

ENVIRONMENTAL INITIAL STUDY

**INITIAL STUDY CHECKLIST
REFERENCES AND DOCUMENTATION
TENTATIVE SUBDIVISION MAP APPLICATION S-14-06, TIERRA KNOLLS
PLANNED DEVELOPMENT APPLICATION PD-7-06**

**Prepared by
DEVELOPMENT SERVICES DEPARTMENT
777 Cypress Avenue
Redding, California 96001**

ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Tentative Subdivision Map Application, Tierra Knolls, 12750 Old Oregon Trail, Redding, CA
2. **Lead Agency Name and Address:** City of Redding Development Services Department, 777 Cypress Avenue, Redding, CA 96001
3. **Contact Person and Phone Number:** Zach Bonnin, Associate Planner, (530) 225-4328
4. **Project Location:** The proposed project site is located in the northeast portion of the City of Redding, west of Old Oregon Trail, and north of the Old Oregon Trail/Oasis Road intersection. The proposed project is located immediately south of the existing Tierra Oaks Residential Subdivision (Tierra Oaks North) and golf course. The proposed project site is located on AP Nos. 306-560-033, -035; 075-370-010, -011; 075-250-006 (See attached Figure 1: Site Location Map and Figure 2: Aerial Site Map with Parcel Numbers).
5. **Project Sponsor's Name and Address:** M&N Ranch, LLC, 250 West Main Street, #101, Woodland, CA 95695
6. **General Plan Designation:** "Residential, 1 to 5 acres per unit"; "Residential, 1 to 2 units per acre"; and "Greenway."
7. **Zoning:** "RE-1-PD" and "RE-2"
8. **Description of Project:** The project sponsor is requesting approval of a planned development and tentative subdivision map to subdivide four parcels totaling approximately 112.07 acres to create 93 lots for development of single-family residential homes. The proposed development area of the subdivision contains 64.59 acres, with typical lot sizes ranging between 0.5 and 1.33 acres. The proposed lot sizes are presented in Table 1. Parcels were configured to avoid wetlands and other "Waters of the United States." Minimum building setbacks are 25 feet in front, 30 feet to the rear, and 15 feet on the sides. The overall proposed average density is 0.83 unit per acre. Proposed as open space is 47.48 acres. The project would include construction of on-site streets and utility improvements necessary to serve the lots. Some culverts exist, and additional arch culverts are proposed for installation at road locations crossing intermittent streams.

Table 1
Proposed Number of Lots and Acreage

Number of Lots	Acreage
42	0.50-0.59
15	0.60-0.69
9	0.70-0.79
9	0.80-0.89
5	0.90-0.99
13	1.00 +

9. **Surrounding Land Uses and Settings:** The project site is gently rolling and ranges in elevation from approximately 640 to 720 feet in elevation. Surface waters on the site include short reaches of the West Fork Stillwater Creek and Moody Creek, both of which are intermittent streams. Existing land uses adjacent to the site include rural residential, low-density residential, and an 18-hole golf course. The existing Tierra Oaks Subdivision (Tierra Oaks North) currently consists of 81 completed and occupied single-family residences and a completed 18-hole golf course located north of the project site. An additional 57 single-family residences within the existing Tierra Oaks North Subdivision are currently under construction or were recently completed and awaiting occupancy at the time this study was conducted. Old Oregon Trail is located south and east of the project site. Reaches of West Fork Stillwater Creek and Moody Creek continue outside the project boundary to the northeast and northwest, respectively. The two streams join just south of the project site. Portions of the project site are located within the floodway and 100-year floodplain for Moody Creek. The site and surrounding environs contain an abundance of blue oak/grey pine woodlands, which consist of a mixture of hardwoods, conifers, and shrubs.
10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement).** The project applicants must obtain a General Construction Activity Storm Water Permit and prepare a Storm Water Pollution Prevention Plan in accordance with the requirements of the California Regional Water Quality Control Board (RWQCB). A Section 1600 Streambed Alteration Agreement will also be required by the California Department of Fish and Game (DFG) for "streambed" crossings by

interior streets and off-site and on-site sewer lines. The project may be subject to Section 404 permit approvals from the U.S. Army Corps of Engineers (ACOE) in the event that jurisdictional waters cannot be fully avoided. In the case that the ACOE requires a Section 404 permit, a Water Quality Certification from the Regional Water Quality Control Board will be necessary as well. The most commonly used permits in this situation are Nationwide Permits 12, 14, and 39; an Individual Permit is unlikely to be required.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

- | | | |
|--|---|--|
| <input type="checkbox"/> Land Use and Planning | <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Aesthetics |
| <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Cultural Resources |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Hazards (Fire) & Hazardous Materials | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Noise | <input type="checkbox"/> Agricultural Resources |
| <input checked="" type="checkbox"/> Air Quality | <input type="checkbox"/> Public Services | <input checked="" type="checkbox"/> Mandatory Findings of Significance |
| <input checked="" type="checkbox"/> Transportation/Circulation | <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> None After Mitigation Measures Incorporated |

DETERMINATION. (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION 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 the mitigation measures described on an attached sheet have been added to the project. 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 significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." 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, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

Signature

Date

Zachary Bonnin
(Name)

Associate Planner
(Title)

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:

- Land Use and Planning
- Population and Housing
- Geology and Soils
- Hydrology and Water Quality
- Air Quality
- Transportation/Circulation
- Biological Resources
- Mineral Resources
- Hazards and Hazardous Materials
- Noise
- Public Services
- Utilities & Service Systems
- Aesthetics
- Cultural Resources
- Recreation

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the 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.

List of attachments:

- A. Location map
- B. Tentative map

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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I. LAND USE AND PLANNING. Would the proposal:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Have social or economic impacts resulting in a physical deterioration of the environment (economic blight)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a. The project site is designated in the City of Redding General Plan for single-family residential development and greenway. Land uses adjacent to the site include an existing road, streams, low-density residential and rural residential development, and a golf course. The project will be connected to the adjoining Tierra Oaks Subdivision and Tierra Oaks Golf Course through nonvehicular pathways and gated fire-road extensions. The project does not have the potential to physically divide a community.

b. The Zoning Ordinance of the City of Redding and the City of Redding General Plan classify the project site as "RE-1-PD" (Residential Estate with Planned Development Overlay District with 1 to 5 acres per unit); "RE-2" (Residential Estate with 1 to 2 units per acre); and "Greenway." The Zoning Ordinance was adopted October 1, 2002, and amended December 17, 2002 (Ordinance #2305), and September 4, 2003 (Ordinance #2310), by the City Council to ensure that the existing Zoning Code is applied in conformity with the City of Redding General Plan. The overall project density is approximately 0.83 unit per acre. The General Plan density ranges would allow between 112 and 224 residential units; the project represents 93 homes, which is in compliance with the City of Redding General Plan and City of Redding Zoning Ordinance requirements.

c. There are no habitat conservation or natural-community conservation plans that are applicable to the site. The project is consistent with the goals stated in the Natural Resources Element of the City of Redding General Plan.

d. The project would ultimately provide positive social and economic impacts by facilitating orderly residential development of natural lands within the urban core and extension of public roads and utilities as are fully supported by the General Plan. Market demands/opportunities/limitations will ultimately control project implementation and phasing.

Documentation

- Community Development and Design, City of Redding General Plan, 2000
- Final Environmental Impact Report, City of Redding General Plan, 2000
- Natural Resources, City of Redding General Plan, 2000
- City of Redding Zoning Ordinance, 2002

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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II. POPULATION AND HOUSING. Would the proposal:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Induce substantial 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a, b, c. The project would create opportunity for the construction of new single-family homes as planned and anticipated by the Redding General Plan. The project is similar in character to that of the existing adjacent subdivision to the north. No existing homes or residents would be displaced.

Documentation

Housing, City of Redding General Plan, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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III. GEOLOGY AND SOILS. Would the proposal:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Strong seismic ground-shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a, c, d. There are no Alquist-Priolo Earthquake Faults designated in the Redding area of Shasta County. The site is located in an area designated in the Health and Safety Element of the City of Redding General Plan as having a range of low to medium ground-shaking potential, between 0.10–0.45 g. Some minor portions of the site are identified in Figure 4-2 of the City of Redding General Plan Health and Safety Element as having high liquefaction potential; however, no structures are proposed to be placed in these areas. Landslides and expansive soils are not considered to pose a significant hazard in the project area.

b. The project site contains a mix of soils in the southern three parcels, with the most common four types being Perkins gravelly loam (PoB), Gaviota very rocky sandy loam (GbD), Newtown gravelly loam (NeD), and Red Bluff loam (RbA). Nearly 95 percent of the northern parcel contains Auburn clay loam (AsD2).

**Table 2
Soil Types and Characteristics**

Soil Name	Soil Type	Permeability	Slope (%)	Erosion Potential	Runoff Rate
Perkins (PoB)	Gravelly loam	Rapid	3-8	Slight-moderate	Slow-medium
Gaviota (GbD)	Very rocky sandy loam	Rapid	0-30	High	Rapid
Newtown (NeD)	Gravelly loam	Slow	15-30	Moderate-high	Medium-rapid
Red Bluff (RbA)	Loam	Moderately slow	0-3	None-slight	Slow
Auburn (AsD2)	Clay loam	Moderate	8-30	Moderate-high	Medium-rapid

Of the 112 acres proposed for physical development, the project will result in the grading (cut and fill) of ± 64.59 acres in order to facilitate street construction, provide utilities, and create building pads. Some grading encroachment may occur on slopes in excess of 20 percent to accommodate installation of streets and utility infrastructure, ensure adequate drainage, and provide continuity of lot design. Some grading will occur in the open-space areas to construct sewer facilities and provide maintenance access. These construction activities may result in the displacement and overcovering of soil and a change in topographic features. The greatest concern raised by the extent of the proposed grading is the potential for soil erosion and subsequent sedimentation of on-site drainages. Careful application of Best Management Practices (BMPs) during construction will minimize soil erosion and related water quality impacts.

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, and E). This ordinance also allows the City to require a monitor, an independent erosion-control specialist, or licensed civil engineer with demonstrated erosion-control expertise to perform the following:
 - a. Prepare the required Interim and Final Erosion Control Plan.
 - b. Monitor the installation of all erosion-control improvements and measures.
 - c. Monitor the effectiveness of the erosion-control improvements and measures during project construction.
 - d. Implement the recommendations of the monitor's reports in a manner and on a schedule as directed by the City Engineer.

In practice, specific erosion-control measures are determined upon review of the final subdivision grading plan and are tailored to project-specific grading impacts.

- ▶ *California Regional Water Quality Control Board "Construction Activity Storm Water Permit."* This permit 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.
- ▶ *California Department of Fish and Game (DFG) "1600 Agreement."* This permit is required for any work within a defined streambed and may be applicable to the proposed culvert installations, two off-site sewer lines crossing through the intermittent channel west of the project site, and sections of on-site sewer line. In addition, the DFG permit may address any potential disturbance of riparian habitat.

With incorporation of the following standard practices, potential impacts associated with grading and soil erosion will be reduced to a level that is less than significant.

1. All applicable provisions of the City of Redding Grading Ordinance (RMC Chapter 16.12) shall be met. This will require, in part, that a qualified erosion- and sediment-control specialist be retained for preparation of an Erosion and Sediment Control Plan that establishes specific measures and Best Management Practices to minimize soil erosion during and after construction activities, including construction of sewer lines. Grading work shall be of a scale so that all grading can be completed in a single construction season.
2. The developer shall obtain a General Construction Activity Storm Water Permit from the State Water Quality Control Board prior to commencement of construction of the subdivision in order to protect water quality from development activities. A Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to construction activities in order to identify potential pollutants and to eliminate or minimize the potential for those pollutants to enter stormwaters.
3. The developer shall acquire all necessary letters of approval and/or permits from regulatory agencies (e.g., Department of Fish and Game, U.S. Army Corps of Engineers, Regional Water Quality Control Board) for altering or working within the existing natural drainage courses prior to the issuance of a City grading permit, commencement of grading activities, and/or construction of utility and drainage infrastructure.
4. Access roads into the open-space areas for maintenance of sewer lines, storm-drain facilities, provision of fire-response access, or any other purpose shall be designed to minimize earth excavation, fills, and potential erosion. This may include paving of the access roads and rock-lining of slopes or portions of slopes.
5. Points of discharge from project drainage systems into open space shall include water-velocity-attenuation improvements and any other measures necessary to prevent earth scouring and erosion.
6. Clearing and grading activities shall be limited to the boundaries of the project site being developed and to construction of off-site improvements necessary to serve that site. Off-site material borrowing or stockpiling shall be allowed only where there is no feasible alternative and must be appropriately mitigated.
- e. The project does not involve the use of septic tanks or alternative wastewater disposal.

Documentation

City of Redding Grading Ordinance (RMC Chapter 16.12), 2003
 City of Redding Standard Specifications, Grading Practices
 Background Report, City of Redding General Plan, 1998
 Health and Safety Element, City of Redding General Plan, 2000
 Soil Survey of Shasta County, August 1974

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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IV. HYDROLOGY AND WATER QUALITY. Would the proposal:

a. Violate any water quality standards or waste-discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a, c, f. Since future homes in the subdivision would be served by City sanitary sewer service, the project would not involve any permitted discharges of wastewater into ground or surface waters. However, there is a risk that construction activities could allow infiltration of silt and sediment into the neighboring drainages as discussed under Section III: Geology and Soils. Standard erosion-control measures will be utilized during construction, as delineated in the measures under Section III.b. above. With implementation of these measures, potential impacts associated with drainage would be reduced to a level less than significant. The project proposal specifies the installation of arch culverts to prevent alteration of the existing drainage pattern of the area. The installation of arch culverts has the potential to contribute to erosion, but this would be reduced to less than significant with the application of the standard erosion-control measures delineated in Section III.b.

b. The project would utilize City water service for domestic uses and fire protection. There are no known wells on or near the project site that could be impacted by proposed construction. Compliance with the City of Redding General Plan policies will preserve and protect the quantity and quality of groundwater resources as a result of new development. These policies include NR3A, B, and E, which recommend: (1) maintaining the natural condition of waterways and floodplains to the extent feasible; (2) maintaining given

flood-control requirements; (3) complying with the State Regional Water Quality Control Board’s regulations and standards to maintain and improve groundwater quality; and (4) working with appropriate State, Federal, and local agencies to protect, improve, and enhance groundwater quality in the region.

d, e. The project will not alter the existing drainage patterns of the site or area, nor will it alter the course of nearby streams or creeks. The project will not increase the rate or amount of surface runoff in a manner which will result in flooding on- or off-site. At present, site runoff enters Stillwater Creek and Moody Creek. City of Redding Policy 1806 allows runoff to be conveyed undetained as long as an analysis can demonstrate that postdevelopment flows will not increase the risk of flooding, as demonstrated in the Tierra Knolls Hydrology Report (Hydmet, Inc. 2006).

g, h. Small portions of the project site are located within the 100-year floodplain. The project design has avoided placement of homes, structures, or support facilities within the 100-year floodplain. Arch culverts are proposed to cross over Moody Creek and other on-site streams to avoid alteration of existing waterways. While the installation of the arch culvert footings has some potential for soil erosion, the arch culverts would not significantly impede or redirect flood flows.

i. Two major dams are present in the general project vicinity—Shasta Dam and Whiskeytown Dam. The anticipated inundation resulting from the unlikely failure of these dams has been documented in the Redding General Plan. According to this documentation, the project site would not be affected by the unlikely failure of either of these dams. There are no levees near the site.

j. The threat of a tsunami wave is not applicable to inland, Central Valley communities such as Redding. Seiches could potentially be generated in either Shasta Lake or Whiskeytown Lake during an earthquake. However, neither lake has been identified in the Health and Safety Element of the General Plan as having any risk to the City under such circumstances. There is no documented threat of mudflows potentially affecting the project site.

Documentation

- Health and Safety, City of Redding General Plan, 2000
- Figure 8-3 (100-Year Floodplain), City of Redding General Plan, 2000
- Health and Safety, Final EIR, City of Redding General Plan, 2000
- Tierra Knolls, Hydrology Report, Hydmet, Inc., 2006

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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V. AIR QUALITY. Would the proposal:

a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a, b, c. 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 to the problem. The Environmental Impact Report for the General Plan acknowledged this; as a result, a Statement of Overriding Consideration was adopted by the City Council for impacts to air quality resulting from growth supported under the General Plan, such as the proposed residential development. Nevertheless, the Air Quality Element of the General Plan incorporates strategies to reduce emissions associated with new and modified indirect sources of pollution in an effort to accurately determine and mitigate project-related impacts.

Emission-reduction goals of 20 to 25 percent are established depending on the projected level of unmitigated emissions for a project. Mitigation thresholds are established for the important regional/local pollutants, including: Reactive Organic Gases (ROG) and Oxides of Nitrogen (NOx), which are ozone precursors, and Inhalable Particulate Matter, 10 Micron (PM₁₀). The mitigation thresholds for these pollutants are tiered at two levels as follows:

Level "A"	Level "B"
25 pounds per day of NOx	137 pounds per day of NOx
25 pounds per day of ROG	137 pounds per day of ROG
80 pounds per day of PM ₁₀	137 pounds per day of PM ₁₀

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

The project has the potential to impact air quality primarily in two ways: (1) the project would generate vehicle trip emissions (with NOx, ROG, and PM₁₀) that contribute cumulatively to local and regional air quality conditions and (2) fugitive dust (particulate/PM₁₀) emissions are possible during construction activities. As only a medium-sized 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, such as sulfur dioxide.

In order to calculate the unmitigated emissions for the key pollutants noted above, the current URBEMIS air quality computer model (version 8.7) was used as prescribed in the Air Quality Element of the City of Redding General Plan. The results were as follows:

	ROG	NOx	PM₁₀
Total Emissions (lbs./day)	12.99	15.30	15.99

The analysis indicates that the project would result in emissions of key pollutants that are well below the Level "A" threshold. Hence, application of SMMs are required. During construction of the proposed project, emissions would be produced by a variety of sources. They would include criteria pollutant emissions produced by construction equipment and fugitive dust created by wind and the operation of construction equipment over exposed earth. The Air Quality Element of the City's General Plan does not require that emissions be estimated for construction activities. Instead, specific construction-related measures must be implemented. With the implementation of the following measures, impacts from construction equipment and fugitive dust would be reduced to a level less than significant.

The City of Redding development regulations require that the following measures, or equivalent measures, are implemented during construction of the proposed project:

1. Apply nontoxic soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
 2. Reestablish ground cover on the construction site through seeding and watering before final occupancy.
 3. Suspend all grading operations when winds (as instantaneous gusts) exceed 20 miles per hour as directed by the Shasta County AQMD.
 4. Provide temporary traffic control (e.g., flag person) as appropriate during all phases of construction to improve traffic flow.
 5. Schedule construction activities that affect traffic flow to off-peak hours.
 6. Water active construction sites at least twice daily as directed by the Engineering Division.
 7. Cover all trucks hauling dirt, sand, soil, or other loose materials or maintain at least two feet of freeboard (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.
 9. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site on each trip.
- d.** Potential impacts from fugitive dust caused during construction are mitigated by application of the SMM identified above.
- e.** The project does not involve land use that could generate objectionable odors affecting a substantial number of people.

Documentation

Shasta County APCD Air Quality Maintenance Plan and Implementing Measures
 Redding General Plan Environmental Impact Report, 2000
 Redding General Plan Natural Resources and Air Quality Elements, 2000

Mitigation

1. The SMMs listed under a-c above will reduce potential air quality impacts to a level less than significant and are standard City of Redding regulations applicable to all project and redevelopment plan approvals. The project will also incorporate Grading Ordinance measures for dust control during construction, including an erosion-control plan with the planting and seeding of bare ground, which will reduce dust. No additional measures are needed.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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VI. TRANSPORTATION/CIRCULATION. Would the proposal:

a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a, b, d. Based on the Tierra Oaks South Expansion Traffic Impact Study prepared by Omni-Means, Ltd. (2006), access to the subdivision would be derived from Alicia Parkway connecting to Oasis Road/Old Oregon Trail, which is identified in the Transportation Element of the City of Redding 2000-2020 General Plan as an arterial street. Alicia Parkway is currently a dirt road, used primarily for access to utilities. The existing Old Oregon Trail/Alicia Parkway intersection, located between the Moody Creek and Stillwater Creek Bridges, will most likely be relocated to approximately 800 feet to the southwest of its current location. The project will fully fund this realignment.

It is estimated that this project will generate 992 weekday trips and 1,003 Saturday trips. The City of Redding has established that weekday AM and PM peak-hour conditions are of primary concern along the Old Oregon Trail roadway. Of the 992 projected weekday trips, 76 are expected to occur during the AM peak hour and 102 during the PM peak hour. Of the 992 expected weekday trips, 89% will be to/from south of the proposed project and 11% will be to/from north of the proposed project. From a traffic-engineering standpoint, a two-lane arterial street with restricted access can accommodate up to 10,000 to 12,000 vehicle trips per day. Existing traffic plus that associated with the project will not exceed the arterial-street capacity. However, as will be discussed, Old Oregon Trail north of the proposed Alicia Parkway realignment does not meet arterial street-design standards. In addition, Oasis Road/Old Oregon Trail may be cumulatively impacted by several pending development projects in the project vicinity.

Two options are proposed for access to the project site—from the south by way of the newly realigned Alicia Parkway and from the north by way of private streets within the existing Tierra Oaks Subdivision/Golf Course. The northern access road may or may not be gated. Alicia Parkway would serve as sole access if a gated interconnection is not allowed and primary access if a gated interconnection is allowed. The traffic study concludes that with or without the gated interconnection, the proposed project would not significantly impact carrying capacity on Old Oregon Trail.

North of the proposed Alicia Parkway realignment, between Paso Robles Avenue and Bear Mountain Road, Old Oregon Trail does not meet the City's current design criteria for an arterial street due to inadequate width and horizontal/vertical curve readings, as established by the 2003 Omni-Means, Ltd., report titled *Old Oregon Trail Functional Classification Report*. The road will need to be improved as traffic volumes increase. Generally, such road improvements are accomplished as abutting properties are subdivided and developed. Accident rates along this portion of the Old Oregon Trail roadway are higher than Caltrans' acceptable accident rates for comparable facility types within the State, district, and County. Horizontal/vertical curve readings for this portion of Old Oregon Trail are considered unsafe when taken at speeds corresponding to the roadway's arterial classification. The 2003 report states that the roadway segment should be classified as a two-lane arterial with a 45 mph design speed and at least 70-foot right-of-way. The 2003 report assessed the feasibility of meeting the design requirements for Old Oregon Trail between Paso Robles Avenue and La Crescenta Drive in two ways—realignment or reconstruction. Realignment, based upon an existing plan line recorded by Shasta County, was determined to be the only feasible means of meeting arterial design standards. Based on the relatively low amount of traffic expected to use the road segment, the proposed project is not expected to have an impact on the function of the existing alignment, although the project should participate in any Benefit District that is established for realignment, based on a fair share of traffic.

Several intersections west of the project site, including the Oasis Road/I-5 Northbound Ramp intersection, are currently operating at an unacceptable Level of Service. According to the Master Environmental Impact Report (MEIR) for the Redding Oasis Center, these intersections will need to be upgraded regardless of any effects associated with the proposed project. The MEIR recommends that specific mitigation measures be implemented to accommodate expected increased traffic volumes resulting from proposed development in the Oasis Road vicinity. Traffic volumes generated by the proposed project will not significantly impact these intersections if they are upgraded to a Level of Service to accommodate current and projected traffic volumes. The Tierra Oaks South Expansion Traffic Impact Study (Omni-Means, Ltd. 2006) recommends that the project be a participant, on a fair-share basis, in implementing traffic mitigation measures recommended in the Redding Oasis Center MEIR.

c. The project site is located outside the overflight zones for both the Redding Municipal Airport and Benton Airpark and therefore has no potential to interfere with airport operations.

e. General Plan Health and Safety Policies HS4J and HS4I generally require that residential neighborhoods having 50 or more dwelling units have at least two points of public-street access and that cul-de-sac or dead-end street lengths not exceed 600 feet. The lack of a second public-street access restricts the residents' ability to evacuate the neighborhood in the event of a large fire and also restricts access for firefighting or other emergency response. The aforementioned policies allow the City Fire Marshal flexibility in applying alternative safety measures where a second public-street access is not feasible. These measures may include, but not be limited to, provision of residential sprinkler systems, widening of the single-street access to minimize the potential for conflicts between exiting vehicles and emergency-response vehicles, and/or providing temporary emergency access. Alicia Parkway is the only proposed private-street access to the subdivision; however, access may also be available via an interconnection gate between the Tierra Oaks Subdivision/Golf Course and the proposed new development for emergency purposes. The option for two points of public-street access is hindered by the applicant's desire for a gated, private-street neighborhood; therefore, alternatives to a second public access as approved by the Fire Marshal may be necessary.

f. All homes within the subdivision will be required to provide a minimum of two on-site covered parking spaces in accordance with the City's Parking Ordinance (RMC Chapter 18.62).

g. In 2004, the City of Redding prepared, and the City Council adopted, a Parks, Trails, and Open Space Master Plan. When the Parks, Trails, and Open Space Master Plan was prepared, Oasis Road/Old Oregon Trail was proposed as a bicycle route to potentially be used for transportation and recreational purposes by cyclists in the future. When funding becomes available for bikeway improvements, Old Oregon Trail will be signed as a designated "Bike Route." The signing is done in order to alert motorists to the fact that the roadway is being used by bicyclists and to make it safer for that existing, legal bicycle use. At that time, any future improvements to Oasis Road/Old Oregon Trail will include striping and signage in accordance with the Bikeway Plan.

The Redding Area Bus Authority (RABA) provides public bus service in the Redding area. The nearest existing fixed route is on Twin View Boulevard. RABA does not currently operate, or anticipate in the future, a fixed route on this portion of Oasis Road/Old Oregon Trail.

Documentation

City of Redding General Plan Transportation Element, 2000
City of Redding General Plan Health and Safety Element, 2000
Redding Area Bus Authority System Map and Route Guide, October 2000
Parks, Trails, and Open Space Master Plan, City of Redding, 2004
City of Redding Overflight Zones Map, 2000
Tierra Oaks South Expansion Traffic Impact Study, Omni-Means, Ltd., 2006
Old Oregon Trail Functional Classification Report, Omni-Means, Ltd., 2003

Mitigation

2. Any and all improvements to Oasis Road/Old Oregon Trail shall satisfy the City's alignment, design, and construction standards for an arterial street.
3. The applicant, owner, or successor in interest shall agree prior to recording the final map on a fair share basis, as determined by a qualified traffic study, to participate in a funding mechanism which ensures that the improvements to the Oasis Road/I-5 interchange, as well as the supporting State/local road network and their ancillary improvements, are adequately funded to be constructed. Improvements would include those recommended in EIR-2-02 for the Redding Oasis Center and any supplemental improvements which may be identified in the Oasis Road Specific Plan MEIR and identified in the project's traffic study. The funding mechanism shall be in place prior to approval of the subdivision's improvement plans.
4. The tentative subdivision map will be reviewed with regard to points of access and the length of single-entrance streets. Plans must meet City design standards (General Plan Health and Safety Policies HS4I and HS4) prior to tentative map approval. The second means of egress to the north would be required upon the development of the 50th lot. Prior to approval of the development plans that include improvements for more than a combined total of 49 lots, the access would need to be in and available.
5. In the absence of improvements required under the Oasis Road Specific Plan/MEIR, prior to approval of the improvement plans for the subdivision, an encroachment permit shall be submitted to Caltrans and accepted for the signalization/ramp-widening improvement and bonding of improvements. Prior to issuance of a building permit for any single-family residence, a traffic signal at the Interstate 5/ Oasis Road intersection shall be constructed and working. In addition, the northbound off-ramp shall be widened to accommodate a left/thru lane and right-turn lane.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. BIOLOGICAL RESOURCES. Would the proposal:

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <p>a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <p>b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <p>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?</p> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <p>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?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a. A report titled *Botanical and Wildlife Study Report, Tierra Oaks, Redding, California* (ENPLAN 2004), was submitted in conjunction with the tentative map. This report is incorporated herein by reference and is on file with the Development Services Department. The report identified six special-status species as potentially existing in the vicinity: depauperate milk-vetch, foothill yellow-legged frog, northwestern pond turtle, pale big-eared bat, valley elderberry longhorn beetle, fall-run Chinook salmon, and Central Valley steelhead. The following evaluations of potential impacts of special-status species are drawn from that report.

The depauperate milk-vetch is a small, early blooming annual plant and may not have been identifiable at the time the botanical field survey was conducted. However, this plant is not State or Federally listed, is not proposed for listing or a candidate for listing, nor does the Department of Fish and Game currently require mitigation for projects affecting this species. No additional plant surveys are necessary, and no mitigation is warranted with respect to special-status plant species.

Because setbacks will generally be maintained along streams, the foothill yellow-legged frog and northwestern pond turtle would potentially be affected only by construction of roads across the streams. The project proposal calls for all streams to be spanned with arch culverts or bridges, which will greatly minimize the potential for impacts to these species. Nonetheless, for the Moody Creek crossing (which will involve the most work and affect the best habitat for these species), a field survey should be conducted immediately prior to the outset of work adjacent to the stream; and turtles, frogs, and egg masses should be removed from the work area.

The pale big-eared bat does not roost on the site due to the absence of suitable roosting habitat. However, the species could potentially roost nearby and forage on the site. Project implementation would not adversely affect populations of pale big-eared bats.

Several elderberries having stems with basal diameters ≥ 1 " occur near West Fork Stillwater Creek. These plants could potentially host the Federally listed valley elderberry longhorn beetle. The U.S. Fish and Wildlife Service has determined that the valley elderberry longhorn beetle could be affected if earth-disturbing work is proposed within 100 feet of elderberries. The on-site elderberries are included in an open-space parcel and are located over 100 feet from the nearest proposed construction activity. Therefore, the beetle, if present, would not be adversely affected by implementation of the proposed project, and no mitigation is warranted.

The fall-run Chinook salmon, a Federal Candidate Species for listing, begins spawning migration between July and December. Peak spawning is between October and November. Juveniles emigrate downstream soon after emerging from the gravel. The fall run is known to occur in Stillwater Creek. However, Stillwater Creek is largely on private property, thus, very little information is available on the location of spawning habitat and no data is available on the size of the runs from year to year. On the project site, a small amount of spawning gravel exists in West Fork Stillwater Creek and Moody Creek. Therefore, the fall-run Chinook salmon could potentially spawn in these gravels in winter and spring when flows are higher and water temperature is lower. The Central Valley Steelhead, a Federal Threatened Species, migrates from the ocean to spawn in the Sacramento River and its tributaries between August and November. Spawning generally occurs between January and March. Hatchlings remain in gravel for four to eight weeks, and juveniles remain in the stream one to two years before migrating to sea. Although not reported in Stillwater Creek, the creek is within the range of the Central Valley Steelhead Evolutionary Significant Unit. A small amount of spawning habitat is present that could potentially be used by adults in winter and spring when flows are higher and water temperature is lower. Juveniles are unlikely to remain year-round because most pools will dry up or become too warm to support the species. Potential effects on anadromous fish will be minimized by the subdivision design, which has no residential lots adjacent to Moody Creek and West Fork Stillwater Creek. The subdivision design incorporates most of the remaining streams in open-space parcels and calls for clear-spanning of all streams that must be crossed by roads or driveways. Implementation of the standard erosion-control measures included in Section III.b. will further minimize potential effects on anadromous fish.

b. The Botanical and Wildlife Study Report (ENPLAN 2004) identified two sensitive natural communities as occurring on the project site: wetlands and riverine. Potential effects of project implementation on wetlands are addressed in Section VII: Biological Resources, Discussion, c. Riverine habitat occurs along the Moody Creek and West Fork Stillwater Creek corridors. Riverine habitat, including stream banks with riparian vegetation, has very high values for wildlife. The open-water area of streams provides many species with resting and escape cover, as well as foraging opportunities, while the surrounding riparian corridor provides important dispersal habitat. The tentative map shows open-space parcels on the northeast side of Moody Creek and west side of West Fork Stillwater Creek; no residential lots will be located adjacent to the stream corridors. Other than construction of the main-site entrance road, no work is proposed that would affect riverine habitat. The project proposal calls for the road to clear-span Moody Creek, which will greatly minimize potential effects to riverine habitat. Although a limited amount of woody riparian vegetation will be removed, the streambanks and bottom will remain intact. Given the avoidance measures incorporated into the project proposal, no additional mitigation measures are necessary.

c. ENPLAN prepared a wetland delineation report in August 1998, addressing the two parcels (Shasta County APN 306-560-033 and -035) proposed for residential subdivision. A letter of verification from the U.S. Army Corps of Engineers was issued October 28, 1998, with verification valid for a 5-year period. Two additional parcels were subsequently acquired by San Jacinto Equities, LLC (Shasta County APN 075-370-011 and 075-250-006). In 2004, ENPLAN conducted a field evaluation of the original delineation, as well as an evaluation of the two additional parcels and an adjoining parcel owned by the City of Redding (AP No. 075-370-010) and submitted a request for verification/reverification to the U.S. Army Corps of Engineers in August 2004. The 2004 delineation documented the existence of 2.323 acres of "wetlands" and other "Waters of the United States" within the five-parcel study area, as summarized in Table 2.

**Table 2
Wetlands and Other Waters of the United States**

Jurisdictional Type	Size	
	Sq Ft	Acres
Wetland	12,702	0.291
Intermittent Stream	88,055	2.021
Ephemeral Stream	480	0.011
Total	101,237	2.323

The applicant intends to avoid all wetlands and other Waters of the United States in the study area. Avoidance is being accomplished primarily through establishment of a number of open-space parcels, as shown on the tentative map. Where stream crossings are unavoidable, the applicant proposes to use bridges or arch culverts that span the limits of Federal jurisdiction; work would require a Streambed Alteration Agreement from the Department of Fish and Game, but no permit would be required from the U.S. Army Corps of Engineers. If, during final engineering design, it is determined that certain wetlands or other waters would be filled or drained, a Department of the Army permit would be obtained and mitigation ratio for the loss of waters would be determined by the U.S. Army Corps of Engineers.

d. Moody Creek and West Fork Stillwater Creek serve as corridors for the movement of fish and other aquatic species, while their riparian zones may provide for the movement of terrestrial species. The small ephemeral and intermittent streams on the site have a much lower value as fish- and wildlife-movement corridors. As discussed above, most of the on-site streams are included in open-space parcels, and no residential parcels will adjoin Moody Creek or West Fork Stillwater Creek. Given the avoidance measures incorporated into the project proposal, no additional mitigation measures are necessary to provide for fish and wildlife movement.

The site has a high potential to support nesting migratory birds. Migratory birds are provided protection under the Federal Migratory Bird Treaty Act, which established that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. To ensure that migratory birds are not adversely affected by project implementation, vegetation removal should be completed prior to arrival of the migratory birds or after the young have fledged. According to Department of Fish and Game staff, most birds nest between April 1 and July 31; removal of vegetation at other times of the year (August 1 through March 31) is unlikely to affect nesting (B. Deuel, pers. comm.).

e. The City has adopted a Tree Management Ordinance (Chapter 18.45 of the Redding Municipal Code) that promotes the conservation of mature, healthy trees in the design of new development. The ordinance recognizes that the preservation of trees will sometimes conflict with normal land development considerations. The subdivision site has a fairly consistent and dense canopy of blue oak, gray pine, and interior live oak. Of the 64.59 acres proposed for street and lot construction, less than 50 percent will be cleared of all trees and vegetation, due to the large size of the proposed lots. Additionally, 47.48 acres are proposed to be open space. Given the large lot sizes and extensive open space, it is determined that impact to existing trees would be less than significant.

Documentation

- City of Redding Tree Ordinance, Redding Municipal Code Title 18, Zoning, 2003
- City of Redding General Plan EIR, 2000
- Botanical and Wildlife Study Report, Tierra Oaks, CA, ENPLAN, 2004
- Wetland Delineation Report, ENPLAN, 1998
- Letter of Verification of Delineation of Jurisdictional Waters of the United States, Tierra Oaks Subdivision Project, Letter from U.S. Army Corps of Engineers to ENPLAN, October 28, 1998
- Request for Verification/Reverification of Delineation of Jurisdictional Waters of the United States, Tierra Oaks Subdivision Project, Letter from ENPLAN to U.S. Army Corps of Engineers, August 30, 2004

Mitigation

6. Immediately prior to initiating construction of the Moody Creek bridge/arch culvert, a field survey extending 200 feet upstream and downstream of the road-crossing site shall be conducted, and all special-status turtles, frogs, and egg masses shall be removed from this zone and be relocated farther upstream or downstream.
7. To ensure compliance with the Migratory Bird Treaty Act and to ensure that nesting migratory birds are not adversely affected, vegetation shall be removed from the site before April 1 or after July 31. If this is not possible, a nesting survey shall be conducted prior to vegetation removal. If active nests are found, vegetation clearing shall be postponed until after the young birds have fledged.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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VIII. MINERAL RESOURCES. Would the proposal:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a, b. A mineral resource is land on which known deposits of commercially viable mineral or aggregate deposits exist. The designation is applied to sites determined by the State Division of Mines and Geology as being a resource of regional significance and is intended to help maintain any quarrying operations and protect them from encroachment of incompatible uses. The project site is not identified in the City of Redding General Plan or by the State Division of Mines and Geology as having any known mineral resource value.

Documentation

Natural Resources, City of Redding General Plan, 2000
 Critical Mineral Resources Overlay, City of Redding General Plan, 2000
 DMG Open File Report 97-03, California Department of Conservation, Division of Mines and Geology, 1997

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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IX. HAZARDS AND HAZARDOUS MATERIALS. Would the proposal:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

a, b, c, d. The nature of the project as a low-density, single-family 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, f. The project is located over ten miles north of Redding Municipal Airport, well outside the established approach/departure clear zones. There are no private airstrips in the project vicinity.

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

h. Many locations within the City of Redding, including the project site, are identified as having a very high wildland-fire hazard potential due to an intermixture of urban/rural uses and natural areas with high fuel loads and varied terrain. The presence of urban development adjacent to wildlands increases the likelihood of wildland fires, and the presence of wildlands adjacent to urban development allows fire to spread rapidly to and through developed areas. Possible measures to minimize fire risk in the wildland/urban interface are identified below. Specific measures to be required for the proposed project will be determined by the City Fire Marshal during final design review.

1. A Vegetation Management/Fire Fuel Reduction Plan (VMFFRP) shall be prepared and submitted for approval by the City Fire Marshal and Development Services Director, in conjunction with subdivision improvement plans. The VMFFRP shall address the entire subdivision site, and as necessary, adjacent public open-space areas, and shall be prepared by a registered professional forester or other qualified professional. The objectives of the VMFFRP shall be to reduce fire-fuel loads to establish an adequate fire-safety buffer between residential development and adjacent wildlands, subject to the following zoning criteria:

ZONE 1: This zone shall include that part of the subdivision approved for development with slopes of 20 percent or less. Within Zone 1, 90–100 percent of the existing brush shall be removed. Trees shall be saved except where approved subdivision improvements will be located. At the time of home construction, additional fuel-load reduction, consistent with Zone 1 standards, may be required based on the actual location of the structure. A 100-foot setback of the structure from the Zone 2 clearance area is necessary.

ZONE 2: This zone shall include a 100-foot-wide band parallel and immediately adjacent to the Zone 1 clearance area. Within Zone 2, vegetation shall be reduced so that the combined crown closure of brush and trees is approximately 50 percent. Trees within Zone 2 shall not be removed where their removal would leave more than 10 feet between one tree canopy and another. Where crown closure of existing vegetation is already 50 percent or less, no reduction in fuel load is to occur.

2. Prior to the recordation of the final map, all required fuel-reduction work shall be completed as prescribed by the approved VMFFRP. Ongoing maintenance of the subdivision's fire-fuel management zones shall be the responsibility of future property owners.
3. [Intentionally left blank]
4. Permanent, all-weather access points for firefighting equipment shall be provided to the open-space areas from a location within the subdivision, as reviewed and approved by the Fire Marshal. The access shall have a minimum width of 15 feet and be surfaced with concrete or another durable material. Provisions for the access path shall be included on the final map and the subdivision improvement plans. The path shall be constructed in accordance with approved plans prior to the recordation of the final map.
5. Wood fences, including posts, shall be prohibited adjacent to all open-space areas; fences adjacent to open space must be constructed of noncombustible material.
6. Any lot with a building envelope greater than 150 feet from the street shall have an on-site, emergency-vehicle turnaround approved by the Fire Marshal.
7. Future residential construction in the subdivision on lots adjacent to open space, including accessory buildings, shall comply with the following standards:
 - a. The roof coverings of all homes within the subdivision shall be of Class "A" fire-resistive materials.
 - b. Residential fire-sprinkler systems shall be installed in all habitable structures.
 - c. Any projections from the structure, including, but not limited to, eaves, decking, balconies, and patio covers shall be enclosed on the sides and/or underside with approved 1-hour fire-resistant material on the exterior side to prevent heat from exterior fires from being trapped underneath the projection.
 - d. Structures constructed in such a manner that they are suspended on piers or pilings over the hillside shall be of noncombustible material, fire-retardant treated wood, heavy timber, or enclosed on the sides by approved 1-hour fire-resistant material on the exterior side in such a manner as to prevent the underside of the structure from being subject to heat or flame from the hillside below.

- e. Venting shall not be located on the downhill side of structures when California Building Code venting regulations can be met without installation of downhill venting. When attic and underfloor vents are necessary on buildings, they shall be louvered and screened with ¼-inch metal mesh screen to prevent entry of sparks or burning embers. Turbine attic vents shall be equipped to allow one-way direction only; they shall not free-spin in both directions.
- f. Siding shall be noncombustible, and the eaves shall be protected with materials approved for 1-hour fire-resistant construction on the exterior side.
- g. Skylights shall be of tempered glass or dual panel, except when the structure is protected with a fire sprinkler system.
- h. Gutters shall be constructed of noncombustible material.

Documentation

Underground Storage Tanks, Shasta County Department of Environmental Health, 2005
 Leaking Underground Storage Tanks, Regional Water Quality Control Board, 2005
 Hazardous Materials Search, U.S. Environmental Protection Agency website, 2005
 CalSites, Department of Toxic Substance Control, 2005
 Health and Safety, City of Redding General Plan, 2000
 Health and Safety, Final EIR, City of Redding General Plan, 2000
 Health and Safety, General Plan Background Report, City of Redding 1998

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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X. NOISE. Would the proposal result in:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

a, b, c. The Noise Element of the Redding General Plan establishes exterior and interior noise thresholds in residential areas of 60 and 45 Ldn/CNEL, dB, respectively (Table 5-4). Table 5-2 of the Noise Element presents projected noise contours from the major road segments in the City. Although the property has frontage on Old Oregon Trail, a two-lane arterial street, the proposed lots are separated from the street a minimum of 300 horizontal feet and 50 vertical feet by intervening remaining lands and open space. Based on FHWA modeling and Calveno Reference Energy Mean Emission Levels, traffic from Old Oregon Trail would not cause noise levels to exceed General Plan standards at the future home sites, nor would noise levels generated by increased traffic from the project site exceed noise thresholds of existing sensitive noise receptors along Old Oregon Trail.

There are no nontransportation-related noise or vibration-generating sources in the general vicinity of the project.

d. During the construction of subdivision improvements, there will be a temporary increase in noise in the project vicinity above existing ambient noise levels. The most noticeable construction noise would 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 a.m. and 7 p.m., Monday through Saturday. No operations are allowed on Sunday. Since the 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.

e, f. The project is not within an airport land use plan, nor is it within two miles of an existing public or public-use airport. The project is not within the vicinity of a private airstrip.

Documentation

- City of Redding General Plan Noise Element, 2000
- Redding Municipal Code Chapter 16.12.120
- City of Redding General Plan Transportation Element, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XI. PUBLIC SERVICES.

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

(1) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

a (1) & a (2). The City would provide police and fire protection to the project from existing facilities and under existing service levels. The relatively small size of the project does not mandate the need for additional police or fire facilities.

a (3). The project is located in the Gateway Unified School District and would ultimately contribute to the total student enrollment in these Districts. However, a school-facility impact (in-lieu) fee exists, as provided under State law, that is paid prior to the issuance of a building permit for each new single-family residence (and other types of development) to address school-facility funding necessitated by the effects of growth citywide.

a (4). The project will not overburden existing community parks. See Discussion in Section XV: Recreation.

a (5). See Discussion in Section XII: Utilities and Service Systems.

Documentation

- Public Facilities, City of Redding General Plan, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XII. UTILITIES AND SERVICE SYSTEMS. Would the proposal:

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. | Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. | Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. | Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. | Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. | 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. | Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. | Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion

- a. Wastewater generated from the project would be that associated with low-density domestic use (from single-family homes) and will be discharged into the City sanitary sewer system. This low-density single-family residential-land-use activity would not typically generate wastewater demands that would exceed treatment requirements of the Regional Water Quality Control Board.
- b. Adequate wastewater treatment capacity is available in the City's existing system to accommodate the 93 single-family homes that would result from the project.
- c. Based on the findings of the Tierra Knolls Hydrology Report (Hydmet, Inc. 2006), no stormwater detention is proposed. Stormwater runoff resulting from the project would be discharged into the streams and open-space areas. Potential impacts associated with stormwater runoff are related to soil erosion and sedimentation. These impacts related to stormwater runoff and erosion are discussed, and standard erosion-control measures are provided in Section III: Geology and Soils. No additional mitigation is needed for this aspect.
- d. The project site is located within the Bella Vista Water District (BVWD), a publicly owned district that serves a 53-square-mile area. Potable water is available from BVWD to serve the project with adequate pressure for domestic use and flows for fire suppression. The demands of the project can be accommodated within the District's existing water allotments.
- e. The project will utilize the City's sanitary sewer system to dispose of wastewater. Adequate sewer capacity is available in the City's existing system to accommodate the 93 single-family homes that would result from the project.
- f, g. 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. 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

- Housing, City of Redding General Plan, 2000
- Public Facilities, City of Redding General Plan, 2000
- Public Facilities and Services, Final EIR, City of Redding General Plan, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIII. AESTHETICS. Would the proposal:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a, c. The homes constructed as a result of development of the project would be consistent in height with homes in adjacent neighborhoods and would not obstruct any documented scenic vistas. The subdivision design is consistent with existing development in the area with intervening open spaces, so the 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. There are no state-designated scenic highways within the City of Redding.

d. Use of homes constructed in the subdivision would generate light that is customary for single-family residential neighborhoods. The project alone would not generate substantial light or glare beyond that typically expected from the lighting of homes, property, and streets.

Documentation

Community Development and Design, City of Redding General Plan, 2000
 Natural Resources, City of Redding General Plan, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. CULTURAL RESOURCES. Would the proposal:

- | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion

a, b, d. A cultural resources study, including a record search and field survey, was completed for the project by Peter M. Jensen & Associates. The study included a record search with the Northeast California Information Center at CSU, Chico, and other sources of information, as well as a pedestrian field survey and limited subsurface excavation. One prehistoric site, CA-SHA-233, was recorded within the southwest portion of the project. A portion of this site will be affected by construction of the primary access road, Alicia Parkway. While prehistoric cultural material was observed within this area in the form of a limited number of waste flakes and a few flaked stone tools, no temporally diagnostic implements were observed at this location. This portion of site CA-SHA-233 was discovered to be substantially disturbed by prior activity, as confirmed by the results of archaeological excavation in this area by Jensen and Associates. The portion of the site CA-SHA-233 to be affected by road construction does not contribute significantly to the

significance of site CA-SHA-233. Other areas of the site CA-SHA-233 near the proposed primary access road deemed culturally significant will be protected with the mitigation measures outlined below.

There is always the possibility that significant, previously unidentified cultural materials could be unearthed during construction. This being the case, it is recommended that standard mitigation measures be included for the inadvertent discovery of cultural resources.

This site lacks evidence of association with historic-period mining, homesteading, or ranching activities.

c. No unique geologic features, fossil-bearing strata, or paleontological sites are known to exist on the project site.

Documentation

Cultural Resources Inventory Survey, Tierra Oaks Development Property, Jensen & Associates, October 2005

Mitigation

8. Construction activities of all types within the boundary of CA-SHA-233 shall be restricted to the Area of Potential Effects, outlined in the Cultural Resources Inventory Survey. This area shall be clearly delineated and mitigated by appropriate fencing or other acceptable barricade during construction activities.
9. Construction that occurs within the boundary of CA-SHA-233 shall be monitored by qualified archaeologists and a representative of the local Native American tribes during initial grading and ground-disturbing activities. The name and telephone number of the monitor shall be given to the City Planning Division, which shall approve the monitor or qualified archaeologist. The monitor shall be given 48-hour notice prior to the initiation of any work.
10. If, during the course of development of the entire project site, any archeological, historical, or paleontological resources are uncovered, discovered, or otherwise detected or observed, construction activities in the affected area shall cease and a qualified archaeologist shall be contacted to review the find and advise the City of the site’s significance. If the findings are deemed significant, appropriate mitigation shall be required prior to any resumption of work on the project.
11. Upon completion of initial construction-related ground-disturbing impacts within the boundary of CA-SHA-233, a long-term monitoring plan, including pre- and post-construction documentation, will be implemented by a qualified archaeologist. This periodic site inspection will include photographs of the road construction site taken prior to construction activities to be used as baseline data. Site conditions and any observed changes will be noted, with treatment of the site prescribed as necessary. After three years, the archaeologist will prepare a finding of necessity regarding future site visits.
12. If, during the course of development of the entire project site, any human remains are uncovered, discovered, or otherwise detected or observed, construction activities in the affected area shall cease and the County Coroner shall be contacted. Appropriate measures shall be required prior to any resumption of work on the project.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XV. RECREATION. Would the proposal:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a, b. The nearest developed City park to the proposed site is Caldwell Park, a 70-acre community park located along the Sacramento River, providing a wide range of active and passive recreational opportunities. This park is intended to serve residents of Redding and would not be overburdened by the future residents of the proposed subdivision. In addition, the proposed subdivision will include an internal trail system and be connected to the Golf and Country Club of Tierra Oaks and to existing community recreational facilities in the adjacent Tierra Oaks Subdivision to the north via the existing cart path. South of Akrich Street on Oasis Road, an existing Class II bike lane connects to miles of existing bike lanes throughout the City of Redding.

Chapter 17.42 of the City's Subdivision Ordinance, Park and Recreational Land Dedications and In-Lieu Fees, requires that as a condition of approval of a final map or parcel map, the subdivider shall either dedicate land or pay a fee in lieu thereof for park or recreational purposes according to the standards contained in Chapter 17 in the City’s Subdivision Ordinance. In accordance with

State subdivision law, only projects containing 50 or more lots may be required to dedicate land for park development. Additional recreational development fees are collected by the City at the time of issuance of a building permit on an individual lot.

The tentative map of Tierra Oaks proposes 47.48 acres of proposed open space. A 12-acre area of open space at the south entry is proposed as a potential private passive recreational area. In addition, an internal trail system is planned within the open space. Under Chapter 17.42 of the Subdivision Ordinance, the Planning Commission could require a park dedication. The need for a park site within the subdivision will be determined by review of the tentative map by the Redding Community Services Advisory Committee and the Planning Commission under the authority of Chapter 17.42 of the City Subdivision Ordinance.

Documentation

- Natural Resources, City of Redding General Plan, 2000
- Recreation, City of Redding General Plan, 2000
- Public Facilities, City of Redding General Plan, 2000
- Parks, Trails, and Open Space Master Plan, City of Redding, 2004
- Chapter 17.42, City of Redding Subdivision Ordinance, 2003

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVI. AGRICULTURAL RESOURCES. Would the proposal:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Conflict with existing zoning for agricultural use, or a Williamson act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

a, b, c. The project site is not designated as prime farmland in the City of Redding General Plan, Natural Resources Element. The site has not been historically used for agricultural purposes, is not governed by the Williamson Act, nor does it possess soils that are prime for agricultural production.

Documentation

- Natural Resources, City of Redding General Plan, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVII. MANDATORY FINDINGS OF SIGNIFICANCE.

- | | | | | |
|--|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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- c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Discussion

a. As documented in the Initial Study, project implementation could result in disturbance of nesting migratory birds; disturbance of fish and other aquatic wildlife; temporary disturbance of wetlands and streams; possible disturbance of subsurface cultural resources; increased soil erosion and water quality degradation; and increased noise levels and air emissions during construction. Design features incorporated into the project would avoid or reduce to insignificant levels certain potential environmental impacts, as would compliance with required agency permits. The remaining impacts can be reduced to levels that are less than significant through implementation of the mitigation measures presented in this Initial Study.

b. As discussed in Section 5, the project will contribute to regionwide cumulative air quality impacts. However, under policy of the General Plan, application of Standard Mitigation Measures (SMM) will reduce potential impacts from this project to less than significant. As discussed in Section 6, *Transportation/Circulation*, traffic from the project will contribute to a cumulative degradation of the carrying capacity of the existing road section of Old Oregon Trail. Mitigation measures will reduce the potential impact from this project to 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.

Documentation

- City of Redding General Plan, 2000
- Final Environmental Impact Report, City of Redding General Plan, 2000
- City of Redding Zoning Ordinance, 2002
- Redding Municipal Code, 2003
- City of Redding Standard Specifications, Grading Practices
- Background Report, City of Redding General Plan, 1998
- Soil Survey of Shasta County, August 1974
- Tierra Knolls Hydrology Report, Hydmet, Inc., 2006
- Figure 8-3 (100-Year Floodplain), City of Redding General Plan, 2000
- Shasta County APCD Air Quality Maintenance Plan and Implementing Measures
- Redding Area Bus Authority System Map and Route Guide, October 2000
- Parks, Trails, and Open Space Master Plan, City of Redding, 2004
- City of Redding Overflight Zones Map, 2000
- Tierra Oaks South Expansion Traffic Impact Study, Omni-means, Ltd., 2006
- Old Oregon Trail Functional Classification Report, Omni-means, Ltd., 2003
- Botanical and Wildlife Study Report, Tierra Oaks, CA, ENPLAN, 2004
- Wetland Delineation Report, ENPLAN, 1998
- Letter of Verification of Delineation of Jurisdictional Waters of the United States, Tierra Oaks Subdivision Project, Letter from U.S. Army Corps of Engineers to ENPLAN, October 28, 1998
- Request for Verification/Reverification of Delineation of Jurisdictional Waters of the United States, Tierra Oaks Subdivision Project, Letter from ENPLAN to U.S. Army Corps of Engineers, August 30, 2004
- Critical Mineral Resources Overlay, City of Redding General Plan, 2000
- DMG Open File Report 97-03, California Department of Conservation, Division of Mines and Geology, 1997
- Underground Storage Tanks, Shasta County Department of Environmental Health, 2005
- Leaking Underground Storage Tanks, Regional Water Quality Control Board, 2005
- Hazardous Materials Search, U.S. Environmental Protection Agency website, 2005
- CalSites, Department of Toxic Substance Control, 2005
- Cultural Resources Inventory Survey, Tierra Oaks Development Property, Jensen & Associates, October 2005

Mitigation

See the mitigation measures of individual sections.