CITY OF REDDING
777 Cypress Avenue, Redding, CA 96001
PO BOX 496071, Redding, CA 96049-6071
cityofredding.gov

MITIGATED NEGATIVE DECLARATION

Permit No. S-2023-00582
State Clearinghouse No. _____

SUBJECT

The River Subdivision

PROJECT DESCRIPTION

Subdivision Map Application S-2023-00582, The River Subdivision, submitted by L&S Redding Development, proposes to subdivide approximately 10.5-acres into 21 single-family residential lots as well as roadways and other supporting infrastructure. Residential lot sizes range from 7,865 square feet to 55,037 square feet. However, the majority of the lot sizes are within the 11,000 square foot to 17,000 square foot range. The project proposes a density of 2.3 units per net developable acre, excluding the area within the Federal Emergency Management Agency (FEMA) floodplain along the Sacramento River.

Lots 1 through 18 are proposed to take access from a public road (Road A) via Wyndham Lane. Road "A" is proposed to be improved with a City standard design for a 56 foot right-of-way including two travel lanes and, curb, gutter, and sidewalk. The remaining three lots (Lots 19 through 21) will have frontage on Wyndham Lane; two of those will be flag lots.

No off-site improvements are proposed. All street and utility improvements will connect to existing systems located adjacent to the project boundaries. The storm drain system would connect to the Sacramento River directly adjacent to the subdivision after any required on-site water treatment.

ENVIRONMENTAL SETTING

The project consists of approximately 10.5 gross acres of land. The site is relatively flat with an elevation of approximately 472 feet above mean sea level (MSL) and primarily composed of annual grassland and scattered patches of valley oak woodland. There is also some riparian habitat along the Sacramento River. The river runs along the eastern boundary of the project site from north to south. The project site is currently vacant and completely surrounded on all other sides with single-family residential development.

FINDINGS AND DETERMINATION

The City of Redding conducted an Initial Study (attached), which determined that the proposed project could have significant environmental effects. Subsequent revisions in the project proposal create the specific mitigation measures identified below. The project, as revised and as agreed to by the applicant, avoids or mitigates the potentially significant environmental effects identified, and the preparation of an Environmental Impact Report will not be required. There is no substantial evidence, in light of the whole record before the City, that the project as revised may have a significant effect on the environment. If there are substantial changes that alter the character or impacts of the proposed project, another environmental impact determination will be necessary.

The project includes measures to mitigate potentially significant impacts of development on biological and cultural resources.

Prior to approval of the project, the lead agency may conclude, at a public hearing, that certain mitigation measures identified in the Mitigated Negative Declaration are infeasible or undesirable. In accordance with CEQA Section 15074.1, the lead agency may delete those mitigation measures and substitute other measures which it determines are equivalent or more effective. The lead agency would adopt written findings that the new measure is equivalent or more effective in mitigating or avoiding potential significant effects and that the measure, in itself, would not cause any potentially significant effect on the environment.

1. **Based on the whole record (including the Initial Study and any supporting documentation) and the mitigation measures incorporated into the project, the City of Redding has determined that a Mitigated Negative Declaration is appropriate. All potentially significant impacts would be reduced to less than significant.**

2. **The Mitigated Negative Declaration, with its supporting documentation, fully incorporated herein, reflects the independent judgment and analysis of the lead agency, which is the City of Redding.**

DOCUMENTATION

The attached Initial Study documents the reasons to support the above determination.

MITIGATION MEASURES

MM-Bio-1 To the extent practicable, removal of large trees with cavities shall occur before bat maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). If construction (including the removal of large trees) occurs during the bat non-volant season (March 1 through August 15), a qualified professional shall conduct a pre-construction survey of the study area to locate maternity colonies and identify measures to protect colonies from disturbance. The preconstruction survey will be performed no more than seven days prior to the implementation of construction activities. If a maternity colony is located within the study area, or adjacent to the study area, a disturbance free buffer shall be established by a qualified professional, in consultation with the California Department of Fish and Wildlife, to ensure the colony is protected from project activities.

MM-Bio-2 If vegetation removal or construction activities will occur during the nesting season for migratory birds and raptors (February 1 through August 31), a qualified biologist shall conduct

a pre-construction survey seven days before construction activities begin. If any candidate, sensitive, or special-status nesting birds are found, the California Department of Fish and Wildlife (CDFW) will be notified and consulted. An appropriate buffer, as determined by the CDFW and the qualified biologist, will be placed around the nest until the young have fledged. If construction activities cease for a period greater than seven days, additional preconstruction surveys will be required.

MM-CR-1 At time of development, the boundary of "Wyndham 1," as discussed in the Cultural Resources Inventory Survey by Gallaway Enterprises dated March 21, 2023, shall be accurately located through survey by a qualified professional archaeologist. Geotechnical cloth shall be placed over "Wyndham 1", and soil fill material compacted to an elevation of at least 12-inches above the ground surface. Soil importation and placement shall be accomplished with a rubber-tired front loader, utilizing a limited path which would minimize any natural soil disturbance. A qualified professional archaeologist shall be present to monitor and direct the placement of both the geotechnical cloth and the imported fill to minimize disturbances within the site boundary. Additionally, once the final residence footprint is located, then additional fill material shall be placed upon the already imported and compacted soils, bringing the elevation of the house pad to approximately 20-inches above the original ground surface.

MM-CR-2 A qualified professional archaeologist shall monitor the excavation of the storm drain discharge pipe trench proposed to be installed approximately 45-feet south of "Wyndham 1" to ensure that any resources inadvertently identified during ground disturbance are offered adequate evaluation opportunities.

PUBLIC REVIEW DISTRIBUTION

Draft copies or notice of this Mitigated Negative Declaration were distributed to:

- State Clearinghouse
- Shasta County Clerk
- U.S. Army Corp of Engineers, Redding
- California Department of Fish and Wildlife, Redding
- Central Valley Regional Water Quality Control Board, Redding
- California Native Plant Society, Shasta County
- Shasta Environmental Alliance
- Redding Rancheria
- Wintu Tribe of Northern California
- Paskenta Tribe of Nomlaki Indians
- All property owners within 300 feet of the property boundary
- Applicant
- Property Owner, if not applicant
- Representative
-

PUBLIC REVIEW

(X) Draft document referred for comments November 6, 2023.

( ) No comments were received during the public review period.

( ) Comments were received but did not address the draft Mitigated Negative Declaration findings or the accuracy/completeness of the Initial Study. No response is necessary. The letters are attached.

( ) Comments addressing the findings of the draft Mitigated Negative Declaration and/or accuracy or completeness of the Initial Study were received during the public review period. The letters and responses follow (see Response to Comments, attached).

The draft Mitigated Negative Declaration, Initial Study, Mitigated Negative Declaration, and other information concerning the project are available for public review Monday through Friday from 8:00 a.m. to 3:00 p.m., at the Planning Division of the Development Services Department, City of Redding, 777 Cypress Avenue, Redding, CA 96001 and online on the City Planning Projects page of the Planning website at:www.cityofredding.gov. If you have any questions or wish to submit comments, please contact Danny Castro, Assistant Planner, at dcastro@cityofredding.org, or by telephone at (530) 225-4471.

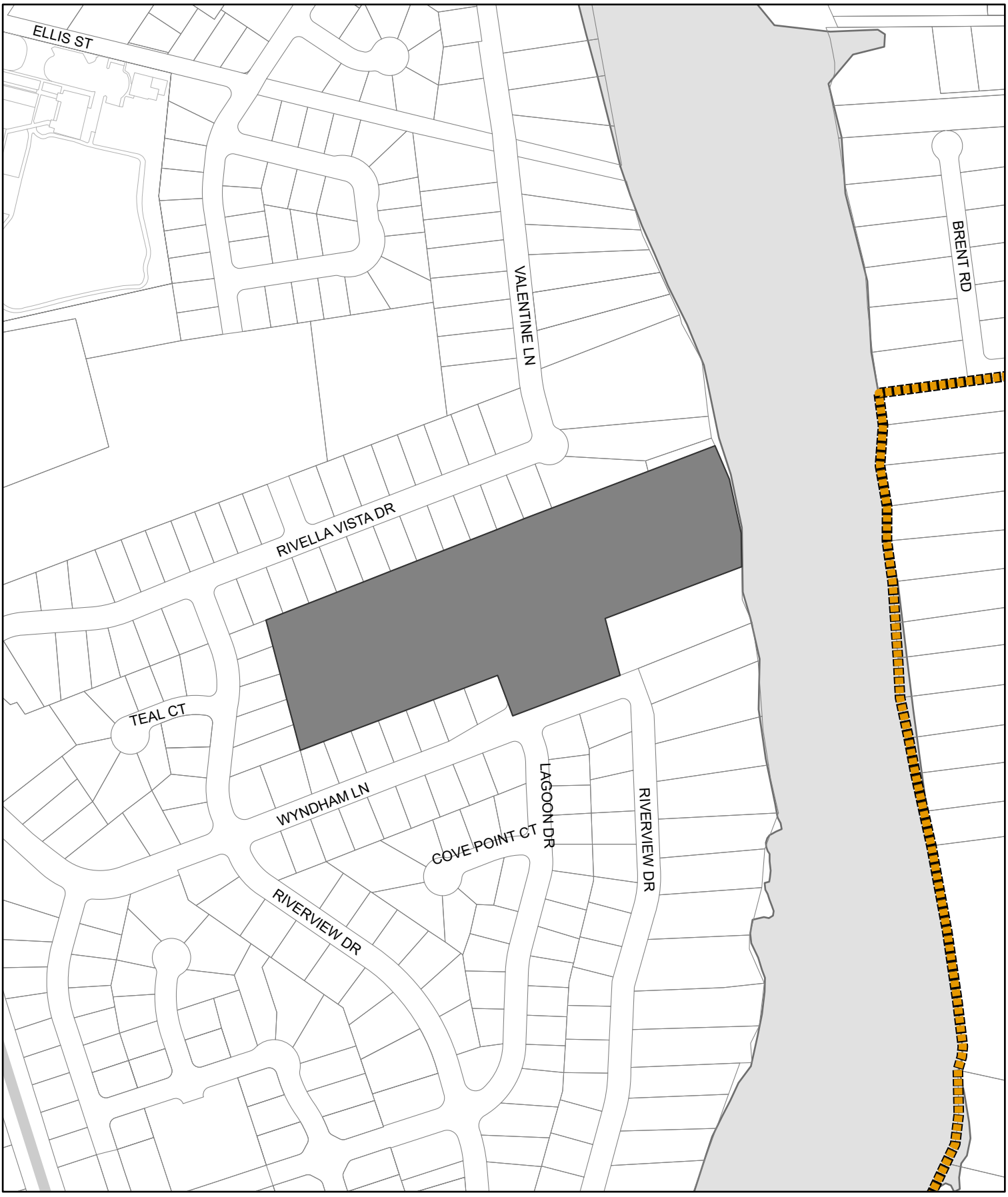


Lily Toy, Planning Manager

November 6, 2023
Date

Date of Final Report

Attachments:
A. Location map
B. Initial Study
C. Mitigation Monitoring Program



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GIS DIVISION
INFORMATION TECHNOLOGY DEPARTMENT

DATE PRODUCED:
APRIL 12, 2023

0 200 400 Feet

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LOCATION MAP

S-2023-00582
THE RIVER SUBDIVISION
2980 WYNDHAM LANE
AP# 048-500-048

MTG. DATE:

ITEM:

ATTACHMENT:

ENVIRONMENTAL INITIAL STUDY

INITIAL STUDY CHECKLIST
References and Documentation

The River
Subdivision

Prepared by:
CITY OF REDDING
Development Services Department
Planning Division
777 Cypress Avenue
Redding, California 96001

November 6, 2023

CITY OF REDDING
ENVIRONMENTAL CHECKLIST FORM

1. Project Title: The River

2. Lead agency name and address:

CITY OF REDDING
Development Services Department
Planning Division
777 Cypress Avenue
Redding, CA 96001

3. Contact Person and Phone Number: Danny Castro, (530) 225-4471

4. Project Location: 2980 Wyndham Lane

5. Applicant's Name and Address: L&S Redding Development, LLC
PO Box 496028
Redding, CA 96049

Representative's Name and Address: Sharrah Dunlap Sawyer
320 Hartnell Avenue
Redding, CA 96002

6. General Plan Designation: 3.5 to 6 Units per Acre

7. Zoning: "RS-3.5" Residential Single-Family

8. Description of Project:

Subdivision Map Application S-2023-00582, submitted by L&S Redding Development, LLC, proposes to subdivide approximately 10.5 acres into 21 single-family residential lots as well as roadways and other supporting infrastructure to create the River Subdivision. Residential lot sizes range from 7,865 square feet to 55,037 square feet. However, the majority of the lot sizes are within the 11,000 square foot to 17,000 square foot range. The project proposes a density of 2.3 units per net developable acre, excluding the area within the Federal Emergency Management Agency (FEMA) floodplain along the Sacramento River.

Lots 1 through 18 are proposed to take access off a public road (Road A) via Wyndham Lane. Road "A" is proposed to be improved with a City standard design for a 56-foot right-of-way including 2 travel lanes and, curb, gutter, and sidewalk. The remaining 3 lots (Lots 19 through 21) will have frontage on Wyndham Lane with two being flag lots.

No off-site improvements are proposed. All street and utility improvements will connect to existing systems located adjacent to the project boundaries. The storm drain system would connect to the Sacramento River directly adjacent to the subdivision after any required on-site water treatment.

9. Surrounding Land Uses and Setting:

The project consists of approximately 10.5 gross acres of land. The site is relatively flat with an elevation of approximately 472 feet above mean sea level (MSL) and primarily composed of annual grassland and scattered patches of valley oak woodland with some riparian habitat. The Sacramento River runs along the eastern boundary of the project site from north to south. The project site is currently vacant and completely surrounded on all other sides with single family residential development.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The Redding Rancheria and the Wintu Tribe of Northern California were noticed about this project and the preparation of its associated initial study. No California Native American tribes requested consultation pursuant to Public Resources Code section 21080.3.1.

Note: *Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.*

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 or Potentially Significant Unless Mitigation Incorporated" as indicated by the checklist on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will 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 will be prepared.

☐ I find that the proposed project 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 although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR of NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Development Services Department, 777 Cypress Avenue, Redding, CA 96001. Contact Danny Castro at (530) 225-4471.



November 6, 2023

Danny Castro, Assistant Planner
Development Services Department

Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

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

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the State *CEQA Guidelines* and used by the City of Redding in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable environmental impact on the environment.

- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- **Potentially Significant Impact Unless Mitigation Incorporated.** The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- **Potentially Significant Impact**. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

Prior environmental evaluations applicable to all or part of the project site:

- *City of Redding General Plan*, 2000
- *City of Redding General Plan Final Environmental Impact Report*, 2000, SCH #1998072103

List of attachments/references:

Attachment A – Figure 1 – Location Map
Figure 2 – Tentative Subdivision Map

Attachment B – *Biological Resource Assessment*, Gallaway Enterprises, March 2023 (on file in the Development Services Department, Planning Division)

Attachment C – *Draft Delineation of Aquatic Resources*, Gallaway Enterprises, March 2023 (on file in the Development Services Department, Planning Division)

Attachment D – *Amended Tree Inventory Assessment Report*, McEntire Associates, July 26, 2023 (on file in the Development Services Department, Planning Division)

Attachment E – *Gallaway Response to California Department of Fish and Wildlife (CDFW),* Gallaway Enterprises, September 26, 2023 (on file in the Development Services Department, Planning Division)

Attachment F – *Cultural Resources Inventory Survey*, Gallaway Enterprises, March 21, 2023 (on file in the Development Services Department, Planning Division)

Attachment G – Letters sent to Redding Rancheria and the Wintu Tribe of Northern California, April 24, 2023 (on file in the Development Services Department, Planning Division)

I. AESTHETICS: *Except as provided in Public Resources Code Section 21099, would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				X
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? *(Public views are those that area 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?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

Discussion:

a) The project must comply with the height standards of the City's Zoning Ordinance. The project would be consistent in height with buildings on adjacent properties and would not obstruct any documented scenic vistas. The proposed project would not represent a significant change to the overall scenic quality of the area.

b) The project site is not located adjacent to a state-designated scenic highway.

c) The project will be compatible with the existing visual character of the property and its surroundings. It would not conflict with applicable zoning and other regulations governing scenic quality.

d) The project would generate light that is customary for residential development and comply with the Zoning Ordinance light standards. There would not be an adverse effect on day or nighttime views in the area.

Documentation:
City of Redding General Plan, Natural Resources Element, 2000
City of Redding Zoning Ordinance, Chapter 18.40.090

Mitigation:
None necessary.

II. AGRICULTURE RESOURCES: *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural, Land Evaluation and Site Assessment Mode (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided bin Forest Protocols adopted by the California Air Resources Board. Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or 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?				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				**X**
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 5110(g))?				**X**
d Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
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 land?				**X**

Discussion:

a-e) The project site contains soils that consist of Reiff fine sandy loam, 0 to 3 percent slopes, Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes, and Cobbly alluvial land and is within an area identified by the California Department of Conservation's Important Farmland Series Mapping and Monitoring Program as meeting the criteria for *Prime Farmland if irrigated.* However, under this classification, these soils must have been cultivated and irrigated with crops within the past three years, which is not the case. According to the General Plan Background Report, prime agricultural soils in the Planning Area are limited to Churn Creek Bottom and pockets of land along Stillwater Creek in the vicinity of Shasta College. Therefore, because the site has not historically been used for agricultural purposes, it does not contain soils that are prime for agricultural production. The project site is not under Williamson Act contract and does not contain forest land, or timberlands. The project would not convert or rezone any farmland to non-agricultural use, or any forest land to non-forest use.

Documentation:
City of Redding General Plan, Natural Resources Element, 2000
City of Redding General Plan Background Report, Chapter 9.4: Agricultural Lands
California Department of Conservation's Farmland Mapping and Monitoring Program
United States Department of Agriculture, Soil Conservation Service and Forest Service, Soil Survey of Shasta County Area.

Mitigation:
None necessary.

III. AIR QUALITY: *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:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?				**X**
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard			**X**	
c) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				**X**

Discussion:

a-b) Shasta County, including the far northern Sacramento Valley, currently exceeds the state's ambient standards for ozone (smog) and particulates (fine, airborne particles). Consequently, these pollutants are the focus of local air quality policy, especially when related to land use and transportation planning. Even with application of measures to reduce emissions for individual projects, cumulative impacts are unavoidable when ozone and/or particulate emissions are involved. For example, the primary source of emissions contributing to ozone is from vehicles. Any project that generates vehicle trips has the potential of contributing incrementally to the problem. The Environmental Impact Report for the *General Plan* acknowledged this dilemma; and as a result, Findings and a Statement of Overriding Considerations were adopted by the City Council for impacts to air quality resulting from growth supported under the *General Plan*.

The City Air Quality Element of the *General Plan* establishes emission-reduction goals of 20 to 25 percent, depending on the projected level of unmitigated emissions for a project. Mitigation thresholds are established for the important regional/local pollutants, including: Reactive Organic Gases (ROG) and Oxides of Nitrogen (NOx), which are ozone precursors, and Inhalable Particulate Matter, 10 Micron (PM_{10}). The mitigation thresholds for these pollutants are tiered at two levels as follows:

Level "A"	**Level "B"**
25 pounds per day of NOx	137 pounds per day of NOx
25 pounds per day of ROG	137 pounds per day of ROG
80 pounds per day of PM_{10}	137 pounds per day of PM_{10}

If a project has unmitigated emissions less than the Level "A" threshold, then it is viewed as a minor project (from an air quality perspective) and only application of Standard Mitigation Measures (SMMs) is required to try to achieve at least a 20 percent reduction in emissions, or the best reduction feasible otherwise. Land uses that generate unmitigated emissions above Level "A" require application of appropriate Best Available Mitigation Measures (BAMMs), in addition to the SMMs, in order to achieve a net emission reduction of 20 percent or more. If, after applying SMMs and BAMMs, a use still exceeds the Level "B" threshold, then a minimum of 25 percent of the unmitigated emissions exceeding 137 pounds per day must be offset by reducing emissions from existing sources of pollution; otherwise, an Environmental Impact Report is required.

Under policy of the Air Quality Element, a project has the potential to impact air quality primarily in two ways: (1) the project would generate vehicle trip emissions (with NOx, ROG, and PM_{10}) that contribute cumulatively to local and regional air quality conditions; and (2) fugitive dust (particulate/PM_{10}) emissions are possible during construction activities. As a residential development the project does not have the potential to generate significant emission concentrations of other pollutants subject to state and federal ambient air quality standards.

Application of Standard Mitigation Measures (SMMs) is required in order to strive toward the *General Plan* policy of a 20 percent reduction in emissions to address small-scale cumulative effects. SMMs applicable to this project address primarily short-term impacts related to construction and are standard development regulations promulgated in the City Grading Ordinance and California Building Code identified below. Application of the SMMs and the application of Best Available Mitigation Measures for NOx emissions as outlined below would reduce the project's potential air quality impacts to a level less than significant.

1. Nontoxic soil stabilizers shall be applied according to manufacturer's specification to all inactive construction areas (previously graded areas inactive for ten days or more).
2. All grading operations shall be suspended when winds (as instantaneous gusts) exceed 20 miles per hour.
3. Temporary traffic control shall be provided as appropriate during all phases of construction to improve traffic flow (e.g., flag person).
4. Construction activities that could affect traffic flow shall be scheduled in off-peak hours.
5. Active construction areas, haul roads, etc., shall be watered at least twice daily or more as needed to limit dust.
6. Exposed stockpiles of soil and other backfill material shall either be covered, watered, or have soil binders added to inhibit dust and wind erosion.
7. All truck hauling solid and other loose material shall be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in accordance with the requirements of CVC Section 23114. This provision is enforced by local law enforcement agencies.
8. All public roadways used by the project contractor shall be maintained free from dust, dirt, and debris caused by construction activities. Streets shall be swept at the end of the day if visible soil materials are carried onto adjacent public paved roads. Wheel washers shall be used where vehicles enter and exit unpaved roads onto paved roads, or trucks and any equipment shall be washed off leaving the site with each trip.
9. Alternatives to open burning of cleared vegetative material on the project site shall be used unless otherwise deemed infeasible by the City Planning Division. Suitable alternatives include, but are not limited to, on-site chipping and mulching and/or hauling to a biomass fuel site.

c) Potential impacts to neighboring homes (sensitive receptors) from fugitive dust caused during construction are mitigated by application of the SMMs discussed above.

d) The project does not involve land use that could generate objectionable odors affecting substantial number of people.

Documentation:
Shasta County APCD Air Quality Maintenance Plan and Implementing Measures
City of Redding General Plan, Air Quality Element
City of Redding General Plan Final Environmental Impact Report, 2000, SCH #1998072103, Chapter 8.6, Air Quality,
CEQA Findings of Fact and Statement of Overriding Considerations for the *City of Redding General Plan Final Environmental Impact Report*, as adopted by the Redding City Council on October 3, 2000, by Resolution 2000-166
City of Redding General Plan Background Report, Chapter 9.7, Natural Resources and Air Quality
California Air Resources Board. 2017. Area designations maps/state and national. http://www.arb.ca.gov/desig/adm/adm.htm

Mitigation:
None necessary.

IV. BIOLOGICAL RESOURCES: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
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 Wildlife or U.S. Fish and Wildlife Service?		**X**		
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 Wildlife or U.S. Fish and Wildlife Service?			**X**	
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?				**X**

IV. **BIOLOGICAL RESOURCES:** *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?		**X**		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			**X**	
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?				**X**

Discussion:

The information below is based on the survey results documented in the Biological Resource Assessment and the Draft Delineation of Aquatic Resources Delineation Studies prepared by Gallaway Enterprises for the project in March of 2023.

a) Plants

The eastern portion of the site and small areas scattered throughout the site are composed of valley oak woodlands. These widely scattered but sparsely occurring on-site woodlands are characterized by an overstory of primarily valley oaks (*Quercus lobata*) and willow (*Salix*) species in the riparian zone.

The eastern border of the site adjacent to the Sacramento River is composed of a valley foothill riparian habitat characterized by an overstory of primarily cottonwood (*Populus fremontii*), California sycamore (*Platanus racemose*), and valley oak (*Quercus lobata*). Subcanopy trees are white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Typical understory shrub layer plants include wild grape, wild rose, California blackberry, blue elderberry, poison oak, buttonbrush, and willows. The herbaceous layer consists of sedges, rushes, grasses, miner's lettuce, douglas sagewort, poison-hemlock, and hoary nettle. The river substrate is composed of cobble and mud, and some vegetation within the banks including cottonwood (*Populus* fremontii), himalayan blackberry (*Rubus* armeniacus), common horsetail (*Equisetum arvense*), and scattered willows (*Salix* sp.).

Annual grassland makes up the majority of the remainder of the site, and also makes up the herbaceous layer of oak-foothill pine woodland found throughout the site. Species observed in the on-site annual grassland include miner's lettuce (*Claytonia perfoliata*), common vetch (*Vicia sativa*), soft chess (*Bromus hordeaceus*), wall barley (*Hordeum murinum*), broadleaf filaree (*Erodium botrys)*, field mustard *(Brassica rapa*), and himalayan blackberry (*Rubus armeniacus*).

The Biological Resource Assessment, which included a protocol-level rare plant survey, concluded that no special-status plant species were observed within the site and that there is no potential for special-status plants to occur. Early consultation with the California Department of Fish and Wildlife representative concurred with this finding. Since the project would have no effect on federal or state listed plant species or their habitats, no mitigation measures are proposed.

In addition, no wetland features or wetland indicators were observed within the project site, although the Sacramento River was identified as "other waters of the United States" (OW). The project would avoid the Sacramento River entirely and there would be no impacts to upstream or downstream aquatic resources. General construction related water-quality concerns would be addressed through the implementation of the site-specific Storm Water Pollution Prevention Plan (SWPPP) and erosion control Best Management Practices required by the City.

Animals

The project site contains or is directly adjacent to potentially suitable habitat for special-status wildlife, including Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, California Central Valley steelhead, green sturgeon,

Pacific lamprey, Pallid bat, Townsend's big eared bat, purple martin, bald eagle, and for avian species protected under the Migratory Bird Act.

Green sturgeon, Chinook, and steelhead are known to occur in the Sacramento River. Pacific lamprey may also occur. The portion of the Sacramento River where the project occurs is used predominately as a migration corridor for adult and juvenile green sturgeon, Chinook and steelhead to reach northerly spawning grounds and facilitate outward migration, but there is potential for spawning to occur. It is also potentially used by juvenile Chinook as an area for refugia during the wet/winter season. It is unknown if juvenile green sturgeon rear or occupy the Redding reach of the Sacramento River. It is also unknown if there is suitable holding habitat for Central Valley spring-run Chinook salmon. It is known that green sturgeon, Chinook and steelhead use this portion of the Sacramento River for migration. No development within the riparian area of the Sacramento River is proposed; development is required to be setback 75 feet from the riparian boundary and 150 feet from top of bank This setback area, or waterway corridor, is also required to be put into an open space easement with the final map. Therefore, the project is expected to have no impact on fish species. However, although not positively identified onsite, special-status bat and bird species have the potential to be affected by development of the project site. This is considered a potentially significant impact. Implementation of Mitigation Measures Bio-1 and Bio-2 below would reduce or eliminate project-associated impacts to special-status wildlife species to less than significant.

b, c) Riverine habitat is characterized by intermittent or continually running water. The Sacramento River flows north to south at the eastern edge of the project site. This river provides aquatic habitat throughout the year. Its substrate is composed of cobble and mud, and some vegetation within the banks including cottonwood (Populus fremontii), Himalayan blackberry (Rubus armeniacus), common horsetail (Equisetum arvense), and scattered willows (Salix sp.). Along with functioning as habitat for fishes and other aquatic species, riverine habitat provides food for waterfowl, herons (Ardeidae sp.), and many species of insectivorous birds, hawks, and their prey. Based on the results of the draft Delineation of Waters of the United States prepared for the project site by Gallaway Enterprises, the Sacramento River is most likely the only jurisdictional feature within the project site. No on-site wetlands were identified.

The Sacramento River is designated as critical habitat for Sacramento River winter-run chinook salmon, Central Valley springrun chinook salmon, green sturgeon, and California Central Valley steelhead. The Sacramento River within the project site is also designated as essential fish habitat for Chinook Salmon species.

Valley Foothill Riparian habitat within the project site may qualify as a sensitive natural community. This habitat appears to have been relatively undisturbed and has grown and spread along the bank of the Sacramento River. However, this habitat is outside of the area proposed for development and will not be impacted. According to a memo from Gallaway Enterprises in response to early consultation with CDFW, the Valley Oak Woodland habitat within the area of the site proposed for development does not meet the CDFW definition of a sensitive natural community. Invasive species are present within the site, there has been regular mowing of the site for decades, the site is surrounded by urbanization, and potentially naturally occurring valley oak woodland habitat has been removed or disturbed by residential development. Because there are currently no CDFW-designated sensitive natural communities within the project site and there will be no impacts to potentially qualifying valley foothill riparian habitat, impacts to sensitive natural communities would be less than significant.

The project will avoid the Sacramento River entirely and there will be no impacts to upstream or downstream aquatic resources and the Biological Resource Assessment concluded that there are no CDFW-designated sensitive natural communities within the project site. General construction related water-quality concerns will be addressed through the implementation of the site-specific Storm Water Pollution Prevention Plan (SWPPP) and erosion control Best Management Practices. Thus, no impact to any riparian habitat or other sensitive natural community would occur and no mitigation is required.

d) The project site is surrounded by existing development to the north, west, and south with the Sacramento River on the east. The project would not develop in or within the waterway corridor setback of the river, thus leaving any functioning of the river as a wildlife corridor intact. The remainder of the site does not serve as a wildlife movement corridor as it does not link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human development. The site contains trees that could be used for nesting migratory birds and bats. Although no special status bird or bat species were observed on the project site during the protocol level field survey, the potential for the project to interfere with an established native resident, migratory wildlife, or native wildlife nursery site is considered a potentially significant impact. Mitigation measures Bio-1, Bio-2, bring those impacts to less than significant.

e) The City has adopted a Tree Management Ordinance (Chapter 18.45 of the RMC) that promotes the conservation of mature, healthy trees in the design of new development. The ordinance also recognizes that the preservation of trees will sometimes conflict with necessary land-development requirements. The City's General Plan EIR further acknowledges that preservation of native trees will sometimes conflict with normal land development and that implementation of the General Plan will ultimately set aside over 7,000 acres of open space, much of which contains oak habitat. But efforts must still be made to retain existing trees if reasonably possible, and to sufficiently plant new trees in the context of the new development. A tree survey is required to identify natural trees and tree groups most suitable for preservation or "candidate trees/groups." Where all identified candidate trees/groups cannot be preserved, the set-aside of a natural area or areas within a project site that is particularly suitable for the planting, retention, and/or natural regeneration of trees is considered to be a desirable means of accomplishing the goals of the ordinance.

   An Amended Tree Inventory Assessment Report (arborist report) was prepared for the project by McEntire Associates dated July 26, 2023. The tree study identified 3 ash, 1 black oak, 1 cherry plum, 1 deodar cedar, 2 fig, 2 ghost pine, 3 live oak, 4 pecan, 2 privet, 1 redwood and 47 valley oak for a total of 68 trees that measured over 6-inches in diameter at breast height. Trees outside of the proposed development along the Sacramento River were not surveyed as they are not in the project area.

   The report concluded that, overall, the trees evaluated for risk assessment are either dead, dying, diseased, or in poor, deteriorating health. Four trees scored good: 2 pecan, 1 redwood, and 1 valley oak, but still had dead dying limbs. Twenty-six trees scored fair; however, nearing a poor state, thirty-six trees scored an eleven or below, representing their indigent condition, and two scored dead and diseased, representing the trees' nonviable state. Although several trees scored fair or nearing, the report also concluded there is a fundamental expectation that the trees will only survive for up to five years post- development. Although less than 20 trees are proposed to be removed, the survey recommends that no trees be formally designated as candidate trees to be saved. Accordingly, City of Redding staff is not recommending the designation of any trees to be candidate trees. Therefore, with the set-aside area along the Sacramento River, the removal of other site trees would be considered a less than significant impact and would not conflict with local Tree Management Ordinance.

f) No habitat conservation plans or other similar plans have been adopted for the area of the project site proposed for development. No impact would occur in this regard.

Documentation:
California Department of Fish and Wildlife: Natural Diversity Data Base
City of Redding General Plan, Natural Resources Element, 2000
City of Redding Municipal Code, Chapter 18.45, Tree Management Ordinance
City of Redding General Plan Environmental Impact Report, 2000, SCH #1998072103
Biological Resource Assessment, Gallaway Enterprises, March 2023
Draft Delineation of Aquatic Resources, Gallaway Enterprises, March 2023
Amended Tree Inventory Assessment Report, McEntire Associates, July 26, 2023
Gallaway Response to California Department of Fish and Wildlife (CDFW), Gallaway Enterprises, September 26, 2023

Mitigation:

MM-Bio-1 To the extent practicable, removal of large trees with cavities shall occur before bat maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). If construction (including the removal of large trees) occurs during the bat non-volant season (March 1 through August 15), a qualified professional shall conduct a pre-construction survey of the study area to locate maternity colonies and identify measures to protect colonies from disturbance. The preconstruction survey will be performed no more than 7 days prior to the implementation of construction activities. If a maternity colony is located within the study area, or adjacent to the study area, a disturbance free buffer shall be established by a qualified professional, in consultation with the California Department of Fish and Wildlife to ensure the colony is protected from project activities.

MM-Bio-2 If vegetation removal or construction activities will occur during the nesting season for migratory birds and raptors (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey 7 days before construction activities begin. If any candidate, sensitive, or special-status nesting birds are found, the California Department of Fish and Wildlife (CDFW) will be notified and consulted. An appropriate buffer, as determined by the CDFW and the qualified biologist, will be placed around the nest until the young have fledged. If construction activities cease for a period greater than 7 days, additional preconstruction surveys will be required.

V. CULTURAL RESOURCES: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?		**X**		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		**X**		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?				**X**

Discussion

a-c) A cultural resources inventory survey was conducted by Gallaway Enterprises for the project site. This included a records search at the Northeast Information Center of the California Historical Resources Information System, consultation with the Native American Heritage Commission and interested Native American representatives, and a pedestrian survey of the project site.

Disturbance to the ground surface is generally consistent throughout the site and has resulted, primarily, from decades of farming and ranching activities, disturbances associated with the construction of an ancillary building associated with a 1973 residence (located off-site) and utilities. Records dating as far back as 1946 show that no buildings or structures where located on the project site until after 1973, at which time a small ancillary shed was installed within the southeastern portion of the site. Although no evidence of historic-era resources was observed within the project site, one prehistoric resource was identified during the investigation. This resource was documented and assigned the temporary designation, "Wyndham 1." The survey finds that Wyndham 1 could have archeological significance. Furthermore, while not performed during the survey, subsurface evaluation in the area of Wyndham 1 could unearth additional historical and/or archeological resources. Therefore, development in the area could substantially change a historical or archaeological resource and is considered to be a potentially significant impact. Implementation of Mitigation Measures MM-CR-1 and MM-CR-2 below would reduce or eliminate project-associated impacts to cultural resources to less than significant.

Documentation:
City of Redding General Plan Background Report, 1998
City of Redding General Plan Final Environmental Impact Report, 2000, SCH #1998072103
Cultural Resources Inventory Survey, Gallaway Enterprises, March 21, 2023

Mitigation:

MM-CR-1 At time of development, the boundary of "Wyndham 1," as discussed in the Cultural Resources Inventory Survey by Gallaway Enterprises dated March 21, 2023, shall be accurately located through survey by a qualified professional archaeologist. Geotechnical cloth shall be placed over "Wyndham 1", and soil fill material compacted to an elevation of at least 12-inches above the ground surface. Soil importation and placement shall be accomplished with a rubber-tired front loader, utilizing a limited path which would minimize any natural soil disturbance. A qualified professional archaeologist shall be present to monitor and direct the placement of both the geotechnical cloth and the imported fill to minimize disturbances within the site boundary. Additionally, once the final residence footprint is located, then additional fill material shall be placed upon the already imported and compacted soils, bringing the elevation of the house pad to approximately 20-inches above the original ground surface.

MM-CR-2 A qualified professional archaeologist shall monitor the excavation of the storm drain discharge pipe trench proposed to be installed approximately 45-feet south of "Wyndham 1" to ensure that any resources inadvertently identified during ground disturbance are offered adequate evaluation opportunities.

VI. Energy: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			**X**	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				**X**

Discussion

a) The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Direct energy use would involve the short-term use of energy for construction activities. Project construction would primarily consume diesel and gasoline through operation of construction equipment, material deliveries, and debris hauling. Construction is estimated to result in a short-term consumption of energy, representing a small demand on local and regional fuel supplies that would be easily accommodated and would be temporary. Long-term use of electricity for residential living, such as lighting, heating, and cooling is expected to be less than significant due to the scale of the project.

b) The project will not conflict with any State or local plans for renewable energy or energy efficiency.

Documentation:
City of Redding General Plan, Air Quality Element, 2000
California Long-Term Energy Efficiency Strategic Plan, 2011
Regional Transportation Plan for Shasta County, 2015

Mitigation:
None necessary.

VII. GEOLOGY AND SOILS: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
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 Publications 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?			**X**	
b) Result in substantial soil erosion or the loss of topsoil?			**X**	
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?			**X**	

VII. GEOLOGY AND SOILS: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
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?				**X**
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 waste water?				**X**
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				**X**

Discussion:

a, c) There are no Alquist-Priolo earthquake faults designated in the Redding area of Shasta County. There are no other documented earthquake faults in the immediate vicinity that pose a significant risk, and the site is located in an area designated in the Health and Safety Element of the *General Plan* as having a low ground-shaking potential. The project is not located on or near any documented landslide hazard areas, and there is no evidence of ground slippage or subsidence occurring naturally on the site. The type of soils and underlying geology is identified as having no potential for liquefaction. Although a portion of the site falls within the 100-year floodplain of the Sacramento River, that area is not developable per the City of Redding Municipal Code. All buildings will be required to be setback 30-feet from the FEMA floodline.

b, d) The project site contains three primary soil classifications: Reiff fine sandy loam, 0 to 3 percent slopes, Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes, and cobbly alluvial land. Reiff fine sandy loam, 0 to 3 percent slopes is well drained and has moderately rapid permeability. Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes is similar to Reiff fine sandy loam, 0 to 3 percent except that very gravelly sand is at a depth of more than 60 inches and the content of gravel is 15 to 35 percent in the surface layer. It is well drained with moderately rapid permeability in the upper part and very rapid permeability in the very gravelly sand substratum. Runoff is slow and the hazard of erosion is none to slight. Cobbly alluvial land consists of very gravelly, very cobbly, or very stony course textured alluvium. It is excessively drained and has very rapid permeability. Runoff is very slow and the hazard of erosion and deposition is moderate. Neither Reiff fine sandy loam, Reiff gravelly fine sandy loam, nor cobbly alluvial land are considered to be expansive soils. No substantial direct or indirect risks to life or property due to the presence of expansive soils are expected.

The project is subject to certain erosion-control requirements mandated by existing City and State regulations. These requirements include:

- *City of Redding Grading Ordinance.* This ordinance requires the application of "Best Management Practices" (BMPs) in accordance with the City Erosion and Sediment Control Standards Design Manual (Redding Municipal Code Section 16.12.060, Subsections C, D, E). In practice, specific erosion-control measures are determined upon review of the final project improvement plans and are tailored to project-specific grading impacts.
- *California Regional Water Quality Board "Construction Activity Storm Water Permit.*" This permit somewhat overlaps the City's Grading Ordinance provision by applying state standards for erosion-control measures during construction of the project.
- *California Regional Water Quality Control Board "Project Storm Water Pollution Prevention Plan (SWPPP).*" This plan emphasizes stormwater best management practices and is required as part of the Construction Activity Storm Water Permit. The objectives of the SWPPP are to identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and to describe and ensure the implementation of practices to reduce sediment and other pollutants in stormwater discharges.

Actions for compliance with these regulations are addressed under standard conditions of approval, which are uniformly applied to all land development projects. Since the project is subject to uniformly applied ordinances and policies and the overall risk of erosion is low, potential impacts related to soil erosion and sedimentation are less than significant.

e) The proposed project does not involve the use of septic tanks or alternative wastewater disposal. No impact has been identified.

f) No unique geologic features, fossil-bearing strata, or paleontological sites are known to exist on the project site. No impact is anticipated.

Documentation:
City of Redding Health and Safety Element, figures 4-1 (Ground Shaking Potential) and 4.2 (Liquefaction Potential)
City of Redding General Plan Final Environmental Impact Report
City of Redding General Plan Background Report, 1998
City of Redding Grading Ordinance, RMC Chapter 16.12
City of Redding Standard Specifications, Grading Practices
City of Redding Standard Development Conditions for Discretionary Approvals
Soil Survey of Shasta County Area, United States Department of Agriculture, Soil Conservation Service and Forest Service, August 1974
Division of Mines and Geology Special Publication 42
State Regional Water Quality Control Board, Central Valley Region, Regulations related to Construction Activity Storm Water Permits and Storm Water Pollution Prevention Plans

Mitigation:
None necessary.

VIII. GREENHOUSE GAS EMISSIONS: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			**X**	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				**X**

Discussion:

a) In 2005, the Governor of California signed Executive Oder S-3-05, establishing that it is the State of California's goal to reduce statewide greenhouse gas (GHG) emission levels. Subsequently, in 2006, the California State Legislature adopted Assembly Bill AS 32, the California Global Warming Solutions Act. In part, AB 32 requires the California Air Resources Board to develop and adopt regulations to achieve a reduction in the State's GHG emissions to year 1990 levels by year 2020.

California Senate Bill SB97 established that an individual project's effect on GHG emission levels and global warming must be assessed under CEQA. SB97 further directed that the State Office of Planning and Research (OPR) develop guidelines for the assessment of a project's GHG emissions. Those guidelines for GHG emissions were subsequently included as amendments to the CEQA Guidelines. The guidelines did not establish thresholds of significance and there are currently no state, regional, county, or city guidelines or thresholds with which to direct project-level CEQA review. As a result, the City of Redding has utilized the best available information to develop a threshold until a specific quantitative threshold is adopted by the state or regional air district.

As the Lead Agency, the City has opted to utilize a quantitative non-zero project-specific threshold using a methodology recommended by the California Air Pollution Officers (CAPCOA) and accepted by the California Air Resources Board. According to CAPCOA's *Threshold 2.3, CARB Reporting Threshold,* 10,000 metric tons of carbon-dioxide equivalents per year (mtCO2eq/yr) is recommended as a quantitative non-zero threshold. According to the CAPCOA, this threshold would be equivalent to 550 dwelling units, 400,000 square feet of office use, 120,000 square feet of retail, or 70,000 square feet of supermarket use. This approach is estimated to capture over half the future residential and commercial development projects and is designed to support the goals of AB 32 and not hinder it.

The United States Environmental Protection Agency (EPA) identifies four primary constituents that are most representative of the GHG emissions. They are:

- **Carbon Dioxide (CO_2):** Emitted primarily through the burning of fossil fuels. Other sources include the burning of solid waste and wood and/or wood products and cement manufacturing.
- **Methane (CH_4):** Emissions occur during the production and transport of fuels, such as coal and natural gas. Additional emissions are generated by livestock and agricultural land uses, as well as the decomposition of solid waste.
- **Nitrous Oxide (N_2O):** The principal emitters include agricultural and industrial land uses and fossil fuel and waste combustion.
- **Fluorinated Gases:** These can be emitted during some industrial activities. Also, many of these gases are substitutes for ozone-depleting substances, such as CFC's, which have been used historically as refrigerants. Collectively, these gases are often referred to as "high global-warming potential" gases.

The primary generators of GHG emissions in the United States are electricity generation and transportation. The EPA estimates that nearly 85 percent of the nation's GHG emissions are comprised of carbon dioxide (CO_2). The majority of CO_2 is generated by petroleum consumption associated with transportation and coal consumption associated with electricity generation. The remaining emissions are predominately the result of natural-gas consumption associated with a variety of uses.

With regard to the project, the predominant associated GHG is CO_2 generated by motor-vehicle travel to and from the site. To a substantially lesser degree, the project will result in CH_4 emissions associated with use of electric power generated by the Redding Electric Utility (REU), though it should be noted that REU distributes power from a variety of sources, including hydroelectric, wind, and natural gas.

Given the scope and nature of the proposed project compared to that of similar projects, emissions from the project would be significantly below the thresholds put forth by CARB, as well as the City's air-quality thresholds. Therefore, the project would not contribute significantly to GHG emissions in the air basin. Additionally, the City and State's construction standards and BMPs, including Air Quality SSM 1 through 9 (listed in Section III, Air Quality, above), will be used during construction to further limit any potential contribution to negative impacts from GHG emissions. The project's direct or indirect impact on measurable GHGs in the Redding area would be less than significant.

On a larger scale, the City of Redding's General Plan acknowledges that land use decisions have an impact on climate and air quality. Land use decisions that result in low or very low density on the periphery of the community increase the amount of vehicle-miles traveled (VMT), which increases vehicle emissions. In response to this impact, the City's *General Plan* includes a number of goals and policies in the Community Development and Design Element, Transportation Element, and Housing Element that promote a compact urban form and encourage infill development, advocate higher housing density, and ensure connectivity to citywide bikeways and pedestrian plans. The goal of these policies is to reduce VMT, which also reduces emissions and reduces a wide variety of air quality impacts. Since automobiles are considered a major source of GHG emission, each vehicle trip reduced also reduces GHG emissions.

b) The project would not conflict with any applicable plan, policies, or regulations adopted to reduce GHG emission. As noted, in "a" above, the project is in conformance with the City's air quality policies and thresholds, and with state guidelines and regulations, and Standard Mitigation Measures listed in Section III Air Quality, above. The proposed project would have no impact on any plans, policies, or regulations related to GHG emissions.

Documentation:
City of Redding General Plan, 2000
CPCOA website, July 19, 2010
California Office of the Attorney General, "The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level," updated January 6, 2010.

Mitigation:
None necessary.

IX. HAZARDS AND HAZARDOUS MATERIALS: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			**X**	

IX. HAZARDS AND HAZARDOUS MATERIALS: *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?			**X**	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			**X**	
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?				**X**
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?			**X**	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				**X**
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?			**X**	

Discussion:

a, b, c, d) The nature of the project as a residential subdivision does not present a significant risk related to hazardous materials or emissions. There are no documented hazardous material sites located on or near the project.

e) While the project site is located within two miles of the Benton Airpark, it is outside of any airport clear zones as well as being over one mile away from the airport's 55 decibel noise contour. Due to its distance from Benton Airpark, the project would not result in a safety hazard or excessive noise for people residing or working in the project area with regards to airport proximity and there would be no significant impact on public safety.

f) The project does not involve a use or activity that could interfere with emergency-response or emergency-evacuation plans for the area.

g) The project site is located outside of the very high fire hazard severity zone and proposes to develop the majority of the area associated with wildlands on the site. The majority of the site has been disturbed in the past and is surrounded on three sides by developed residential lots. Furthermore, the project will need to comply with all fire safety regulations included in the standard conditions of approval and in the City of Redding Municipal Code. The project is expected to have a less than significant wildland fire-hazard potential.

Documentation:
City of Redding General Plan, Health and Safety Element, 2000

Mitigation:
None necessary.

X. **HYDROLOGY AND WATER QUALITY:** *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
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;			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			X	
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; or			X	
iv) Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

Discussion:

a) Since the project would be served by City sanitary sewer service, the project would not involve any permitted discharges of waste material into ground or surface waters. Construction and operation of the project would not violate any water quality standards established by the Central Valley Regional Water Quality Control Board (RWQCB) in its Basin Plan for the Sacramento River and San Joaquin River Basins. Water pollution best management practices are required and will be incorporated into the improvement plans for the project. The City's construction standards require that all projects prepare an erosion and sediment control plan (ESCP) prior to construction to address water pollution control. The ESCP will ensure that water quality standards are not substantially affected by the project during construction.

b) The project would utilize municipal water service for domestic uses and fire protection. The proposed project would have no significant impact on groundwater supplies or groundwater recharge.

c) The project is subject to standard requirements discussed under Section VII., *Geology and Soils*. The final improvement plans for the project must also incorporate specific design measures intended to limit pollutant discharges in stormwater from urban improvements as established under the State's National Pollutant Elimination System (NPDES) general permit, which the City is now obligated to follow in accordance with State Water Quality Control Order No. 2003-0005-DWQ. Feasible Best Management Practices (BMPs) would be incorporated in the final design of the project's storm-drain system, as approved by the City Engineer, based on the BMPs listed in the latest edition of the California Storm Water Quality Association Storm Water Best Management Practices Handbook.

City of Redding Policy 1806 requires that subdivision developments maintain the existing pre-development peak runoff rates during a 10-, 25-, and 100-year storm event. In the case of development with close proximity to the Sacramento River, it is advantageous for the peak flow from the development to leave the site before the peak flow from the Sacramento River occurs. Detention could cause the peak flow leaving the site to coincide with the peak flow in the River, thus increasing peak flows

downstream. Allowing the peak flow from the site is optimal as it meets the goal of maintaining existing predevelopment rates of runoff during storm events. Areas directly adjacent to the river would naturally drain to the river with little to no time for the ground and environment to naturally detain the run-off.

d) While a portion of the site is in the flood plain of the Sacramento River, the area planned for development is not in a flood hazard zone. The project site is not located in a tsunami or seiche zone.

e) The project would not conflict with a water quality control plan or groundwater management plan.

Documentation:
City of Redding General Plan Background Report, Chapter 10, Health and Safety Element, 1998
Federal Emergency Management Agency Floodplain regulations, FIRM Map Number 06089C1545G, dated March 17, 2011
City of Redding Storm Drain Master Plan, Montgomery-Watson Engineers 1993

Mitigation:
None necessary.

XI. LAND USE AND PLANNING: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Physically divide an established community?				**X**
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				**X**

Discussion:

a) The project does not have the potential to physically divide an established community.

b) The project is compatible with the applicable policies and regulations of the City General Plan and Zoning Ordinance and is not in conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Documentation:
City of Redding General Plan, Community Development Element, 2000
City of Redding General Plan Environmental Impact Report, 2000, SCH #1998072103
City of Redding General Plan, Natural Resources Element, 2000

Mitigation:
None necessary.

XII. MINERAL RESOURCES: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
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?				**X**
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?				**X**

Discussion:

a, b) The project site is not identified in the General Plan as having any known mineral-resource value or as being located within any "Critical Mineral Resource Overlay" area.

Documentation:
City of Redding General Plan, Natural Resources Element, 2000

Mitigation:
None necessary.

XIII. NOISE: *Would the project result in:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) 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?			**X**	
b) Generation of excessive ground-borne vibration or ground-borne noise levels?				**X**
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?			**X**	

Discussion:

a, b) Due to the nature of the project as a residential subdivision, it would not result in a permanent increase in ambient noise levels and would not result in generation of excessive ground-borne vibration or ground-borne noise levels.

During the construction of the proposed project, there will be a temporary increase in noise in the project vicinity above existing ambient noise levels. The most noticeable construction noise will be related to grading, utility excavation, and land-clearing activity. The City's Grading Ordinance (RMC Chapter 16.12.120.H) limits grading-permit-authorized activities to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday. No operations are allowed on Sunday. Since heavy construction work associated with the project is limited in scope and by existing regulation, the anticipated noise impact to neighboring properties is considered less than significant.

c) The project is not located within the vicinity of a private airstrip or airport, is not in an airport land use plan. While it is within two miles of Benton Airpark, the project is well outside of its 55-decibel noise contour.

Documentation:
City of Redding General Plan, Noise Element, 2000
City of Redding Grading Ordinance Redding Municipal Code, Section 16.12.120
City of Redding General Plan, Transportation Element, 2000
City of Redding Zoning Ordinance Redding Municipal Code, Section 18.40.100
City of Redding Municipal Airport Area Plan

Mitigation:
None necessary.

XIV. POPULATION AND HOUSING: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
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)*?				**X**
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				**X**

Discussion:

a, b) The project would create opportunity for the construction of new homes as planned and anticipated by the Redding *General Plan*. The project is similar in character to that of the surrounding area. The project would not induce unplanned population growth and does not propose the extension of any new roads or utilities not anticipated by the *General Plan*. The project does not displace people or housing as the site is vacant. The project will be providing housing.

Documentation:
City of Redding General Plan, Housing Element, 2014

Mitigation:
None necessary.

XV. PUBLIC SERVICES: *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 any of the public services:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
Fire Protection?			**X**	
Police Protection?			**X**	
Schools?			**X**	
Parks?			**X**	
Other public facilities?			**X**	

Discussion:

Fire and Police Protection:

The City would provide police and fire protection to the project from existing facilities and under existing service levels. The size of the project would not mandate the need for additional police or fire facilities.

The project is subject to Chapter 16.20 of the Redding Municipal Code, which requires new development to pay a citywide fire facilities-impact fee calculated to mitigate a project's fair share of cumulative impacts to the City's fire-protection infrastructure based upon improvements necessary to accommodate new development under the City's *General Plan*.

Schools:

The project is located in the Redding Elementary School District and the Shasta Union High School District and may contribute to the total student enrollment in these districts. However, a school-facility impact (in-lieu) fee exists, as provided under State law that is paid prior to the issuance of a building permit for each residential unit to address school-facility funding necessitated by the effects of growth citywide.

Parks:

The project will not cause a physical deterioration of an existing park facility or cause an adverse physical impact associated with a new park facility. The project is subject to Chapter 16.20 of the Redding Municipal Code, which requires new residential development to pay a citywide park and recreation-facilities impact fee calculated to mitigate a project's fair share of cumulative impacts to the City's parks and recreation infrastructure based upon improvements necessary to accommodate new development under the City's General Plan. See discussion under Item XVI (Recreation) below.

Other public facilities:

See discussion under Item XIX (Utilities and Service Systems) below.

Documentation:
City of Redding General Plan, Public Facilities Element, 2000

Mitigation:
None necessary.

XVI. RECREATION:	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Would the project 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?			**X**	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				**X**

Discussion:

a) The project will not cause a physical deterioration of an existing recreation facility or cause an adverse physical impact associated with a new recreation facility. Chapter 17.42 of the City's Subdivision Ordinance, *Park and Recreational Land Dedications* and *In-Lieu Fees*, requires that as a condition of approval of a tentative map, a subdivider shall either dedicate land or pay a fee in lieu thereof for park or recreation purposes. In accordance with state subdivision law, only projects containing 50 or more lots may be *required* to dedicate land for park development. The proposed subdivision would not meet that threshold.

b) The project does not propose any recreational facilities or require construction or expansion of facilities. There would not be any potentially significant impacts to recreation associated with the project.

Documentation:
City of Redding General Plan, Natural Resources Element, 2000
City of Redding General Plan, Recreation Element, 2000
City of Redding General Plan, Public Facilities Element, 2000

Mitigation:
None necessary.

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

Discussion:

a) Access to the subdivision would be derived from Wyndham Lane. While the additional development would normally trigger additional improvements along a large segment of Wyndham Lane, these improvements are already required of and bonded for with the neighboring Rio subdivision. The City's Traffic Engineer has determined that the number of average vehicle trips that would be generated with development of the project would not trigger any requirements in addition to what is already required by that neighboring project.

b) The potential for the project to conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) was evaluated based the project's anticipated Vehicle Miles Traveled (VMT). Senate Bill (SB) 743 established VMT as the metric to be applied for determining transportation impacts associated with development projects. Like many other jurisdictions in California, the City of Redding has not yet adopted a policy or thresholds of significance regarding VMT so the project-related VMT impacts were assessed based on guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Technical Advisory on Evaluating Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018. This document identifies several criteria that may be used by jurisdictions to identify certain types of projects that are unlikely to have a VMT impact and can be "screened" from further VMT analysis. Additionally, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact. As stated above, the City's Traffic Engineer has determined that the number of average vehicle trips that would be generated with development of the project would not have the potential to cause a significant impact. The project would not conflict with any program, plan, ordinance, or policy addressing the circulation system. Therefore, the project will not conflict with CEQA guidelines section 15064.3(b).

c) The new street proposed with the project does not include sharp curves or dangerous intersections. Such hazardous design features are not proposed by or required from the project. The site is in an area zoned for residential development. The entering and exiting of vehicles such as cars, pickup trucks, and recreational vehicles is an existing condition that is expected for this area. No significant increase in transportation related hazards is expected.

d) Access to the site is provided by way of Wyndham Lane. The Redding Fire Marshal has deemed this to be adequate access for emergency vehicles and fire protection.

General Plan Health and Safety Policies HS4J and HS4I generally require that residential neighborhoods having 50 or more dwelling units have at least two points of public-street access and that cul-de-sac or dead-end street lengths not exceed 600 feet. The project is under the 50-lot threshold for a second access. While it has a dead-end street with a length of approximately 720- feet, new requirements for mandatory fire sprinkler installation in all new residential units negates the need for the 600-foot threshold. Therefore, the project complies with *General Plan* Policy.

Documentation:

City of Redding General Plan, Transportation Element, 2000
City of Redding General Plan Environmental Impact Report, 2000, SCH #1998072103
City of Redding Parks, Trails, and Open Space Master Plan, 2018
City of Redding Traffic Impact Fee Program
City of Redding Active Transportation Plan, 2018
Redding Area Bus Authority System Map and Route Guide, October 2000

Mitigation:
None necessary.

XVIII. TRIBAL CULTURAL RESOURCES: *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				**X**
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, , the lead agency shall consider the significance of the resource to a California Native American tribe.				**X**

Discussion:

a) The California Register of Historical Resources and survey records of Shasta County maintained at the Northeast Information Center were consulted and evaluated as a part of a Cultural Resources Inventory Survey completed by Genisis Society for the project. The report concludes that, apart from "Wyndham 1" as discussed under Item V (Cultural Resources), no historic properties, significant historical resources, or unique archaeological resources are located within the project site and does not identify the project site as being listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.

However, the survey does recommend Wyndham 1 for eligibility for inclusion on the National Register of Historic Places as a prehistoric cultural resource since it has the potential, with further investigation, to yield information important in prehistory or history. Archaeological sites containing buried cultural deposits related to Native American use typically document protracted habitation and/or performance of a range of domestic activities. For these reasons, further research at such sites frequently has the potential to expand the understanding of local and regional prehistory in various research domains. Such sites are therefore routinely considered significant cultural resources under Criterion d) in Public Resources Code Section 15064.5. Mitigation Measures MM-CR-1 and MM-CR-2 in place, as discussed in the Cultural Resources section of this initial study address this potentially significant issue. Lead Agency staff, however finds that this project would not cause a substantial adverse change in the significance of a potential tribal cultural resource.

b) Consultation was undertaken with the Native American Heritage Commission (NAHC) regarding sacred land listings for the property. An information request letter was delivered to the NAHC on February 17, 2023. The NAHC responded with a letter dated March 2, 2023, indicating that a search of their Sacred Lands files returned negative results. Letters were delivered on March 10, 2023, to all representatives on the NAHC contact list, and all those contacted were requested to supply any information they might have concerning prehistoric sites or traditional use areas within, adjacent or near the project area. To date, no responses have been received from the contacted parties. The Lead Agency referred the project to the appropriate tribal entities in accordance with Assembly Bill AB52 and no request for consultation was received.

Documentation:

Letters sent to Redding Rancheria and the Wintu Tribe of Northern California, April 24, 2023
Cultural Resources Inventory Survey, Genesis Society, March 21, 2023

Mitigation:

See Item V, *Cultural Resources*

XIX. UTILITIES AND SERVICE SYSTEMS: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities , the construction or relocation of which could cause significant environmental effects?				**X**
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				**X**
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?				**X**
d) Generate solid waste in excess of State or local standards, or infrastructure, or otherwise impair the attainment of solid waste reduction goals?				**X**
e) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				**X**

Discussion:

a) The proposed development does not generate the need for relocation or construction of new or expanded water or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities.

b) Potable water is available from the City to serve the project with adequate pressure and flows for fire suppression. The demands of the project can be accommodated within the City's existing water resources. Sufficient water supplies are available to serve the project and reasonably foreseeable future development during normal, dry, and multiple day years.

c) The project will utilize the City's sanitary sewer system to dispose of wastewater. Adequate sewer capacity and wastewater treatment is available in the City's existing system.

d) The project would not generate solid waste in excess of State or local standards, or infrastructure, or otherwise impair the attainment of solid waste reduction goals. The City provides solid waste disposal (curbside pick-up) service, which homes in the subdivision would utilize. Adequate capacity is available to serve the needs of the project without need of special accommodation.

e) The project will comply with Federal, State, and local management and reduction statutes and regulations related to solid waste. The City regulates and operates programs that promote the proper disposal of toxic and hazardous materials from households, including those created by the project.

Documentation:
City of Redding General Plan, Public Facilities Elements, 2000
City of Redding Water and Sewer Atlas

Mitigation:
None necessary.

XX. WILDFIRE: *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation Plan?				**X**
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose projects occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?				**X**
c) Require installation or maintenance of associated infrastructure (such as roads, fuel sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				**X**
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result, post-fire slope instability, or drainage changes?				**X**

Discussion:

a) The project site is not located within the Very High Fire Severity Zone and is not adjacent to areas with significant fuel loads. Furthermore, it would not impair an emergency response plan or emergency evacuation plan.

b) The project site is surrounded on three sides by existing development and is located in an area with relatively flat topography. It is outside of a high fire severity zone and is in an area adjacent to riparian habitat and the Sacramento River. The project would not exacerbate wildfire risks or expose project occupants to pollutant concentrations from a wildfire.

c) The project would not require the installation or maintenance of any roads, fuel sources, power lines or other utilities that could exacerbate wildfire risks. The road proposed by the project would be short and located in an urbanized area while any power lines would be installed underground. The site is located in an area that is already adequately served by utilities and improvements. It would not require the installation of any additional off-site utilities or access roads through vegetated lands or wildlands.

d) The project is not in an area with slopes and would not result in post-fire slope instability. Proper site drainage to storm drain infrastructure is proposed and required with development. Therefore, the project would not expose people or structures to downstream flooding or landslides.

Documentation:
CalFire, Fire Hazard Severity Zone Maps, Shasta County, 2008

Mitigation:
None necessary.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 the 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?		X		
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)?			X	
c) Does the project have potential environmental effects which may cause substantial adverse effects on human beings, either directly or indirectly?				X

Discussion:

Based on the analysis undertaken as part of this Initial Study, the following findings can be made:

a) As discussed under Item IV, *Biological Resources*, the Sacramento River borders the eastern edge of the site and the waterway corridor, including the adjacent area of Valley Foothill Riparian habitat is required to be put into an open space easement with the final map. Therefore, the project is expected to have no impact on fish species in the Sacramento River. However, if unmitigated, the project has the potential to impact special status animal species (pallid bat, Townsend's big-eared bat) as well as species of migratory birds and raptors. Mitigation Measure Bio-1 and Bio-2 are established to reduce potential impact to less than significant. The project has the potential to degrade wildlife habitat in general due to erosion and sedimentation resulting from grading and construction of project infrastructure. However, the project conditions as identified under *Hydrology/Water Quality* have been established to reduce potential impacts to a level less than significant.

b) As discussed in Item III, the project will contribute to regionwide cumulative air quality impacts. However, under policy of the *General Plan*, application of Standard Mitigation Measures (SMMs) and Best Available Mitigation Measures (BAMMS) will reduce potential impacts from this project to a level less than significant.

c) As discussed herein, the project does not have characteristics which could cause substantial adverse effects on human beings, either directly or indirectly. One prehistoric cultural resource was identified within the project site, however, with Mitigation Measures MM-CR-1 and MM-CR-2 below the project would not cause a substantial adverse impact.

Documentation:
See all Sections above.

Mitigation:

MM-Bio-1 To the extent practicable, removal of large trees with cavities shall occur before bat maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). If construction (including the removal of large trees) occurs during the bat non-volant season (March 1 through August 15), a qualified professional shall conduct a pre-construction survey of the study area to locate maternity colonies and identify measures to protect colonies from disturbance. The preconstruction survey will be performed no more than 7 days prior to the implementation of construction activities. If a maternity colony is located within the study area, or adjacent to the study area, a disturbance free buffer shall be established by a qualified professional, in consultation with the California Department of Fish and Wildlife to ensure the colony is protected from project activities.

MM-Bio-2 If vegetation removal or construction activities will occur during the nesting season for migratory birds and raptors (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey 7 days before construction activities begin. If any candidate, sensitive, or special-status nesting birds are found, the California Department of Fish and Wildlife (CDFW) will be notified and consulted. An appropriate buffer, as determined by the CDFW and the qualified biologist, will be placed around the nest until the young have fledged. If construction activities cease for a period greater than 7 days, additional preconstruction surveys will be required.

MM-CR-1 At time of development, the boundary of "Wyndham 1," as discussed in the Cultural Resources Inventory Survey by Gallaway Enterprises dated March 21, 2023, shall be accurately located through survey by a qualified professional archaeologist. Geotechnical cloth shall be placed over "Wyndham 1", and soil fill material compacted to an elevation of at least 12-inches above the ground surface. Soil importation and placement shall be accomplished with a rubber-tired front loader, utilizing a limited path which would minimize any natural soil disturbance. A qualified professional archaeologist shall be present to monitor and direct the placement of both the geotechnical cloth and the imported fill to minimize disturbances within the site boundary. Additionally, once the final residence footprint is located, then additional fill material shall be placed upon the already imported and compacted soils, bringing the elevation of the house pad to approximately 20-inches above the original ground surface.

MM-CR-2 A qualified professional archaeologist shall monitor the excavation of the storm drain discharge pipe trench proposed to be installed approximately 45-feet south of "Wyndham 1" to ensure that any resources inadvertently identified during ground disturbance are offered adequate evaluation opportunities.

List of Attachments

Attachment A
Figure 1 – Location Map
Figure 2 – Tentative Subdivision Map

Attachment B
Biological Resource Assessment

Attachment C
Draft Delineation of Aquatic Resources and supporting delineation map.

Attachment D
Amended Tree Inventory Assessment Report

Attachment E
Gallaway Response to California Department of Fish and Wildlife (CDFW).

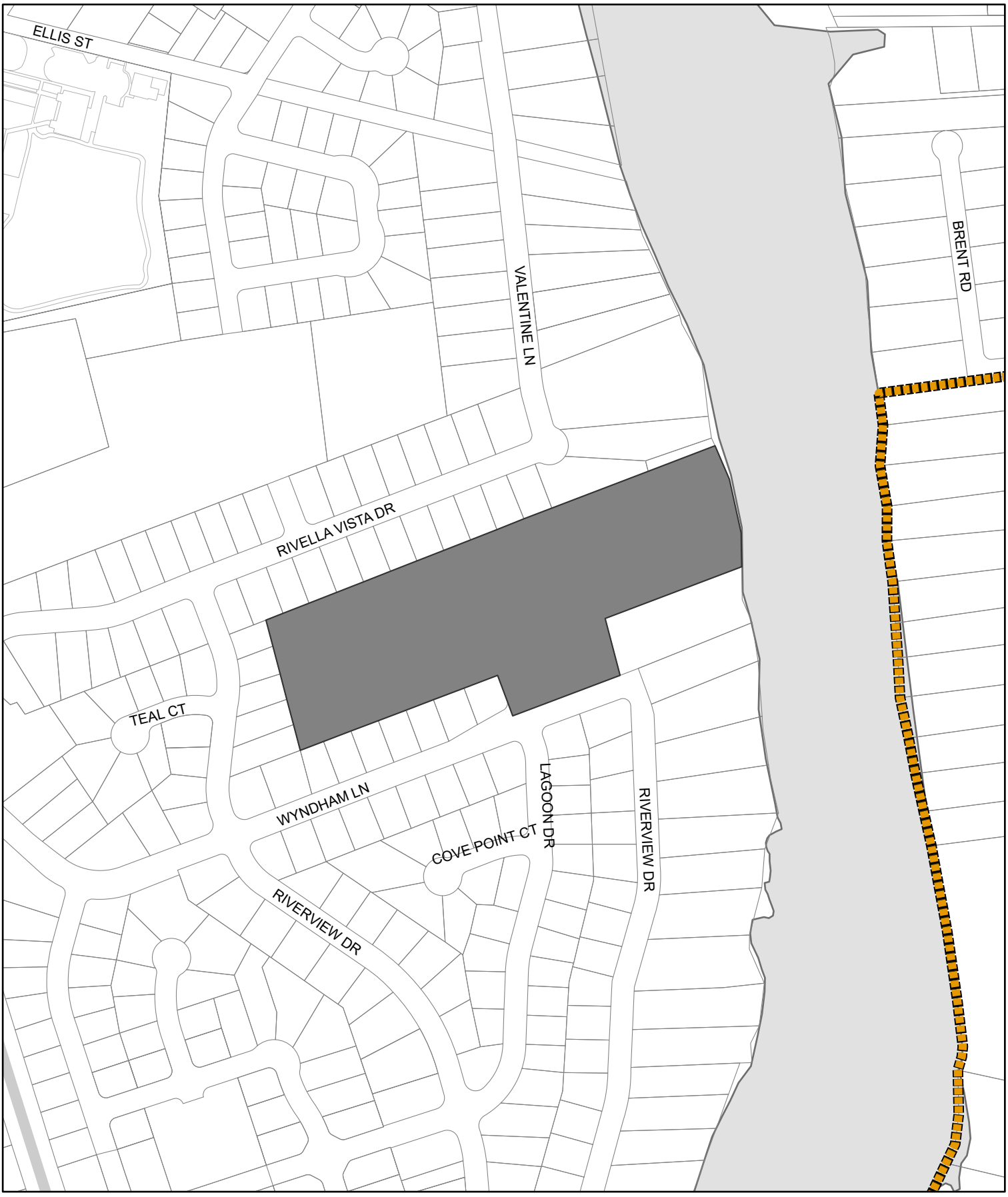
Attachment F
Cultural Resources Inventory Survey

Attachment G
Letters sent to the Redding Rancheria and the Wintu Tribe of Northern California.

Attachment A

Figure 1 – Location Map

Figure 2 – Project Site Plan



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GIS DIVISION
INFORMATION TECHNOLOGY DEPARTMENT

DATE PRODUCED:
APRIL 12, 2023

0 200 400 Feet

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LOCATION MAP

S-2023-00582
THE RIVER SUBDIVISION
2980 WYNDHAM LANE
AP# 048-500-048

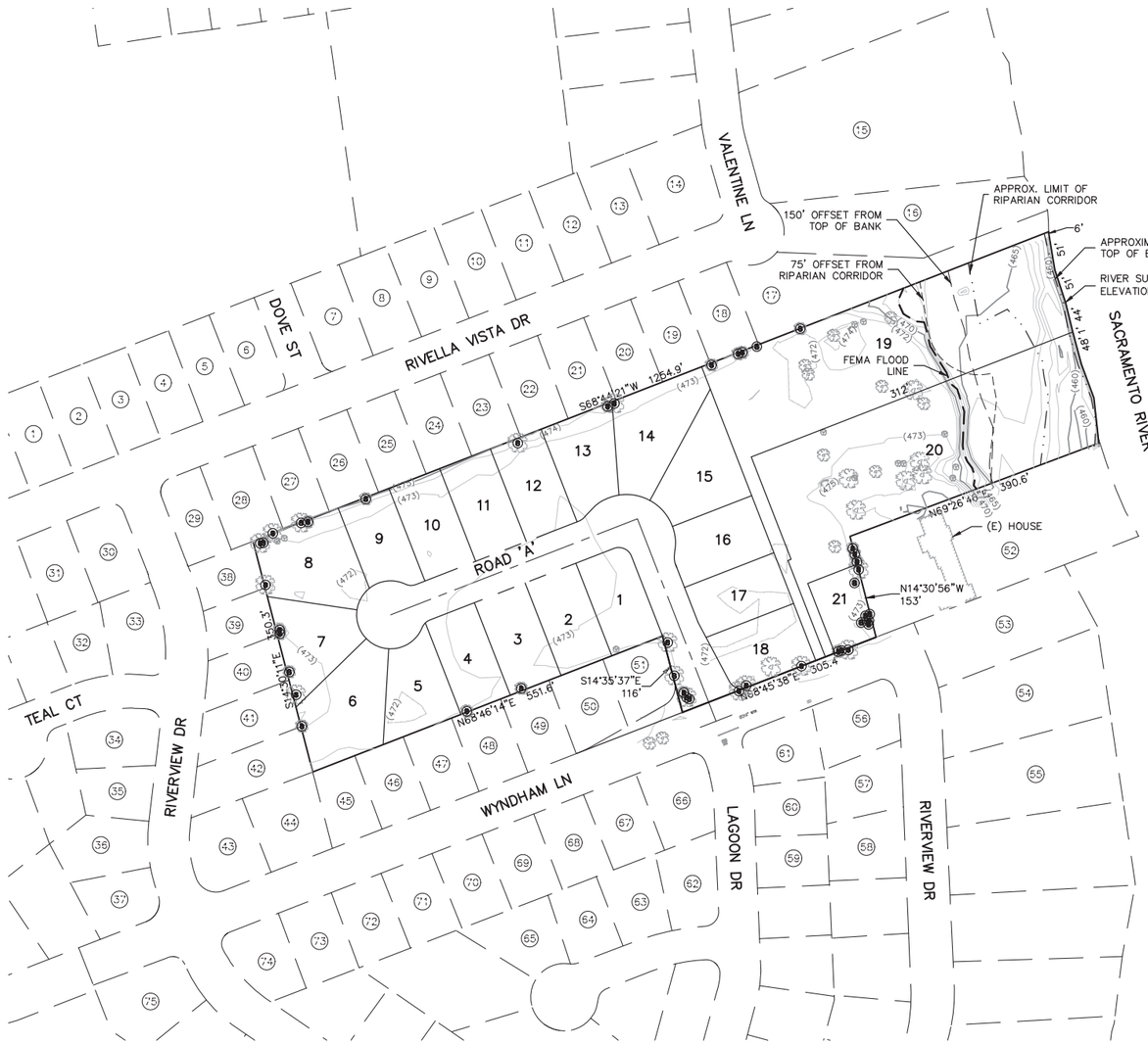
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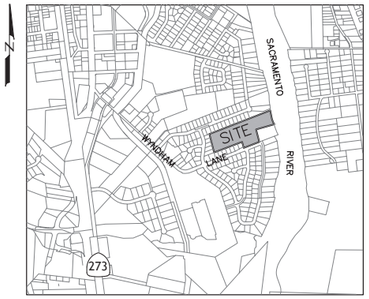
ITEM:

ATTACHMENT:

ADJACENT LAND OWNERS

1	048-490-031 DITTMAN 518 RIVELLA VISTA DR REDDING, CA 96001	26	048-500-013 SILVEIRA REV TRUST 403 RIVELLA VISTA DR REDDING, CA 96001	51	048-500-043 RICHARDS PO BOX 492711 REDDING, CA 96049
2	048-500-015 PUSTAY 506 RIVELLA VISTA DR REDDING, CA 96001	27	048-500-014 CROWLEY 419 RIVELLA VISTA DR REDDING, CA 96001	52	DATA NOT AVAILABLE
3	048-500-016 BUTTON 1180 JAXON WAY REDDING, CA 96001	28	048-490-032 MCPHERSON 2825 VISTA VERDE DR REDDING, CA 96001	53	048-100-027 EATON PROPERTY TRUST 3395 RIVERVIEW DR REDDING, CA 96001
4	048-500-017 ATKINS 462 RIVELLA VISTA DR REDDING, CA 96001	29	048-490-033 LANDIS 481 RIVELLA VISTA DR REDDING, CA 96001	54	048-100-026 WESTBERG FAMILY TRUST 3405 RIVERVIEW TRUST REDDING, CA 96001
5	048-500-018 SPANHEIMER 438 RIVELLA VISTA DR REDDING, CA 96001	30	048-490-034 BLOMQUIST REVOCABLE TRUST 4092 RIVERVIEW DR REDDING, CA 96001	55	048-100-025 BERG REVOCABLE TRUST 3415 RIVERVIEW DR REDDING, CA 96001
6	048-500-019 SIMMONS FAMILY TRUST 414 RIVELLA VISTA DR REDDING, CA 96001	31	048-490-035 ARNDT 521 RIVELLA VISTA DR REDDING, CA 96001	56	048-470-014 SMITH 3400 RIVERVIEW DR REDDING, CA 96001
7	048-500-020 GLEW 392 RIVELLA VISTA DR REDDING, CA 96001	32	048-490-008 MARKS SURVIVORS TRUST 2774 TEAL CT REDDING, CA 96001	57	048-470-015 PETERSON 3410 RIVERVIEW DR REDDING, CA 96001
8	048-500-021 KINNEY TRUST 2020 3435 RIVERVIEW DR REDDING, CA 96001	33	048-490-009 CATON 2796 TEAL CT REDDING, CA 96001	58	048-470-016 SEALANDER 3420 RIVERVIEW DR REDDING, CA 96001
9	048-500-022 LI JUN REV LIVING TRUST 3085 SIERRA MADRE DR REDDING, CA 96002	34	048-490-013 CURRIE FAMILY TRUST 2775 TEAL CT REDDING, CA 96001	59	048-470-048 HAYES FAMILY TRUST 3425 LAGOON DR REDDING, CA 96001
10	048-500-023 FARLEY FAMILY TRUST 7972 SANS SOUCI DR REDDING, CA 96001	35	048-490-014 SMITH 3936 RIVERVIEW DR REDDING, CA 96001	60	048-470-047 RILEY & BENJERMIN 4354 AGNES MAY DR REDDING, CA 96002
11	048-500-024 GROSS 327 RIVELLA VISTA DR REDDING, CA 96001	36	048-490-016 PETERS 3920 RIVERVIEW DR REDDING, CA 96001	61	048-470-046 FLOM & LUFT 3401 LAGOON DR REDDING, CA 96001
12	048-500-025 CHVOSTA 332 RIVELLA VISTA DR REDDING, CA 96001	37	048-490-017 FUENTES FAMILY TRUST 3900 RIVERVIEW DR REDDING, CA 96001	62	048-470-070 POLCARI 2948 COVE POINT REDDING, CA 96001
13	048-500-026 MARTIN 49339 EAGLE ROCK PL VIDA, OR 97488	38	048-490-018 SMITH FAMILY REVOCABLE TRUST 19911 MOOSE WAY COTTONWOOD, CA 96022	63	048-470-069 PURSEL LIVING TRUST 2936 COVE POINT CT REDDING, CA 96001
14	048-500-027 HAMMERS 310 RIVELLA VISTA DR REDDING, CA 96001	39	048-490-019 GORGE 3979 RIVERVIEW DR REDDING, CA 96001	64	048-470-068 COOK & CARON-COOK 2924 COVE POINT CT REDDING, CA 96001
15	DATA NOT AVAILABLE	40	048-490-020 RHODES TRUST PO BOX 991664 REDDING, CA 96099	65	048-470-067 NUNES 2912 COVE POINT CT REDDING, CA 96001
16	048-500-046 CORBETT FAMILY REV TRUST 277 RIVELLA VISTA DR REDDING, CA 96001	41	048-490-021 PATTERSON & WILSON 3947 RIVERVIEW DR REDDING, CA 96001	66	048-470-045 LUNDBERG 2957 WYNDHAM LN REDDING, CA 96001
17	048-500-047 HOWELL FAMILY REV TRUST 303 RIVELLA VISTA DR REDDING, CA 96001	42	048-490-022 MCDONNELL REVOCABLE TRUST 3931 RIVERVIEW DR REDDING, CA 96001	67	048-470-044 WILLIAMS 2935 WYNDHAM LN REDDING, CA 96001
18	048-500-005 CANNELORA 315 RIVELLA VISTA DR REDDING, CA 96001	43	048-490-023 ZALESNY 3919 RIVERVIEW DR REDDING, CA 96001	68	048-470-043 JONES 2919 WYNDHAM LN REDDING, CA 96001
19	048-500-006 GROSS REVOCABLE TRUST 327 RIVELLA VISTA DR REDDING, CA 96001	44	048-490-024 SANCHEZ FAMILY TRUST 2816 WYNDHAM LN REDDING, CA 96001	69	048-470-042 SMITH 1668 JAY ST REDDING, CA 96001
20	048-500-007 STERLING 339 RIVELLA VISTA DR REDDING, CA 96001	45	048-500-037 CRANDALL 2852 WYNDHAM LN REDDING, CA 96001	70	048-470-041 CANALE 2877 WYNDHAM LN REDDING, CA 96001
21	048-500-008 SMITH REVOCABLE TRUST 9 ILA LN BELLA VISTA, AR 72714	46	048-500-038 STORER 2864 WYNDHAM LN REDDING, CA 96001	71	048-470-040 SAWYER 2859 WYNDHAM LN REDDING, CA 96001
22	048-500-009 WION 363 RIVELLA VISTA DR REDDING, CA 96001	47	048-500-039 OLIVER PO BOX 1204 COTTONWOOD, CA 96022	72	048-470-039 HALL 2843 WYNDHAM LN REDDING, CA 96001
23	048-500-010 OCHSNER 375 RIVELLA VISTA DR REDDING, CA 96001	48	048-500-040 DAVIS FAMILY TRUST 2888 WYNDHAM LN REDDING, CA 96001	73	048-470-038 CARLSON TRUST 2815 WYNDHAM TRUST REDDING, CA 96001
24	048-500-011 CORBY FAMILY TRUST 387 RIVELLA VISTA DR REDDING, CA 96001	49	048-500-041 SAECHAO 2900 WYNDHAM LN REDDING, CA 96001	74	048-470-033 JOHN & PATTY FAMILY TRUST 6551 RIVERSIDE DR REDDING, CA 96001
25	048-500-012 BREEDLOVE REV LIVING TR 2158 CADJEW ST REDDING, CA 96003	50	048-500-042 BEALE TRUST 2930 WYNDHAM LN REDDING, CA 96001	75	048-470-001 DECKNESS 3845 RIVERVIEW DR REDDING, CA 96001





SITE MAP
SCALE: NTS

LEGEND

EXISTING TREE

EXISTING TREE TO REMAIN

CLIENT:
L&S REDDING DEVELOPMENT LLC
P.O. BOX 496028
REDDING, CA 96049

OWNER:
S&J DEVELOPMENT, INC
2960 INNSBRUCK DRIVE
REDDING, CA 96003

ENGINEER:
SHARRAH DUNLAP SAWYER, INC.
320 HARTNELL AVE.
REDDING, CA 96002

SITE DATA

A.P.#	048-500-048
GENERAL PLAN:	RS-3.5
ZONING:	RS-3.5
EXISTING USE:	VACANT
PROPOSED USE:	21 LOT RESIDENTIAL SUBDIVISION
SITE AREA:	10.5 AC
AREA IN FLOOD PLAIN:	1.5 AC
NET PROJECT AREA:	9.0 AC
TOTAL PROJECT UNITS:	21
PROJECT DENSITY:	2.3 D.U./AC
ELECTRICITY:	REDDING ELECTRIC UTILITY
WATER:	CITY OF REDDING
SEWER:	CITY OF REDDING
TELEPHONE:	AT&T

N

100 0 50 100
1 INCH = 100 FEET

S-2023-00582
THE RIVER
TENTATIVE SUBDIVISION MAP
COVER SHEET

BEING A PORTION OF SECTION 20
AND 21 OF THE P.B. READING
GRANT IN THE CITY OF REDDING, CA

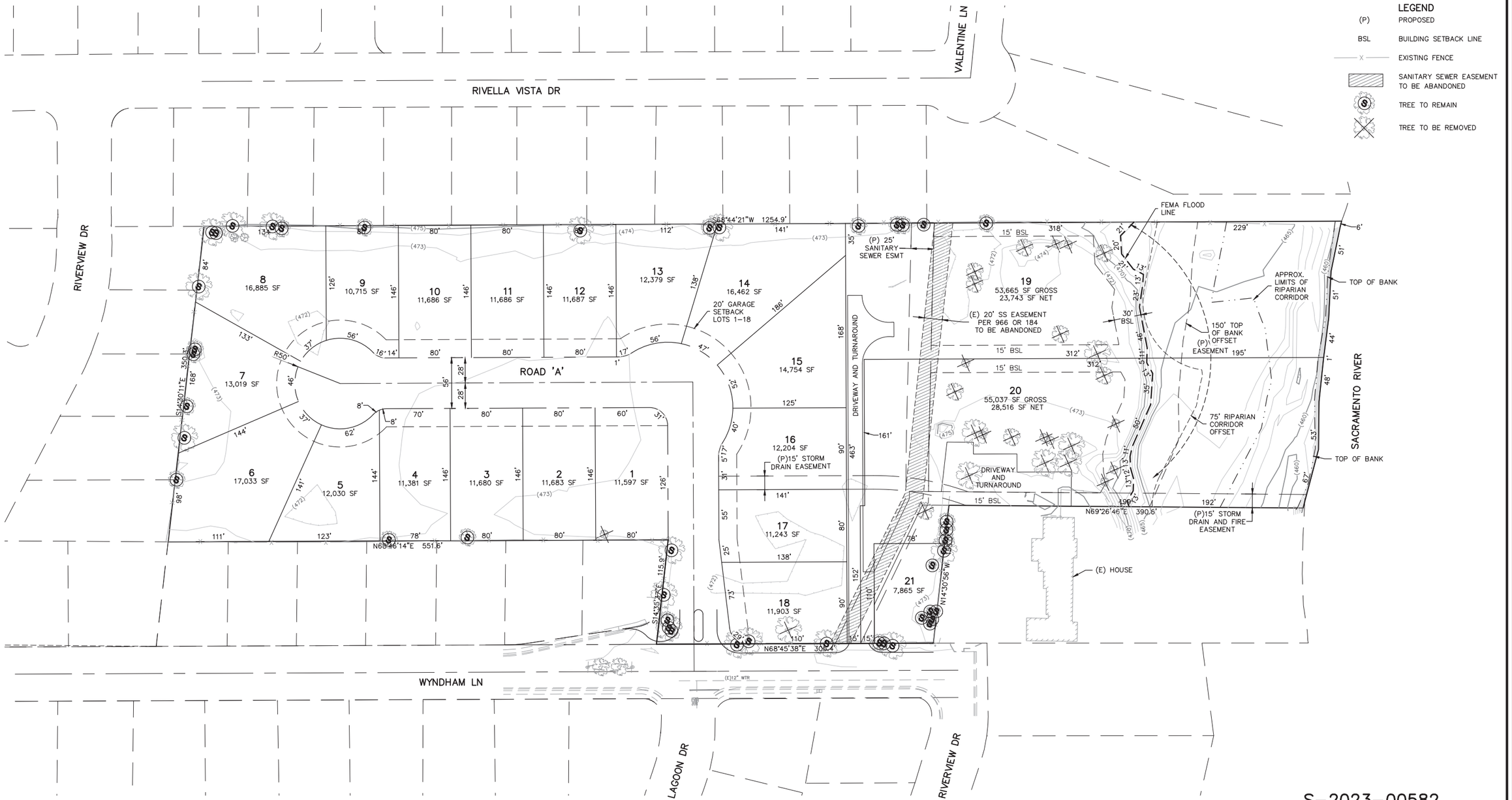
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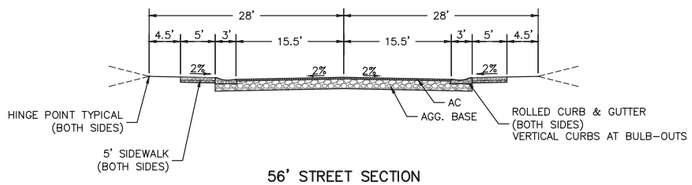
L&S REDDING DEVELOPMENT LLC

BY

SHARRAH DUNLAP SAWYER, INC.
Civil Engineering • Land Planning • Surveying & Mapping
Landscape Architecture • Presentation Graphics
320 Hartnell Avenue, Redding, CA 96002
530.223.1792 voice • info@sdsengineering.com

DATE: OCTOBER 30,2023 SCALE: 1"=100' SHEET 1 OF 3





56' STREET SECTION
ROAD 'A'
N.T.S.

NOTE:
TREE LOCATIONS PER TREE INENTORY ASSESSMENT REPORT BY MCENTIRE ASSOCIATES DATED 7–26–23. SEE ASSESSMENT FOR TREE DETAILS INCLUDING HEALTH.

50 0 25 50
1 INCH = 50 FEET

S–2023–00582
THE RIVER
TENTATIVE SUBDIVISION MAP

BEING A PORTION OF SECTION 20
AND 21 OF THE P.B. READING
GRANT IN THE CITY OF REDDING, CA

FOR

S&J DEVELOPMENT, INC.

BY

SHARRAH DUNLAP SAWYER, INC.
Civil Engineering • Land Planning • Surveying & Mapping
Landscape Architecture • Presentation Graphics
320 Hartnell Avenue, Redding, CA 96002
530.221.1792 voice • info@sdsengineering.com

DATE: OCTOBER 30,2023 SCALE: 1"=50' SHEET 2 OF 3

CS p:\proj\p23105\dwg\23105tm.dwg 23105

RIVELLA VISTA DR

VALENTINE LN

RIVERVIEW DR

SACRAMENTO RIVER

WYNDHAM LN

LAGOON DR

RIVERVIEW DR

8 PAD 474.6

9 PAD 474.3

10 PAD 474.0

11 PAD 473.7

12 PAD 473.7

13 PAD 474.0

14 PAD 474.0

15 PAD 473.8

16 PAD 473.6

17 PAD 473.8

18 PAD 474.0

19 PAD 473.8

20 PAD 473.6

21 PAD 474.0

7 PAD 475.0

6 PAD 474.6

5 PAD 474.3

4 PAD 474.0

3 PAD 473.7

2 PAD 473.7

1 PAD 474.0

ROAD 'A'

DRIVEWAY AND TURNAROUND

20'x10' 18" AMENDED STRIP (TYP.)

(P)25' SANITARY SEWER ESMT

(E) 39' SSP

(E)20' SS EASEMENT PER 966 OR 184 TO BE ABANDONED

FEMA FLOOD LINE

APPROX. LIMIT OF RIPARIAN CORRIDOR

30' BSL

150' OFFSET FROM TOP OF BANK

75' RIPARIAN CORRIDOR OFFSET

(P)15' STORM DRAIN EASEMENT

DRIVEWAY AND TURNAROUND

450'x8'x5' INFILTRATION TRENCH

(P)15' STORM DRAIN EASEMENT

BACKFLOW PREVENTER TO BE INSALLED IN WYNDHAM RIGHT OF WAY

APPROX. (E) 12" WTR

APPROX. (E) 12" SSP

(E)12" WTR

SSP 0.4%

SSP 0.6%

SSP 0.4%

SDP

SSP

W

LEGEND

PRELIMINARY MS4 TREATMENT AREAS (FINAL DESIGN TO BE DETERMINED AT CONSTRUCTION DOCUMENT PHASE)

TREE TO REMAIN

EXISTING	PROPOSED	
SDP	SDP	STORM DRAIN LINE
SSP	SSP	SANITARY SEWER LINE
W	W	WATER LINE
Ⓓ	●	STORM DRAIN MANHOLE
Ⓢ	●	SANITARY SEWER MANHOLE
▷	►	SANITARY SEWER CLEANOUT
▣	▣	STORM DRAIN CATCH BASIN
	▮	AREA DRAIN
		FIRE HYDRANT
		WATER VALVE
(E)		EXISTING
(P)		PROPOSED

50 0 25 50

1 INCH = 50 FEET

S-2023-00582
THE RIVER
TENTATIVE SUBDIVISION MAP
PRELIMINARY GRADING & UTILITY PLAN

BEING A PORTION OF SECTION 20 AND 21 OF THE P.B. READING GRANT IN THE CITY OF REDDING, CA

FOR

S&J DEVELOPMENT, INC.

BY

SHARRAH DUNLAP SAWYER, INC.
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Landscape Architecture • Presentation Graphics
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DATE: OCTOBER 30,2023 SCALE: 1"=100' SHEET 3 OF 3

CS p:\proj\p\23105\dwg\23105tm.dwg 23105

Attachment B
Biological Resource Assessment

gallaway
ENTERPRISES

BIOLOGICAL RESOURCE ASSESSMENT

Aquatic, Terrestrial, and Botanical Resources

Wyndham Lane Subdivision

City of Redding, Shasta County, California

March 2023



Prepared for:
S & J Development, Inc.
Jeb Allen
2960 Innsbruck Dr.
Redding, CA 96003

Prepared by:
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Chico CA 95928
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Table 1. Special-status Species and Sensitive Natural Communities and Their Potential to Occur in the BSA of the Wyndham Lane Subdivision. 10

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Appendix A.....Species Lists
Appendix B.....Observed Species Lists
Appendix C.....Draft Delineation of Waters of the U.S. Map
Appendix D.....Proposed Site Development Plan
Appendix E.....Project Site Photos

BIOLOGICAL RESOURCE ASSESSMENT

Wyndham Lane Subdivision

Redding, California
Section 12, Township 31N, Range 05W

INTRODUCTION

Purpose and Overview

The purpose of this biological resource assessment (BRA) is to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur in the biological survey area (BSA) of Wyndham Lane Subdivision (Project) located north of Wyndham Lane and South of Rivella Vista Drive in Redding, Shasta County, California (**Figure 1**)**.** The BSA is approximately 11 acres. The proposed Project involves the construction of a residential development.

The BSA is the area where the focus of the biological surveys is conducted and includes all areas to be directly affected by the Project (**Figure 2**). Gallaway Enterprises conducted biological and botanical habitat assessments in the BSA to evaluate site conditions and potential for rare and listed species to occur. Other primary references consulted included species lists and information gathered using the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (IPaC), California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) inventory of rare and endangered plants, and literature review. The results of the BRA are the findings of habitat assessments and surveys and the recommendations for avoidance and minimization measures.

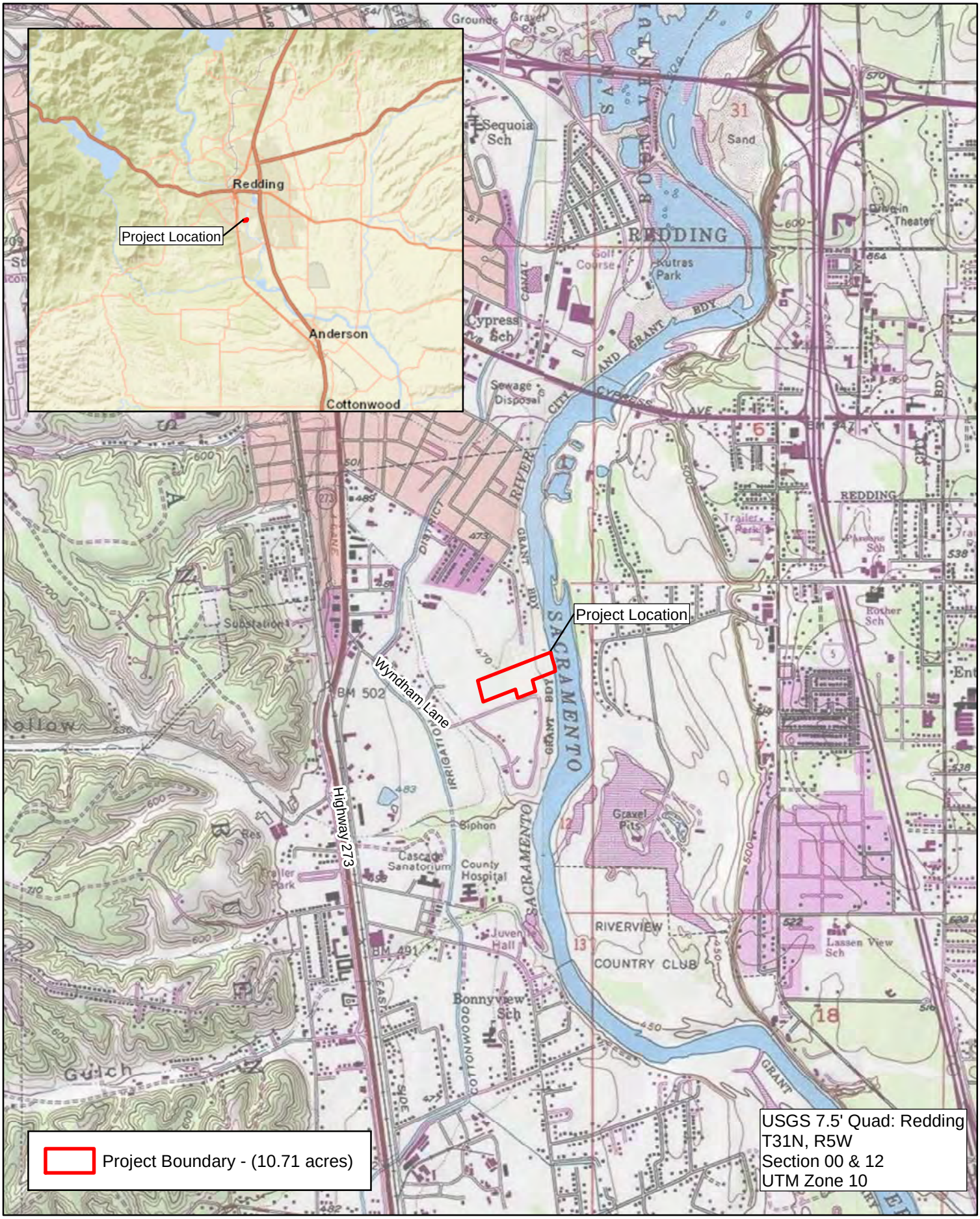
Project Location and Environmental Setting

The BSA is located within the foothills of the Klamath Mountain Range in the City of Redding. The BSA is located within the "Redding" United States Geological Survey (USGS) quadrangle, Section 12, Township 31N, Range 05W. The BSA includes a portion of Wyndham Lane to the south. The Sacramento River runs north to south along the eastern portion of the BSA. The BSA is primarily composed of annual grassland and scattered patches of valley oak woodland.

The average annual precipitation is 33.68 inches and the average annual temperature is 62.4°F in the region where the Project site is located (WRCC 2023). The Project site occurs at an elevation of approximately 436 to 462 feet above sea level. The site is sloped between 0 and 3 percent. Soils within the site are fine sandy loams.

Project Description

The proposed Project will involve the development of a residential subdivision and apartment infrastructure.



NORTH

1:24,000

0 0.25 0.5 Miles

Data Sources: ESRI, USGS, Shasta County

Wyndham Lane Subdivision
Regional Location
Figure 1

gallaway ENTERPRISES

GE: #22-133 Map Date: 03/06/2023



NORTH

1:3,000

0 150 300 Feet

Data Sources: ESRI, City of Redding GIS 05/27/2020, Sarah Dunlap Sawyer Inc.

Wyndham Lane Subdivision
Project Location
Figure 2

gallaway ENTERPRISES

GE: #22-133 Map Date: 02/14/2023

METHODS

References Consulted

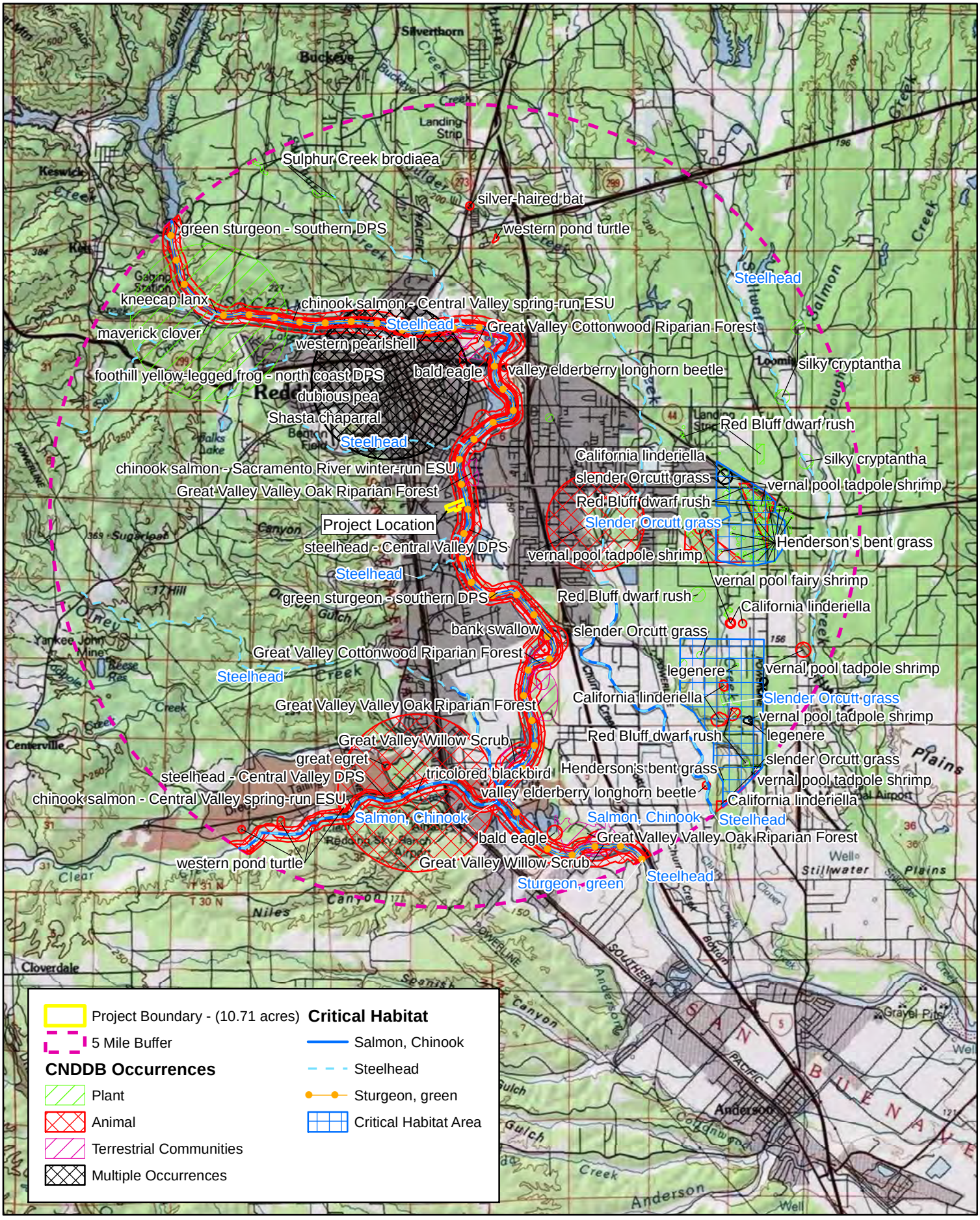
Gallaway Enterprises obtained lists of special-status species that occur in the vicinity of the BSA. The CNDDB Geographic Information System (GIS) was also consulted and showed special-status species within a 5-mile radius of the BSA (**Figure 3**). Other primary sources of information regarding the occurrence of federally listed threatened, endangered, proposed, and candidate species and their habitats within the BSA used in the preparation of this BRA are:

- The USFWS Official Species List for the BSA, March 7, 2023, (**Appendix A; Species Lists**);
- The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Official Species List for the 7.5-minute United States Geological Survey (USGS) "Redding" quadrangle, March 27,2023 (**Appendix A; Species Lists**);
- The results of a species record search of the CDFW CNDDB, RareFind 5, for the 7.5-minute USGS "Shasta Dam," "Project City," "Redding," "Bella Vista," "Palo Cedro," and "Enterprise" quadrangles, March 23, 2023, (**Appendix A; Species Lists**);
- The review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5-minute USGS "Shasta Dam," "Project City," "Redding," "Bella Vista," "Palo Cedro," and "Enterprise" quadrangles, March 23, 2023 (**Appendix A; Species Lists**);
- USFWS Critical Habitat Portal, March 23, 2023;
- Results from the habitat assessments conducted by Gallaway Enterprises on March 16, 2023;
- Draft delineation of aquatic resources conducted by Gallaway Enterprises on March 16, 2023;
- Protocol-level rare plant survey conducted by Gallaway Enterprises on March 16, 2023. (**Appendix B; Observed Species Lists**).

Special-Status Species

Special-status species that are considered in this BRA are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a State Species of Special Concern (SSC) by CDFW or protected under the California Fish and Game Code (CFGC) (i.e., Fully Protected species);
- Ranked by the CNPS as 1A, 1B, or 2;
- Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA, §15380).



1:100,000

0 1 2 Miles

NORTH

Data Sources: ESRI, CDFW, CNDDB, USGS, NMFS

Wyndham Lane Subdivision
CNDDB Occurrences
Figure 3

gallaway ENTERPRISES

GE: #22-133 Map Date: 02/14/2023

Critical Habitat

The ESA requires that critical habitat be designated for all federally listed species. Critical habitat is designated for areas that provide essential habitat elements that enable a species' survival, and which are occupied by the species during the species listing under the ESA. Areas outside of the species' range of occupancy during the time of its listing can also be determined as critical habitat if the agency decides that the area is essential to the conservation of the species.

The USFWS Critical Habitat Portal was accessed on February 28, 2023 to determine if critical habitat occurs within the BSA. Appropriate Federal Registers were also used to confirm the presence or absence of critical habitat.

Sensitive Natural Communities

Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas of habitat that are rare or ecologically important. Many SNCs are designated as such because they represent a historical landscape and are typically preserved as valued components of California's diverse habitat assemblage. The CNDDB was accessed on March 7, 2023 to determine if the BSA occurs within a mapped SNC.

Waters of the United States

A draft delineation of waters of the United States (WOTUS) was conducted within the BSA by Gallaway Enterprises on March 16, 2023 (**Appendix C; Draft Delineation of Waters of the U.S. Map**).

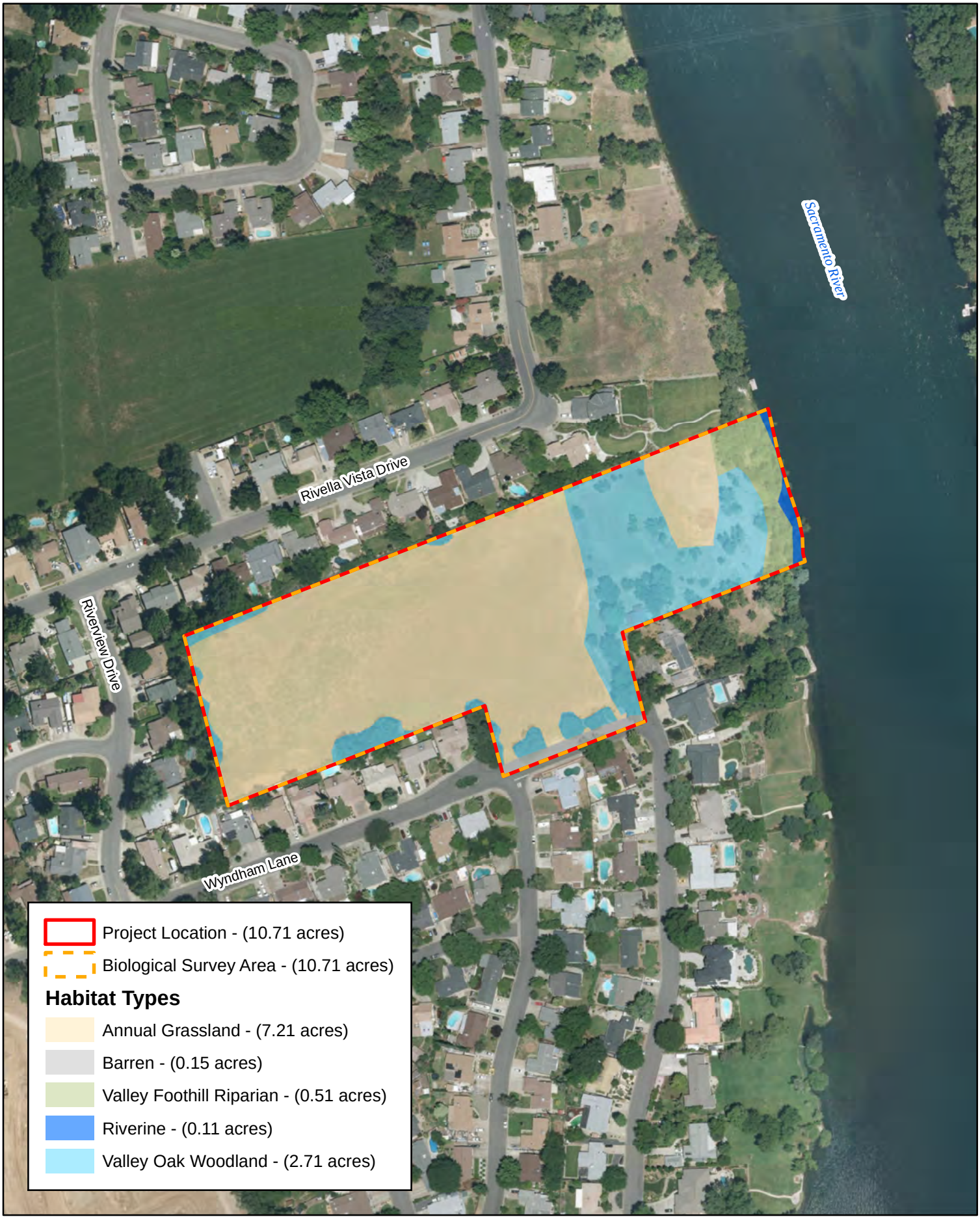
Habitat Assessments

Habitat assessments were conducted by Gallaway Enterprises staff on March 16, 2023 (**Figure 4**). Biologist/Botanist Matthew Mayer conducted the wildlife habitat assessment and the botanical habitat assessment. was conducted by.

Habitat assessments for botanical and wildlife species were conducted to determine if suitable habitat elements for special-status species occur within the BSA. The habitat assessments and protocol-level survey were conducted by walking the entire BSA and recording observed species and specific habitat types and elements. If habitat was observed for special-status species, it was then evaluated for quality based on vegetation composition and structure, physical features (e.g., soils, elevation), microclimate, surrounding area, presence of predatory species and available resources (e.g., prey items, nesting substrates), and land use patterns.

Rare Plant Survey

Biologist/Botanist Matthew Mayer conducted a protocol-level rare plant survey within the BSA on March 16, 2023. The survey was conducted for all plant species with blooming periods that overlapped the date of the field site visit. The survey and evaluation were conducted by walking all areas of the Project boundary and taking inventory of observed botanical species. A Trimble GPS unit was used to record the location, extent, and estimated number of individuals of any special-status plant populations observed within the BSA. A list of botanical and wildlife species observed within the BSA during the site visit is included in Appendix B.



NORTH

1:3,001

0 150 300 Feet

Data Sources: ESRI, City of Redding GIS 05/27/2020, Sarah Dunlap Sawyer Inc.

Wyndham Lane Subdivision
Habitat Types
Figure 4

gallaway ENTERPRISES

GE: #22-133 Map Date: 02/13/2023

RESULTS

Terrestrial Habitat

Valley Oak Woodland

The eastern portion of the BSA and small areas scattered throughout the BSA are composed of Valley Oak Woodlands. Valley Oak Woodland within the BSA is characterized by an overstory of primarily valley oaks (*Quercus lobata*) and Willow (Salix) species in the riparian zone.

These widely scattered but sparsely occurring woodlands are dominated by valley oaks. Tree species associated with valley oak woodlands include California sycamore, California black walnut, California boxelder, Oregon ash, interior live oak, California buckeye, and blue oak. Within low elevations riparian zones, valley oak is associated with Fremont cottonwood and tree willows. Valley oak woodlands vary from open savannahs to closed canopy forests. Dense stands occur along natural drainages in deep soils. Tree density tends to be highest in lowland areas, decreasing as one moves into upland systems. The understory shrub layer can be dense along drainages and very sparse in uplands. Understory grasses and forbs are mostly introduced annuals. Mature valley oaks have well-developed crowns and reach maximum heights of 50 to 120 ft. The trunks of valley oaks often reach 6 feet in DBH and branches of mature trees dominate valley oak woodlands (UCANR 2023)

Valley Foothill Riparian

The eastern border of the BSA is composed of a Valley Foothill Riparian habitat area.

Valley Foothill Riparian areas are characterized by an overstory of primarily cottonwood (*Populus fremontii*), California sycamore (*Platanus racemose*), Valley oak (*Quercus lobata*). Subcanopy trees are white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Typical understory shrub layer plants include wild grape, wild rose, California blackberry, blue elderberry, poison oak, buttonbrush, and willows. The herbaceous layer consists of sedges, rushes, grasses, miner's lettuce, Douglas sagewort, poison-hemlock, and hoary nettle (CWHRS 2023)

Annual Grassland

Annual grassland makes up the majority of the BSA, and also makes up the herbaceous layer of oak-foothill pine woodland found throughout the site. Annual grassland habitats and species composition depend largely on annual precipitation, fire regimes, and grazing practices (Mayer and Laudenslayer 1988). Species observed in the annual grassland in the BSA include miners lettuce (*Claytonia perfoliata*), common vetch (*Vicia sativa*), soft chess (*Bromus hordeaceus*), wall barley (*Hordeum murinum*), broadleaf filaree (*Erodium botrys)*, field mustard *(Brassica rapa*), and Himalayan blackberry (*Rubus armeniacus*). Most wildlife species use grassland habitat for foraging, but generally require some other habitat characteristic such as rocky outcrops, cliffs, caves, or ponds in order to find shelter and cover for escapement. Some rodents, such as ground squirrel (*Otospermophilus beecheyi*), utilize annual grasslands for burrowing.

Barren

Barren habitat within the BSA is comprised of the paved roadway (Wyndham Lane) and unpaved dirt roads that traverse the site. Barren habitat is typified by non-vegetated soil, rock, paved roads, and gravel areas

void of vegetation. It is typically considered low-quality habitat for most wildlife species, although some ground nesting avian species such as killdeer (*Charadrius vociferous*) and small reptiles such as western fence lizards (*Sceloporus occidentalis*) can be found breeding in barren habitat.

Aquatic Habitat

Riverine

Riverine habitat is characterized by intermittent or continually running water. The waterway that flows adjacent to the site is a river that runs north to south at the eastern terminus of the BSA. This river provides aquatic habitat throughout the year. Its substrate is composed of cobble and mud, and some vegetation was present within the banks including cottonwood (*Populus* fremontii), Himalayan blackberry (*Rubus* armeniacus), common horsetail (*Equisetum arvense*), and scattered willows (*Salix* sp.). Along with functioning as habitat for fishes and other aquatic species, riverine habitat provides food for waterfowl, herons (*Ardeidae* sp.), and many species of insectivorous birds, hawks, and their prey.

Waters of the United States

Based on the results of the draft Delineation of Waters of the United States prepared for the Project site by Gallaway Enterprises, there is one jurisdictional feature within the BSA, the Sacramento River, which is a perennial river (**Figure 5**). The results of the delineation should be considered draft until the United States Army Corps of Engineers (Corps) verifies the jurisdictional status of the features present within the BSA.

Critical Habitat

The Sacramento River is the principal river in Northern California and the largest river in California. It borders the eastern portion of the BSA. The Sacramento River is designated as critical habitat for Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha pop. 7),* Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha pop. 11),* green sturgeon – southern DPS *(Acipenser medirostris pop. 1), and* California Central Valley steelhead *(Oncorhynchus mykiss irideus pop.11)* from Keswick Dam (River Mile 302) to Chipps Island (River Mile 0) at the westward margin of the Sacramento-San Joaquin Delta. The eastern portion of the BSA is located approximately at River Mile 294, within the critical habitat designation. The Sacramento River within the BSA is also designated as essential fish habitat for Chinook Salmon species.

Impacts to Off-site Habitat

The proposed Project is not anticipated to impact off-site habitats or species. The Sacramento River will be avoided entirely and there will be no impacts to upstream or downstream aquatic resources (**Appendix D; Proposed Development Site Plan**). General construction related water-quality concerns will be addressed through the implementation of the site-specific Storm Water Pollution Prevention Plan (SWPPP) and erosion control Best Management Practices.

Sensitive Natural Communities

There are no CDFW-designated SNCs within the BSA. There are three (3) listed SNCs within the quadrangles adjacent to the BSA, Great Valley Cottonwood Riparian Forest, Great Valley Valley Oak

Riparian Forest, and Great Valley Willow Scrub. Great Valley Valley Oak Riparian Forest SNC occurs directly upstream from the BSA on the eastern bank of the Sacramento River, approximately 0.45 miles from the BSA.

Special-Status Species and Their Potential to Occur

A summary of special-status species assessed for potential occurrence within the BSA based on the USFWS IPaC species list, CNDDB species list, NMFS species list and the CNPS inventory of rare and endangered plants within the "Shasta Dam," "Project City," "Redding," "Bella Vista," "Palo Cedro," and "Enterprise" USGS 7.5-minute quadrangles, and their potential to occur within the BSA are described in **Table 1**. Potential for occurrence was determined by reviewing database queries from federal and state agencies and performing field surveys to evaluate habitat characteristics.

Table 1. Special-status Species and Sensitive Natural Communities and Their Potential to Occur in the BSA of the Wyndham Lane Subdivision.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
SENSITIVE NATURAL COMMUNITIES			
Great Valley Cottonwood Riparian Forest	_/SNC/_	Riparian forest.	None. There is no designated Great Valley Cottonwood Riparian Forest within the BSA.
Great Valley Valley Oak Riparian Forest	_/SNC/_	Riparian forest.	None. There is no designated Great Valley Oak Riparian Forest within the BSA.
Great Valley Willow Scrub	_/SNC/_	Riparian scrub.	None. There is no designated Great Valley Willow Scrub within the BSA.
PLANTS			
Ahart's paronychia (*Paronychia ahartii*)	_/_/1B.1	Vernal pools or vernally mesic area that are nearly barren in clay soils. (BP: Feb-Jun)	None. There is no suitable habitat present in the BSA.
Bellinger's meadowfoam *(Limnanthes floccosa ssp. bellingeriana)*	_/_/1B.2	Vernally wet sites including wet edges of meadows, and damp, stony flats. Found between 290-1100 meters in elevation. (BP: Apr- Jun)	None. There is no suitable habitat present in the BSA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
PLANTS			
Big-scale balsamroot *(Balsamorhiza macrolepis)*	_/_/1B.2	Serpentine soils in Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland. (BP: Mar-Jun)	None. There are no suitable soils present within the BSA.
Boggs Lake hedge-hyssop *(Gratiola heterosepala)*	_/SE/1B.2	Lake margins and vernal pools. (BP: Apr-Aug)	None. There is no suitable habitat present in the BSA.
Legenere (*Legenere limosa*)	_/_/1B.1	Vernal pools. (BP: Apr – Jun)	None. There are no suitable soils or habitat present within BSA and the species was not observed during the protocol-level rare plant survey.
Maverick clover (*Trifolium piorkowskii*)	_/_/1B.2	Volcanic clay, openings, often streambanks. (BP: Apr – May)	None. The species was not observed within the BSA during the protocol-level rare plant survey.
Oval-leaved viburnum *(Viburnum ellipticum)*	_/_/2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Found between 215-1400 meters in elevation. (BP: May-Jun)	None. This is out of the elevation range for this species and no suitable habitat is present within the BSA.
Red Bluff dwarf rush (*Juncus leiospermus var. leiospermus*)	_/_/1B.1	Vernally mesic sites. Sometimes on edges of vernal pools (BP: Mar – May)	None. There are no suitable soils present within the BSA and the species was not observed during the protocol-level rare plant survey.
Sanford's arrowhead *(Sagittaria sanfordii)*	_/_/1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches. (BP: May-Oct [Nov])	None. There is no suitable habitat present in the BSA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
PLANTS			
Shasta huckleberry (*Vaccinium shastense ssp. shastense*)	_/_/1B.3	Acidic, mesic. Often on streambanks; sometimes on rocky outcrops, seeps, roadsides, and disturbed areas. Found between 325-1220 meters in elevation. (BP: Dec-May [Jun-Sep])	None. This is out of the elevation range for this species.
Shasta snow-wreath (*Neviusia cliftonii*)	_/SC/1B.2	Shaded, north-facing, or sheltered canyons. Sometimes on limestone or volcanic or metavolcanic soils. Found between 300-590 meters in elevation. (BP: Apr-Jun)	None. This is out of the elevation range for this species.
Silky cryptantha (*Cryptantha crinita*)	_/_/1B.2	In gravelly streambeds (BP: Apr – May)	None. Suitable habitat not present and this species was not observed during the protocol-level rare plant survey.
Slender Orcutt grass (*Orcuttia tenuis*)	FT/CE/1B.1	Vernal pools and wetlands, often in gravelly substrate. (BP: May – Sep)	None. There are no suitable soils or habitat present within BSA and the species was not observed during the protocol-level rare plant survey.
Sulphur Creek brodiaea *(Brodiaea matsonii)*	_/_/1B.1	Streambanks. In cracks and crevices of metamorphic amphibolite schist. (BP: May-Jun)	None. There are no suitable soils present within BSA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
INVERTEBRATES			
Monarch Butterfly (*Danaus plexippus*)	FC/_/_	Egg and larval stage dependent upon milkweed. Adults migrate seasonally, amassing in in dense tree canopy, e.g. eucalyptus.	None. No milkweed was observed during the protocol-level rare plant survey.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT/_/_	Blue elderberry shrubs; usually associated with riparian areas.	None. There are no blue elderberry shrubs with in BSA.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT/_/_	Vernal pools and seasonally ponded areas.	None. There is no suitable vernal habitat within the BSA. The wetland features present do not contain suitable hydrology to support this species.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE/_/_	Vernal pools.	None. There are no vernal pools within the BSA. The wetland features present do not contain suitable hydrology to support this species.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
FISH			
Chinook salmon Central Valley spring-run ESU *(Oncorhynchus tshawytscha)*	FT/ST/_	Sacramento river and its tributaries.	**Known**. Central Valley (CV) Spring-run Chinook Salmon enter the Sacramento River from late March through September. (CDFW 2023).
Chinook salmon Sacramento River winter-run ESU *(Oncorhynchus tshawytscha)*	FE/SE/_	Sacramento river and its tributaries.	**Known**. Adult Sacramento River (SR) winter-run Chinook Salmon pass under the Golden Gate Bridge from November through May, and pass into the Sacramento River from December through early August. (CDFW 2023).
Green Sturgeon - Southern DPS (*Acipenser medirostris pop. 1*)	FT/_/_	Spawns in the Sacramento, Feather and Yuba Rivers, site fidelity. Non spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles.	**Known**. Southern DPS Green Sturgeon are found in the Sacramento and San Joaquin rivers and Delta. They primarily spawn in the upper mainstem of the Sacramento River.
Pacific lamprey (*Entosphenus tridentatus*)	_/SSC/_	Found in Pacific Coast streams north of San Luis Obispo County.	**Low**. Historically, pacific lamprey are known to occur in the Sacramento River; however, the nearest CNDDB occurrence is located over 15 miles from the BSA in hydrologically connected, Clover Creek.
Steelhead, Central Valley DPS (*Oncorhynchus mykiss irideus pop 11*)	FT/_/_	Occurs below man-made impassable barriers in the Sacramento and San Joaquin rivers and tributaries. Adults migrate from ocean to natal freshwater streams to spawn. Yuba River has essentially the only remaining wild steelhead fishery in Central Valley.	**Known**. Known to be found originating below natural and manmade impassable barriers from the Sacramento and San Joaquin Rivers and their tributaries.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
REPTILES			
Western pond turtle *(Emys marmorata)*	_/SSC/_	Bodies of water with deep pools, emergent vegetation for foraging and cover, and locations for basking and nesting.	None. The BSA does not contain slow or stagnant water or emergent vegetation.
AMPHIBIANS			
Foothill yellow-legged frog North Coast DPS (*Rana boylii pop. 1*)	_/SSC/_	Perennial, shallow streams and riffles with rocky substrates and partial shade; commonly found in canyons and narrow streams.	None. The BSA does not contain suitable aquatic habitat for the FYLF.
Western spadefoot (*Spea hammondii*)	_/SSC/_	Occurs primarily in grassland habitats. Vernal pools are essential for breeding and egg-laying.	None. No suitable habitat is present in the BSA.
BIRDS			
Bald eagle (*Haliaeetus leucocephalus*)	_/SE, FP/_	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches.	**Moderate**. There is some suitable habitat within and adjacent to the BSA and a CNDDB occurrence (#288) within 2 miles of the BSA.

Common Name *(Scientific Name)*	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
BIRDS			
Bank swallow (*Riparia riparia*)	_/ST/_	Banks and bridges near perennial bodies of water.	None. There is no suitable habitat within or adjacent to the BSA, and no individuals were observed during the site visit.
Purple martin (*Progne subis*)	_/SSC/_	Breeds in riparian woodland, oak woodland, open coniferous forests. Secondary cavity nester. Requires nest sites close to open foraging areas of water or land.	**Low**. Suitable habitat is present within the BSA; however, there are no CNDDB occurrences within 10 miles of the BSA.
Tricolored blackbird (*Agelaius tricolor*)	_/ST/SSC	Colonial nester in large freshwater marshes. Requires open, accessible water source and does most of its foraging in open habitats such as farm fields, pastures, cattle pens, large lawns.	None. Historically, tricolored blackbirds existed in this area but were determined extirpated in 1991 and no suitable emergent vegetation or marsh habitat is currently present in or near the BSA.
Northern Spotted Owl (*Strix occidentalis caurina*)	FT/ ST/_	Old growth forests.	None. No suitable habitat is present within the BSA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
MAMMALS			
Fisher (*Pekania pennanti*)	_/SSC/_	Intermediate to large tree stages of coniferous forests and deciduous riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	None. No suitable habitat is present within the BSA.
Pallid bat (*Antrozous pallidus*)	_/SSC/_	Roosts within buildings, rock crevices, bridges, and occasionally tree hollows. Very sensitive to disturbance of roosting sites.	**Low.** There is suitable roosting habitat present within the BSA in the barn; however, no individuals were observed and the BSA is located in a highly disturbed urban environment.
Spotted bat (*Eduerma maculatum*)	_/SSC/_	Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	None**.** There are no cliffs or caves within the BSA.
Townsend's big-eared bat (*Corynorhinus townsendii*)	_/SSC/_	Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures.	**Low.** There is suitable roosting habitat present within the BSA, though no individuals were observed during the site visit.

CODE DESIGNATIONS	
FE = Federally-listed Endangered	**SNC** = CDFW Sensitive Natural Community
FT = Federally-listed Threatened	**CNPS California Rare Plant Rank (CRPR):**
FC = Federal Candidate Species	**CRPR 1B** = Rare or Endangered in California or elsewhere
SE = State-listed Endangered	
ST = State-listed Threatened	**CRPR 2** = Rare, Threatened or Endangered in California, more common elsewhere
SC = State Candidate for Listing as Threatened or Endangered	**CRPR 3** = More information is needed
SR = State-listed Rare	**0.1** = Seriously Threatened
SSC = State Species of Special Concern	**0.2** = Fairly Threatened
FP = CDFW Fully Protected Species	**0.3** = Not very Threatened
Potential for Occurrence: Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories for the potential for occurrence include: **None:** The species or natural community does not occur and has no potential to occur in the BSA based on sufficient surveys, the lack suitable habitat, and/or the BSA is well outside of the known distribution of the species. **Low:** Potential habitat in the BSA is sub-marginal and/or the species is known to occur in the vicinity of the BSA. **Moderate:** Suitable habitat is present in the BSA and/or the species is known to occur in the vicinity of the BSA. Pre-construction surveys may be required. **High:** Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed. Pre-construction surveys required. **Known:** Species was detected in the BSA or a recent reliable record exists for the BSA.	

Endangered, Threatened, and Rare Plants

A botanical habitat assessment and protocol-level rare plant survey was conducted within the BSA on March 16, 2023 by Gallaway Enterprises botanist Matt Mayer. No special-status plant species were observed within the BSA; therefore, there is no potential for special-status plants to occur. A list of all of the plant species observed during the surveys is provided in **Appendix B**.

Endangered, Threatened, and Special-Status Wildlife

A wildlife habitat assessment was conducted within the BSA on March 16, 2023. Suitable habitat was identified for Central Valley spring-run (CVSR) Chinook salmon, Sacramento River winter-run (SRWR) Chinook salmon, California Central Valley (CCV) steelhead, green sturgeon, western pond turtle, bank swallow, tricolored blackbird, and for avian species protected under the MBTA within or adjacent to the BSA. A complete list of wildlife species observed within the BSA can be found in **Appendix B.**

Chinook Salmon

Chinook salmon are an anadromous species which originate in freshwater environments, such as, major streams and tributaries, before migrating to oceanic environments to grow and mature, then returning to their natal freshwater environments to spawn and eventually die. Chinook salmon are the largest of the salmon species. They range in appearance throughout their developmental stages and aquatic environments. NMFS characterize Chinook salmon into evolutionary significant units (ESU) which are

defined by life history traits and distinct spawning time. ESUs identify a Pacific salmon population as a DPS, which are recognized under the ESA rather than the species. There are three Chinook salmon ESUs that occur within the BSA. The following discusses each Chinook salmon ESU and its occurrence within the BSA.

Central Valley Spring-run Chinook ESU

Central Valley (CV) Spring-run Chinook salmon are considered an Evolutionarily Significant Unit (ESU) by NMFS and their listing status is threatened under the ESA and CESA. Critical habitat was designated later 2005 (70 FR 52488). In 2014, NMFS released a final multi-species recovery plan that addresses all three listed salmonids in the California Central Valley, including the CVSR Chinook salmon (NMFS 2014).

Chinook salmon are an anadromous species which originate in freshwater environments, such as major streams and tributaries, before migrating to oceanic environments to grow and mature, then returning to their natal freshwater environments to spawn and eventually die. Chinook salmon are the largest of the salmon species. They range in appearance throughout their developmental stages and aquatic environments.

Central Valley spring-run Chinook salmon are differentiated from the other ESUs or other "runs" of Chinook salmon due to their distinct life history strategy in which natural populations migrate from the Pacific Ocean to their natal spawning habitat in Central Valley tributaries starting in the spring; as early as February for some populations. Unlike other runs of Chinook salmon, spring-run migrate upstream early in the year and then disperse throughout the upper reaches of a river and hold there over the summer months before spawning, instead of spawning quickly upon arrival. Juveniles will then emigrate during late fall and winter with increased flows to make their way to the Pacific Ocean. Key habitat for CVSR Chinook salmon includes moderately deep pools utilized for holding habitat over summer, small cobble or gravel substrate for spawning, and slow, off-channel water with debris or vegetation that juveniles utilize for rearing habitat and refuge. Shade and wood cover have been indicated as important for juvenile Chinook salmon holding habitat (Zajanc et al. 2012). Chinook salmon adults utilize deep pools for holding that usually have a large bubble curtain at the head, underwater rocky ledges, and shade cover throughout the day, or hold in smaller "pocket" water behind large rocks in fast water (Moyle 1995).

CNDDB Occurrences

There are two (2) CNDDB occurrences of Central Valley spring-run Chinook salmon in Redding, CA. The nearest CNDDB occurrence (#8) from 1995 identified three CV spring-run Chinook salmon in Clear Creek which is a tributary of the Sacramento River. The other occurrence (#13) from 1995 was observed in the Sacramento River approximately 4.5 miles northwest of the BSA.

Sacramento River Winter-run Chinook ESU

The Sacramento River (SR) winter-run Chinook salmon ESU is listed as endangered under the ESA and the CESA. The SR winter-run Chinook salmon ESU contains all naturally spawning populations of SR winter-run Chinook salmon within the Sacramento River and its tributaries within California. Two artificial populations are also included into this ESU from the Livingston Stone National Fish Hatchery (NFH) and the University of California Bodega Marine Laboratory. The SR winter-run Chinook salmon are currently

distributed throughout the Sacramento River and lower reaches of its tributaries below the Keswick Dam (RM 302), which is located northwest of Redding, California. They enter into the Sacramento River from the San Francisco Bay to spawn from November through June (Van Woert 1958, Hallock etal. 1957 cited in NMFS 1997), peaking in March.

The majority of the SR winter-run Chinook pass the Red Bluff Diversion Dam between January and May. SR winter-run Chinook generally spawn in the Sacramento River from the Keswick Dam to Tehama (NMFS 1997). Spawning occurs during late April through mid–August, peaking in May and June (Table 1). Fry emerge and disperse to downstream habitats where they hide within gravel substrates. When fry become larger, they move into other areas of the stream that offer larger refugia such as woody debris, calm channels, undercut banks, and fallen trees. Juveniles migrate to delta, bay and estuary environments at all sizes. Some juveniles migrate immediately while others take time to grow in freshwater systems before migrating into brackish and saltwater environments. Current threats facing the SR winter-run Chinook are loss of spawning habitat, dams and diversions, degraded stream habitat, reduction in Sacramento River flow, pollution and drought (NMFS 1997).

CNDDB Occurrences

The nearest CNDDB occurrence for the SR winter-run Chinook is over 20 miles south of the BSA in the Sacramento River near Bend, CA. This species is known to occur throughout the Sacramento River.

Status of Chinook salmon occurring in the BSA

Adult SR Winter-run Chinook Salmon

Sacramento River winter-run Chinook salmon are found off the Pacific coastline and within the mainstem of the Sacramento River. They spawn in the upper reaches of the mainstem of the Sacramento. SR winter-run Chinook salmon spawn during the hottest portion of the year and require the coldest water available for healthy embryonic development and juvenile survival. Chinook salmon eggs cannot tolerate temperatures above 62° F.

The Sacramento River near the City of Redding is designated critical habitat (58 FR 33212) for SR winter-run Chinook salmon. SR winter-run Chinook salmon spawn in the furthest accessible reaches of the mainstem of the Sacramento River where water temperatures are maintained at colder levels. There is suitable spawning habitat as temperatures generally stay within the juvenile survival threshold and adequate redd substrates are present.

Juvenile SR Winter-run Chinook Salmon

After emerging, Chinook salmon fry find shelter within gravel in dispersed areas downstream from their redd site. As fry develop they begin to move into habitats that contain calm, shallow waters that are associated with fine sediment and bank cover (e.g riparian vegetation, woody debris, undercut banks, tree roots, fallen trees). As juveniles grow larger, they begin to move to deeper and faster waters that contain coarser substrates (NMFS 1997).

The Sacramento River near the City of Redding contains a relatively low gradient, calm water environment. There are areas for refugia for juvenile salmon in this stretch of the Sacramento River such as, undercut banks, riparian vegetation, calm water channels, and woody debris. Therefore, juvenile Chinook habitat within the BSA is suitable throughout the year.

Green Sturgeon

Green sturgeon are slow growing, long lived, highly migratory, anadromous species that can range from 4.5 to 6.5 feet when reaching full maturity. They are primarily benthic feeders and have a long, toothless snout with sensory barbels. Green sturgeon lack scales and have distinctive boney plates along their curved backbone and a shark like tail fin. They inhabit coastal waters and major waterways along the Pacific Coast from the Aleutian Islands, Alaska, to Baja California, Mexico (Moyle et al. 1995 cited in NOAA 2012). Green sturgeons are primarily marine species only venturing into fresh water to spawn. While in the ocean they stay close to the oceanic shoreline and within bays and estuaries. NMFS characterize green sturgeon into distinct population segments (DPS) which are defined as being discrete from other populations from that species. Under the ESA green sturgeon are recognized by their DPS rather than the species. The green sturgeon southern DPS is the only green sturgeon DPS known to occur within the BSA. The following discusses the green sturgeon southern DPS and its occurrence within the BSA.

Green Sturgeon Southern DPS

The green sturgeon southern DPS is listed as threatened under the ESA. The green sturgeon southern DPS (referred to as green sturgeon from here on) consists of coastal and Central Valley populations south of the Eel River with the only known population in the Sacramento River. Green sturgeon enter into the Sacramento River in late February and spawn from April to July **(Table 1)** (Moyle etal. 1995 cited in NOAA 2012). They have been recorded in the Feather and Yuba River, but there have been no reports of spawning in these systems. The only confirmed spawning site for green sturgeon is within the Sacramento River near the Red Bluff Diversion Dam (Brown 2006). It is believed that green sturgeon spawn within the Sacramento River above Hamilton City possibly up to the Keswick Dam. After young green sturgeon emerge, they seek shelter within nearby substrates. After a few days of development, they begin to disperse into downstream sections of the Sacramento River. Dispersal occurs at night where young seek out open areas to forge. During the day young green sturgeon find refuge in structured, low light environments. As young green sturgeon grow, they continue to migrate downstream as long as water temperatures are optimal. After one to four years of development in freshwater environments green sturgeon begin to migrate to saltwater environments. Current threats facing green sturgeon are reduction and degradation of spawning habitat from artificial barriers, reduction in stream flow as a result of artificial barriers, agricultural practices, and bycatch from oceanic commercial harvesting (NOAA 2012).

CNDDB Occurrences

The nearest CNDDB occurrence of the green sturgeon is approximately 13 miles north of the BSA in Shasta Lake. There is also one CNDDB occurrence in the Sacramento River near Red Bluff, CA. Green sturgeon are known to occur in the Sacramento River.

Status of green sturgeon southern DPS occurring in the BSA

Adult Green Sturgeon Habitat

Green sturgeons are found in oceanic waters near the coastline, and in estuaries, bays and large river systems. Suitable spawning habitat consists of high velocity waters with gravel to cobble substrates. Cold waters are thought to be an important aspect of embryotic development. Green sturgeon occur in the mainstem of the Sacramento River below the Keswick Dam.

The Sacramento River near the City of Redding is designated critical habitat (74 FR 52300) for green sturgeon. There are recorded instances of green sturgeon spawning in the Sacramento River near the BSA, specifically in the Enterprise quadrangle. Adult green sturgeon use the Sacramento River near the City of Redding as a migration corridor to reach upstream spawning grounds, which have been reported in the northern reaches of the Sacramento River above the Project site (Heublein etal. 2008; Brown 2006).

Juvenile Green Sturgeon Habitat

Juvenile green sturgeon need two types of habitats that allow them to forage and rest. Open areas are required for foraging at night when they are most active, while structured, low light environments (e.g rock structures, deep pools) are required during the day when they are the least active and seeking refuge. It is believed that juvenile green sturgeon rear within the Sacramento River between the Keswick Dam and Hamiliton City (U.S Department of Interior 2008). Juvenile green sturgeon are able to handle higher temperatures than salmonid species but cease migration movements downstream if temperatures are too high (approximately 45°F-66°F) (U.S Department of Interior 2008; Mayfield and Cech 2004).

There are known instances of this reach of the Sacramento River providing rearing habitat for juvenile green sturgeon. From the years 1994-2000 2,608 juveniles were observed in the Upper Sacramento River from Hamilton City north to Redding. Instances were again recorded in 2001, 2005, 2006, 2008, 2009, 2010, 2011, 2012, 2015 & 2019. Adults were regularly caught or detected in 1991, 1992, 2002 to 2020 (CNDDB 2023).

Pacific Lamprey

The Pacific lamprey is a SSC in California. This species is a parasitic, jawless, eel-shaped fish with a sucker-like disc for a mouth and 3 teeth. Unlike other fish, they lack paired fins, scales, bones, vertebrae, and a swim bladder. As adults, they are anadromous, spending about 1-3 years in the ocean, then migrating to freshwater to spawn. Historically, Pacific lamprey were abundant along the West coast North America, but populations have declined and have been extirpated in parts of southern California. Threats to this species include dewatering, flow management, and passage barriers (CDFW 2023).

CNDDB Occurrences

The nearest CNDDB occurrence is located approximately 15 miles from the BSA in Clover Creek.

Status of Pacific Lamprey Occurring in the BSA

Historically, the Pacific lamprey was widespread and commonly found in the Sacramento River. Suitable habitat is present and there is one record of this species in Clover Creek which is hydrologically connected to the Sacramento River. There is low potential for the Pacific lamprey to occur in the BSA.

Steelhead Salmon

Steelhead and rainbow trout are the same species and are distinguished from each other through evolutionary behaviors. Steelhead are anadromous meaning that they spend part of their life in oceanic environments. Rainbow trout are freshwater residents and remain in freshwater environments throughout their entire lifecycle. NMFS characterize steelhead into DPSs which are meant to separate steelhead from their resident form, rainbow trout. Steelhead DPSs can be recognized under the ESA rather than the species and therefore limit protection to only anadromous forms of the species. Central Valley (CV) steelhead is the only DPS that occurs within the BSA. The following discusses CV steelhead and its occurrence within the BSA.

Central Valley Steelhead DPS

The Central Valley Steelhead Distinct Population Segment (DPS) is federally listed as threatened under the ESA; originally listed in 1998 and listed again under revised criteria in 2006 (71 FR 834). In 2014, NMFS released a final multi-species recovery plan that addresses all three listed salmonids in the California Central Valley, including steelhead (NMFS 2014).

Steelhead are small-bodied in general compared to their coastal counterparts and rarely exceed 60 centimeters in fork length, which may be an adaptation to the distance inland these fish migrate to reach their spawning areas in some cases (Moyle 2002). Steelhead will spend 2 to 3 years growing in a marine environment before migrating into the Sacramento and San Joaquin River systems, as well as far upstream into the tributaries of these river systems, to spawn. Steelhead generally move quickly through the main stem of the Sacramento River to their respective spawning grounds, where they then seek out suitable spawning habitat. Steelhead require habitat with cool, permanent streams for spawning and rearing (NMFS 2014). The steelhead population is entirely a “winter-run” fish that enters the river system in November through April as fully reproductively mature adults to spawn before emigrating back to marine habitat (Moyle et al. 2008). Adult steelhead require cold, clear, relatively fast-moving water that is usually provided by snowmelt-driven stream systems at the time they are spawning. Depths required for spawning are typically 10 to 150 cm (Moyle 2002 cited in NMFS 2014), and optimum depth for spawning is 14 inches (Bovee 1978 cited in McEwan 2001). Juvenile steelhead may spend from just months up to 7 years rearing in freshwater, with most emigrating to the ocean after 1 to 2 years (NMFS 2016). For the first year or two of life, juvenile steelhead are found in cool, fast-flowing, permanent streams and rivers where riffles predominate over pools and there is ample cover from riparian vegetation or undercut banks (Moyle 2002 cited in NMFS 2014).

CNDDB Occurrences

The nearest CNDDB occurrence of Central Valley Steelhead DPS is located within 5 miles of the BSA in Clear Creek, a tributary of the Sacramento River. Another CNDDB occurrence is located in the Sacramento

River approximately 13 miles southeast of the BSA. Central Valley Steelhead DPS are known to occur in the Sacramento River.

Status of Central Valley Steelhead DPS occurring in the BSA

Adult CV Steelhead

Central Valley steelhead inhabit the Pacific coastlines, as well as the Sacramento and San Joaquin rivers and their associated tributaries. They hold in the lower portions of tributaries until the flows are high enough to access the upper portions of the streams. Spawning is the most concentrated in the far reaches of the furthest accessible tributaries of the Sacramento River.

The Sacramento River near the City of Redding is designated critical habitat (70 FR 52488) for CV steelhead. CV steelhead spawn in the far reaches, of the furthest accessible tributaries, off the mainstem of the Sacramento River. There is also no suitable holding habitat for CV steelhead as CV steelhead hold in deep, calm pools within the lower portions of the Sacramento Rivers tributaries. The Sacramento River near the City of Redding is used as a migration corridor for CV steelhead to reach their spawning and holding grounds which reside either upstream or downstream of the Project site.

Juvenile CV Steelhead

After emerging, steelhead fry find shelter within coarse cobble substrates near the margin of stream banks. As fry develop they begin to move into habitats that contain more turbulent flows such as riffles, and deep runs. Eventually large juvenile steelhead find refuge in deep, cold water pools (U.S Department of the Interior 2008).

The Sacramento River near the City of Redding contains a relatively low gradient, calm water environment. There is no habitat for rearing juveniles in this stretch of the Sacramento River as it does not contain coarse cobble or turbulent waters. Water temperatures within the Redding reach of the Sacramento River are often at intolerable levels for juvenile steelhead and which are ideal for predatory fish such as striped bass. Juvenile steelhead use this stretch of the Sacramento River as a migration corridor during the winter and spring months when water temperatures are cool and they are ready to enter into salt water environments (U.S Department of the Interior 2008). Therefore, there is no suitable habitat present within the BSA for rearing juvenile steelhead.

Bald Eagle

The bald eagle is listed as California endangered. The bald eagle is a bird of aquatic ecosystems, frequenting large lakes, rivers, estuaries, reservoirs and some coastal habitats. It feeds primarily on fish, but waterfowl, gulls, cormorants, and a variety of carrion may also be consumed. Bald eagles usually nest in trees near water, but may use cliffs in the southwest United States, and ground nests have been reported from Alaska. Adults us the same breeding territory, and often the same nest, year after year. They may also use one or more alternate nests within their breeding territory.

CNDDB Occurrences

The nearest CNDDB occurrence for the bald eagle is within 2 miles from the BSA along the Sacramento River.

Status of bald eagle occurring in the BSA

The Sacramento River provides suitable foraging habitat for the bald eagle. There is moderate potential for bald eagles to occur within the BSA.

Purple Martin

Purple martin is listed as a California SSC. Purple martins are the largest of the swallow species in North America and have a distinct steel blue or purple sheen. Purple martins have patchy distribution throughout temperate North America and can use a variety of natural or manmade cavities for breeding. Purple martins require relatively abundant aerial insect prey, as they exclusively feed on insects (Brown 2013). They are most abundant in mesic areas due to high aerial insect abundance. They are most often found nesting in existing cavities in open, early seral forests. The loss of nest cavities to non-native European starlings (Sturnus vulgaris) is posited to lead to local extirpations.

CNDDB Occurrences

The nearest CNDDB occurrences of purple martin are more than 15 miles from the BSA along Shasta Lake.

Status of purple martin occurring in the BSA

Suitable habitat is present within the BSA in the form of woodlands and a barn for nesting and open water and fields for foraging. Due to the nearest occurrence being over 15 miles from the BSA, there is low potential for purple martins to occur in the BSA.

Pallid Bat

Pallid bats are designated as a CDFW SSC. Pallid bats roost alone, in small groups (two to 20 bats), or gregariously (hundreds of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g. basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators. However, this species has also been found roosting on or near the ground under burlap sacks, stone piles, rags, and baseboards. Lewis 1996 found that pallid bats have low roost fidelity and both pregnant and lactating pallid bats changed roosts an average of once every 1.4 days throughout the summer. Overwintering roosts have relatively cool, stable temperatures and are located in protected structures beneath the forest canopy or on the ground, out of direct sunlight. In other parts of the species' range, males and females have been found hibernating alone or in small groups, wedged deeply into

narrow fissures in mines, caves, and buildings. At low latitudes, outdoor winter activity has been reported at temperatures between –5 and 10 °C.

CNDDB Occurrences

The nearest CNDDB occurrence of pallid bat is approximately 9 miles east of the BSA beneath a bridge.

Status of pallid bats occurring in the BSA

Suitable habitat is present within the BSA in the form of valley oak woodland and riparian habitat and a barn; however, this species is highly sensitive to human disturbance. Potential for occurrence within the BSA is low.

Townsend's Big-eared Bat

Townsend's Big-eared bats are designated as a CDFW SSC. Townsend's Big-eared bats colonial species. Maternity colonies form between March and June, with the timing varying based on local climate, elevation, and latitude. Colonies typically range from a few dozen to several hundred individuals, although colonies of over 1,000 have been documented. Townsend's big-eared bat prefers open surfaces of caves or cave-like structures, such as mine adits and shafts. It has also has been reported in such structures as buildings, bridges, and water diversion tunnels that offer a cave-like environment. It has been found in rock crevices and, like a number of bat species, in large hollow trees. Foraging associations include edge habitats along streams and areas adjacent to and within a variety of wooded habitats. (CDFW 2016)

CNDDB Occurrences

The nearest CNDDB occurrence of Townsend's big-eared bat is approximately 7 miles northwest of the BSA.

Status of Townsend's big-eared bat occurring in the BSA

Suitable habitat is present within the BSA in the form of trees and a barn; however, this species is extremely sensitive to human disturbance. Potential for occurrence within the BSA is low.

Migratory birds and raptors

Nesting birds are protected under the MBTA (16 USC 703) and the CFGC (§3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Take includes the disturbance of an active nest resulting in the abandonment or loss of young.

The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

CNDDB Occurrences

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDB because they are abundant and widespread.

Status of migratory birds and raptors occurring in the BSA

There is suitable nesting habitat for a variety of ground, shrub, and tree nesting avian species throughout the BSA. A list of the bird species observed flying through or utilizing the BSA during the field survey is provided as **Appendix B**.

REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

Federal

Waters of the United States, Clean Water Act, Section 404

The US Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term "waters of the United States" is an encompassing term that includes "wetlands" and "other waters." Wetlands have been defined for regulatory purposes as follows: "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas." Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

The Corps may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

Clean Water Act, Section 401

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State

Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB) per the Clean Water Act (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

Migratory Bird Treaty Act

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13).

Federal Endangered Species Act

The United States Congress passed the ESA in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either “endangered” or “threatened.” Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS also maintains a list of “candidate” species. Candidate species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. “Proposed” species are those that have been proposed for listing but have not yet been listed.

The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan (FMP). The MSA requires federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, authorized, funded, or undertaken by the agencies that may adversely affect EFH (MSA section 305[b][2]). A component of this consultation process is the preparation and submittal of an Essential Fish Habitat Assessment (EFHA). The EFH mandate applies to all species managed under an FMP. For the Pacific coast (excluding Alaska), there are three FMPs covering groundfish, coastal pelagic species, and Pacific salmon.

State of California

California Endangered Species Act

The CESA is similar to the ESA but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, "Species of Special Concern" receive consideration by CDFW. Species of Special Concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code (§3503.5)

The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

California Migratory Bird Protection Act

The CMBPA amends the CFGC (§3513) to mirror the provisions of the MBTA and allow the State of California to enforce the prohibition of take or possession of any migratory nongame bird as designated in the federal MBTA, including incidental take.

Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance have the potential to affect bird species protected by the MBTA and CFGC. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31). If vegetation removal or ground-disturbing activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA and CFGC present in the Project area prior to commencement of vegetation removal or ground-disturbing activities. If active nests are located or presumed present, then appropriate avoidance measures (e.g., spatial or temporal buffers) must be implemented.

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA

provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Lake and Streambed Alteration Agreement, CFGC (§1602)

The CDFW is a trustee agency that has jurisdiction under the CFGC (§1600 et seq.). The CFGC (§1602), requires that a state or local government agency, public utility, or private entity must notify CDFW if a proposed Project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds… except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants and/or seeds before they are destroyed. Fish and game Code §1913 exempts from the 'take' prohibition "the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way."

CONCLUSIONS AND RECOMMENDATIONS

Endangered, Threatened and Rare Plants

There are no special-status botanical species present within the BSA; therefore, there will be no effects to special-status botanical species or their habitats and no avoidance and minimization measures are proposed.

Endangered, Threatened, and Special-status Wildlife

The following are the recommended minimization and mitigation measures to reduce or eliminate Project-associated impacts to special-status wildlife species. These proposed measures may be amended or superseded by the Project-specific permits issued by the regulatory agencies.

Anadromous fishes

Green sturgeon, Chinook, and steelhead are known to occur in the Sacramento River. Pacific lamprey may also occur. The portion of the Sacramento River where the Project occurs is used predominately as a migration corridor for adult and juvenile green sturgeon, Chinook and steelhead to reach northerly spawning grounds and facilitate outward migration, but there is potential for spawning to occur. It is also potentially used by juvenile Chinook as an area for refugia during the wet/winter season. It is unknown if juvenile green sturgeon rear or occupy the Redding reach of the Sacramento River. It is also unknown if there is suitable holding habitat for CV spring-run Chinook salmon. It is known that green sturgeon, Chinook and steelhead use this portion of the Sacramento River for migration.

Potential impacts to the Sacramento River, if any, are unknown at the time of writing this document. If potential impacts to the Sacramento River are proposed the development of a Biological Assessment (BA) in support of federal Endangered Species Act consultation will be required. The BA will detail project specific impacts, avoidance and minimization measures and compensatory mitigation, if necessary, in support of NMFS review and approval.

- An erosion control plan that incorporates erosion BMPs shall be created and implemented prior to the wet season (October 15 – April 1) in order to avoid sediment from entering into the waters of the U.S.
- BMPs shall be implemented that are necessary to minimize the risk of sedimentation, turbidity, and hazardous material spills. Applicable BMPs will include permanent and temporary erosion control measures, including use of straw bales, mulch or wattles, silt fences, filter fabric, spill remediation material such as absorbent booms, and ultimately seeding and revegetating.
- All fueling and/or equipment maintenance shall occur 250 feet from all water bodies and riparian areas, except for pile drivers or other stationary equipment, and a spill prevention plan (SPP) and cleanup will be created and implemented if a spill or equipment leak occurs during construction activities. Any spill within the active channel of the Sacramento River will be reported to NMFS, CDFG and other appropriate resource agencies within 48 hours.
- A spill prevention plan (SPP) and storm water pollution prevention plan (SWPPP) shall be developed and implemented by the contractor. Spill prevention measures will include stockpiling absorbent booms, staging hazardous materials at least 25 feet away from the river, and maintaining and checking construction equipment to prevent fuel and lubrication leaks. SWPPP measures will utilize applicable BMPs such as use of silt fences, straw bales, and other methods necessary to minimize storm water discharge associated with construction activities.

- The contractor should have absorbent booms available within 250 feet of the live channel during all in channel work to be further prepared for quick containment of any spills within or adjacent to the Sacramento River.

Bats

- If mature trees are proposed for removal, they should be removed and/or fallen between September 16 – March 15, outside of the bat maternity season.
- Trees should be removed at dusk to minimize impacts to roosting bats. If trees cannot be removed during dusk, then a qualified biologist shall be onsite to monitor for the presence of bats during tree removal activities.
- A preconstruction bat survey should be conducted prior to any building demolition. If bats are found, bat exclusion devices shall be installed by a qualified biologist. No demolition shall occur until all bats have left the building, as determined by the qualified biologist.

Migratory birds and raptors

- Project activities including site grubbing and vegetation removal shall be initiated outside of the bird nesting season (February 1 – August 31).
- If Project activities cannot be initiated outside of the bird nesting season, then the following will occur:
    - A qualified biologist will conduct a pre-construction survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
    - If an active nest (i.e., containing egg[s] or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist based on the species, nest type and tolerance to disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

Other Natural Resources

Waters of the United States

If activities occur within the ordinary high-water mark and/or result in fill or discharge to any waters of the U.S which include but are not limited to, intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, vernal pools or natural ponds, then the following will need to be obtained:

- Prior to any discharge or fill material into Waters of the U.S, authorization under a Nationwide Permit or Individual Permit shall be obtained from the Corps. For fill requiring a Corps permit, a water quality certification from the Regional Water Quality Board (Clean Water Act §401) shall also be obtained prior to discharge of dredged or fill material.

- Prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of any perennial, intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW, and, if required, a Lake and Streambed Alteration Agreement (§1602) shall be obtained.

Oak Woodland

Impacts to oaks within the BSA must be mitigated as required by the City of Redding. The City of Redding enacted a Tree Preservation Ordinance (Chapter 18.45 of the Municipal Code) and oak tree preservation guide.[1] Prior to Project entitlement a Tree Protection Plan, which includes a tree delineation, impacts assessment, tree health survey, and tree protection requirements will be required. The Tree Protection Plan will identify the type, location, and number of trees that will be preserved on-site.

[1] City of Redding. Trees & Construction, A Guide to Preservation. Document retrieved from: http://www.cityofredding.org/home/showdocument?id=3720

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Appendix A

Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2023-0059542
Project Name: Wyndham Lane Subdivision

March 23, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2023-0059542
Project Name: Wyndham Lane Subdivision
Project Type: New Constr - Above Ground
Project Description: Redding
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.5595759,-122.37759786175694,14z



Counties: Shasta County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPAC USER CONTACT INFORMATION

Agency:	Gallaway Enterprises
Name:	Alexander Smither
Address:	117 Meyers Street
Address Line 2:	Suite 120
City:	Chico
State:	CA
Zip:	95928
Email	alexsmither91@gmail.com
Phone:	5303329909

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Shasta Dam (4012264) OR Project City (4012263) OR Redding (4012254) OR Bella Vista (4012262) OR Palo Cedro (4012252) OR Enterprise (4012253))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Anthicus antiochensis Antioch Dunes anthicid beetle	IICOL49020	None	None	G3	S3	
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G4	S4	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Brodiaea matsonii Sulphur Creek brodiaea	PMLIL0C0H0	None	None	G1	S1	1B.1
Clarkia borealis ssp. borealis northern clarkia	PDONA05062	None	None	G3T4	S4	4.3
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Cryptantha crinita silky cryptantha	PDBOR0A0Q0	None	None	G2	S2	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Entosphenus tridentatus Pacific lamprey	AFBAA02100	None	None	G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Euderma maculatum spotted bat	AMACC07010	None	None	G4	S3	SSC
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Cottonwood Riparian Forest						
Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Great Valley Valley Oak Riparian Forest						
Great Valley Willow Scrub	CTT63410CA	None	None	G3	S3.2	
Great Valley Willow Scrub						
Haliaeetus leucocephalus	ABNKC10010	Delisted	Endangered	G5	S3	FP
bald eagle						
Helminthoglypta hertleini	IMGASC2280	None	None	G3Q	S1S2	
Oregon shoulderband						
Hydromantes shastae	AAAAD09030	None	Threatened	G3	S3	
Shasta salamander						
Juncus leiospermus var. leiospermus	PMJUN011L2	None	None	G2T2	S2	1B.1
Red Bluff dwarf rush						
Lanx patelloides	IMGASL7030	None	None	G2?	S2	
kneecap lanx						
Lasionycteris noctivagans	AMACC02010	None	None	G3G4	S3S4	
silver-haired bat						
Lathyrus sulphureus var. argillaceus	PDFAB25101	None	None	G5T1T2Q	S1S2	3
dubious pea						
Legenere limosa	PDCAM0C010	None	None	G2	S2	1B.1
legenere						
Lepidurus packardi	ICBRA10010	Endangered	None	G4	S3	
vernal pool tadpole shrimp						
Limnanthes floccosa ssp. bellingeriana	PDLIM02041	None	None	G4T3	S1	1B.2
Bellinger's meadowfoam						
Limnanthes floccosa ssp. floccosa	PDLIM02043	None	None	G4T4	S3	4.2
woolly meadowfoam						
Linderiella occidentalis	ICBRA06010	None	None	G2G3	S2S3	
California linderiella						
Margaritifera falcata	IMBIV27020	None	None	G4G5	S1S2	
western pearlshell						
Monadenia troglodytes wintu	IMGASC7092	None	None	G1G2T1T2	S2	
Wintu sideband						
Neviusia cliftonii	PDROS14020	None	Candidate Endangered	G2	S2	1B.2
Shasta snow-wreath						
Oncorhynchus mykiss irideus pop. 11	AFCHA0209K	Threatened	None	G5T2Q	S2	
steelhead - Central Valley DPS						
Oncorhynchus tshawytscha pop. 11	AFCHA0205L	Threatened	Threatened	G5T2Q	S2	
chinook salmon - Central Valley spring-run ESU						
Oncorhynchus tshawytscha pop. 7	AFCHA0205B	Endangered	Endangered	G5T1Q	S2	
chinook salmon - Sacramento River winter-run ESU						

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Paronychia ahartii Ahart's paronychia	PDCAR0L0V0	None	None	G3	S3	1B.1
Pekania pennanti Fisher	AMAJF01020	None	None	G5	S2S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rana boylii pop. 1 foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	G3T4	S4	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3S4	SSC
Trifolium piorkowskii maverick clover	PDFAB40410	None	None	G2	S2	1B.2
Trilobopsis roperi Shasta chaparral	IMGASA2030	None	None	G2	S1	
Vaccinium shastense ssp. shastense Shasta huckleberry	PDERI181Z1	None	None	G4T3	S3	1B.3
Vespericola shasta Shasta hesperian	IMGASA4070	None	None	G3	S3	
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 53

CNPS Rare Plant Inventory

California Native Plant Society

Search Results

28 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**4012264:4012263:4012254:4012262:4012252:4012253**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK
Adiantum shastense	Shasta maidenhair fern	Pteridaceae	perennial herb	Apr-Aug	None	None	S3	4.3
Agrostis hendersonii	Henderson's bent grass	Poaceae	annual herb	Apr-Jun	None	None	S2	3.2
Allium sanbornii var. *sanbornii*	Sanborn's onion	Alliaceae	perennial bulbiferous herb	May-Sep	None	None	S3S4	4.2
Arctostaphylos malloryi	Mallory's manzanita	Ericaceae	perennial evergreen shrub	Apr-Jul	None	None	S3	4.3
Arnica venosa	Shasta County arnica	Asteraceae	perennial rhizomatous herb	May-Jul(Sep)	None	None	S3	4.2
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	S4	4.3
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	S2	1B.2
Brodiaea matsonii	Sulphur Creek brodiaea	Themidaceae	perennial bulbiferous herb	May-Jun	None	None	S1	1B.1
Bulbostylis capillaris	thread-leaved beakseed	Cyperaceae	annual herb	Jun-Aug	None	None	S3	4.2
Clarkia borealis ssp. *borealis*	northern clarkia	Onagraceae	annual	Jun-Sep	None	None	S4	4.3
Cryptantha crinita	silky cryptantha	Boraginaceae	annual herb	Apr-May	None	None	S2	1B.2
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	May-Jul	None	None	S4	4.2
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	None	CE	S2	1B.2
Iris bracteata	Siskiyou iris	Iridaceae	perennial rhizomatous herb	May-Jun	None	None	S3	3.3
Juncus leiospermus var. *leiospermus*	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	None	None	S2	1B.1
Lathyrus sulphureus var. *argillaceus*	dubious pea	Fabaceae	perennial herb	Apr-May	None	None	S1S2	3
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	S2	1B.1
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	S4	4.3
Limnanthes floccosa ssp. *bellingeriana*	Bellinger's meadowfoam	Limnanthaceae	annual herb	Apr-Jun	None	None	S1	1B.2

Limnanthes floccosa ssp. *floccosa*	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	S3	4.2
Neviusia cliftonii	Shasta snow-wreath	Rosaceae	perennial deciduous shrub	Apr-Jun	None	CC	S2	1B.2
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	S2	1B.1
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	None	None	S3	1B.1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	S3	1B.2
Sidalcea celata	Redding checkerbloom	Malvaceae	perennial herb	Apr-Aug	None	None	S2S3	3
Trifolium piorkowskii	maverick clover	Fabaceae	annual herb	Apr-May	None	None	S2	1B.2
Vaccinium shastense ssp. *shastense*	Shasta huckleberry	Ericaceae	perennial deciduous shrub	(Jun-Sep)Dec-May	None	None	S3	1B.3
Viburnum ellipticum	oval-leaved viburnum	Viburnaceae	perennial deciduous shrub	May-Jun	None	None	S3?	2B.3

Showing 1 to 28 of 28 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 23 March 2023].

Wyndham Lane Subdivision

Quad Name **Redding**
Quad Number **40122-E4**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - **X**
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Lead Agency:
S & J Development, Inc.

Applicant:
S & J Development, Inc.
2960 Innsbruck Drive
Redding, CA 96003

Alexander Smither
Gallaway Enterprises
530.332.9909

Appendix B

Observed Species Lists

Observed Wildlife Species at Wyndham Lane Subdivision on March 27, 2023	
Scientific Name	**Common Name**
Neovison vison	American mink
Odocoileus hemionus	Mule deer

Plant Species Observed within Wyndham Lane Subdivision March 16, 2023	
Scientific Name	**Common Name**
Claytonia perfoliata	miners lettuce
Quercus lobata	valley oak
Vicia sativa	common vetch
Bromus hordeaceus	soft brome
Erodium botrys	broadleaf filaree
Medicago polymorpha	bur clover
Brassica rapa	field mustard
Nemophilia heterophylla	white nemophilia
Rubus armeniacus	himalayan blackberry
Ligustrum lucidum	glossy privet
Marrubium vulgar	white horehound
Prunus persica	peach
Torilis arvensis	field hedge parsley
Vinca major	bigleaf periwinkle
Raphanus raphanistrum	wild radish
Madia sativa	coast tarweed
Malva parviflora	cheeseweed
Nadina domestica	sacred bamboo
Quercus wislizeni	interior live oak
Erodium cicutarium	red stemmed filaree
Nemophilia parviflora	small flowered nemophilia
Lupinus bicolor	annual lupine
Prunus amygdalus	almond
Arctostaphylos manzanita	common manzanita
Opuntia spp	pricklypear
Equisetum arvense	common horsetail
Salix spp	willows
Hedera helix	english ivy
Hordeum murinum	wall barley
Acacia dealbata	siler wattle
Eschscholzia californica	california poppy
Veronica persica	birdeye speedwell

Appendix C

Draft Delineation of Waters of the United States Map



NORTH

1:3,000 1 inch = 250 feet

0 125 250 Feet

Data Sources: ESRI, City of Redding GIS 05/27/2020, Sarah Dunlap Sawyer Inc.

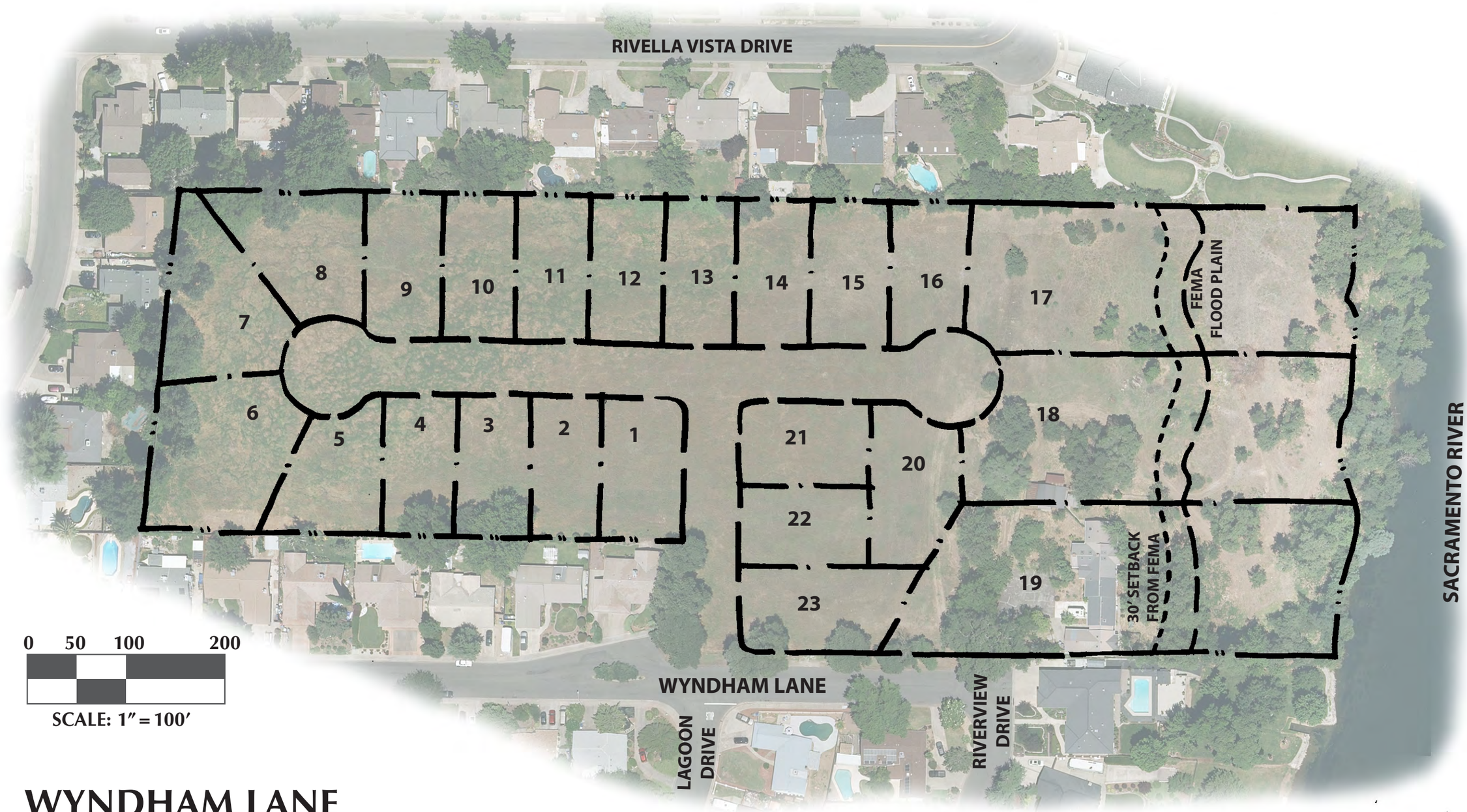
Wyndham Lane Subdivision
Delineation of Aquatic Resources
Figure 4

gallaway ENTERPRISES

GE: #22-133 Map Date: 03/29/2023

Appendix D

Proposed Site Development Plan



WYNDHAM LANE
SINGLE-FAMILY SUBDIVISION CONCEPT

JUNE 29, 2021

SHARRAH DUNLAP SAWYER
INCORPORATED

Appendix E

Project Site Photos

Project Site Photos

(Taken March 27, 2023)



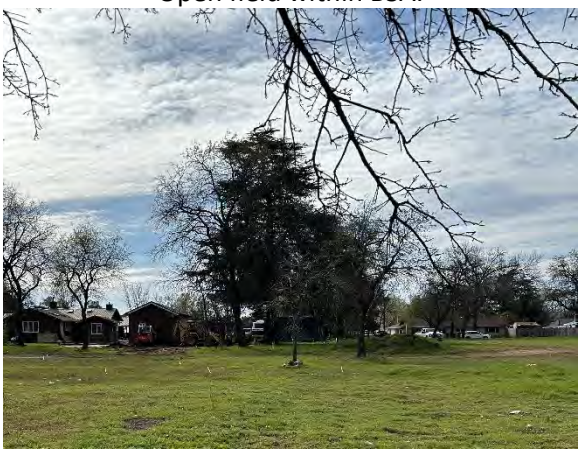
Gravel adjacent to the Sacramento River.



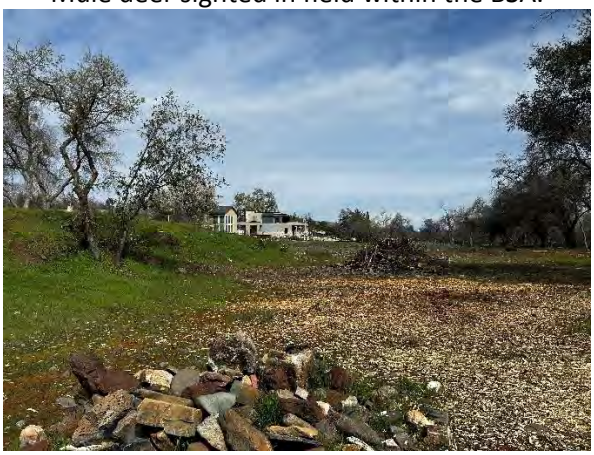
Open field within BSA.



Mule deer sighted in field within the BSA.



Barn within the BSA



Burn Pile and Rock Pile within the BSA.



Riparian Vegetation along the Sacramento River.

Attachment C

Draft Delineation of Aquatic Resources and supporting delineation map.

DRAFT DELINEATION OF AQUATIC RESOURCES

Wyndham Lane Subdivision

City of Redding, Shasta County, California

March 2023



Prepared for:
S & J Development, Inc
Jeb Allen
2960 Innsbruck Dr.
Redding, CA 96003

Prepared by:
Gallaway Enterprises
117 Meyers Street, Suite 120
Chico, CA 95928
(530) 332-9909
www.gallawayenterprises.com

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Appendix B: Ordinary High-Water Mark Data Sheet

DRAFT DELINEATION OF AQUATIC RESOURCES,

Wyndham Lane Subdivision, Shasta County, California

Introduction and Project Location

Gallaway Enterprises conducted a Delineation of Aquatic Resources including waters of the United States (WOTUS) for the Wyndham Lane Subdivision (Project) site consisting of an approximately 11-acre survey area located at 2980 Wyndham Lane in Redding, Shasta County, California (**Figure 1 and 2**). The BSA is located within the "Redding" United States Geological Survey (USGS) quadrangle, Section 12, Township 31N, Range 05W.

The Project site is accessible from Wyndham Lane. To access the site from CA-273 heading south in Redding, turn left onto Wyndham Lane for approximately 0.7 miles and the Project site will be on the left.

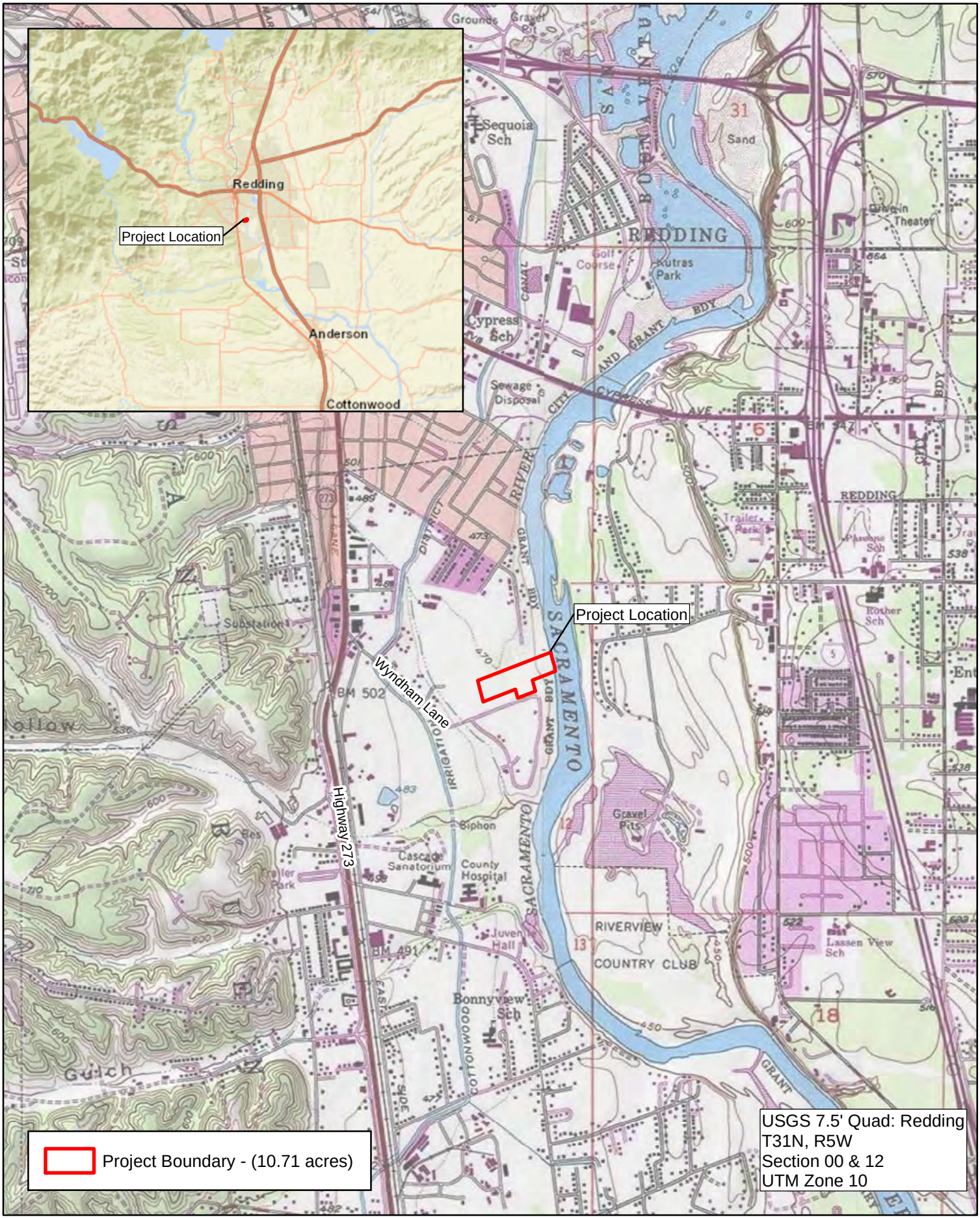
A survey of WOTUS was conducted on March 16, 2023 by Botanist Matt Mayer. Data regarding the location and extent of waters of the United States and other aquatic resources were collected using a Trimble Geo Explorer 6000 Series GPS Receiver. The survey involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the *United States Army Corps of Engineers Wetlands Delineation Manual* (1987) (1987 Delineation Manual); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008) (Arid West Manual); the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007); the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008), and the *2020 Arid West Regional Wetland Plant List* and the *2020 National Wetland Plant List.* Gallaway Enterprises have prepared this report in compliance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (January 2016).

Environmental Setting and Site Conditions

The Project site is in Redding, Shasta County, California. The site is at the base of the foothills of the Klamath Mountain Range at the northern terminus of the Sacramento River Valley in the City of Redding. Historically, the site would have been comprised of perennial and annual grasslands, valley oak savannas, cottonwoods, and willow. It is now dominated by residential land cover types. Historic vegetation in this area consisted of riparian woodlands comprised of Fremont cottonwood, California sycamore, willow, box-elder, and valley oak. The Project site is comprised of very gently to gently sloping floodplains toward the Sacramento River to the east.

The Sacramento River runs along the eastern boundary of the Project site from north to south. The Sacramento River is the principal river of Northern California and is the largest river in California. The river flows for approximately 400 miles before reaching its outlet at Suisun Bay.

The average annual precipitation is 44.18 inches and the average annual temperature is 61.4°F in the region where the Project site is located (WRCC 2021). The Project site occurs at an elevation of approximately 436 to 462 feet above sea level. The site is sloped between 0 and 3 percent. Soils within the site are fine sandy loams.



NORTH

1:24,000

0 0.25 0.5 Miles

Data Sources: ESRI, USGS, Shasta County

Wyndham Lane Subdivision
Regional Location
Figure 1

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GE: #22-133 Map Date: 03/06/2023



NORTH

1:3,000

0 150 300 Feet

Data Sources: ESRI, City of Redding GIS 05/27/2020, Sarah Dunlap Sawyer Inc.

Wyndham Lane Subdivision
Project Location
Figure 2

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GE: #22-133 Map Date: 02/14/2023

Survey Methodology

The entire Project site was surveyed on-foot by Gallaway Enterprises staff on March 16, 2023 to identify any potentially jurisdictional features. The survey, mapping efforts, and report production were performed according to the current valid legal definitions of WOTUS in effect as of September 20, 2021. The boundaries of non-tidal, non-wetland waters, when present, were delineated at the ordinary high water mark (OHWM) as defined in 33 Code of Federal Regulations (CFR) 328.3. The OHWM represents the limit of United States Army Corps of Engineers (Corps) jurisdiction over non-tidal waters (e.g., streams and ponds) in the absence of adjacent wetlands (33 CFR 328.04) (Curtis, et. al. 2011). Historic aerial photographs available on Google Earth were analyzed prior to conducting the field visit. Areas identified as unusual aerial signatures were assessed in the field to determine the current conditions.

Wetland perimeters based on the 1987 Delineation Manual and the Arid West Manual were recorded, if observed, and defined according to their topographic and hydrologic orientation. Only areas exhibiting the necessary wetland parameters according to the 1987 Delineation Manual and Arid West Manual on the date surveyed were mapped as wetlands. Photographs were taken to show wetland features and/or areas identified as having unusual aerial signatures. The locations of the photo points are depicted in **Figure 3** and the associated photographs are provided at the end of the report.

Many of the terms used throughout this report have specific meanings relating to the federal wetland delineation process. Term definitions are based on the Corps 1987 Delineation Manual; the Arid West Manual; *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, (*Lichvar and McColley 2008*)* and the Corps *Jurisdictional Determination Form Instructional Guidebook* (2007). The terms defined below have specific meaning relating to the delineation of WOTUS as prescribed by §404 of the Clean Water Act (CWA) and described in 33 CFR Part 328 and 40 CFR Parts 110, 112, and 116, and 122.

Determination of Hydrophytic Vegetation

The presence of hydrophytic vegetation was determined using the methods outlined in the 1987 Delineation Manual and the Arid West Manual. Areas were considered to have positive indicators of hydrophytic vegetation if they pass the dominance test, meaning more than 50 percent of the dominant species are obligate wetland, facultative wetland and facultative plants. Plant species were identified to the lowest taxonomy possible. Plant indicator status was determined by reviewing the 2020 Arid West Region Wetland Plant List and the 2020 National Wetland Plant List. In situations where dominance can be misleading due to seasonality, the prevalence index will be used to determine hydrophytic status of the community surrounding sample sites.

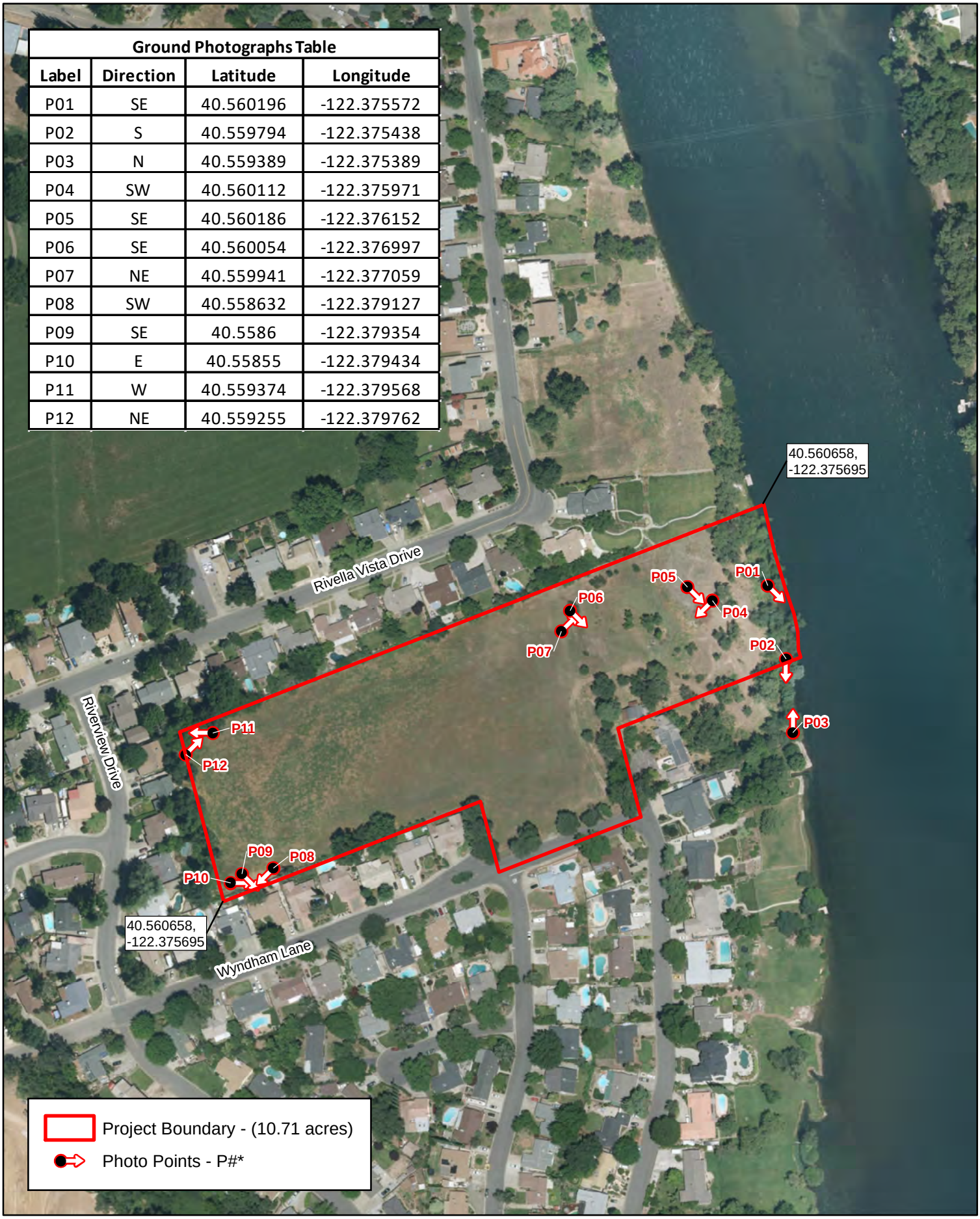
Plant indicator status categories:

Obligate wetland plants (OBL) – plants that occur almost always (estimated probability 99%) in wetlands under normal conditions, but which may also occur rarely (estimated probability 1%) in non-wetlands.

Facultative wetland plants (FACW) - plants that usually occur (estimated probability 67% to 99%) in wetlands under normal conditions, but also occur (estimated probability 1% to 33%) in non-wetlands.

Facultative plants (FAC) – Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands.

Facultative upland plants (FACU) – Plants that occur sometimes (estimated probability 1% to 33%) in wetlands, but occur more often (estimated probability 67% to 99%) in non-wetlands.



NORTH

1:3,000

0 150 300 Feet

Data Sources: ESRI, City of Redding GIS 05/27/2020

Wyndham Lane Subdivision
Ground Photographs
Figure 3

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GE: #22-133 Map Date: 03/27/2023

Obligate upland plants (UPL) – Plants that occur rarely (estimated probability 1%) in wetlands, but occur almost always (estimated probability 99%) in non-wetlands under natural conditions.

Determination of Hydric Soils

Soil survey information was reviewed for the current site condition. Field samples, when taken, were evaluated by using the Munsell soil color chart (2009 Edition), hand texturing, and assessing soil features (e.g. oxidized root channels, evidence of hardpan, Mn and Fe concretions). Information regarding local soil and series descriptions is provided in **Appendix A.** The current Natural Resources Conservation Service (NRCS) *Field Indicators of Hydric Soils in the United States, Version 8.2* (NRCS 2018) was used in conjunction with the Arid West Manual to determine the presence of hydric soil indicators when necessary.

Determination of Wetland Hydrology

Wetland hydrology was determined to be present if a site supported one or more of the following characteristics:

- Landscape position and surface topography (e.g. position of the site relative to an up-slope water source, location within a distinct wetland drainage pattern, and concave surface topography),
- Inundation or saturation for a long duration either inferred based on field indicators or observed during repeated site visits, and
- Residual evidence of ponding or flooding resulting in field indicators such as scour marks, sediment deposits, algal matting, surface soil cracks and drift lines.

The presence of water or saturated soil for approximately 12% or 14 consecutive days during the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow and the types of soils that develop (Wetland Training Institute 1995).

Historic aerial photographs were analyzed to look for primary and secondary wetland hydrology indicators of inundation or saturation. The historic aerial imagery reviewed was the public, readily available imagery provided on Google Earth. If aerial signatures demonstrated the presence of surface water on 1 or more of the historic aerial photographs viewed, inundation and a primary indicator of wetland hydrology was determined to be present. Saturation, a secondary indicator of wetland hydrology, was determined to be present if saturation, "darker patches within the field," were observed on 1 or more of the historic aerial photographs viewed and the presence of hydric soils was confirmed in these areas during the field survey.

Determination of Ordinary High-Water Mark

Gallaway utilized methods consistent with the Arid West Manual and *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, (2008)* to determine the OHWM. The lateral extents of non-tidal water bodies (e.g. intermittent and ephemeral streams) were based on the OHWM, which is "the line on the shore established by the fluctuations of water" (Corps 2005). The OHWM was determined based on multiple observed physical characteristics of the area, which can include scour, multiple observed flow events (from current and historical aerial photos), shelving, and changes in the character of soil, presence of mature vegetation, deposition, and topography. Due to the wide extent of some floodplains, adjacent riparian scrub areas characterized by hydric soils, hydrophytic vegetation, and hydrology may be included within the OHWM of a non-tidal water body (Curtis, et. al. 2011). Inclusion of minor special aquatic areas is an acceptable practice as outlined in the Arid West Manual.

Representative OHWM widths were measured in the field in feet incrementally throughout each drainage feature mapped as required by the Corps *Final Map and Drawing Standards for the South Pacific Division Regulatory Program* (2012). The widths measured in the field were used to ensure that other waters of the United States identified within the Project are mapped and calculated at the appropriate average width for each channel segment based on the Corps definition of OHWM as defined in the Arid West OHWM Field Guide and the *Ordinary High Water Mark Identification RGL 05-05 (2005)* (RGL 05-05). When the average width of a feature changes, this change is shown on the delineation map as a feature transition and a new average channel width is determined.

Determination of Wetland Boundaries in Difficult Wetland Situations

The difficult wetland situation procedures for determining hydrophytic vegetation were used when mapping the boundary of wetlands within the Project due to the multiple years of successive drought conditions experienced in California, which has resulted in the region still being considered under a moderate drought despite the significant rain events that occurred in 2023 prior to the field visits (NOAA 2023). To aid in the determination, spatial patterns, analysis of aerial photographs, topography, and landscape position were used in conjunction with vegetation data to determine the wetland boundary. Areas where wetland vegetation or wetland hydrology was lacking but where the landscape position was likely to concentrate water were closely inspected. Gallaway Enterprises mapped these areas as wetlands if hydric soil indicators were detected and at least one other hydric indicator was present (i.e. wetland hydrology or hydrophytic vegetation).

Aquatic Resource Boundary Determination and Acreage Calculation

The wetland-upland boundary was determined based on the presence or inference of positive indicators of all mandatory criteria. The site was traversed on foot to identify wetland features and boundaries. The spatial data obtained during the preparation of this wetland delineation was collected using a Trimble Geo Explorer 6000 Series GPS Receiver. No readings were taken with fewer than 5 satellites. Point data locations were recorded for at least 25 seconds at a rate of 1 position per second. Area and line data were recorded at a rate of 1 position per second while walking at a slow pace. All GPS data were differentially corrected for maximum accuracy. In some cases, when visual errors and degrees of precision are identified due to environmental factors negatively influencing the precision of the GPS instrument (i.e. dense tree cover, steep topography, and other factors affecting satellite connection) mapping procedures utilized available topographic and aerial imagery datasets in order to improve accuracy in feature alignment and location.

Results

Table 1 Summarizes the area calculations for the pre-jurisdictional features within the Project site. A complete Draft Delineation of Aquatic Resources map, utilizing a 1” to 250’ scale, is included as **Figure 4**.

Table 1. Summary of the Draft Delineation of Aquatic Resources Results for the Wyndham Lane Subdivision.

Draft Delineation of Aquatic Resources						
Other Waters						
Label	**Cowardin**	**Description**	**Width**	**Length (ft)**	**Area (sq ft)**	**Acres**
OW01	R6	Perennial	26.7	314.3	7818.1	0.18
			Perennial Totals =	**314.3**	**7818.1**	**0.18**
			Aquatic Resources Totals =	**314.3**	**7818.1**	**0.18**



NORTH

1:3,000 1 inch = 250 feet

0 125 250 Feet

Data Sources: ESRI, City of Redding GIS 05/27/2020, Sarah Dunlap Sawyer Inc.

Wyndham Lane Subdivision
Delineation of Aquatic Resources
Figure 4

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GE: #22-133 Map Date: 03/29/2023

Waters of the United States: Other Waters

There is one (1) feature identified as "other waters of the United States" (OW) within the Project site (**Figure 4**). The area and linear footage data associated with these features are provided in **Table 1**. Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, ephemeral and intermittent drainages, ponds, and other surface water features that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). The boundaries of all other waters identified within the Survey Area were delineated based on the observed OHWM, including physical characteristics such as natural lines impressed on the bank, shelving, changes in the character of the soil, the destruction of terrestrial vegetation, debris lines and other appropriate indicators.

One OW feature identified within the Project is the Sacramento River and has been identified as a perennial drainage (OW01). This perennial drainage, the Sacramento River, is the principal river of Northern California and is considered to be a Traditional Navigable Water (TNW). The OW feature identified within the Project were observed to contain appropriate morphology of bed, bank and scour.

Waters of the United States: Wetlands

No wetland features were observed within the Project site. While riparian vegetation was observed lining the banks of the Sacramento River, the banks were highly channelized and did not support wetland indicators. Photo points were taken throughout the Project site to demonstrate the site conditions (**Figure 3**).

Soils

Field observations of soil characteristics included soil color, texture, structure, and the visual assessment of soil features (e.g. the presence, or absence of redoximorphic features and the depth of restrictive layers such as hardpans). Gallaway's soil texture evaluations rendered clay loams.

Gallaway queried the National Cooperative Soil Survey database to further evaluate the current soil conditions. A copy of the soil survey map and a description of mapped soil units for the Project site are included as **Appendix A**. Three soil map units and open water occur within the Project site. The map units are listed below in **Table 2**. Based on Gallaway's review, one of the soil map units identified within the site contains 10% hydric components. Within these soil types, the hydric components are found in channels.

Table 2. Soil Map Units, NRCS hydric soil designation, and approximate totals for the Wyndham Lane Subdivision.

Map Unit Symbol	Map Unit Name	% Hydric Component in Map Unit	Landform of Hydric Component	% Map Unit in Project
RgA	Reiff fine sandy loam, 0 to 3 percent slopes	NA	Floodplains	74%
RkA	Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes	NA	Flood plains Stream terraces	6.2%
Ch	Cobbly alluvial land	10%	Flood plains Channels	19.3%
W	Water	100%	NA	0.5%

Vegetation

Within the OHWM of the drainage present within the Project site, vegetation was sparse. However, when present, the vegetation within the drainage included common horsetail (*Equisetum arvense*) (FAC), Fremont cottonwood (*Populus fremontii*) (NL), willows (*Salix spp*) (FACW), and Himalayan blackberry (*Rubus armeniacus*) (FAC).

The upland component of the site was annual grassland as well as valley oak woodland. The annual grassland component included soft brome (*Bromus hordeaceus*) (FACU), miners lettuce (*Claytonia perfoliata*) (FAC), broadleaf filaree (*Erodium botrys*) (FACU), bur clover (*Medicago polymorpha*) (FACU), jointed charlock (*Raphanus raphanistrum*) (NL), field mustard (*Brassica rapa*) (FACU), and cheeseweed (*Malva parviflora*) (NL).

Hydrology

Outflow from upstream reservoirs provides the main hydrological input for the only aquatic resource present at the Project site, the Sacramento River. The Sacramento River is a TNW and drains an area of about 26,500 square miles across 19 California counties.

The Project site is located approximately 8 river miles below the Keswick Dam, which is considered the uppermost barrier to anadromous fish migrating up the Sacramento River. The mean gage height (ft) from the Keswick Dam for water years 1964 through 2022 was 12.87 ft, with the lowest mean gage height being in October (10.83 ft) and the highest being in July (14.68 ft). The Sacramento River at Keswick Dam at the

time of the site visit on March 17, 2023 was 9.17 ft. The mean March gage height for the Sacramento River below Keswick Dam from 1964 through 2023 is 13.76 ft.

The eastern boundary of the Project site borders the Sacramento River. The bank is cut leading to a moderately steep 3-foot downslope from the OHWM to the active river course. The historic floodplain, which is now disconnected from the river, is located approximately 60 yards from the current active river course.

Site Photos Taken on March 16, 2023



P01 – Eastern terminus of BSA, facing south along the Sacramento River (OW01).



P02 – Vegetation along the Sacramento River, facing south along the eastern edge of the BSA. (OW01)



P03 – South of the southeastern edge of the BSA. Vegetation facing north. (OW01)



P04 – Southwest facing view of aerial image irregularity



P05 – Southeast facing view of aerial image irregularity



P06 – Southeast facing view of typical upland area



P07 – Northeast facing view of typical upland area



P08 – Southwest facing view of aerial image irregularity



P09 – Southeast facing view of aerial image irregularity



P10 – Southeast facing view of aerial image irregularity



P11 – Northwest facing view of aerial image irregularity



P12 – Northeast facing view of aerial image irregularity

Glossary

Abutting: When referring to wetlands that are adjacent to a tributary, abutting defines those wetlands that are not separated from the tributary by an upland feature, such as a berm or dike.

Adjacent: Adjacent as used in "Adjacent to traditional navigable water," is defined in Corps and EPA regulations as "bordering, contiguous, or neighboring." Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes and the like are 'adjacent wetlands. A wetland "abuts" a tributary if it is not separated from the tributary by uplands, a berm, dike, or similar feature.

While all wetlands that meet the agencies' definitions are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard. (CWA Jurisdiction Following Rapanos v US and Carabell v US 12-02-08).

The regulations define "adjacent" as follows: "[t]he term adjacent means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are 'adjacent wetlands.'" Under this definition, a wetland does not need to meet all criteria to be considered adjacent. The agencies consider wetlands to be bordering, contiguous, or neighboring, and therefore "adjacent" if at least one of following three criteria is satisfied:

(1) There is an unbroken surface or shallow sub-surface hydrologic connection between the wetland and jurisdictional waters; or

(2) The wetlands are physically separated from jurisdictional waters by "manmade dikes or barriers, natural river berms, beach dunes, and the like;" or,

(3) Where a wetland's physical proximity to a jurisdictional water is reasonably close, that wetland is "neighboring" and thus adjacent. For example, wetlands located within the riparian area or floodplain of a jurisdictional water will generally be considered neighboring, and thus adjacent. One test for whether a wetland is sufficiently proximate to be considered "neighboring" is whether there is a demonstrable ecological interconnection between the wetland and the jurisdictional waterbody. For example, if resident aquatic species (e.g., amphibians, reptiles, fish, mammals, or waterfowl) rely on both the wetland and the jurisdictional waterbody for all or part of their life cycles (e.g., nesting, rearing, feeding, etc.), that may demonstrate that the wetland is neighboring and thus adjacent. The agencies recognize that as the distance between the wetland and jurisdictional water increases, the potential ecological interconnection between the waters is likely to decrease.

The agencies will also continue to assert jurisdiction over wetlands "adjacent" to traditional navigable waters as defined in the agencies' regulations. Under EPA and Corps regulations and as used in this guidance, "adjacent" means "bordering, contiguous, or neighboring." Finding a continuous surface connection is not required to establish adjacency under this definition. The Rapanos decision does not affect the scope of jurisdiction over wetlands that are adjacent to traditional navigable waters. The agencies will assert jurisdiction over those adjacent wetlands that have a continuous surface connection with a relatively permanent, non-navigable tributary, without the legal obligation to make a significant nexus finding.

Atypical situation (significantly disturbed): In an atypical (significantly disturbed) situation, recent human activities or natural events have created conditions where positive indicators for hydrophytic vegetation, hydric soil, or wetland hydrology are not present or observable.

Channel. "An open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water" (Langbein and Iseri 1960:5).

Channel bank. The sloping land bordering a channel. The bank has steeper slope than the bottom of the channel and is usually steeper than the land surrounding the channel.

Cobbles. Rock fragments 7.6 cm (3 inches) to 25 .4 cm (10 inches) in diameter.

Debris flow. A moving mass of rock fragments, soil, and mud where more than 50% of the particles are larger than sand-sized.

Ditch. A constructed or excavated channel used to convey water.

Drift. Organic debris oriented to flow direction(s) (larger than small twigs).

Ephemeral stream. An ephemeral stream has flowing water only in direct response to precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Facultative wetland (FACW). Wetland indicator category; species usually occurs in wetlands (estimated probability 67–99%) but occasionally found in non-wetlands.

Flat. A level landform composed of unconsolidated sediments usually mud or sand. Flats may be irregularly shaped or elongate and continuous with the shore, whereas bars are generally elongate, parallel to the shore, and separated from the shore by water.

Gravel. A mixture composed primarily of rock fragments 2mm (0 .08 inch) to 7.6 cm (3 inches) in diameter. Usually contains much sand.

Growing season. The frost-free period of the year (see U.S. Department of Interior, National Atlas 1970:110-111 for generalized regional delineation).

Herbaceous. With the characteristics of an herb; a plant with no persistent woody stem above ground.

Hydric soil. Soil is hydric that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-depleted) conditions in its upper part (i.e., within the shallow rooting zone of herbaceous plants).

Hydrophyte, **hydrophytic.** Any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

Intermittent stream. An intermittent stream has flowing water during certain times of the year and more than in direct response from precipitation, when elevated groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water.

Jurisdictional Waters. Features that meet the definition of waters of the Unites States provided below and that fall under Corps regulations pursuant to Section 404 of the CWA are considered jurisdictional features.

Litter. Organic debris oriented to flow direction(s) (small twigs and leaves).

Man-induced wetlands. A man-induced wetland is an area that has developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities.

Non-Relatively Permanent Water: A non-relatively permanent water (NRPW) is defined as a tributary that is not a TNW and that typically flows for periods for less than 3 months. NRPWs are jurisdictional when they have a documented significant nexus to TNWs. All NRPWs must also contain appropriate morphology of bed, bank and scour and be clearly connected to a TNW.

Normal circumstances. This term refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed.

Obligate hydrophytes. Species that are found only in wetlands e.g., cattail (*Typha latifolia*) as opposed to ubiquitous species that grow either in wetland or on upland-e .g., red maple (*Acer rubrum*).

Obligate wetland (OBL). Wetland indicator category; species occurs almost always (estimated probability 99%) under natural conditions in wetlands.

Other Waters of the United States. Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

Palustrine the Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 parts per thousand. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2 m (6.6 feet) at low water; and (4) salinity due to ocean-derived salts is less than 0.5 parts per thousand.

Perennial stream. A perennial stream has flowing water year-round during atypical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Ponded. Ponding is a condition in which free water covers the soil surface (e.g., in a closed depression) and is removed only by percolation, evaporation, or transpiration.

Problem area. Problem areas are those where one or more wetland parameters may be lacking because of normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events**.**

Relatively Permanent Waters of the U.S. Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).

Scour. Soil and debris movement.

Sheetflow. Overland flow occurring in a continuous sheet; a relatively high-frequency, low-magnitude event.

Shrub. A woody plant which at maturity is usually less than 6 m(20 feet) tall and generally exhibits several erect, spreading, or prostrate stems and has a bushy appearance ; e.g., speckled alder (*Alnus rugosa*) or buttonbush (*Cephalanthus occidentalis*).

Succession. Changes in the composition or structure of an ecological community.

Traditional Navigable Waters (TNWs)."[a]ll waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide." These waters are referred to in this guidance as traditional navigable waters. The traditional navigable waters include all of the "navigable waters of the United States," as defined in

33 C.F.R. Part 329 and by numerous decisions of the federal courts, plus all other waters that are navigable-in-fact (for example, the Great Salt Lake, UT, and Lake Minnetonka, MN). Thus, the traditional navigable waters include, but are not limited to, the "navigable waters of the United States" within the meaning of Section 10 of the Rivers and Harbors Act of 1899 (also known as "Section 10 waters").

Tree. A woody plant which at maturity is usually 6 m (20 feet) or more in height and generally has a single trunk, unbranched for 1 m or more above the ground, and a more or less definite crown; e.g., red maple (*Acer rubrum*), northern white cedar (*Thuja occidentalis*).

Typical Year. Defined by the EPA and Corps as meaning when precipitation and other climactic variables are within the normal periodic range for the geographic area based on a rolling thirty-year period.

Water table. The upper surface of a zone of saturation. No water table exists where that surface is formed by an impermeable body.

Waters of the United States (WOTUS). This is the encompassing term for areas under federal jurisdiction pursuant to Section 404 of the CWA. Waters of the United States are divided into "wetlands" and "other waters of the United States."

Watershed (drainage basin). An area of land that drains to a single outlet and is separated from other watersheds by a divide.

Wetland. Wetlands are defined as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 [b], 40 CFR 230.3). To be considered under potential federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

Woody plant. A seed plant (gymnosperm or angiosperm) that develops persistent, hard, fibrous tissues, basically xylem; e.g., trees and shrubs.

Xeric. Relating or adapted to an extremely dry habitat.

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Appendix A: NRCS Soils Map and Soil Series Description

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Shasta County Area, California

Wyndham Lane Subdivision



March 29, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,080 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shasta County Area, California
Survey Area Data: Version 18, Sep 2, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Cobbly alluvial land	2.1	19.3%
RgA	Reiff fine sandy loam, 0 to 3 percent slopes	7.9	74.1%
RkA	Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes	0.7	6.1%
W	Water	0.0	0.4%
Totals for Area of Interest		**10.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Shasta County Area, California

Ch—Cobbly alluvial land

Map Unit Setting

National map unit symbol: hfmj
Elevation: 20 to 2,400 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Cobbly alluvial land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cobbly Alluvial Land

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Gravelly alluvium

Typical profile

H1 - 0 to 12 inches: very cobbly sand
H2 - 12 to 60 inches: very cobbly loamy sand

Properties and qualities

Slope: 1 to 5 percent
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Frequency of flooding: Rare
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydric soil rating: No

Minor Components

Cobbly alluvial land

Percent of map unit: 10 percent
Landform: Channels
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

RgA—Reiff fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hfs2
Elevation: 30 to 500 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 240 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Reiff and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reiff

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: fine sandy loam
H2 - 18 to 43 inches: stratified sandy loam to loam
H3 - 43 to 60 inches: stratified loamy sand to sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: A
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Minor Components

Tujunga

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Anderson

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

RkA—Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hfs5
Elevation: 30 to 1,500 feet
Mean annual precipitation: 14 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 240 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Reiff and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reiff

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: gravelly fine sandy loam
H2 - 18 to 43 inches: stratified sandy loam to loam
H3 - 43 to 60 inches: stratified loamy sand to sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Minor Components

Honcut

Percent of map unit: 10 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tujunga

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the

upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
    B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
    A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or

B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.

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Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–CA607-Shasta County Area, California					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
Ch: Cobbly alluvial land	Cobbly alluvial land	90	Flood plains	No	—
	Cobbly alluvial land	10	Channels	Yes	3,4
RgA: Reiff fine sandy loam, 0 to 3 percent slopes	Reiff	85	Flood plains	No	—
	Tujunga	10	Flood plains	No	—
	Anderson	5	Flood plains	No	—
RkA: Reiff gravelly fine sandy loam, deep, 0 to 3 percent slopes	Reiff	85	Flood plains	No	—
	Honcut	10	Stream terraces	No	—
	Tujunga	5	Flood plains	No	—
W: Water	Water	100	—	—	—

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Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

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Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

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Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

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Appendix B: Ordinary High-Water Mark Data Sheet

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Windham Lane
Project Number: 22-133
Stream: Sacramento River
Investigator(s): M. Mayer

Date: 3/27/23 **Time:** 10:44 AM
Town: Redding, CA **State:** CA
Photo begin file#: **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: SW side of river

Projection: 40.560108, **Datum:** WGS 84
Coordinates: -122.375708

Potential anthropogenic influences on the channel system:
Residential housing, Mastication of vegetation, upstream reservoirs limiting release of water

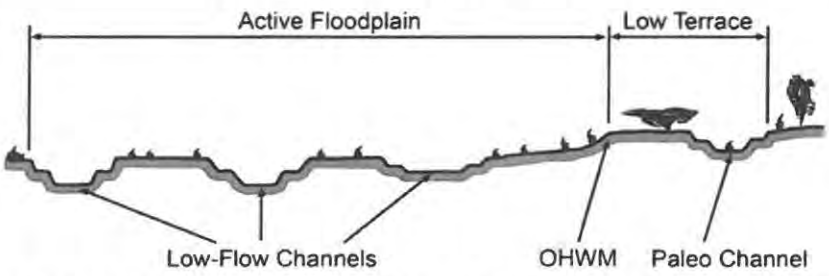
Brief site description:
Slow moving mid reach of S.R., Not heavily vegetated, Upper Sacramento river

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies

- ☒ Stream gage data
  Gage number: 11370500
  Period of record: 2007-2023
- ☒ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

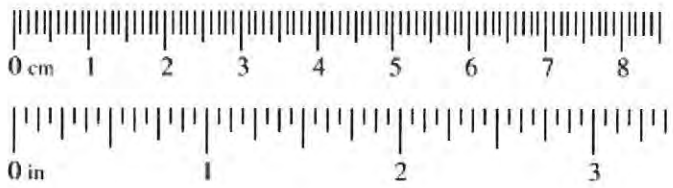


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

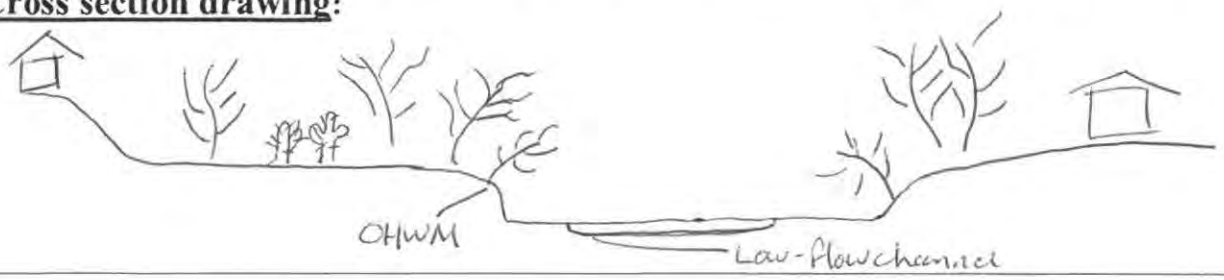
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64		
0.157	4	Pebble	
		Granule	
0.079	2.00		
0.039	1.00	Very coarse sand	
		Coarse sand	
0.020	0.50		
		Medium sand	Sand
1/2 0.0098	0.25		
		Fine sand	
1/4 0.005	0.125		
		Very fine sand	
1/8 0.0025	0.0625		
		Coarse silt	
1/16 0.0012	0.031		
		Medium silt	
1/32 0.00061	0.0156		Silt
		Fine silt	
1/64 0.00031	0.0078		
		Very fine silt	
1/128 0.00015	0.0039		
		Clay	Mud



Project ID: 22-153 **Cross section ID:** A"-A **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: A"-A

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: A"-A

Characteristics of the floodplain unit:

Average sediment texture: ~~cobble~~/mud/fine silt

Total veg cover: 5 % Tree: 5 % Shrub: ____ % Herb: ____ %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: change in sediment
- [x] Other: change in vegetation
- [ ] Other: _____

Comments:

Water flowing, Water course is heavily regulated (volume), low flow channel + "high water" occurs in same channel

Project ID: 22-133 **Cross section ID:** ~~A-A'~~ **Date:** 3/27/23 **Time:** 10:44 AM

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: A'-A

Characteristics of the floodplain unit:

Average sediment texture: cobble / fine sand

Total veg cover: 105 % Tree: 25 % Shrub: ____ % Herb: 80 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☑ Other: Vegetation change
- ☐ Other: ____
- ☐ Other: ____

Comments:

* Active floodplain occurs within similar channel as low-flow & higher water

---

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: ____

Characteristics of the floodplain unit:

Average sediment texture: ____

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ____
- ☐ Other: ____
- ☐ Other: ____

Comments:

Attachment D

Amended Tree Inventory Assessment Report

AMENDED TREE INVENTORY ASSESSMENT REPORT

(Arborist Report)

Location

RIVER WYNDHAM

Site Address: 2980 Wyndham, Redding, CA, 96001

APN. 048-500-048

LAT. 40.33’34.06” | LON. -122.22’19.65”

Prepared for

Jeb Allen

2960 Innsbruck Drive, Redding, CA 96003

B. (530) 222-8588 | C. (530) 604-6800

July 26, 2023

Prepared by:

McEntire Associates

James L. McEntire

James L. McEntire, Arborist – ISA Certified Arborist, WE-4012A;

Jesse Servantes, Arborist – ISA Certified Arborist, WE-3620A



P.O Box 492381, Redding, CA 96049-2381

P. (530) 245-4590, F. (530) 245-4593

www.mcentireassociates.com

INTRODUCTION

The property owner, Jeb Allen, contacted McEntire Associates to perform a Tree Evaluation Assessment for approximately 17 trees on lots 19 and 20, situated easterly on a 10.12-acres (APN: 048-500-048) property at 2980 Wyndham Lane, Redding, California, 96001. Sharrah Dunlap Sawyer, Inc. supplied plan sheet number 1, job number 23.105, showing each tree's location, species, and DBH. McEntire Associates Arborist conducted a site visit on February 16, 2023. A request to amend the report was received on July 20, 2023, to include an assessment of 44 additional trees: 1-13 and 38-68 and to reinclude tree numbers 17-19; 37. Therefore, on July 23 and July 26, 2023, McEntire Associates Arborist revisited the site and assessed the trees as aforementioned. During the site visit, trees were tagged, and the following tasks listed below were completed.

Assessment of designated trees tasks: (a) verification of species, (b) DBH, and (c) assessment for each tree.

FIGURE 1. Location Map



The assessment aligns with Title 18 – Zoning, Division IV. – Regulations Applying in All Districts, Chapter 18.45 Tree Management. Additionally, no specimen trees or candidates for preservation were identified. The following tree assessment includes the tag numbers, tree species by common name, the DBH (inches), summarized observation, and the ratings and rankings for each tree.

A comprehensive summary has been prepared in response to the modifications made to this report, which include the elimination of trees numbered 17-19, 23, 27, and 37, followed by their reintroduction and the assessment of trees numbered 1-13 and 38-68. This assessment summary thoroughly reviews each affected tree, complete with corresponding photographic documentation—the summary assessment of these changes and the images follow sequentially.

AMENDED TREE ASSESSMENT

AMENDED TREE ASSESSMENT
River Wyndham
2980 Wyndham LN, Redding, CA 96001

TREE#	TREE	DBH INCHES	OBSERVATIONS	RATING	RANKING
0	Valley Oak	20.1"	Multi-trunk, root damage, restricted root system relative to the canopy, compaction, mechanical Injury, included bark between co-dominant stems, cracks, swollen or sunken area, presence of insect and disease. Presence of decay, decay, cavities, wound closures, dead limbs/epicormic sprouting, wasp gall, and diseases. Swollen trunk, trunk leaning severely, aggressively pruned. Widowmaker, presence of weak, dead twigs; wilted or dead leaves, dead, dying, broken and torn branches. Sap, cracks, holes, and open wounds in trunks. Leaning, broken, dead, and diseased trees.	13	Fair
1	Valley Oak	35"		12	Fair
2	Almond	16.5"		7	Poor
3	Valley Oak	6.3"		12	Fair
4	Valley Oak	6.5"		12	Fair
5	Valley Oak	4.6"		12	Fair
6	Valley Oak	6"		12	Fair
7	Valley Oak	9"		11	Poor
8	Valley Oak	7"		7	Poor
9	Fig	30"		6	Poor
10	Valley Oak	24"		0	Poor
11	Valley Oak	20"		7	Poor
12	Valley Oak	13.5"		9	Poor
13	Valley Oak	12.3"		12	Fair
14	Deodar Cedar	36"		11	Poor
15	Valley Oak	23"		4	Poor
16	Ghost Pine	23"		4	Poor
17	Valley Oak	4.5"		10	Poor
18	Live Oak	8"		12	Fair
19	Valley Oak	6"		0	Dead
20	Ash	19"		2	Poor
21	Ghost Pine	28"		8	Poor
22	Live Oak	8.5"		5	Poor
23	Valley Oak	4"		5	Poor
24	Valley Oak	11.5"		12	Fair
25	Valley Oak	23.5"		11	Poor
26	Valley Oak	11"		4	Poor
27	Valley Oak	5"		10	Poor
28	Ash	19"		0	Diseased
29	Ash	17"		2	Poor

TREE#	TREE	DBH INCHES	OBSERVATIONS	RATING	RANKING
30	Valley Oak	17"	Multi-trunk, root damage, restricted root system relative to the canopy, compaction, included bark between co-dominant stems, cracks, swollen or sunken area, presence of insect and disease. Presence of decay, decay, cavities, wound closures, dead limbs/epicormic sprouting, wasp gall and diseases. Swollen trunk, trunk leaning severely, aggressively pruned. Trunk damage from fauna. Presence of weak, dead twigs; wilted or dead leaves, dead, dying, broken and torn branches. Sap, cracks, holes, and open wounds in trunks. Leaning, broken, dead, and diseased trees. Cut-down.	8	Poor
31	Cherry Plum	15"		12	Fair
32	Black Oak	15"		12	Fair
33	Live Oak	13"		12	Fair
34	Valley Oak	7"		12	Fair
36	Valley Oak	10"		6	Poor
37	Valley Oak	5"		6	Poor
38	Valley Oak	7"		10	Poor
39	Valley Oak	12"		10	Poor
40	Valley Oak	9"		11	Poor
41	Valley Oak	19"		12	Fair
42	Valley Oak	38"		11	Poor
43	Valley Oak	22"		11	Poor
44	Pecan	0		0	Poor
45	Pecan	17"		15	Good
46	Valley Oak	20"		9	Poor
47	Valley Oak	22.5"		11	Poor
48	Privet	5"		11	Poor
49	Privet	5"		9	Poor
50	Pecan	35"		16	Good
51	Fig	35"		10	Poor
52	Valley Oak	19"		14	Fair
53	Valley Oak	15"		11	Poor
54	Valley Oak	28.5"		12	Fair
55	Valley Oak	13"		7	Poor
56	Valley Oak	42"		14	Fair
57	Valley Oak	14"		11	Fair
58	Pecan	0		0	Poor
59	Valley Oak	14"		12	Fair
60	Redwood	5"		15	Good
61	Valley Oak	25"		14	Fair
62	Valley Oak	27"		14	Fair

TREE#	TREE	DBH INCHES	OBSERVATIONS	RATING	RANKING
63	Valley Oak	19.5"		12	Fair
64	Valley Oak	26"		12	Fair
65	Valley Oak	15.5"		11	Fair
66	Valley Oak	26.5"		12	Fair
67	Valley Oak	24.5"		11	Fair
68	Valley Oak	26"		16	Good

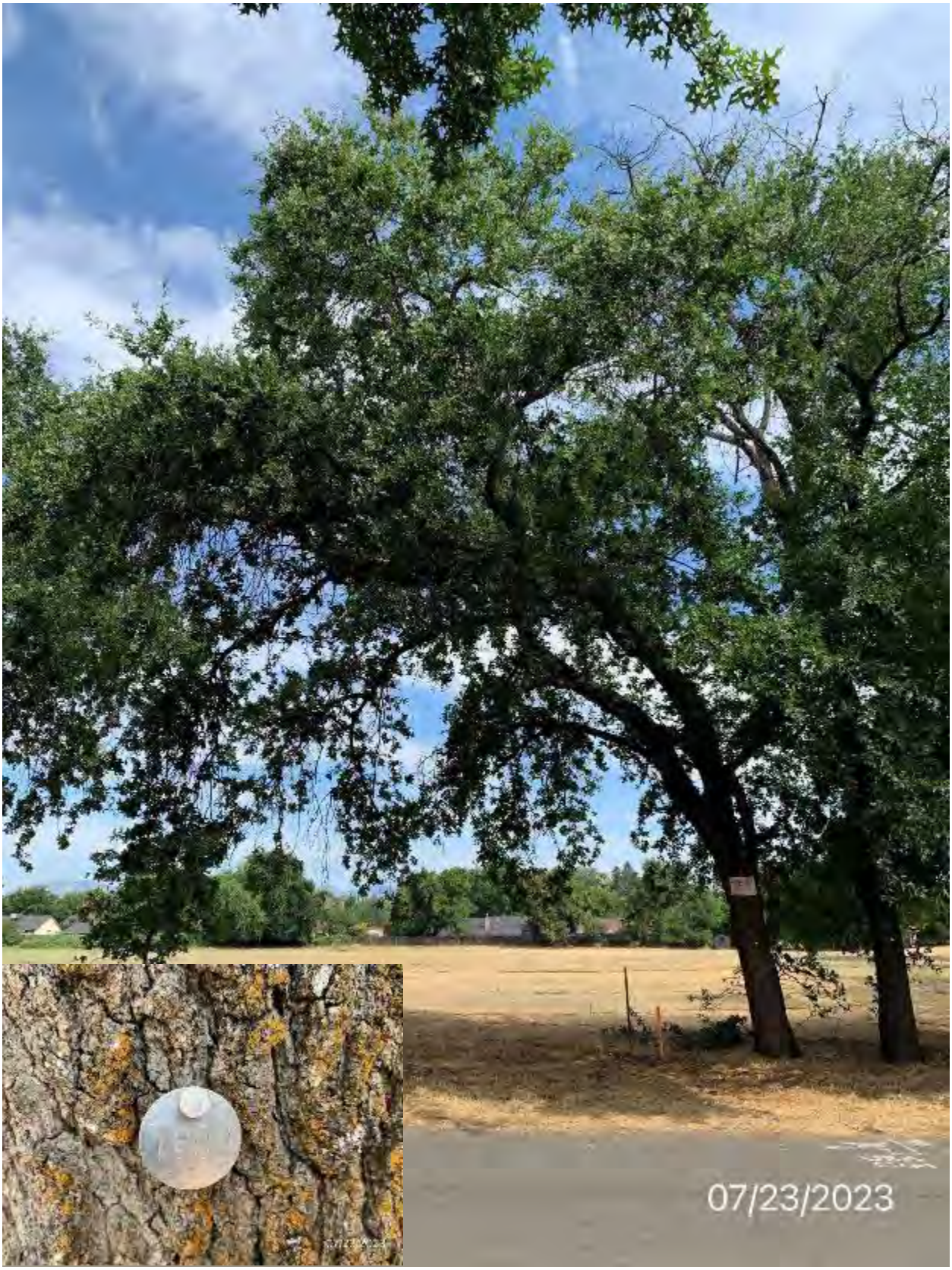
TREE VARIETY SUMMARY	
Almond	1
Ash	3
Black Oak	1
Cherry Plum	1
Deodar Cedar	1
Fig	2
Ghost Pine	2
Live Oak	3
Pecan	4
Privet	2
Redwood	1
Valley Oak	47
TOTAL	68

RANKING SUMMARY	
Good	4
Fair	26
Poor	36
Diseased	1
Dead	1
TOTAL	68

OVERALL SUMMARY

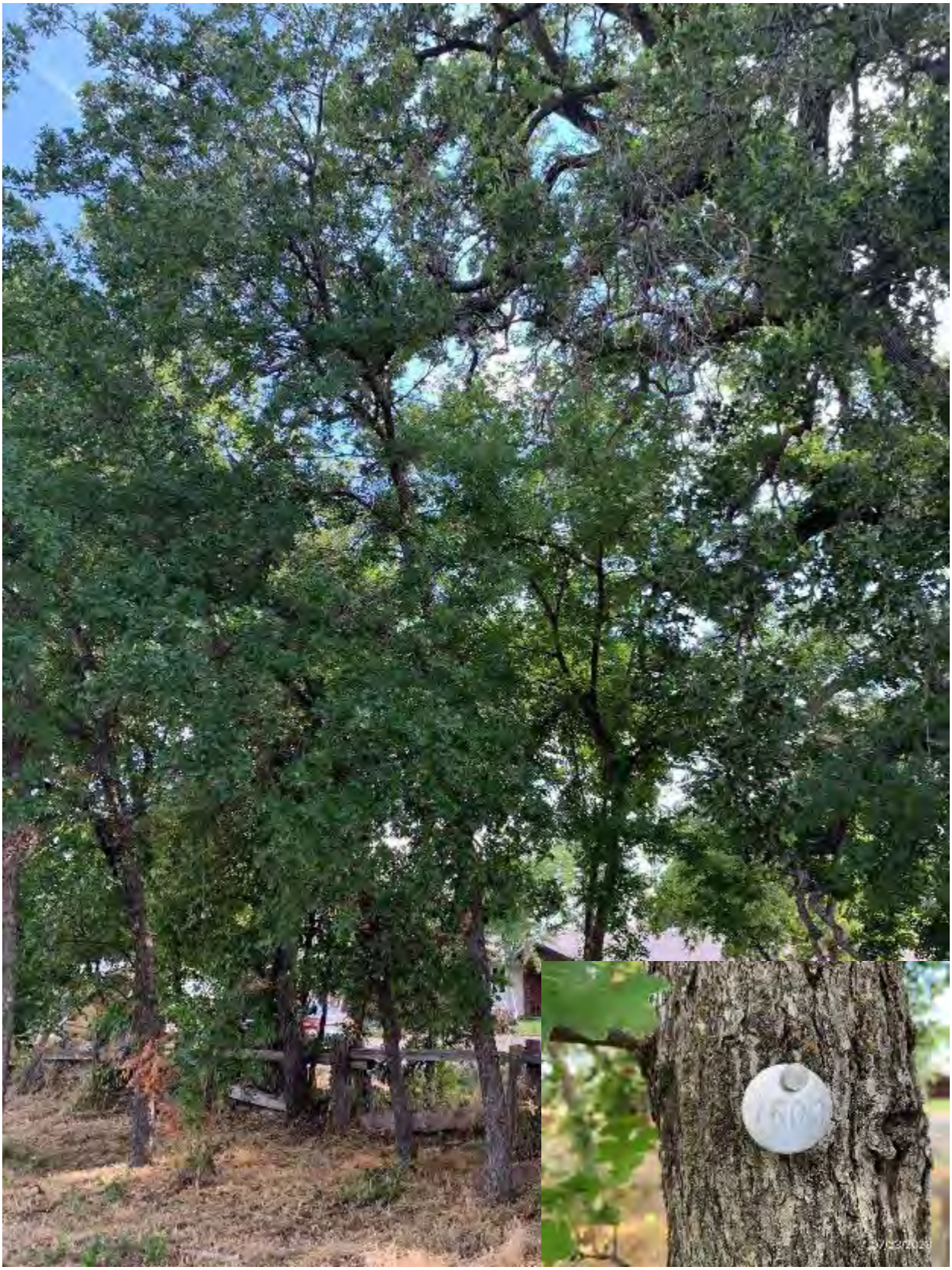
Overall, the trees evaluated for risk assessment are either dead, dying, diseased, or in poor, deteriorating health. Four trees scored good, having dead dying limbs, and included bark. Twenty-six trees scored fair; however, nearing a poor state, thirty-six trees scored an eleven or below, representing their indigent condition, and two scored dead and diseased, representing the trees' nonviable state. Trunk damage from fauna. Although several trees scored fair or nearing, there is a fundamental expectation that the trees will only survive for up to five years post-development. Therefore, the trees, dependent on the observations, ratings, and rankings, are not candidates for preservation. The recommendation is that there are no candidate trees to be saved.

IMAGES
JULY 23, 2023


07/23/2023


07/23/2023






1604
07/23/2023
07/23/2023


150
07/23/2023
07/23/2023


07/23/2023


07/23/2023


07/23/2023


1609
07/23/2023
07/23/2023




07/23/2023


07/23/2023


07/23/2023

IMAGES
FEBRUARY 16, 2023

















































IMAGES
JULY 26, 2023


1738
07/26/2023


07/26/2023


1740
07/26/2023


07/26/2023


1741
07/26/2023


07/26/2023


07/26/2023


1743
07/26/2023


07/26/2023




07/26/2023


07/26/2023


07/26/2023


07/26/2023


07/28/2023


1749
07/26/2023


07/26/2023




07/26/2023


1751
07/26/2023


07/26/2023


07/26/2023


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1754
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1784
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1765
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07/26/2023


07/26/2023


07/26/2023


1761
07/26/2023


07/26/2023


1768
07/26/2023


07/26/2023

SITE MAPS

2980 Wyndham Lane, Redding, California 96001



LEGEND

A. DBH VERIFIED; LESS THAN 6 INCHES.

---- WAS PREVIOUSLY REMOVED FROM TREE ASSESSMENT LIST. READDED – 07/26/23

SACRAMENTO RIVER

APN: 048-500-048

APN: 048-50-050

WYNDHAM LANE

N

60 0 30 60

1 INCH = 60 FEET

BY

Attachment E

Gallaway Response to California Department of Fish and Wildlife (CDFW)

gallaway
ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

September 26, 2023

Nicole Dues
Sharrah Dunlap Sawyer, Inc.
320 Hartnell Avenue
Redding, CA 96002

RE: Response to Letter dated September 5, 2023 from Danny Castro – Subdivision Map Application S-2023-00582 (Wyndham Lane) (Project), Shasta County

Ms. Dues,

This letter is in response to the comment letter dated September 5, 2023 from Danny Castro regarding the Subdivision Map Application S-2023-00582 (Wyndham Lane). The following content reviews and addresses each statement/consultation recommendation in the letter.

CDFW

Valley Oak Woodlands:

A statement was made that there are CDFW-designated sensitive natural communities (SNC's), valley oak woodland and valley foothill riparian within the BSA; and that these habitats have state rank 3, requiring CEQA environmental review processes.

Per CEQA checklist IV (b), "sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by CDFW (i.e., the CNDDB and VegCAMP programs) or the USFWS CDFW-designated SNC's are designated by CDFW and mapped in the CNDDB database." In BRA's, the presence of absence of a CDFW-designated SNC is determined through accessing the CNDDB database maps. The presence of a habitat meeting the description of a SNC is not equivalent to the presence of a CDFW-designated SNC. There are no CDFW-designated SNC's within the BSA.

Per the CDFW definition, a SNC must show "exemplary qualities of natural vegetation including lack of invasive exotic species, no evidence of human-caused disturbance such as roads or excessive livestock grazing, or high-grade logging, evidence of reproduction present (sprouts, seedlings, adult individuals of reproductive age), and no significant insect or disease damage, etc." Habitats within the BSA do not meet these qualifications. Invasive species are present within the site, there is regular mowing of the site since the 1940's, the site is surrounded by urbanization, historic photos show that the majority of the valley oak woodland habitat was created through residential planting, and potentially naturally occurring valley oak woodland habitat has been removed or disturbed by residential development. Valley foothill riparian

habitat appears to have been relatively undisturbed and has grown and spread along the bank of the Sacramento River.

According to CEQA checklist IV (b) "Although sensitive natural communities do not (at present) have legal protection, CEQA calls for an assessment of whether any such resources would be affected, and requires a finding of significance if there will be substantial losses. High quality occurrences of natural communities with heritage ranks of 3 or lower are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents (such as general plans) often identify these resources as well. Avoidance, minimizations, or mitigation measures should be implemented if project-affected stands of rare vegetation types or natural communities are considered high-quality occurrences of the given community." The valley foothill riparian habitat within the BSA may qualify as a rank 3 SNC; however, this habitat is outside of the work area and will not be impacted. The portion of the valley oak woodland habitat adjacent to the valley foothill riparian habitat that may be naturally occurring is disturbed by a residential development and regular mowing; thus, disqualifying it as a SNC. There are currently no CDFW-designated SNC's within the BSA, and there will be no impacts to potentially qualifying valley foothill riparian habitat. CEQA environmental review processes are not warranted.

Special-Status Bumble Bees:

A statement was made that there is suitable habitat within the BSA for Crotch's bumble bee; therefore, a qualified biologist should analyze the Project area for Crotch's bumble bee and include the analyses in an amended BRA.

The BRA species lists are created by utilizing CNDDB, IPaC, CNPS, and NMFS to identify special status species observations and habitat within the region. Crotch bumble bee was not/and is currently not included on the species lists within the "Shasta Dam", "Project City", "Redding", "Bella Vista", "Palo Cedro", and "Enterprise" United States Geological Survey quadrangles. There nearest CNDDB occurrence (#4) is approximately 27 miles from the BSA in Tehama County and is from 1956. According to the IUCN Red List, Crotch bumble bee is thought to be possibly extinct from this region. Suitable bee habitat requires the availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall) (Xerces Society 2018). Known food sources, *Lupinus bicolor* and *Medicago polymorpha*, were observed within the BSA, and a few other floral resources have bloom periods in the spring, summer, and fall; however, the BSA is dominated by disturbed annual grassland and floral resources within the BSA are insufficient to support Crotch's bumble bee populations. The inclusion of additional analyses and a focused survey is not warranted in the BRA document.

Thank you for the opportunity to review and comment on this project. If there are questions or concerns regarding the content of this letter, please don't hesitate to contact me at (530) 332-9909 or kevin@gallawayenterprises.com.

Sincerely,



Kevin Sevier
Vice President and Senior Planner
Gallaway Enterprises, Inc.

Attached: Copy of Letter from Danny Castro to Nicole Dues dated September 5, 2023

CITY OF REDDING
777 Cypress Avenue, Redding, CA 96001
PO BOX 496071, Redding, CA 96049-6071
cityofredding.org

9/5/2023

Sharrah Dunlap Sawyer, Inc.
Nicole Dues
320 Hartnell Avenue
Redding, CA 96002

Subject: Round 3 Comments for Subdivision Map Application S-2023-00582

Dear Nicole:

The following items need to be addressed regarding the third submittal of Subdivision Map Application S-2023-00582 for The River.

Planning

Please provide updated exhibits showing the additional newly proposed lot and any related changes.

Provide a clearer scan of the last page of the tree survey that shows tag IDs and locations. I can make out the numbers but it might not show well on the council chamber's screen.

CDFW

Valley Oak Woodlands
Page 7 and 8 of the BRA describes terrestrial onsite habitat to include 2.71 acres of Valley Oak Woodland in association with Valley Foothill Riparian; however, Page 9 of the BRA states "There are no CDFW-designated [Sensitive Natural Communities] within the BSA". Based on the biological results, this statement is incorrect. Valley Oak Woodland and Valley Oak Riparian Forest and Woodland are State Rank 3 (S3) Sensitive Natural Communities (CDFG 2010, Standiford et al. 1996). Natural Communities with ranks of S1-S3 are considered Sensitive and should be addressed in the CEQA environmental review processes.

Special Status Bumble Bees
Crotch's bumble bee meets the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380). Therefore, take of Crotch's bumble bee could require a mandatory finding of significance (CEQA Guidelines, § 15065). The Project may result in temporal and permanent loss of suitable nesting and foraging habitat for Crotch's bumble bee and therefore, should be evaluated. A qualified biologist should analyze the Project area for potentially suitable habitat for Crotch's Bumble Bee. Such analyses should be included in an amended BRA and submitted for CDFW, ideally prior to the release of the draft environmental document.

If you have any questions I can be reached at dcastro@cityofredding.org, or by telephone at (530) 225-4471.

Thank you,

Danny Castro, Assistant Planner
Development Services

Attachment F

Cultural Resources Inventory Report

NOTE TO REVIEWER: Information contained in the *Cultural Resources Inventory Survey* (Genesis Society, 2022) for the project related to the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPRA); therefore, site specific cultural resource investigations are not appended to this Initial Study. Professionally qualified individuals, as determined by the California Office of Historic Preservation, may contact the City of Redding Development Services Department, Planning Division directly in order to inquire about its availability.

Attachment G

Letters sent to Redding Rancheria and the Wintu Tribe of Northern California

CITY OF REDDING
777 Cypress Avenue, Redding, CA 96001
PO BOX 496071, Redding, CA 96049-6071
cityofredding.org

April 24, 2023

James Hayward, Sr., Cultural Resource Program Manager
Redding Rancheria
2000 Redding Rancheria Road
Redding, CA 96001

Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52. Formal Notification of Determination of Decision to Undertake a Project, and Notice of Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1.

Dear Mr. Hayward:

This letter is formal notification of six proposed projects located in Redding, California, for which the City of Redding (City) is the California Environmental Quality Act (CEQA) Lead Agency. As the CEQA Lead Agency, the City has determined that the CEQA documentation is in the form of an initial study that may result in a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report for a project. The City encourages the Redding Rancheria Tribe's comments and interest in the proposed projects. Pursuant to § 21080.3.1 (d), the City respectfully requests that the Redding Rancheria Tribe repond with a written request for consultation within 30 days of receipt of this letter.

Below please find descriptions of the proposed projects and their points of contact. Attached are project location maps, pursuant to Public Resources Code § 21080.3.1 (d).

Zinco Subdivision

Project Proponent: Zinco Holding, LLC

Project Location: 3150 and 3250 Jordan Lane

Project Description: Subdivision Map Application S-2022-02416 proposes to create 16 new parcels in place of 2 existing parcels on a 4.42 acre site in an "RS-3" Residential Single-Family District.

Project Planner: Danny Castro, Assistant Planner
777 Cypress Avenue Redding, CA 96001
(530) 225-4471
dcastro@cityofredding.org

The River Subdivision

Project Proponent: L&S Redding Development, LLC

Project Location: 2980 Wyndham Lane

Project Description: Subdivision Map Application S-2023-00582 proposes to create 20 new parcels in place of 1 existing parcel on a 10.69 acre site in an "RS-3.5" Residential Single-Family District.

Project Planner: Danny Castro, Assistant Planner
777 Cypress Avenue Redding, CA 96001
(530) 225-4471
dcastro@cityofredding.org

Canby Apartments

Project Proponent: Danco Communities

Project Location: 930 and 990 Canby Road

Project Description: Site Development Permit Application SDP-2023-00085 proposes to construct a community building and 120 multifamily residential units in ten separate two- and three-story structures.

Project Planner: Danny Castro, Assistant Planner
777 Cypress Avenue Redding, CA 96001
(530) 225-4471
dcastro@cityofredding.org

Silverstone Subdivision, Unit #5

Project Proponent: Sierra Pacific Land & Timber

Project Location: 2923 Rancho Road

Project Description: Subdivision Map Application S-2023-00027 proposes to create 41 new parcels on a 5.41-acre site in an "RS-3-PD" Residential Single-Family District and Planned Development Overlay.

Project Planner: Tiffany Lightle, Associate Planner
777 Cypress Avenue Redding, CA 96001
(530) 245-7112
tlightle@cityofredding.org

Glenrock Way Subdivision

Project Proponent: Scott and Laura Herndon

Project Location: 3232 Nicolet Lane

Project Description: Subdivision Map Application S-2021-02014 proposes to create 23 new parcels on a 9.35-acre site in an "RS-2" Residential Single-Family District.

Project Planner: Tiffany Lightle, Associate Planner
777 Cypress Avenue Redding, CA 96001
(530) 245-7112
tlightle@cityofredding.org

Center of Hope Apartments, Unit #2

Project Proponent: Center of Hope Apartments II, LP

Project Location: 1303 Industrial Street

Project Description: Use Permit Application UP-2022-01555 proposes to construct 49 multifamily residential units and professional office space in three separate three-story structures.

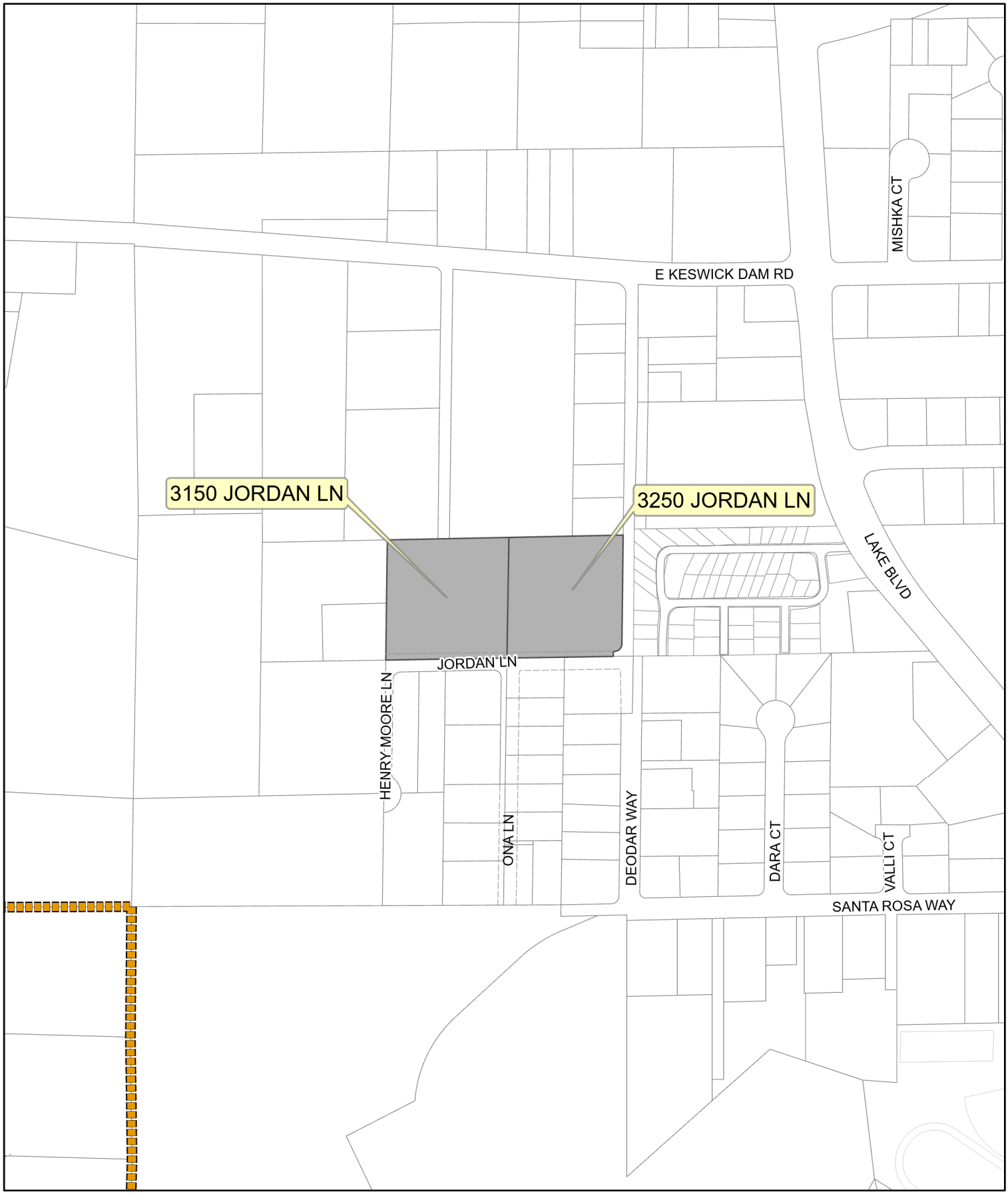
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Sincerely,

Danny Castro
Assistant Planner
Development Services

DC:es

Attachments:
Location Maps



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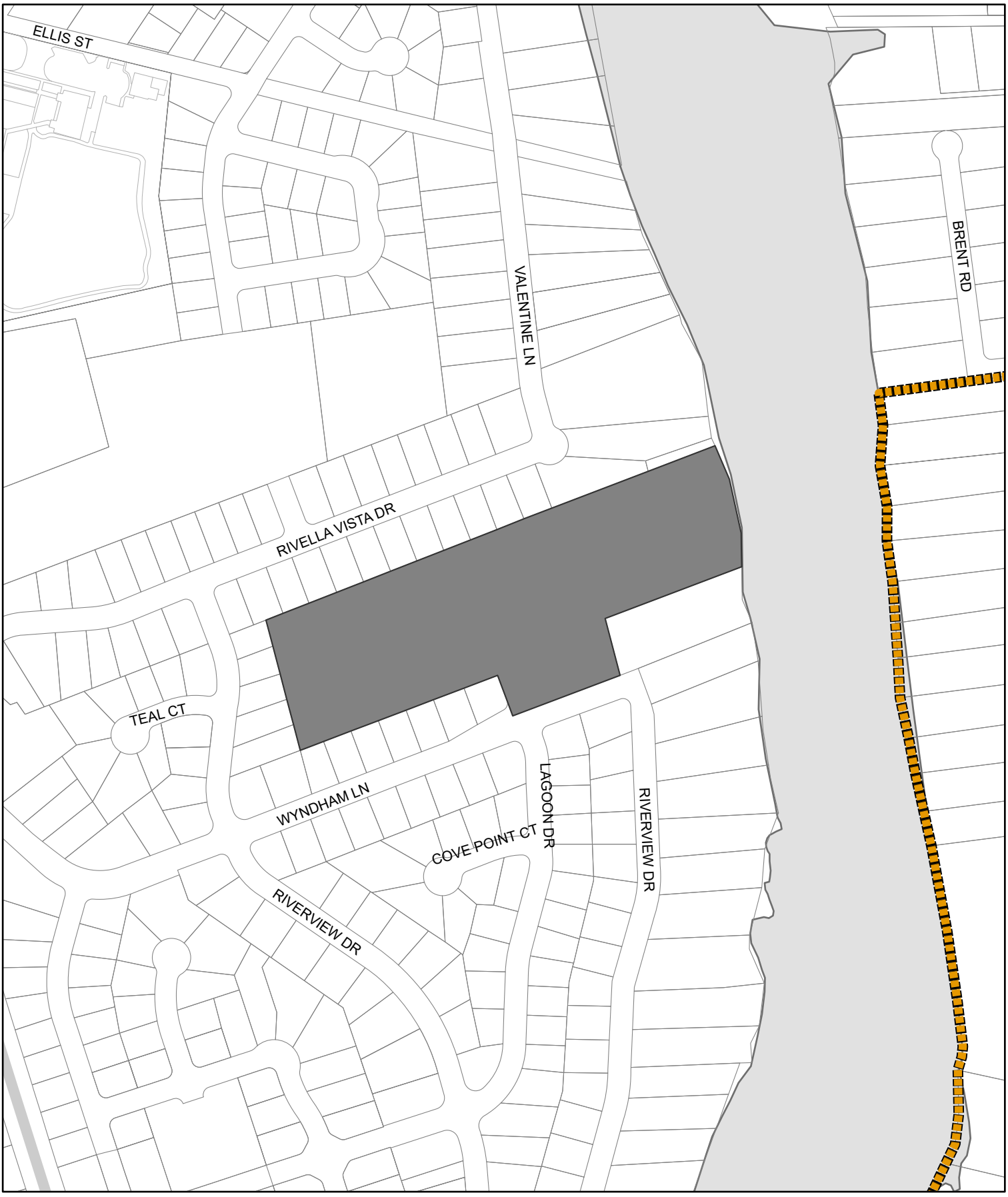
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S-2022-02416
ZINCO HOLDING, LLC
3150 & 3250 JORDAN LANE
AP# 114-050-005 & -006

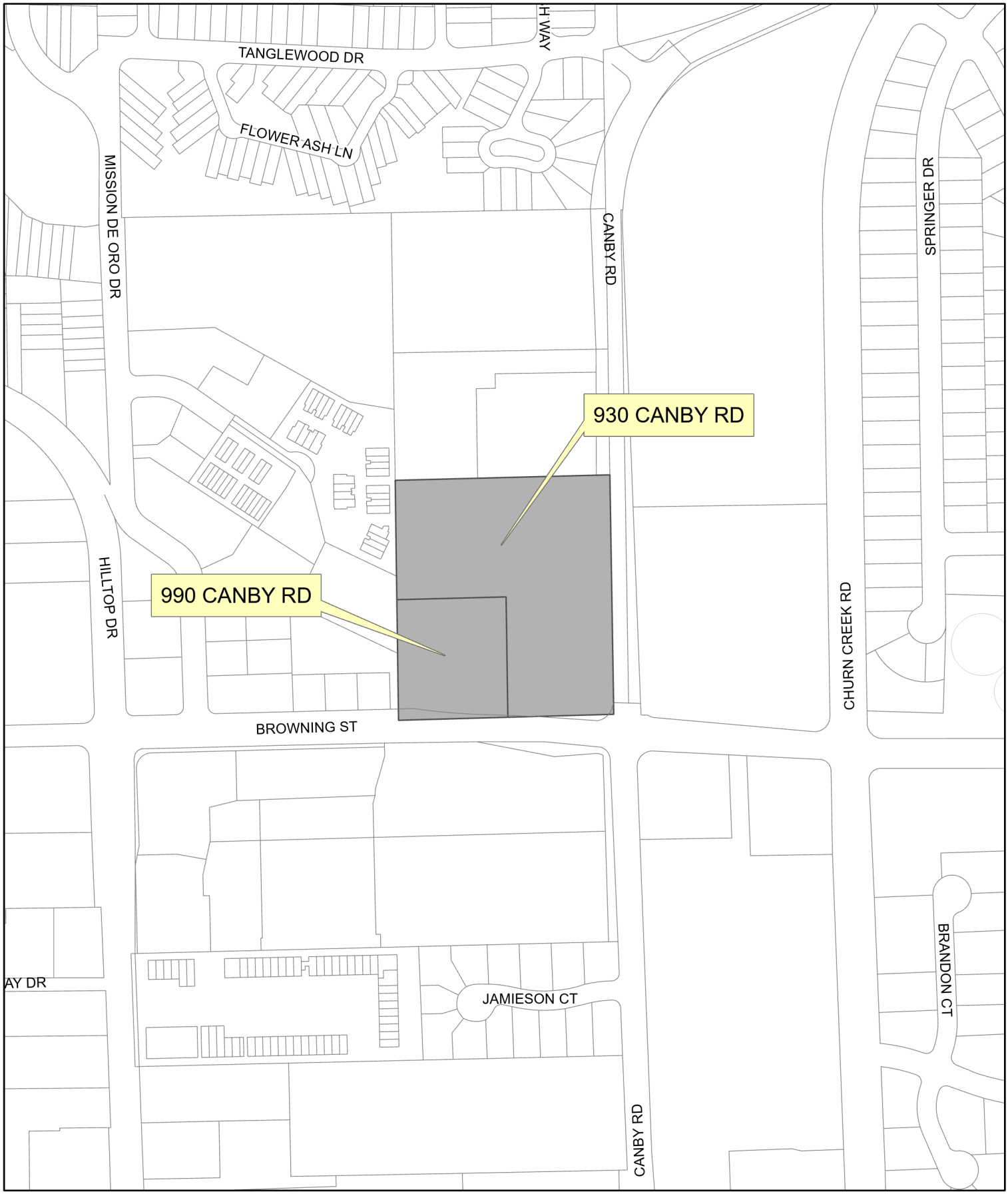
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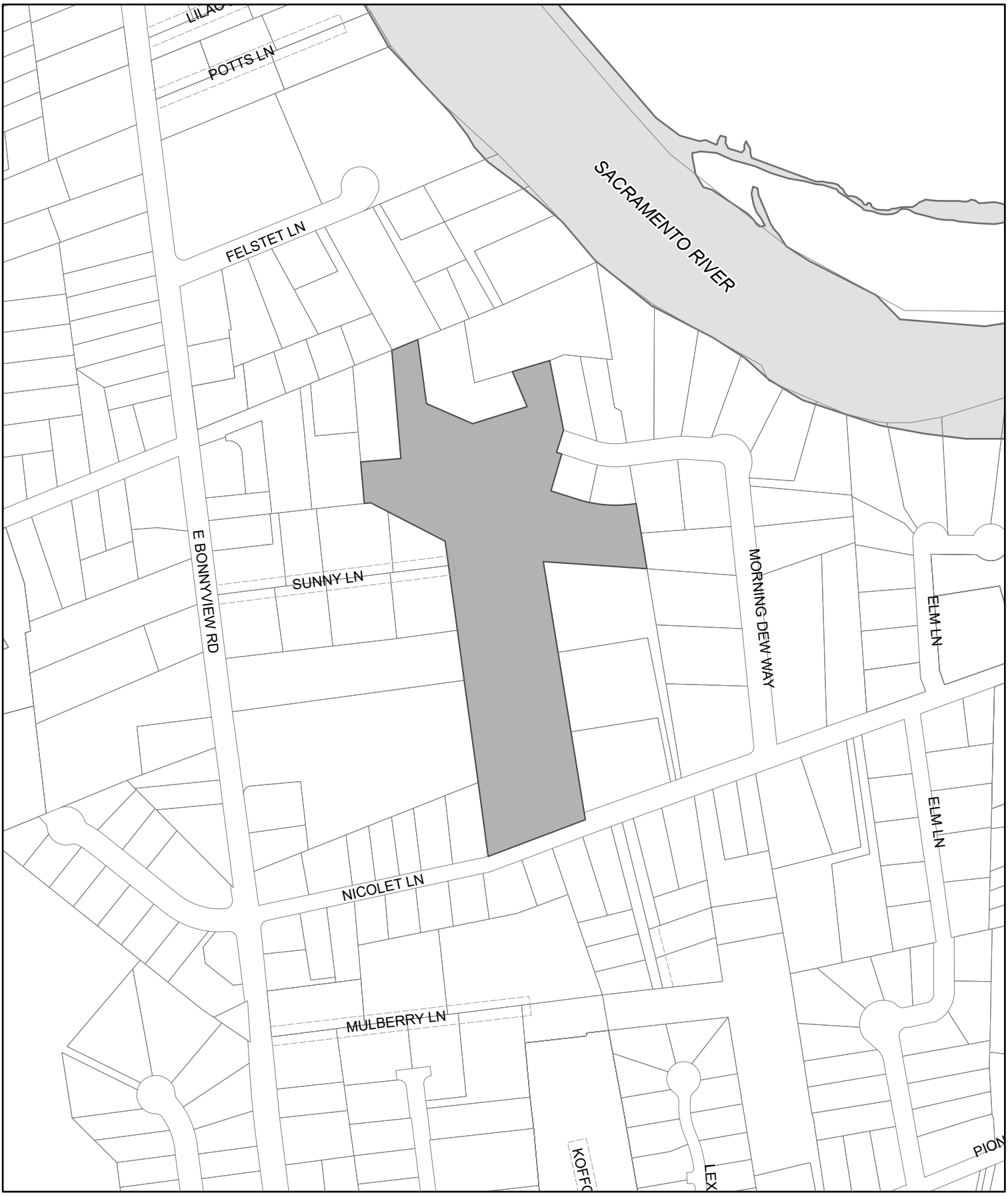
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S-2023-00027
SIERRA PACIFIC LAND TIMBER
2923 RANCHO ROAD
AP# 054-910-080

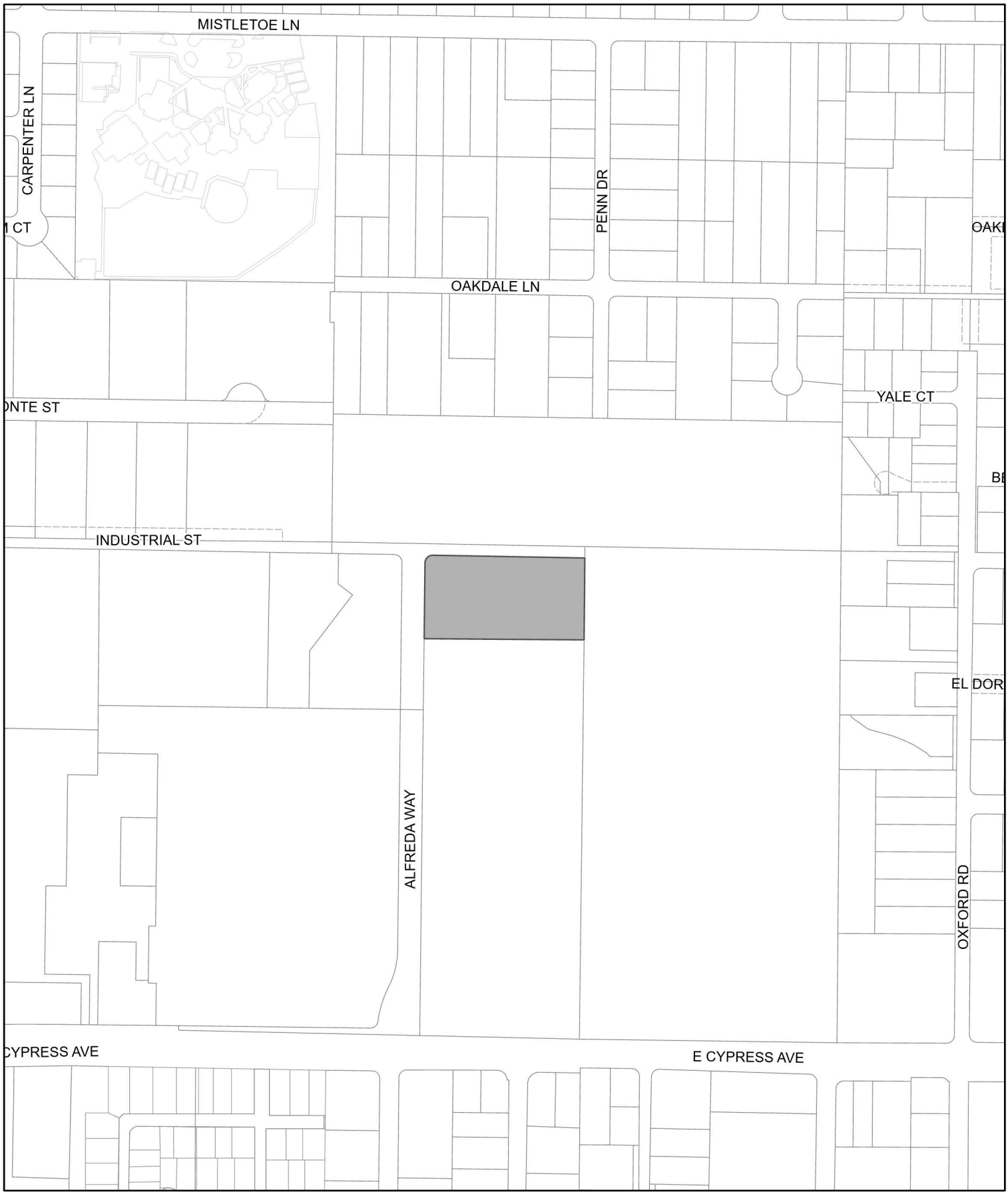
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CITY OF REDDING
777 Cypress Avenue, Redding, CA 96001
PO BOX 496071, Redding, CA 96049-6071
cityofredding.org

April 24, 2023

Kelli Hayward
Wintu Tribe of Northern California
PO Box 995
Shasta Lake, CA 96019

Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52. Formal Notification of Determination of Decision to Undertake a Project, and Notice of Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1.

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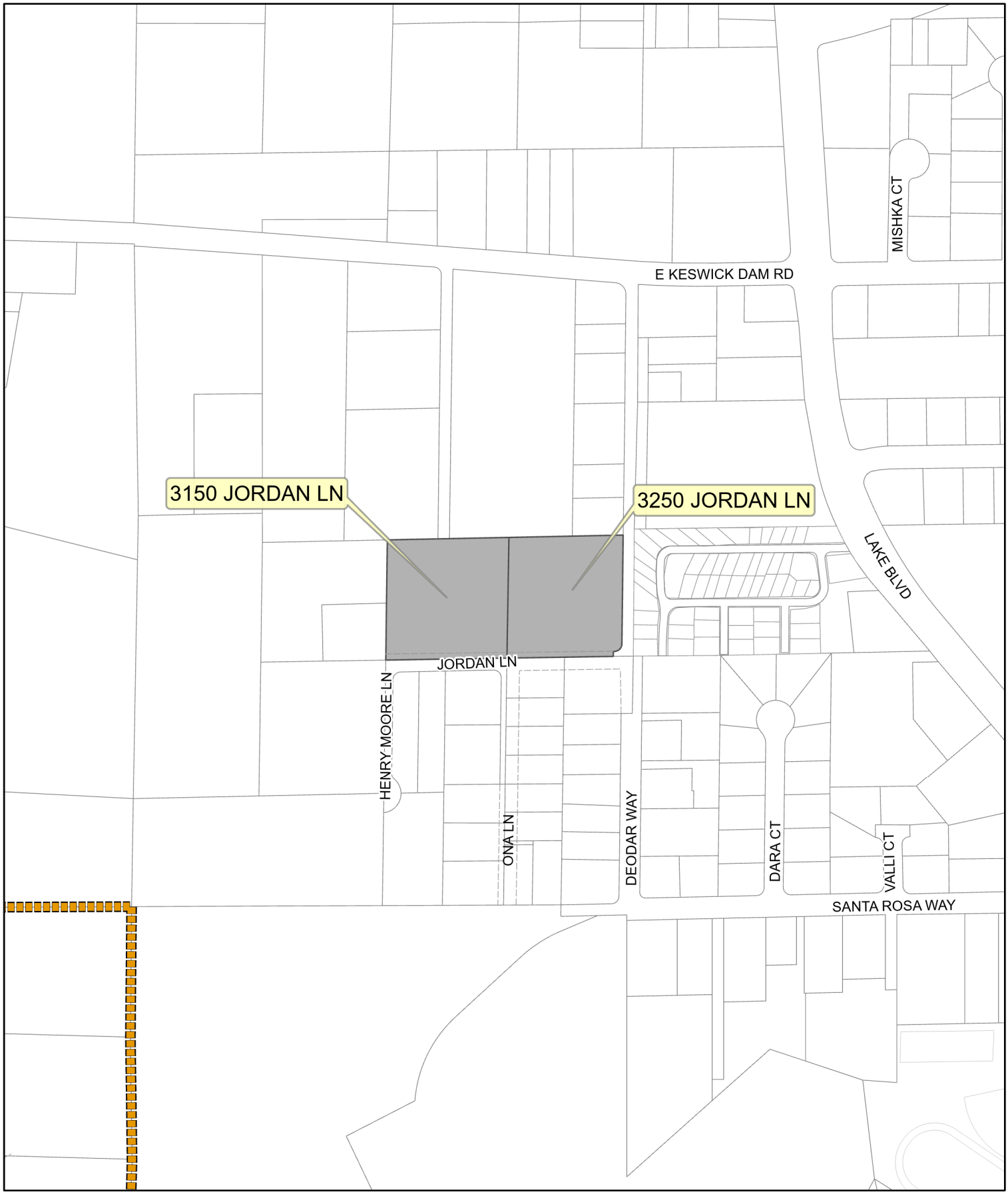
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Sincerely,

Danny Castro
Assistant Planner
Development Services

DC:es

Attachments:
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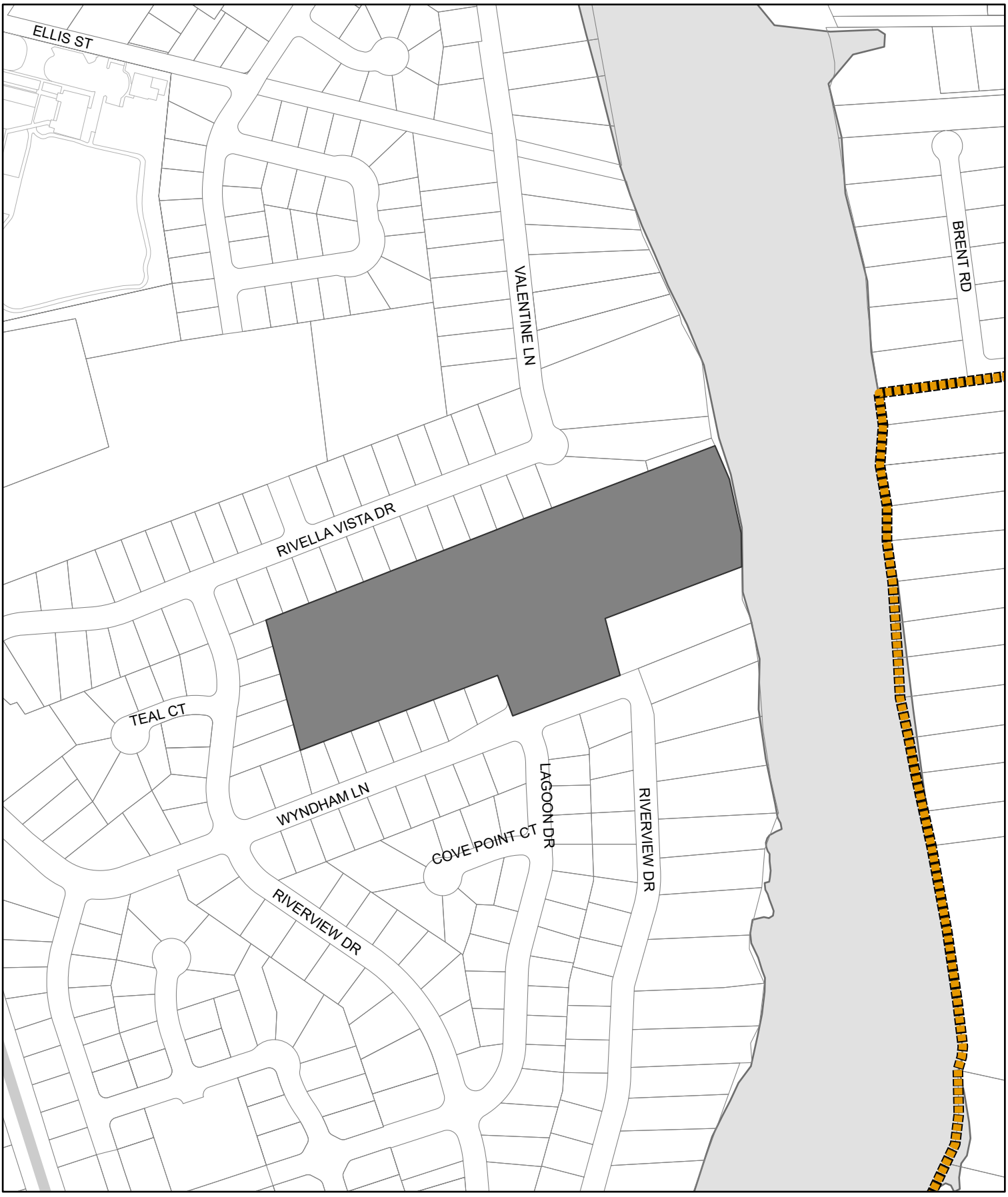
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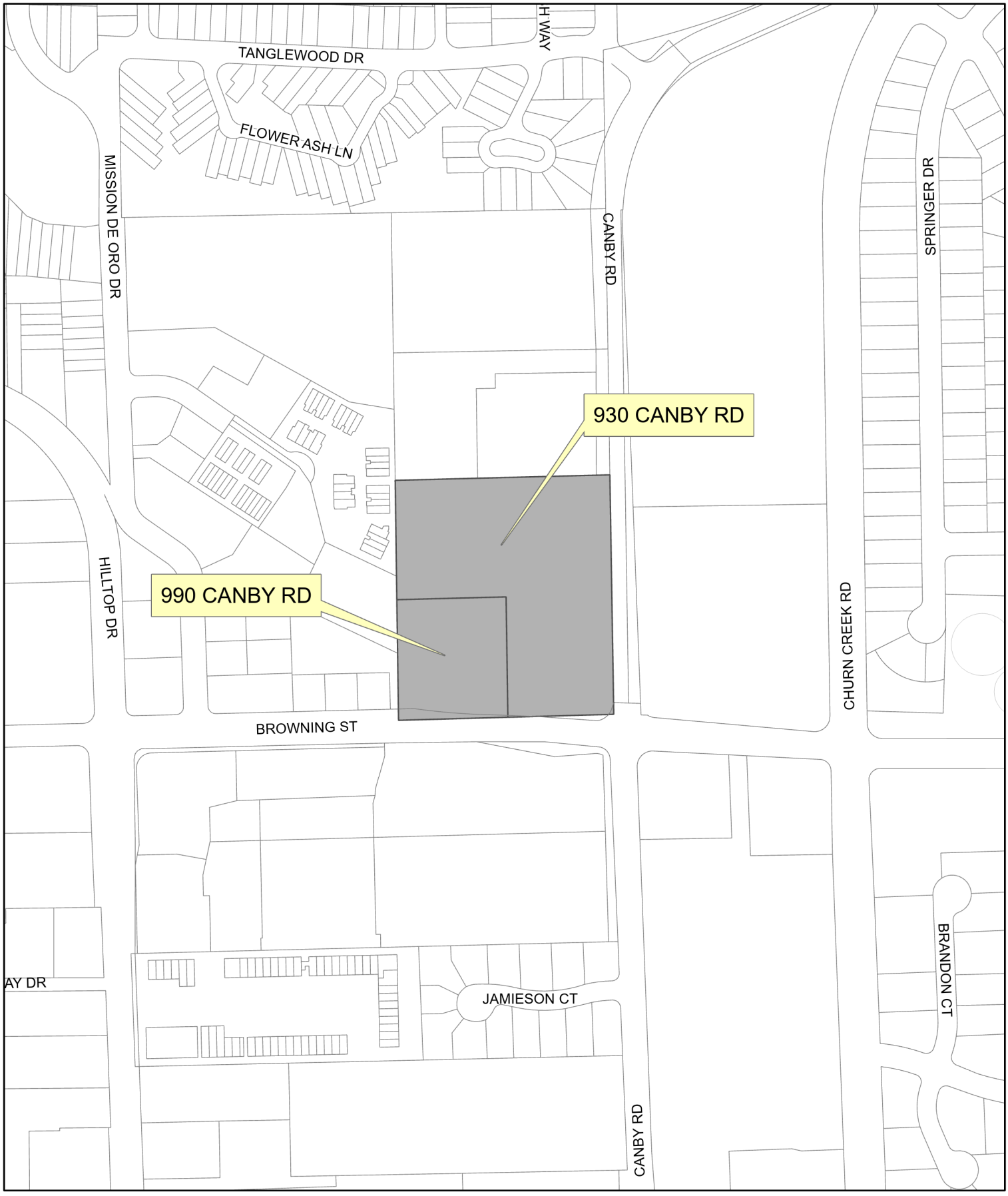
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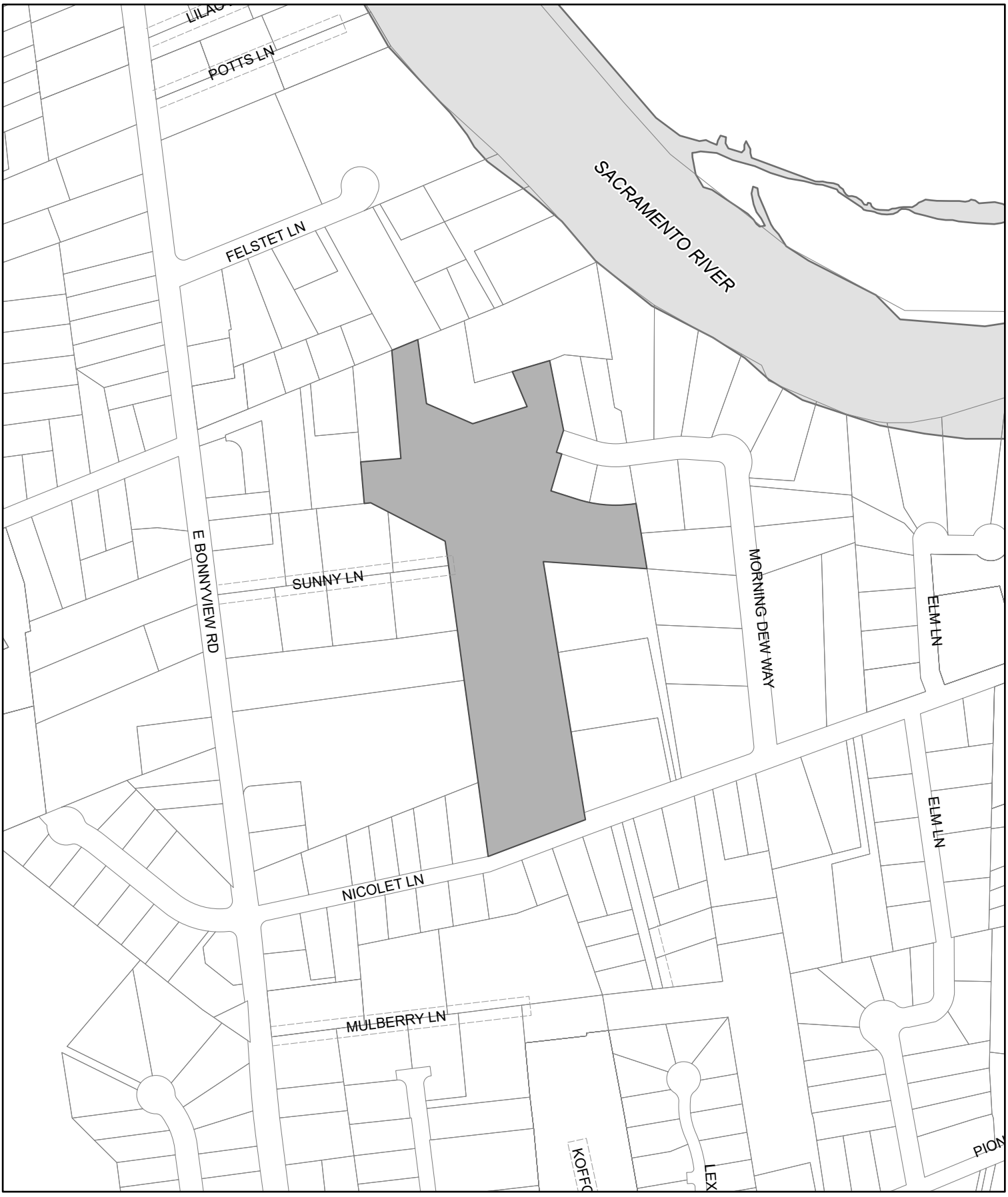
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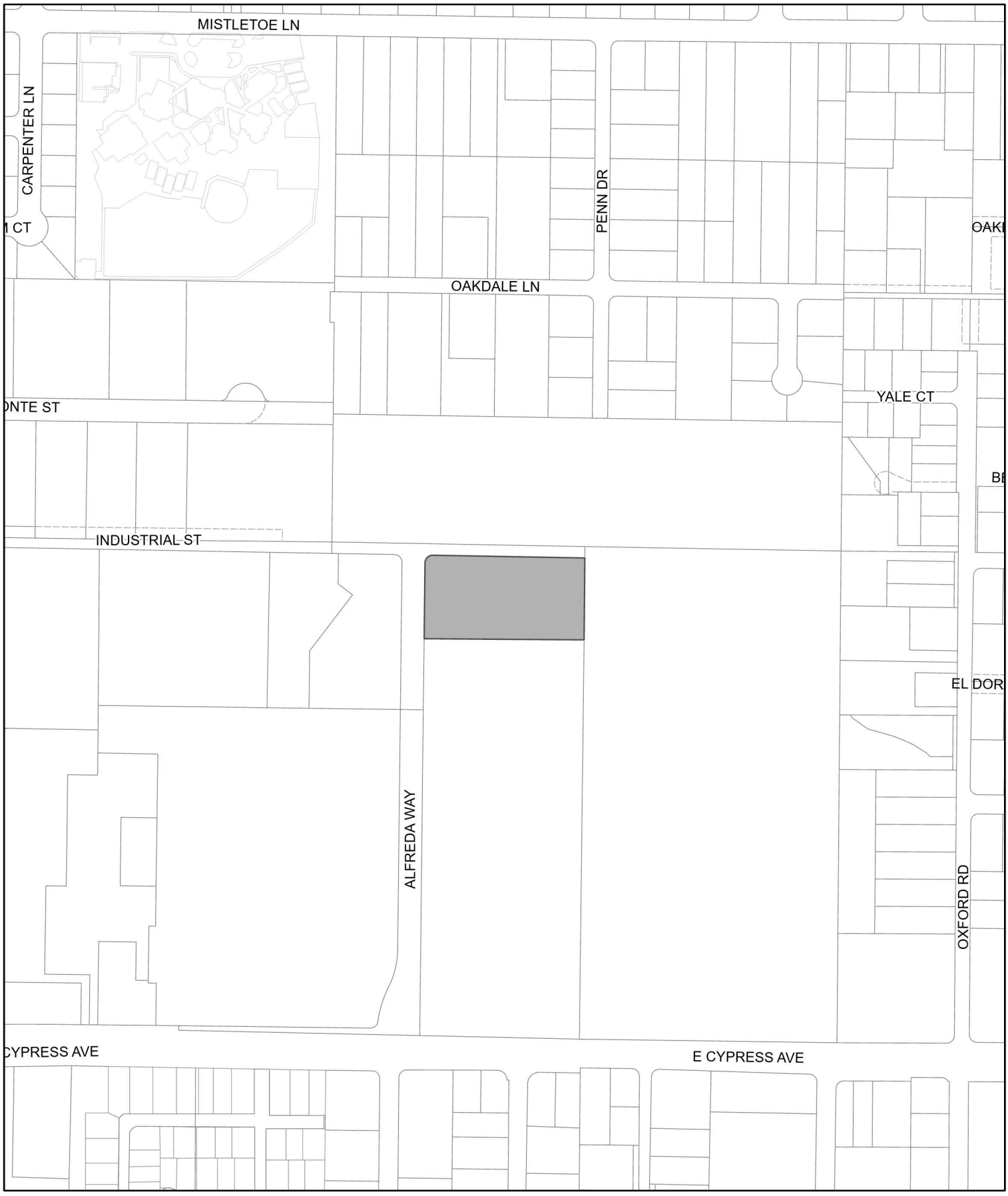
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The River Subdivision
TENTATIVE SUBDIVISION MAP S-2023-00582

MITIGATION MONITORING PROGRAM CONTENTS

This document is the Mitigation Monitoring Program (MMP) for the River Subdivision. The MMP includes a brief discussion of the legal basis for and purpose of the program, discussion and direction regarding complaints about noncompliance, a key to understanding the monitoring matrix, and the monitoring matrix itself.

LEGAL BASIS OF AND PURPOSE FOR THE MITIGATION MONITORING PROGRAM

California Public Resources Code Section 21081.6 requires public agencies to adopt mitigation monitoring or reporting programs whenever certifying an Environmental Impact Report (EIR) or a Mitigated Negative Declaration. This requirement facilitates implementation of all mitigation measures adopted through the California Environmental Quality Act (CEQA) process.

The MMP contained herein is intended to satisfy the requirements of CEQA as they relate to the Initial Study/Mitigated Negative Declaration prepared for the River Subdivision. It is intended to be used by City of Redding (City) staff, participating agencies, project contractors, and mitigation monitoring personnel during implementation of the project.

Mitigation is defined by CEQA Guidelines Section 15370 as a measure that does any of the following:

- Avoids impacts altogether by not taking a certain action or parts of an action.
- Minimizes impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifies impacts by repairing, rehabilitating or restoring the impacted environment.
- Reduces or eliminates impacts over time by preservation and maintenance operations during the life of the project.
- Compensates for impacts by replacing or providing substitute resources or environments.

The intent of the MMP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMP will provide for monitoring of construction activities as necessary, on-site identification and resolution of environmental problems, and proper reporting to City staff

MITIGATION MONITORING TABLE

The Mitigation Monitoring Table identifies the mitigation measures proposed for the River Subdivision. These mitigation measures are reproduced from the Initial Study and conditions of approval for the project. The tables have the following columns:

Mitigation Measure: Lists the mitigation measures identified within the Initial Study for a specific impact, along with the number for each measure as enumerated in the Initial Study.

Timing: Identifies at what point in time, review process, or phase the mitigation measure will be completed.

Agency/Department Consultation: References the City department or any other public agency with which coordination is required to satisfy the identified mitigation measure.

Verification: Spaces to be initialed and dated by the individual designated to verify adherence to a specific mitigation measure.

NONCOMPLIANCE COMPLAINTS

Any person or agency may file a complaint asserting noncompliance with the mitigation measures associated with the project. The complaint shall be directed to the City in written form, providing specific information on the asserted violation. The City shall conduct an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure has occurred, the City shall take appropriate action to remedy any violation. The complainant shall receive written confirmation indicating the results of the investigation or the final action corresponding to the particular noncompliance issue.

MITIGATION MONITORING TABLE
FOR THE RIVER SUBDIVISION MMP

Mitigation Measure	Timing/Implementation	Enforcement/Monitoring	Verification (Date and Initials)
Biological Resources			
MM-Bio-1 To the extent practicable, removal of large trees with cavities shall occur before bat maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). If construction (including the removal of large trees) occurs during the bat non-volant season (March 1 through August 15), a qualified professional shall conduct a pre-construction survey of the study area to locate maternity colonies and identify measures to protect colonies from disturbance. The preconstruction survey will be performed no more than 7 days prior to the implementation of construction activities. If a maternity colony is located within the study area, or adjacent to the study area, a disturbance free buffer shall be established by a qualified professional, in consultation with the California Department of Fish and Wildlife to ensure the colony is protected from project activities.	At time of development	Public Works, Planning	
MM-Bio-2 If vegetation removal or construction activities will occur during the nesting season for migratory birds and raptors (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey 7 days before construction activities begin. If any candidate, sensitive, or special-status nesting birds are found, the California Department of Fish and Wildlife (CDFW) will be notified and consulted. An appropriate buffer, as determined by the CDFW and the qualified biologist, will be placed around the nest until the young have fledged. If construction activities cease for a period greater than 7 days, additional preconstruction surveys will be required.	At time of development	Public Works, Planning	

Mitigation Measure	Timing/Implementation	Enforcement/Monitoring	Verification (Date and Initials)
Cultural Resources			
MM-CR-1 At time of development, the boundary of "Wyndham 1," as discussed in the Cultural Resources Inventory Survey by Gallaway Enterprises dated March 21, 2023, shall be accurately located through survey by a qualified professional archaeologist. Geotechnical cloth shall be placed over "Wyndham 1", and soil fill material compacted to an elevation of at least 12-inches above the ground surface. Soil importation and placement shall be accomplished with a rubber-tired front loader, utilizing a limited path which would minimize any natural soil disturbance. A qualified professional archaeologist shall be present to monitor and direct the placement of both the geotechnical cloth and the imported fill to minimize disturbances within the site boundary. Additionally, once the final residence footprint is located, then additional fill material shall be placed upon the already imported and compacted soils, bringing the elevation of the house pad to approximately 20-inches above the original ground surface.	At time of development	Public Works, Planning	
MM-CR-2 A qualified professional archaeologist shall monitor the excavation of the storm drain discharge pipe trench proposed to be installed approximately 45-feet south of "Wyndham 1" to ensure that any resources inadvertently identified during ground disturbance are offered adequate evaluation opportunities.	At time of development	Public Works, Planning	