Annual Plant Taxa:

1) Flag or otherwise demarcate and ensure workers avoid any disturbance of the protected species, including the edges of the Study Area where hayfield tarplant are present.
2) If possible, schedule potential disturbance activities for timeframes when the special-status taxa occurring in the work area is senescent and/or after seed has set.
3) If an individual or population must be removed, one of two options can be employed and monitoring conducted to ensure that no net loss of the species occurs.
    i. Seeds of the annuals shall be collected from existing onsite populations or from the same watershed (to maintain local genetic stock) and distributed in appropriate habitat outside the work area (within the same watershed) or in the work area following completion of work.
    ii. A nursery with experience growing special-status plants can be employed to grow seedlings of the species (from seeds collected locally) that shall be planted in appropriate habitat outside the work area or in the work area following completion of work. It should be noted that seeds derived from plants in the same watershed as the impact area may be available from local nurseries, and local nurseries may also be able to propagate seeds from adults grown from collected seeds. In this case, seeds do not need to be collected from a specific impact area site.

ii. Perennial Plant Taxa:

1) Mark populations in the field with distinct flagging.
2) If an individual or population must be removed, one of two options can be employed (subject to CDFW approval) and monitoring conducted to ensure that no net loss of the species occurs.
    - (1) The individual or population can be dug up and relocated to appropriate habitat outside the work area. (2) A nursery with experience growing special-status plants can be employed to grow seedlings of the species that shall be planted in appropriate habitat outside the work area or in the work area following completion of work. The selected relocation site shall be within the same watershed as the impact area, and shall be approved of by CDFW botanical staff.

Measure 14: A monitoring plan shall be developed that details the following components. Conduct annual monitoring of seeded or replanted locations within the Study Area for a minimum of 3 years and up to 5 years, dependent upon the CDFW botanical staff recommendation and monitoring results. The new population should match typical populations for the species as available from rare plant inventories (e.g., from the CNDDB, USFWS data, or from regional mitigation banks). Due to the variations in population from year to year as a result of weather fluctuations, average population data for annual taxa can be calculated from several years (at least three) of data collected from known populations in the region.

4.3 Other Wildlife

4.3.1 Other Native Wildlife

General wildlife surveys have not been conducted in the Study Area. However, due to its location in central Sonoma County, it can be assumed to provide habitat for many common wildlife species of the region. These may include mammals such as black-tailed deer (*Odocoileus hemionus columbianus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), black-tailed jackrabbit (*Lepus californicus*), brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Otospermophilus beecheyi*), Western gray squirrel (*Sciurus griseus*), Botta's pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), and California vole (*Microtus californicus*). Common amphibians likely to use the Study Area include western toad (*Anaxyrus* [*Bufo*] *boreas*) and Sierran chorus frog (*Pseudacris sierra* [*Hyliola sierrae*]). Reptiles using the Study Area likely include Pacific gophersnake (*Pituophis catenifer catenifer*), aquatic gartersnake (*Thamnophis atratus*), coast gartersnake (*Thamnophis elegans terrestris*), California red-sided gartersnake (*Thamnophis sirtalis infernalis*), San Francisco alligator lizard (*Elgaria coerulea coerulea*), forest alligator lizard (*Elgaria multicarinata multicarinata*), and western fence lizard (*Sceloporus occidentalis*). A wide variety of resident and migratory bird species may use the site for foraging and nesting. The mixture of mature trees and open grasslands likely provides habitat for raptors as well as passerine birds, while the remnant wetlands on the site may provide occasional foraging habitat for waterfowl.

4.3.2 Non-Native Wildlife

As with native wildlife, no targeted surveys for non-native/invasive wildlife have been performed. A number of destructive invasive species are well-established in the region, and are likely to use the Study Area at least occasionally. These include domestic cat (*Felis catus*), feral pig (*Sus scrofa*), American bullfrog (*Rana catesbeiana* [*Lithobates catesbeianus*]), Wild Turkey (*Meleagris gallopavo*), and Brown-headed Cowbird (*Molothrus ater*). Each of these species is known to destroy native species or their habitat. None have been specifically documented in the Study Area, but all may occur.

The non-native barred tiger salamander (*Ambystoma mavortium*) is a threat to CTS through competition, predation, and interbreeding, and is of particular concern for preserves established for CTS. Barred tiger salamander is not documented from Sonoma County, and is not expected to occur.

4.4 Wetlands or Waters of the U.S.

In April 2020, field surveys were conducted by VNLC ecologists to delineate wetlands and Waters of the U.S. The surveys targeted wetlands as well as drainages, streams, and any other feature that could be subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE) under Section 404 of the Federal Clean Water Act, or the California Department of Fish and Wildlife under Sections 1602-1603 of the California Fish and Game Code. The methods and results of the surveys were compiled into a separate report that provides details pertaining to potentially jurisdictional Waters. The delineation identified a total of 9.657 acres of potential jurisdictional Waters, consisting of 0.574 acres of vernal pools, 8.786 acres of other seasonal wetlands (primarily degraded vernal pools), and 0.297 acres of other Waters, in the form of non-wetland channels that convey water off of the site. Representative photographs of site habitats and features are provided in **Exhibit C-1, Attachment 2**.

VNLC staff conducted a functional evaluation of the existing wetlands in the Study Area (VNLC 2020) using the California Rapid Assessment Method (CRAM) Vernal Pool Systems Module Version 6.2 in April 2020 (CWMW 2020). Overall, the site scored an average of 47.1 points, out of a possible range of 25-100 points. In practice, the typical range of scores observed is from 55 to 92, with a median score of 75 (Clark 2019). The highest scores (average 70.7) were for the buffer and landscape context metrics, which evaluate areas surrounding the Assessment Areas, rather than the Assessment Areas themselves. The Study Area scored an average of 49.2% on the hydrology metric, 35.8% on the physical structure metric, and 32.5% on the biotic structure metric. These scores are very low, and indicate that the site provides very limited functions and services compared to other vernal pool sites.

The Study Area likely provides stormwater retention, infiltration, and sediment filtration services as a result of the relatively dense vegetation cover across the wetlands and uplands of the site. Except for the un-disked vernal pools along the edges of the Study Area, the site provides almost none of the biotic functions of intact vernal pools, such as providing habitat for vernal pool endemic plants and animals.

Recommended Avoidance and Mitigation Measures

Measure 15: Prior to the commencement of construction activities that could result in fill or direct disturbance to a jurisdictional wetland or stream, the project proponent shall obtain all required permits/agreements from the ACOE, CDFW, and RWQCB, and comply with all specified requirements contained in those permits.

4.5 Oak Woodlands and Heritage Oaks

Oak trees and oak woodlands are afforded protection at both the state and county levels. Woodlands including mature oak trees with a diameter-at-breast-height (DBH) of greater than or equal to five inches are under the potential jurisdiction of the State Oak Woodlands Protection Act and/or local protection ordinances. Sonoma County has a voluntary program for oak and other heritage tree protection, as well as a General Plan Resource Conservation Element stating that "native oaks should be considered in review of development projects." Additionally, valley oaks and valley oak woodland are afforded special protection within Sonoma County under its Zoning Code, Article 67, with the purpose being "to protect and enhance valley oaks and valley oak woodlands and to implement the provisions of Section 5.1 of the general plan resource conservation element. (Ord. No. 4991 § 1(h), 1996.)" (Sonoma County Website 2020). Mitigation for cutting down valley oaks is outlined as follows: "Except as provided in subsection (b), when any person cuts down or removes any large valley oak, or any small valley oaks having a cumulative diameter at breast height greater than sixty inches (60″), on any property within the Valley Oak Habitat Combining District, such person shall mitigate the resulting valley oak loss by one of the following measures: (1) retaining other valley oaks on the subject property, (2) planting replacement valley oaks on the subject property or on another site in the county having the geographic, soil, and other conditions necessary to sustain a viable population of valley oaks, (3) a combination of measures (1) and (2), or (4) paying an in-lieu fee, which shall be used exclusively for valley oak planting programs in the county" (ibid). Additionally, oaks are protected by internal Ranch Plans and an Agricultural Easement held by the Sonoma County Agricultural Preservation and Open Space District restricting any farming activities within the dripline of trees. Ranch Plans also specify that standing and fallen dead trees remain in place as habitat.

Measure 16: Flag or otherwise demarcate all oak trees, including mature and sapling trees within any proposed project disturbance areas. Ensure that workers understand the importance of protecting oak trees, and that they avoid any disturbance of, or within the dripline of, all oaks in the Study Area.

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APPENDIX A

SPECIAL-STATUS SPECIES IN PROJECT REGION

TABLE 1. Special-Status Animal Species Documented within the Vicinity of the Study Area

Species highlighted in gray have potential to occur onsite.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Amphibians			
California tiger salamander *Ambystoma californiense*	FT, ST, WL, IUCN: VU	Grasslands and low foothills, with vernal pools for breeding.	**Present.** CTS have been documented within the Study Area in 2003 and 2017 (CNDDB 2020), and one dead adult CTS was observed in 2020. The individuals observed within the Study Area likely traveled from a neighboring property.
Foothill yellow-legged frog *Rana boylii*	SE, SSC, IUCN: NT	Rocky streams in a variety of habitats.	**Not expected.** Rocky streams are not present within the Study Area.
California red-legged frog *Rana draytonii*	FT, SSC, IUCN: VU	Quiet pools of freshwater streams, and occasionally ponds.	**Not expected.** Freshwater streams and ponds are not present within the Study Area.
Red-bellied newt *Taricha rivularis*	SSC, IUCN: LC	During dry season, underground within root channels, primarily in redwood forest but also can be found in mixed conifer and other kinds of woodland habitats. Wet season migrates to streams for breeding and larval development.	**Not expected**. Forest habitat and streams are not present within the Study Area.
Birds			
Cooper's Hawk *Accipiter cooperii*	WL, IUCN: LC	Nest in dense stands of pines, oaks, Douglas-firs, and other large trees, often next to streams, rivers, creeks, or other riparian habitat. Commonly found in wooded suburban areas.	**Potential.** Species could potentially nest in the mature oak trees on the edges of the Study Area and forage in the open grasslands. Nearest documented occurrence is 3.3 miles away.
Clark's Grebe *Aechmophorus clarkii*	N/A	Nest on large freshwater lakes and marshes with emergent vegetation. Saltwater or brackish habitats including ocean shores, sheltered bays, rivers, and estuaries.	**Not expected.** Study Area does not contain lakes, marshes, or saltwater or brackish habitats.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Tricolored Blackbird *Agelaius tricolor*	ST, SSC, IUCN: EN	Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots; nests in freshwater marshes with tules or cattails, or in other dense thickets of willow, thistle, blackberry, or wild rose in close proximity to open water.	**Low potential.** Study Area does not provide suitable nesting habitat, but there is suitable foraging habitat present. Nearest documented occurrence is 0.6 miles away.
Golden Eagle *Aquila chrysaetos*	FP, WL, USFWS: BCC, IUCN: LC	Open or semi-open mountains, canyons, and cliffs and bluffs. Nest on cliffs and steep escarpments in grassland, chaparral, shrubland, forest, and other vegetated areas.	**Not expected.** Mountains, canyons, and cliffs and bluffs are not present within the Study Area.
Oak Titmouse *Baeolophus inornatus*	USFWS: BCC, IUCN: LC	Open oak or oak-pine woodlands.	**Low potential.** Oaks on the boundaries of the Study Area could provide marginal habitat.
Wrentit *Chamaea fasciata*	N/A	Coastal scrub, chaparral, and dense shrublands.	**Not expected.** Coastal scrub, chaparral, and dense shrublands are not present within the Study Area.
Western Yellow-billed Cuckoo *Coccyzus americanus occidentalis*	FT, SE, USFWS: BCC	Dense woodlands and large blocks of riparian habitat for foraging and nesting.	**Not expected.** Dense woodlands and large blocks of riparian habitat are not present within the Study Area.
Black Swift *Cypseloides niger*	SSC, USFWS: BCC, IUCN: LC	Nest on cliff ledges behind or near waterfalls and sea caves. Forage over forests and open areas.	**Low potential.** Nesting habitat not present in the Study Area, but the species could potentially forage.
White-tailed Kite *Elanus leucurus*	FP, IUCN: LC	Common in savannas, open woodlands, marshes, desert grasslands, partially cleared lands, and cultivated fields.	**Potential.** Species could potentially nest in the mature oak trees on the edges of the Study Area and forage in the open grasslands. Nearest documented occurrence is 3.9 miles away.
Salt Marsh Common Yellowthroat *Geothlypis trichas sinuosa*	SSC, USFWS: BCC	Thick, tangled vegetation in a wide range of habitats. Commonly found in wet areas with dense, low vegetation.	**Not expected.** Thick, tangled vegetation is not present within the Study Area.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Bald Eagle *Haliaeetus leucocephalus*	SE, FP, USFWS: BCC, IUCN: LC	Nest in forested areas near a large body of water. Perch in tall, mature coniferous or deciduous trees.	**Not expected.** Forested areas near large bodies of water are not present within the Study Area.
Short-billed Dowitcher *Limnodromus griseus*	N/A	Nest in wetlands near bogs, small lakes, or wet meadows in the taiga shield ecotone. Winter in saltwater and brackish environments.	**Not expected.** Study Area is much further south than breeding range, and saltwater and brackish environments are not present within the Study Area.
Lewis's Woodpecker *Melanerpes lewis*	USFWS: BCC, IUCN: LC	Breed in open ponderosa pine forests, burned forests with snags, woodlands, and orchards.	**Low potential.** Nesting habitat not present in the Study Area, but could potentially forage.
Song Sparrow *Melospiza melodia*	N/A	Wide variety of open habitats including in agricultural fields and overgrown pastures.	**Potential.** Study Area provides open habitat.
Long-billed Curlew *Numenius americanus*	WL, USFWS: BCC, IUCN: LC	Grasslands, prairies, and agricultural fields in the summer. Wetlands, tidal estuaries, mudflats, and flooded fields in winter.	**Low potential.** Species could potentially be found in the Study Area during the summer.
Whimbrel *Numenius phaeopus*	N/A	Salt marshes, lagoons, estuaries, reefs, and rocky shorelines. Roost in marshes, meadows, fields, and dunes.	**Not expected.** Study Area does not contain shoreline habitats.
Nuttall's Woodpecker *Picoides nuttallii*	N/A	Oak woodlands from around 900-5,500 feet elevation, suburban areas and woodlands near streams.	**Not expected.** Study Area is below elevation range.
Spotted Towhee *Pipilo maculatus clementae*	SSC, USFWS: BCC	Thickets, tangled vegetation, forest edges, chaparral, and fields with dense shrub cover.	**Not expected.** Dense shrub cover is not present within the Study Area.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Rufous Hummingbird *Selasphorus rufus*	USFWS: BCC, IUCN: LC	Open or shrubby areas, forest openings, yards, parks and sometimes in forests, swamps, and meadows.	**Potential.** Study Area provides open habitat.
Allen's Hummingbird *Selasphorus sasin*	N/A	Breed in a narrow strip of coastal forest, scrub, and chaparral along the West Coast.	**Not expected.** Coastal forest, scrub, and chaparral are not present within the Study Area.
Lawrence's Goldfinch *Spinus lawrencei*	USFWS: BCC, IUCN: LC	Nest in open oak woodlands with chaparral, weedy field, and a source of freshwater, as well as coastal scrub, woodlands, and streamside habitats.	**Low potential.** Oaks on the boundaries of the Study Area could provide marginal habitat.
Northern Spotted Owl *Strix occidentalis caurina*	FT, ST, IUCN: NT	Dense blocks of mature, multi-layered forests of mixed conifer, redwood, and Douglas-fir habitat.	**Not expected.** Dense blocks of forest are not present within the Study Area.
Fish			
Steelhead - central California coast DPS *Oncorhynchus mykiss irideus pop. 8*	FT	Streams, rivers, lakes, estuaries, ocean.	**Not expected.** Streams, rivers, lakes, estuaries, and ocean are not present within the Study Area.
Coho salmon - central California coast ESU *Oncorhynchus kisutch pop. 4*	FT, ST	Streams, rivers, lakes, ocean.	**Not expected.** Streams, rivers, lakes, and ocean are not present within the Study Area.
Insects			
Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	N/A	Upland areas near vernal pools.	**Low potential.** Limited area of non-disked habitat is present as upland near vernal pools. Nearest documented occurrence is 1.8 miles away.
Obscure bumble bee *Bombus caliginosus*	IUCN: VU	Open grassy coastal prairies and meadows. Nest underground and above ground in abandoned bird nests.	**Not expected.** Coastal habitats are not present within the Study Area.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Western bumble bee *Bombus occidentalis*	SCE, IUCN: VU	Nest in underground cavities or animal burrows. Forage and overwinter in meadows and grasslands with abundant flowers. Currently restricted to a few sites in the Sierra Nevada and along the northern coast of CA.	**Not expected.** Nearest documented occurrence ever is 4.5 miles away; however, species has declined greatly since the late 1990s and has been extirpated from the regional vicinity of the Study Area (Xerces Society 2018). The nearest recent sightings in Bumble Bee Watch (from 2024) are over 100 miles away.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Rocky outcrops and cliffs in coastal scrub; host plant is broadleaf stonecrop (*Sedum spathulifolium*).	**Not expected.** Rocky outcrops, cliffs, or coastal scrub are not present within the Study Area.
Mammals			
Pallid bat *Antrozous pallidus*	SSC, IUCN: LC, WBWG: H	Forages in a variety of habitats. Roosts in rocky outcrops, buildings, and hollow trees.	**Potential.** Species could potentially nest in the mature oak trees on the edges of the Study Area and forage in the open grasslands. Nearest documented occurrence is 4.8 miles away.
Hoary bat *Lasiurus cinereus*	IUCN: LC, WBWG: M	Roosts at edge of clearings for coniferous and deciduous woodland/forests. Less likely roosting habitat includes caves, rock ledges, and buildings.	**Potential.** Species could potentially nest in the mature oak trees on the edges of the Study Area and forage in the open grasslands. Nearest documented occurrence is 4.8 miles away.
American badger *Taxidea taxus*	SSC, IUCN: LC	Prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrow.	**High potential.** Extensive evidence observed in Study Area. City of Santa Rosa personnel have observed American badger in Study Area. Nearest documented occurrence is 1.2 miles away.
Mollusks and Crustaceans			
California linderiella *Linderiella occidentalis*	IUCN: NT	Vernal pools and seasonal wetlands.	**Low potential.** Species could occur within vernal pools on the site, although they are degraded. Nearest documented occurrence is 2.2 miles away.
California freshwater shrimp *Syncaris pacifica*	FE, SE, IUCN: EN	Small, perennial coastal streams at low elevation.	**Not expected.** Coastal streams are not present within the Study Area.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Reptiles			
Green sea turtle *Chelonia mydas*	FT, IUCN: EN	Open ocean, return to beaches to breed.	**Not expected.** Open ocean and beaches are not present within the Study Area.
Northwestern pond turtle *Actinemys marmorata*	FPT, SSC, IUCN: VU	Permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, unlined irrigation canals, and reservoirs.	**Low potential.** No suitable habitat is present. Nearest documented occurrence is 0.8 miles away, but dispersing turtles may cross the Study Area occasionally.

Notes: Nearest documented occurrences from CNDDB (2020, 2024) and Bumble Bee Watch (Xerces Society et al. 2025). Status acronyms are defined as follows:

FT – Federal Threatened; FE – Federal Endangered; FPT – Federal Proposed Threatened; ST – State Threatened; SE – State Endangered; SCE – State Candidate Endangered; SSC – CDFW Species of Special Concern; FP – CDFW Fully Protected; WL – CDFW Watch List; USFWS: BCC – United States Fish and Wildlife Service: Birds of Conservation Concern; WBWG: Western Bat Working Group High ('H'), Medium ('M'), or Low ('L') Priority; IUCN: Endangered ('EN'), Near Threatened ('NT'), Vulnerable ('VU'), or Least Concern ('LC')

TABLE 2. Special-status Plant Taxa Documented within the Vicinity of the Study Area

Species highlighted in gray have marginal or suitable habitat present in the Study Area.

Scientific Name Common Name (Family Name)	Status, Federal/ State/ CRPR[1]	Preferred Habitat; Elevation Range; Bloom Period	Presence/Quality of Preferred Habitat Within Study Area
Agrostis blasdalei Blasdale's bent grass (Poaceae)	--/--/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie; 0-490 feet; May-July	No suitable habitat present. Coastal habitats not present in Study Area.
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus (Poaceae)	FE/--/1B.1	Marshes and swamps (freshwater), Riparian scrub; 15-1,200 feet; May-July	No suitable habitat present. Marshes, swamps, and riparian scrub not present in Study Area.
Amorpha californica var. *napensis* Napa false indigo (Fabaceae)	--/--/1B.2	Broadleafed upland forest (openings), Chaparral, Cismontane woodland; 390-6,560 feet; April-July	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Amsinckia lunaris bent-flowered fiddleneck (Boraginaceae)	--/--/1B.2	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland; 5-1,640 feet; March-June	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Anomobryum julaceum slender silver moss (Bryaceae)	--/--/4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, damp rock and soil on outcrops, usually on roadcuts; 325-3,280 feet; no bloom period listed	No suitable habitat present. Forests not present in Study Area. Study Area is below elevation range.
Arabis blepharophylla coast rockcress (Brassicaceae)	--/--/4.3	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, rocky; 5-3,610 feet; February-May	No suitable habitat present. Forest and coastal habitats not present in Study Area.
Arctostaphylos bakeri ssp. *bakeri* Baker's manzanita (Ericaceae)	--/CR/1B.1	Broadleafed upland forest, Chaparral, often serpentinite; 245-985 feet; February-April	No suitable habitat present. Forest and chaparral not present in Study Area. Study Area is below elevation range.
Arctostaphylos bakeri ssp. *sublaevis* The Cedars manzanita (Ericaceae)	--/CR/1B.2	Closed-cone coniferous forest, Chaparral, serpentinite seeps; 605-2,495 feet; February, April, May	No suitable habitat present. Forest and chaparral not present in Study Area. Study Area is below elevation range.

Scientific Name Common Name (Family Name)	Status, Federal/ State/ CRPR[1]	Preferred Habitat; Elevation Range; Bloom Period	Presence/Quality of Preferred Habitat Within Study Area
Arctostaphylos densiflora Vine Hill manzanita (Ericaceae)	--/CE/1B.1	Chaparral (acid marine sand); 160-395 feet; February-April	No suitable habitat present. Chaparral not present in Study Area. Study Area is below elevation range.
Arctostaphylos hispidula Howell's manzanita (Ericaceae)	--/--/4.2	Chaparral (serpentinite or sandstone); 390-4,100 feet; March-April	No suitable habitat present. Chaparral not present in Study Area. Study Area is below elevation range.
Arctostaphylos stanfordiana ssp. decumbens Rincon Ridge manzanita (Ericaceae)	--/--/1B.1	Chaparral (rhyolitic), Cismontane woodland; 245-1,215 feet; February-April (May)	No suitable habitat present. Chaparral and woodland not present in Study Area. Study Area is below elevation range.
Astragalus claranus Clara Hunt's milk-vetch (Fabaceae)	FE/CT/1B.1	Chaparral (openings), Cismontane woodland, Valley and foothill grassland, serpentinite or volcanic, rocky, clay; 245-900 feet; March-May	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Balsamorhiza macrolepis big-scale balsamroot (Asteraceae)	--/--/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland, sometimes serpentinite; 145-5,100 feet; March-June	No suitable habitat present. Study Area is below elevation range.
Blennosperma bakeri Sonoma sunshine (Asteraceae)	FE/CE/1B.1	Valley and foothill grassland (mesic), Vernal pools; 30-360 feet; March-May	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys. No *Blennosperma* species have been observed in the Study Area during reconnaissance-level surveys conducted since 1992.
Brodiaea leptandra narrow-anthered brodiaea (Themidaceae)	--/--/1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, volcanic; 360-3,000 feet; May-July	No suitable habitat present. Study Area is below elevation range.
Calamagrostis bolanderi Bolander's reed grass (Poaceae)	--/--/4.2	Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Meadows and seeps (mesic), Marshes and swamps (freshwater), North Coast coniferous forest, mesic; 0-1,495 feet; May-August	No suitable habitat present. Preferred habitats not present in Study Area.
Calamagrostis crassiglumis Thurber's reed grass (Poaceae)	--/--/2B.1	Coastal scrub (mesic), Marshes and swamps (freshwater); 30-195 feet; May-August	No suitable habitat present. Scrub, marshes, and swamps not present in Study Area.

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Calochortus raichei The Cedars fairy-lantern (Liliaceae)	--/--/1B.2	Closed-cone coniferous forest, Chaparral, serpentinite; 655-1,610 feet; May-August	No suitable habitat present. Forest and chaparral not present in Study Area. Study Area is below elevation range.
Calochortus uniflorus pink star-tulip (Liliaceae)	--/--/4.2	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest; 30-3,510 feet; April-June	No suitable habitat present. Preferred habitats not present in Study Area.
Calystegia collina ssp. *oxyphylla* Mt. Saint Helena morning-glory (Convolvulaceae)	--/--/4.2	Chaparral, Lower montane coniferous forest, Valley and foothill grassland, serpentinite; 915-3,315 feet; April-June	No suitable habitat present. Study Area is below elevation range.
Calystegia purpurata ssp. *saxicola* coastal bluff morning-glory (Convolvulaceae)	--/--/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest; 0-345 feet; (March) April-September	No suitable habitat present. Coastal habitats and forest not present in Study Area.
Campanula californica swamp harebell (Campanulaceae)	--/--/1B.2	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Marshes and swamps (freshwater), North Coast coniferous forest, mesic; 0-1,330 feet; June-October	No suitable habitat present. Preferred habitats not present in Study Area.
Carex albida[1] White sedge	FE/CE/--	Pitkin Marsh in Sonoma County.	No suitable habitat present. Only one extant occurrence is known from Pitkin Marsh.
Carex comosa bristly sedge (Cyperaceae)	--/--/2B.1	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland; 0-2,050 feet; May-September	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Castilleja ambigua var. *ambigua* johnny-nip (Orobanchaceae)	--/--/4.2	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools margins; 0-1,425 feet; March-August	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.

[1] *Carex albida* is listed as Endangered under ESA and CESA, but is now considered a synonym of *C. lemmonii*, which is common and not listed.

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Castilleja uliginosa Pitkin Marsh paintbrush (Orobanchaceae)	--/CE/1A	Marshes and swamps (freshwater); 785-785 feet; June-July	No suitable habitat present. Marshes and swamps not present in Study Area. Study Area is below elevation range.
Ceanothus confusus Rincon Ridge ceanothus (Rhamnaceae)	--/--/1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland, volcanic or serpentinite; 245-3,495 feet; February-June	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Ceanothus divergens Calistoga ceanothus (Rhamnaceae)	--/--/1B.2	Chaparral (serpentinite or volcanic, rocky); 555-3,115 feet; February-April	No suitable habitat present. Chaparral not present in Study Area. Study Area is below elevation range.
Ceanothus foliosus var. *vineatus* Vine Hill ceanothus (Rhamnaceae)	--/--/1B.1	Chaparral; 145-1,000 feet; March-May	No suitable habitat present. Chaparral not present in Study Area. Study Area is below elevation range.
Ceanothus gloriosus var. *exaltatus* glory brush (Rhamnaceae)	--/--/4.3	Chaparral; 95-2,000 feet; March-June (August)	No suitable habitat present. Chaparral not present in Study Area.
Ceanothus purpureus holly-leaved ceanothus (Rhamnaceae)	--/--/1B.2	Chaparral, Cismontane woodland, volcanic, rocky; 390-2,100 feet; February-June	No suitable habitat present. Chaparral and woodland not present in Study Area. Study Area is below elevation range.
Centromadia parryi ssp. *parryi* pappose tarplant (Asteraceae)	--/--/1B.2	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and foothill grassland (vernally mesic), often alkaline; 0-1,380 feet; May-November	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Chloropyron maritimum ssp. *palustre* Point Reyes bird's-beak (Orobanchaceae)	--/--/1B.2	Marshes and swamps (coastal salt); 0-35 feet; June-October	No suitable habitat present. Coastal salt marshes and swamps not present in Study Area.
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower (Polygonaceae)	--/--/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, sandy; 5-705 feet; April-July (August)	No suitable habitat present. Coastal habitats not present in Study Area.

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Chorizanthe cuspidata var. *villosa* woolly-headed spineflower (Polygonaceae)	--/--/1B.2	Coastal dunes, Coastal prairie, Coastal scrub, sandy; 5-195 feet; May-July (August)	No suitable habitat present. Coastal habitats not present in Study Area.
Chorizanthe valida Sonoma spineflower (Polygonaceae)	FE/CE/1B.1	Coastal prairie (sandy); 30-1,000 feet; June-August	No suitable habitat present. Coastal prairie not present in Study Area.
Cirsium andrewsii Franciscan thistle (Asteraceae)	--/--/1B.2	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, mesic, sometimes serpentinite; 0-490 feet; March-July	No suitable habitat present. Forest and coastal habitats not present in Study Area.
Clarkia imbricata Vine Hill clarkia (Onagraceae)	FE/CE/1B.1	Chaparral, Valley and foothill grassland, acidic sandy loam; 160-245 feet; June-August	No suitable habitat present. Study Area is below elevation range.
Cordylanthus tenuis ssp. *brunneus* serpentine bird's-beak (Orobanchaceae)	--/--/4.3	Closed-cone coniferous forest, Chaparral, Cismontane woodland, usually serpentinite; 1,000-3,000 feet; July-August	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Cordylanthus tenuis ssp. *capillaris* Pennell's bird's-beak (Orobanchaceae)	FE/CR/1B.2	Closed-cone coniferous forest, Chaparral, serpentinite; 145-1,000 feet; June-September	No suitable habitat present. Forest and chaparral not present in Study Area. Study Area is below elevation range.
Cuscuta obtusiflora var. *glandulosa* Peruvian dodder (Convolvulaceae)	--/--/2B.2	Marshes and swamps (freshwater); 45-920 feet; July-October	No suitable habitat present. Marshes and swamps not present in Study Area.
Cypripedium montanum mountain lady's-slipper (Orchidaceae)	--/--/4.2	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest; 605-7,300 feet; March-August	No suitable habitat present. Forests and woodlands not present in Study Area. Study Area is below elevation range.
Delphinium bakeri Baker's larkspur (Ranunculaceae)	FE/CE/1B.1	Broadleafed upland forest, Coastal scrub, Valley and foothill grassland, Decemberomposed shale, often mesic; 260-1,000 feet; March-May	No suitable habitat present. Study Area is below elevation range.

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Delphinium luteum golden larkspur (Ranunculaceae)	FE/CR/1B.1	Chaparral, Coastal prairie, Coastal scrub, rocky; 0-330 feet; March-May	No suitable habitat present. Chaparral and coastal habitats not present in Study Area.
Dirca occidentalis western leatherwood (Thymelaeaceae)	--/--/1B.2	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland, mesic; 80-1,395 feet; January-March (April)	No suitable habitat present. Forests, chaparral, and woodlands not present in Study Area.
Downingia pusilla dwarf downingia (Campanulaceae)	--/--/2B.2	Valley and foothill grassland (mesic), Vernal pools; 0-1,460 feet; March-May	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Erigeron biolettii streamside daisy (Asteraceae)	--/--/3	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest, rocky, mesic; 95-3,610 feet; June-October	No suitable habitat present. Forests and woodlands not present in Study Area.
Erigeron greenei Greene's narrow-leaved daisy (Asteraceae)	--/--/1B.2	Chaparral (serpentinite or volcanic); 260-3,295 feet; May-September	No suitable habitat present. Chaparral not present in Study Area. Study Area is below elevation range.
Erigeron serpentinus serpentine daisy (Asteraceae)	--/--/1B.3	Chaparral (serpentinite, seeps); 195-2,200 feet; May-August	No suitable habitat present. Chaparral not present in Study Area. Study Area is below elevation range.
Eriophorum gracile slender cottongrass (Cyperaceae)	--/--/4.3	Bogs and fens, Meadows and seeps, Upper montane coniferous forest, acidic; 4,195-9,515 feet; May-September	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Fritillaria liliacea fragrant fritillary (Liliaceae)	--/--/1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland, Often serpentinite; 5-1,345 feet; February-April	No suitable habitat present. Valley and foothill grassland present in Study Area, but not serpentinite.
Gilia capitata ssp. *chamissonis* blue coast gilia (Polemoniaceae)	--/--/1B.1	Coastal dunes, Coastal scrub; 5-655 feet; April-July	No suitable habitat present. Coastal dunes and scrub not present in Study Area.

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Gilia capitata ssp. *tomentosa* woolly-headed gilia (Polemoniaceae)	--/--/1B.1	Coastal bluff scrub, Valley and foothill grassland, Serpentinite, rocky, outcrops; 30-720 feet; May-July	No suitable habitat present. Valley and foothill grassland present in Study Area, but not serpentinite.
Gratiola heterosepala Boggs Lake hedge-hyssop (Plantaginaceae)	--/CE/1B.2	Marshes and swamps (lake margins), Vernal pools, clay; 30-7,790 feet; April-August	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Hemizonia congesta ssp. *congesta* congested-headed hayfield tarplant (Asteraceae)	--/--/1B.2	Valley and foothill grassland, sometimes roadsides; 65-1,835 feet; April-November	Suitable habitat present. Species was observed in Study Area during 2020 protocol-level surveys.
Hesperevax caulescens hogwallow starfish (Asteraceae)	--/--/4.2	Valley and foothill grassland (mesic, clay), Vernal pools (shallow), sometimes alkaline; 0-1,655 feet; March-June	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Hesperevax sparsiflora var. *brevifolia* short-leaved evax (Asteraceae)	--/--/1B.2	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie; 0-705 feet; March-June	No suitable habitat present. Coastal habitats not present in Study Area.
Horkelia marinensis Point Reyes horkelia (Rosaceae)	--/--/1B.2	Coastal dunes, Coastal prairie, Coastal scrub, sandy; 15-2,475 feet; May-September	No suitable habitat present. Coastal habitats not present in Study Area.
Horkelia tenuiloba thin-lobed horkelia (Rosaceae)	--/--/1B.2	Broadleafed upland forest, Chaparral, Valley and foothill grassland, mesic openings, sandy; 160-1,640 feet; May-July (August)	No suitable habitat present. Study Area is below elevation range.
Hosackia gracilis harlequin lotus (Fabaceae)	--/--/4.2	Broadleafed upland forest, Coastal bluff scrub, Closed-cone coniferous forest, Cismontane woodland, Coastal prairie, Coastal scrub, Meadows and seeps, Marshes and swamps, North Coast coniferous forest, Valley and foothill grassland, wetlands, roadsides; 0-2,295 feet; March-July	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Iris longipetala coast iris (Iridaceae)	--/--/4.2	Coastal prairie, Lower montane coniferous forest, Meadows and seeps, mesic; 0-1,970 feet; March-May	No suitable habitat present. Preferred habitats not present in Study Area.

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Kopsiopsis hookeri small groundcone (Orobanchaceae)	--/--/2B.3	North Coast coniferous forest; 295-2,905 feet; April-August	No suitable habitat present. Coniferous forest not present in Study Area. Study Area is below elevation range.
Lasthenia burkei Burke's goldfields (Asteraceae)	FE/CE/1B.1	Meadows and seeps (mesic), Vernal pools; 45-1,970 feet; April-June	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys. No *Lasthenia* species have been observed in the Study Area during reconnaissance-level surveys conducted since 1992.
Lasthenia californica ssp. *bakeri* Baker's goldfields (Asteraceae)	--/--/1B.2	Closed-cone coniferous forest (openings), Coastal scrub, Meadows and seeps, Marshes and swamps; 195-1,705 feet; April-October	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Lasthenia californica ssp. *macrantha* perennial goldfields (Asteraceae)	--/--/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; 15-1,705 feet; January-November	No suitable habitat present. Coastal habitats not present in Study Area.
Lasthenia conjugens Contra Costa goldfields (Asteraceae)	FE/--/1B.1	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools, mesic; 0-1,540 feet; March-June	Limited and marginal habitat present (limited area of non-disked habitat). No alkaline habitat. Not observed during 2020 protocol-level surveys. No *Lasthenia* species have been observed in the Study Area during reconnaissance-level surveys conducted since 1992.
Layia septentrionalis Colusa layia (Asteraceae)	--/--/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland, sandy, serpentinite; 325-3,595 feet; April-May	No suitable habitat present. Study Area is below elevation range.
Legenere limosa legenere (Campanulaceae)	--/--/1B.1	Vernal pools; 0-2,885 feet; April-June	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys. Not observed in the Study Area during reconnaissance-level surveys conducted since 1992.

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Leptosiphon jepsonii Jepson's leptosiphon (Polemoniaceae)	--/--/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland, usually volcanic; 325-1,640 feet; March-May	No suitable habitat present. Study Area is below elevation range.
Leptosiphon rosaceus rose leptosiphon (Polemoniaceae)	--/--/1B.1	Coastal bluff scrub; 0-330 feet; April-July	No suitable habitat present. Coastal bluff scrub not present in Study Area.
Lessingia arachnoidea Crystal Springs lessingia (Asteraceae)	--/--/1B.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, serpentinite, often roadsides; 195-655 feet; July-October	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Lessingia hololeuca woolly-headed lessingia (Asteraceae)	--/--/3	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland, clay, serpentinite; 45-1,000 feet; June-October	No suitable habitat present. Valley and foothill grassland present in Study Area, but not serpentinite.
Lilium pardalinum ssp. *pitkinense* Pitkin Marsh lily (Liliaceae)	FE/CE/1B.1	Cismontane woodland, Meadows and seeps, Marshes and swamps (freshwater), mesic, sandy; 110-215 feet; June-July	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Lilium rubescens redwood lily (Liliaceae)	--/--/4.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest, Sometimes serpentinite, sometimes roadsides; 95-6,265 feet; April-August (September)	No suitable habitat present. Forest habitats and chaparral not present in Study Area.
Limnanthes vinculans Sebastopol meadowfoam (Limnanthaceae)	FE/CE/1B.1	Meadows and seeps, Valley and foothill grassland, Vernal pools, vernally mesic; 45-1,000 feet; April-May	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Lupinus sericatus Cobb Mountain lupine (Fabaceae)	--/--/1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest; 900-5,005 feet; March-June	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Micropus amphibolus Mt. Diablo cottonweed (Asteraceae)	--/--/3.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland, rocky; 145-2,705 feet; March-May	No suitable habitat present. Study Area is below elevation range.

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Microseris paludosa marsh microseris (Asteraceae)	--/--/1B.2	Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland; 15-1,165 feet; April-June (July)	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Monardella viridis green monardella (Lamiaceae)	--/--/4.3	Broadleafed upland forest, Chaparral, Cismontane woodland; 325-3,315 feet; June-September	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia (Polemoniaceae)	--/--/1B.1	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools, Mesic; 15-5,710 feet; April-July	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Navarretia leucocephala ssp. *plieantha* many-flowered navarretia (Polemoniaceae)	FE/CE/1B.2	Vernal pools (volcanic ash flow); 95-3,115 feet; May-June	No suitable habitat present. Vernal pools present in Study Area, but not volcanic ash flow vernal pools.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah (Apiaceae)	--/--/4.2	Broadleafed upland forest, Chaparral, Coastal prairie, Valley and foothill grassland, Vernal pools, vernally mesic; 0-2,000 feet; June-October	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Pleuropogon hooverianus North Coast semaphore grass (Poaceae)	--/CT/1B.1	Broadleafed upland forest, Meadows and seeps, North Coast coniferous forest, open areas, mesic; 30-2,200 feet; April-June	No suitable habitat present. Preferred habitats not present in Study Area.
Pleuropogon refractus nodding semaphore grass (Poaceae)	--/--/4.2	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest, Mesic; 0-5,250 feet; (March) April-August	No suitable habitat present. Preferred habitats not present in Study Area.
Potentilla uliginosa Cunningham Marsh cinquefoil (Rosaceae)	--/--/1A	Marshes and swamps, Freshwater, permanent oligotrophic wetlands; 95-130 feet; May-August	No suitable habitat present. Preferred habitats not present in Study Area.
Ranunculus lobbii Lobb's aquatic buttercup (Ranunculaceae)	--/--/4.2	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools, mesic; 45-1,540 feet; February-May	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.

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Rhynchospora alba white beaked-rush (Cyperaceae)	--/--/2B.2	Bogs and fens, Meadows and seeps, Marshes and swamps (freshwater); 195-6,695 feet; June-August	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Rhynchospora californica California beaked-rush (Cyperaceae)	--/--/1B.1	Bogs and fens, Lower montane coniferous forest, Meadows and seeps (seeps), Marshes and swamps (freshwater); 145-3,315 feet; May-July	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Rhynchospora capitellata brownish beaked-rush (Cyperaceae)	--/--/2B.2	Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Upper montane coniferous forest, mesic; 145-6,560 feet; July-August	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Rhynchospora globularis round-headed beaked-rush (Cyperaceae)	--/--/2B.1	Marshes and swamps (freshwater); 145-195 feet; July-August	No suitable habitat present. Marshes and swamps not present in Study Area. Study Area is below elevation range.
Sidalcea calycosa ssp. *rhizomata* Point Reyes checkerbloom (Malvaceae)	--/--/1B.2	Marshes and swamps (freshwater, near coast); 5-245 feet; April-September	No suitable habitat present. Freshwater coastal marshes and swamps not present in Study Area.
Sidalcea malviflora ssp. *purpurea* purple-stemmed checkerbloom (Malvaceae)	--/--/1B.2	Broadleafed upland forest, Coastal prairie; 45-280 feet; May-June	No suitable habitat present. Forest and coastal prairie not present in Study Area.
Silene scouleri ssp. *scouleri* Scouler's catchfly (Caryophyllaceae)	--/--/2B.2	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland; 0-1,970 feet; (March-May) June-August (September)	Marginal suitable habitat present. Valley and foothill grassland could provide potential habitat.
Thamnolia vermicularis whiteworm lichen (Icmadophilaceae)	--/--/2B.1	Chaparral, Valley and foothill grassland, on rocks derived from sandstone; 295-295 feet; no bloom period listed	No suitable habitat present. Study Area is below elevation range.
Trifolium amoenum two-fork clover (Fabaceae)	FE/--/1B.1	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite); 15-1,360 feet; April-June	No suitable habitat present. Valley and foothill grassland present in Study Area, but not serpentinite.

Scientific Name Common Name (Family Name)	Status, Federal/ State/ CRPR[1]	Preferred Habitat; Elevation Range; Bloom Period	Presence/Quality of Preferred Habitat Within Study Area
Trifolium buckwestiorum Santa Cruz clover (Fabaceae)	--/--/1B.1	Broadleafed upland forest, Cismontane woodland, Coastal prairie, gravelly, margins; 340-2,000 feet; April-October	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Trifolium hydrophilum saline clover (Fabaceae)	--/--/1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools; 0-985 feet; April-June	Limited and marginal habitat present (limited area of non-disked habitat). Not observed during 2020 protocol-level surveys.
Triphysaria floribunda San Francisco owl's-clover (Orobanchaceae)	--/--/1B.2	Coastal prairie, Coastal scrub, Valley and foothill grassland, usually serpentinite; 30-525 feet; April-June	No suitable habitat present. Valley and foothill grassland present in Study Area, but not serpentinite.
Triquetrella californica coastal triquetrella (Pottiaceae)	--/--/1B.2	Coastal bluff scrub, Coastal scrub, soil; 30-330 feet; no bloom period listed	No suitable habitat present. Coastal habitats not present in Study Area.
Usnea longissima Methuselah's beard lichen (Parmeliaceae)	--/--/4.2	Broadleafed upland forest, North Coast coniferous forest, on tree branches; usually on old growth hardwoods and conifers; 160-4,790 feet; no bloom period listed	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.
Viburnum ellipticum oval-leaved viburnum (Adoxaceae)	--/--/2B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest; 705-4,595 feet; May-June	No suitable habitat present. Preferred habitats not present in Study Area. Study Area is below elevation range.

Notes:
Compiled from a CNPS 9-Quad search centered around the Sebastopol quadrangle.
Bloom periods and habitats in parentheses indicate occasional habitats and timeframes.

[1]**Rarity Status Codes**:
E = Federally or State listed as Endangered
T = Federally or State listed as Threatened
R = State listed as Rare

CRPR Codes:
CRPR 1A = Plants presumed extirpated in California and either rare or extinct elsewhere; CRPR List 1B = Plants rare, threatened or endangered in CA and elsewhere; CRPR 2B = Plants rare, threatened or endangered in California but more common elsewhere; CRPR 3 = More information is needed about plant; CRPR 4 = Plants of limited distribution, a watch list; CRPR: '.1' = Seriously threatened in CA; '.2' = Fairly threatened in CA; '.3' = Not very threatened in CA

APPENDIX B

LIST OF ALL VASCULAR PLANT TAXA IDENTIFIED WITHIN THE STUDY AREA

APPENDIX B. Vascular Plants Identified within the Kelly Farm Mitigation Project, City of Santa Rosa, 2020. Compiled by Vollmar Natural Lands Consulting for the City of Santa Rosa.

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Agavaceae (Century-plant Family)	*Chlorogalum pomeridianum* var. *pomeridianum*	Wavyleaf Soap Plant	Native	N/A
Alismataceae (Water-plantain Family)	*Alisma triviale*	Northern Water Plantain	Native	N/A
Amaranthaceae (Amaranth Family)	*Amaranthus retroflexus*	Redroot Pigweed	Naturalized	N/A
Anacardiaceae (Sumac Family)	*Toxicodendron diversilobum*	Western Poison Oak	Native	N/A
Apiaceae (Carrot Family)	*Conium maculatum*	Poison Hemlock	Naturalized	Moderate
Apiaceae (Carrot Family)	*Daucus carota*	Carrot	Naturalized	N/A
Apiaceae (Carrot Family)	*Foeniculum vulgare*	Fennel	Naturalized	Moderate
Apiaceae (Carrot Family)	*Scandix pecten-veneris*	Venus' Needle	Naturalized	N/A
Araceae (Arum Family)	*Arum italicum*	Italian Arum	Naturalized	N/A
Asteraceae (Aster Family)	*Anthemis cotula*	Mayweed	Naturalized	N/A
Asteraceae (Aster Family)	*Baccharis pilularis* ssp. *consanguinea*	Coyote Brush	Native	N/A
Asteraceae (Aster Family)	*Bidens frondosa*	Sticktight	Native	N/A
Asteraceae (Aster Family)	*Calendula arvensis*	Field-Marigold	Naturalized	N/A
Asteraceae (Aster Family)	*Carduus pycnocephalus* ssp. *pycnocephalus*	Italian Thistle	Naturalized	Moderate
Asteraceae (Aster Family)	*Cichorium intybus*	Chicory	Naturalized	N/A
Asteraceae (Aster Family)	*Cirsium vulgare*	Bull Thistle	Naturalized	Moderate

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Asteraceae (Aster Family)	*Crepis capillaris*	Smooth Hawksbeard	Naturalized	N/A
Asteraceae (Aster Family)	*Helminthotheca echioides*	Bristly Ox-Tongue	Naturalized	Limited
Asteraceae (Aster Family)	*Hemizonia congesta* ssp. *congesta*	Pale-Yellow Hayfield Tarplant	Native	N/A
Asteraceae (Aster Family)	*Lactuca saligna*	Willowleaf Lettuce	Naturalized	N/A
Asteraceae (Aster Family)	*Lactuca serriola*	Prickly Lettuce	Naturalized	N/A
Asteraceae (Aster Family)	*Leontodon saxatilis* ssp. *saxatilis*	Lesser Hawkbit	Naturalized	N/A
Asteraceae (Aster Family)	*Madia sativa*	Coast Tarweed	Native	N/A
Asteraceae (Aster Family)	*Matricaria discoidea*	Pineapple Weed	Naturalized	N/A
Asteraceae (Aster Family)	*Sonchus asper* ssp. *asper*	Prickly Sow Thistle	Naturalized	N/A
Asteraceae (Aster Family)	*Sonchus oleraceus*	Common Sow Thistle	Naturalized	N/A
Asteraceae (Aster Family)	*Symphyotrichum chilense*	Pacific Aster	Native	N/A
Asteraceae (Aster Family)	*Xanthium strumarium*	Cocklebur	Native	N/A
Boraginaceae (Borage Family)	*Amsinckia intermedia*	Common Fiddleneck	Native	N/A
Boraginaceae (Borage Family)	*Echium plantagineum*	Salvation Jane	Naturalized	N/A
Brassicaceae (Mustard Family)	*Brassica rapa*	Field Mustard	Naturalized	Limited
Brassicaceae (Mustard Family)	*Hirschfeldia incana*	Mediterranean Mustard	Naturalized	Moderate
Brassicaceae (Mustard Family)	*Lepidium didymum*	Lesser Swine Cress	Naturalized	N/A

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Brassicaceae (Mustard Family)	*Lepidium latifolium*	Perennial Pepperweed	Naturalized	High
Brassicaceae (Mustard Family)	*Lepidium nitidum*	Shining Pepperweed	Native	N/A
Brassicaceae (Mustard Family)	*Raphanus sativus*	Radish	Naturalized	Limited
Brassicaceae (Mustard Family)	*Sinapis arvensis*	Charlock	Naturalized	Limited
Caryophyllaceae (Pink Family)	*Cerastium glomeratum*	Sticky Mouse-Ear Chickweed	Naturalized	N/A
Caryophyllaceae (Pink Family)	*Spergula arvensis*	Stickwort	Naturalized	N/A
Caryophyllaceae (Pink Family)	*Spergularia rubra*	Red Sand-Spurrey	Naturalized	N/A
Caryophyllaceae (Pink Family)	*Stellaria media*	Common Chickweed	Naturalized	N/A
Chenopodiaceae (Goosefoot Family)	*Atriplex prostrata*	Fat-Hen	Naturalized	N/A
Chenopodiaceae (Goosefoot Family)	*Chenopodium album*	Lamb's Quarters	Naturalized	N/A
Convolvulaceae (Morning-glory Family)	*Convolvulus arvensis*	Bindweed	Naturalized	N/A
Cyperaceae (Sedge Family)	*Cyperus eragrostis*	Tall Flatsedge	Native	N/A
Cyperaceae (Sedge Family)	*Eleocharis macrostachya*	Pale Spikerush	Native	N/A
Euphorbiaceae (Spurge Family)	*Croton setigerus*	Turkey-Mullein	Native	N/A
Fabaceae (Pea Family)	*Acacia dealbata*	Silver Wattle	Naturalized	Moderate
Fabaceae (Pea Family)	*Acmispon americanus* var. *americanus*	American Bird's Foot Trefoil	Native	N/A
Fabaceae (Pea Family)	*Lupinus bicolor*	Miniature Lupine	Native	N/A

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Fabaceae (Pea Family)	*Medicago polymorpha*	California Burclover	Naturalized	Limited
Fabaceae (Pea Family)	*Trifolium depauperatum* var. *amplectens*	Pale Sack Clover	Native	N/A
Fabaceae (Pea Family)	*Trifolium repens*	White Clover	Naturalized	N/A
Fabaceae (Pea Family)	*Vicia faba*	Fava Bean	Waif	N/A
Fabaceae (Pea Family)	*Vicia sativa* ssp. *nigra*	Narrow-Leaved Vetch	Naturalized	N/A
Fabaceae (Pea Family)	*Vicia sativa* ssp. *sativa*	Spring Vetch	Naturalized	N/A
Fabaceae (Pea Family)	*Vicia villosa* ssp. *varia*	Winter Vetch	Naturalized	N/A
Fagaceae (Beech Family)	*Castanea* sp.	Chestnut	Waif	N/A
Fagaceae (Beech Family)	*Quercus agrifolia* var. *agrifolia*	California Live Oak	Native	N/A
Fagaceae (Beech Family)	*Quercus kelloggii*	California Black Oak	Native	N/A
Fagaceae (Beech Family)	*Quercus lobata*	Valley Oak	Native	N/A
Geraniaceae (Geranium Family)	*Erodium botrys*	Longbeak Stork's Bill	Naturalized	N/A
Geraniaceae (Geranium Family)	*Erodium cicutarium*	Redstem Filaree	Naturalized	Limited
Geraniaceae (Geranium Family)	*Erodium moschatum*	Greenstem Filaree	Naturalized	N/A
Geraniaceae (Geranium Family)	*Geranium dissectum*	Cutleaf Geraniium	Naturalized	Limited
Juglandaceae (Walnut Family)	*Juglans regia* X *hindsii*	English Walnut (grafted on to Northern California Black Walnut)	Native	N/A
Juncaceae (Rush Family)	*Juncus bufonius* var. *occidentalis*	Western Toad Rush	Native	N/A

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Juncaceae (Rush Family)	*Juncus effusus* ssp. *pacificus*	Pacific Rush	Native	N/A
Juncaceae (Rush Family)	*Juncus mexicanus*	Mexican Rush	Native	N/A
Juncaginaceae (Arrow-grass Family)	*Triglochin scilloides*	Flowering-Quillwort	Native	N/A
Lamiaceae (Mint Family)	*Mentha pulegium*	Pennyroyal	Naturalized	Moderate
Limnanthaceae (Meadow-Foam Family)	*Limnanthes douglasii* ssp. *nivea*	Douglas' Meadowfoam	Native	N/A
Lythraceae (Loosestrife Family)	*Lythrum hyssopifolia*	Hyssop Loosestrife	Naturalized	Limited
Magnoliaceae (Magnolia Family)	*Magnolia grandiflora*	Southern Magnolia	Waif	N/A
Malvaceae (Mallow Family)	*Malva nicaeensis*	Bull Mallow	Naturalized	N/A
Malvaceae (Mallow Family)	*Malva parviflora*	Cheeseweed	Naturalized	N/A
Montiaceae (Miner's Lettuce Family)	*Claytonia perfoliata* ssp. *perfoliata*	Miner's Lettuce	Native	N/A
Myrsinaceae (Myrsine Family)	*Lysimachia arvensis*	Scarlet Pimpernel	Naturalized	N/A
Myrtaceae (Myrtle Family)	*Eucalyptus globulus*	Blue Gum	Naturalized	Moderate
Onagraceae (Evening Primrose Family)	*Epilobium brachycarpum*	Tall Annual Willowherb	Native	N/A
Onagraceae (Evening Primrose Family)	*Epilobium densiflorum*	Denseflower Willowherb	Native	N/A
Orobanchaceae (Broom-rape Family)	*Castilleja campestris* ssp. *campestris*	Field Owl's Clover	Native	N/A
Pinaceae (Pine Family)	*Pseudotsuga menziesii* var. *menziesii*	Douglas Fir	Native	N/A
Plantaginaceae (Plantain Family)	*Kickxia elatine*	Sharpleaf Cancerwort	Naturalized	N/A

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Plantaginaceae (Plantain Family)	*Plantago lanceolata*	English Plantain	Naturalized	Limited
Plantaginaceae (Plantain Family)	*Plantago major*	Common Plantain	Naturalized	N/A
Plantaginaceae (Plantain Family)	*Veronica persica*	Persian Speedwell	Naturalized	N/A
Platanaceae (Plane-tree Family)	*Platanus x hispanica*	London Plane Tree	Waif	N/A
Poaceae (Grass Family)	*Alopecurus pratensis*	Meadow Foxtail	Naturalized	N/A
Poaceae (Grass Family)	*Avena barbata*	Slender Wild Oat	Naturalized	Moderate
Poaceae (Grass Family)	*Avena fatua*	Wild Oat	Naturalized	Moderate
Poaceae (Grass Family)	*Beckmannia syzigachne*	American Slough Grass	Native	N/A
Poaceae (Grass Family)	*Briza maxima*	Rattlesnake Grass	Naturalized	Limited
Poaceae (Grass Family)	*Briza minor*	Annual Quaking Grass	Naturalized	N/A
Poaceae (Grass Family)	*Bromus carinatus* var. *carinatus*	California Brome	Native	N/A
Poaceae (Grass Family)	*Bromus catharticus* var. *catharticus*	Rescue Grass	Naturalized	N/A
Poaceae (Grass Family)	*Bromus diandrus*	Ripgut Grass	Naturalized	Moderate
Poaceae (Grass Family)	*Bromus hordeaceus*	Soft Chess	Naturalized	Limited
Poaceae (Grass Family)	*Cynosurus echinatus*	Bristly Dogtail Grass	Naturalized	Moderate
Poaceae (Grass Family)	*Dactylis glomerata*	Orchard Grass	Naturalized	Limited
Poaceae (Grass Family)	*Festuca bromoides*	Brome Fescue	Naturalized	N/A

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Poaceae (Grass Family)	*Festuca myuros*	Rattail Sixweeks Grass	Naturalized	Moderate
Poaceae (Grass Family)	*Festuca perennis*	Italian Rye Grass	Naturalized	Moderate
Poaceae (Grass Family)	*Festuca pratensis*	Meadow Fescue	Naturalized	N/A
Poaceae (Grass Family)	*Glyceria occidentalis*	Western Mannagrass	Naturalized	N/A
Poaceae (Grass Family)	*Holcus lanatus*	Common Velvet Grass	Naturalized	Moderate
Poaceae (Grass Family)	*Hordeum brachyantherum* ssp. *brachyantherum*	Northern Barley	Native	N/A
Poaceae (Grass Family)	*Hordeum marinum* ssp. *gussoneanum*	Mediterranean Barley	Naturalized	Moderate
Poaceae (Grass Family)	*Hordeum murinum* ssp. *leporinum*	Hare Barley	Naturalized	Moderate
Poaceae (Grass Family)	*Phalaris aquatica*	Harding Grass	Naturalized	Moderate
Poaceae (Grass Family)	*Phalaris paradoxa*	Hood Canary Grass	Naturalized	N/A
Poaceae (Grass Family)	*Pleuropogon californicus* var. *californicus*	Annual Semaphoregrass	Native	N/A
Poaceae (Grass Family)	*Poa annua*	Annual Blue Grass	Naturalized	N/A
Poaceae (Grass Family)	*Polypogon monspeliensis*	Annual Beard Grass	Naturalized	Limited
Poaceae (Grass Family)	*Triticum aestivum*	Common Wheat	Naturalized	N/A
Polygonaceae (Buckwheat Family)	*Polygonum aviculare* ssp. *depressum*	Prostrate Knotweed	Naturalized	N/A
Polygonaceae (Buckwheat Family)	*Rumex acetosella*	Sheep Sorrel	Naturalized	Moderate
Polygonaceae (Buckwheat Family)	*Rumex conglomeratus*	Clustered Dock	Naturalized	N/A

Family Name	Scientific Name	Common Name	Origin	Cal-IPC Rank*
Polygonaceae (Buckwheat Family)	*Rumex crispus*	Curly Dock	Naturalized	Limited
Polygonaceae (Buckwheat Family)	*Rumex pulcher*	Fiddle Dock	Naturalized	N/A
Polygonaceae (Buckwheat Family)	*Rumex transitorius*	Pacific Willow Dock	Native	N/A
Portulacaceae (Purslane Family)	*Portulaca oleracea*	Purslane	Naturalized	N/A
Ranunculaceae (Buttercup Family)	*Ranunculus californicus* var. *californicus*	California Buttercup	Native	N/A
Ranunculaceae (Buttercup Family)	*Ranunculus muricatus*	Spinyfruit Buttercup	Naturalized	N/A
Rosaceae (Rose Family)	*Prunus cerasifera*	Cherry Plum	Naturalized	Limited
Rosaceae (Rose Family)	*Pyrus communis*	Common Pear	Naturalized	N/A
Rosaceae (Rose Family)	*Rubus armeniacus*	Himalayan Blackberry	Naturalized	High
Rubiaceae (Madder Family)	*Galium aparine*	Goose Grass	Native	N/A
Salicaceae (Willow Family)	*Salix lasiolepis*	Arroyo Willow	Native	N/A
Themidaceae (Brodiaea Family)	*Brodiaea elegans* ssp. *elegans*	Harvest Brodiaea	Native	N/A
Themidaceae (Brodiaea Family)	*Brodiaea terrestris* ssp. *terrestris*	Terrestrial Brodiaea	Native	N/A
Verbenaceae (Verbena Family)	*Phyla nodiflora*	Turkey Tangle Fogfruit	Native	N/A
Vitaceae (Grape Family)	*Vitis vinifera*	Wine Grape	Naturalized	N/A

*California Invasive Plant Council (Cal-IPC), 2020.