CITY OF REDDING
Development Services Planning Division
777 Cypress Avenue, Redding, CA 96001
P.O. Box 496071, Redding, CA 96049-6071
Phone: 530-225-4022
cityofredding.gov

MITIGATED NEGATIVE DECLARATION

Permit No. S-2022-02416 & RZ-2024-00156
State Clearinghouse No. _____

SUBJECT

Zinco Subdivision and Rezoning

PROJECT DESCRIPTION

The Project applicant, Zinco Holding, LLC, is requesting approval of Subdivision Map Application S-2022-02416 and Rezoning Application RZ-2024-00156 to subdivide approximately 4.4 gross acres, spanning two adjacent parcels located in the northwest quadrant of the City, into 16 single-family residential lots, along with roadways and other supporting infrastructure, while rezoning both parcels from "RS-3" Residential Single Family, 3-units per acre, to "RS-3.5" Residential Single-Family, 3.5-units per acre.

Residential lot sizes would range from 7,229 square feet to 15,549 square feet with a minimum lot size of 6,000 square feet as required by the City's zoning ordinance for the RS 3.5 zoning district. However, the majority of the lot sizes are within the 8,000 square feet to 10,000 square foot range. The project site currently consists of two adjacent parcels, both of which would require a rezoning, from allowing 3 units per acre to 3.5 units per acre to accommodate the proposed density. The project proposes a density of 3.6 units per acre which is consistent with the rounding rules of the Zoning Ordinance and General Plan Designation for the parcels.

As the site drains into two different basins, the project proposes two detention ponds, each draining into a separate basin, which would also act as water quality treatment features.

Access to the subdivision would be provided from a new street (Road A) that would intersect with Jordan Lane in the westerly portion of the site. This road segment would continue to the northly edge of the site for a potential future extension of the roadway. An interior cul-de-sac street (Road B) connected to Road A would provide access to the remaining lots in the subdivision. The Conditions of Approval require construction of necessary improvements, including construction of curb, gutter, and sidewalk. No vehicular access would be taken from Deodar Way and all utility connections are available adjacent to the site. Street improvements would be required of the project along Jordan Lane and Deodar Way. These improvements include the installation of curb, gutter, and sidewalk along with landscaping and fencing.

The project includes the off-site extension of the water line in Road A to the existing water main stub approximately 30 feet to the north of the subdivision. Looping the water system in this way

increases water quality to properties at the end of the pipeline while also cutting down on maintenance costs associated with dead ends in the system.

ENVIRONMENTAL SETTING

The project site is located in the northwest quadrant of the City and is surrounded by existing development. This development includes single-family development and a mobile home park. Some of the adjacent parcels are not fully improved and/or have natural landscaping. The site itself is relatively flat and undeveloped. Vegetation consists of a moderate coverage of scattered small-to-medium-sized blue oak trees interspersed with gray pine and live oak trees, shrubs consisting of manzanita and poison oak, and annual grasses and forbs.

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 to 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 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 it, 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: The applicant shall have a pre-construction rare plant survey of the proposed disturbance area or other project features that may impact special status species of the project site conducted by a qualified botanist during the appropriate survey window (blooming period) for rare and endangered plants that have the potential to occur within the project site if such a survey has not been provided to the City. Surveys shall be done in accordance with the most current version of California Native Plant Society *Botanical Survey Guidelines* (CNPS 2001), California Department of Fish and Wildlife P*rotocols for Surveying and Evaluating Impacts to Special Status Plant Species Native Plant Populations and Natural Communities*, and U.S. Fish and Wildlife's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants.* If present, special status plant species plant populations will be flagged and, if possible, avoided during construction. If the population cannot be avoided during construction, a plan will be developed for approval by the California Department of Fish and Wildlife (CDFW) which may include transplanting the plant population, compensation, or other measures established by that agency.

MM-BIO-2: If feasible, vegetation removal and/or construction shall be conducted between September 1 and January 31. If vegetation removal and/or construction activities are to occur during the nesting season (February 1 through August 31), a qualified biologist shall conduct a preconstruction survey no more than seven (7) days before vegetation removal or construction activities begin. If an active nest is found, a non-disturbance buffer shall be established by a qualified biologist in coordination with CDFW. Construction may resume once the young have left the nest or as approved by the qualified biologist. The survey shall be provided to the CDFW. If construction activities cease for a period greater than seven (7) days, additional preconstruction surveys will be required.

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
- 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 April 2, 2025

( ) 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 Development Services' City Planning Projects page of the City's website at http://www.cityofredding.gov. If you have any questions or wish to submit comments, please contact Danny Castro, Associate Planner, at dcastro@cityofredding.org, or by telephone at (530) 225-4471.

Lily Toy, Planning Manager

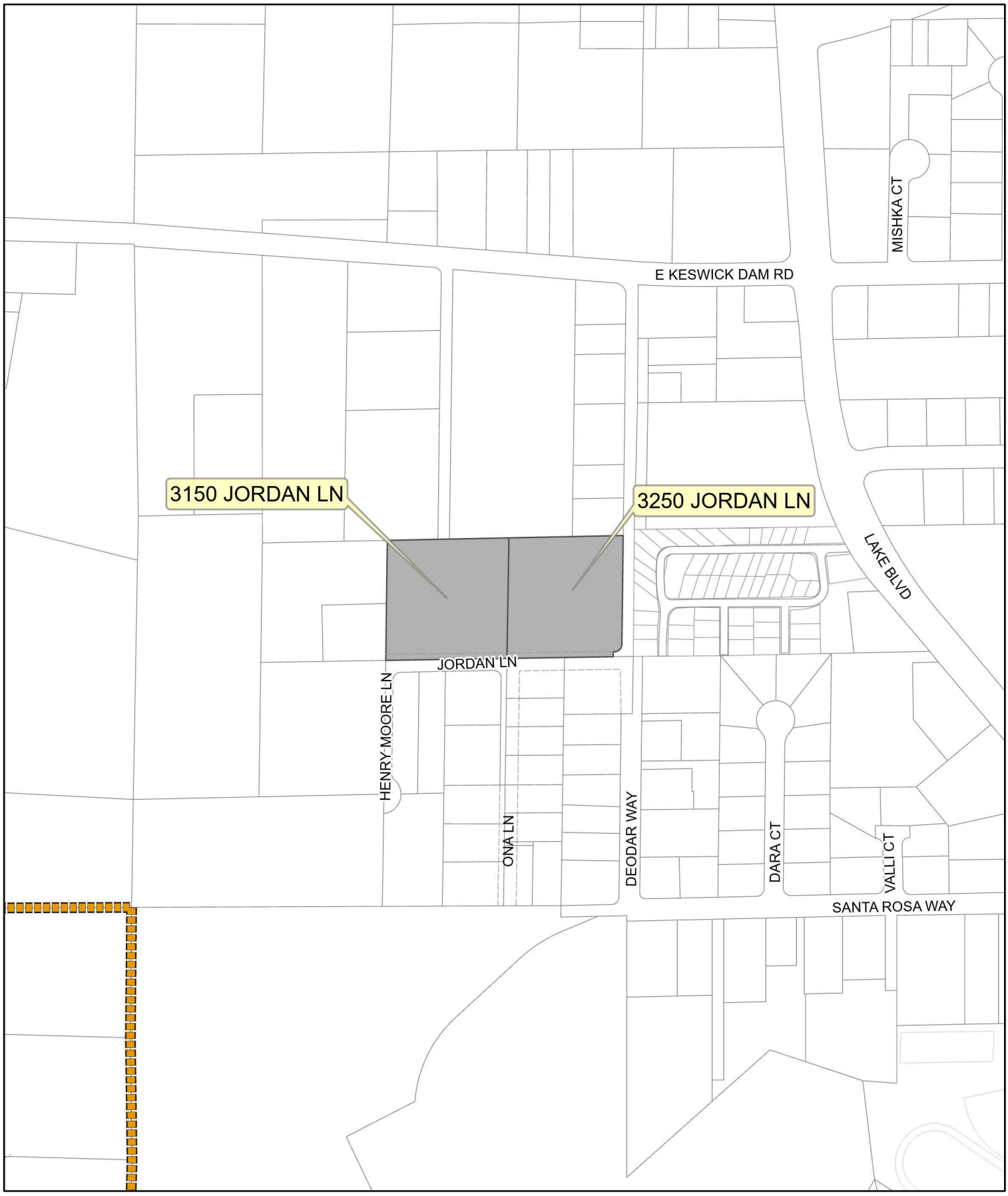
April 2, 2025

Date

March 31, 2025

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:
JANUARY 20, 2023

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LOCATION MAP

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

MTG. DATE:

ITEM:

ATTACHMENT:

ENVIRONMENTAL INITIAL STUDY

INITIAL STUDY CHECKLIST
References and Documentation
Zinco Subdivision and Rezoning
Tentative Subdivision Map Application S-2022-02416
Rezoning Application RZ-2024-00156

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

March 31, 2025

CITY OF REDDING
ENVIRONMENTAL CHECKLIST FORM

1. Project Title:

Zinco Subdivision and Rezoning

2. Lead agency name and address:
CITY OF REDDING
Development Services Department *Planning Division*
777 Cypress Avenue
Redding, CA 96001

2. Contact Person and Phone Number:

Danny Castro, Associate Planner, (530) 225-4471

3. Project Location:

3150 and 3250 Jordan Lane, Redding, CA 96003

5. Applicant's Name and Address:

Vinnie Coletti
20083 Sunrise Drive
Redding, CA 96002

Representative's Name and Address:

Josh Miller
Horrocks Engineering
P.O. Box 1307
Anderson, CA 96007

6. General Plan Designation:

"Residential, 2 to 3.5 dwelling units per acre," and "Residential, 3.5 to 6 dwelling units per acre"

7. Zoning:

"RS-3" Residential Single-Family District

8. **Description of Project:**

Subdivision Map Application S-2022-02416 and Rezoning Application RZ-2024-00156 propose to subdivide approximately 4.4 gross acres, spanning two adjacent parcels located in the northwest quadrant of the City, into 16 single-family residential lots, along with roadways and other supporting infrastructure, while rezoning both parcels from "RS-3" Residential Single-Family, 3-units per acre, to "RS-3.5" Residential Single-Family, 3.5-units per acre.

Residential lot sizes would range from 7,229 square feet to 15,549 square feet with a minimum lot size of 6,000 square feet as required by the City's zoning ordinance for the RS-3.5 zoning district. However, the majority of the lot sizes are within the

8,000 square feet to 10,000 square foot range. The Project site currently consists of two adjacent parcels, both of which would require a rezoning from allowing 3 units per acre to 3.5 units per acre to accommodate the proposed density. The Project proposes a density of 3.6 units per acre which is consistent with the rounding rules of the Zoning Ordinance and General Plan Designation for the parcels.

As the site drains into two different basins, the Project proposes two detention ponds, each draining into a separate basin, which would also act as water quality treatment features.

Access to the subdivision would be provided from a new street (Road A) that would intersect with Jordan Lane in the westerly portion of the site. This road segment would continue to the northly edge of the site for a potential future extension of the roadway. An interior cul-de-sac street (Road B) connected to Road A would provide access to the remaining lots in the subdivision. The Conditions of Approval require construction of necessary improvements, including construction of curb, gutter, and sidewalk. No vehicular access would be taken from Deodar Way, and all utility connections are available adjacent to the site. Street improvements would be required of the Project along Jordan Lane and Deodar Way. These improvements include the installation of curb, gutter, and sidewalk along with landscaping and fencing.

The Project includes the off-site extension of the water line in Road A to the existing water main stub approximately 30 feet to the north of the subdivision. Looping the water system in this way increases water quality to properties at the end of the pipeline while also cutting down on maintenance costs associated with dead ends in the system.

9. Surrounding Land Uses and Setting:

The Project site is located in the north west quadrant of the City and is surrounded by existing development. This development includes single-family development and a mobile home park. Some of the adjacent parcels are not fully improved and/or have natural landscaping. The site itself is relatively flat and undeveloped. Vegetation consists of a moderate coverage of scattered small-to-medium-sized blue oak trees interspersed with gray pine and live oak trees, shrubs consisting of manzanita and poison oak, and annual grasses and forbs.

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

California Regional Water Quality Control Board
California Department of Fish and Wildlife (CDFW)
United States Army Corps of Engineers

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		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 Associate Planner Danny Castro at (530) 225-4471.

Danny Castro
Development Services Department

March 28, 2025
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 2045*
- *City of Redding General Plan Update Final Environmental Impact Report*, 2024, SCH #2022050300
- CEQA Findings of Fact and Statement of Overriding Considerations for the *City of Redding General Plan Update Final Environmental Impact Report*, as adopted by the Redding City Council on March 13, 2024, by Resolution 2024-027

List of attachments/references (All technical reports listed below are on file and available in the Development Services Department, Planning Division):

Attachment A – Figure 1 – Location Map
Figure 2 – Cover Sheet (Tentative Map)
Figure 3 – Preliminary Grading, Drainage & Utilities
Figure 4 – Existing Site and Tree Survey
Attachment B – Archaeological Inventory Survey, Flowra, February, 2023
Attachment C – *Biological Resources Assessment, Zinco Subdivision Project 3150 and 3152 Jordan Lane, Redding, California*, VESTRA Resources Inc., October 2024

Attachment D – City of Redding Preliminary Drainage Report for Zinco Subdivision, Horrocks, June 2023
Attachment E – Wildland Resource Managers Oak Evaluation Form, Location Zinco/Redding, May 2, 2024
Attachment F – *Zinco Property Wetlands Delineation*, Wildland Resource Managers, December 2024

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) Scenic resources identified in the General Plan Environmental Impact Report include the Sacramento River and its tributaries, mountains and foothills, and open hillsides. Development of the Project would not obstruct a scenic vista identified in the *City of Redding General Plan 2045* and would be consistent with development pattern established on nearby properties. Although new development would alter the appearance of the existing conditions, it would not create a substantial adverse impact on scenic vistas or degrade the City's visual character or quality due to the existing urbanized character of the City. The Project will comply with the City's development ordinances, including the Zoning Ordinance and Subdivision Ordinance. 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. In addition, the Project would be consistent with the surrounding land uses and the Project would not substantially obstruct, interrupt, or detract from identified scenic resources. There are not prominent rock outcroppings, visually-significant tree stands, or historic buildings in the vicinity of the Project.

c) The Project will be compatible with the existing developed visual character of the adjacent/nearby development. The Project is consistent with the General Plan density allowed on site and the Project site is located in an area developed with similar uses. The location, size, and design of the proposed use would be compatible with uses in the immediate area.

d) The Project would generate light that is customary for 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 2045, Community Development and Design Element 2045
City of Redding General Plan 2045, Natural Resources Element 2045
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 majority of the Project site consists of Redding gravelly loam, 0 to 3 percent slopes, with approximately 0.4 acres of the site in the northwest corner consisting of Newtown gravelly loam, 30 to 50 percent slopes. Neither soil type meets the criteria for *Prime Farmland* pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. 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. 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 2045, Natural Resources Element 2045
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**	

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**
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) 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 City of Redding General Plan (GP) Environmental Impact Report (EIR) concluded that cumulative impacts would be significant and unavoidable *on a City-wide basis* and those impacts are addressed in the adopted CEQA Findings of Fact and Statement of Overriding Considerations. The GP EIR estimated areawide and mobile source emissions under the General Plan 2045 and compared the estimates to the estimated area and mobile source emissions projected in the 2021 Air Quality Attainment Plan (AQAP) for year 2025, which is the time horizon of the AQAP. The analysis concluded that the *cumulative* ROG and NOX emissions that would be generated by activity under the GP in 2045 would exceed the projections in the AQAP for year 2025 resulting in a very conservative determination. The GP EIR mirrors GP policies by requiring Mitigation Measures AQ-1 and AQ-2. AQ-1 requires that "Standard Mitigation Measures" (SMMs) be applied to all discretionary projects. AQ-2 requires the use of Best Available Mitigation Measures (BAMMs) recommended by SCAQMD which has the ability to provide recommendations for each discretionary project. The requirement of SMMs are also required by the City's Standard Conditions of Approval (SCOA) for discretionary projects including subdivisions. Because the Project would generate the type of construction and traffic emissions projected for the land use types and density set forth for the Project site by the GP EIR, the Project would not conflict with the SCAQMD plans and impacts would be less than significant.

b) The GP EIR concluded that cumulative impacts would be significant and unavoidable on a City-wide basis and those impacts are addressed in the adopted CEQA Findings of Fact and Statement of Overriding Considerations. The GP EIR concluded that implementation of the GP would cumulatively generate construction-related emissions of criteria air pollutants and precursors, including ROG, NOX, PM10, and PM2.5 from site preparation (e.g., excavation, clearing), off-road equipment, material delivery, worker commute trips, and other activities (e.g., building construction, asphalt paving, application of architectural coatings). Implementation of the construction-related SMMs as required by the City's SCOA for discretionary projects would reduce construction-generated emissions of criteria air pollutants and precursors. However, due to Shasta County's nonattainment-transitional status for ozone, construction activities associated with the Project would add to the cumulative impacts, and the GP EIR acknowledges that implementation of the GP may result in adverse air quality impacts to surrounding land uses and may contribute to the existing air quality condition in the City. There are no components of the proposed Project that would result in increased construction-related air quality emissions beyond what was previously evaluated and disclosed by the GP EIR for the Project site. Nonetheless, and consistent with the findings of the GP EIR, Project-related air quality emissions during construction activities would contribute to the significant and unavoidable construction-related air quality impact identified by the GP EIR (Impact AQ-2), However, the Project would not result in increased impacts or increased cumulatively-considerable impacts due to construction-related emissions beyond what was evaluated and disclosed by the GP EIR and would not exceed the thresholds established by the GP.

The *City of Redding General Plan 2045*, Natural Resources Element 2045 establishes emission thresholds that have been adopted by regional agencies when determining air quality impacts of discretionary projects 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}) and 2.5 Micron ($PM_{2.5}$) 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}
80 pounds per day of $PM_{2.5}$	

The process of applying SMM and BAMM is to apply appropriate SMM to all projects based on potential air quality impacts and to help contribute to reducing cumulative impacts. If the Project exceeds Level "A" threshold, then BAMM will be applied based on the unique characteristics of the Project selected from a list of measures provided by AQMD. If a project exceeds Level "B" thresholds, SMM, BAMM, and appropriate special BAMM would be applied and the City will seek recommendations of the AQMD regarding the efficiency of proposed emissions measures beyond BAMM. If a project's emission cannot be reduced to below Level "B" thresholds, emission offsets will be required. If, after applying emission offsets, the Project still exceeds the Level "B" threshold, then an Environmental Impact Report is required.

The current 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} and $PM_{2.5}$) 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 and no recommendation for BAMM were made by the SCAQMD.

Application of the SMMs outlined below would reduce the Project's potential air quality impacts to a level less than significant.

1. Apply nontoxic soil stabilizers according to manufacturer's specification to all inactive construction areas (previously-graded areas inactive for ten (10) days or more).
2. Reestablish ground cover on the construction site through seeding and watering prior to final occupancy.
3. All grading operations shall be suspended by the City Engineer when winds (as instantaneous gusts) exceed 20 miles per hour as directed by the AQMD.
4. Provide temporary traffic control as appropriate during all phases of construction to improve traffic flow (e.g. flag person) as approved by the City Engineer.
5. Schedule construction activities that affect traffic flow to off-peak hours as determined by the City Engineer.
6. Water active construction sites at least twice daily or as directed by the Public Works Department.
7. All truck hauling dirt, sand, soil, or other loose materials shall be covered or maintain at least two feet (2') 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. Sweep streets at the end of the day if visible soil materials are carried onto adjacent public paved roads (recommend water sweeper with reclaimed water).
9. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.

In addition to the requirements of the California Building Code, the following operational SMMs will be applied as appropriate to as recommended by the Shasta County Air Quality Management District:

1. Provide energy-efficient process systems, such as water heaters, furnaces, and boiler units.
2. All new wood burning devices shall be EPA Phase II certified.
3. Large residential, commercial, and industrial projects should include bus shelters at transit access points.
4. Contribute to traffic-flow improvements that reduce emissions and are not growth-inducing (e.g., right-of-way, capital improvements, etc.)
5. Install an electrical outlet at the front and back of all residential units for electrical yard equipment.
6. Streets should be designed to maximize pedestrian access to transit stops.

c-d) The GP EIR concluded that cumulative impacts would be significant and unavoidable on a City-wide basis and those are addressed in the adopted CEQA Findings of Fact and Statement of Overriding Considerations. However, the document notes that the SCAQMD identified the following types of land use conflicts that could result in the exposure of sensitive receptors to excessive pollutant concentrations in their CEQA Land Use Protocol Guidelines:

- Development projects with sensitive receptors in close proximity to a congested intersection or roadway with high levels of emissions from motor vehicles. High concentrations of carbon monoxide, fine particulate matter, or toxic air contaminants are

the most common concerns.

- Development projects with sensitive receptors close to an industrial source of toxic air contaminants.
- Development projects with sensitive receptors close to a source of odorous emissions. Although odors generally do not pose a health risk, they can be quite unpleasant and often lead to citizen complaints to the District and to local governments.

The Project does not meet any of these criteria. Further, the Project is not located in proximity to any of the land uses types noted.

Documentation:
City of Redding General Plan 2045, Natural Resources Element 2045
City of Redding General Plan Update Final Environmental Impact Report, 2024, SCH #2022050300
CEQA Findings of Fact and Statement of Overriding Considerations for the *City of Redding General Plan Update Final Environmental Impact Report*, as adopted by the Redding City Council on March 13, 2024, by Resolution 2024-027

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 of 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**	
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 results documented in the *Biological Resource Assessment* (BRA) prepared by Vestra Resources Inc., dated October of 2024, and the *Zinco Property Wetlands Delineation* prepared by Wildland Resource Managers, dated December 2024, for the Project.

a) Plants

The BRA identified vegetation within the survey area through consultation with the California Wildlife Habitat Relationships (CWHR) followed by a reconnaissance survey. CWHR states that the dominant vegetation community onsite is mixed chaparral which may have occurred prior to removal of trees and shrubs from the property. The reconnaissance survey determined that Blue

Oak Woodland and Forest Alliance is now present onsite. The area shown as Barren was found to support several oak trees and is a part of the oak woodland community.

The habitat observed onsite consists of the Blue Oak Woodland and Forest Alliance. Dominant species observed were blue oak and foothill pine with a sparse understory of manzanita, toyon, and poison oak. Introduced annual grasses and forbs comprise the understory plant community. The herbaceous species observed were wild oats, rattlesnake grass, little rattlesnake grass, and brome.

Dirt roads resulting from public use since prior to 1998, as observed via Google Earth aerial imagery, have resulted in fragmented mature stands of Blue Oak Woodland habitat with heavily disturbed soils within the survey area. As CWHR suggests, the habitat may once have been mixed chaparral, but years of disturbance have transitioned the site to what is now fragmented oak woodlands.

The BRA, which was conducted in October and did not include a protocol level plant survey, concluded that three special status plant species could not be ruled out and technically have the potential to occur on-site. They are all ranked as California Rare Plant Rank (CRPR) 3 species by the California Native Plant Society (CNPS). CNPS rank 3 species are species that are not very threatened in California. They have a low degree and immediacy of threat or have no currently known threats. What unites CNPS Rank 3 plants is that CNPS lacks the necessary information to assign them a rank or to determine them exempt from ranking. Because of this lack of information, it is common practice for agencies to consider Rank 3 plants as special status species. Mitigation measures for these species typically consist of doing protocol level surveys in order to gain a better understanding of their occurrence and distribution. Although the likelihood of these three species occurring onsite is low, the following special status species plants have the potential to occur onsite:

Redding Checkerbloom: Redding checkerbloom is a perennial herb occurring in cismontane woodland or open oak woodland between elevations of 150-370 meters. Although the reconnaissance survey was conducted outside of the flowering period, the site was visually scanned for Redding checkerbloom in the vegetative state and none were observed. Because a protocol-level survey would be required to definitively determine whether the species is present within the site, its presence cannot technically be ruled out. There is potential habitat underneath the onsite blue oak canopy containing undisturbed vegetation where Redding checkerbloom could grow. A nearby occurrence of ten individuals of this species was discovered in 2023 approximately 0.75 miles south of site in similar habitat, although in apparently less disturbed conditions. Mitigation Measure BIO-1 would bring potential impacts to the Redding checkerbloom to less than significant.

Dubious Pea: Dubious pea is a perennial vine-like herb that occurs in cismontane woodlands, lower montane coniferous forests, and upper montane coniferous forests between 500 feet and 3000 meters elevation in Shasta County. Although the survey done for the BRA was conducted outside of the flowering period, no dubious pea or closely related pea was observed in the vegetative state. The nearest and most recent records of this species occurring in Redding are from 1911. However, there is potential habitat underneath the onsite blue oak canopy containing undisturbed vegetation where dubious pea could grow. Mitigation Measure BIO-1 would bring potential impacts to the dubious pea to less than significant.

Henderson's Bent Grass: Henderson's bent grass is an annual grass native to northern California and Oregon. This species usually inhabits vernal pool and swale habitats, but it can also be found in moist areas in annual grasslands. It is associated with valley grasslands and ephemeral wetlands, and sometimes with riparian understory communities. The wetland features located onsite could provide habitat for Henderson's bent grass. Mitigation Measure BIO-1 would bring potential impacts to the Henderson's bent grass to less than significant.

Animals

Townsend's Big-Eared Bat: The BRA identifies impacts to one special status wildlife species that has the potential to occur in the Project area, Townsend's big-eared bat. Although no maternity roost habitat exists, there is potential foraging habitat onsite and in the adjacent oak woodland to the northwest of the site. According to the BRA, the development of the Project site would cause a less than significant impact to foraging Townsend's big-eared bats because the foraging habitat on the adjacent properties will continue to support abundant prey items for this species.

The Project would cause an incremental increase in light pollution. While there is pre-existing light pollution from the residential areas surrounding the Project site, the BRA cites concerns over the Zinco project adding light pollution to bat foraging habitat to the north which could affect prey behavior. However, the City does not regulate lighting in residential zoning districts and considers this Project's onsite and offsite effects with regards to lighting to be less than significant. When considered in the context of the surrounding neighborhood and the City as a whole, this residential subdivision would not substantially alter the amount of light

pollution on nearby habitat. While the BRA identifies impacts to the Townsend's big-eared bat, these impacts are considered to be less than significant.

Nesting Birds: The Project will result in the removal of native blue oak and gray pine trees. Tree removal and construction activities during the nesting season (February 1 – August 31), such as tree removal and noise-generating construction activities that disturb a nesting bird or destroy active nests, could result in impacts to nesting birds. Implementation of Mitigation Measure MM-BIO-2 would reduce potential impacts on nesting birds to less than significant.

b) The Project site is not adjacent to any lakes, rivers, or streams and does not contain 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. Thus, no impact would occur and no mitigation is required.

c) The wetlands delineation prepared for the Project identified four vernal wetland features totaling 0.18 acres. These areas contain deep rutting of the surface soil caused by mechanical clearing of vegetation and all-terrain vehicle off roading activity. The soil in the areas with vernal pools is Redding gravelly loam with a hardpan found to be at a depth of 11 inches deep. This hardpan causes water to perch and remain close to the surface in several areas on the property during the rainy season and into the spring. Vehicles have formed depressions in the topsoil above the hardpan which prevents water from draining laterally, creating pools. While the biological resource assessment ruled out the potential for special status vernal pool plant and animal species to occur onsite, these vernal pools are potentially Waters of the United States or, more likely, Waters of the State.

The filling of these small, human-created, isolated shallow pools that do not have the potential to support special status species is considered a less than significant impact. However, the filling of Waters of the U.S. or Waters of the State does require an agency permit which may include mitigation measures. Federal and State policies promote a no net loss of wetland resources. This can be accomplished in a number of ways, but a common approach is the purchase by the developer of mitigation credits at an established wetland mitigation bank. By law, the filling of Waters of the U.S. or Waters of the State requires a permit from the U.S. Army Corps of Engineers (USACE) or the State Water Resources Control Board (SWRCB). The applicant would be required to do any mitigation required by one of those permits. While mitigation measures are not necessary for the purposes of this environmental document, acquisition of the required permits will be a part of the Project's conditions of approval in addition to the law.

d) No known established wildlife corridors or nursery sites occur within or in the vicinity of the site. Because the Project site is 750 feet away from the nearest riparian corridor, the Project would not inhibit wildlife movement along it. While the BRA discussed light pollution and its effects on nocturnal wildlife movement, as discussed above, the City does not regulate lighting in residential zoning districts and considers this Project's onsite and offsite effects with regards to lighting to be less than significant. When considered in the context of the surrounding neighborhood and the City as a whole, this residential subdivision would not substantially alter the amount of light pollution in the area. Furthermore, the only nocturnal special status animal species identified as having the potential to occur onsite is the Townsend's big-eared bat. This species is discussed in subsection "a" above and the Project is not expected to alter the bat's ability to move through the area. Impacts to wildlife corridors and nursery sites would be less than significant.

e) In March of 2024 there were 144 trees on site with more than a 6-inch diameter at breast height (DBH). On April 4, 2024 it was brought to the City's attention that unpermitted tree removal was occurring on the Project site. Staff visited the site and asked workers to cease all activity. Fifty-nine (59) trees over 6-inches DBH had already been removed. This illegal tree removal violated Chapter 18.45, *Tree Management*, of the Redding Zoning Ordinance by removing the trees without a permit. Chapter 18.45, *Tree Management*, of the Zoning Ordinance outlines the applicable penalties for violations of Chapter 18.45. A monetary fine was issued in accordance with Chapter 18.45 and payment of this fine will remedy the violation in conformance with the City's tree management regulations.

The Project proposes to save six of the remaining trees over 6-inches DBH. The conditions of approval require a tree preservation plan be submitted with the final grading plan for all trees designated to be preserved. Because the prior illegal removal of trees is being resolved separately from this Project in accordance with the Municipal Code, and the Project has identified trees to be preserved with a tree preservation plan, the Project does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or 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:
City of Redding General Plan 2045, Natural Resources Element, 2045
City of Redding Municipal Code, Chapter 18.45, Tree Management Ordinance
City of Redding General Plan Update Final Environmental Impact Report, 2024, SCH #2022050300
California Department of Fish and Wildlife: Natural Diversity Database
Biological Resources Assessment, Zinco Subdivision Project 3150 and 3152 Jordan Lane, Redding, California, VESTRA Resources Inc., October 2024
Zinco Property Wetlands Delineation, Wildland Resource Managers, December 2024
Wildland Resource Managers Oak Evaluation Form, Location Zinco/Redding, May 2, 2024
California Native Plant Society, https://www.cnps.org/rare-plants/california-rare-plant-ranks, accessed March 5, 2025
Tentative Subdivision Map Application S-2022-02416, Sheet 3, Existing Site and Tree Survey, January 8, 2024

Mitigation:

MM-BIO-1: The applicant shall have a pre-construction rare plant survey of the proposed disturbance area or other Project features that may impact special status species of the Project site conducted by a qualified botanist during the appropriate survey window (blooming period) for rare and endangered plants that have the potential to occur within the Project site if such a survey has not been provided to the City. Surveys shall be done in accordance with the most current version of California Native Plant Society B*otanical Survey Guidelines* (CNPS 2001), California Department of Fish and Wildlife *Protocols for Surveying and Evaluating Impacts to Special Status Plant Species Native Plant Populations and Natural Communities* and U.S. Fish and Wildlife's G*uidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. If present, special status plant species plant populations will be flagged and, if possible, avoided during construction. If the population cannot be avoided during construction, a plan will be developed for approval by the California Department of Fish and Wildlife which may include transplanting the plant population, compensation, or other measures established by that agency.

MM-BIO-2: If feasible, vegetation removal and/or construction shall be conducted between September 1 and January 31. If vegetation removal and/or construction activities are to occur during the nesting season (February 1 through August 31), a qualified biologist shall conduct a preconstruction survey no more than seven (7) days before vegetation removal or construction activities begin. If an active nest is found, a non-disturbance buffer shall be established by a qualified biologist in coordination with CDFW. Construction may resume once the young have left the nest or as approved by the qualified biologist. The survey shall be provided to the CDFW. If construction activities cease for a period greater than seven (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) An archeological inventory survey was conducted by Brian F. Hill, M.A. Archeology, registered archeologist for Flowra. This included a records search of the Northeast Center of the California Historical Resources Information System, consultation with the Native American Heritage Commission, and a pedestrian surface inspection. The report concluded that the site does not constitute a significant historical resource or unique archaeological resource and that no significant historical resources or unique archaeological resources were identified within the area of potential effects (APE) during the survey. While archaeological and historic clearance of the Project site is recommended in the report, it is impossible to rule out the possibility of an unanticipated archeological find. The City's Standard Subdivision Conditions require that if, in the course of development, any archeological, historical, or paleontological resources are uncovered, all work in the immediate vicinity of the discovery shall be stopped

immediately and the City of Redding shall be notified. A qualified archaeological professional must then be retained by the developer to investigate the discovered cultural object to determine its significance. If the cultural object is deemed potentially significant by the archaeologist, appropriate treatment and measures shall be followed in accordance with applicable laws, as reviewed and approved by the City, prior to the resumption of work in the affected area.

Documentation:
City of Redding General Plan 2045, Natural Resources Element 2045
Archaeological Inventory Survey, Flowra, February, 2023

Mitigation:
None necessary.

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 operations within the subdivision such a lighting, cooking, heating, and cooling is expected to be less than significant due to the small-scale residential nature 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 2045, Natural Resources Element 2045

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**	

VII. GEOLOGY AND SOILS: *Would the project:*	**Potentially Significant Impact**	**Less-Than-Significant with Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
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**	
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, d) 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 are identified as having a low potential for liquefaction. No portion of the site falls within the 100-year floodplain of the Sacramento River or any creek.

b) The Project site contains two primary soil classifications:

- Newtown gravelly loam, 30 to 50 percent slopes, eroded. This is a well-drained soil that formed in old alluvium from mixed sources. It generally supports grasses, forbs, oaks, shrubs, and grey pines. The areas of Newtown soils are used as range, dryland, pasture, wildlife habitat, and for watershed. Permeability is slow, runoff is rapid, and the hazard of further erosion is high.

- Redding gravelly loam, 0 to 5 percent slopes, moist, MLRA 17. This is a well-drained soil that contains an indurated hardpan. They are underlain by old mixed alluvium. Supported vegetation includes annual grasses, forbs, manzanita, and blue oak. Below its acidic surface layer and subsoil is a layer of indurated very gravelly hardpan starting at a depth of about 13 inches. Stratified mixed alluvial material is about 15 inches below the hardpan.

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.

- *U.S. Army Corps of Engineers Permits.* Any appropriate permits required from the U.S. Army Corps of Engineers to address impacts to Waters of the United States.

- *State Water Resources Control Board Permits.* Any appropriate permits required from the State Water Resources Control Board to address impacts to Waters of the State.

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.

Documentation:
City of Redding General Plan 2045, Public Safety Element 2045, *figures PS-1 (Ground Shaking Potential) and PS-2 (Liquefaction Potential)*
City of Redding General Plan Update Final Environmental Impact Report, 2024, SCH #2022050300
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, b) The City of Redding General Plan (GP) and Environmental Impact Report (EIR) concluded this impact is cumulatively significant and unavoidable as it pertains to buildout of the GP and is addressed in the GP EIR's CEQA Findings of Fact and Statement of Overriding Considerations. The EIR indicates that greenhouse gas (GHG) emissions are projected to result in a slight decrease in emissions from the CEQA baseline established by the GP EIR but not result in the 85 percent reduction from existing conditions necessary to ensure the City is on a trajectory to achieve the long-term reductions goals of AB 1279 and substantial progress toward the State's carbon neutrality goals for year 2045.

The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, neither

the SCAQMD, CARB, nor any other state or regional agency has yet adopted a numerical significance threshold for assessing GHG emissions that applies to the Project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

The Project is consistent with policies of the GP that address lowering VMT through infill development, including but not limited to the following:

- Prioritizing infill development.

The Project is also consistent with the applicable Shasta Regional Transportation Agency's Regional Transportation Plan's goals, including:

- Encouraging transportation-efficient growth and development where it is supported by current or planned mobility options.

With regard to consistency with the California Air Resources Board's 2017 Scoping Plan, the Scoping Plan addresses a broad range of actions and strategies intended to reduce greenhouse gases such as increasing stringency of carbon fuel standards, adding additional zero-emission vehicles on the state's roadways, and similar broad-based programs which are not applicable to the Project.

As demonstrated by the above and the analysis provided in the GP EIR, the Project complies with or exceeds the plans, policies, regulations and GHG reduction actions/strategies outlined in the GP, the SRTA RTP, and CARB's 2017 Scoping Plan. Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs.

Documentation:
City of Redding General Plan 2045, Natural Resources Element 2045

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**
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-d) The nature of the Project as a single-family 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) The Project is not located within an airport land use plan or within two miles of a public airport or public use airport and would not result in a safety hazard for people residing or working in the Project area. There would be no impact on public safety in this regard.

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

g) While the Project site is located within the Very High Fire Severity Zone, the nature of the Project will require extensive grading and removal of trees and other natural fire fuels throughout the site to accommodate potential housing development. City and state ordinances require, for residential development with more than 49 units, multiple secondary access points. Secondary access points allow residents to safely remove themselves from potentially harmful or fatal situations involving fires. The Project has access to Lake Boulevard via Santa Rosa Way and to Keswick Dam Road via Deodar Way. Additionally, California Residential Building Code requires dwellings to be constructed using flame-resistant materials and include fire sprinklers within the dwelling and under the roof. Impacts would be considered less than significant.

Documentation:
City of Redding General Plan 2045, Public Safety Element, 2045, *including figures PS-4 (Very High Fire Severity Zone) and PS-6 (Wildfire Evacuation Routes)*

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:			**X**	
i) Result in substantial erosion or siltation on- or off-site;				
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;				
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				
iv) Impede or redirect flood flows?				
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				**X**

X. HYDROLOGY AND WATER QUALITY: *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 (CVRWQCB) 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 City water service for domestic uses and fire protection. The proposed Project would not impact groundwater supplies.

c) The Project is subject to standard requirements defined under Section VII, *Geology and Soils*, that minimize the potential for erosion or siltation on or off site. 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. 2013-0001-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's *Storm Water Best Management Practices Handbook*.

Policy 1806 requires that all subdivision development include stormwater detention facilities designed to maintain existing predevelopment rates of runoff during a 10-, 25-, and 100-year storm event with a six-hour duration. The Project application includes a stormwater hydrology analysis prepared by Horrocks that concludes that the Zinco Project can manage the storm water runoff in a way that maintains or reduces pre-project runoff volumes in the post-Project condition as required by the City of Redding.

The site discharges to both the Sulphur Creek Basin and the Boulder Creek Basin. For the drainage basin going to Sulphur Creek, on-site storm water will be directed, via surface flow and storm drain infrastructure, to a vegetated infiltration basin located in the northwest of the development. Outflow from the basin will be restricted to pre-Project levels and directed to an outlet control structure located at the northwest end of the Project which will allow stormwater to flow westerly, in line with the pre-development drainage pattern. For the drainage basin going to Boulder Creek, on-site storm water will be directed, via surface flow and storm drain infrastructure, to a vegetated infiltration basin located in the northeast of the development. Outflow from the basin will be restricted to pre-Project levels and directed to Deodar by way of an under-sidewalk drain in line with the pre-development drainage pattern.

d) The Project site is not located in a flood hazard, 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 2045, Natural Resources Element 2045
City of Redding General Plan 2045, Public Safety Element 2045
City of Redding Preliminary Drainage Report for Zinco Subdivision, Horrocks, June 2023
Federal Emergency Management Agency Floodplain regulations, FIRM map 06089C1535G, 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. It is on an undeveloped parcel flanked by local collector streets and established single-family development. The site is not used by members of a community as a throughway.

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 2045, Community Development and Design Element, 2045
City of Redding General Plan 2045, Natural Resources Element, 2045

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 2045, Natural Resources Element, 2045
City of Redding General Plan Land Use 2045 Diagram

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 residents is considered less than significant.

c) The Project is not located within two miles of a public airport and is not in an airport land use plan. There are no private airstrips in the vicinity of the Project site.

Documentation:
City of Redding General Plan 2045, Noise Element, 2045
City of Redding General Plan 2045, Transportation Element, 2045
City of Redding Zoning Ordinance Redding Municipal Code, Section 18.40.100
City of Redding Grading Ordinance Redding Municipal Code, Section 16.12.120
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 residential units as planned and anticipated by the Redding General Plan. The Project is similar in character to that in the surrounding area. The Project would not induce unplanned population

growth and does not propose growth or development not anticipated by the General Plan. The Project does not displace any people or housing. The Project will provide housing.

Documentation:

City of Redding General Plan 2045, Housing Element, 2020-2028

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 Gateway Unified School District and may contribute to the total student enrollment in this district. 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 2045, Public Facilities and Services Element 2045

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. There are no neighborhood or regional parks in the vicinity of this Project. Residents do have the potential to utilize other parks within the City outside the vicinity of the Project. Recreational development fees are collected by the City at the time of issuance of a building permit to offset any impacts to regional park facilities and to raise funds to provide for new recreational facilities. There would not be any potentially significant impacts to recreation associated with the Project.

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 2045, Natural Resources Element, 2045
City of Redding General Plan, Parks, Trails, and Recreation Element, 2045
City of Redding General Plan 2045, Public Facilities and Services Element, 2045

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 Deodar Way. While Deodar Way has reduced right-of-way width directly adjacent

to the Project site, 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 with regard to widening this right-of-way. The City's Fire Marshall has also concurred that adequate street width exists for emergency access.

a) The General Plan Environmental Impact Report concluded this impact to be less than significant. The analysis conducted for the EIR found that the forecasted rate of VMT per resident under Year 2045 conditions with GP would not exceed the established regional threshold as the VMT rate per resident will be below the established 15.6 VMT per resident. This finding is consistent with the 2018 RTP/SCS, which noted that Redding has the lowest rate of VMT per capita in Shasta County, and the shortest average trip lengths in the County, reflecting the proximity of homes, jobs and services within Redding.

The number and type of dwelling units and therefore projected traffic generated by the Project is consistent with the assumptions made for Traffic Analysis Zone number 550 (TAZ) used in the Shasta SIMM model to evaluate the VMT impacts of the General Plan. The Project will not conflict with CEQA guidelines section 15064.3(b).

b) The new streets proposed with the Project do 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. While the intersection of Jordan Lane and Deodar Way includes non-standard dimensions, this is an existing condition without significant nexus and proportionality to require the Project to fix it. No significant increase in transportation related hazards is expected.

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

Documentation:
City of Redding General Plan 2045, Transportation Element, 2045
City of Redding General Plan 2045, Parks, Trails, and Recreation Element 2045
City of Redding Parks, Trails, and Open Space Master Plan, Update
City of Redding Traffic Impact Fee Program
City of Redding Active Transportation Plan, 2018
Redding Area Bus Authority Short Range Transit Plan, January 2024

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, b) The Project was referred to the appropriate tribal entities and no request for consultation was received. The Native American Heritage Commission (NAHC) did a record search of their Sacred Lands File (SLF) and generated a negative result for the presence of specific-site information. Because the SLF does not indicate the absence of cultural resources in any project area, Flowra contacted Native American tribes from a list provided by NAHC who may also have knowledge of cultural resources in the Project area. Contact was attempted with all contacts provided on that list and no response was received. Project effects with regard to tribal cultural resources are expected to be less than significant.

Documentation:
Letters sent to Redding Rancheria, the Wintu Tribe of Northern California, and Paskenta Band of Nomlaki Indians, dated April 24, 2023.
Archaeological Inventory Survey, Flowra, February, 2023

Mitigation:
None necessary.

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 dry years.

c) The Project will utilize the City's sanitary sewer system to dispose of wastewater. Adequate sewer capacity and wastewater treatment are 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 2045, Public Facilities and Services Element, 2045*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) While the Project is located within a mapped very high fire severity zone, it would not impair an emergency response plan or emergency evacuation plan. The subdivision has access to Keswick Dam Road to the north via Deodar Way and access to Lake Boulevard via Deodar Way and Santa Rosa Way.

b) The Project will be graded to facilitate the construction of the subdivision and will be cleared of most fire fuel on-site. Maintenance of the vegetation surrounding the Project site is and would continue to be the responsibility of the neighboring property owners. The development of the subdivision, along with its associated improvements, will make the existing neighborhood less susceptible to fire risk by removing fire fuel and adding non-combustible surfaces such as pavement. There is no identified factor that would exacerbate wildfire risks or expose Project occupants to pollutant concentrations from a wildfire.

c) All utilities associated with the Project would be placed underground where they do not pose a fire risk. No generators or outdoor fuel tanks are proposed with the Project as the development would be required to connect to City utilities. The Project would not require the installation or maintenance of associated infrastructure that could exacerbate wildfire risks.

d) The Project would not expose people or structures to downstream flooding or landslides. The Project site is relatively flat and does not contain any waterways. Because of this, it is less likely to be susceptible to post-fire slope instability or drainage changes.

Documentation:
City of Redding General Plan 2045, Public Safety Element 2045

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) If unmitigated, the Project has the potential to impact special-status species (Redding checkerbloom, dubious pea, Henderson's bent grass) as well as species of migratory birds and raptors. Mitigation Measures MM-BIO-1 and MM-BIO-2 are established to reduce potential impacts 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.

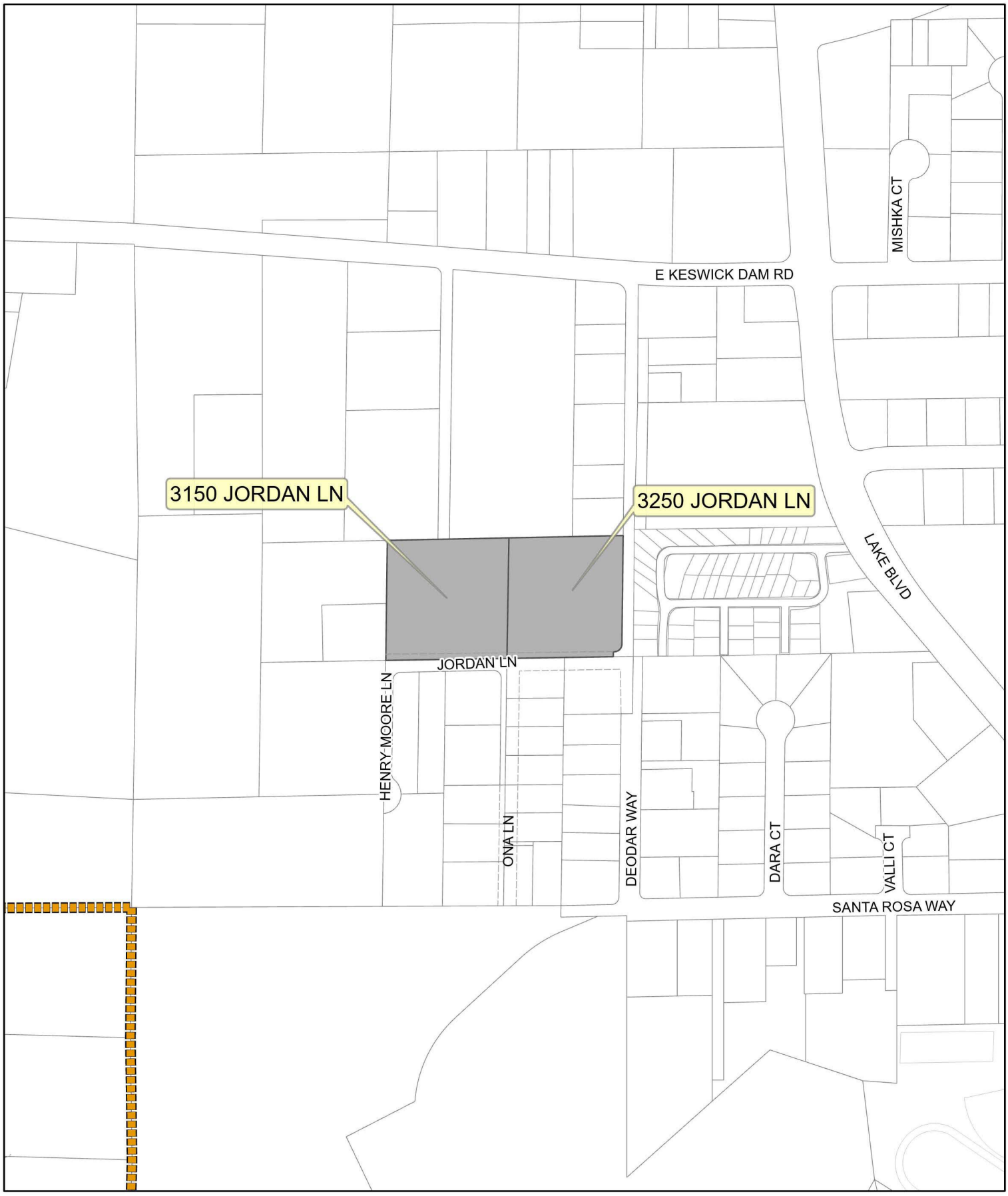
Mitigation:

MM-BIO-1: The applicant shall have a pre-construction rare plant survey of the proposed disturbance area or other Project features that may impact special status species of the Project site conducted by a qualified botanist during the appropriate survey window (blooming period) for rare and endangered plants that have the potential to occur within the Project site if such a survey has not been provided to the City. Surveys shall be done in accordance with the most current version of California Native Plant Society *Botanical Survey Guidelines* (CNPS 2001), California Department of Fish and Wildlife *Protocols for Surveying and Evaluating Impacts to Special Status Plant Species Native Plant Populations and Natural Communities* and U.S. Fish and Wildlife's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. If present, special status plant species plant populations will be flagged and, if possible, avoided during construction. If the population cannot be avoided during construction, a plan will be developed for approval by the California Department of Fish and Wildlife which may include transplanting the plant population, compensation, or other measures established by that agency.

MM-BIO-2: If feasible, vegetation removal and/or construction shall be conducted between September 1 and January 31. If vegetation removal and/or construction activities are to occur during the nesting season (February 1 through August 31), a qualified biologist shall conduct a preconstruction survey no more than seven (7) days before vegetation removal or construction activities begin. If an active nest is found, a non-disturbance buffer shall be established by a qualified biologist in coordination with CDFW. Construction may resume once the young have left the nest or as approved by the qualified biologist. The survey shall be provided to the CDFW. If construction activities cease for a period greater than seven (7) days, additional preconstruction surveys will be required.

Attachment A

Figure 1 – Location Map
Figure 2 – Cover Sheet (Tentative Map)
Figure 3 – Preliminary Grading, Drainage & Utilities
Figure 4 – Existing Site and Tree Survey



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GIS DIVISION
INFORMATION TECHNOLOGY DEPARTMENT

DATE PRODUCED:
JANUARY 20, 2023

0 200 400 Feet

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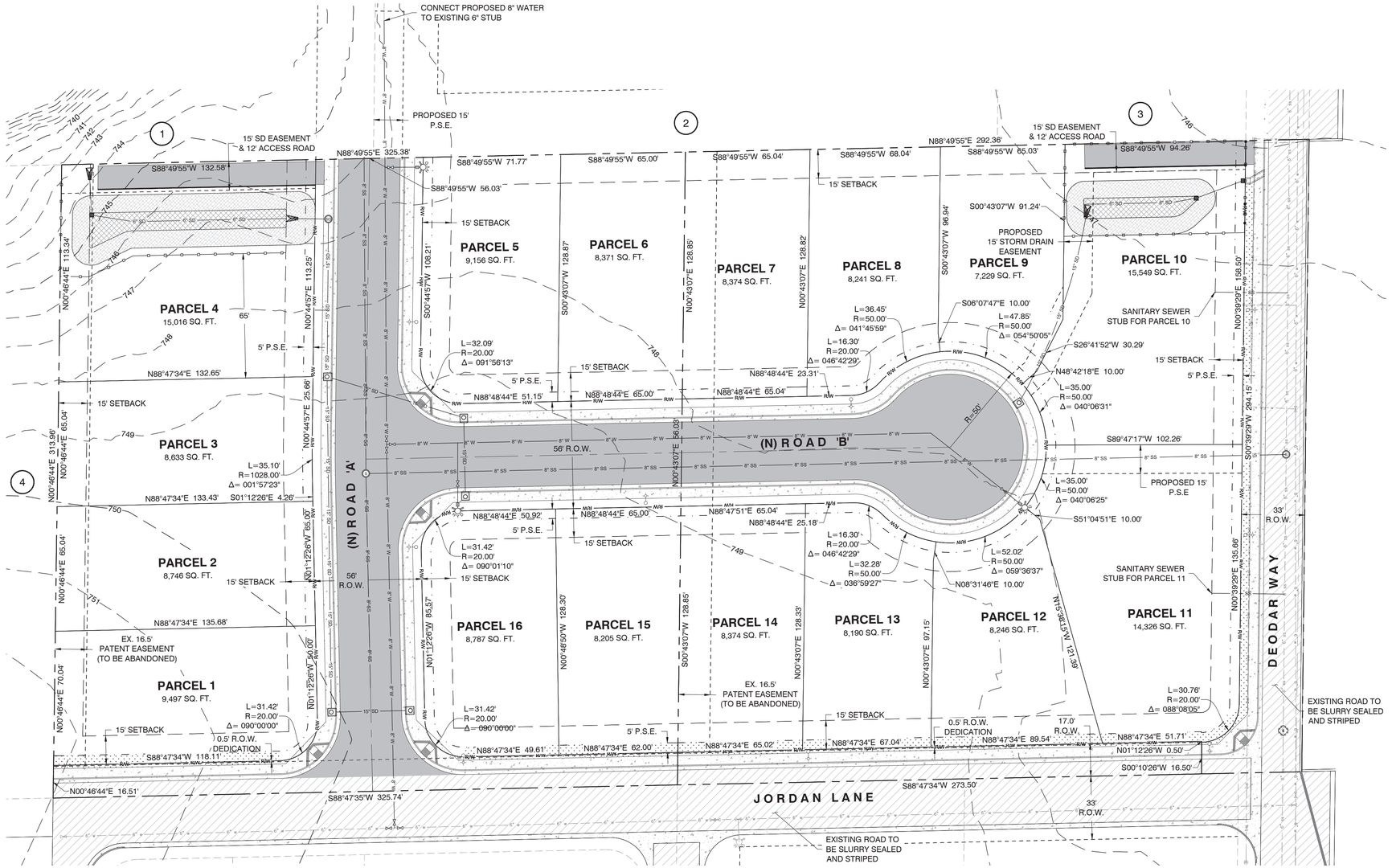
LOCATION MAP

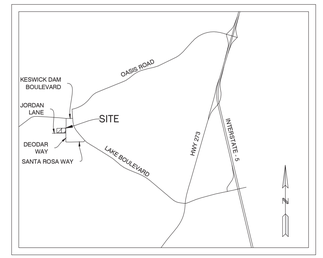
S-2022-02416
ZINCO HOLDING, LLC
3150 & 3250 JORDAN LANE
AP# 114-050-005 & -006

MTG. DATE:

ITEM:

ATTACHMENT:





VICINITY MAP
NOT TO SCALE

OWNER
ZINCO HOLDING, LLC.
20083 SUNRISE DRIVE
REDDING, CA 96003

ENGINEER
HORROCKS
PO BOX 1307
ANDERSON, CA 96007

PROJECT ADDRESS
3150, 3250 JORDAN LANE
REDDING, CA 96003

WATER/SEWER
CITY OF REDDING

ELECTRICITY
REU

TELEPHONE
AT&T

EXISTING USE
VACANT

PROPOSED USE
RESIDENTIAL

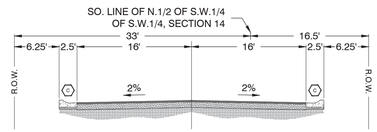
APN
114-050-005
114-050-006

TOTAL AREA
4.42 ACRES

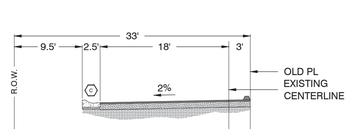
ZONING
APN: 114-050-005
EXISTING ZONING: RS-3
PROPOSED ZONING: RS-3.5

APN: 114-050-006
EXISTING ZONING: RS-3
PROPOSED ZONING: RS-3.5

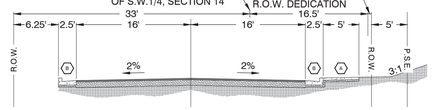
GENERAL PLAN
(114-050-005) - 3.5 TO 6
(114-050-006) - 2 TO 3.5



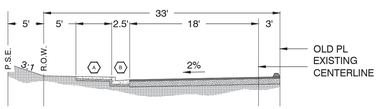
TYPICAL SECTION - EXISTING 'JORDAN LANE'
SCALE: 1"=10'; AC: .17', AB: .50'
(C) 2.5' ROLL CURB & GUTTER - D38



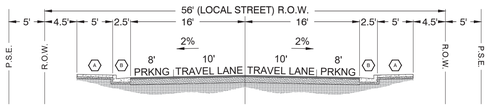
TYPICAL SECTION - EXISTING 'DEODAR WAY'
SCALE: 1"=10'; AC: .17', AB: .50'
(C) 2.5' ROLL CURB & GUTTER - D38



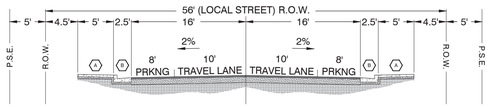
TYPICAL SECTION - PROPOSED 'JORDAN LANE'
SCALE: 1"=10'; AC: .17', AB: .50'
(A) 5' SIDEWALK (4" PCC) - CORCS 131.00
(B) 6" CURB & GUTTER - CORCS 136.00



TYPICAL SECTION - PROPOSED 'DEODAR WAY'
SCALE: 1"=10'; AC: .17', AB: .50'
(A) 5' SIDEWALK (4" PCC) - CORCS 131.00
(B) 6" CURB & GUTTER - CORCS 136.00



TYPICAL SECTION - PROPOSED ROAD 'A'
SCALE: 1"=10'
(A) 5' SIDEWALK (4" PCC) - CORCS 131.00
(B) 6" CURB & GUTTER - CORCS 136.00



TYPICAL SECTION - PROPOSED ROAD 'B'
SCALE: 1"=10'
(A) 5' SIDEWALK (4" PCC) - CORCS 131.00
(B) 6" CURB & GUTTER - CORCS 136.00

LEGEND

RECORD BOUNDARY	PROPOSED WATER LINE
ADJACENT PARCEL	PROPOSED FIRE HYDRANT
RIGHT OF WAY	PROPOSED SEWER LINE
5' PUBLIC SERVICE EASEMENT	PROPOSED SSMH
BUILDING SETBACK LINE	PROPOSED STORM DRAIN
EXISTING 6" WATER LINE (VALVE, METER, & HYDRANT)	PROPOSED CB No. 3
EXISTING 6" SEWER LINE (MANHOLE)	PROPOSED HMA
EXISTING OVERHEAD ELECTRIC (POWER POLE)	EXISTING HMA

ADJACENT PARCEL NO. INDEX

1. SNOW, MICHELLE (114 - 040 - 008)
2. TONEY, JULIA (114 - 040 - 012)
3. WARD, JERRY (114 - 050 - 040)
4. SNAVELY, PAULA (114 - 040 - 016) & (114 - 040 - 017)

0 30' 60'
SCALE: 1" = 30'

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DRAWING INFO
DATE 01.08.24
DESIGNED ZAT/JDM/DKM
DRAWN ZAT
CHECKED DKM
PROJECT PCA-6360-22

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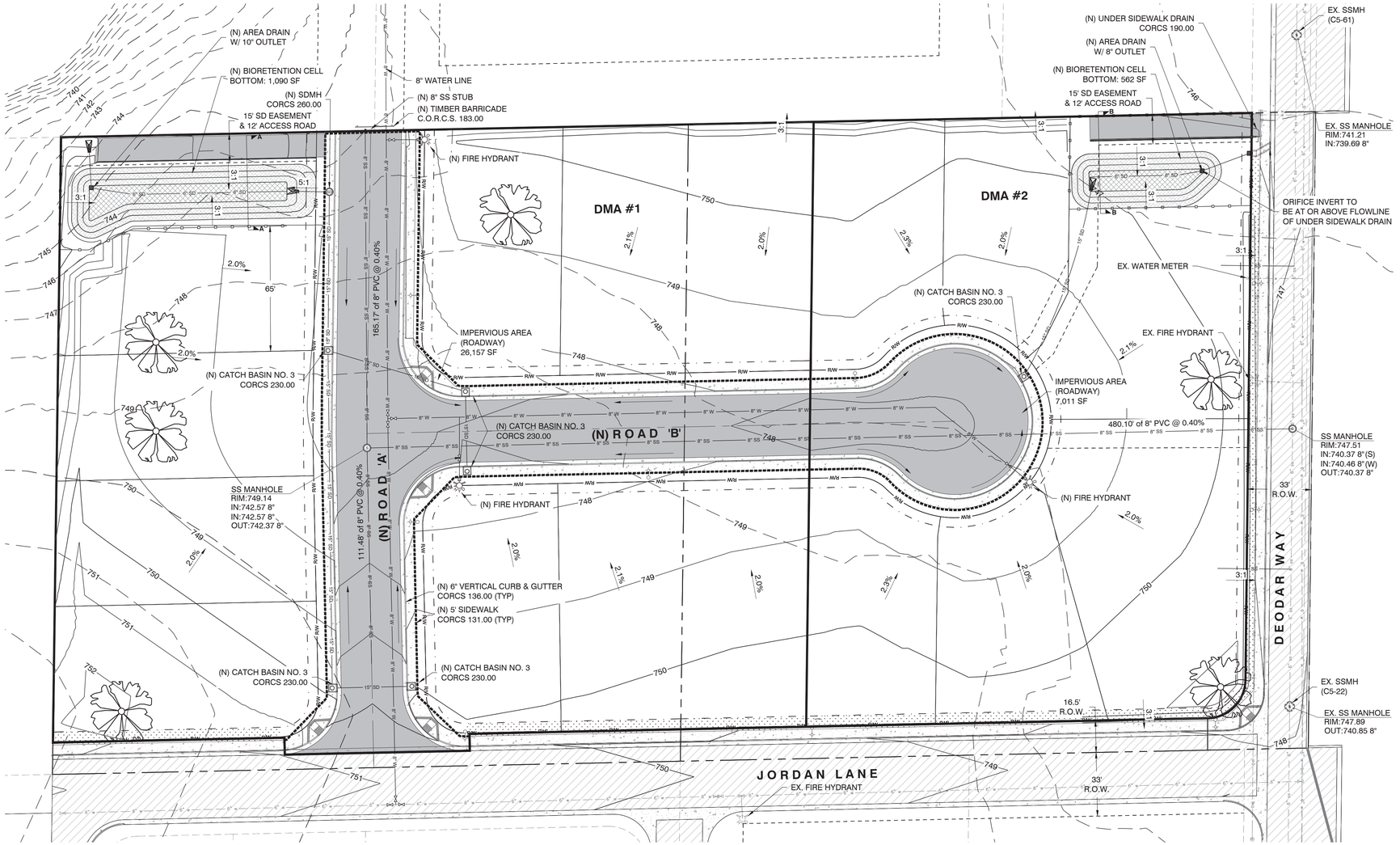
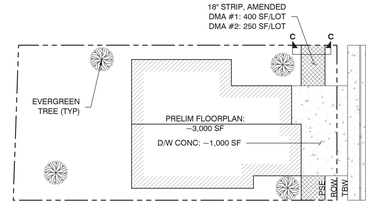
REDDING, CALIFORNIA

COVER SHEET
TENTATIVE SUBDIVISION MAP

1
1 of 3





TYPICAL LOT: MS4 AREA ANALYSIS
SCALE: NTS

MS4 NOTE:

IMPERVIOUS AREA CALCULATIONS INCLUDE 4,000 SF OF IMPERVIOUS AREA PER LOT (INCLUDING HOUSE FOOTPRINT AND DRIVEWAYS)

DMA #1: WEST SIDE PROJECT

CLIMATE STATION: REDDING AP
SATURATED HYDRAULIC CONDUCTIVITY: .06 IN/HR
IMPERVIOUS AREA: 66,154 SQ. FT.
APPLICABLE TREE CREDITS: 11,200 SQ. FT.
DESIGN IMPERVIOUS AREA: 54,954 SQ. FT.
DESIGN STORM DEPTH: .91 IN.
TREATMENT MEASURE: DESIGN STORM

BMP TYPE (1): BIORETENTION CELL (24" SOIL & 36" GRAVEL)
BMP TYPE (2): STRIP, AMENDED (18" SOIL)
BIORETENTION CELL AREA NEEDED: 1,792 SQ. FT.
BIORETENTION CELL AREA PROVIDED: 1,080 SQ. FT.
BIORETENTION CELL PERCENT COMPLIANT LID AREA: 60.27%
STRIP, AMENDED AREA NEEDED: 9,935 SQ. FT.
STRIP, AMENDED AREA PROVIDED: 4,000 SQ. FT.
STRIP, AMENDED PERCENT COMPLIANT LID AREA: 40.26%
TOTAL PERCENTAGE COMPLIANT LID AREA: 100.53%

DMA #2: EAST SIDE PROJECT

CLIMATE STATION: REDDING AP
SATURATED HYDRAULIC CONDUCTIVITY: .06 IN/HR
IMPERVIOUS AREA: 31,991 SQ. FT.
APPLICABLE TREE CREDITS: 6,480 SQ. FT.
DESIGN IMPERVIOUS AREA: 25,511 SQ. FT.
DESIGN STORM DEPTH: .91 IN.
TREATMENT MEASURE: DESIGN STORM

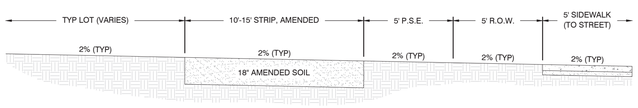
BMP TYPE (1): BIORETENTION CELL (24" SOIL & 36" GRAVEL)
BMP TYPE (2): STRIP, AMENDED (18" SOIL)
BIORETENTION CELL AREA NEEDED: 832 SQ. FT.
BIORETENTION CELL AREA PROVIDED: 562 SQ. FT.
BIORETENTION CELL PERCENT COMPLIANT LID AREA: 67.55%
STRIP, AMENDED AREA NEEDED: 4,612 SQ. FT.
STRIP, AMENDED AREA PROVIDED: 1,500 SQ. FT.
STRIP, AMENDED PERCENT COMPLIANT LID AREA: 32.52%
TOTAL PERCENTAGE COMPLIANT LID AREA: 100.07%

GRADING ANALYSIS

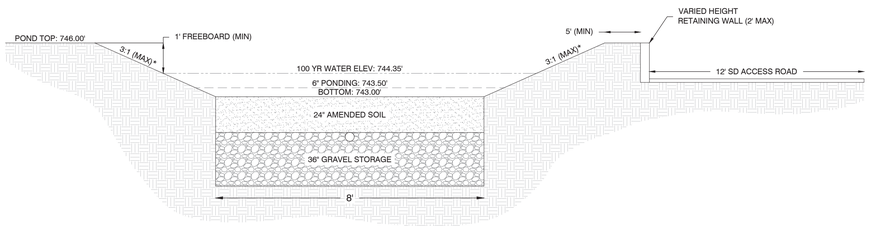
AREA OF DISTURBANCE:	4.42 ACRES
VOLUME:	1,500 CU. YDS. (FILL)

DRAINAGE LEGEND

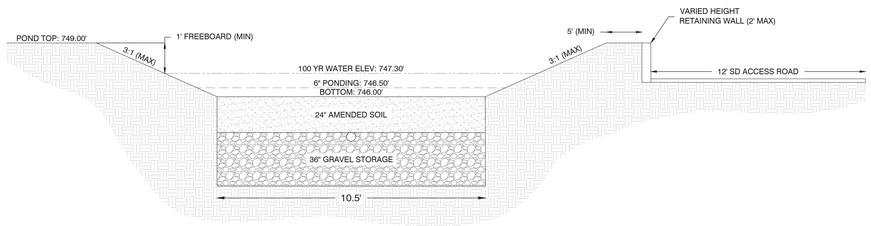
- IMPERVIOUS AREA
- DMA BOUNDARY
- DIRECTION OF FLOW



CROSS SECTION: "C-C" DMA #1 & 2 STRIP, AMENDED
SCALE: NTS



CROSS SECTION: "A-A" DMA #1 BIORETENTION CELL
SCALE: NTS
*SIDE WALL SLOPES OF POND TO VARY IN SLOPE, 3:1 SLOPE MAX



CROSS SECTION: "B-B" DMA #2 BIORETENTION CELL
SCALE: NTS

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DATE: 01.08.24
DESIGNED: ZAT/JDM/DKM
DRAWN: ZAT
CHECKED: DKM
PROJECT: PCA-6360-22

PRELIMINARY (NOT FOR CONSTRUCTION)
REGISTERED PROFESSIONAL ENGINEER DAVID K. MOSER CIVIL STATE OF CALIFORNIA

ZINCO SUBDIVISION
S - 2022 - 02416
REDDING, CALIFORNIA

PRELIMINARY GRADING, DRAINAGE & UTILITIES
TENTATIVE SUBDIVISION MAP

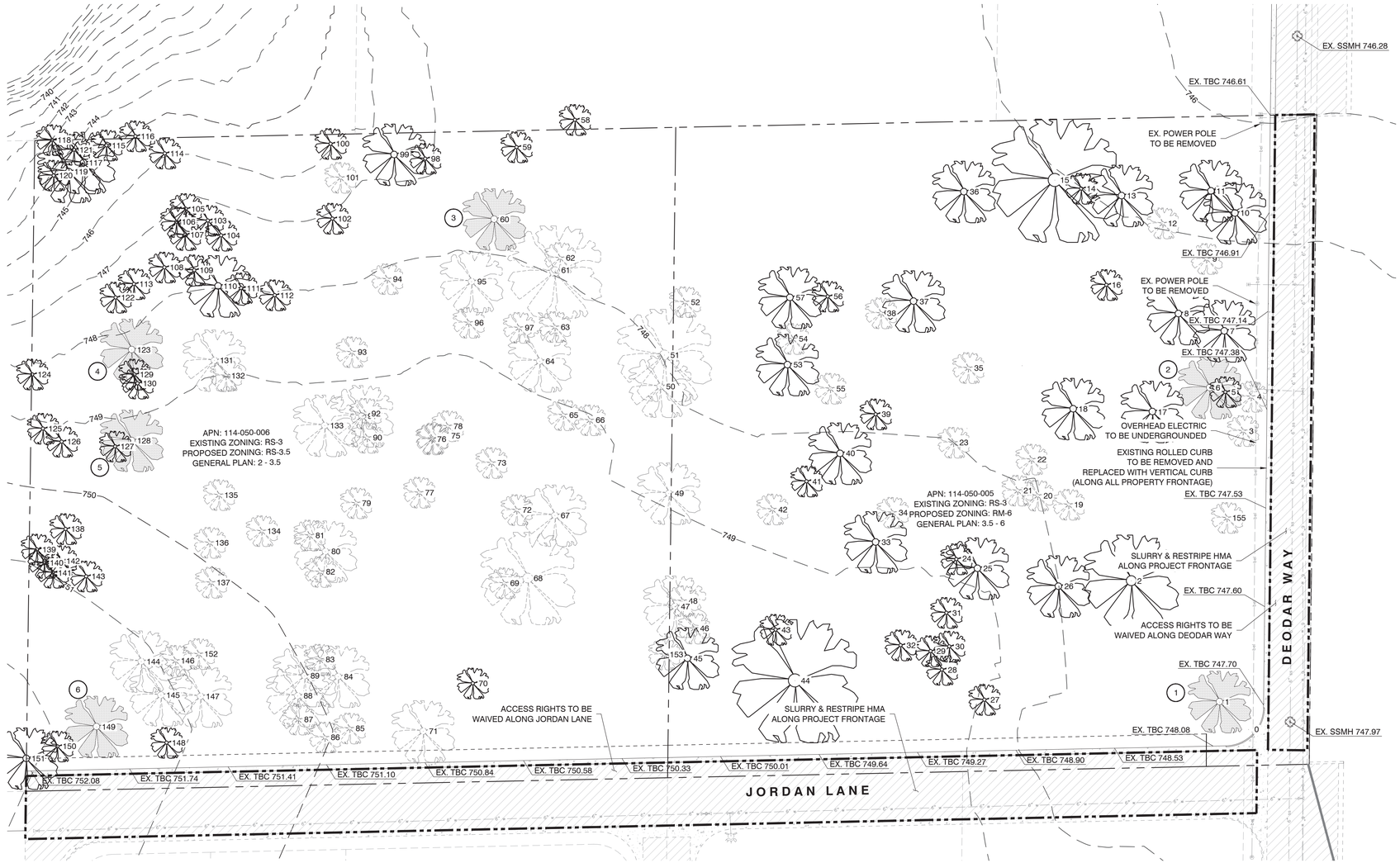
NORTH STATE ENGINEERS

0 30' 60'
SCALE: 1" = 30'

2

TREE CONSERVATION TABLE			
No.	TREE DESCRIPTION	ACTION	COND.
1	13" DBH BLUE OAK	PROTECT	1.95
2	47" DBH BLUE OAK	REMOVE	1.90
3	7.5,9" DBH BLUE OAK	REMOVED	
4	10" DBH BLUE OAK	REMOVED	
5	8" DBH BLUE OAK	REMOVE	1.60
6	14" DBH BLUE OAK	PROTECT	1.65
7	13" DBH BLUE OAK	REMOVE	1.45
8	16" DBH BLUE OAK	REMOVE	1.60
9	9" DBH BLUE OAK	REMOVED	
10	12" DBH BLUE OAK	REMOVE	1.67
11	16" DBH BLUE OAK	REMOVE	1.63
12	10,10" DBH BLUE OAK	REMOVED	
13	12" DBH BLUE OAK	REMOVE	1.50
14	8" DBH BLUE OAK	REMOVE	1.35
15	25" DBH BLUE OAK	REMOVE	1.70
16	10" DBH BLUE OAK	REMOVE	1.45
17	16" DBH BLUE OAK	REMOVE	1.60
18	17" DBH BLUE OAK	REMOVE	1.65
19	9" DBH BLUE OAK	REMOVED	
20	8,8" DBH BLUE OAK	REMOVED	
21	7" DBH BLUE OAK	REMOVED	
22	10" DBH BLUE OAK	REMOVED	
23	7" DBH BLUE OAK	REMOVED	
24	10" DBH BLUE OAK	REMOVE	1.70
25	12" DBH BLUE OAK	REMOVE	1.55
26	13" DBH BLUE OAK	REMOVE	CUT
27	6,8" DBH BLUE OAK	REMOVE	1.55
28	9" DBH BLUE OAK	REMOVE	1.25
29	10" DBH BLUE OAK	REMOVE	1.30
30	10" DBH BLUE OAK	REMOVE	1.05
31	8" DBH BLUE OAK	REMOVE	CUT
32	10" DBH BLUE OAK	REMOVE	1.50
33	13" DBH BLUE OAK	REMOVE	1.40
34	10" DBH BLUE OAK	REMOVED	
35	8" DBH BLUE OAK	REMOVED	
36	15" DBH BLUE OAK	REMOVE	1.80
37	17" DBH BLUE OAK	REMOVE	1.60
38	5" DBH BLUE OAK	REMOVED	
39	10" DBH BLUE OAK	REMOVE	1.30
40	13" DBH BLUE OAK	REMOVE	1.20
41	8" DBH BLUE OAK	REMOVE	CUT
42	11" DBH BLUE OAK	REMOVED	
43	10" DBH BLUE OAK	REMOVE	1.44
44	26" DBH BLUE OAK	REMOVE	1.45
45	14" DBH BLUE OAK	REMOVE	0.80
46	9" DBH BLUE OAK	REMOVED	
47	13" DBH BLUE OAK	REMOVED	
48	8" DBH BLUE OAK	REMOVED	
49	14" DBH BLUE OAK	REMOVED	
50	14" DBH BLUE OAK	REMOVED	
51	20" DBH BLUE OAK	REMOVED	
52	7" DBH BLUE OAK	REMOVED	
53	29" DBH BLUE OAK	REMOVE	1.55
54	6" DBH BLUE OAK	REMOVED	
55	10" DBH BLUE OAK	REMOVED	
56	9" DBH BLUE OAK	REMOVE	1.60
57	13" DBH BLUE OAK	REMOVE	1.60
58	11" DBH BLUE OAK	REMOVE	1.20
59	14" DBH BLUE OAK	REMOVE	0.85
60	25" DBH BLUE OAK	PROTECT	1.20
61	7" DBH BLUE OAK	REMOVED	
62	10" DBH BLUE OAK	REMOVED	
63	9" DBH BLUE OAK	REMOVED	
64	10,17" DBH BLUE OAK	REMOVED	
65	5,7" DBH BLUE OAK	REMOVED	
66	9" DBH BLUE OAK	REMOVED	
67	14" DBH BLUE OAK	REMOVED	
68	20" DBH BLUE OAK	REMOVED	
69	9" DBH BLUE OAK	REMOVED	
70	11,13" DBH BLUE OAK	REMOVE	1.0
71	14" DBH BLUE OAK	REMOVED	
72	7" DBH BLUE OAK	REMOVED	
73	6,8" DBH BLUE OAK	REMOVED	
74	13" DBH BLUE OAK	REMOVED	
75	5" DBH BLUE OAK	REMOVED	
76	5" DBH BLUE OAK	REMOVED	
77	7" DBH BLUE OAK	REMOVED	
78	10" DBH BLUE OAK	REMOVED	

TREE CONSERVATION TABLE			
No.	TREE DESCRIPTION	ACTION	COND.
79	5" DBH BLUE OAK	REMOVED	
80	13" DBH BLUE OAK	REMOVED	
81	10" DBH BLUE OAK	REMOVED	
82	8" DBH BLUE OAK	REMOVED	
83	5" DBH BLUE OAK	REMOVED	
84	17" DBH BLUE OAK	REMOVED	
85	9" DBH BLUE OAK	REMOVED	
86	6" DBH BLUE OAK	REMOVED	
87	7" DBH BLUE OAK	REMOVED	
88	17" DBH BLUE OAK	REMOVED	
89	15" DBH BLUE OAK	REMOVED	
90	7" DBH BLUE OAK	REMOVED	
91	12" DBH BLUE OAK	REMOVED	
92	5" DBH BLUE OAK	REMOVED	
93	7" DBH BLUE OAK	REMOVE	1.49
94	10" DBH BLUE OAK	REMOVED	
95	18" DBH BLUE OAK	REMOVED	
96	8" DBH BLUE OAK	REMOVED	
97	8" DBH BLUE OAK	REMOVED	
98	7" DBH BLUE OAK	REMOVE	1.75
99	9,13" DBH BLUE OAK	REMOVE	1.75
100	7" DBH BLUE OAK	REMOVE	1.75
101	9" DBH BLUE OAK	REMOVED	
102	9" DBH BLUE OAK	REMOVE	1.55
103	11" DBH BLUE OAK	REMOVE	1.50
104	7" DBH BLUE OAK	REMOVE	1.60
105	10" DBH BLUE OAK	REMOVE	1.55
106	8" DBH BLUE OAK	REMOVE	1.50
107	6" DBH BLUE OAK	REMOVE	1.50
108	7" DBH BLUE OAK	REMOVE	1.30
109	8" DBH BLUE OAK	REMOVE	1.40
110	19" DBH BLUE OAK	REMOVE	1.53
111	7" DBH BLUE OAK	REMOVE	1.58
112	8" DBH BLUE OAK	REMOVE	0.85
113	6" DBH BLUE OAK	REMOVE	1.70
114	5" DBH BLUE OAK	REMOVE	1.60
115	9" DBH BLUE OAK	REMOVE	1.41
116	12" DBH BLUE OAK	REMOVE	1.46
117	9" DBH BLUE OAK	REMOVE	1.46
118	9" DBH BLUE OAK	REMOVE	1.44
119	12" DBH BLUE OAK	REMOVE	1.41
120	8" DBH BLUE OAK	REMOVE	1.43
121	7" DBH BLUE OAK	REMOVE	1.40
122	9" DBH BLUE OAK	REMOVE	1.60
123	13" DBH BLUE OAK	PROTECT	1.55
124	10" DBH BLUE OAK	REMOVE	1.74
125	7" DBH BLUE OAK	REMOVE	1.50
126	6" DBH BLUE OAK	REMOVE	DEAD
127	11" DBH BLUE OAK	REMOVE	1.55
128	17" DBH BLUE OAK	PROTECT	1.65
129	6" DBH BLUE OAK	REMOVE	1.50
130	9" DBH BLUE OAK	REMOVE	1.56
131	17" DBH BLUE OAK	REMOVED	
132	5" DBH BLUE OAK	REMOVED	
133	16" DBH BLUE OAK	REMOVED	
134	9" DBH BLUE OAK	REMOVED	
135	5,5,5" DBH BLUE OAK	REMOVED	
136	8" DBH BLUE OAK	REMOVED	
137	9" DBH BLUE OAK	REMOVED	
138	7" DBH BLUE OAK	REMOVE	0.80
139	8" DBH BLUE OAK	REMOVE	0.95
140	9" DBH BLUE OAK	REMOVE	1.50
141	11" DBH BLUE OAK	REMOVE	1.50
142	8" DBH BLUE OAK	REMOVE	1.30
143	8" DBH BLUE OAK	REMOVE	1.50
144	12" DBH BLUE OAK	REMOVED	
145	13" DBH BLUE OAK	REMOVED	
146	10" DBH BLUE OAK	REMOVED	
147	9,12" DBH BLUE OAK	REMOVED	
148	9" DBH BLUE OAK	REMOVE	0.85
149	12" DBH BLUE OAK	PROTECT	1.55
150	9" DBH BLUE OAK	REMOVE	1.35
151	15" DBH BLUE OAK	REMOVE	1.55
152	6" DBH BLUE OAK	REMOVED	
153	8" DBH BLUE OAK	REMOVED	
154	5" DBH BLUE OAK	REMOVED	
155	5" DBH BLUE OAK	REMOVED	



CONDITION RATING FOR LANDSCAPE TREES	
FORMULA VALUE	CONDITION RATING
1.80 - 2.00	EXCELLENT
1.50 - 1.79	GOOD
1.00 - 1.49	FAIR
0.60 - 0.99	POOR
0.20 - 0.59	VERY POOR

LEGEND

- HMA AREA TO BE SLURRY SEALED AND RESTRIPED
- EXISTING TREES TO REMAIN (6 TOTAL)
- EXISTING TREE TO BE REMOVED (76 TOTAL)
- REMOVED TREE (73 TOTAL)

TREE SURVEY

NOTE: TREES SHOWN ARE REPRESENTATIVE OF A FIELD STUDY OF THE SITE PERFORMED BY WILDLAND RESOURCE MANAGERS. FOR DETAILS SEE ZINCO PROPERTY BIOLOGICAL REVIEW (OCTOBER 2022)

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DATE 01.08.24
DESIGNED ZAT/JDM/DKM
DRAWN ZAT
CHECKED DKM
PROJECT PCA-6360-22

REGISTERED PROFESSIONAL ENGINEER DAVID KIRKHAM No. 82097 EXP. 03/31/24 CIVIL STATE OF CALIFORNIA

ZINCO SUBDIVISION

S - 2022 - 02416
REDDING, CALIFORNIA

EXISTING SITE AND TREE SURVEY

TENTATIVE SUBDIVISION MAP

NORTH ENGINEER

0 30' 60'
SCALE: 1" = 30'

3

3 of 3

Attachment B

Archaeological Inventory Survey, Flowra, February, 2023

Archaeological Inventory Survey of 3150 and 3250 Jordan Lane

NOTE TO REVIEWER: Information contained in the *Archaeological Inventory Survey* for the Zinco Subdivision 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 C

Biological Resources Assessment
Zinco Subdivision Project 3150 and 3152 Jordan Lane, Redding, California
VESTRA Resources Inc., October 2024

BIOLOGICAL RESOURCES ASSESSMENT

ZINCO SUBDIVISION PROJECT
3150 & 3152 JORDAN LANE
REDDING, CALIFORNIA

Prepared for

Zinco Holdings LLC
22717 Silverlode Lane
Palo Cedro, CA 96073

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

OCTOBER 2024

TABLE OF CONTENTS

SECTION

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

This Biological Resources Assessment (BRA) describes the biological resources present in the proposed Zinco Subdivision in Redding, Shasta County, California. This report includes a project description incorporating proposed conservation measures, study methods, regulatory framework, description of the affected environment, and description of project impacts on sensitive resources.

Past biological review for the project site was conducted by Wildland Resource Managers in October 2022 and July 2024. This initial biological review of the project included two reports: the Zinco Property Biological Review report (October 2022) and an Updated Zinco Biological Review report (July 2024). Comments received in response to public review of the first report identified inadequacies in the report regarding the potential for rare plants and wetlands to be present onsite. The updated report, prepared in July 2024, was prepared in response to these comments. The purpose of the updated report was to address these comments and to describe the condition of the oak woodland onsite following removal of 66 oak trees, but it did not provide a conclusive assessment of project related impacts. The updated report states that a blue oak woodland is present following the tree removal. The updated report also stated that no wetland features were observed during their July 2024 site visit but includes the locations of potential vernal pools. The past biological reports were found to be inadequate for the purposes of environmental review.

This BRA provides a description of current baseline site conditions and provides an assessment of project impacts to special status biological resources. This BRA also includes an assessment of wetland features on the property.

1.1 Project Description

The proposed project includes the development of a neighborhood subdivision on a 4.66-acre site. The site location is included as Figure 1. The proposed site layout from Horrocks Engineers is included as Appendix A. The proposed project includes subdivision of the two existing parcels into eighteen smaller parcels. New lots would range in size from 126 to 127 feet by 65 to70 feet. Sites will be prepared by clearing the land of vegetation (except for six mature oak trees), installing utilities, grading lots, and road development. No construction of buildings is proposed in the site plan. A 60-foot wide paved road with a cul-de-sac will be constructed for access to the lots.

1.2 Site Description

The site is located at 3150 and 3152 Jordan Lane, Redding, California 96003. The site consists of two City of Redding parcels identified by Assessor Parcel Nos: 114-050-005 and 114-050-006. The parcels are 2.16 acres and 2.5 acres in size, totaling 4.66 acres. The general site location is shown on Figure 1.

VESTRA

FIGURE 1
GENERAL SITE LOCATION
ZINCO PROPERTY SUBDIVISION
REDDING, CALIFORNIA

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P:\GIS\72451\Figures\BRA\72451_GeneralSiteLayout.pdf

2.0 AFFECTED ENVIRONMENT

2.1 General Setting

The topography of the study area is flat and occurs at elevations between approximately 734 and 739 feet above sea level. Precipitation primarily occurs as rain and annual rainfall is approximately 34 inches. Air temperatures range between an average January high of 55 degrees Fahrenheit (ºF) and an average July high of 98ºF. The year-round average high is approximately 75ºF (Western Regional Climate Center 2006).

2.2 Soils

Soils within the survey area were determined through consultation with the National Resources Conservation Service (NRCS) Web Soil Survey. The most dominant soil type within the survey area is Redding gravelly loam, 0 to 5 percent slopes, moist. The typical profile of this soil series has a depth to restrictive feature of more than eighty inches, with a duripan present at between 10 and 30 inches in depth. The soil resource report is included as Appendix B.

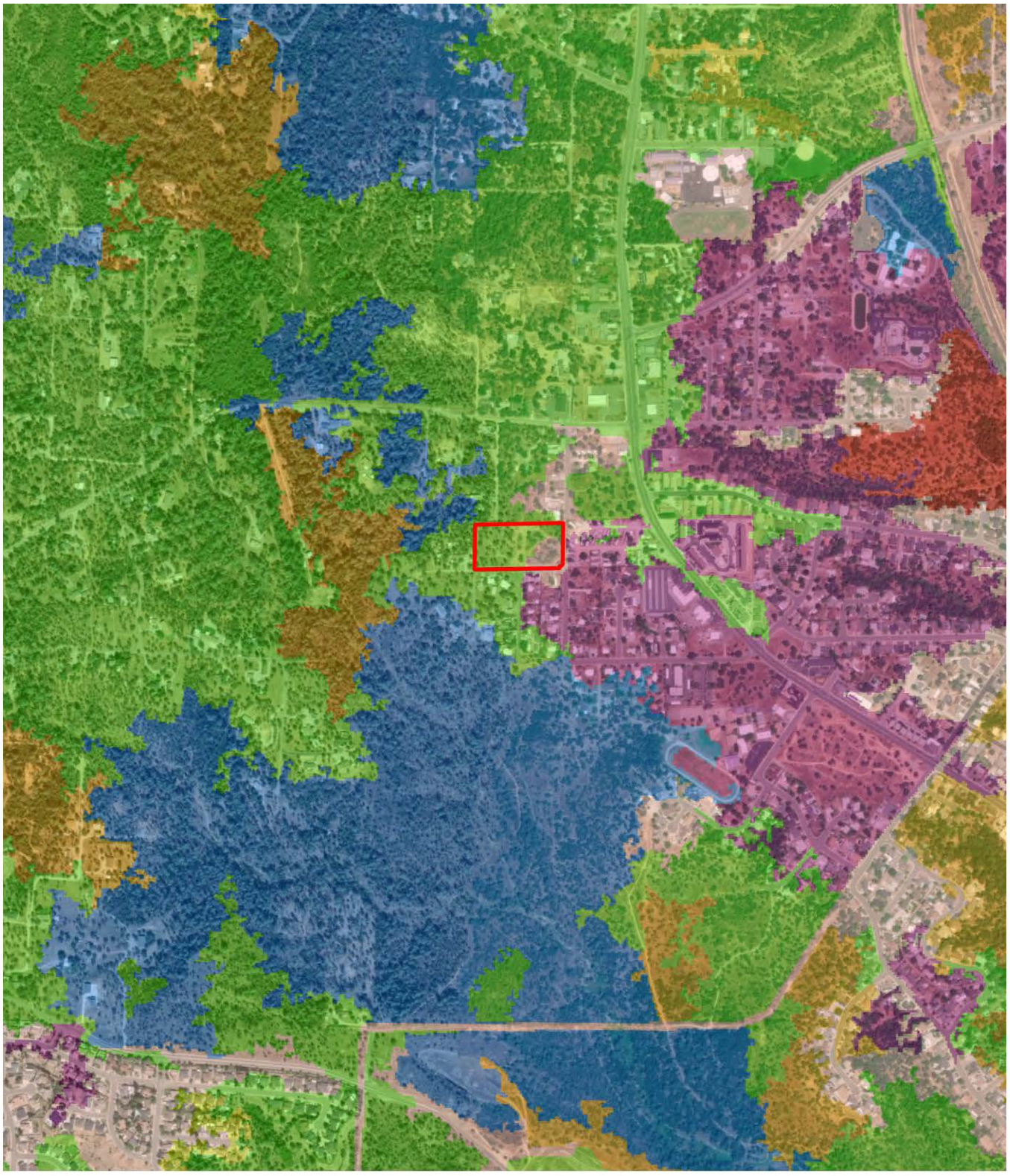
2.3 Vegetation Communities

Vegetation within the survey area was identified through consultation with the California Wildlife Habitat Relationships (CWHR) followed by a reconnaissance survey during which vegetation communities were identified according to A Manual of California Vegetation (Sawyer et al. 2009). CWHR states that the dominant vegetation community onsite is mixed chaparral which may have occurred prior to removal of trees and shrubs from the property. The reconnaissance survey determined that Blue Oak Woodland and Forest Alliance is now present onsite. The area shown as Barren was found to support several oak trees and is a part of the oak woodland community. A CWHR map of the survey area and surrounding environment is included as Figure 2.

2.3.1 Blue Oak Woodland and Forest

This habitat observed onsite consists of the Blue Oak Woodland and Forest Alliance. Dominant species observed were blue oak (*Quercus douglassii*) and foothill pine (*Pinus sabiniana*) with a sparse understory of manzanita (*Arctostaphylos* sp.), toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversoilobum*). Introduced annual grasses and forbs comprise the understory plant community. The herbaceous species observed were wild oats (*Avena fatua*), rattlesnake grass *(Briza maxima*), little rattlesnake grass (*Briza minor*), and brome (*Bromus* sp.). Annual forb identification was limited due to the time of year when the survey was completed. Photographs of the oak woodland habitat onsite are shown in Figure 3 to Figure 5.

Dirt roads resulting from public use since prior to 1998, as observed via Google Earth aerial imagery, have resulted in fragmented mature stands of Blue Oak Woodland habitat with heavily disturbed soils within the survey area. As CWHR suggests, the habitat may once have been mixed chapparal, but years of disturbance have transitioned the site to what is now fragmented oak woodlands.



VESTRA

SOURCE: MAXAR 2024 AERIAL PHOTOGRAPH; USFS CALVEG 2021

FIGURE 2
CWHR TYPES
ZINCO PROPERTY SUBDIVISION
REDDING, CALIFORNIA

P:\GIS\72451\Zinco\Zinco.aprx

P:\GIS\72451\Figures\BRA\72451_Vegetation.pdf

Figure 3. Blue Oak Woodland

Figure 4. Blue Oak Woodland

Figure 5. Blue Oak Woodland. Recently removed trees and shrubs, existing roads visible

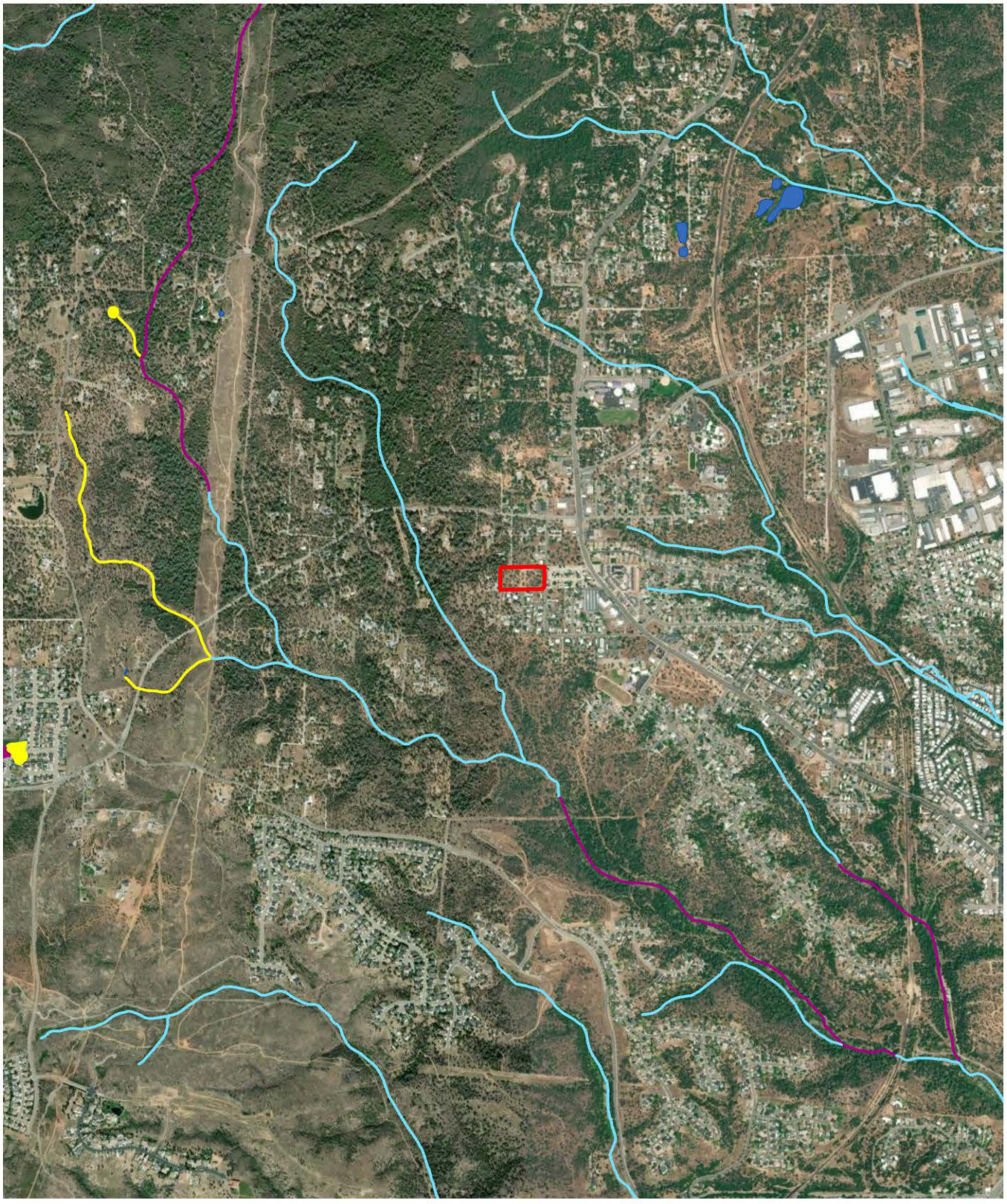
2.4 Wetlands

The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory Wetlands Mapper (Figure 6) shows no aquatic resources within the survey area. Sulphur Creek, an intermittent stream, exists approximately 750 feet west of the survey area

The Army Corps of Engineers wetland delineation procedure finds that the presence of three indicators means that surface water is present in sufficient quantity and duration to form a wetland. The three indicators are: hydrophytic plants, hydric soils, and hydrology. All three indicators must be present to confirm that a wetland is present.

On October 8, 2024, the property was assessed by VESTRA for wetland vegetation or hydrology indicators within any topographic low points onsite, including tire ruts caused by historic vehicle and equipment access during the wet season. A formal wetland delineation was not completed; therefore, a complete soil investigation was not performed.

On the eastern parcel (APN 114-050-005), indicators which warranted closer inspection were observed in the northeast quadrant of the parcel. Hydrology indicators and hydrophytic plant species were observed in this area where small depressions are present (Figure 7). One "facultative wetland" plant species, dwarf woolyheads (*Psilocarphus brevissimus*), was identifiable within tire ruts and other natural depressions on the ground (Figure 8). No other vegetation was present. The presence of these indicators suggests that a small emergent wetland or vernal pool could be present. According to the project site plan (Appendix A), parcels in this location as well as the bioretention cell could overlap with the potential wetland feature on the eastern parcel.



SOURCE: MAXAR 2024 AERIAL PHOTOGRAPH; USFWS 2024 NWI

FIGURE 6
NATIONAL WETLANDS INVENTORY
ZINCO PROPERTY SUBDIVISION
REDDING, CALIFORNIA

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Figure 7. Potential Wetland Feature

Figure 8. Potential Wetland Feature. Hydrophytic plants and hydrology indicators.

The feature is not a well-defined or uniform pool but exists as a matrix of ruts. Evidence of repeated disturbance to the ground and vegetation in this area can be observed in Google Earth aerial imagery dating back to the 1990s (Appendix C). During the reconnaissance survey, an unknown vehicle was observed driving across the area. The tire tracks and ruts have caused varied depth across the feature; the deepest point is roughly four inches, and most of the feature is shallower at around 1 to 2 inches. The current site conditions are likely remnant from a historic wetland which is now degraded from decades of disturbance. A wetland delineation would be needed to determine the boundary of the wetland feature.

2.5 Special-Status Biological Resources

2.5.1 Special-Status Plants

Special-status plant species include plants that are (1) designated as rare by CDFW or USFWS or are listed as threatened or endangered under the California Endangered Species Act (CESA) or ESA; (2) proposed for designation as rare or listing as threatened or endangered; (3) designated as state or federal candidate species for listing as threatened or endangered; and/or (4) ranked as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, or 3. A list of regionally occurring special-status plant species was compiled based on a review of pertinent literature, the results of the reconnaissance survey, a review of the USFWS species list, a 5 mile radius search of the CNDDB, and a nine-quad search of CNPS database records. The CNDDB query for listed species within five miles of the project area is included in Appendix D.

The habitat and ecological requirements of each special-status plant species were evaluated and compared to the known habitat types in, or in the immediate vicinity, of the study area to assess the potential for occurrence.

2.5.2 Special-Status Animals

Special-status animal species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature and consultations with the USFWS Information for Planning and Consultation (iPAC) database and California Natural Diversity Database (CNDDB) database records, and a query of the California Wildlife Habitats Relationship (CWHR) system.

The habitat and ecological requirements of each special-status species were evaluated and compared to the known habitat types in, or in the immediate vicinity, of the study area to assess the potential for suitable habitat or occurrence.

2.5.3 Sensitive Natural Communities

Natural communities considered sensitive are those identified as (1) "threatened" or "very threatened" by CDFW and listed on CNDDB; and/or (2) natural communities evaluated using NatureServe's Heritage Methodology with ranks of S1-S3 or sensitive.

2.5.4 Critical Habitat

The ESA defines critical habitat to include specific and formally designated geographic areas that are occupied and unoccupied by the species at the time of listing. To be designated as critical habitat, occupied areas must contain physical or biological features that are essential to the species' conservation and may require special management. Unoccupied areas must be "essential for the conservation of the species." Critical habitat is listed on the iPAC database and mapped on the CNDDB database.

3.0 REGULATORY FRAMEWORK FOR BIOLOGICAL RESOURCES

This section describes the federal and state regulation of special-status species, waters of the United States, and other sensitive biological resources.

3.1 Federal Regulations

3.1.1 Federal Endangered Species Act

Section 9 of the federal Endangered Species Act of 1973 (ESA) prohibits acts that result in the "take" of threatened or endangered species. As defined by the federal ESA, "endangered" refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term "threatened" is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. "Take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Sections 7 and 10 of the federal ESA provide methods for permitting otherwise lawful actions that may result in "incidental take" of a federally listed species. Incidental take refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects on federal land or involving a federal action; Section 10 provides a process for non-federal actions. The act is administered by the USFWS for terrestrial species.

3.1.2 Clean Water Act

The objective of the Clean Water Act (1977, as amended) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands, is regulated by the Corps under Section 404 of the Clean Water Act (33 USC 1251-1376) under a permitting process. Applicants for Section 404 permits are also required to obtain water quality certification or waiver through the local Regional Water Quality Control Board under Section 401 of the Clean Water Act (33 USC 1341).

Corps regulations implementing Section 404 define waters of the United States to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as "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). To comply with the Corps policy of no net loss of wetlands, discharge into wetlands must be avoided and minimized to the extent practicable. For unavoidable impacts, compensatory mitigation is typically required to replace the loss of wetland functions in the watershed.

3.1.3 Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as

allowed by implementing regulations (50 CFR 21). Mitigation measures can be identified to avoid or minimize adverse effects on migratory birds.

3.2 State Regulatory Requirements

3.2.1 California Endangered Species Act

The California Endangered Species Act lists species of plants and animals as threatened or endangered. Projects that may have adverse effects on state-listed species require formal consultation with CDFW. "Take" of protected species incidental to otherwise lawful activities may be authorized under Section 2081 of the California Fish and Game Code. Authorization from the CDFW is in the form of an Incidental Take Permit, and measures can be identified to minimize take. CDFW Species of Special Concern are considered under the California Endangered Species Act.

3.2.2 Birds of Prey

Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) 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.

3.2.3 Migratory Birds

The California Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

3.2.4 Fully Protected Species

California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an incidental take permit (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

3.3 Local Regulatory Requirements – Local Tree Protection

The study area occurs within the City of Redding. The proposed park expansion involves the removal of certain native to accommodate the construction of the park facility. To comply with the California Environmental Quality Act, the City of Redding tree ordinance would be applicable.

The City of Redding Municipal Code (Chapter 18.45-Tree Management) intent and objectives are to:

- Protect and enhance the aesthetic qualities of the community provided by native and nonnative trees;
- Promote a healthy and attractive urban landscape as the community grows;

- Recognize the importance of trees as a visual and physical buffer;
- Preserve the City's valuable natural features;
- Require the replacement of trees that are removed, where appropriate;
- Establish a program for the planting of trees in new developments; and
- Protect trees on undeveloped properties until such time as a development plan/building permit is approved.

To achieve these goals, the City of Redding may require that a tree removal permit be obtained prior to removal of trees on vacant/undeveloped lands. Section 18.45.030 states that "No tree, regardless of species, that exceeds six inches DBH [diameter at breast height] on any developed or undeveloped/vacant property in the city shall be destroyed, killed, or removed unless a tree removal permit is first obtained under the provisions of this chapter…".

4.0 BIOLOGICAL RECONNAISSANCE SURVEY

4.1 Pre-Survey Review

Special-status plant and animal species and sensitive habitats that have the potential to occur within the survey area were determined, in part, by reviewing agency databases, literature, and other relevant sources. The following information sources were reviewed to aid this determination:

- Redding, California, USGS 7.5-minute quadrangle;
- Aerial photography of the survey area and vicinity;
- The U.S. Fish and Wildlife Service (USFWS) official list of endangered and threatened species that may occur, or be affected by projects, as provided by the Sacramento Fish and Wildlife Office (Project Code 2025-0000902), included as Appendix E;
- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife 2024a) records for the Redding, California USGS 7.5-minute quadrangle and the eight surrounding quadrangles, included as Appendix E;
- The California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants (California Native Plant Society 2015) records for the Redding, California USGS 7.5-minute quadrangle and the eight surrounding quadrangles;
- California Wildlife Habitat Relationships (CWHR) System (California Department of Fish and Game 2023).
- GIS shapefiles of designated critical habitat from the USFWS Critical Habitat Portal website;
- CDFW publications including State and Federally Listed Endangered, Threatened and Rare Plants of California (CDFW 2024b); State and Federally Listed and Threatened Animals of California (CDFW 2024c); and Special Animals List (CDFW 2024d); and
- Pertinent biological literature including Bird Species of Special Concern in California (Shuford and Gardali 2008).

4.2 Survey Methods

A pedestrian reconnaissance survey was completed to determine the vegetation communities onsite and identify any habitat that may support special-status plants or wildlife within 200 feet of the survey area. The pedestrian survey was completed by two VESTRA biologists on October 8, 2024. A Trimble Geo XT Explorer 6000, Nikon P530 camera, and binoculars were used to aid in the survey. The survey was completed within the two parcels by walking intuitive transects spaced between fifteen and fifty feet apart, which was acceptable for achieving complete visual coverage of the site due the open, flat terrain. Access outside of the project area was limited to accessible public easements but visual coverage was adequate to determine the surrounding vegetation types.

Focused searches were conducted for species-specific habitat features on the property during the reconnaissance survey, including bat roost habitat (e.g. crevices in trees), monarch butterfly habitat

(milkweed plants), and Valley elderberry longhorn beetle (VELB) habitat (elderberry shrubs) throughout the project area. The entire property was surveyed for elderberry (*Sambucus* sp.) shrubs and native milkweed (*Asclepias* sp.) plants during the pedestrian transects. Then, each oak tree on the property was assessed for the presence of bat roost features, such as crevices, entry/exit holes, and missing or broken limbs.

All observed species were identified to the lowest taxonomic level possible outside of flowering season. Species present were used to define vegetation communities to the Alliance level according to the Manual of California Vegetation.

4.3 Survey Results

A detailed species list of all botanical and wildlife species encountered during the reconnaissance survey is included below. No special-status species were observed during the reconnaissance survey. Site conditions during the survey were hotter than average for a fall day. Weather was clear and sunny with no precipitation. Recent hot conditions resulted in extremely dry conditions onsite. The ambient temperature was 88 degrees Fahrenheit (F) during the survey.

The following wildlife species were observed within the survey area:

- American robin (*Turdus migratorius*)
- Bushtit (*Psaltriparus minimus*)
- Western fence lizard (*Sceloporus occidentalis*)
- Deer scat (*Odocoileus* sp.)

The following plant species were observed within the survey area:

- Blue oak (*Quercus douglassii*)
- Manzanita (*Arctostaphylos* sp.)
- Poison oak (*Toxicodendron diversilobum*)
- Wild oats (*Avena fatua*)
- Rattlesnake grass *(Briza maxima*)
- Toyon (*Heteromeles arbutifolia*)
- Gray pine (*Pinus sabiniana*)
- Dwarf woolyheads (*Psilocarphus brevissimus*)
- Chaparral honeysuckle *(Lonicera interrupta)*
- Live oak *(Quercus wislizeni)*
- *Centaurea* sp.
- *Bromus* sp.
- *Aster* sp.

The health and location of all oak trees greater than five inches diameter at breast height was assessed by Wildland Resource Managers in October 2022. The number of trees onsite has since been reduced. An Existing Site and Tree Map created by Horrocks is included as Appendix A.

5.0 POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in the 2024 CEQA Guidelines. The proposed project would result in a significant impact related to biological resources if they would do any of the following:

- 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 CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- 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;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or state HCP.

5.1 Special-Status Species

The regionally occurring special-status species identified during the desktop review were assessed based on the potential for their habitat to occur within the project area. The determination of whether the species is likely to occur within the project area is summarized in Table 1.

Species with habitat requirements that are not present onsite were determined to be unlikely to occur and are not discussed further. Based on this assessment, four species may occur within the project location. The potential project impacts to these species are discussed below. Of the species assessed, the following have the potential to occur within the project area:

- Townsend's Big-Eared Bat (*Corynorhinus townsendii*)
- Redding Checkerbloom (*Sidalcea celata*)
- Dubious Pea (*Lathyrus sulphureus var. argillaceus*)
- Henderson's Bent Grass (*Agrostis hendersonii)*

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES					
Common Name	**Scientific Name**	**Conservation Status (state/ federal)**	**Habitat Description**	**Potential to Occur in Project Area?**	**Project Impact Potential**
Birds					
Bald eagle	*Haliaeetus leucocephalus*	State Endangered/ Federally Delisted/ Bald and Golden Eagle Protection Act of 1940	Nests in mature trees or snags in remote, mixed stands near open bodies of water. Forages primarily for fish. May migrate or remain year-round resident.	No; no suitable nesting or foraging habitat. Nearest known CNDDB occurrence is 3.5 miles southeast at a location near the Sacramento River.	No impact.
Northern spotted owl	*Strix occidentalis caurina*	State threatened/ Federal Threatened	Requires large, old-growth trees or snags in remote, mixed stands	No; site is over 7 miles from known range or habitat.	No impact.
Amphibians					
Foothill yellow-legged frog - north coast DPS	*Rana boylii pop. 1*	CDFW Species of Special Concern	Breed in streams with gravelly/ cobbly substrates with adequate sun exposure, tadpoles develop in streams or pools that form as water recedes.	No; no suitable aquatic habitat. Nearest known occurrence on CNDDB is 2 miles south near the Sacramento River.	No impact.
Western spadefoot	*Spea hammondii*	CDFW Species of Special Concern/ Federally Proposed Threatened	Breed in vernal pools, ponds within grasslands and valley foothill woodlands. Spend significant time underground in burrows up to 1 meter deep, usually in grasslands.	No; site unlikely to support burrows due to poorly developed shallow soils and frequent vehicle disturbance. Nearest known occurrences on CNDDB are 10 miles southeast.	No impact
Reptiles					
Northwestern pond turtle	*Actinemys marmorata*	CDFW Species of Special Concern/Federal Proposed Threatened	Perennial streams and ponds; nest in adjacent upland grasslands, riparian corridors.	No; no suitable aquatic habitat onsite. Nearest known occurrence on CNDDB is 2.3 miles east.	No impact.
Fish					
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus pop. 11*	CDFW Species of Special Concern/ Federal Threatened	Anadromous life history. Occurs in drainages within the Sacramento and San Joaquin watersheds including the Sacramento River.	No; no suitable aquatic habitat, no riparian habitat occurs onsite.	No impact.
Chinook salmon - Central Valley spring-run ESU	*Oncorhynchus tshawytscha pop. 11*	State Threatened/ Federal Threatened			
Chinook salmon - Sacramento River winter-run ESU	*Oncorhynchus tshawytscha pop. 7*	State Endangered/ Federal Endangered			

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES					
Common Name	**Scientific Name**	**Conservation Status (state/ federal)**	**Habitat Description**	**Potential to Occur in Project Area?**	**Project Impact Potential**
Green sturgeon - southern DPS	*Acipenser medirostris pop. 1*	CDFW Species of Special Concern/ Federal Threatened			
Invertebrates					
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Federal Threatened	Closely associated with elderberry shrubs (*Sambucus* sp.)	No; no elderberry shrubs found onsite or on adjacent residential properties.	No impact.
Vernal pool tadpole shrimp	*Lepidurus packardi*	Federal Endangered	Northern hardpan vernal pools	No; wetland features have inadequate depth, hydrology to support life cycle (Vollmar 2023). Nearest known CNDDB occurrence is 5 miles southeast. Final Critical Habitat exists 9.5 miles southeast.	No impact.
Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	Federal Threatened	Northern hardpan vernal pools	No; wetland features have inadequate depth, hydrology to support life cycle (The Natomas Basin Conservancy 2024). Nearest known occurrence on CNDDB is 6.5 miles southeast. Final Critical Habitat exists 9.5 miles southeast.	No impact.
Monarch butterfly	*Danaus plexippus*	Candidate for Federal Listing	Riparian and prairie, areas containing milkweeds	No; no habitat found onsite during reconnaissance survey.	No impact
Mammals					
Townsend's big-eared bat	*Corynorhinus townsendii*	CDFW Species of Special Concern	Roosts in caves, bridges, or mines. Forage for terrestrial insects in riparian woodland, grassland, and forest habitats.	Potential to forage onsite and in nearby woodland, no roost habitat onsite. Not detected onsite during 2024 acoustic bat surveys.	Less than significant impact with implementation of measures listed in Section 6.0.
Plants					
Maverick clover	*Trifolium piorkowskii*	CNPS 1B.2	Annual herb occurring in vernal pools, along stream banks, volcanic flats, open rocky ground, 300-800 meters elevation; flowers Apr to May.	No; site is outside known geographic and elevation range. Nearest known occurrence is 2.5 miles south.	No impact.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES					
Common Name	**Scientific Name**	**Conservation Status (state/ federal)**	**Habitat Description**	**Potential to Occur in Project Area?**	**Project Impact Potential**
Red Bluff dwarf rush	*Juncus leiospermus* var. *leiospermus*	CNPS 1B.1	Annual grass-like herb occurring in vernal pool margins within freshwater wetland, valley grassland, riparian habitats between 280-500 meters elevation; flowers April to June. Requires high terrace, thin, reddish soils on Red Bluff Formation (Vollmar et. al 2023).	No; site is outside known range and below known elevation range.	No impact.
Redding checkerbloom	*Sidalcea celata*	CNPS 3	A perennial herb occurring in cismontane woodland or open oak woodland between elevations of 150-370 meters; flowers May through June.	Potential to occur; Habitat is present onsite. A known observation on Calflora from 2023 approximately 0.75 miles south of site.	Less than significant impact with implementation of measures listed in Section 6.0.
Dubious pea	*Lathyrus sulphureus* var. *argillaceus*	CNPS 3	A perennial herb occurring in foothill woodland to fir forest, openings in canopy between elevations of 150-930 meters; flowers April-May.	No; outside known range. Nearest known observation on CNDDB is 2 miles south.	Less than significant impact with implementation of measures listed in Section 6.0.
Henderson's bent grass	*Agrostis hendersonii*	CNPS 3.2	Annual grass-like herb occurring in vernal pools within freshwater wetland, valley grassland, and other riparian habitats at elevations less than 300 meters; flowers May to July.	No; site is outside known range. Nearest known observation on Calflora is 3.5 miles northeast. Nearest known observation on CNDDB is 3.6 miles east.	Less than significant impact with implementation of measures listed in Section 6.0.
Koch's cord moss	*Entosthodon kochii*	CNPS 1B.3	A moss occurring within cismontane woodlands on newly exposed riverbank soil at elevations between 180-1000 meters.	No; site is outside known range and does not contain suitable streamside habitat.	No impact
Legenere	*Legenere limosa*	CNPS 1B.1	Annual herb occurring in wet areas, vernal pools, and ponds within freshwater wetland, valley grassland, and other riparian habitats at elevations less than 950 meters. Typically occurs in playa pools on Red Bluff Formation. Flowers May to June.	No; site is outside known range.	No impact.
Sanford's arrowhead	*Sagittaria sanfordii*	CNPS 1B.2	A perennial rhizomatous herb occurring freshwater marsh, ponds, and ditches at elevations greater than 300 meters; flowers May through October.	No; site is outside known range and does not contain suitable ponded habitat.	No impact.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES					
Common Name	**Scientific Name**	**Conservation Status (state/ federal)**	**Habitat Description**	**Potential to Occur in Project Area?**	**Project Impact Potential**
Oval-leaved viburnum	*Viburnum ellipticum*	CNPS 2B.3	A shrub occurring in chaparral and yellow-pine forest, generally on north facing slopes between elevations of 300 to 1400 meters; flowers June through August.	No; site is outside known range and below known elevation range.	No impact.
Siskiyou iris	*Iris bracteata*	CNPS 3.3	A perennial rhizomatous herb occurring in partly shady places, generally within yellow-pine forest between elevations of 350 to 1100 meters; flowers in May.	No; site is outside known range, below known elevation range, and no suitable habitat onsite.	No impact.
Sulphur Creek brodiaea	*Brodiaea matsonii*	CNPS 1B.1	A perennial bulbiferous herb occurring in intermittent streambeds within foothill woodlands between elevations of 190 to 235 meters; flowers in June.	No; site does not contain suitable intermittent stream habitat. Endemic to Sulphur Creek and tributaries greater than 700 feet from site.	No impact.
Slender Orcutt grass	*Orcuttia tenuis*	State Endangered/ Federal Threatened/ CNPS 1B.1	Annual grass-like herb occurring in vernal pools within foothill woodland, freshwater wetland, valley grassland, and other riparian habitats between 200-1100 meters elevation. Typically occurs in playa pools on Red Bluff Formation. Flowers May to October.	No; Outside known range. Based on the site visit, wetland features in the survey area have an inadequately developed soil profile that lacks deep clay cracks required to trap seeds to support species (Jepson 2015). Final Critical Habitat exists 6.5 miles southeast.	No impact.
Silky cryptantha	*Cryptantha crinita*	CNPS 1B.2	Annual herb occurring in rocky volcanic flats, gravelly streambanks, gravel bars within yellow pine forest, foothill woodland, and valley grassland habitats at elevations between 90-1120 meters; flowers March to June.	No; site lacks volcanic soils and gravelly streambanks.	No impact.
Pink creamsacs	*Castilleja rubicundula* var. *rubicundula*	CNPS 1B.2	Annual herb occurring in serpentinite within chaparral (openings), cismontane woodland, valley, and foothill grassland between elevations of 20-910 meters; flowers April-June	No; no serpentinite	No impact.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES					
Common Name	**Scientific Name**	**Conservation Status (state/ federal)**	**Habitat Description**	**Potential to Occur in Project Area?**	**Project Impact Potential**
*Nine awned pappus grass	*Enneapogon desvauxii*	CNPS 2B.2	A perennial grass-like herb occurring on rocky slopes, crevices, calcareous soils within pinyon-juniper woodland. Within California, this species is only known to occur in San Bernardino County.	No; Outside known range and the nearest known occurrence is over 500 miles southeast. No suitable habitat exists onsite. This species was included in this assessment as it was allegedly observed by Wildland Resource Managers within the survey area in 2022.	No impact.
*Hairy erioneuron	*Erioneuron pilosum*	CNPS 2B.3	A perennial grass-like herb occurring on rocky slopes and ridges within pinyon-juniper woodland. Within California, this species is only known to occur in Inyo and San Bernardino County.	No; Outside known range; nearest known occurrence >300 miles southeast. No suitable habitat onsite. Species included in the assessment as allegedly observed by Wildland Resource Managers within the survey area in 2022.	No impact.
Sensitive Habitats					
Great Valley Valley Oak Riparian Forest	N/A	S3 (State Vulnerable)	*Quercus lobata* is dominant to co-dominant in tree canopy with *Acer negundo, Alnus rhombifolia, Fraxinus latifolia, Quercus chrysolepis, Quercus wislizeni, Salix gooddingii, Salix laevigata* and/or *Salix lasiolepis*. Understory characterized by riparian species: *Aristolochia californica, Carex barbarae, Rhus trilobata, Rosa californica, Rubus armeniacus, Rubus ursinus* and *Vitis californica.*	No; site lacks streams, riparian vegetation, and required membership species.	No impact.
Great Valley Cottonwood Riparian Forest	N/A	S2 (State Imperiled)	*Populus fremontii* is dominant or co-dominant in tree canopy with *Acer negundo, Baccharis sergiloides, Fraxinus latifolia, Fraxinus velutina, Juglans hindsii, Juglans hindsii, Platanus racemosa, Quercus agrifolia, Salix exigua, Salix gooddingii, Salix laevigata, Salix lasiolepis, Salix lucida* ssp. *lasiandra* and *Salix lutea.*	No; site lacks streams, riparian vegetation, and required membership species.	No impact.

Key: 1B: Plants rare, threatened, or endangered in California and elsewhere; 2B: Plants rare, threatened, or endangered in California but more common elsewhere; 3: Plants about which more information is needed.
*Species was included in this BRA assessment because of claims that species is present onsite in previous biological reports.

Townsend's Big-Eared Bat
Corynorhinus townsendii
Townsend's big-eared bat is designated as a SSC. This bat is distinguished by its bilateral nose bumps and large ears (WBWG 2022). This bat requires large cavities for roosting; these may include abandoned buildings and mines, caves, and basal cavities of trees. During the summer, males and females occupy separate roosting sites; males are typically solitary, while females form maternity colonies, where they raise their pups. Maternity colonies typically form between March and June, with a single pup born each year (WBWG 2022). A maternity colony may range in size from twelve to 200 bats in the western populations. Like other bats, this species hibernates in the winter when temperatures fall below roughly fifty degrees in the daytime.

No maternity roost or winter hibernacula habitat for this species occurs onsite because there are no caves or buildings onsite. There is potential for a Townsend's big-eared bat to forage in vegetated areas onsite because it abuts to undisturbed oak woodland to the northwest of the site, which likely provides foraging habitat for the species.

Redding Checkerbloom
Sidalcea celata
This species is ranked as "3" by the California Rare Plant Ranking (CRPR), meaning that the necessary information to assign the species a "1" or "2" rank is lacking. According to Calflora, a nearby occurrence of ten individuals of this species was discovered May 11, 2023, approximately 0.75 miles south of site in similar habitat, although in apparently less disturbed conditions.

The Redding checkerbloom is a perennial herb occurring in cismontane woodland or open oak woodland between elevations of 150-370 meters. Therefore, there is potential habitat within the project area underneath the blue oak canopy where undisturbed vegetation remains.

Dubious Pea
Lathyrus sulphureus var. argillaceus
Dubious pea is a perennial vine-like herb that is occurs in cismontane woodlands, lower montane coniferous forests, upper montane coniferous forests between 500 feet and 3000 meters elevation in Calaveras, El Dorado, Nevada, Placer, Shasta and Tehama counties. This species is ranked as "3" by the CRPR, and therefore should therefore be considered during CEQA processes.

The nearest and most recent records of this species occur in Redding in Shasta County in 1911 and near Rosewood in Tehama County in 1899. Therefore, records of previous occurrences are not reliable for determining the current distribution of this subspecies. There is potential habitat within the project area underneath the blue oak canopy where undisturbed vegetation remains.

Henderson's Bent Grass
Agrostis hendersonii
Henderson's bent grass is an annual grass native to northern California and Oregon. This species usually inhabits vernal pool and swale habitats, but it can also be found in moist areas in annual grasslands. It is associated with valley grasslands and ephemeral wetlands, and sometimes with riparian understory communities. This species is ranked as "3.2" by the CRPR. The wetland feature located onsite could provide habitat for Henderson's bent grass.

5.2 Potential Impacts to Listed Wildlife Species

One special status wildlife species, Townsend's big-eared bat, has the potential to occur in the project area. Although no maternity roost habitat exists, there is potential foraging habitat onsite and in the adjacent oak woodland to the northwest of the site. The development of the project site would cause a less than significant impact to foraging Townsend's big-eared bats because the foraging habitat on the adjacent properties will continue to support abundant prey items for this species.

The proposed development would lead to residential development onsite. In general, such development causes a long-term increase in noise and light levels. Light sources may occur at crepuscular hours when bats are typically foraging. While lighting will not interfere with echolocation for prey capture, it has the potential to impact prey behavior because prey items such as moths and nocturnal insects are drawn to light. There is pre-existing light and noise disturbance from the residential areas surrounding the project site. However, light pollution to the north could cause a localized light pollution to their potential offsite foraging habitat. Measures listed in Section 6.4 would reduce light pollution so that impacts to bat foraging habitat is less than significant.

5.3 Potential Impacts to Listed Plant Species

Blue oak woodland can provide habitat for two of the potentially occurring plant species: dubious pea and Redding checkerbloom. Therefore, there is potential habitat within the project area underneath the blue oak canopy where undisturbed vegetation remains. Although the survey was conducted outside of the flowering period, no dubious pea, or closely related pea (*Lathyrus sp.*), was observed during the survey in the vegetative state.

The Redding checkerbloom was not observed during the reconnaissance survey which was conducted outside of its flowering season. There is potential habitat onsite for this species in the areas within the blue oak woodland onsite. Although the reconnaissance survey was conducted outside of the flowering period, the site was visually scanned for these perennial species in the vegetative state, and neither species was observed. Protocol-level surveys would be required to definitively determine whether these species are present within the potential habitat areas.

The wetland feature onsite could provide habitat for one potentially occurring rare plant species, Henderson's bent grass. This species is an annual grass which is difficult to identify after its growing and flowering period have long passed.

The grading, paving, and ultimate development of the project site could lead to direct removal of Redding checkerbloom, dubious pea, or Henderson's bent grass plants. The completion of surveys and either avoidance or mitigation would reduce project impacts to these species. Project impacts to rare plants would be minimized or avoided by implementation of measures listed in Section 6.1 such that impacts are less than significant with mitigation.

5.4 Potential Impacts to Nesting Birds

The project will result in the removal of native blue oak and gray pine trees. Tree removal and construction activities during the nesting season (February 1 – August 31), such as tree removal

and noise-generating construction activities that disturb a nesting bird or destroy active nests, could result in impacts to nesting birds. Implementation of the conservation measures described in Section 6.3 would reduce potential impacts on nesting birds such that there are no impacts to nesting birds with mitigation.

5.5 Potential Impacts to Rare Natural Communities and Sensitive Habitats

In addition to inventorying reported occurrences of special-status species, the CNDDB serves to inventory the locations of rare natural communities. Communities respond to environmental changes and can be thought of as an indicator of the overall health of an ecosystem and its component species. Rare natural communities are those communities that are of highly limited distribution. They may or may not contain rare, threatened, or endangered species. The CNDDB ranks natural communities according to their rarity and endangerment in California.

According to CNDDB, two sensitive habitats occur within five miles of the survey area: Great Valley Cottonwood Riparian Forest and Great Valley Oak Riparian Forest. The reconnaissance survey found that no Great Valley Cottonwood Riparian Forest and Great Valley Valley Oak Riparian Forest occur onsite. Therefore, no impacts to these rare or sensitive natural communities would occur.

The Blue Oak Woodland Alliance is rated as S4, which is not a Sensitive Natural Community. None of the Associations listed as "sensitive" are present onsite.

5.6 Potential Impacts to Critical Habitat

There is no U.S. Fish and Wildlife designated Critical Habitat within the survey area. No impact.

5.7 Potential Impacts to Wildlife Corridors and Nursery Sites

A project would have a significant impact if it would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. No known established wildlife corridors or nursery sites occur within or in the vicinity of the survey area. The development of several residences on an undisturbed property will alter the accessibility of the site to common wildlife species, such as black tailed deer. However, the project site is surrounded by fenced residential development.

In general, riparian corridors provide corridors for wildlife dispersal and migration. The project site is 750 feet away from the nearest riparian corridor. Therefore, the project would not inhibit wildlife movement along the riparian corridor.

Undisturbed oak woodland exists adjacent to the northwest corner of the property. Impacts to wildlife movement, particularly nocturnal wildlife, can result from the increase in light and noise from the long-term use of the site for residential purposes. Wildlife in the area is likely tolerant of residential noises, because of the prevalence of residences in the immediate area. Light pollution to the surrounding woodland would be avoided by implementing measures in Section 6.4. Therefore, impacts to nocturnal wildlife movement would be less than significant.

Bat Maternity Roosts

No evidence of bat maternity roost habitat was found onsite. In general, bats may utilize crevices inside of trees for maternity roosts and/or winter hibernacula. The Zinco Subdivision Project activities will include removal of trees from within the survey area. Ecological requirements for bat roosts, including maternity roosts, require an appropriate thermal gradient, shelter from predators, and proximity to foraging sites. Trees can provide this habitat inside of large crevices caused by natural limb damage or created by other wildlife. The trees onsite were inspected for the presence of cavities and entrance/exit holes. None of the trees onsite exhibit roost habitat features.

According to the CNDDB, the survey area is characterized as "Low" quality habitat for the Townsend's big-eared bat. There are no buildings or structures onsite that would provide roost habitat for the Townsend's big-eared bat. Therefore, no impacts to their maternity roosts would occur.

5.8 Potential Impacts to Wetlands/Waters of the State

The habitat within the depressions onsite resembles vernal pool habitat based on hydrology indicators and a hydrophytic plant species, although the features lack adequate depth and hydrology to support many of the species typically associated with healthy vernal pools (Table 1). The current site conditions are likely remnant from a historic wetland which is now degraded from decades of disturbance. A protocol-level wetland delineation would be required to determine the current presence and extent of the wetlands onsite.

Impacts to wetlands will be avoided or mitigated for in accordance with conservation measures outlined in Section 6.2. With the implementation of these measures, impacts to wetlands will be less than significant.

5.9 Compliance with Habitat and Natural Community Conservation Plans

The project area does not occur within the boundaries of any existing Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs).

5.10 Compliance with Local Policies and Ordinances

The project proponent will ensure that the proposed project would comply with the respective land management policies that apply the City of Redding.

The primary purposes of the City of Redding's Tree Ordinance (Chapter 18.45 of the Zoning Code) are: 1) the preservation of existing native and nonnative trees where feasible; 2) the replacement or transplanting of trees removed where appropriate; and 3) the planting of new trees in location, number and kind compatible with local conditions.

Trees within the study area maybe subject to the City of Redding tree ordinance. The project area encompasses several mature native blue oak trees. These may be considered "candidate trees" that would be subject to further evaluation to determine if any of these trees are appropriate for protection per Section 18.45.070 of the City of Redding Municipal Code.

The removal of blue oak trees from the project area would result in the loss of foraging habitat for certain oak woodland-dependent species, such as Acorn woodpecker (*Melanerpes formicivorus*) and Western grey squirrel (*Sciurus griseus*) but would not result in take of any special-status species with implementation of measures listed in Section 6.0.

6.0 RECOMMENDED CONSERVATION MEASURES

The following conservation measures, Best Management Practices (BMPs), and project features will be incorporated into the project in order to avoid and minimize the potential environmental impacts from construction and long-term operation of the proposed facility:

6.1 Botanical Resources

- A Qualified Biologist shall conduct botanical surveys during the appropriate blooming period and conditions for all special-status plants that have the potential to occur prior to the start of construction. Surveys shall be conducted following CDFW's 2018 *Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. If any special-status plant species are observed, the Project shall fully avoid the individuals by implementing a 15-foot buffer around the plant(s). If the area cannot be avoided, a mitigation plan shall be developed and approved by CDFW prior to disturbance. Mitigation plans can propose to do one or more of the following: (A) relocate the plants from the site, (B) restore habitat onsite (following construction) or at an appropriate offsite location, (C) protect of an offsite population by purchasing credits at a mitigation bank.

6.2 Wetlands/Waters of the State

- Prior to discharge of fill into a wetland, all required permits and authorizations shall be obtained from the Corps and/or RWQCB. All terms and conditions contained with the permits and authorizations shall be met.
- Permanent loss of wetlands that are waters of the State shall be offset by purchasing mitigation credits at an approved mitigation bank at the ratio required by the Army Corps or RWQCB.

6.3 Nesting Birds

- The general nesting season for songbirds and raptors in the project area is February 1-August 31. If possible, vegetation removal will occur outside the nesting season to avoid impacts to nesting birds.
- If vegetation removal will occur during the nesting season for birds then a qualified biologist must conduct preconstruction surveys within seven days before vegetation removal activities begin. If nesting birds are found, then CDFW shall be notified and consulted. An appropriate buffer recommended by the qualified biologist shall be placed around the nest until the young have fledged. The buffer will depend on species and conservation status as well as site conditions and will consider noise and line-of-sight disturbances. Vegetation removal/construction may not resume within the buffer until the young have left the nest as confirmed by the qualified biologist.

6.4 Nocturnal Wildlife

- Illumination from the facility will be directed downward to contain light such that the construction activities or ongoing operations of the facility do not cause light pollution to the surrounding area, particularly to the undisturbed oak woodland located northwest of the site.
- Construction will be limited to daytime hours to avoid interference with bat echolocation or foraging behavior.

7.0 REFERENCES

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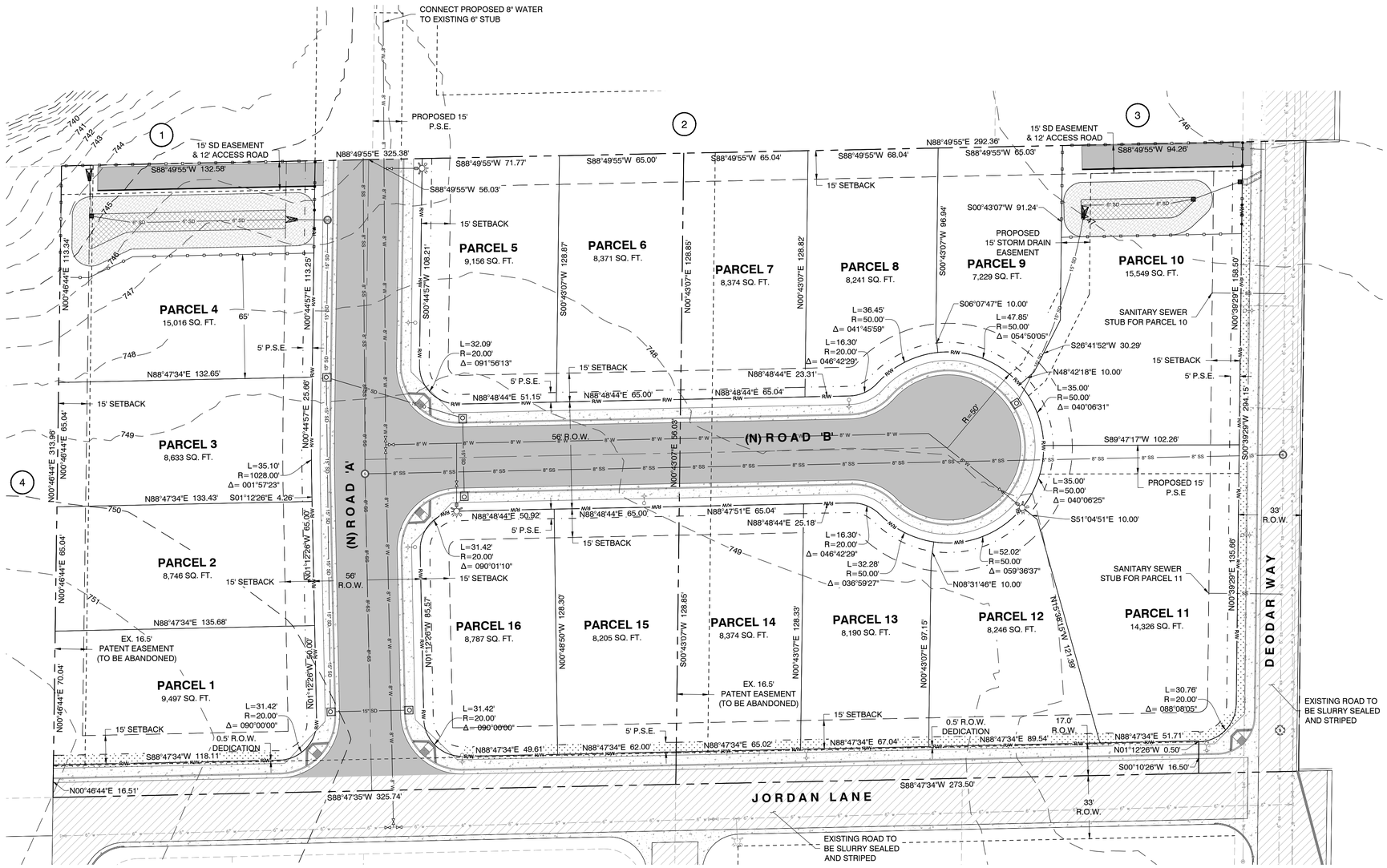
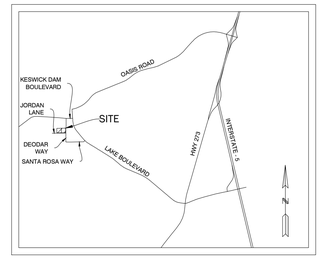
Appendix A

Proposed Site Layout





VICINITY MAP
NOT TO SCALE

OWNER
ZINCO HOLDING, LLC.
20083 SUNRISE DRIVE
REDDING, CA 96003

ENGINEER
HORROCKS
PO BOX 1307
ANDERSON, CA 96007

PROJECT ADDRESS
3150, 3250 JORDAN LANE
REDDING, CA 96003

WATER/SEWER
CITY OF REDDING

ELECTRICITY
REU

TELEPHONE
AT&T

EXISTING USE
VACANT

PROPOSED USE
RESIDENTIAL

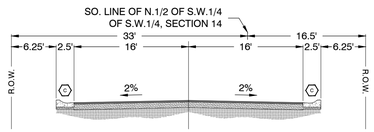
APN
114-050-005
114-050-006

TOTAL AREA
4.42 ACRES

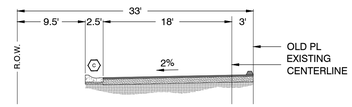
ZONING
APN: 114-050-005
EXISTING ZONING: RS-3
PROPOSED ZONING: RS-3.5

APN: 114-050-006
EXISTING ZONING: RS-3
PROPOSED ZONING: RS-3.5

GENERAL PLAN
(114-050-005) - 3.5 TO 6
(114-050-006) - 2 TO 3.5



TYPICAL SECTION - EXISTING 'JORDAN LANE'
SCALE: 1"=10'; AC: .17', AB: .50'
A 2.5' ROLL CURB & GUTTER - D38



TYPICAL SECTION - EXISTING 'DEODAR WAY'
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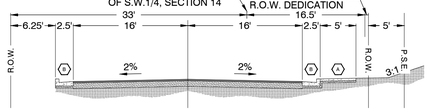
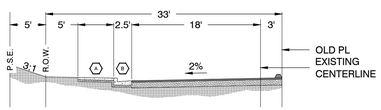
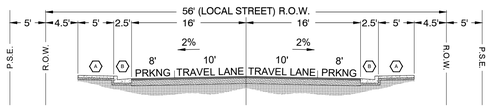


TYPICAL SECTION - PROPOSED 'JORDAN LANE'
SCALE: 1"=10'; AC: .17', AB: .50'
A 5' SIDEWALK (4" PCC) - CORCS 131.00
B 6" CURB & GUTTER - CORCS 136.00



TYPICAL SECTION - PROPOSED 'DEODAR WAY'
SCALE: 1"=10'; AC: .17', AB: .50'
A 5' SIDEWALK (4" PCC) - CORCS 131.00
B 6" CURB & GUTTER - CORCS 136.00



TYPICAL SECTION - PROPOSED ROAD 'A'
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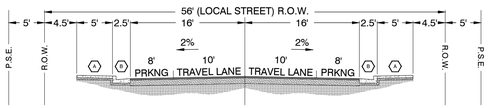
B 6" CURB & GUTTER - CORCS 136.00



TYPICAL SECTION - PROPOSED ROAD 'B'
SCALE: 1"=10'
A 5' SIDEWALK (4" PCC) - CORCS 131.00
B 6" CURB & GUTTER - CORCS 136.00

LEGEND

RECORD BOUNDARY	PROPOSED WATER LINE
ADJACENT PARCEL	PROPOSED FIRE HYDRANT
RIGHT OF WAY	PROPOSED SEWER LINE
5' PUBLIC SERVICE EASEMENT	PROPOSED SSMH
BUILDING SETBACK LINE	PROPOSED STORM DRAIN
EXISTING 6" WATER LINE (VALVE, METER, & HYDRANT)	PROPOSED CB No. 3
EXISTING 6" SEWER LINE (MANHOLE)	PROPOSED HMA
EXISTING OVERHEAD ELECTRIC (POWER POLE)	EXISTING HMA

ADJACENT PARCEL NO. INDEX

1. SNOW, MICHELLE (114 - 040 - 008)
2. TONEY, JULIA (114 - 040 - 012)
3. WARD, JERRY (114 - 050 - 040)
4. SNAVELY, PAULA (114 - 040 - 016) & (114 - 040 - 017)

0 30' 60'
SCALE: 1" = 30'

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REVISIONS
REV # | DATE
1 |

*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE 11.16.23
DESIGNED ZAT/JDM/DKM
DRAWN ZAT
CHECKED DKM
PROJECT PCA-6360-22

PRELIMINARY (NOT FOR CONSTRUCTION)
RENEWAL 12/31/2024
CIVIL ENGINEER
STATE OF CALIFORNIA

ZINCO SUBDIVISION
S - 2022 - 02416
REDDING, CALIFORNIA

COVER SHEET
TENTATIVE SUBDIVISION MAP

1
1 of 3

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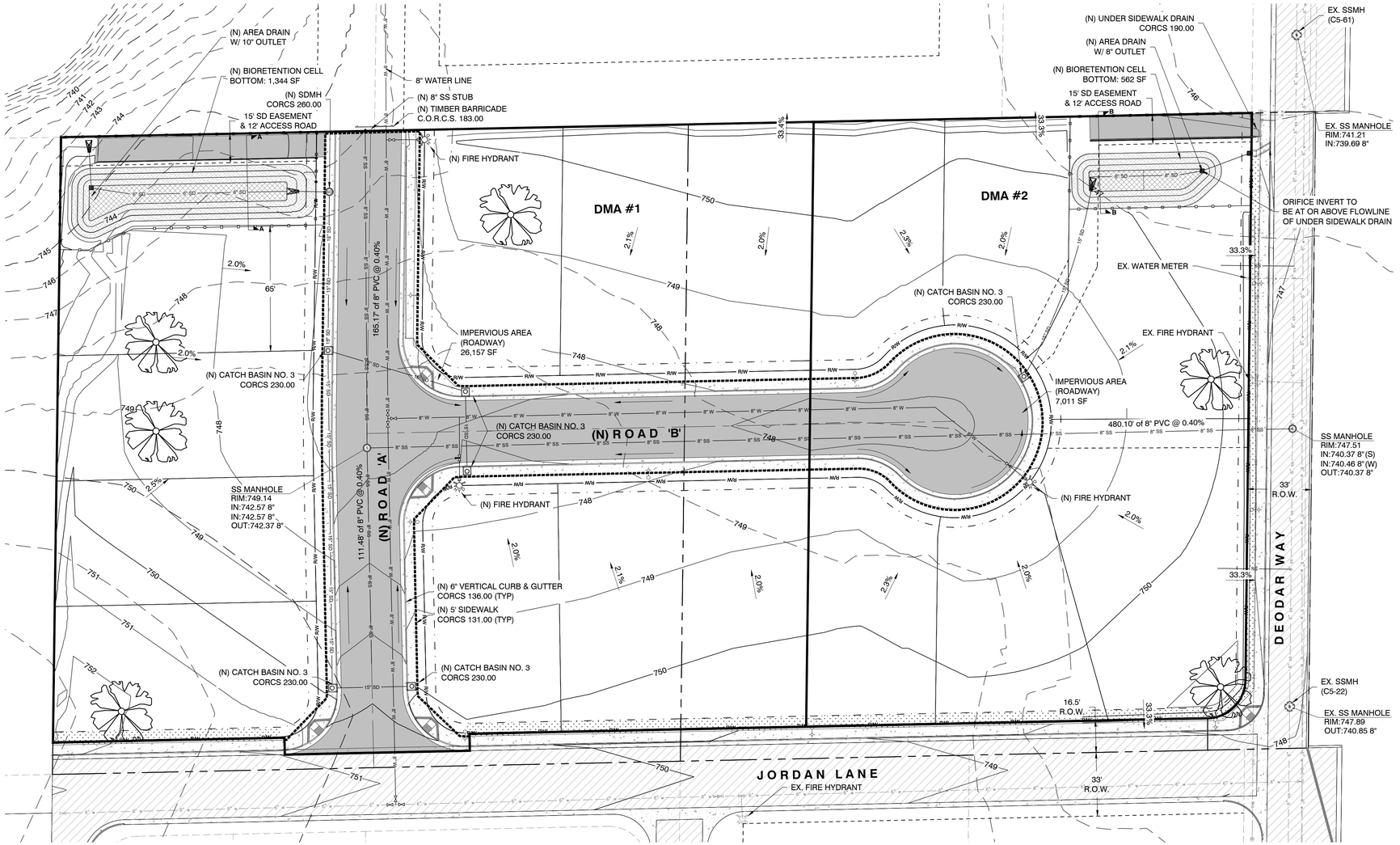
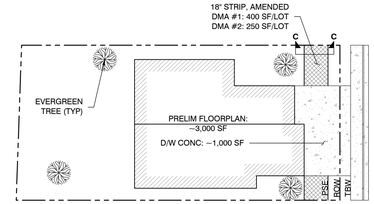




TYPICAL LOT: MS4 AREA ANALYSIS
SCALE: NTS

MS4 NOTE:

IMPERVIOUS AREA CALCULATIONS INCLUDE 4,000 SF OF IMPERVIOUS AREA PER LOT (INCLUDING HOUSE FOOTPRINT AND DRIVEWAYS)

DMA #1: WEST SIDE PROJECT

CLIMATE STATION: REDDING AP
SATURATED HYDRAULIC CONDUCTIVITY: .06 IN/HR
IMPERVIOUS AREA: 66,154 SQ. FT.
APPLICABLE TREE CREDITS: 11,200 SQ. FT.
DESIGN IMPERVIOUS AREA: 54,954 SQ. FT.
DESIGN STORM DEPTH: .91 IN.
TREATMENT MEASURE: DESIGN STORM

BMP TYPE (1): BIORETENTION CELL (24" SOIL & 36" GRAVEL)
BMP TYPE (2): STRIP, AMENDED (18" SOIL)
BIORETENTION CELL AREA NEEDED: 1,792 SQ. FT.
BIORETENTION CELL AREA PROVIDED: 1,080 SQ. FT.
BIORETENTION CELL PERCENT COMPLIANT LID AREA: 60.27%
STRIP, AMENDED AREA NEEDED: 9,935 SQ. FT.
STRIP, AMENDED AREA PROVIDED: 4,000 SQ. FT.
STRIP, AMENDED PERCENT COMPLIANT LID AREA: 40.26%
TOTAL PERCENTAGE COMPLIANT LID AREA: 100.53%

DMA #2: EAST SIDE PROJECT

CLIMATE STATION: REDDING AP
SATURATED HYDRAULIC CONDUCTIVITY: .06 IN/HR
IMPERVIOUS AREA: 31,991 SQ. FT.
APPLICABLE TREE CREDITS: 6,480 SQ. FT.
DESIGN IMPERVIOUS AREA: 25,511 SQ. FT.
DESIGN STORM DEPTH: .91 IN.
TREATMENT MEASURE: DESIGN STORM

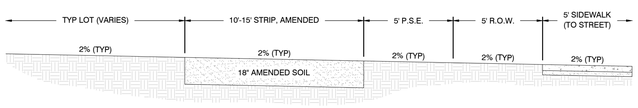
BMP TYPE (1): BIORETENTION CELL (24" SOIL & 36" GRAVEL)
BMP TYPE (2): STRIP, AMENDED (18" SOIL)
BIORETENTION CELL AREA NEEDED: 832 SQ. FT.
BIORETENTION CELL AREA PROVIDED: 562 SQ. FT.
BIORETENTION CELL PERCENT COMPLIANT LID AREA: 67.55%
STRIP, AMENDED AREA NEEDED: 4,612 SQ. FT.
STRIP, AMENDED AREA PROVIDED: 1,500 SQ. FT.
STRIP, AMENDED PERCENT COMPLIANT LID AREA: 32.52%
TOTAL PERCENTAGE COMPLIANT LID AREA: 100.07%

GRADING ANALYSIS

AREA OF DISTURBANCE:	4.42 ACRES
VOLUME:	1,500 CU. YDS. (FILL)

DRAINAGE LEGEND

- IMPERVIOUS AREA
- DMA BOUNDARY
- DIRECTION OF FLOW



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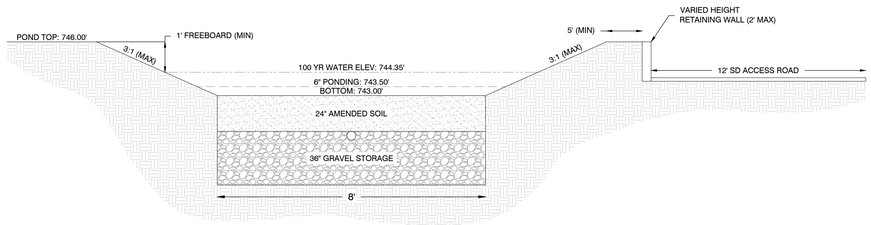
SCALE: NTS



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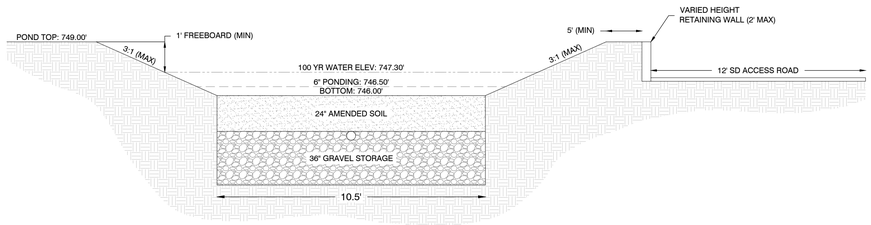

CROSS SECTION: "B-B" DMA #2 BIORETENTION CELL
SCALE: NTS

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*SEE GENERAL NOTES SHEET

DRAWING INFO
DATE: 11.16.23
DESIGNED: ZAT/JDM/DKM
DRAWN: ZAT
CHECKED: DKM
PROJECT: PCA-6360-22

PRELIMINARY (NOT FOR CONSTRUCTION)
REGISTERED PROFESSIONAL ENGINEER
JOSEPH D. MORGAN
CIVIL
STATE OF CALIFORNIA

ZINCO SUBDIVISION
S - 2022 - 02416
REDDING, CALIFORNIA

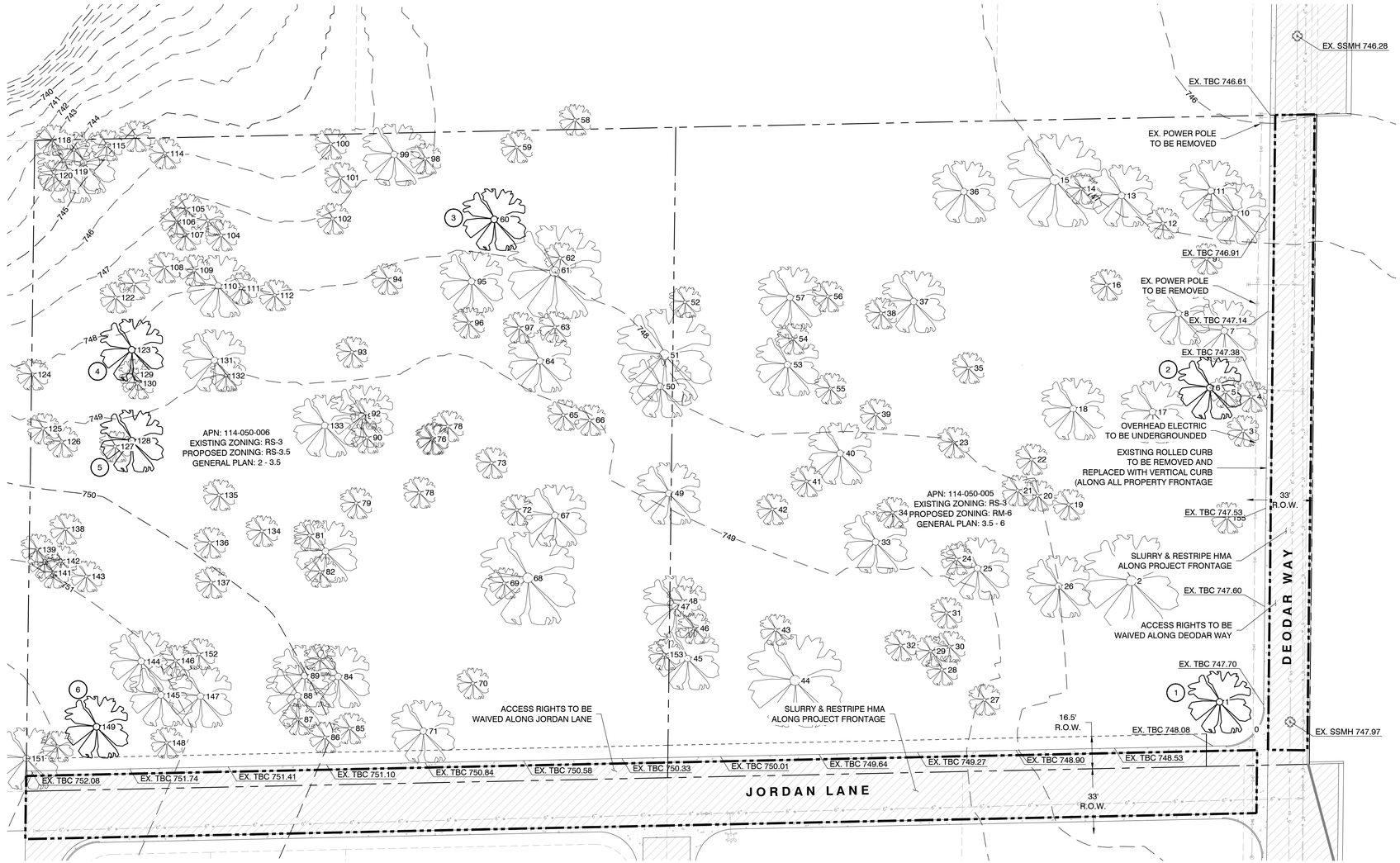
PRELIMINARY GRADING, DRAINAGE & UTILITIES
TENTATIVE SUBDIVISION MAP

NORTH
0 30' 60'
SCALE: 1" = 30'

2
2 of 3

TREE CONSERVATION TABLE		
POINT NO.	TREE DESCRIPTION	PROTECT/REMOVE
1	13" DBH BLUE OAK	PROTECT
2	47" DBH BLUE OAK	REMOVE
3	7.5,9" DBH BLUE OAK	REMOVE
4	10" DBH BLUE OAK	REMOVE
5	8" DBH BLUE OAK	REMOVE
6	14" DBH BLUE OAK	PROTECT
7	13" DBH BLUE OAK	REMOVE
8	16" DBH BLUE OAK	REMOVE
9	9" DBH BLUE OAK	REMOVE
10	12" DBH BLUE OAK	REMOVE
11	16" DBH BLUE OAK	REMOVE
12	10,10" DBH BLUE OAK	REMOVE
13	12" DBH BLUE OAK	REMOVE
14	8" DBH BLUE OAK	REMOVE
15	25" DBH BLUE OAK	REMOVE
16	10" DBH BLUE OAK	REMOVE
17	16" DBH BLUE OAK	REMOVE
18	17" DBH BLUE OAK	REMOVE
19	9" DBH BLUE OAK	REMOVE
20	8,8" DBH BLUE OAK	REMOVE
21	7" DBH BLUE OAK	REMOVE
22	10" DBH BLUE OAK	REMOVE
23	7" DBH BLUE OAK	REMOVE
24	10" DBH BLUE OAK	REMOVE
25	12" DBH BLUE OAK	REMOVE
26	13" DBH BLUE OAK	REMOVE
27	6,8" DBH BLUE OAK	REMOVE
28	9" DBH BLUE OAK	REMOVE
29	10" DBH BLUE OAK	REMOVE
30	10" DBH BLUE OAK	REMOVE
31	8" DBH BLUE OAK	REMOVE
32	10" DBH BLUE OAK	REMOVE
33	13" DBH BLUE OAK	REMOVE
34	10" DBH BLUE OAK	REMOVE
35	8" DBH BLUE OAK	REMOVE
36	15" DBH BLUE OAK	REMOVE
37	17" DBH BLUE OAK	REMOVE
38	5" DBH BLUE OAK	REMOVE
39	10" DBH BLUE OAK	REMOVE
40	13" DBH BLUE OAK	REMOVE
41	8" DBH BLUE OAK	REMOVE
42	11" DBH BLUE OAK	REMOVE
43	10" DBH BLUE OAK	REMOVE
44	26" DBH BLUE OAK	REMOVE
45	14" DBH BLUE OAK	REMOVE
46	9" DBH BLUE OAK	REMOVE
47	13" DBH BLUE OAK	REMOVE
48	8" DBH BLUE OAK	REMOVE
49	14" DBH BLUE OAK	REMOVE
50	14" DBH BLUE OAK	REMOVE
51	20" DBH BLUE OAK	REMOVE
52	7" DBH BLUE OAK	REMOVE
53	29" DBH BLUE OAK	REMOVE
54	6" DBH BLUE OAK	REMOVE
55	10" DBH BLUE OAK	REMOVE
56	9" DBH BLUE OAK	REMOVE
57	13" DBH BLUE OAK	REMOVE
58	11" DBH BLUE OAK	REMOVE
59	14" DBH BLUE OAK	REMOVE
60	25" DBH BLUE OAK	PROTECT
61	7" DBH BLUE OAK	REMOVE
62	10" DBH BLUE OAK	REMOVE
63	9" DBH BLUE OAK	REMOVE
64	10,17" DBH BLUE OAK	REMOVE
65	5,7" DBH BLUE OAK	REMOVE
66	9" DBH BLUE OAK	REMOVE
67	14" DBH BLUE OAK	REMOVE
68	20" DBH BLUE OAK	REMOVE
69	9" DBH BLUE OAK	REMOVE
70	11,13" DBH BLUE OAK	REMOVE
71	14" DBH BLUE OAK	REMOVE
72	7" DBH BLUE OAK	REMOVE
73	6,8" DBH BLUE OAK	REMOVE
74	13" DBH BLUE OAK	REMOVE
75	5" DBH BLUE OAK	REMOVE
76	5" DBH BLUE OAK	REMOVE
77	7" DBH BLUE OAK	REMOVE
78	10" DBH BLUE OAK	REMOVE

TREE CONSERVATION TABLE		
POINT NO.	TREE DESCRIPTION	PROTECT/REMOVE
79	5" DBH BLUE OAK	REMOVE
80	13" DBH BLUE OAK	REMOVE
81	10" DBH BLUE OAK	REMOVE
82	8" DBH BLUE OAK	REMOVE
83	5" DBH BLUE OAK	REMOVE
84	17" DBH BLUE OAK	REMOVE
85	9" DBH BLUE OAK	REMOVE
86	6" DBH BLUE OAK	REMOVE
87	7" DBH BLUE OAK	REMOVE
88	17" DBH BLUE OAK	REMOVE
89	15" DBH BLUE OAK	REMOVE
90	7" DBH BLUE OAK	REMOVE
91	12" DBH BLUE OAK	REMOVE
92	5" DBH BLUE OAK	REMOVE
93	7" DBH BLUE OAK	REMOVE
94	10" DBH BLUE OAK	REMOVE
95	18" DBH BLUE OAK	REMOVE
96	8" DBH BLUE OAK	REMOVE
97	8" DBH BLUE OAK	REMOVE
98	7" DBH BLUE OAK	REMOVE
99	9,13" DBH BLUE OAK	REMOVE
100	7" DBH BLUE OAK	REMOVE
101	9" DBH BLUE OAK	REMOVE
102	9" DBH BLUE OAK	REMOVE
103	11" DBH BLUE OAK	REMOVE
104	7" DBH BLUE OAK	REMOVE
105	10" DBH BLUE OAK	REMOVE
106	8" DBH BLUE OAK	REMOVE
107	6" DBH BLUE OAK	REMOVE
108	7" DBH BLUE OAK	REMOVE
109	8" DBH BLUE OAK	REMOVE
110	19" DBH BLUE OAK	REMOVE
111	7" DBH BLUE OAK	REMOVE
112	8" DBH BLUE OAK	REMOVE
113	6" DBH BLUE OAK	REMOVE
114	5" DBH BLUE OAK	REMOVE
115	9" DBH BLUE OAK	REMOVE
116	12" DBH BLUE OAK	REMOVE
117	9" DBH BLUE OAK	REMOVE
118	9" DBH BLUE OAK	REMOVE
119	12" DBH BLUE OAK	REMOVE
120	8" DBH BLUE OAK	REMOVE
121	7" DBH BLUE OAK	REMOVE
122	9" DBH BLUE OAK	REMOVE
123	13" DBH BLUE OAK	PROTECT
124	10" DBH BLUE OAK	REMOVE
125	7" DBH BLUE OAK	REMOVE
126	6" DBH BLUE OAK	REMOVE
127	11" DBH BLUE OAK	REMOVE
128	17" DBH BLUE OAK	PROTECT
129	6" DBH BLUE OAK	REMOVE
130	9" DBH BLUE OAK	REMOVE
131	17" DBH BLUE OAK	REMOVE
132	5" DBH BLUE OAK	REMOVE
133	16" DBH BLUE OAK	REMOVE
134	9" DBH BLUE OAK	REMOVE
135	5,5,5" DBH BLUE OAK	REMOVE
136	8" DBH BLUE OAK	REMOVE
137	9" DBH BLUE OAK	REMOVE
138	7" DBH BLUE OAK	REMOVE
139	8" DBH BLUE OAK	REMOVE
140	9" DBH BLUE OAK	REMOVE
141	11" DBH BLUE OAK	REMOVE
142	8" DBH BLUE OAK	REMOVE
143	8" DBH BLUE OAK	REMOVE
144	12" DBH BLUE OAK	REMOVE
145	13" DBH BLUE OAK	REMOVE
146	10" DBH BLUE OAK	REMOVE
147	9,12" DBH BLUE OAK	REMOVE
148	9" DBH BLUE OAK	REMOVE
149	12" DBH BLUE OAK	PROTECT
150	9" DBH BLUE OAK	REMOVE
151	15" DBH BLUE OAK	REMOVE
152	6" DBH BLUE OAK	REMOVE
153	8" DBH BLUE OAK	REMOVE
154	5" DBH BLUE OAK	REMOVE
155	5" DBH BLUE OAK	REMOVE



TREES TO REMAIN

1	(1)	13" BLUE OAK
2	(6)	14" BLUE OAK
3	(60)	25" BLUE OAK
4	(123)	13" BLUE OAK
5	(128)	17" BLUE OAK
6	(149)	12" BLUE OAK

LEGEND

- HMA AREA TO BE SLURRY SEALED AND RESTRIPED
- EXISTING TREES TO BE PROTECTED
- EXISTING TREE TO BE REMOVED

TREE SURVEY

NOTE: TREES SHOWN ARE REPRESENTATIVE OF A FIELD STUDY OF THE SITE PERFORMED BY WILDLAND RESOURCE MANAGERS. FOR DETAILS SEE ZINCO PROPERTY BIOLOGICAL REVIEW (OCTOBER 2022)

NORTH

0 30' 60'

SCALE: 1" = 30'

Horrocks.
6172 Meister Way, Suite 1
Anderson, CA 96007
(530) 365-5610
www.horrocks.com

WARNING

IF THIS BAR DOES NOT MEASURE 2" THEN DRAWING IS NOT TO SCALE

REVISIONS

REV #	DATE
1	

*SEE GENERAL NOTES SHEET

DRAWING INFO

DATE	11.16.23
DESIGNED	ZAT/JDM/DKM
DRAWN	ZAT
CHECKED	DKM
PROJECT	PCA-6360-22

PRELIMINARY NOT FOR CONSTRUCTION

ZINCO SUBDIVISION

S - 2022 - 02416

REDDING, CALIFORNIA

EXISTING SITE AND TREE SURVEY

TENTATIVE SUBDIVISION MAP

3

Appendix B

NRCS Soil Report

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

Zinco Subdivision

October 7, 2024

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

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.

Map Scale: 1:1,200 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

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 20, Aug 28, 2024

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 (Zinco Subdivision)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NeE2	Newtown gravelly loam, 30 to 50 percent slopes, eroded	0.6	10.1%
RdA	Redding gravelly loam, 0 to 5 percent slopes, moist, MLRA 17	5.3	89.9%
Totals for Area of Interest		**5.9**	**100.0%**

Map Unit Descriptions (Zinco Subdivision)

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

NeE2—Newtown gravelly loam, 30 to 50 percent slopes, eroded

Map Unit Setting

National map unit symbol: hfr9
Elevation: 600 to 1,000 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 200 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Newtown

Setting

Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: gravelly loam
H2 - 8 to 18 inches: very gravelly clay loam
H3 - 18 to 35 inches: clay loam
H4 - 35 to 65 inches: silty clay loam
H5 - 65 to 72 inches: gravelly silty clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 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: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R017XD088CA - UPLAND TERRACE
Hydric soil rating: No

Minor Components

Perkins

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

Red bluff

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

RdA—Redding gravelly loam, 0 to 5 percent slopes, moist, MLRA 17

Map Unit Setting

National map unit symbol: 2w8bj
Elevation: 430 to 1,080 feet
Mean annual precipitation: 28 to 49 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 310 to 335 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Redding

Setting

Landform: Fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from igneous, metamorphic and sedimentary rock over clayey alluvium derived from igneous, metamorphic and sedimentary rock over cemented alluvium derived from igneous, metamorphic and sedimentary rock over tehama formation

Typical profile

A1 - 0 to 5 inches: gravelly loam
A2 - 5 to 6 inches: loam

Bt - 6 to 13 inches: clay
Btqm - 13 to 28 inches: cemented very gravelly material
2C - 28 to 60 inches: stratified sand to loam to clay

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches; 10 to 30 inches to duripan
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: About 5 to 13 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R017XD089CA - ACID TERRACE
Hydric soil rating: No

Minor Components

Igo

Percent of map unit: 5 percent
Landform: Fan remnants
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Clough

Percent of map unit: 5 percent
Landform: Fan remnants
Landform position (two-dimensional): Summit, toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Swales
Down-slope shape: Linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Red bluff

Percent of map unit: 4 percent
Landform: Fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Unnamed, ponded

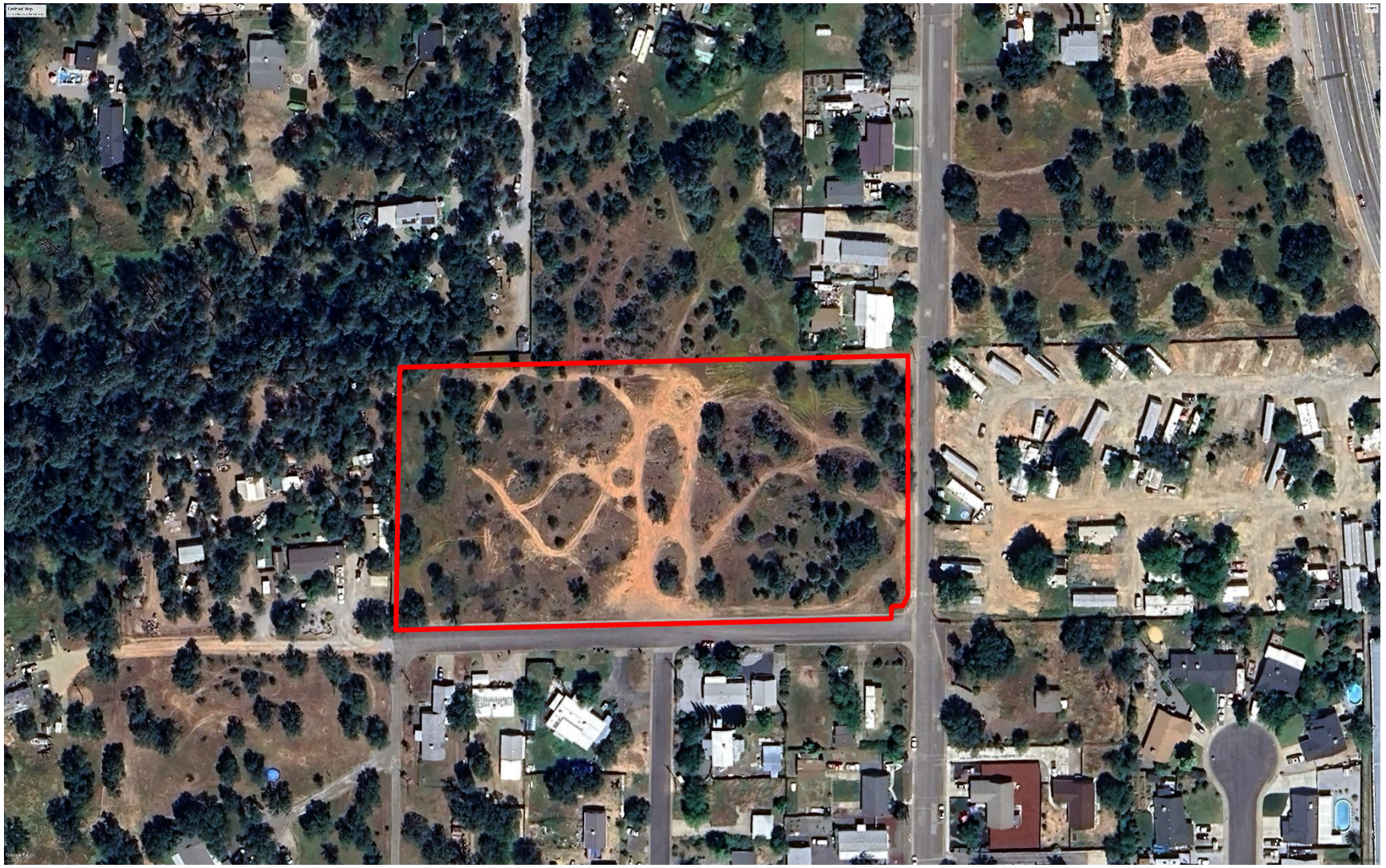
Percent of map unit: 1 percent
Landform: Fan remnants
Landform position (two-dimensional): Summit, toeslope

Landform position (three-dimensional): Tread
Microfeatures of landform position: Vernal pools
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Appendix C

Historical Aerial Images

August 10, 1998, Aerial Photograph from Google Earth



May 11, 2024, Aerial Photograph from Google Earth

Appendix D

U.S. Fish & Wildlife Service Species List

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: 10/02/2024 16:33:33 UTC
Project Code: 2025-0000902
Project Name: Zinco Property

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 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 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.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/program/migratory-bird-permit/what-we-do.

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/library/collections/threats-birds.

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/partner/council-conservation-migratory-birds.

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: 2025-0000902
Project Name: Zinco Property
Project Type: Commercial Development
Project Description: land development
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.62333615,-122.40786366643925,14z

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.

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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

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed 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
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

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Vestra Resources Inc
Name: Lucas Murtha
Address: 5300 Aviation Drive
City: Redding
State: CA
Zip: 96002
Email lmurtha@vestra.com
Phone: 5302232585

Appendix E

CNDDB Occurrences

Common Name	Scientified Name	Federal Status	State Status	Rare Plant Ranking	CDFW Status	Other Status
Bald eagle	*Haliaeetus leucocephalus*	Delisted	Endangered		FP	BLM_S; CDF_S; IUCN_LC; USFS_S
Chinook salmon - Central Valley spring-run ESU	*Oncorhynchus tshawytscha* pop. 11	Threatened	Threatened			AFS_TH
Chinook salmon - Sacramento River winter-run ESU	*Oncorhynchus tshawytscha* pop. 7	Endangered	Endangered			AFS_EN
Dubious pea	*Lathyrus sulphureus* var. *argillaceus*	None	None	3		
Foothill yellow-legged frog - north coast DPS	*Rana boylii* pop. 1	None	None		SSC	BLM_S; USFS_S
Green sturgeon - southern DPS	*Acipenser medirostris* pop. 1	Threatened	None		SSC	AFS_VU; IUCN_EN
Henderson's bent grass	*Agrostis hendersonii*	None	None	3.2		
Maverick clover	*Trifolium piorkowskii*	None	None	1B.2		
Northwestern pond turtle	*Actinemys marmorata*	Proposed Threatened	None		SSC	BLM_S; IUCN_VU; USFS_S
Red Bluff dwarf rush	*Juncus leiospermus* var. *leiospermus*	None	None	1B.1		BLM_S; USFS_S
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus* pop. 11	Threatened	None		SSC	AFS_TH
Sulphur Creek brodiaea	*Brodiaea matsonii*	None	None	1B.1		BLM_S; SB_BerrySB
Townsend's big-eared bat	*Corynorhinus townsendii*	None	None		SSC	BLM_S; IUCN_LC; USFS_S
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Threatened	None			

*This list includes species identified within 5 miles of the subject property.

VESTRA

SOURCE: CDFW CNDDB OCTOBER 2024

CNDDB OCCURRENCES
ZINCO PROPERTY SUBDIVISION
REDDING, CALIFORNIA

Attachment D

City of Redding Preliminary Drainage Report for Zinco Subdivision
Horrocks, June 2023

CITY OF REDDING
PRELIMINARY DRAINAGE REPORT

ZINCO SUBDIVISION
APN: 114-050-005 & 114-050-006
3150 & 3250 JORDAN LANE
REDDING, CA
JUNE, 2023

HORROCKS
6172 MEISTER WAY, SUITE #1
P.O. BOX 1307
ANDERSON, CA 96007
(560) 365-5610

Table of Contents

Preliminary Project and Analysis Overview

The project site, comprised of 3150 and 3250 Jordan Lane (APNs: 114-050-005 & 114-050-006), is located in Northeast Redding at the intersection of Jordan Lane and Deodar Way. The developer proposes to construct a 16 lot subdivision with 8 lots in RS3.5 and 8 lots in RM-6.

The site encompasses approximately 4.45 acres, with the westerly 3.42 acres generally sloping northwest to the adjacent parcel and the easterly 1.03 acres draining to the northeast to Deodar Lane. The soil is described primarily as Redding gravelly loam with a small portion of the site being Newtown gravelly loam, with grades between 0 and 1 percent.

From the City of Redding City-Wide Master Storm Drain Study, the site discharges in both the Sulphur Creek Basin and the Boulder Creek Basin. For this project, the analysis will look to restrict storm water discharge to pre-development levels in both the Boulder Creek Basin and Sulphur Creek basins. To reflect the pre-development discharges to both basins, the acreages of land discharging to each basin before development will remain the same acreages in the post-developed site, see Exhibits 1 and 2.

For the drainage basin going to Sulphur Creek, on-site storm water will be directed, via surface flow and storm drain infrastructure, to a vegetated infiltration basin located in the northwest of the development. Outflow from the basin will be restricted to pre-project levels and directed to an outlet control structure located at the northwest end of the project which will allow stormwater to flow westerly, in line with the pre-development drainage pattern. For the drainage basin going to Boulder Creek, on-site storm water will be directed, via surface flow and storm drain infrastructure, to a vegetated infiltration basin located in the northeast of the development. Outflow from the basin will be restricted to pre-project levels and directed to Deodar by way of an under sidewalk drain in line with the pre-development drainage pattern.

A preliminary hydrologic analysis was performed for the proposed project. The aim of this study is to approximate the required detention storage for the project. Final configurations of detention features, their outlet structures, and the overland release will be detailed in the stormwater management report that will be submitted with the improvement plans upon approval of the project.

Preliminary Hydrologic Analysis

Methods:

In order to approximate the required detention storage, a hydrology model was developed using Hydraflow Hydrographs Extension for Autodesk Civil 3D. The model implements the SCS method to determine the peak flow rate produced by the 100-year design storm considering a number of variables: soil type, ground cover type, flow type, and the design storm type and duration for a specified location (i.e. Type 1A, 100yr-24hr). The following values were used as input into the hydrologic model:

- Rainfall hydrographs based on a Type 1A design storm curve.
- NOAA Atlas 14 precipitation data, Station IDs: 04-7304
    - 100-year, 24-hour storm – 8.81 inches
- NRCS Soil Survey Database classifications.
- Time of concentration was approximated using the TR-55 method.

Description of Soil Types:

Per the Natural Conservation Service (NRCS) soil survey, the site is primarily comprised of Redding gravelly loam, type D soil which has a poor hydraulic conductivity. The remainder of the site is comprised of Newtown gravelly loam, type C soil which has a moderate conductivity.

Design Assumptions:

For this preliminary analysis, the pre-development site was taken as two drainage basins DB1A and DB1B, see Exhibit 1. The proposed development also utilizes two basins, DB2A and DB2B, see Exhibit 2.

The detention ponds (D1 and D2) were preliminarily sized to detain the 100-year flows from the post-development sub-basin such that the estimated post-development peak outflow rates from the detention ponds do not exceed the calculated pre-development peak flow rates from DB1A and DB1B for the 100-year, 24-hour design storm event.

The proposed detention feature is a vegetated infiltration basin, which serves to both store and treat the stormwater runoff associated with the project.

Model Input:

Table 1 below summarizes the inputs used in the hydrology model. Time of concentration was calculated using the TR-55 method accounting for sheet flow, shallow concentrated flow, and channel flow as applicable across the basin. A composite curve number was calculated for the drainage basin, as required, based on the hydrologic soils group taken from the NRCS soil survey in addition to existing and proposed site conditions.

Table 1: Hydrologic Parameters (Preliminary)			
Pre-Development:			
Basin	Area (Acres)	CN	Time of Concentration (Min.)
DB1A	3.42	79	36.40
DB1B	1.03	79	27.90
Post-Development:			
Basin	Area (Acres)	CN	Time of Concentration (Min.)
DB2A	3.42	87	11.40
DB2B	1.03	83	9.90

Model Results:

The following table summarize the results from the preliminary hydrology model. Detention for the project will be achieved using a vegetated infiltration basin shown in exhibit 2. The feature has been preliminarily sized to detain the 100-year storm event. See appendix C for the preliminary Hydrograph report. This contains the watershed model schematic, hydrographs for the 100 year storm frequency.

Table 2: Peak Runoff Estimates (Preliminary)			
Pre-Development:			
Basin	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
DB1A	N/A	N/A	4.67
DB1B	N/A	N/A	1.51
TOTAL	N/A	N/A	6.18
Post-Development:			
Basin	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
DB2A	N/A	N/A	6.64
DB2B	N/A	N/A	1.87
TOTAL	N/A	N/A	8.51
Post-Development w/ Detention*:			
D1	N/A	N/A	3.42
D2	N/A	N/A	1.28
TOTAL	N/A	N/A	4.70

APPENDIX A

PRELIMINARY HYDROGRAPH REPORT

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 06 / 26 / 2023

Hyd. No. 1

Pre-Development (DB1A)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.667 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.23 hrs
Time interval	= 2 min	Hyd. volume	= 76,909 cuft
Drainage area	= 3.420 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 36.40 min
Total precip.	= 8.81 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

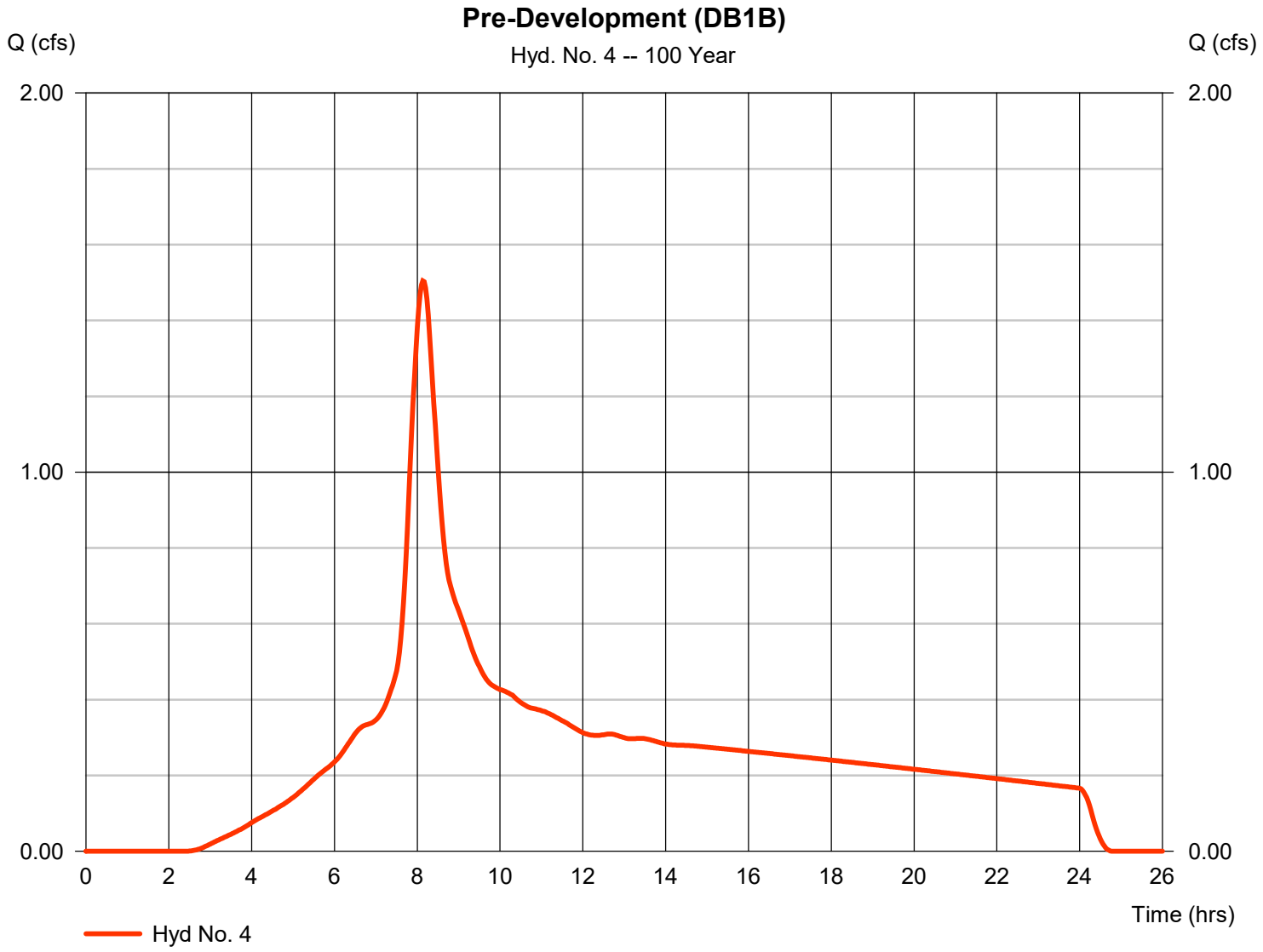
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 06 / 26 / 2023

Hyd. No. 4

Pre-Development (DB1B)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.505 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.13 hrs
Time interval	= 2 min	Hyd. volume	= 23,429 cuft
Drainage area	= 1.030 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.90 min
Total precip.	= 8.81 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



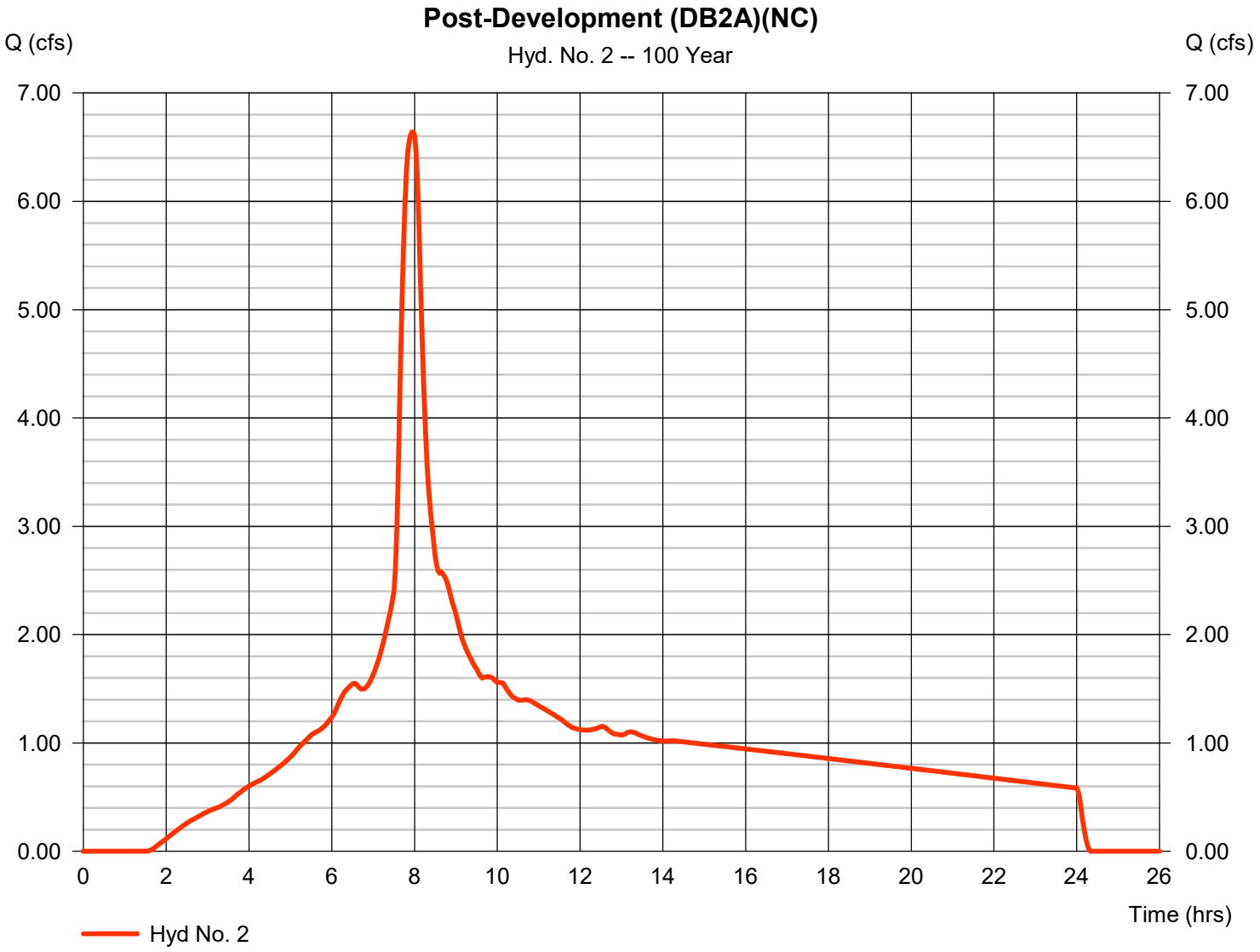
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 06 / 26 / 2023

Hyd. No. 2

Post-Development (DB2A)(NC)

Hydrograph type	= SCS Runoff	Peak discharge	= 6.640 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 92,691 cuft
Drainage area	= 3.420 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.40 min
Total precip.	= 8.81 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



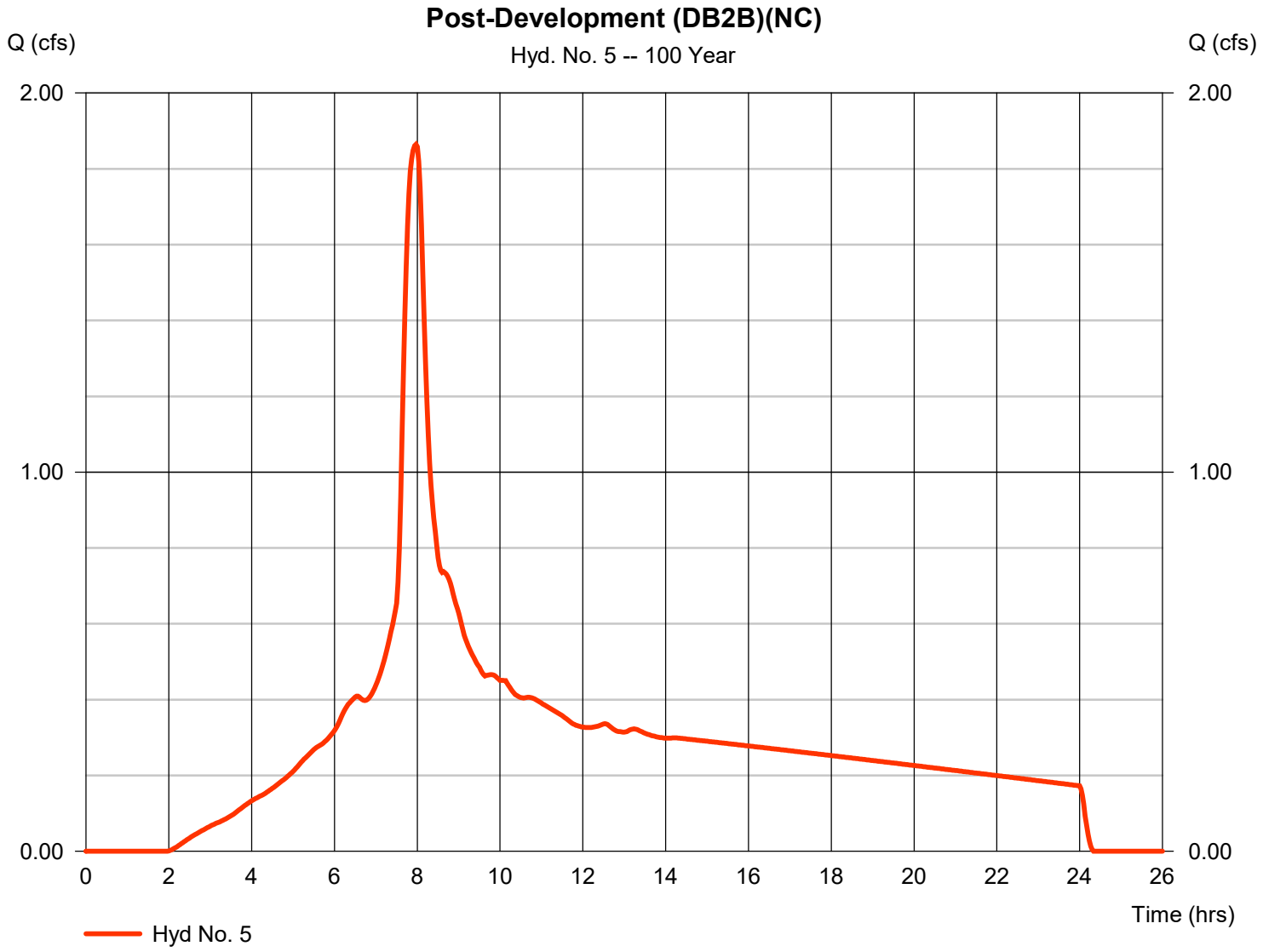
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 06 / 26 / 2023

Hyd. No. 5

Post-Development (DB2B)(NC)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.865 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.97 hrs
Time interval	= 2 min	Hyd. volume	= 26,040 cuft
Drainage area	= 1.030 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.90 min
Total precip.	= 8.81 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

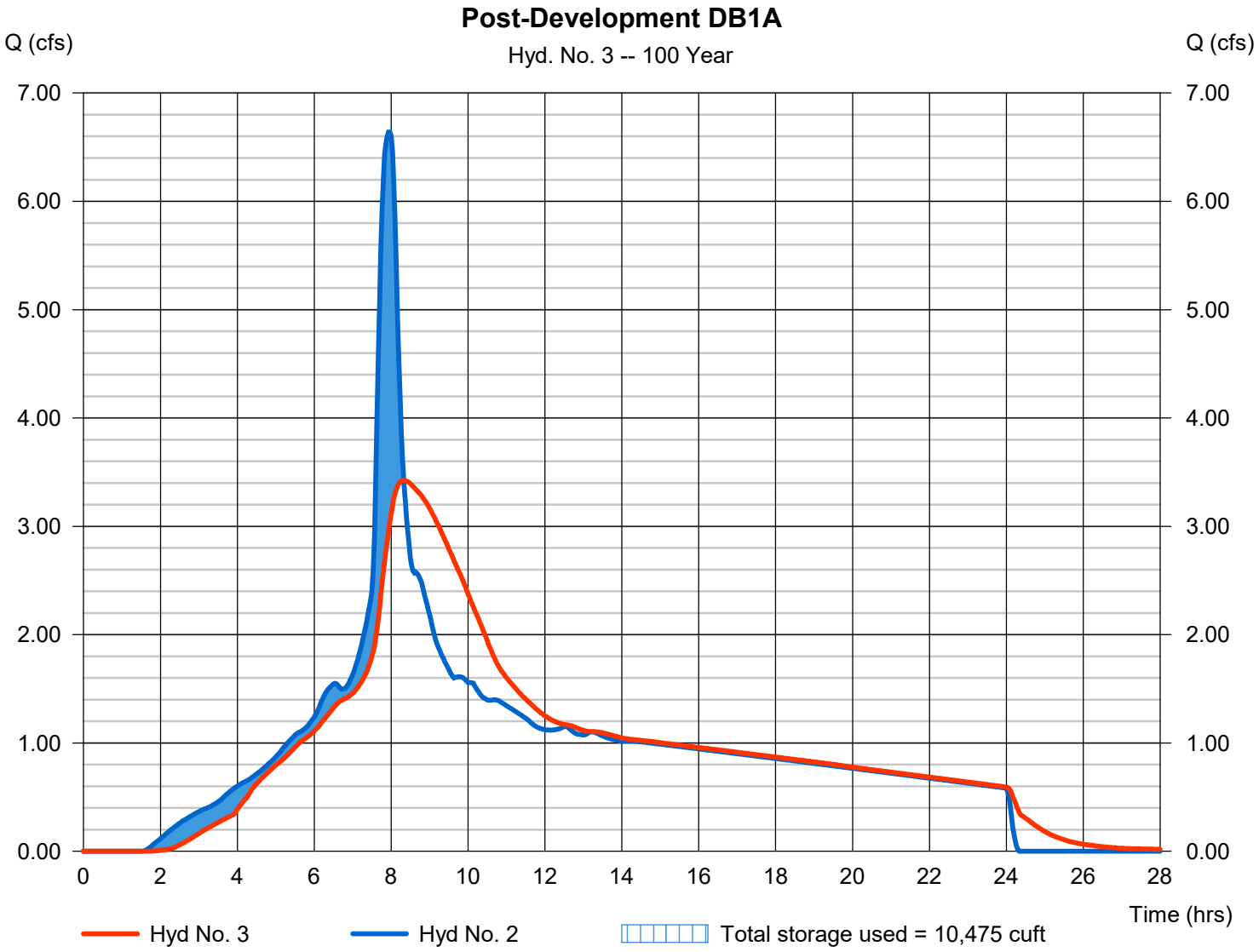
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 06 / 26 / 2023

Hyd. No. 3

Post-Development DB1A

Hydrograph type	= Reservoir	Peak discharge	= 3.424 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.33 hrs
Time interval	= 2 min	Hyd. volume	= 92,682 cuft
Inflow hyd. No.	= 2 - Post-Development (DB2A)(MC)	Max. Elevation	= 746.71 ft
Reservoir name	= D1	Max. Storage	= 10,475 cuft

Storage Indication method used.



Hydrograph Report

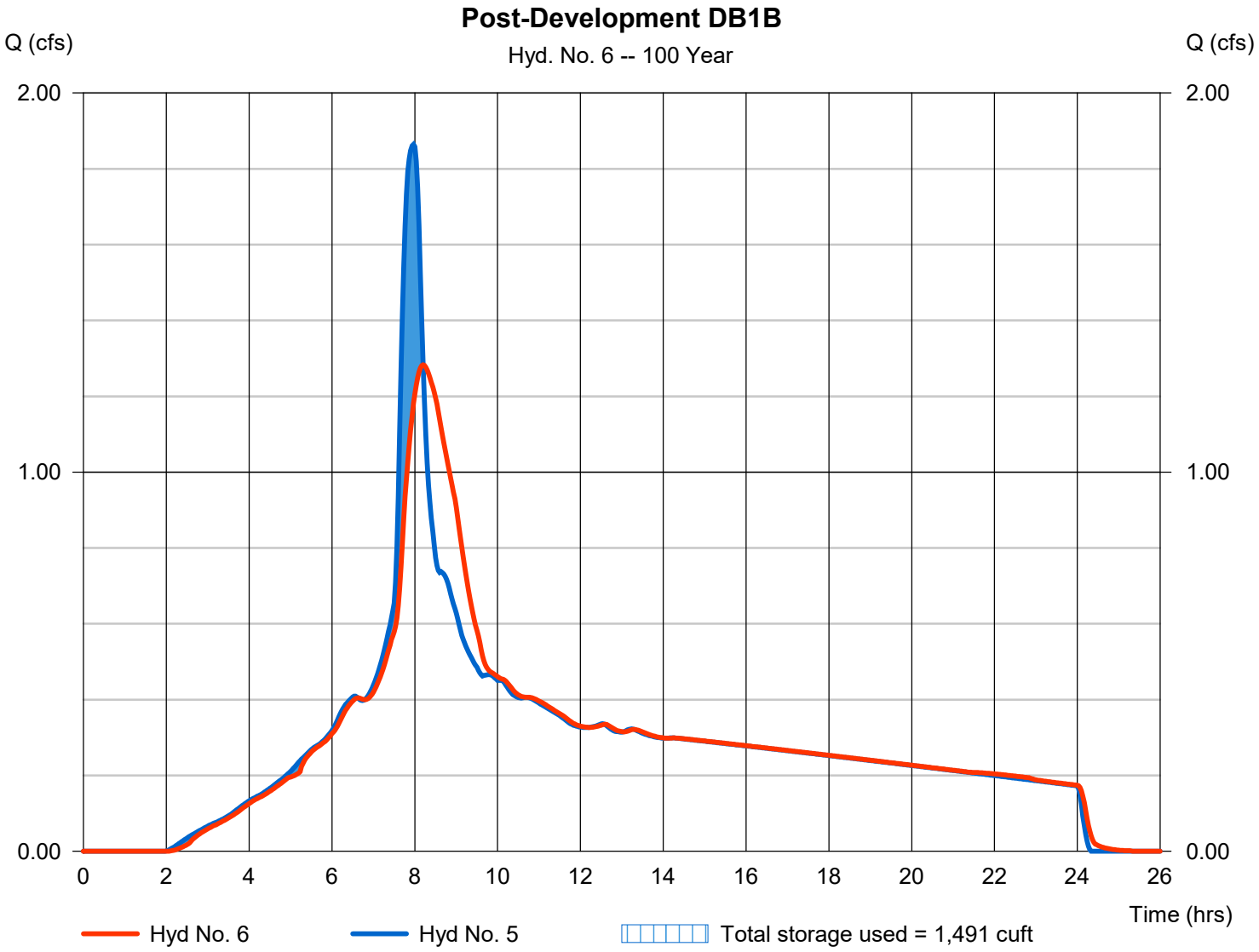
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 06 / 26 / 2023

Hyd. No. 6

Post-Development DB1B

Hydrograph type	=	Reservoir	Peak discharge	=	1.283 cfs
Storm frequency	=	100 yrs	Time to peak	=	8.20 hrs
Time interval	=	2 min	Hyd. volume	=	26,039 cuft
Inflow hyd. No.	=	5 - Post-Development (DB2B)(MC)	Max. Elevation	=	749.98 ft
Reservoir name	=	D1	Max. Storage	=	1,491 cuft

Storage Indication method used.



APPENDIX B

NRCS SOILS REPORT

APPENDIX C

NOAA RAINFALL DATA

NOAA Atlas 14, Volume 6, Version 2
Location name: Redding, California, USA*
Latitude: 40.6229°, Longitude: -122.4085°
Elevation: 746.88 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.207 (0.178-0.242)	0.252 (0.217-0.296)	0.311 (0.267-0.366)	0.359 (0.306-0.427)	0.425 (0.347-0.525)	0.475 (0.379-0.602)	0.527 (0.408-0.686)	0.580 (0.435-0.781)	0.653 (0.467-0.923)	0.711 (0.488-1.05)
10-min	0.297 (0.256-0.347)	0.361 (0.311-0.424)	0.446 (0.383-0.525)	0.515 (0.438-0.612)	0.609 (0.498-0.752)	0.681 (0.543-0.863)	0.755 (0.585-0.984)	0.832 (0.624-1.12)	0.936 (0.669-1.32)	1.02 (0.700-1.50)
15-min	0.359 (0.309-0.420)	0.437 (0.377-0.512)	0.539 (0.463-0.635)	0.623 (0.530-0.740)	0.736 (0.602-0.910)	0.824 (0.657-1.04)	0.913 (0.708-1.19)	1.01 (0.754-1.35)	1.13 (0.809-1.60)	1.23 (0.846-1.81)
30-min	0.480 (0.414-0.562)	0.585 (0.504-0.686)	0.723 (0.621-0.850)	0.834 (0.710-0.991)	0.986 (0.806-1.22)	1.10 (0.880-1.40)	1.22 (0.948-1.59)	1.35 (1.01-1.81)	1.52 (1.08-2.14)	1.65 (1.13-2.43)
60-min	0.680 (0.587-0.796)	0.829 (0.714-0.972)	1.02 (0.879-1.20)	1.18 (1.00-1.40)	1.40 (1.14-1.73)	1.56 (1.25-1.98)	1.73 (1.34-2.26)	1.91 (1.43-2.57)	2.15 (1.54-3.04)	2.34 (1.61-3.44)
2-hr	0.982 (0.847-1.15)	1.18 (1.01-1.38)	1.44 (1.23-1.69)	1.65 (1.40-1.96)	1.94 (1.58-2.39)	2.16 (1.72-2.74)	2.39 (1.85-3.12)	2.63 (1.97-3.54)	2.96 (2.12-4.18)	3.22 (2.21-4.74)
3-hr	1.21 (1.04-1.41)	1.44 (1.24-1.69)	1.75 (1.51-2.06)	2.01 (1.71-2.38)	2.35 (1.92-2.91)	2.62 (2.09-3.32)	2.89 (2.24-3.77)	3.18 (2.38-4.28)	3.57 (2.55-5.04)	3.88 (2.66-5.70)
6-hr	1.73 (1.49-2.03)	2.07 (1.78-2.42)	2.51 (2.15-2.95)	2.87 (2.44-3.41)	3.35 (2.74-4.14)	3.72 (2.97-4.72)	4.10 (3.18-5.35)	4.49 (3.37-6.05)	5.02 (3.59-7.10)	5.43 (3.73-7.99)
12-hr	2.40 (2.07-2.81)	2.95 (2.54-3.46)	3.64 (3.13-4.28)	4.19 (3.56-4.97)	4.91 (4.01-6.07)	5.45 (4.35-6.90)	5.99 (4.64-7.80)	6.52 (4.89-8.79)	7.24 (5.17-10.2)	7.78 (5.34-11.4)
24-hr	3.32 (2.93-3.84)	4.20 (3.70-4.86)	5.29 (4.65-6.14)	6.14 (5.35-7.18)	7.23 (6.12-8.72)	8.03 (6.67-9.86)	8.81 (7.16-11.1)	9.58 (7.59-12.3)	10.6 (8.07-14.1)	11.3 (8.36-15.6)
2-day	4.43 (3.91-5.13)	5.61 (4.94-6.49)	7.07 (6.21-8.21)	8.21 (7.16-9.60)	9.69 (8.20-11.7)	10.8 (8.95-13.2)	11.8 (9.62-14.9)	12.9 (10.2-16.6)	14.3 (10.9-19.1)	15.3 (11.3-21.1)
3-day	5.21 (4.59-6.03)	6.57 (5.78-7.61)	8.27 (7.26-9.60)	9.60 (8.37-11.2)	11.3 (9.59-13.7)	12.6 (10.5-15.5)	13.9 (11.3-17.4)	15.1 (12.0-19.5)	16.8 (12.8-22.4)	18.0 (13.3-24.8)
4-day	5.85 (5.16-6.77)	7.36 (6.48-8.53)	9.25 (8.13-10.7)	10.7 (9.37-12.6)	12.7 (10.7-15.3)	14.1 (11.7-17.3)	15.5 (12.6-19.5)	16.9 (13.4-21.8)	18.7 (14.3-25.0)	20.1 (14.9-27.7)
7-day	7.29 (6.43-8.43)	9.13 (8.04-10.6)	11.4 (10.0-13.3)	13.2 (11.5-15.5)	15.6 (13.2-18.8)	17.3 (14.4-21.2)	19.0 (15.4-23.8)	20.7 (16.4-26.6)	22.9 (17.4-30.6)	24.5 (18.1-33.8)
10-day	8.36 (7.37-9.68)	10.5 (9.21-12.1)	13.1 (11.5-15.2)	15.1 (13.2-17.6)	17.7 (15.0-21.4)	19.7 (16.3-24.1)	21.6 (17.5-27.1)	23.4 (18.6-30.2)	25.9 (19.7-34.6)	27.7 (20.5-38.2)
20-day	11.1 (9.82-12.9)	13.9 (12.3-16.1)	17.3 (15.2-20.1)	20.0 (17.4-23.4)	23.4 (19.8-28.2)	25.8 (21.5-31.7)	28.2 (22.9-35.4)	30.5 (24.2-39.3)	33.6 (25.6-44.9)	35.8 (26.5-49.4)
30-day	13.5 (11.9-15.7)	16.9 (14.9-19.5)	21.0 (18.4-24.3)	24.1 (21.0-28.2)	28.1 (23.8-33.8)	30.9 (25.7-38.0)	33.7 (27.4-42.3)	36.4 (28.8-46.8)	39.8 (30.4-53.2)	42.3 (31.3-58.4)
45-day	16.8 (14.8-19.5)	20.9 (18.4-24.2)	25.9 (22.7-30.0)	29.6 (25.8-34.6)	34.3 (29.1-41.4)	37.7 (31.3-46.3)	40.9 (33.2-51.3)	44.0 (34.9-56.7)	47.9 (36.6-64.1)	50.8 (37.5-70.0)
60-day	19.9 (17.5-23.0)	24.6 (21.6-28.5)	30.2 (26.6-35.1)	34.5 (30.1-40.4)	39.8 (33.7-48.0)	43.6 (36.2-53.5)	47.1 (38.3-59.2)	50.5 (40.1-65.1)	54.8 (41.8-73.3)	57.9 (42.8-79.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

NOAA Atlas 14, Volume 6, Version 2
Location name: Redding, California, USA*
Latitude: 40.6228°, Longitude: -122.4097°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**2.48** (2.14-2.90)	**3.02** (2.60-3.55)	**3.73** (3.20-4.39)	**4.31** (3.67-5.12)	**5.10** (4.16-6.30)	**5.70** (4.55-7.22)	**6.32** (4.90-8.23)	**6.96** (5.22-9.37)	**7.84** (5.60-11.1)	**8.53** (5.86-12.5)
10-min	**1.78** (1.54-2.08)	**2.17** (1.87-2.54)	**2.68** (2.30-3.15)	**3.09** (2.63-3.67)	**3.65** (2.99-4.51)	**4.09** (3.26-5.18)	**4.53** (3.51-5.90)	**4.99** (3.74-6.72)	**5.62** (4.01-7.94)	**6.11** (4.20-8.99)
15-min	**1.44** (1.24-1.68)	**1.75** (1.51-2.05)	**2.16** (1.85-2.54)	**2.49** (2.12-2.96)	**2.94** (2.41-3.64)	**3.30** (2.63-4.17)	**3.65** (2.83-4.76)	**4.02** (3.02-5.42)	**4.53** (3.24-6.40)	**4.93** (3.38-7.25)
30-min	**0.960** (0.828-1.12)	**1.17** (1.01-1.37)	**1.45** (1.24-1.70)	**1.67** (1.42-1.98)	**1.97** (1.61-2.44)	**2.21** (1.76-2.79)	**2.45** (1.90-3.19)	**2.69** (2.02-3.63)	**3.03** (2.17-4.29)	**3.30** (2.27-4.85)
60-min	**0.680** (0.587-0.796)	**0.829** (0.714-0.972)	**1.02** (0.879-1.20)	**1.18** (1.00-1.40)	**1.40** (1.14-1.73)	**1.56** (1.25-1.98)	**1.73** (1.34-2.26)	**1.91** (1.43-2.57)	**2.15** (1.54-3.04)	**2.34** (1.61-3.44)
2-hr	**0.491** (0.424-0.575)	**0.589** (0.508-0.691)	**0.718** (0.617-0.845)	**0.824** (0.701-0.979)	**0.968** (0.792-1.20)	**1.08** (0.862-1.37)	**1.20** (0.927-1.56)	**1.32** (0.987-1.77)	**1.48** (1.06-2.09)	**1.61** (1.11-2.37)
3-hr	**0.402** (0.347-0.471)	**0.481** (0.414-0.563)	**0.583** (0.501-0.686)	**0.668** (0.568-0.793)	**0.783** (0.640-0.967)	**0.872** (0.696-1.11)	**0.963** (0.747-1.25)	**1.06** (0.794-1.43)	**1.19** (0.849-1.68)	**1.29** (0.886-1.90)
6-hr	**0.289** (0.249-0.338)	**0.345** (0.298-0.405)	**0.419** (0.360-0.493)	**0.479** (0.407-0.569)	**0.560** (0.458-0.692)	**0.622** (0.496-0.788)	**0.685** (0.531-0.893)	**0.750** (0.562-1.01)	**0.838** (0.599-1.19)	**0.907** (0.623-1.33)
12-hr	**0.200** (0.172-0.234)	**0.245** (0.211-0.287)	**0.302** (0.259-0.355)	**0.348** (0.296-0.413)	**0.408** (0.333-0.504)	**0.452** (0.361-0.573)	**0.497** (0.385-0.647)	**0.541** (0.406-0.729)	**0.601** (0.429-0.849)	**0.645** (0.443-0.949)
24-hr	**0.138** (0.122-0.160)	**0.175** (0.154-0.203)	**0.220** (0.194-0.256)	**0.256** (0.223-0.299)	**0.301** (0.255-0.363)	**0.335** (0.278-0.411)	**0.367** (0.298-0.461)	**0.399** (0.316-0.514)	**0.441** (0.336-0.589)	**0.471** (0.349-0.650)
2-day	**0.092** (0.081-0.107)	**0.117** (0.103-0.135)	**0.147** (0.129-0.171)	**0.171** (0.149-0.200)	**0.202** (0.171-0.243)	**0.224** (0.186-0.276)	**0.247** (0.200-0.310)	**0.268** (0.213-0.346)	**0.297** (0.227-0.397)	**0.318** (0.235-0.439)
3-day	**0.072** (0.064-0.084)	**0.091** (0.080-0.106)	**0.115** (0.101-0.133)	**0.133** (0.116-0.156)	**0.157** (0.133-0.190)	**0.175** (0.146-0.215)	**0.193** (0.157-0.242)	**0.210** (0.166-0.270)	**0.233** (0.178-0.311)	**0.250** (0.185-0.345)
4-day	**0.061** (0.054-0.070)	**0.077** (0.068-0.089)	**0.096** (0.085-0.112)	**0.112** (0.098-0.131)	**0.132** (0.112-0.159)	**0.147** (0.122-0.180)	**0.162** (0.131-0.203)	**0.176** (0.140-0.227)	**0.195** (0.149-0.261)	**0.209** (0.155-0.289)
7-day	**0.043** (0.038-0.050)	**0.054** (0.048-0.063)	**0.068** (0.060-0.079)	**0.079** (0.069-0.092)	**0.093** (0.078-0.112)	**0.103** (0.086-0.126)	**0.113** (0.092-0.142)	**0.123** (0.097-0.158)	**0.136** (0.104-0.182)	**0.146** (0.108-0.201)
10-day	**0.035** (0.031-0.040)	**0.044** (0.038-0.050)	**0.054** (0.048-0.063)	**0.063** (0.055-0.074)	**0.074** (0.063-0.089)	**0.082** (0.068-0.101)	**0.090** (0.073-0.113)	**0.098** (0.077-0.126)	**0.108** (0.082-0.144)	**0.115** (0.085-0.159)
20-day	**0.023** (0.020-0.027)	**0.029** (0.026-0.034)	**0.036** (0.032-0.042)	**0.042** (0.036-0.049)	**0.049** (0.041-0.059)	**0.054** (0.045-0.066)	**0.059** (0.048-0.074)	**0.064** (0.050-0.082)	**0.070** (0.053-0.094)	**0.075** (0.055-0.103)
30-day	**0.019** (0.017-0.022)	**0.023** (0.021-0.027)	**0.029** (0.026-0.034)	**0.033** (0.029-0.039)	**0.039** (0.033-0.047)	**0.043** (0.036-0.053)	**0.047** (0.038-0.059)	**0.050** (0.040-0.065)	**0.055** (0.042-0.074)	**0.059** (0.043-0.081)
45-day	**0.016** (0.014-0.018)	**0.019** (0.017-0.022)	**0.024** (0.021-0.028)	**0.027** (0.024-0.032)	**0.032** (0.027-0.038)	**0.035** (0.029-0.043)	**0.038** (0.031-0.048)	**0.041** (0.032-0.052)	**0.044** (0.034-0.059)	**0.047** (0.035-0.065)
60-day	**0.014** (0.012-0.016)	**0.017** (0.015-0.020)	**0.021** (0.018-0.024)	**0.024** (0.021-0.028)	**0.028** (0.023-0.033)	**0.030** (0.025-0.037)	**0.033** (0.027-0.041)	**0.035** (0.028-0.045)	**0.038** (0.029-0.051)	**0.040** (0.030-0.055)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Attachment E

Wildland Resource Managers Oak Evaluation Form
Location Zinco/Redding, May 2, 2024

CONDITION RATING FOR LANDSCAPE TREES

Condition Rating	Tree Structure *Consider root condition/formation, trunk condition and branch assembly and arrangement*	Tree Health *Consider crown indicators including vigor, density, leaf size, quality and stem shoot extensions*	Formula Values	
Excellent	Root plate undisturbed and clear of any obstructions. Root flare has normal development. No visible trunk defects or cavities. Branch spacing/structure and attachments are free of any defects.	Perfect specimen with excellent form and vigor, well-balanced crown. Trunk is sound and solid. No apparent pest problems. Normal to exceeding shoot length on new growth. Leaf size and color normal. Exceptional life expectancy for the species.	1.0-.90	1,50-2,0
Good	Root plate appears normal; only minor damage may be found. Possible signs of root dysfunction around trunk flare. Minor trunk defects from previous injury, with good closure; less than 25% of bark section is missing. Good branch habit, minor dieback with some signs of previous pruning. Codominant stem formation may be present. Minor corrections required.	Imperfect canopy density in few parts of the tree, 10% or less, lacking natural symmetry. Less than half normal growth rate and minor deficiency in leaf development. Few pest issues or damage, controllable. Normal branch and stem development with healthy growth. Typical life expectancy for the species.	.90-.75	1,5 - 1,8
Fair	Root plate reveals previous damage or disturbance and dysfunctional roots may be visible around main stem. Evidence of trunk damage or cavities with decay or defects present. Less than 30% of bark sections missing on trunk. Codominant stems are present. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections.	Crown decline and dieback up to 30% of the canopy. Overall poor symmetry. Leaf color somewhat chlorotic with smaller leaves. Shoot extensions indicate some stunting and stressed growing conditions. Obvious signs of pest problems contributing to lesser condition. Some decay areas found in main stem and branches. Below average life expectancy.	.75-.50	1,0 - 1,5
Poor	Root plate disturbance and defects indicate major damage with girdling roots around the trunk flare. Trunk reveals more than 50% of bark section missing. Branch structure has poor attachments, with several structurally important dead or broken. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective actions required.	Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting obvious with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe. Extensive decay or hollow. Life expectancy is low.	.50-.30	0,6 - 1,0
Very Poor	Severe damage within the root plate and root collar exhibits major defect which could lead to death or failure. A majority of the bark or trunk is affected with decay or missing. Branching is extremely poor or severely topped with severe dieback in canopy. Little or no opportunity for mitigation of any tree parts.	More than 70% of the canopy is in severe decline or dead. Canopy density is extremely low with chlorotic and necrotic tissue dominating the canopy. Severe decay in the trunk and major branches. Root plate damage with a majority of roots damaged, diseased or missing.	30 - .10	,2 - ,6

Wildland Resource Managers Oak Evaluation Form Date: 5/2/24

Location Zinco / Redding Surveyor S. Kerns Page 1

Tree number	Tree Structure	Tree Health	Condition Rating		
1	1.0	.95	1.95	E	✓
2	1.0	.90	1.90	E	✓
26	Cut				
5	.85	.75	1.60	G	✓
6	.90	.75	1.65	G	✓
17	.80	.80	1.6	G	✓
7	.75	.70	1.45	F	✓
8	.80	.80	1.60	G	✓
16	.75	.70	1.45	F	✓
18	.85	.80	1.65	G	✓
10	.87	.80	1.67	G	✓
11	.83	.80	1.63	G	✓
13	.75	.75	1.50	F	✓
14	.75	.60	1.35	F	✓
15	.90	.80	1.70	E	✓
36	.9	.9	1.80	G	✓
37	.75	.85	1.60	G	✓
56	.8	.8	1.60	G	✓
57	.8	.8	1.6	G	✓
53	.8	.75	1.55	G	✓
55	.8	.8	1.6	G	✓
39	.6	.7	1.3	F	✓
40	.45	.75	1.20	F wedge	✓ cut in bowl
41	Cut		Cut		
33	.65	.75	1.40	F	✓
24	.8	.9	1.7	G	✓
25	.75	.8	1.55	G	✓
44	.75	.7	1.45	F	✓
43	.65	.79	1.44	F	✓

Zinco 5/2/24 S. Kerns Pg 2

Tree Number	Tree Structure	Tree Health	Condition Rating		
45	.4	.4	0.80	P	✓
27	.55	.75	1.55	F	✓
28	.75	.5	1.25	F	✓
29	.75	.55	1.30	F	✓
30	.6	.45	1.05	P	✓
31	Cut				
32	.75	.75	1.50	F	✓
49	.8	.8	1.6	G	✓
70	.5	.5	1.0	P	✓
59	.4	.45	.85	P	✓
60	.6	.6	1.20	F	✓
98	.9	.85	1.75	G	✓
99	.85	.9	1.75	G	✓
100	.85	.9	1.75	G	✓
102	.8	.75	1.55	F	✓
114	.8	.8	1.6	G	✓
103	.8	.7	1.5	F	✓
104	.8	.8	1.6	G	✓
105	.8	.75	1.55	G	✓
106	.75	.75	1.50	F	✓
107	.75	.75	1.5	F	✓
115	.65	.75	1.41	F	✓
116	.68	.78	1.46	F	✓
117	.68	.78	1.46	F	✓
118	.65	.79	1.44	F	✓
119	.66	.75	1.41	F	✓
120	.67	.76	1.43	F	✓
122	.8	.8	1.6	G	✓
113	.8	.9	1.7	G	✓
108	.6	.7	1.3	F	✓
109	.7	.7	1.4	F	✓
110	.75	.78	1.53	G	✓
112	.45	.4	.85	P	✓
111	.8	.78	1.58	G	✓

Top by fine

Zinco 5/2/24 S.K.

Tree Number	Tree Structure	Tree Health	Condition Rating	
93	.75	.74	1,49	F
123	.75	.8	1.55	G
129	.75	.75	1.5	F
130	.78	.78	1.56	G
128	.80	.85	1.65	G
127	.75	.8	1.55	G
124	.89	.85	1.74	G
125	.75	.75	1.50	F
126	Dead		Dead	
138	.4	.4	.80	P
139	.5	.45	.95	P
140	.75	.75	1.5	F
141	.75	.75	1.5	F
142	.6	.7	1.3	F
143	.75	.75	1.5	F
151	.8	.75	1.55	G
150	.7	.65	1.35	F
149	.8	.75	1.55	G
148	.45	.4	.85	P
Totals				
Excellent	2			
Good	34			
Fair	34			
Poor	8			
Very poor				
Dead	1			

Attachment F

Zinco Property Wetlands Delineation
Wildland Resource Managers, December 2024

Zinco Property Wetlands Delineation

Prepared for

Horrock Engineering
Andrson, California

DRAFT

Prepared by

WILDLAND RESOURCE MANAGERS
P.O. Box 102 • Round Mountain, CA 96084

December 2024

Contents

Introduction:

This wetlands delineation has been prepared at the request of Horrocks Engineering of Anderson, California for the Zinco Holdings LLC property located in the Buckeye District of Redding, California. The property is located at the northwest corner of Deodar Way and Jordan Lane in the southwest ¼ of the southwest ¼ of Section 14, Township 32 north, Range 5 west MDBM. See Figure 1. The property consists of two parcels, assessor's numbers 114050005, which is 2.16 acres and 114050006 which is 2.5 acres for a total of 4.66 acres. The property's address is 3150 Jordon Lane, Redding, California.

Figure 1. Property Project Location

In October of 2022 WRM prepared a biological review (BR) for the subject property. 2022 was the third year of drought in California and at that time there was no evidence of wetlands except for some minor tire rutting that held water after the fall rains. The BR acknowledged that due to the time the BR was requested to be done, plant surveys would be inconclusive due to surveys being conducted outside the bloom period (WRM 2022). 2023 and 2024 were both wet years with abundant rainfall across northern California. Consequently, public comment received by the City of Redding suggested the presence of wetland features on the property. In turn, in December of 2024 Horrock's Engineering requested an examination of the area to see if wetland features are present. The report details the methods and results of that examination.

Methods:

In May 2024 the site was visited by WRM staff on the 15th, 17th, 20th, and 21st. During these visits, WRM utilized the Army Corp of Engineers (ACOE) Wetland Determination Data Form for the Arid West Region to note field conditions for hydrophytic vegetation, hydric soil, and wetland hydrology. The ACOE "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region" was utilized in determining the vegetation, soil and hydrological character of each site. The ACOE "State of California 2021 Wetland Plant List" was used to determine the wetland status of plants identified at the site. The California Water Boards State Wetland Definition was consulted to understand what constituted waters of the state.

Results:

Soils

There are two soil types found on the Zinco project area. As shown on Table 1 taken from the NRCS web soil survey these are the Newtown gravelly loam and the Redding gravelly loam.

Table 1

Shasta County Area, California (CA607)

Shasta County Area, California (CA607)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NeE2	Newtown gravelly loam, 30 to 50 percent slopes, eroded	0.5	11.1%
RdA	Redding gravelly loam, 0 to 5 percent slopes, moist, MLRA 17	4.1	88.9%
Totals for Area of Interest		**4.6**	**100.0%**

Soil type description: (from: USDA Soil Conservation Service, Soil Survey of Shasta County, California)

Newton gravelly loam: This soil is found in the northwest corner of the project area. See Figure 2. The Newton series consists of well-drained soils that formed in old alluvium from mixed sources. They are on high terraces with a representative profile of the surface layer being brown slightly acid very gravelly loam and mixed very pale brown and brown slightly acid very gravelly clay loam about 18 inches thick. The subsoil is brown, strongly acid clay and pale-brown slightly acid silty clay loam. The soil has slow permeability with medium runoff and the hazard of erosion is moderate. Available water capacity is 9 to 11 inches. The soil is typically 60 inches deep (USDA 1974).

Redding gravelly loam: This soil type makes up the majority of the soil on the project site. The Redding series consists of well-drained soils that contain an indurated hardpan. They are underlain by old mixed alluvium. The soils are nearly level to undulating on hummocky high terraces with slopes between 0 and 8 percent. In a representative profile the surface layer is strong brown, strongly acid gravelly loam about 5 inches thick. The subsoil is mixed reddish-brown and red strongly acid clay that extends to a depth of about 13 inches. Below this layer is an indurated very gravelly hardpan about 15 inches thick. Stratified mixed alluvial material is below the hardpan. Runoff is very slow and the hazard of erosion is none to slight. Available water capacity is 2 to 5.5 inches. Some available water is held above the hardpan during the early part of the growing season. The hardpan is at a depth of 10 to 30 inches (USDA 1974).

Figure 2. Soil Map of the Zinco project area

As noted in the Shasta County soil survey, there is a hardpan at a depth of 10 to 30 inches within the surveyed area. On the Zinco site, WRM found the hard pan to be at around 10 to 11 inches deep. This hard pan is causing water to perch and remain close to the surface in several areas on the property during the rainy season and into the spring.

Wetlands:

There are no ponds, streams, seeps, or spring type features on the property. WRM found four areas where the shallow soils and hard pan have contributed to the presence of vernal wetland features as described by the ACOE literature. Figure 3 shows the location of these areas.

Figure 3. Location of wetland areas

The extent of each of these wetland areas was mapped using a Trimble TEC650 GNSS sub-meter accurate instrument. Figure 4 on the page following displays the area of the four vernal wetland features.

Figure 4. Extent of vernal wetland features.

Figure 4

Site 2 is the largest, being in the northeast property corner area with Site 1 being just south of Site 2. Site 3 is just southeast of site 2 and Site 4 is in the southwest quarter of the property. These vernal wetland features were determined utilizing the ACOE "Wetland Determination Data Forms-Arid West Region" for a data point within each wetland area. See attached wetland delineation data forms. These areas contain deep rutting of the surface soil caused by mechanical clearing of vegetation and ATV off roading activity.

Jurisdictional Status

Federal Status under the Clean Water Act

After the Supreme Court Ruling in the Sackett vs Environmental Protection Agency case which redefined "Waters of the United States" (WOUS) the Army Corp of Engineers published "Guide for landowner fact sheet, revised definition of Waters of the United States, Final Rule" on line at https://www.epa.gov/system/files/documents/2022-12/Guide%20for%20Landowners%20Fact%20Sheet.pdf.

In that publication is the sections, quoted below, that identifies what water are **not** WOUS, as follows:

"1) What are the exclusions in the final rule?
The rule excludes certain features that commonly contain water but are not "waters of the United States":
• Prior converted cropland;
• Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
• Artificially irrigated areas that would revert to dry land if the irrigation ceased;
• Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
• Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of "waters of the United States;"
• Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow, and
• Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act."

The highlighted section would apply to the Zinco project area as evidence in the field indicates that vehicular activity from mechanical clearing of vegetation and additional ATV off roading coupled with the shallow soil conditions has contributed to soil disturbance and rutting resulting in the occurrence of vernal wetlands on the property.

State Status of vernal wetlands

California State Water Board Definition of a Wetland is as follows:

"An area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (Water Boards. 2019 pg. 1).

The determination of a state wetland is laid out in the Water Boards Procedures:

"The Procedures define an area as a wetland if it meets three criteria: wetland hydrology, wetland soils, and (if vegetated) wetland plants. An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers" (California Water Board 2024).

The water code defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" and "(c) Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape" (Water Boards. 2019 pg. 2). Such is the case for the vernal wetlands on the Zinco property.

Unlike the Federal rule, the California definition of a wetland does not include any exclusions. Therefore, the vernal wetlands on the project area would be considered State waters.

Are these areas vernal pools?

The Environmental Protection Agency (EPA) describes vernal pools as follows:

"Vernal pools are seasonal depressional wetlands that occur under the Mediterranean climate conditions of the West Coast and in glaciated areas of northeastern and midwestern states. They are covered by shallow water for variable periods from winter to spring, but may be completely dry for most of the summer and fall. These wetlands range in size from small puddles to shallow lakes and are usually found in a gently sloping plain of grassland. Western vernal pools are sometimes connected to each other by small drainages known as vernal swales, forming complexes. Beneath vernal pools lies either bedrock or a hard clay layer in the soil that helps keep water in the pool.

"Climatic changes associated with each season cause dramatic changes in the appearance of vernal pools. The pools collect water during winter and spring rains, changing in volume in response to varying weather patterns. During a single season, pools may fill and dry several times. In years of drought, some pools may not fill at all" (EPA. 2024).

Based on this description the vernal wetlands on the project area may be called vernal pools as they appear as elongated puddles that range in depth from 2" to 10.5" with a mean depth of 6-8 inches* with saturated soils over a clay and indurated very gravelly hardpan (USDA 1974).
*(measured in December 2024 by WRM)

Implications

While the vernal wetlands are not Federally protected, they are State protected. To fill waters of the State "an applicant must file an application with the Water Boards for any activity that could result in the discharge of dredged or fill material to waters of the state in accordance with California Code of Regulations, title 23, section 3855" (Water Boards. 2019 pg.4). Once the application is filed the Regional Water Quality Control Board will determine the amount of mitigation required, if any.

Report prepared by:
Wildland Resource Managers
P.O. Box 192
Round Mountain, California 96084

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinco City/County: Shasta Sampling Date: 5/15/24
Applicant/Owner: Colletti State: CA Sampling Point: 1
Investigator(s): S. Kerns WRM Section, Township, Range: Section 14 T32N R5W MDBM
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%):
Subregion (LRR): Cr Lat: 40°37'24.46"N Long: 122°24'26.32"W Datum:
Soil Map Unit Name: Redding gravelly loam 0-5% slope NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation Y Soil Y or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes No ✓
Are Vegetation N Soil N or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No
Hydric Soil Present? Yes ✓ No
Wetland Hydrology Present? Yes ✓ No
Is the Sampled Area within a Wetland? Yes ✓ No

Remarks: area has deep tire rutting and tree removal

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1M)			
1. Psilocarphus brevissimus	10	Y	FACW
2. Juncus bufonius	40	Y	FACW
3. Myosurus minimus	10	Y	OBL
4. Veronica peregrina	10	Y	FAC
5. Leontodon saxatilis	5	N	FACU
6. Navarretia squarrosa	2	N	FACU
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 23% % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of		Multiply by	
OBL species	10	x 1 =	10
FACW species	50	x 2 =	100
FAC species	10	x 3 =	30
FACU species	7	x 4 =	28
UPL species		x 5 =	
Column Totals:	77 (A)		168 (B)

Prevalence Index = B/A = 2.18

Hydrophytic Vegetation Indicators:
Y Dominance Test is >50%
Y Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks: Deep tire track rutting

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR6-7	50	2.5YR5-8	50	C	M	Sandy	loam @ small stones
6-10+	2.5YR4-4	50	2.5YR 2.5-2	20	D	M	Clay	
Hardpan @ 10-11"								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hardpan

Depth (inches): 11"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinco City/County: Shasta Sampling Date: 5/15/24
Applicant/Owner: Calliati State: CA Sampling Point: 2
Investigator(s): S. Kerns · WRM Section, Township, Range: Section 14 T32N R5W MDBM
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 2 1%
Subregion (LRR): Cr Lat: 40°37'25.09"N Long: 122°24'25.97"W Datum:
Soil Map Unit Name: RdA Redding gravelly loam 0-5% slope NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes No ✓
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks: area has deep fine matting

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1M)			
1. Leontodon saxatilis	40	Y	FACU
2. Psilocarphus brevissimus	40	Y	FACW
3. Brodiaea minor	10	Y	FAC
4.			
5.			
6. Hagiobothrys nothofulvus	1	N	FAC
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 8% % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: .66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	11	x 3 =	33
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	91 (A)		273 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5YR3-3							
1-6	5YR4-3	50	2.5YR4/8	50				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinco City/County: Shasta Sampling Date: 5/21/24
Applicant/Owner: Cockettii State: CA Sampling Point: 3
Investigator(s): S. Kerns - WRM Section, Township, Range: Section 14 T32N R5W MDBM
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): <1%
Subregion (LRR): C Lat: 40°37'24.55"N Long: 122°24'25.67"W Datum:
Soil Map Unit Name: IRdA Redding gravelly loam 0-5% slop NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size 1 M)			
1. Pollocarphus bicuspidatus	40	✓	FACW
2. Juncus bufonius	40	✓	FACW
3. Leontodon saxatilis	5		FACU
4. Brodiaea minor	5		FAC
5. Lolium perenne	5		FAC
6. Hypericum tetrastylum	3		FACW
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 2% % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by
OBL species	0	x 1 = 0
FACW species	83	x 2 = 166
FAC species	10	x 3 = 30
FACU species	5	x 4 = 20
UPL species	0	x 5 = 0
Column Totals:	98 (A)	216 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 6-4	50	2.5YR 5-6	50	C	M	Sandy loam - small stones	
4-10	2.5Y N 0-4	50	2.5YR 2.5-2		D	M	clay loam	
Hard pan @ 10+"								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✓ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: dumpan

Depth (inches): 10"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinco City/County: Shasta Sampling Date: 5/21/24

Applicant/Owner: Colletti State: CA Sampling Point: 4

Investigator(s): S. Kerns WRM Section, Township, Range: Section 14 T32N R5W MDBM

Landform (hillslope, terrace, etc.): level Local relief (concave, convex, none): none Slope (%): <1%

Subregion (LRR): CP Lat: 40°37'23.18"N Long: 122°24'31.08"W Datum:

Soil Map Unit Name: RdA Redding gravelly loam 0-5% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation N Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation N Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1M)			
1. Juncus bufonius	40	Y	FACW
2. Leontodum saxatilis	20	Y	FACU
3. Brodiaea tessellata			
4. Hypochaeris glabra	5		UPL
5. Lolium perenne	3		FAC
6. Kostrakia cristata	3		?
7. Psilocarphus brevissimus	3		FACW
8.			UP
	84 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 12 % Cover of Biotic Crust: ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR6-4	40	2.5YR5-8	30	C	M	Sandy clay @ small rock	
4-10	2.5YR4-4	50	2.5YR2.5	20	D	M	clay loam	
Hardpan @ 10"								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✓ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard pan

Depth (inches): 10"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

References:

Army Corp of Engineers. 2021. State of California Wetland Plant List.

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Environmental Protection Agency: Vernal pool description. 2024. On line at:
https://www.epa.gov/wetlands/vernal-pools

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https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2021/procedures.pdf

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Prepared for Zinco Holdings, LLC, Redding, California

ZINCO SUBDIVISION
TENTATIVE SUBDIVISION MAP APPLICATION S-2022-02416
REZONING APPLICATION RZ-2024-00156

MITIGATION MONITORING PROGRAM CONTENTS

This document is the Mitigation Monitoring Program (MMP) for Zinco 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 Zinco 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 Zinco 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 ZINCO SUBDIVISION MITIGATION MONITORING PROGRAM

Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (Date and Initials)
Biological Resources			
MM-BIO-1: The applicant shall have a pre-construction rare plant survey of the proposed disturbance area or other project features that may impact special status species of the project site conducted by a qualified botanist during the appropriate survey window (blooming period) for rare and endangered plants that have the potential to occur within the project site if such a survey has not been provided to the City. Surveys shall be done in accordance with the most current version of California Native Plant Society Botanical Survey Guidelines (CNPS 2001), California Department of Fish and Wildlife P*rotocols for Surveying and Evaluating Impacts to Special Status Plant Species Native Plant Populations and Natural Communities* and U.S. Fish and Wildlife's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants.* If present, special status plant species plant populations will be flagged and, if possible, avoided during construction. If the population cannot be avoided during construction, a plan will be developed for approval by the California Department of Fish and Wildlife (CDFW) which may include transplanting the plant population, compensation, or other measures established by that agency.	At time of development	Public Works, Planning	
MM-BIO-2: If feasible, vegetation removal and/or construction shall be conducted between September 1 and January 31. If vegetation removal and/or construction activities are to occur during the nesting season (February 1 through August 31), a qualified biologist shall conduct a preconstruction survey no more than seven (7) days before vegetation removal or construction activities begin. If an active nest is found, a non-disturbance buffer shall be established by a qualified biologist in coordination with CDFW. Construction may resume once the young have left the nest or as approved by the qualified biologist. The survey shall be provided to the CDFW. If construction activities cease for a period greater than seven (7) days, additional preconstruction surveys will be required.	At time of development	Public Works, Planning	