City of Pittsburg

Montreux Residential Subdivision
Recirculated Draft Environmental Impact Report

SCH No. 2013032079

Prepared For:

City of Pittsburg
Planning Department
65 Civic Avenue
Pittsburg, California 94565

Prepared by:

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December 2014

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1.0 INTRODUCTION

INTRODUCTION

This Recirculated Draft Environmental Impact Report (EIR) has been prepared for the proposed Montreux Residential Subdivision project. In November 2013 the Draft EIR (SCH No. 2013032079) for the proposed project was made available for public comment for a 45-day review period. The City of Pittsburg (City) received nine comment letters during this period. Some of the comments received on the Draft EIR provided new information with regard to biological resources on the project site. After reviewing this new information, the City, which is the lead agency for the environmental review of the proposed project, determined that it was necessary to add this new information to the Draft EIR, and in order to comply with the requirements of the California Environmental Quality Act (CEQA) and *State CEQA Guidelines*, those portions of the Draft EIR that are affected by the new information should be recirculated.

The characteristics of the Montreux Residential Subdivision project have not changed since the publication of the November 2013 Draft EIR. The proposed Montreux Residential Subdivision project consists of:

1. a request for rezoning of the main project site from its current pre-zoning designation of HPD (Hillside Planned Development) District to RS-6 (Single-Family Residential) District, which would be consistent with the existing General Plan designation of Low Density Residential;

2. a request for approval of a Vesting Tentative Map (Subdivision No. 8279) and preliminary grading plan for 356 single-family homes with lots averaging approximately 7,668 sq. ft. in size;

3. annexation of the main project site into the City of Pittsburg, Contra Costa Water District (CCWD) Service Area (including inclusion into the Central Valley Project), and the Delta Diablo Sanitation District (DDSD) Service Area; and

4. approval of a Development Agreement vesting the entitlements for an extended term of project approval.

Overall, approximately 77 acres of the main project site would be devoted to residential uses, and the remaining 71 acres would be set aside for open space. The average density on the main project site would be 2.4 units per acre.

This Recirculated Draft EIR will be used, in conjunction with the November 2013 Draft EIR, to inform city decision makers, responsible and trustee agencies, other public agencies, and members of the public of the potential environmental effects associated with the implementation of the Montreux Residential Subdivision project.

PURPOSE OF THIS RECIRCULATED DRAFT EIR

This Recirculated Draft EIR has been prepared pursuant to Section 15088.5 of the *State CEQA Guidelines*. A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR but prior to certification. The term "information" can include changes in the project or environmental setting as well as additional data or other information. New information is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment on a substantial adverse impact of the project or a feasible way to mitigate or avoid such an effect. The City has added information with regard to the project's biological setting, direct impacts to sensitive plant and wildlife species, and indirect impacts to special-status wildlife and determined that the revised analysis represents significant new information and therefore portions of the Draft EIR must be recirculated to provide the public an opportunity to comment on the project's potential impacts on biological resources.

SCOPE OF THIS RECIRCULATED DRAFT EIR

According to Section 15088.5 (c) of the *State CEQA Guidelines*, if the revisions to the previously circulated Draft EIR are limited to a few chapters of the EIR, the lead agency is required to recirculate only those portions of the EIR that have been modified by the changes in the project or the project's environmental setting. The City has decided to prepare a Recirculated Draft EIR and recirculate only those sections of the previously circulated Draft EIR that have been affected by the additional information related to biological resources. Therefore, this Recirculated Draft EIR includes the following:

- **Executive Summary** (replacing Chapter 2.0 of the November 2013 Draft EIR)
- **Biological Resources** (replacing Chapter 5.0, Section 5.3 of the November 2013 Draft EIR)
- **Alternatives** (replacing Chapter 6.0 of the November 2013 Draft EIR)
- **Document Preparation** (replacing Chapter 8.0 of the November 2013 Draft EIR)

Pursuant to Section 15088.5(f)(2), the City is requesting that reviewers of this document submit new comments related to the revised information on biological resources presented in the Recirculated Draft EIR chapters only.

The comments on the November 2013 Draft EIR have become part of the administrative record and those comments regarding issues *not* addressed in this Recirculated Draft EIR will be responded to in the Final EIR. Comments on the previous analysis pertaining to biological resources have been addressed in the revised Biological Resources section of this Recirculated Draft EIR. Any new comments on this

Recirculated Draft EIR must be submitted during the public comment period for this Recirculated Draft EIR if the commenter wishes to receive a written response in the Final EIR.

REPORT ORGANIZATION

This Recirculated Draft EIR is organized into the following sections with the revised sections numbered to correspond to the same sections in the previously circulated Draft EIR:

Chapter 1.0, Introduction, summarizes the purpose and organization of the Recirculated Draft EIR.

Chapter 2.0, Executive Summary, summarizes environmental consequences that would result from the implementation of the proposed Montreux Residential Subdivision project, provides a summary table that identifies significant environmental impacts, describes mitigation measures, and indicates the level of significance of impacts before and after mitigation. The summary table is unchanged from the November 2013 Draft EIR, except as to biological resources impacts and mitigations.

Chapter 5.0, Environmental Setting, Impacts and Mitigation, describes the environmental setting, including applicable plans and policies, provides an analysis of the potential environmental impacts of the proposed project and cumulative impacts, and identifies mitigation measures to reduce any significant impacts. This chapter only includes revised **Section 5.3, Biological Resources**.

Chapter 6.0, Alternatives, summarizes alternatives to the proposed project and the comparative environmental consequences and benefits of each alternative. This section includes an analysis of the No Project Alternative, among others as required by CEQA. The chapter is unchanged from the November 2013 Draft EIR except for the revised biological resources analysis.

Chapter 8.0, Report Preparation, identifies the Lead Agency and consultants involved in the preparation of the November 2013 Draft EIR and this Recirculated Draft EIR.

Appendices to this Recirculated Draft EIR include the revised biological resources assessment that was prepared in response to the comments received on the November 2013 Draft EIR.

ENVIRONMENTAL REVIEW PROCESS

The City has filed a Notice of Completion with the Governor's Office of Planning and Research (State Clearinghouse), indicating that this Recirculated Draft EIR has been completed and is available for review and comment (SCH No. 2013032079). In addition, the notice has been provided to every agency, person, and organization that commented on the previously circulated Draft EIR, as required by CEQA.

The Recirculated Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a review period of at least 45 days, as required by California law. In reviewing the Recirculated Draft EIR, reviewers should focus on the document's adequacy in identifying and analyzing the project's significant effects on the environment and ways in which the significant effects of the project might be avoided or mitigated (see *State CEQA Guidelines* Section 15204(a)). Comments should be focused only on the revised impact analyses presented in this Recirculated Draft EIR. As previously noted, the Final EIR will respond to comments submitted on the November 2013 Draft EIR, which relate to topics not addressed in this Recirculated Draft EIR. Comments may be mailed to the attention of Kristin Pollot at the City of Pittsburg Planning Department, Civic Center, 65 Civic Avenue, Pittsburg, California 94565, or comments may be sent via email to kpollot@ci.pittsburg.ca.us.

At the end of the 45-day public review period, the City will prepare written responses to all comments received on the Recirculated Draft EIR and the original November 2013 Draft EIR. All of these responses will be incorporated into the Final EIR. The Final EIR will be available to all commenting agencies at least 10 days prior to certification, in accordance with CEQA requirements.

The City will review the Final EIR for adequacy and will exercise its independent judgment regarding certification pursuant to the requirements of Section 15090 of the *State CEQA Guidelines*. If the City certifies the Final EIR, it will then consider the project separately for approval or denial. If the City chooses to approve the project, findings on the feasibility of avoiding or reducing the project's significant environmental effects will be made and, if necessary, a Statement of Overriding Considerations will be prepared.

If the City approves the proposed project, a Notice of Determination (NOD) will be prepared and filed with the State Clearinghouse. The NOD will include a description of the project, the date of approval, and an indication of whether Findings and Statement of Overriding Considerations were prepared. The NOD will also provide the address where the EIR and record of project approval are available for review.

2.0 EXECUTIVE SUMMARY

PURPOSE

This Environmental Impact Report (EIR) provides an assessment of the potentially significant environmental effects from the adoption and implementation of the proposed Montreux Residential Subdivision project. The Executive Summary is intended to provide the decision makers, responsible agencies, and the public with a clear, simple, and concise description of the proposed project and its potential significant environmental impacts.

The *California Environmental Quality Act (CEQA) Guidelines* (Section 15123) requires that a summary be included in an EIR that identifies all major conclusions, identifies each significant effect, recommended mitigation measure(s), and alternatives that would minimize or avoid potential significant impacts. The summary is also required to identify areas of controversy known to the lead agency, including issues raised by agencies and the public and issues to be resolved. These issues include the choice among alternatives and whether or how to mitigate significant effects. All of the requirements of an EIR summary are addressed in the sections below.

PROJECT LOCATION

The majority of the project site is located in Contra Costa County adjacent to the southern city limit of the City of Pittsburg, within the City of Pittsburg Urban Limit Line and within the City's sphere of influence. The project site is approximately 3 miles from downtown Pittsburg. State Route 4 provides regional access to the project site. The approximately 165-acre project site (which includes a 148.3-acre "main project site" and 16.8-acre portion of an "off-site parcel") lies on the west side of Kirker Pass Road approximately 1 mile south of Buchanan Road. The main project site is located outside the City limits while the off-site parcel is located within the City limits. The site is bordered by residential uses to the north and open space to the east, south, and west. The main project site includes Assessor's Parcel Numbers (APN) 089-020-009, -011, -014, and -015. The project would also affect portions of an off-site parcel, APN 089-010-010.

PROJECT DESCRIPTION

The proposed Montreux Residential Subdivision project consists of: (1) a request for rezoning of the main project site from its current pre-zoning designation of HPD (Hillside Planned Development) to RS-6 (Single-Family Residential 6,000 square feet [sf] minimum lots sizes) pre-zoning, which would be consistent with the existing general plan designation of Low Density Residential; (2) a request for approval of a Vesting Tentative Map (Subdivision No. 8279) and preliminary grading plan for 356 single-family homes with lots averaging approximately 7,668 sq. ft. in size; (3) annexation of the main project site into the City of Pittsburg, Contra Costa Water District (CCWD) Service Area (including inclusion into the Central Valley Project), and the Delta Diablo Sanitation District (DDSD) Service Area; and (4) approval of a Development Agreement vesting the entitlements for an extended term of project approval. Overall, approximately 77 acres of the main project site would be devoted to residential uses and the remaining 71 acres would be set aside for open space. The average residential density on the main project site would be 2.4 units per acre.

The proposed project would also include: a partially buried water tank at the top of the hill on the northern boundary of the main project site (Parcel A), a greenwall on the southern approximately 20 percent of the main project site (Parcel B), two stormwater retention basins on the eastern portion of the main project site (Parcels C and D), and a small open space area in the northeastern corner of the main project site (Parcel E). In addition, an off-site stormwater retention basin would be constructed to serve the project and would be located on the off-site parcel to the northwest of the main project site.

PURPOSE AND NEED/OBJECTIVES OF THE PROPOSED PROJECT

Section 15124(b) of the *State CEQA Guidelines* requires that the project description in an EIR include "a statement of the objectives sought by the project," which should include "the underlying purpose of the project." The objectives of the project are to:

- provide additional moderate income housing opportunities within the community, consistent with General Plan goals, through development of a high end, high quality single-family detached subdivision with large lots; and

- conserve open space by creating a "greenwall" (defined as open space with no water or sewer services passing through) on the southern 20 percent of the main project site.

TOPICS OF KNOWN CONCERN

To determine which environmental topics should be addressed in the EIR, the City of Pittsburg circulated a Notice of Preparation (NOP) in March 2013 in order to receive input from interested public agencies and private parties. A copy of that NOP was presented in Appendix 1.0 of the November 2013 Draft EIR. Based on comments received in response to the NOP, the November 2013 Draft EIR and this Recirculated Draft EIR combined address the following environmental topics in depth:

- Aesthetics
- Air Quality
- Biological Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Public Services
- Transportation and Traffic

ISSUES TO BE RESOLVED/AREAS OF CONTROVERSY

The November 2013 Draft EIR and this Recirculated Draft EIR address environmental issues associated with the proposed project that are known to the lead agency, or were raised by other public agencies or interested parties during the EIR scoping process. All scoping comments received were summarized and discussed in Appendix 1.0 of the November 2013 Draft EIR. Some of the key known issues to be resolved include the following:

- Consistency of the project with goals and objectives in the City's General Plan governing hillside development;
- Visual alteration to the project site and the project's effects on existing views;
- Consistency of the proposed project with the goals and objectives of plans addressing greenhouse gas emissions;
- The project's impacts on wildlife and wetlands on the project site;
- The ability of the Contra Costa County Fire Protection District to serve the project site; and
- The increase in traffic on local roadways near the project site.

ALTERNATIVES SUMMARY

Section 15126.6 of the *State CEQA Guidelines* requires that an environmental impact report describe a range of reasonable alternatives to the project that could feasibly attain the basic objectives of the project and reduce the degree of environmental impact. Consistent with this requirement, a reasonable range of

alternatives was evaluated that could feasibly avoid or lessen significant environmental impacts associated with the proposed project. **Chapter 6.0, Alternatives**, provides an analysis of alternatives as compared to the proposed project. Alternatives identified include the following:

- **Alterative 1: No Project/No Development**. Under this 'no development' alternative, no grading or construction would occur on the project site and the present use of the site for grazing would likely continue until a new development application is submitted and approved.

- **Alternative 2: Existing General Plan and Zoning Designations**. The Pittsburg Zoning Code designates the main project site for Hillside Planned Development (HPD) and the base residential density allowed under the HPD designation is determined in accordance with the average, natural ground slope of the land. The project site has an average slope density of approximately 33 percent across the whole site; therefore, the HPD designation would allow a density of up to 1.2 units per acre, or no more than 178 residential units for the site, which is 50 percent less than the 356 single-family homes under the proposed project.

- **Alternative 3: Reduced Density**. In an attempt to reduce the overall environmental impacts of the proposed project, a reduced density alternative was developed. Under this alternative, density would be limited to 75 percent of the proposed project, or no more than 267 residential units for the site.

- **Alternative 4: Ridgeline Preservation**. This alternative would preserve the ridgeline along the northeast edge of the main project site in order to lessen the impacts to views of the main project site, as seen from Kirker Pass Road. Under this alternative, 25 units currently planned in the northeastern corner of the main project site would be eliminated. Overall, this alternative would construct 331 residential units, or 93 percent of the units planned under the proposed project.

All of the alternatives, except for the No Project/No Development alternative, would still include a partially buried water tank at the top of the hill on the northern boundary of the main project site (Parcel A), a greenwall on the southern approximate 20 percent of the main project site (Parcel B), two stormwater retention basins on the eastern portion of the main project site (Parcels C and D), and a small open space area in the northeast corner of the main project site (Parcel E). Only Alternative 4 would require construction of the off-site stormwater retention basin.

2.8 IMPACT SUMMARY

A detailed discussion regarding potential impacts of the proposed project is provided in **Chapter 5.0, Environmental Setting, Impacts, and Mitigation Measures.** A complete summary of all impacts of the proposed project is provided in **Table 2.0-1, Summary of Impacts and Mitigation Measures**. Also provided in **Table 2.0-1** are mitigation measures that are proposed to avoid or reduce significant project impacts. The table indicates whether implementation of the recommended mitigation measures would reduce the impact to a less than significant level. It is important to note that **Table 2.0-1** includes not only those impacts and mitigation measures discussed within **Chapter 5.0** of the Draft EIR, but also the

impacts and mitigation measures carried forward from the Initial Study contained in **Appendix 1.0**. Based on further analysis in the Draft EIR, it was discovered that not all mitigation measures originally included in the Initial Study remained applicable to the project and that some of the previously proposed mitigation measures included in the Initial Study needed to be modified or replaced with equally or more effective mitigation measures. All of the impacts and mitigation measures from the Initial Study, including the modified mitigation measures, are presented in the table below (please note some numbering from the Initial Study may have changed). **Table 2.0-2, Comparison of Alternatives to the Proposed Project**, presents the environmental impacts of each alternative to allow the decision makers, agencies, and the public to compare and contrast these alternatives and weigh their relative merits and demerits.

Table 2.0-1
Summary of Project Impacts and Mitigation Measures

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Chapter 5, Environmental Setting, Impacts, and Mitigation Measures			
5.1 AESTHETICS			
Impact AES-1: Implementation of the proposed project could have a substantial adverse effect on a scenic vista.	Potentially significant	*__Mitigation Measure MM AES-1__: The architectural elevations and materials used on the exterior of the residences (including roofing materials, exterior finishing, and trim palette) shall include natural, terrain-neutral colors and prohibit the use of brightly colored terra cotta or red clay roof tiles in order to limit potential visual contrast between the proposed development and the adjacent hillsides as determined acceptable by the Planning Commission through the design review process required by Pittsburg Municipal Code (PMC) section 13.50.100. The developer shall include Codes, Covenants, and Restrictions that prohibit or limit roofing color changes by future owners, in accordance with the Planning Commission design review approval.	Less than significant
Impact AES-2: Implementation of the proposed project could substantially degrade the existing visual character or quality of the project site and its surroundings.	Potentially significant	**Mitigation Measure MM AES-2:** The developer shall hydro-seed all disturbed, yet undeveloped, slopes, including those surrounding the proposed off-site detention basin and the earthen berm, in order to encourage growth of new vegetation on the disturbed hillsides.	Significant and unavoidable
Impact AES-3: Implementation of the proposed project would create a new source of substantial light or glare which could adversely affect day or nighttime views in the area.	Potentially significant	**Mitigation Measure MM AES-3a:** The developer shall use full cutoff street lights to direct light downward. A "full cutoff" luminaire is defined as a luminaire that allows no direct light emissions above a horizontal plane through the luminaire's lowest light-emitting part. **Mitigation Measure MM AES-3b:** The developer shall prepare a photometric plan, which shows the proposed height, location, and intensity of streetlights on-site. The plan shall comply with minimum standards for roadway lighting, and shall be reviewed and approved by the City Planning and Public Works Departments. The City will consider allowing minimum street lighting illumination levels throughout the project site as the proposed subdivision is located on the urban edge in the foreground of the southern hills.	Less than significant

* Mitigation was originally included in the previously prepared Initial Study (**Appendix 1.0**), and was carried forward with additional analysis in the Draft EIR. Please note that the final text and numbering of the mitigation measure may have changed from the previously prepared Initial Study.

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Mitigation Measure MM AES-3c: The developer shall prepare Codes, Covenants & Restrictions (CC&Rs) that control flood lighting and landscape lighting on the slopes and yards of specific lots to avoid light "trespass" or "spill" and excessive illumination levels. **Mitigation Measure MM AES-3d:** The developer shall prepare CC&Rs that prohibit continuous all-night exterior lighting throughout the project.	
Impact AES-4: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to visual character.	Potentially significant	Implement **Mitigation Measures MM AES-1** and **MM AES-2**.	Less than Significant
Impact AES-5: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to light and glare.	Potentially significant	Implement **Mitigation Measures MM AES-3a** through **MM AES-3d**.	Less than significant
5.2 AIR QUALITY			
Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	Less than significant	No mitigation measures are required.	Not applicable

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact AQ-2: Construction and operation of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	Potentially Significant	*__Mitigation Measure MM AQ-2a:__ The project shall comply with the following basic construction mitigation measures from Table 8-1 in the BAAQMD 2010 *CEQA Air Quality Guidelines*: A. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. B. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. C. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. D. All vehicle speeds on unpaved roads shall be limited to 15 mph. E. Building pads shall be laid immediately after grading unless seeding or soil binders are used. F. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage informing workers of this provision shall be provided for construction workers at all access points. G. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. H. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	Significant and unavoidable

* Mitigation was originally included in the previously prepared Initial Study (Appendix 1.0 in the November 2013 Draft EIR), and was carried forward with additional analysis in the Draft EIR. Please note that the final text and numbering of the mitigation measure may have changed from the previously prepared Initial Study.

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Mitigation Measure MM AQ-2b: The project shall comply with the following additional construction mitigation measures taken from Table 8-2 in the BAAQMD 2010 *CEQA Air Quality Guidelines* for projects that exceed construction significance thresholds: A. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. B. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. C. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. D. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. E. All trucks and equipment, including their ties, shall be washed off prior to leaving the site. F. Site accesses to a distance of 100 feet from the paced road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch or gravel. G. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. H. The idling time of diesel powered construction equipment shall be minimized to no more than 2 minutes. I. The project shall develop a plan to be submitted to the City's Engineering Department, demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.	

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		J. Low VOC (i.e., ROG) paint coatings that exceed local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings) shall be used. K. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM. L. All contractors shall use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.	
Impact AQ-3: Development of the proposed project would expose nearby sensitive receptors to substantial concentrations of toxic air contaminants.	Potentially significant	Implement **Mitigation Measures MM AQ-2a** and **MM AQ-2b**.	Significant and unavoidable
Impact AQ-4: Development of the proposed project would not create objectionable odors affecting a substantial number of people.	Less than significant	No mitigation measures are required.	Not applicable
Impact AQ-5: Construction activities associated with the proposed project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under the federal and state ambient air quality standard.	Potentially significant	Implement **Mitigation Measures MM AQ-2a** and **MM AQ-2b.**	Significant and unavoidable
Impact AQ-6: Construction emissions generated by the proposed project in combination with construction emissions from the James Donlon Boulevard Extension Project would be unlikely to result in significant localized cumulative impacts.	Less than significant	No mitigation measures are required.	Not applicable

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
5.3 BIOLOGICAL RESOURCES (REVISED)			
Impact BIO-1: Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status plant species.	Potentially significant	**Mitigation Measure MM BIO-1a**: In order to receive coverage under the HCP/NCCP, the project applicant shall pay a Development Fee and a Wetland Mitigation Fee, as described below: • Development Fee: This fee will cover the development of approximately 123 acres of upland habitat that primarily includes annual grassland. Included within this area is approximately 2.8-acre of exposed rock area, an approximately 0.5-acre stand of valley oaks, and approximately 1.3-acre of coastal scrub. • Wetland Mitigation Fee: This fee shall be paid for the filling of the Waters of the US and any Waters of the State. This fee will cover the filling of 0.003 acres of the Waters of the US, as delineated on the Approved Jurisdictional Determination (see Figure 5.3-4). If any waters on the project site are determined by the RWQCB to be Waters of the State (currently estimated at approximately 0.119 acres), then the project applicant shall also pay this fee as may be required by the HCP/NCCP, for the filling of the Waters of the State. Payment of the Development Fee would address the loss of potential habitat of special-status plant species (e.g., big tarplant, round-leaved filaree) associated with grasslands, while payment of the Wetland Mitigation Fee would specifically address the loss of up to 0.016 acre of potentially suitable seasonal wetland habitat for adobe navarettia. The fees would be used in part to protect these affected special status plant species by bringing existing populations of the species under protection. Alternately, the project applicant may, in accordance with the terms of PMC Chapter 15.108, offer to dedicate land or create and restore wetlands in lieu of some or all of the mitigation fees. All applicable mitigation fees shall be paid, or an "in-lieu-of fee" agreement executed, prior to the issuance of a grading permit for the project.	Less than significant
		Mitigation Measure MM BIO-1b: Prior to issuance of a grading permit for the site, additional rare plant surveys shall be conducted for big tarplant, round-leaved filaree, and adobe navarretia. These surveys shall be appropriately timed and shall cover all potentially suitable on-site habitats. If none of the species occurs in the project development area, no further mitigation is required.	

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Mitigation Measure MM BIO-1c: If any of the above species occurs in the project development area (regardless of whether or not the wetlands are determined to be to be Waters of the State), the project applicant shall notify the HCP/NCCP Implementing Entity of the construction schedule so as to allow the HCP/NCCP Implementing Entity the option to salvage the population(s) in accordance with HCP/NCCP Conservation Measure 3.10 (Plant Salvage when Impacts are Unavoidable) described below. Additionally, the project applicant shall confirm with the HCP/NCCP Implementing Entity that the take limits of the HCP/NCCP for the three species identified in **Impact BIO-1** have not been breached (at the time of writing this EIR, the take limits have not been breached for the special-status plant species in question). *Conservation Measure 3.10 (Plant Salvage when Impacts are Unavoidable)* <u>Perennial Covered Plants</u> Where impacts on covered plant species cannot be avoided and plants will be removed by approved covered activities, the Implementing Entity has the option of salvaging the covered plants. Salvage methods for perennial species shall be tested for whole individuals, cuttings, and seeds. Salvage measures shall include the evaluation of techniques for transplanting as well as germinating seed in garden or greenhouse and then transplanting to suitable habitat sites in the field. Techniques shall be tested for each species, and appropriate methods shall be identified through research and adaptive management. Where plants are transplanted or seeds distributed to the field they shall be located in preserves in suitable habitat to establish new populations. Field trials shall be conducted to evaluate the efficacy of different methods and determine the best methods to establish new populations. New populations shall be located such that they constitute separate populations and do not become part of an existing population of the species, as measured by the potential for genetic exchange among individuals through pollen or propagule (e.g., seed, fruit) dispersal. Transplanting within the preserves shall only minimally disturb existing native vegetation and soils. Supplemental watering may be provided as necessary to increase the chances of successful establishment, but must be removed following initial population establishment. See also All Covered Plants below.	

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Annual Covered Plants For annual covered plants, mature seeds shall be collected from all individuals for which impacts cannot be avoided (or if the population is large, a representative sample of individuals). If storage is necessary, seed storage studies shall be conducted to determine the best storage techniques for each species. If needed, studies shall be conducted on seed germinated and plants grown to maturity in garden or greenhouse to propagate larger numbers of seed. Seed propagation methods shall ensure that genetic variation is not substantially affected by propagation (i.e., selection for plants best adapted to cultivated conditions). Field studies shall be conducted through the Adaptive Management Program to determine the efficacy and best approach to dispersal of seed into suitable habitat. Where seeds are distributed to the field, they shall be located in preserves in suitable habitat to establish new populations. If seed collection methods fail (e.g., due to excessive seed predation by insects), alternative propagation techniques will be necessary. See also All Covered Plants below. All Covered Plants All salvage operations shall be conducted by the Implementing Entity. To ensure enough time to plan salvage operations, project proponents shall notify the Implementing Entity of their schedule for removing the covered plant population. The Implementing Entity may conduct investigations into the efficacy of salvaging seeds from the soil seed bank for both perennial and annual species. The soil seed bank may add to the genetic variability of the population. Covered species may be separated from the soil though garden/greenhouse germination or other appropriate means. Topsoil taken from impact sites shall not be distributed into preserves because of the risk of spreading new nonnative and invasive plants to preserves For salvage operations, the Implementing Entity shall transplant new populations such that they constitute separate populations and do not become part of an existing population of the species, as measured by the potential for genetic exchange among individuals through pollen or propagule (e.g., seed, fruit) dispersal. Transplanting or seeding "receptor" sites (i.e., habitat suitable for establishing a new population) should be carefully selected on the basis of physical, biological, and logistical considerations (Fiedler and Laven 1996); some examples of these are listed below. Historic range of the species • Soil type • Soil moisture	

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		• Topographic position, including slope and aspect • Site hydrology • Mycorrhizal associates (this may be important for Mount Diablo manzanita) • Presence or absence of typical associated plant species • Presence or absence of herbivores or plant competitors. Site accessibility for establishment, monitoring, and protection from trampling by cattle or trail users.	
Impact BIO-2: Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status wildlife species.	Potentially significant	**A. California red-legged frog** Implement **Mitigation Measure MM BIO-1a** to mitigate for the potential loss of individual CRF through construction activities and the loss of potential dispersal and aestivation habitat.	Less than significant
	Potentially significant	**B. California tiger salamander** Implement **Mitigation Measure MM BIO-1a** to mitigate for the potential loss of individual CTS through construction activities and the loss of potential dispersal and aestivation habitat.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
	Potentially significant	**C. Swainson's hawk** Implement **Mitigation Measure MM BIO-1a** to mitigate for the loss of potential foraging habitat. **Mitigation Measure MM BIO-2a:** The project applicant shall implement the following avoidance measures for potential effects on Swainson's hawk nests during construction: 1) Prior to ground disturbing activities during the nesting season (March 15 through September 15), a qualified biologist shall conduct a pre-construction survey no more than one month prior to construction to establish whether occupied Swainson's hawk nests occur on or within 1,000 feet of the area of proposed construction. If no occupied nests are found, then no further mitigation is required. **2)** If occupied nests are found, there shall be no project construction activity within a 1,000 foot buffer zone distance from the nest unless a lesser buffer zone is approved by the City in consultation with CDFW. During the nesting season, construction activities shall be avoided within the established buffer zone to prevent nest abandonment. Construction monitoring shall be required to ensure that the established buffer zone is adhered to. If young fledge prior to September 15, construction activities can proceed normally without a buffer zone. If an active nest site is present but shielded from view and noise by other development or other features, the City may waive this avoidance measure (establishment of a buffer zone) if approved by the CDFW.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
	Potentially significant	**D. San Joaquin kit fox** Implement **Mitigation Measure MM BIO-1a** to mitigate for potential loss of dispersal, denning, and foraging habitat. **Mitigation Measure MM BIO-2b:** The project shall implement the following avoidance measures for potential effects on San Joaquin kit fox during construction: 1) Prior to any ground disturbance, a USFWS/CDFW-qualified biologist shall conduct a pre-construction survey within the proposed disturbance footprint and a surrounding 250-foot radius. The survey shall establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (US Fish and Wildlife Service 1999). The pre-construction survey shall be conducted no more than 30 days prior to ground disturbance. On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership are not required to be surveyed. The status of all surveyed dens shall be determined and mapped. Written results of pre-construction surveys shall be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to ground disturbance. 2) If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the measures described below shall be implemented. • If a San Joaquin kit fox den is discovered in the proposed development footprint, the den shall be monitored for 3 days by a USFWS/CDFW–qualified biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. • Unoccupied dens shall be destroyed immediately to prevent subsequent use. • If a natal or pupping den is found, USFWS and CDFW shall be notified immediately. The den shall not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		• If kit fox activity is observed at the den during the initial 3-day monitoring period, the den shall be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of the biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities). 3) If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances shall be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No ground disturbance activities shall occur within the exclusion zones. Exclusion zone radii for potential dens shall be at least 50 feet and shall be demarcated with four to five flagged stakes. Exclusion zone radii for known dens shall be at least 100 feet and shall be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.	
	Potentially significant	**E. Vernal Pool Invertebrates** Implement **Mitigation Measure MM BIO-1a** as mitigation for the loss of vernal pool habitat. **Mitigation Measure MM BIO-2c:** The project shall implement the following avoidance measures for effects on vernal pool invertebrates: 1) Prior to any ground disturbance, a USFWS-qualified biologist shall conduct a pre-construction survey within the seasonal wetland (SW-1), as it is an area identified as having suitable shrimp habitat. The survey shall be conducted in accordance with the survey protocol for covered shrimp described in the HCP/NCCP. Alternatively, the habitat may be assumed to be occupied by covered shrimp species. If covered shrimp are found to be absent during the survey, no further mitigation is required related to the covered shrimp.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		2) If covered shrimp are present (or assumed to be present), filling of the seasonal wetland shall be delayed until pools are dry and samples from the top 4 inches of wetlands soils are collected. Soil collection shall be sufficient to include a representative sample of plant and animal life present in the wetland by incorporating seeds, cysts, eggs, spores, and similar inocula. These samples shall be provided to the Implementing Entity so that the soil can be translocated to suitable habitat within the inventory area unoccupied by covered shrimp or used to inoculate newly created seasonal wetlands on preserve lands. 3) In addition, according to HCP/NCCP Conservation Measure 3.8, if the habitat is occupied by covered shrimp (or presence is assumed), the applicant shall determine if the HCP/NCCP Implementing Entity has (1) preserved elsewhere, two acres of occupied habitat (for the same shrimp species) for every acre impacted by the project, and (2) restored elsewhere, one acre of suitable habitat (for the same shrimp species) for every acre impacted, and the restored habitat is occupied. If these tasks have occurred, then no further compensation in addition to the Wetland Mitigation Fee would be required. If the Implementing Entity has not accomplished these tasks, then the project applicant shall further compensate for impacts to seasonal wetland (SW-1) by implementing both of the following actions for every acre of impact: • Preserve two acres of occupied habitat within the Preserve System or purchase an equivalent amount of vernal pool preservation credits in a USFWS-approved mitigation bank for each acre affected. • Restore one acre of suitable habitat within the Preserve System or purchase an equivalent amount of vernal pool restoration credit in a USFWS-approved mitigation bank for each acre affected. 4) As stated above, either component may be achieved by participating in a USFWS-approved mitigation bank. If habitat is restored within the HCP/NCCP Preserve System, the vernal pool acreage can be credited to the requirement for seasonal wetland creation in HCP/NCCP Conservation Measure 2.2 (and vernal pool restoration, if applicable). Similarly, if vernal pool credits are purchased within an approved mitigation bank that is also within areas designated as high- or medium-priority for conservation by the HCP/NCCP, then these credits can also offset any wetland mitigation fee for seasonal wetlands required by HCP/NCCP.	

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
	Potentially significant	**F. Burrowing Owl** Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland habitat potentially used by burrowing owl. **Mitigation Measure MM BIO-2d:** The project shall implement the following avoidance measures for potential effects on burrowing owl during construction: 1. Prior to any ground disturbance, a USFWS/CDFW qualified biologist shall conduct a pre-construction survey of the project site for burrowing owls. The pre-construction survey shall establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 1993). On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership shall not be required to be surveyed. Surveys should take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. Surveys shall take place no more than 30 days prior to construction. During the breeding season (February 1–August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results shall be valid only for the season (breeding or nonbreeding) during which the survey is conducted. 2. If burrowing owls are found during the breeding season (February 1–August 31), the project applicant shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance shall include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1–January 31), the project applicant shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a buffer zone (described below).	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Mitigation Measure MM BIO-2e: If construction begins and then is delayed for more than a year, as an interim measure, the project applicant shall periodically disk the graded areas of the project site to avoid recolonization by burrowing owls. Upon recommencement of project construction, the project applicant shall re-implement **Mitigation Measure MM BIO-2d** prior to recommencement of any ground disturbing activities.	
	Potentially significant	**G. Golden eagle** Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland habitat potentially used by golden eagles. **Mitigation Measure MM BIO-2f:** The project shall implement the following avoidance measures for potential effects on golden eagles during construction: 1. Based on the potential for active nests, prior to implementation of construction activities, including tree removal, a qualified biologist shall conduct a pre-construction survey to establish whether an active golden eagle nest is present on the project site. If an occupied nest is present, minimization requirements and construction monitoring shall be required, as detailed below. 2. Construction activities shall be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the construction activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity shall coordinate with CDFW/USFWS to determine the appropriate buffer size. 3. Construction monitoring shall ensure that no construction activities occur within the buffer zone established around an active nest. Construction monitoring shall ensure that direct effects to golden eagles are avoided.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
	Potentially significant	**H. American Badger** Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland habitat potentially used by American badger. Even though this is not an HCP/NCCP covered species, the on-site grassland foraging habitat potentially used by this species is the same type and acreage of habitat whose loss would be mitigated by payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above, and implementation of applicable provisions within PMC Chapter 15.108. **Mitigation Measure MM BIO-2g:** A pre-construction survey for potential den sites shall be conducted by a qualified biologist no more than four weeks before commencement of initial ground disturbance activities. If an occupied den is found (and if young are not present), then any badgers present shall be removed from the den either by trapping or the use of exclusionary devices. Prior to implementation, the removal method shall be approved by CDFW. .If trapped, the badgers shall be moved to other suitable habitat. Once any badgers are trapped or excluded, the dens shall be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the badgers are successfully excluded from the site, as determined by a qualified biologist.	Less than significant
	Potentially significant	**I. Special-Status Bats** **Mitigation Measure MM BIO-2h:** A qualified biologist shall conduct a roosting bat habitat evaluation prior to the removal of trees or the rock outcrops containing small fissures and crevices. The evaluation shall determine if any of these features provide potential bat roosting habitat. If it is determined that potential roosting habitat is not present, no further action shall be required. If suitable roost features are identified, then a site-specific bat protection plan shall be developed and implemented by a qualified biologist to prevent disturbance of an active maternity or hibernation roost during construction and tree removal. The plan may include the use of passive bat exclusion devices, adjusting project timing to when the roost is not active, or other protective measures. Any passive exclusion shall occur only within the following two acceptable seasonal time windows for humane exclusion: • Between about March 1, when bats become active again after heavy winter rains and when evening temperatures are above 45F, and April 15, when females start giving birth to pups. • Between August 31 and about October 15, or before heavy winter rains and when evening temperatures are above 45F. After that time, torpid bats are unable to fly out through the one-way exits.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
	Potentially significant	**J. Special-Status and Other Nesting Birds** Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland foraging habitat potentially used by California horned lark, grasshopper sparrow, white-tailed kite, and loggerhead shrike. Even though these are not HCP/NCCP covered species, the on-site grassland habitat potentially used by these species is the same type and acreage of habitat whose loss would be mitigated by payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above, and implementation of applicable provisions within PMC Chapter 15.108. **Mitigation Measure MM BIO-2i:** If construction activities commence anytime during the nesting/breeding season of native bird species potentially nesting on or near the project site (typically February through August in the project region), a pre-construction survey for nesting birds shall be conducted by a qualified biologist two weeks prior to the commencement of construction activities. If active nests are found in areas that could be directly affected or are within 300 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them shall be a minimum of 50 feet, and may be enlarged by taking into account factors such as the following: • Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; • Distance and amount of vegetation or other screening between the construction site and the nest; and • Sensitivity of individual nesting species and behaviors of the nesting birds.	Less than significant
	Potentially significant	**K. Ferruginous Hawk** Implement **Mitigation Measure MM BIO-1a.**	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact BIO-3: Implementation of the proposed project could 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.	Potentially significant	Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of 0.121 acre of wetland habitat, including waters of the U.S. and expected waters of the state.	Less than significant
Impact BIO-4: Implementation of the proposed project could 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.	Potentially significant	Implement **Mitigation Measure MM BIO-2i.**	Less than significant
Impact BIO-5: Implementation of the proposed project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	Potentially significant	Implement **Mitigation Measures MM BIO-1a to MM BIO-1c**, and **MM BIO-2a** to **MM BIO-2f**.	Less than significant
Impact BIO-6: Implementation of the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than significant	Implement **Mitigation Measures MM BIO-1a** to **MM BIO-1c**, and **MM BIO-2a** to **MM BIO-2f** to ensure consistency with the HCP/NCCP.	Not applicable
Impact BIO-7: The project could result in indirect adverse effects on nearby sensitive biological resources.	Potentially significant	**Mitigation Measures MM BIO-7a:** All street and entrance lighting shall be directed and shielded so as to minimize light spillage into off-site areas. **Mitigation Measures MM BIO-7b:** As part of the CC&R applicable to the housing development, future occupants of the two lots within approximately 160 feet of the off-site pond shall be informed through deed disclosures that any outdoor lighting to be installed shall not be allowed to result in light spillage over the fence line (in the direction of the off-site pond).	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Mitigation Measures MM BIO-7c: Prior to the issuance of a grading permit, the project applicant shall prepare a list of recommended and prohibited landscaping plants for homes and common areas in the project, which list shall be subject to review and approval by the City of Pittsburg. The list shall include a plant palette composed of non-invasive species and shall list invasive plant species that residents may not plant on the project site. The list of prohibited plants shall be compiled in cooperation with a qualified restoration specialist and distributed to future occupants of the project site as part of the CC&R applicable to the housing development.	
		Mitigation Measures MM BIO-7d: In deed disclosures the project applicant shall notify all property owners/buyers of the potential interactions that may occur between pets and native wildlife. The disclosures shall discuss the presence of native animals (e.g., coyote, bobcat, mountain lion) that could prey on pets, and state that the property owners and/or residents shall not take any actions against native animals should they prey on pets that are allowed outdoors (unless there is danger of attacks on humans).	
Impact BIO-8: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to biological resources, including special-status plant and wildlife species.	Potentially significant	Implement **Mitigation Measures MM BIO-1a** to **MM BIO-1c, MM BIO-2a** to **MM BIO-2i,** and **MM BIO-7a** to **MM BIO-7d.**	Less than significant
5.4 GEOLOGY AND SOILS			
Impact GEO-1: Implementation of the proposed project could expose people or structures to risks associated with seismic-related ground failure, including landslides.	Potentially significant	**Mitigation Measure MM GEO-1:** Once the construction documents are developed, the developer shall prepare a design-level geotechnical report to provide site-specific geotechnical recommendations for the main project site and off-site detention basin. For the main project site, the design-level geotechnical report shall	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		include the following: (1) Detailed site-specific grading plans and recommendations to reduce the risk of landslides, including partial landslide debris removal and buttressing with engineered fill or complete landslide debris removal and replacement of engineered fill. These measures shall be prepared during review of the final 40-scale grading plans. (2) Recommendations with respect to excavatability of bedrock, and appropriate treatment of oversized-rock fragments; (3) Site-specific recommendations for moisture conditioning and compaction of fills to reduce potential fill settlements; (4) Site-specific recommendations for the construction of stable cut and fill slopes; and (5) Site-specific recommendations for slope stabilization where appropriate. For the off-site basin, the design-level geotechnical report shall include: (1) Specific design recommendation for remedial grading including, the removal and replacement of landslide debris, keyways, and sub-drains. These measures shall be prepared during review of the final 40-scale grading plans; (2) Site-specific geotechnical recommendations for site preparation grading and compaction of engineered fills; and (3) Corrective grading plans depicting the location and dimensions of required slope buttresses keyways and sub-drains. All of the recommendations of the design-level geotechnical report shall be implemented in conjunction with the preparation of the project site and construction of the residences and the off-site detention basin.	
Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.	Potentially significant	Implement **Mitigation Measure MM AES-2**.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact GEO-3: The proposed project could 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-site landslides or slope failure.	Potentially significant	Implement **Mitigation Measure MM GEO-1**. **Mitigation Measure MM GEO-3**: All deleterious material shall be segregated from existing fill prior to use as engineered fill. The developer shall obtain approval from City Engineer prior to reusing any existing fill on the project site as engineered fill.	Less than significant
Impact GEO-4: The proposed project could be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property.	Potentially significant	Implement **Mitigation Measure MM GEO-1**. ***Mitigation Measure MM GEO-4**: Non-expansive granular soil fill shall be placed under structures at depths ranging from at least 1 to 2 feet, for building pads and the immediate perimeter areas, and beneath flatwork and paved areas. Final locations, depths, and dimensions of the non-expansive fill placement shall be determined in accordance with the recommendations in the design-level geotechnical report, as reviewed and approved by the City Engineer. Non-expansive soils shall also be kept moist by watering for several days before placement of concrete in order to avoid having to remoisturize clayey soils (which would involve excavation, moisture conditions, and recompaction).	Less than significant
Impact GEO-5: The proposed project along with other existing and future development in the cities of Pittsburg and Antioch would not result in a significant cumulative impact related to geologic risks.	Less than significant	No mitigation measures are required.	Not applicable
5.5 GREENHOUSE GAS EMISSIONS			
Impact GHG-1: The proposed development would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation measures are required.	Not applicable

* Mitigation was originally included in the previously prepared Initial Study (**Appendix 1.0**), and was carried forward with additional analysis in the Draft EIR. Please note that the final text and numbering of the mitigation measure may have changed from the previously prepared Initial Study.

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact GHG-2: The development would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	Less than significant	No mitigation measures are required.	Not applicable
Impact GHG-3: The proposed development would not generate GHG emissions, either directly or indirectly, that may have a cumulatively significant impact on the environment.	Less than significant	No mitigation measures are required.	Not applicable
5.6 PUBLIC SERVICES			
Impact PS-1: The proposed project would be located outside the 1.5-mile response radius of an existing or planned fire station and would not meet the response time guideline of six minutes 90 percent of the time.	Potentially significant	**Mitigation Measure MM PS-1a:** The developer shall pay a Fire Facility Impact Fee in the sum of $591.00 per single-family unit. **Mitigation Measure MM PS-1b**: The developer shall complete and submit for approval to the Contra Costa County Fire Protection District a fire protection plan for the proposed project, prior to approval of the first final map. The fire protection plan shall include details for a fuel modification zone around the subdivision and detail for the organization that will be responsible for ongoing maintenance of the fuel modification zone. **Mitigation Measure MM PS-1c**: All homes shall have not less than a Class "A" fire-rated roof assembly. **Mitigation Measure MM PS-1d**: Only fire resistant exterior building materials shall be used. **Mitigation Measure MM PS-1e**: In deed disclosures, the developer shall notify all property owners/buyers that the site is currently outside the 1.5-mile fire department response radius specified by the General Plan. **Mitigation Measure MM PS-1f**: The developer shall provide a minimum fire flow on site of 1500 gallons per minute (GPM). Required flow must be delivered from not more than one hydrant flowing for a duration of 120 minutes, while maintaining 20-pounds residual pressure in the main. **Mitigation Measure MM PS-1g**: Flammable or combustible liquid storage tanks used for fueling grading equipment, shall not be located on the site without first obtaining necessary approvals and permits from the Fire District.	Significant and unavoidable

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact PS-2: Future development in the cities of Pittsburg and Antioch could require new or physically altered fire facilities the construction of which could cause significant environmental impacts. However, the project's contribution to the cumulative impact would not be cumulatively considerable, as the Contra Costa County Fire Protection District has indicated that no new facilities would need to be constructed in order to serve the proposed project.	Less than significant	No mitigation measures are required.	Not applicable
5.7 TRANSPORTATION AND TRAFFIC			
Impact TRA-1: Implementation of the proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under Baseline plus Project conditions with and without the James Donlon Boulevard Extension and under Existing plus Project conditions.	Less than significant	No mitigation measures are required.	Not applicable
Impact TRA-2: Implementation of the proposed project would not conflict with an applicable congestion management program.	Less than significant	No mitigation measures are required.	Not applicable
Impact TRA-3: Implementation of the proposed project has the potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Potentially significant	*__Mitigation Measure MM TRA-1:__ The developer shall construct a sidewalk along the west side of Kirker Pass Road, or some other alternative pedestrian access route, connecting the project site to the nearest existing sidewalk to the north. The sidewalk or alternative pedestrian route shall be constructed prior to occupancy of the first units constructed on the project site.	Less than significant

* Mitigation was originally included in the previously prepared initial study (**Appendix 1.0**), and was carried forward with additional analysis in the Draft EIR. Please note that the final text and numbering of the mitigation measure may have changed from the previously prepared initial study.

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact TRA-4: Implementation of the proposed project, in conjunction with other reasonably foreseeable future development, would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under Cumulative (2035) plus Project conditions with or without the James Donlon Boulevard Extension.	Less than significant	No mitigation measures are required.	Not applicable
Appendix 1.0 NOP/Initial Study			
CULTURAL RESOURCES			
Impact CUL-1: Grading or trenching activities in the area of the demolished ranch complex (in the eastern portion of the site) could disturb or destroy remnants of the potential historic site and potential buried historic deposits which may have been buried by the demolition of the ranch.	Potentially significant	**Mitigation Measure CUL-1**: Prior to the issuance of a grading permit, the developer shall retain a professional cultural resources consultant to monitor grading and/or trenching activities in the area of the demolished ranch complex (as referenced in the July, 2000 Holman & Associates study) to identify any possible historic deposits which may have been buried there during the demolition of the ranch. In the event that any archeological deposits are identified, work shall be stopped within 50 feet of any discovery until it has been evaluated for potential significance as defined by the *State CEQA guidelines*. If evaluative testing concludes that the archeological deposits are significant, a plan for mitigation of impacts shall be submitted to the City of Pittsburg for approval before any further earthmoving activities recommence in the area of discovery.	Less than significant
Impact CUL-2: Any ground disturbing activities performed for the proposed project could possibly disturb or destroy previously unidentified archaeological resources.	Potentially significant	**Mitigation Measure CUL-2**: In the event that unknown cultural resources are discovered during construction, all soil disturbing work within 100 feet of the find shall cease. The City shall contact a qualified archaeologist to provide direction for handling of the find, and shall implement a plan for survey and subsurface investigation as needed at the direction of the archaeologist to define the deposit and to assess the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project. A written report of the results of investigations shall be prepared by a qualified archaeologist and filed with the appropriate Information Center of the California Historical Resources Information System.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact CUL-3: Any ground disturbing activities performed for the proposed project could possibly disturb or destroy previously unknown burial locations for human remains.	Potentially significant	**Mitigation Measure CUL-3**: In the event of a discovery on-site of human bone, suspected human bone, or a burial, all excavation in the vicinity shall halt immediately and the area of the find shall be protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bone is human, or if a qualified archaeologist is not present, the City shall notify the County Coroner of the find before additional disturbance occurs. Consistent with California Health and Safety Code Section 7050.5(b), which prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC 5097 procedures, the City shall ensure that the remains and vicinity of the find are protected against further disturbance. If it is determined that the find is of Native American origin, the City shall comply with the provisions of PRC Section 5097.98 regarding identification and involvement of the Native American Most Likely Descendant (MLD). If human remains cannot be left in place, the City shall ensure that the qualified archaeologist and the MLD are provided opportunity to confer on archaeological treatment of human remains, and that appropriate studies, as identified through this consultation, are carried out prior to reinterment. The City shall provide results of all such studies to the local Native American community, and shall provide an opportunity of local Native American involvement in any interpretative reporting. As stipulated by the provisions of the California Native American Graves Protection and Repatriation Act, the City shall ensure that human remains and associated artifacts recovered from projects within City boundaries are repatriated to the appropriate local tribal group if requested.	Less than significant
HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-1: Previous ranching operations may have resulted in contamination from fuel and maintenance chemicals in the area of the former ranch complex. Construction of the proposed residential subdivision could expose construction workers and future residents to possible contamination.	Potentially significant	**Mitigation Measure HAZ-1**: Prior to the issuance of a grading permit, soil and groundwater sampling shall be conducted in the area of historic development at the former ranch complex in the southeastern portion of the site in order to verify that any soil contamination concentrations are below residential action levels. In the event that soil contamination concentrations exceed the Department of Toxic Substances Control (DTSC) action levels for residential uses, the developer shall work with the DTSC to prepare a risk assessment and implement any DTSC required remedial actions, continuing until the DTSC verifies that concentrations meet the remediation standard established for the site and a No Further Action letter (or equivalent approval) is issued by the DTSC.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact HAZ-2: Although located between 600 and 1,270 feet away from the project area, the natural gas and multi-purpose petroleum pipelines carry hazardous materials including natural gas and other petroleum products such as diesel, jet fuel, and/or gasoline. Upset conditions involving leakage or rupture of these pipelines are not reasonably foreseeable in the area; however, due to the nature of the materials being transported, any leakage or rupture that may occur could cause significant impacts.	Potentially significant	**Mitigation Measure HAZ-2**: Developer shall provide suitable disclosures in writing to all prospective homebuyers to notify them of the presence of both the natural gas pipeline and the petroleum product pipeline. Such notices shall include information on the pipeline locations and materials transported; safety guidance, including the importance of observing pipeline location notices and restrictions on subsurface work or other activities within the pipeline easement; and information on the City's emergency response plan and procedures. A requirement for provision of such notices to future buyers shall be included in the Covenants, Conditions, and Restrictions for the proposed development.	Less than significant
Impact HAZ-3: The proposed project would introduce residential dwellings within the urban-wildland interface and increase the potential to expose residents and houses to wildland fire risks. The proposed layout of the Vesting Tentative Map would also obstruct access to existing fire trail systems (Fire Trail 85-2).	Potentially significant	**Mitigation Measure HAZ-3.1**: The developer shall disclose in writing to all prospective homebuyers on perimeter lots, the Natural Hazards Disclosure Statement (NHDS) for wildland fire. The developer shall also provide public education information, including the requirements of Public Resources Code 4291 and Contra Costa County Fire Protection District Defensible Space Standards, reduced fuel zones, and weed abatement requirements. **Mitigation Measure HAZ-3.2**: In accordance with Public Resources Code, Section 4291, all residential units adjacent to open slopes shall be required to maintain a 100-foot defensible-space setback to the residential structure with fire resistant landscaping for areas adjacent to open slopes. If this setback area extends beyond the individual property lines, yet within the project boundaries, then maintenance of the fire setback areas shall become the responsibility of the applicable property owner associated with the area in question or the Geologic Hazard Abatement District (GHAD). **Mitigation Measure HAZ-3.3**: Prior to approval of the Vesting Tentative Map, the City shall ensure that the developer has provided access to open space areas or to the existing fire trails systems (Fire Trail 85-2) equivalent to the existing access and adequate to allow emergency access to all open space on the project site and to any adjacent open space that is currently accessed primarily from the project site. These access roadways shall be a minimum of 16 feet in width in order to accommodate Fire Protection District equipment and personnel. The proposed access plan shall be reviewed and approved by the Fire Protection District prior to approval of the first Final Map.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
LAND USE AND PLANNING			
Impact LUP-1: While the project design does include approximately 43.4 acres of open space designated land located along the southern boundary of the site, the land is not proposed for permanent conservation, as required by General Plan Policy 2-P-73 (and the May 3, 2006, MOU) which could be considered a conflict with General Plan Policy 2-P-73.	Potentially significant	**Mitigation Measure LUP-1**: The developer shall ensure the southern portion of the project site, currently designated as Open Space (approximately 43.4 acres), is permanently preserved as a greenbelt buffer, in accordance with Policy 2-P-73, through the recordation of a deed restriction or some other appropriate mechanism, prior to the acceptance of the last Final Map for the site (should it be broken into phases).	Less than significant
NOISE			
Impact NOI-1: Exposure of future residents sited closest to Kirker Pass Road to noise levels in excess of exterior noise levels considered acceptable for residential uses would be inconsistent with the intent of the Pittsburg General Plan, Noise Element.	Potentially significant	**Mitigation Measure NOI-1:** A 6-foot noise barrier shall be installed along the rear and side property lines of Lots 1, 2, 207 and 208. Design of the noise barrier shall coordinate with adjacent fencing and shall be subject to review and approval by the Planning Division at the time the design review application is filed for the residential units.	Less than significant
Impact NOI-2: Construction activity (i.e., grading) would occur as close as 250 feet from noise-sensitive single-family residential land uses situated to the north of the project site. At this distance, and assuming uninterrupted line of sight, temporary noise from construction equipment on the project site could range from 68 to 73 dB(A), which would exceed the City's exterior noise standard of 60 dB(A) Ldn for single-family residences.	Potentially significant	**Mitigation Measure NOI-2:** The project developer shall prepare construction specifications that will become part of contractor documents and which could be enforced by the City of Pittsburg Building Division on an as needed basis. The construction specifications will require the contractor to: • Limit construction activities to the hours between 7:00 AM and 5:30 PM on weekdays and between 9:00 AM and 6:00 PM on Saturdays and Sundays. No construction shall take place on locally observed holidays. • Locate fixed construction equipment such as compressors and generators as far as feasibly possible from sensitive receptors (i.e., existing houses). Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on power construction equipment.	Less than significant

Environmental Topic and Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
UTILITIES AND SERVICE SYSTEMS			
Impact UTL-1: The project site is within the CCWD SOI; however, it is not currently within the CCWD Service Area boundary and therefore the site does not have entitlements for CVP water supply by the CCWD.	Potentially significant	**Mitigation Measure UTL-1:** The developer shall provide all necessary documentation required by the CCWD for its application for inclusion of the project site in the CVP. No grading or building permits shall be issued until the project site has been annexed into the CCWD service area and the developer provides the City with a "Will Serve" letter from the CCWD verifying that the project site has been included in the CVP.	Less than significant

Table 2.0-2
Comparison of Alternatives to the Proposed Project

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
5.1 Aesthetics					
Impact AES-1: Implementation of the proposed project could have a substantial adverse effect on a scenic vista.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact AES-2: Implementation of the proposed project could substantially degrade the existing visual character or quality of the project site and its surroundings.	SU	N	SU (-)	SU (-)	SU (-)
Impact AES-3: Implementation of the proposed project would create a new source of substantial light or glare which could adversely affect day or nighttime views in the area.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact AES-4: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to visual character.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact AES-5: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to light and glare.	LSM	N	LSM (-)	LSM (-)	LSM (-)
5.2 Air Quality					
Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	LS	N	LS (-)	LS (-)	LS (-)
Impact AQ-2: Construction and operation of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	SU	N	SU (-)	SU (-)	SU (-)
Impact AQ-3: Development of the proposed project would expose nearby sensitive receptors to substantial concentrations of toxic air contaminants.	SU	N	SU (-)	SU (-)	SU (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
Impact AQ-4: Development of the proposed project would not create objectionable odors affecting a substantial number of people.	LS	N	LS (-)	LS (-)	LS (-)
Impact AQ-5: Construction activities associated with the proposed project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under the federal and state ambient air quality standard.	SU	N	SU (-)	SU (-)	SU (-)
Impact AQ-6: Construction emissions generated by the proposed project in combination with construction emissions from the James Donlon Boulevard Extension Project would be unlikely to result in significant localized cumulative impacts.	LS	N	LS (-)	LS (-)	LS (-)
5.3 Biological Resources (Revised)					
Impact BIO-1: Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status plant species.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-2: Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status wildlife species.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-3: Implementation of the proposed project could 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.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-4: Implementation of the proposed project could 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.	LSM	N	LSM (-)	LSM (-)	LSM (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
Impact BIO-5: Implementation of the proposed project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-6: Implementation of the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-7: The proposed project could result in indirect adverse effects on nearby sensitive biological resources.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-8: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to biological resources, including special-status plant and wildlife species.	LSM	N	LSM (-)	LSM (-)	LSM (-)
5.4 Geology And Soils					
Impact GEO-1: Implementation of the proposed project could expose people or structures to risks associated with seismic-related ground failure, including landslides.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-3: The proposed project could 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-site landslides or slope failure.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-4: The proposed project could be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-5: The proposed project along with other existing and future development in the cities of Pittsburg and Antioch would not result in a significant cumulative impact related to geologic risks.	LS	N	LS (-)	LS (-)	LS (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
5.5 Greenhouse Gas Emissions					
Impact GHG-1: The proposed development would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LS	LS (-)	LS (-)	LS (-)	LS (-)
Impact GHG-2: The development would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	LS	LS (-)	LS (-)	LS (-)	LS (-)
Impact GHG-3: The proposed development would not generate GHG emissions, either directly or indirectly, that may have a cumulatively significant impact on the environment.	LS	LS (-)	LS (-)	LS (-)	LS (-)
5.6 Public Services					
Impact PS-1: The proposed project would be located outside the 1.5-mile response radius of an existing or planned fire station and would not meet the response time guideline of 6 minutes 90 percent of the time.	SU	N	SU (-)	SU (-)	SU (-)
Impact PS-2: Future development in the cities of Pittsburg and Antioch could require new or physically altered fire facilities the construction of which could cause significant environmental impacts. However, the project's contribution to the cumulative impact would not be cumulatively considerable, as the Contra Costa County Fire Protection District has indicated that no new facilities would need to be constructed in order to serve the proposed project.	LS	N	LS (-)	LS (-)	LS (-)
5.7 Transportation And Traffic					
Impact TRA-1: Implementation of the proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under Baseline plus Project conditions with and without the James Donlon Boulevard Extension and under Existing plus Project conditions.	LS	N	LS (-)	LS (-)	LS (-)
Impact TRA-2: Implementation of the proposed project would not conflict with an applicable congestion management program.	LS	N	LS (-)	LS (-)	LS (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
Impact TRA-3: Implementation of the proposed project has the potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LSM	N	LSM (=)	LSM (=)	LSM (=)
Impact TRA-4: Implementation of the proposed project, in conjunction with other reasonably foreseeable future development, would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under Cumulative (2035) plus Project conditions with or without the James Donlon Boulevard Extension.	LS	N	LS (-)	LS (-)	LS (-)

Notes: N = No impact; LS=Less than significant or negligible impact, no mitigation required; LSM = Less than significant impact after mitigation; SU = Significant and unavoidable impact after mitigation; (+/-) = impact is more severe or less severe than project impact after mitigation; and (=) = impact is similar to project impact after mitigation.

5.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

INTRODUCTION

This chapter of the Draft Environmental Impact Report (EIR) presents potential environmental impacts of the proposed project. The scope of the analysis and key attributes of the analytical approach are presented below to assist the reader in understanding the manner in which the impact analysis has been conducted in this Draft EIR.

LEVELS OF SIGNIFICANCE

The Draft EIR uses a variety of terms to describe the levels of significance of adverse impacts identified during the course of the environmental analysis. The following are definitions of terms used in this Draft EIR:

- **Significant and Unavoidable Impact.** Impacts that exceed the defined standards of significance and cannot be eliminated or reduced to a less than significant level through the implementation of feasible mitigation measures.

- **Significant Impact.** Impacts that exceed the defined standards of significance and that can be eliminated or reduced to a less than significant level through the implementation of feasible mitigation measures.

- **Potentially Significant Impact.** Significant impacts that may ultimately be determined to be less than significant; the level of significance may be reduced in the future through implementation of policies or guidelines (that are not required by statute or ordinance), or through further definition of the project detail in the future. Potentially Significant Impacts may also be impacts about which there is not enough information to draw a firm conclusion; however, for the purpose of this Draft EIR, they are considered significant. Such impacts are equivalent to Significant Impacts and require the identification of feasible mitigation measures.

- **Less Than Significant Impact.** Impacts that are adverse but that do not exceed the specified standards of significance.

- **No Impact.** The project would not create an impact.

APPROACH TO IMPACT ANALYSIS

The preparation of the Draft EIR was preceded by an Initial Study (included in Appendix 1.0 of the November 2013 Draft EIR), which determined that the proposed project would not result in significant or potentially significant impacts in certain resource areas. Therefore, the Draft EIR evaluates project impacts in seven of the 17 resource areas on the Appendix G California Environmental Quality Act (CEQA) checklist.

For each of the seven resource areas evaluated, the Draft EIR describes the existing environmental setting, the potential for the proposed project to significantly affect the existing resources, and recommended mitigation measures that could reduce or avoid potentially significant impacts. Each of the resource sections also clearly identifies those impacts that were determined in the Initial Study to be less than significant, and thus, do not require detailed evaluation in the Draft EIR.

For purposes of the analyses in the Draft EIR, the year 2013 is used to establish the baseline or existing conditions. Impacts, with the exception of traffic impacts, are evaluated in terms of environmental changes as a result of implementation of the proposed project as compared to existing conditions in 2013. Traffic impacts are evaluated in terms of environmental changes as a result of implementation of the proposed project as compared to baseline conditions, which consists of existing traffic plus anticipated traffic from approved developments.

APPROACH TO CUMULATIVE IMPACT ANALYSIS

CEQA requires that EIRs discuss cumulative impacts, in addition to project-specific impacts. In accordance with CEQA, the discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. According to Section 15355 of the *State CEQA Guidelines*:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

Section 15130(a)(l) of the *State CEQA Guidelines* further states that "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts."

Section 15130(a) of the *State CEQA Guidelines* also requires that EIRs discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable."[1] Where a Lead Agency is examining a project with an incremental effect that is not cumulatively considerable, it need not consider the effect significant but must briefly describe the basis for its conclusion. If the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, Section 15130(a)(2) of the *State CEQA Guidelines* requires a brief discussion in the EIR of why the cumulative impact is not significant and why it is not discussed in further detail. Section 15130(a)(3) of the *State CEQA Guidelines* requires supporting analysis in the EIR if a determination is made that a project's contribution to a significant cumulative impact is rendered less than cumulatively considerable and, therefore, is not significant. CEQA recognizes that the analysis of cumulative impacts need not be as detailed as the analysis of project-related impacts, but instead should "be guided by the standards of practicality and reasonableness."[2] The discussion of cumulative impacts in this Draft EIR focuses on whether the impacts of the proposed project are cumulatively considerable.

The fact that a cumulative impact is significant does not necessarily mean that the project contribution to the cumulative impact is significant as well. Instead, under CEQA, a project-related contribution to a significant cumulative impact is only significant if the contribution is "cumulatively considerable." To support each significance conclusion, the Draft EIR provides a cumulative impact analysis; and where project-specific impacts have been identified that, together with the effects of other related projects, could result in cumulatively significant impacts, these potential impacts are documented.

Section 15130(b) of the *State CEQA Guidelines* defines consideration of the following two elements as necessary to provide an adequate discussion of cumulative impacts:

> *(A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency, or (B) a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions.*

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1 Under Section 15065(a)(3) of the *State CEQA Guidelines*, "cumulatively considerable" means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

2 *State CEQA Guidelines* Section 15130(b)

In the Draft EIR, a list of projects approved or anticipated to be approved in the near future in the vicinity of the project site is used to describe or evaluate conditions contributing to the cumulative effects. A brief description of these projects is provided below.

Major Projects

- **Sky Ranch II**. This project is located south of Buchanan Road and west of Somersville Road approximately 1.5 miles east of the proposed project. This project consists of 415 residential dwelling units located on a 163-acre site. This project was approved by the City of Pittsburg in 2007 and has yet to be constructed.

- **Black Diamond Ranch**. This project is located west of Somersville Road along both sides of James Donlon Boulevard about 2 miles east of the proposed project. This project consists of 286 residential dwelling units located on an approximate 125-acre site. This project was approved by the City of Antioch in 2004 and is currently under construction.

- **Tuscany Meadows**. This project is located south of Buchanan Road at Somersville Road approximately 2 miles northeast of the proposed project. This project consists of 917 single-family residential dwelling units and a maximum of 365 multi-family units located on an approximate 170-acre site. This project is currently pending approval from the City of Pittsburg.

- **James Donlon Boulevard Extension**. The project consists of a 1.71-mile extension of James Donlon Boulevard from Somersville Road to Kirker Pass Road. In addition, the project would include improvements to Kirker Pass Road from Nortonville Road north to the Pittsburg City limit. This project is currently pending approval from the City of Pittsburg.

5.3 BIOLOGICAL RESOURCES

INTRODUCTION

This section identifies existing biological resources present on and in the vicinity of the project site and analyzes the potential for implementation of the proposed project to adversely affect those resources. For impacts that are determined to be significant, mitigation measures are presented to reduce the impacts to less than significant levels. Information presented in this section is based on the Biological Resources Assessment prepared by Moore Biological Consultants in May 2014 for the entire project site (main project site and off-site parcel). In addition, information from reconnaissance-level surveys conducted by Vollmar Natural Lands Consulting and Pacific Biology in September and October 2014, and from database reviews, the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), and other sources is incorporated into this section. A copy of the May 2014 Biological Resources Assessment is provided in **Appendix 5.3**.

The project site is approximately 165 acres, which includes a 148.3-acre main project site and a 16.8-acre off-site parcel. Overall, approximately 77 acres of the main project site would be devoted to residential uses and the remaining 71 acres would be set aside as open space, including 42 acres of open space along the southern portion of the main project site to provide a greenwall (defined as open space with no water or sewer services passing through) as required by General Plan Policy 2-P-73. The off-site parcel would be used to locate a stormwater detention basin.

METHODOLOGY

Moore Biological Consultants prepared an initial Biological Resources Assessment for the project on March 26, 2013. A subsequent Updated Biological Resources Assessment was then prepared by Moore Biological Consultants on May 28, 2014. The work conducted for the project by Moore Biological Consultants included the following:

- A Jurisdictional Delineation of Waters of the US was conducted on June 28 and September 29, 2010. Minor revisions to the delineation were made following 2011 and 2012 field visits with the United States Army Corps of Engineers (USACE). The delineation was verified by the USACE on July 5, 2012 (SPN File Number 1999-24307S).

- Surveys for special-status plant species were conducted on June 28, July 19, and September 29, 2010; November 1, 2011; June 5, 2012; and March 18, 2013.[1] According to Moore Biological

[1] Email correspondence between Moore Biological Consultants and Discovery Builders on September 21, 2014.

Consultants, the surveys were conducted by driving and walking systematically throughout the project site, searching for special-status plants.

- The suitability of on-site habitats for special-status plant and wildlife species was evaluated taking into consideration factors such as on-site habitat conditions and plant communities, and surrounding land uses.

Pacific Biology and Vollmar Natural Lands Consulting conducted a reconnaissance-level survey of the project site on September 3, 2014. The survey included visiting representative habitat locations and characterizing the on-site and surrounding habitat types. The potential occurrence of special-status plant and wildlife species was evaluated based on an analysis of on-site habitats, known home ranges and/or distribution of target species, and other biological characteristics. Vollmar Natural Lands Consulting conducted an additional reconnaissance-level survey on October 23, 2014, to record the dominant plant species, characterize the soils on the project site, and to generally map the on-site plant communities.

In addition, the California Natural Diversity Data Base (CNDDB) was reviewed by Pacific Biology in November 2014, to determine the location of documented special-status plant and wildlife species relative to the project site. Additionally, the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants and the US Fish and Wildlife Service (USFWS) database were reviewed.

ENVIRONMENTAL SETTING

Regional Setting

The project site is located within the East Bay Hills within California's Coast Ranges region. The area consists of low hills north and south of the Carquinez Strait and includes valleys between the hills. The area also contains plains at the west end of the Sacramento-San Joaquin River Delta. The climate is classified as "Mediterranean," with hot, dry summers and cool, moist winters. Mean annual precipitation at the site is 18.1 inches, and the mean temperature is 59.6 degrees Fahrenheit (PRISM 2014). Approximately 98 percent of all precipitation in the area occurs during the October to May "wet season."

From a biological resources perspective, precipitation is the most important climate variable in the region. Precipitation patterns in the region have been erratic in recent years. The region experienced above average precipitation during the 2009-10 and 2010-11 wet seasons (112 and 113 percent of normal, respectively), though a majority of precipitation occurred during relatively short periods of time. The following years were drought years, with only 65 and 74 percent of normal precipitation occurring in the region, respectively (PRISM 2014). The 2013-14 wet season was even drier, with only 54 percent of

precipitation occurring in the area, and the time frame from October through January experiencing only 18 percent of normal precipitation (the driest winter on record).

The project site is located immediately to the south of the city limit of Pittsburg and associated dense urban development. Approximately 3.5 miles south of the project site are the cities of Concord and Clayton. Areas surrounding the site to the west, east and south are primarily undeveloped, consisting of agricultural and open space lands. Areas of mostly undeveloped land extend approximately 10 miles northwest of the project site, to the Carquinez Strait. To the southeast of the site, open space and agricultural lands (with little development) extend to the Central Valley. Open space areas to the southeast of the project site include, but are not limited to Black Diamond Mines Regional Preserve, Contra Loma Regional Park, Mt. Diablo State Park, Round Valley Regional Preserve, and Los Vaqueros Reservoir. The location of the project site relative to open space/agricultural lands is shown in **Figure 5.3-1, Regional Location**.

Local Setting

The project site consists of relatively steep and rolling hills. Site elevations range from approximately 300 to 660 feet above mean sea level. The project site is primarily vegetated with annual grassland vegetation, with only a few stands of trees located on the southern and western portions of the project site. Although the majority of the site is upland grassland, there are two small seasonal wetlands, a seasonal wetland swale, and several ephemeral drainages throughout the site (**Figure 5.3-2, Plant Communities**).

There is a steep, rocky hill slope just southeast of the dirt road entrance from Kirker Pass Road and a linear band of exposed bedrock along a south-facing hill in the north-central part of the main site. The patches of exposed bedrock in the north-central part of the main site are in horizontal striations along the hillside and protrude through the surface of the hill. There are several shallow caves along the rock outcrop.

Soils

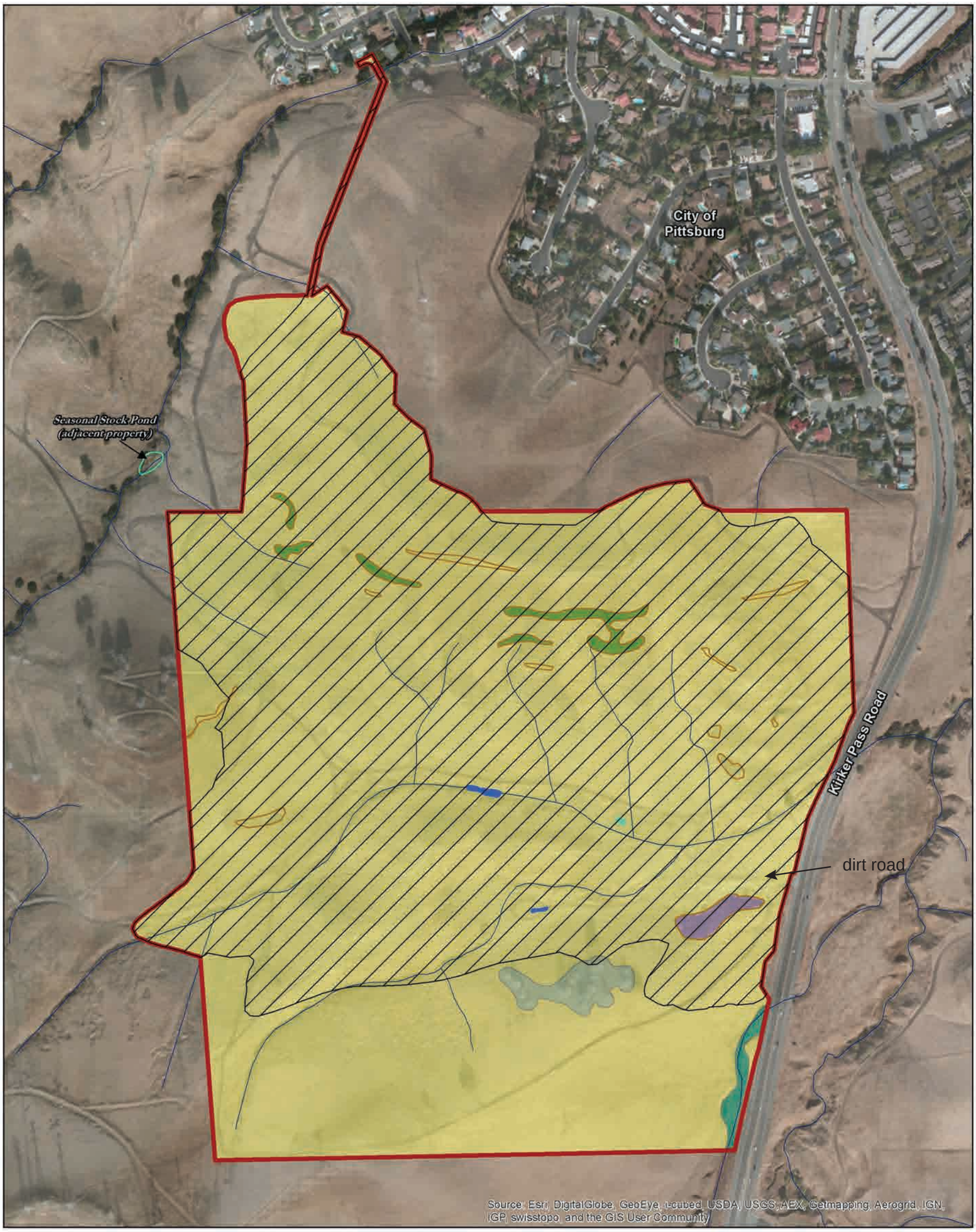
Soils on the project site consist of clay and clay loam derived from ancient marine sedimentary materials, primarily sandstone and shale (USDA 2005). As shown in **Table 5.3-1, Soil Units Mapped within the Project Site**, most of the mapped units are slightly alkali—only one of the eight soil units features an average pH below 7.0 (i.e., acidic). This is the Lodo-Rock outcrop complex, which is dominated by a band of exposed sandstone and shale along the central portion of the project site (**Figure 5.3-3, Soils**).

SOURCE: Pacific Biology, Inc., 2014

FIGURE **5.3-1**

Regional Location

0884.005•11/14



Legend

- Project Site Boundary
- Disturbance Footprint Boundary
- Exposed Rock Area (2.8 ac.)[1]
- Drainage

Plant Communities

- Annual Grassland (97% of project site)
- California Buckeye Woodland (1% of project site, 1.6 ac.)
- Coastal Scrub (0.8% of project site, 1.3 ac.)
- Valley Oak Woodland (0.4% of project site)
- Drainage Wetland (0.4% of project site)[2]
- Spring Wetland (0.03% of project site)[2]
- Seasonal Pool Wetland (0.007% of project site)[2]

1. Many areas include crevices and small, shallow caves
2. Boundary is approximate. See Figure 5.3-4 for Corps verified wetland boundaries.

424 212 0 424

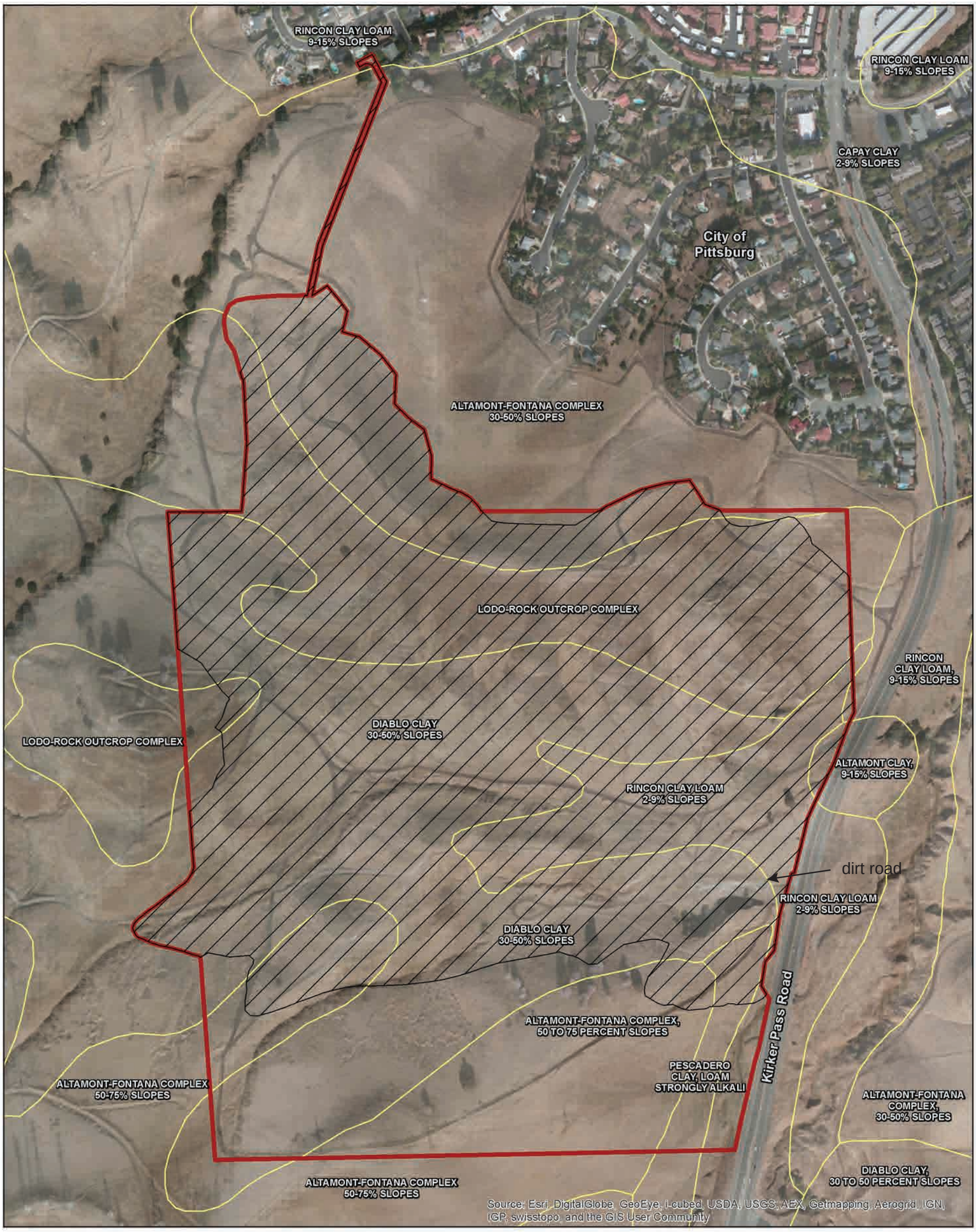
APPROXIMATE SCALE IN FEET

SOURCE: Vollmar Natural Lands Consulting, 2014

FIGURE **5.3-2**

Plant Communities

0884.005•11/14



SOURCE: Vollmar Natural Lands Consulting, 2014

FIGURE **5.3-3**

Soils

Table 5.3-1
Soil Units Mapped within the Project Site

Soil Unit	Parent Material	Surface Texture	pH Rating	Percent of Project Site
Altamont clay, 9-15% slopes	Residuum weathered from sandstone and shale	Clay	7.5	0.3%
Altamont-Fontana complex, 30-50% slopes	Residuum weathered from sandstone and shale	Clay	7.5	9.9%
Altamont-Fontana complex, 50-75% slopes	Residuum weathered from sandstone and shale	Clay	7.5	14.4%
Diablo clay, 30-50% slopes	Residuum weathered from sandstone and shale	Clay	7.5	43.3%
Lodo-Rock outcrop complex	Residuum weathered from sandstone and shale	Clay loam & bedrock	6.5	20.8%
Pescadero clay, loam strongly alkali	Residuum weathered from sedimentary rock	Clay loam	8.3	2.0%
Rincon clay loam, 2-9% slopes	Clayey alluvium derived from sedimentary rock	Clay loam	7.0	9.2%
Rincon clay loam, 9-15% slopes	Clayey alluvium derived from sedimentary rock	Clay loam	7.0	0.1%

Sources: USDA SSURGO soil survey data, 2005.

From a botanical resources perspective, the alkali soils and those with the highest clay content are of particular interest. The Pescadero clay, loam a strongly alkali soil type, is relatively common within alkali sinks and other low-lying areas in the region, and is known to support a number of unique and special-status status plants in the vicinity of the project site (see **Table 5.3-2**). This soil occurs in the southern portion of the project site mostly outside of the proposed development footprint (**Figure 5.3-2**). The second most important soil type from a botanical resources perspective is the Diablo clay unit, which features the highest clay content among the upland soils on the site. Most of the plants listed in **Table 5.3-2** as occurring within clay soils have potential to occur on Diablo clay soils.

Vegetation

California annual grassland best describes the dominant upland habitat type on both the main project site and the off-site parcel. More limited plant communities include buckeye woodland, coastal scrub, valley oak woodland, and wetlands. The distribution of these plant communities is a function of topography and soil types.

Annual Grassland

Annual grassland is prevalent on approximately 97 percent of the project site (**Figure 5.3-2**). However, the habitat encompasses several distinct microhabitats that vary according to slope, aspect, and soil type. The

most common grasses observed on the site include slender wild oat (*Avena barbata*), soft chess brome (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), foxtail barley (*Hordeum murinum*), and Italian ryegrass (*Festuca perennis*). In general, the oat and brome species are more common along the better-drained hill slopes, regardless of aspect, and the barley and ryegrass are more common along the lowlands and on soils with higher clay content. Native perennial grasses are generally sparse on the project site and occur as small, isolated stands, particularly along more shallow soils on north-facing slopes. Native species observed include purple needle grass (*Stipa pulchra*), one-sided blue grass (*Poa secunda* ssp. *secunda*), and small fescue (*Festuca microstachys*). One-sided blue grass and small fescue are particularly common along the edges of rock outcrops. However, native grasses do not occur in substantial numbers/densities to be considered native grasslands.

Scattered among the annual grasses throughout the annual grassland habitat are a variety of annual and perennial forbs and shrubs, the species of which likewise vary according to topographic position and soil type. The steepest north-facing slopes on the site support some native forbs, including a number of perennials and showy wildflowers. Common forbs include Heermann's tarweed (*Holocarpha heermannii*), yellow-flowered tarweed (*H. virgata* ssp. *virgata*), dove weed (*Croton setigerus*), yarrow (*Achillea millefolium*), and various clarkia's (*Clarkia* ssp.). Wild mustard (*Hirschfeldia incana*) and at least two species of filaree (*Erodium* spp.) are among the few non-native forbs that are widespread along northern exposures. In addition to such forbs, occasional small stands of shrubs were observed along these slopes, primarily silver bush lupine (*Lupinus albifrons*), naked buckwheat (*Eriogonum nudum*), and poison oak (*Toxicodendron diversilobum*). Unlike the stands of coastal scrub (see below), these shrubs do not form stands large enough to constitute distinct plant communities. It is worth noting that almost all of the trees present on the project site are also on north-facing slopes. The trees do form mappable stands, as discussed below, but a few are scattered as lone individuals within the annual grassland (see **Figure 5.3-2**).

The most disturbed portions of annual grassland habitat on the project site are along the valley bottoms. This is largely the result of a lack of rotational grazing on the site. The cattle apparently concentrate mostly along the valley bottom, which results in overgrazing in these areas, even as some hill slopes provide excess forage. This uneven grazing regime has led to an accumulation of thatch along a few hill slopes, and a sparse cover of grasses within the valley bottoms. Also more common within the valleys are a number of unpalatable weeds, most notably purple star-thistle (*Centaurea calcitrapa*), yellow star-thistle (*C. solstitialis*), and milk thistle (*Silybum marianum*).

The clay soils that are prevalent along lower slopes within the project site, which are mapped as Diablo clay, also support a distinctive annual grassland microhabitat. Italian rye grass is much more common on the clay soils than along any other hill slopes, and shining peppergrass (*Lepidium nitidum*) and bur clover (*Medicago polymorpha*) also occur.

California Buckeye Woodland

California buckeye woodland occupies approximately one percent of the project site, along a north-facing slope in the southern-central portion of the site. This plant community is located almost entirely outside of the proposed development footprint (**Figure 5.3-2**). This community's canopy is dominated by California buckeye (*Aesculus californica*), along with a few valley oaks (*Quercus lobata*). The understory is dominated by the same grasses and forbs that comprise the annual grassland in the area (see above). The understory also includes a moderate number of tree seedlings and saplings of both tree species, as the area is not heavily impacted by grazing.

Coastal Scrub

The bands of exposed rock along the south-facing slope in the northern portion of the project site support a variety of shrub species, which is best described as coastal scrub (**Figure 5.3-2**). The habitat comprises a little less than one percent of the site. The most common shrub species along southern exposures are all native. These include coast sagebrush (*Artemisia californica*), naked buckwheat, and California matchweed (*Gutierrezia californica*). The shrubs are interspersed with a low cover of native and introduced grasses and forbs, but featuring a slightly higher cover (in terms of percent cover) of native species than the surrounding annual grassland. Constituent species include small fescue, purple needle grass, ripgut brome, red brome (*Bromus madritensis*), and the ubiquitous wild mustard.

Valley Oak Woodland

The steep, rocky hill slope near the main dirt road entrance to the project site supports a small but distinctive stand of valley oaks, amounting to approximately 0.5 acre (**Figure 5.3-2**). The area appears to be an old quarry, and is rather anomalous as valley oak habitat. Valley oaks typically occupy low-lying hill slopes and valley bottoms or stream terraces, where they form either open savanna with intervening annual grasslands, or riparian forest. The valley oak stand on the project site is well drained, rocky, and includes grasses and forbs more characteristic of other rocky slopes in the area. The understory consists of slender wild oat, small fescue, naked buckwheat, California poppies (*Eschscholzia californica*), and a few oak seedlings and saplings. The presence of valley oaks at this site is likely a function of the significant shade afforded by the steep, north-facing hill slope. A few valley oaks occur along other northern exposures on the project site, but only as scattered individuals.

Wetlands

Wetlands on the project site consist of two spring wetlands, one seasonal pool wetland, and one drainage wetland. While these represent distinctive habitats, the extent of each type is very limited, amounting to a total of 0.462 acres, and at least one of the springs is within a drainage. Therefore, the on-site wetlands are

discussed below collectively. These features are also addressed below under the **Waters of the United States and Wetlands** heading.

Both of the spring wetlands are located near the center of the project site. One is along a lower shoulder of a north-facing hill slope, and the other is within the most well-defined drainage on the site (**Figure 5.3-2**). The hill slope spring supplies a concrete water trough, but the trough spills over and forms a wetland just downslope. The spring within the drainage simply flows along the drainage approximately 50 feet, and then dissipates. Both features consist of similar dark colored clay loam soils and support similar plant species. The most common plant species are Italian rye grass, Bermuda grass (*Cynodon dactylon*), spiny cockleburr (*Xanthium spinosum*), and rabbitsfoot grass (*Polypogon monspeliensis*).

The single seasonal pool wetland on the project site is 0.016 acre in size. It is located along the northern terrace of the primary seasonal drainage that flows east through the site. Dominant plant species observed are limited to Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*) and prostrate knotweed (*Polygonum aviculare*). According to Moore Biological Consultants (2014), who conducted botanical surveys on the site from 2010 to 2013, this feature has supported coyote thistle (*Eryngium* sp.) during wetter years. Most coyote thistle species are indicators of vernal pool hydrology.

A single wetland drainage is located along the southeastern edge of the project site, along the edge of Kirker Pass Road. The feature is a larger drainage with well-defined bed and bank topography. The feature's hydrology is augmented by runoff from the road surface, via direct runoff as well as drainage pipes. Soils in the area are mapped as "Pescadero clay, loam, strongly alkali," a soil often associated with sinks and drainages in the region. The plant cover reflects the strong alkalinity of the soils, as the most dominant plant is salt grass (*Distichlis spicata*), which forms a dense carpet along the drainage bed as well as along its eastern terrace (adjacent to the road). Associate plant species include common spikerush (*Eleocharis macrostachya*) and alkali mallow (*Malvella leprosa*). The presence of common spikerush, an obligate wetland plant, is indicative of soils that are saturated for prolonged periods of time. Given the alkalinity and clay-rich quality of these soils, along with a predominance of native plant species (indicating a low level of disturbance), this habitat has the greatest potential to support special-status plant species on the project site. It should be noted that this habitat feature is outside of the proposed development footprint.

It should also be noted that there is an off-site stock pond approximately 100 feet (from its nearest point) from the western project site boundary (**Figure 5.3-2**). The stock pond is within a seasonal tributary to Kirker Creek. This pond was observed during the September 2014 site visit and was dry at the time. However, an area of cattails was present, indicating that the pond holds water for prolonged periods.

Common Wildlife

The following discussion is intended to provide a general characterization of the types of common wildlife species occupying the project site and is not a comprehensive list of all wildlife species present. Special-status wildlife species potentially occurring on the project site are discussed later in this section.

A limited variety of wildlife species were observed on the project site during the surveys conducted by Moore Biological Consultants. Birds observed include turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), western scrub jay (*Aphelocoma coerulescens*), and Brewer's blackbird (*Euphagus cyanocephalus*). All of these species are common in agricultural and urban areas in the project vicinity.

No active bird nests were located during the biological surveys. The larger trees on the project site may be suitable for nesting raptors, such as red-tailed hawk, and the trees, shrubs, and grasslands on the site may be used for nesting by a variety of songbirds. Common species such as western meadowlark (*Sturnella neglecta*) and mourning dove (*Zenaida macroura*) may nest in grasslands on the project site.

A variety of mammal species common to agricultural and semi-rural areas are expected to use habitats on the project site. A few California ground squirrels (*Spermophilus beecheyi*) and tracks of mule (black-tail) deer (*Odocoileus hemionus*) were observed on the project site. Coyote (*Canis latrans*), black-tailed hare (*Lepus californicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*) are expected to occur in the area. A number of species of small rodents, including Botta's pocket gopher (*Thomomys bottae*), mice (*Mus musculus, Reithrodontomys megalotis,* and *Peromyscus maniculatus*), and voles (*Microtus californicus*) also likely occur.

A number of bat species may fly over, forage, or roost in the on-site trees on occasion. The larger openings in the rock outcrops do not provide expected bat roosting habitat as they are shallow, low to the ground, and provide little thermal protection or protection from predators. The smaller crevices and fissures in the rocks could occasionally be used by individual roosting bats, but are too small to support a large maternity colony.

Western rattlesnake (*Crotalis viridis*) was the only reptile observed in the site. No amphibians were observed. Based on habitat types present and lack of year-round water throughout the site, a limited variety of amphibians and reptiles are expected to use on-site habitats. Although none was observed, the project site and surrounding lands provide suitable habitat for species including Pacific chorus frog (*Pseudacris regilla*), western fence lizard (*Sceloporus occidentalis*), western skink (*Eumeces skiltonianus*),

western toad (*Bufo boreas*), gopher snake (*Pituophis melanoleucus*), and common garter snake (*Thamnophis sirtalis*).

Waters of the United States and Wetlands

Waters of the US, including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, many of their tributaries, and adjacent wetlands. State and federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into waters of the US. Both the California Department of Fish and Wildlife (CDFW) and the United States Army Corps of Engineers (USACE) have jurisdiction over modifications to riverbanks, lakes, stream channels, and other wetland features.

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted to life in saturated soil. Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the USACE Wetlands Delineation Manual and Regional Supplement. Waters of the US are drainage features or water bodies as described in 33 CFR 328.4. Currently, USACE and the US Environmental Protection Agency (EPA) share authority to determine the jurisdictional status of waters of the US, including wetlands.

A preliminary delineation of potential waters of the US and wetlands present on the project site was conducted on June 28 and September 29, 2010. Minor revisions to the wetlands delineation were then made following 2011 and 2012 field visits with the USACE. The delineation was verified by the USACE on July 5, 2012 (see **Figure 5.3-4, Final Wetland Delineation**).

A total of 0.462 acre of wetlands and creek channels were delineated on the main project site. No wetlands are located on the off-site parcel. This total includes 0.343 acre of jurisdictional waters of the US, including wetlands, and 0.119 acre of non-jurisdictional isolated wetlands and ephemeral creeks. The two features that have been verified as jurisdictional by the USACE comprise a 0.340-acre seasonal wetland swale (labeled "WS-1") and a 0.003-acre section of ephemeral creek (labeled "EC-1"). Both features are shown on **Figure 5.3-4**.

SOURCE: Moore Biological Consultants, March 2013

FIGURE **5.3-4**

Final Wetland Delineation

WS-1 is located in the southeast portion of the main project site and is outside of the proposed development boundary. The seasonal wetland swale drains under Kirker Pass Road in a culvert that is tributary to Kirker Creek located a few hundred feet east of the main project site. EC-1, a headwater ephemeral creek, originates in a shallow valley near the east edge of the main project site and also conveys water under Kirker Pass Road in a culvert. The creek is dry except during and shortly after rain events. The average width of the jurisdictional channel, as defined by a faint ordinary high water mark, is approximately 1 foot. This ephemeral creek is also tributary to Kirker Creek.

Kirker Creek flows generally north-northeast through Pittsburg and is tributary to Dowest Slough, which is in turn tributary to the San Joaquin River, which is a navigable water of the US. Due to their tributary relationships to the San Joaquin River, the seasonal wetland swale (WS-1) and headwater ephemeral creek (EC-1) are jurisdictional waters of the US.

In addition to the waters discussed above, there are five additional features on the main project site. There is a 0.016-acre seasonal wetland (SW-1) situated in an isolated basin in the east-central part of the main project site. A second wetland (Seep-1) is located a few hundred feet to the west within a topographically low area. This 0.061-acre wetland appears to be supported by an intermittent seep; the area supported dry brown grasses in the early summer of 2010 and then started seeping water and greening up in the late summer. SW-1 is located in a closed basin that is not tributary to the San Joaquin River or other jurisdictional waters of the US. Similarly, Seep-1 is not contiguous with a creek that drains into jurisdictional waters of the US. Due to this hydrologic isolation, both seasonal wetlands fall outside USACE jurisdiction. Finally, there are three isolated ephemeral creeks ("IOW-1", "IOW-2" and "IOW-3") located in the east central part of the main project site. The average width of these channels, as defined by faint ordinary high water marks, is approximately 1 foot. None of these sections of isolated ephemeral creeks are contiguous with a creek. Due to hydrologic isolation, the USACE determined that these water features fall outside of USACE jurisdiction. However, for purposes of this EIR, it is assumed that these features could qualify as Waters of the State under the Porter Cologne Act. No other potentially jurisdictional wetlands or waters of the US occur on the project site.

Special-Status Plant Species

Special-status plants include species that are designated Rare, Threatened, or Endangered and candidate species for listing by the USFWS. Special-status plants also include species considered Rare or Endangered under the conditions of Section 15380 of the *State California Environmental Quality Act (CEQA) Guidelines*, such as those plant species identified with a California Rare Plant Rank (CRPR) of 1A, 1B, and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society (CNPS). Special-status plants may include other species that are considered sensitive or of special

concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those with a CNPR 3 in the CNPS Inventory. CRPR 4 species that are covered by the HCP/NCCP have also been included.

Table 5.3-2, Special-Status Plant Species Documented in the Vicinity of the Project Site, provides a summary of the listing status and habitat requirements of special-status plant species that have been documented in the greater project vicinity or for which there is potentially suitable habitat on the project site. This table also includes an assessment to determine if the project site provides potentially suitable habitat and/or if the potential on-site presence of the species merits further evaluation based on factors such as habitat quality, survey results, and extant occurrences in the project region.

As noted in **Table 5.3-2**, the project site provides potentially suitable habitat for the following special-status plant species that currently occur in Contra Costa County: bent-flowered fiddleneck, heartscale, brittlescale, San Joaquin spearscale, big tarplant, round-leaved filaree, Mt. Diablo fairy-lantern, Congdon's tarplant, Mt. Diablo buckwheat, diamond-petaled California poppy, fragrant fritillary, Diablo helianthella, showy golden madia, Mt. Diablo cottonweed, adobe navarretia, shining navarettia, and rock sanicle. These species were not observed on the project site during rare plant surveys conducted by Moore Biological Consultants on June 28, July 19, and September 29, 2010, November 1, 2011, June 5, 2012, and March 18, 2013. Given that no special-status plant species were observed during the surveys, it is unlikely that most of the special-status plant species included in **Table 5.3-2** occur on the project site.

Of the habitats on the project site, the wetland drainage (WS-1) located along the eastern edge of the project site has the greatest potential to support special-status plant species on the project site. This is due to the alkalinity and clay-rich quality of the soils, along with a predominance of native plant species (indicating a low level of disturbance). This area provides suitable habitat for heartscale (CNPS 1B.2), brittlescale (CNPS 1B.2), and San Joaquin spearscale (CNPS 1B.2); suitable habitat for these species does not occur elsewhere on the project site. As shown in **Figure 5.3-2**, this area is outside of the proposed development footprint and would not be disturbed by construction of the proposed project.

Other habitats on the site provide potentially suitable habitat for special-status plant species, but these habitats are generally in a more disturbed condition. The annual grassland, coastal scrub, wetland, and/or the stand of valley oaks provide potentially suitable habitat for the following species: bent-flowered fiddleneck, big tarplant, round-leaved filaree, Mt. Diablo fairy-lantern, Congdon's tarplant, Mt. Diablo buckwheat, diamond-petaled California poppy, fragrant fritillary, Diablo helianthella, showy golden madia, Mt. Diablo cottonweed, adobe navarretia, shining navarettia, and rock sanicle. The potential of each of these species to occur on the project site, taking into consideration factors such as regional distribution, habitat quality, and other factors, is further discussed below.

Table 5.3-2
Special-status Plant Species Documented in the Vicinity of the Project Site

Scientific Name **Common Name** **Plant Family Name (scientific name)**	**Life Form**	**Listing Status[1]**	**Preferred Habitat** **Elevation Range** **Blooming Period (parentheses = occasional bloom time)**	**Suitable Habitat Present and Known from Project Area**
Amsinckia grandiflora large-flowered fiddleneck (Boraginaceae)	annual herb	E/E/1B.1	Cismontane woodland, Valley and foothill grassland 275-550 meters; Apr-May	**Not Expected**: All natural populations in Contra Costa County are considered extirpated (Table 3-7 HCP/NCCP). Not observed during 2010-2013 surveys by Moore Biological Consultants.
Amsinckia lunaris bent-flowered fiddleneck (Boraginaceae)	annual herb	-/-/1B.2	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland 3-500 meters; Mar-Jun	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Arctostaphylos auriculata Mt. Diablo manzanita (Ericaceae)	perennial evergreen shrub	-/-/1B.3	Chaparral (sandstone), Cismontane woodland 135-650 meters; Jan- Mar	**Not Expected**. No suitable habitat occurs on the project site.
Arctostaphylos manzanita ssp. *laevigata* Contra Costa manzanita (Ericaceae)	perennial evergreen shrub	-/-/1B.2	Chaparral (rocky) 500-1100 meters; Jan-Mar (Apr)	**Not Expected**. No suitable habitat occurs on the project site.
Astragalus tener var. *tener* alkali milk-vetch (Fabaceae)	annual herb	-/-/1B.2	Playas, Valley and foothill grassland (adobe clay), Vernal pools/alkaline 1-60 meters; Mar-Jun	**Not Expected**. Suitable habitat occurs on the project site, but the area is above elevation range.
Atriplex cordulata var. *cordulata* heartscale (Chenopodiaceae)	annual herb	-/-/1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy)/saline or alkaline 0-560 meters; Apr-Oct	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Atriplex depressa brittlescale (Chenopodiaceae)	annual herb	-/-/1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools/alkaline, clay 1-320 meters; Apr-Oct	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Atriplex joaquinana San Joaquin spearscale (Chenopodiaceae)	annual herb	-/-/1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland/alkaline 1-835 meters; Apr-Oct	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Blepharizonia plumosa big tarplant **(**Asteraceae**)**	annual herb	-/-/1B.1	Valley and foothill grassland/Usually clay. 30-505 meters; Jul-Oct	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.

Scientific Name **Common Name** **Plant Family Name (scientific name)**	**Life Form**	**Listing Status[1]**	**Preferred Habitat** **Elevation Range** **Blooming Period (parentheses = occasional bloom time)**	**Suitable Habitat Present and Known from Project Area**
California macrophylla round-leaved filaree (Geraniaceae)	annual herb	-/-/1B.1	Cismontane woodland, Valley and foothill grassland/clay 15-1200 meters Mar-May	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Calochortus pulchellus Mt. Diablo fairy-lantern (Liliaceae)	perennial bulbiferous herb	-/-/1B.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland 30-840 meters; Apr-Jun	**Suitable habitat** occurs on the project site. Not observed during 2011-2013 surveys by Moore Biological Consultants.
Campanula exigua chaparral harebell (Campanulaceae)	annual herb	-/-/1B.2	Chaparral (rocky, usually serpentinite) 275-1250 meters; May-Jun	**Not Expected**. No suitable habitat occurs on the project site.
Centromadia parryi ssp. *congdonii* Congdon's tarplant (Asteraceae)	annual herb	-/-/1B.1	Valley and foothill grassland (alkaline) 0-230 meters; May-Oct (Nov)	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Chloropyron molle ssp. *molle* soft bird's-beak (Orobanchaceae)	annual herb	E/R/1B.2	Marshes and swamps (coastal salt) 0-3 meters; Jul-Nov	**Not Expected**. No suitable habitat occurs on the project site.
Cicuta maculata var. *bolanderi* Bolander's water-hemlock (Apiaceae)	perennial herb	-/-/2B.1	Marshes and swamps Coastal, fresh or brackish water 0-200 meters; Jul-Sep	**Not Expected**. No suitable habitat occurs on the project site.
Cordylanthus nidularius Mt. Diablo bird's-beak (Orobanchaceae)	annual herb	-/R/1B.1	Chaparral (serpentinite) 600-800 meters; Jun-Aug	**Not Expected**. No suitable habitat occurs on the project site.
Cryptantha hooveri Hoover's cryptantha (Boraginaceae)	annual herb	-/-/1A	Inland dunes, Valley and foothill grassland (sandy) 9-150 meters; Apr-May	**Not Expected**. Marginal suitable habitat occurs on the project site (valley and foothill grassland is not sandy).
Delphinium californicum ssp. *interius* Hospital Canyon larkspur (Ranunculaceae)	perennial herb	-/-/1B.2	Chaparral (openings), Cismontane woodland (mesic), Coastal scrub 195-1095 meters; Apr-Jun	**Not Expected**. No suitable habitat occurs on the project site. Most typically occurs in more wooded habitats.
Didymodon norrisii Norris' beard moss (Pottiaceae)	moss	-/-/2B.2	Cismontane woodland, Lower montane coniferous forest/intermittently mesic, rock 600-1973 meters	**Not Expected**. No suitable habitat occurs on the project site.
Dirca occidentalis western leatherwood (Thymelaeaceae)	perennial deciduous shrub	-/-/1B.2	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland/mesic; 25-425 meter; Jan-Mar (Apr)	**Not Expected**. No suitable habitat occurs on the project site.
Downingia pusilla dwarf downingia (Campanulaceae)	annual herb	-/-/2B.2	Valley and foothill grassland (mesic), Vernal pools 1-445 meters; Mar-May	**Not Expected**. No suitable habitat occurs on the project site.

Scientific Name **Common Name** **Plant Family Name (scientific name)**	**Life Form**	**Listing Status[1]**	**Preferred Habitat** **Elevation Range** **Blooming Period (parentheses = occasional bloom time)**	**Suitable Habitat Present and Known from Project Area**
Eriastrum ertterae Lime Ridge eriastrum (Polemoniaceae)	annual herb	-/-/1B.1	Chaparral (openings or edges)/Alkaline or semi-alkaline, sandy. 200-290 meters; Jun-Jul	**Not Expected**. No suitable habitat occurs on the project site.
Eriogonum nudum var. *psychicola* Antioch Dunes buckwheat (Polygonaceae)	perennial herb	-/-/1B.1	Inland dunes 0-20 meters; Jul-Oct	**Not Expected**. No suitable habitat occurs on the project site.
Eriogonum truncatum Mt. Diablo buckwheat (Polygonaceae)	annual herb	-/-/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland/sandy 3-350 meters; Apr-Sep (Nov)	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Erysimum capitatum var. *angustatum* Contra Costa wallflower (Brassicaceae**)**	perennial herb	E/E/1B.1	Inland dunes 3-20 meters; Mar-Jul	**Not Expected**. No suitable habitat occurs on the project site.
Eschscholzia rhombipetala diamond-petaled California poppy (Papaveraceae)	annual herb	-/-/1B.1	Valley and foothill grassland (alkaline, clay) 0-975 meters; Mar-Apr	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Fritillaria liliacea fragrant fritillary (Liliaceae)	perennial bulbiferous herb	-/-/1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland/Often serpentinite 3-410 meters; Mar-Apr	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Grimmia torenii Toren's grimmia (Grimmiaceae)	moss	-/-/1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest/Openings, rocky, boulder and rock walls, carbonate, volcanic 325-1160 meters	**Not Expected**. No suitable habitat occurs on the project site.
Helianthella castanea Diablo helianthella (Asteraceae)	perennial herb	-/-/1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland 60-1300 meters; Mar-Jun	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants. Species covered by HCP/NCCP.
Hesperolinon breweri Brewer's western flax (Linaceae)	annual herb	-/-/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland/usually serpentinite 30-945 meters; May-Jul	**Not Expected**. Marginal suitable habitat occurs on the project site (no serpentinite).
Isocoma arguta Carquinez goldenbush (Asteraceae)	perennial shrub	-/-/1B.1	Valley and foothill grassland (alkaline) 1-20 meters; Aug-Dec	**Not Expected**. Suitable habitat occurs on the project site, but area is above elevation range.
Juglans hindsii Northern California black walnut (Juglandaceae)	perennial deciduous tree	-/-/1B.1	Riparian forest, Riparian woodland 0-440 meters; Apr-May	**Not Expected**. No suitable habitat occurs on the project site.
Lasthenia conjugens Contra Costa goldfields (Asteraceae)	annual herb	E/-/1B.1	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools/mesic 0-470 meters; Mar-Jun	**Not Expected**. All HCP/NCCP inventory areas are extirpated (HCP/NCCP Table 3-7). Potentially suitable habitat is limited to a small seasonal wetland pool, which is

Scientific Name **Common Name** **Plant Family Name (scientific name)**	**Life Form**	**Listing Status[1]**	**Preferred Habitat Elevation Range Blooming Period (parentheses = occasional bloom time)**	**Suitable Habitat Present and Known from Project Area**
				in a disturbed condition, and to a wetland (WS-1) that is outside of the development area. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Lathyrus jepsonii var. *jepsonii* Delta tule pea (Fabaceae)	perennial herb	-/-/1B.2	Marshes and swamps (freshwater and brackish) 0-5 meters; May-Jul (Aug)	**Not Expected**. No suitable habitat occurs on the project site.
Lilaeopsis masonii Mason's lilaeopsis (Apiaceae)	perennial rhizomatous herb	-/R/1B.1	Marshes and swamps (brackish or freshwater), Riparian scrub 0-10 meters; Apr-Nov	**Not Expected**. No suitable habitat occurs on the project site.
Limosella australis Delta mudwort (Scrophulariaceae)	perennial stoloniferous herb	-/-/2B.1	Marshes and swamps (freshwater or brackish), Riparian scrub/Usually mud banks 0-3 meters; May-Aug	**Not Expected**. No suitable habitat occurs on the project site.
Madia radiata showy golden madia (Asteraceae)	annual herb	-/-/1B.1	Cismontane woodland, Valley and foothill grassland 25-1215 meters; Mar-May	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Malacothamnus hallii Hall's bush-mallow (Malvaceae)	perennial evergreen shrub	-/-/1B.2	Chaparral, Coastal scrub 10-760 meters; May-Sep (Oct)	**Not Expected**. No suitable habitat occurs on the project site.
Micropus amphiboles Mt. Diablo cottonweed (Asteraceae)	annual herb	-/-/3.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland/rocky 45-825 meters; Mar-May	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Monardella antonina ssp. *antonina* San Antonio Hills monardella (Lamiaceae)	perennial rhizomatous herb	-/-/3	Chaparral, Cismontane woodland 320 -1000 meters; Jun-Aug	**Not Expected**. No suitable habitat occurs on the project site.
Monolopia gracilens woodland woolythreads (Asteraceae)	annual herb	-/-/1B.2	Broadleafed upland forest (openings), Chaparral (openings), Cismontane woodland, North Coast coniferous forest (openings), Valley and foothill grassland/Serpentine; 100-1200 meters; (Feb), Mar-Jul	**Not Expected**. No suitable habitat occurs on the project site (no serpentine).
Navarretia gowenii Lime Ridge navarretia (Polemoniaceae)	annual herb	-/-/1B.1	Chaparral 180-305 meters; May-Jun	**Not Expected**. No suitable habitat occurs on the project site.
Navarretia nigelliformis ssp. *nigelliformis* adobe navarretia (Polemoniaceae)	annual herb	-/-/4.2	Valley and foothill grassland vernally mesic, Vernal pools sometimes clay, sometimes serpentinite 1,000 meters; Apr-Jun	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.

Scientific Name **Common Name** **Plant Family Name (scientific name)**	**Life Form**	**Listing Status[1]**	**Preferred Habitat** **Elevation Range** **Blooming Period (parentheses = occasional bloom time)**	**Suitable Habitat Present and Known from Project Area**
Navarretia nigelliformis ssp. *radians* shining navarretia (Polemoniaceae)	annual herb	-/-/1B.2	Cismontane woodland, Valley and foothill grassland, Vernal pools/Sometimes clay 76-1000 meters; Apr-Jul	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Neostapfia colusana Colusa grass (Poaceae)	annual herb	T/E/1B.1	Vernal pools (adobe, large) 5-200 meters; May-Aug	**Not Expected**. No suitable habitat occurs on the project site.
Oenothera deltoides ssp. *howellii* Antioch Dunes evening-primrose (Onagraceae)	perennial herb	E/E/1B.1	Inland dunes 0-30 meters; Mar-Sep	**Not Expected**. No suitable habitat occurs on the project site.
Phacelia phacelioides Mt. Diablo phacelia (Boraginaceae)	annual herb	-/-/1B.2	Chaparral, Cismontane woodland/rocky 500-1370 meters; Apr-May	**Not Expected**. No suitable habitat occurs on the project site.
Plagiobothrys hystriculus bearded popcorn-flower (Boraginaceae)	annual herb	-/-/1B.1	Valley and foothill grassland (mesic), Vernal pools margins/often vernal swales 0-274 meters; Apr-May	**Not Expected**. No suitable habitat occurs on the project site.
Sanicula saxatilis rock sanicle (Apiaceae)	perennial herb	-/-/1B.2	Broadleafed upland forest, Chaparral, Valley and foothill grassland/rocky 620-1175 meters; Apr-May	**Suitable habitat** occurs on the project site. Not observed during 2010-2013 surveys by Moore Biological Consultants.
Senecio aphanactis chaparral ragwort (Asteraceae)	annual herb	-/-/2B.2	Chaparral, Cismontane woodland, Coastal scrub/sometimes alkaline 15-800 meters; Jan-Apr	**Not Expected**. Not known from project vicinity.

1. Federal/State/CRPR Listing. Federal or State listing: E = endangered; T = threatened; R = rare (State only); FC = Federal species of Concern
California Rare Plant Rank (CRPR). Table includes only ranks 1, 2 and 3 and excludes rank 4 except for adobe navarretia, a rank 4 plant species which is included because it is covered by the HCP/NCCP.
CRPR: 'List 1B' = Plants rare, threatened or endangered in CA and elsewhere; 'List 2A' = Plants presumed extirpated in California, but more common elsewhere; 'List 2B' = Plants rare, threatened, or endangered in California, but more common elsewhere; CPRR: 'List 3' = more information needed (Review List); CRPR: 'List 4' = Limited distribution (Watch List)
CRPR: '0.1 = Seriously threatened in California; '0.2' = Fairly threatened in CA; '0.3' = Not very threatened in CA.
Habitat modifiers in parentheses apply only to immediately preceding habitat, whereas those following a slash (/) apply to all preceding habitats.
Unless otherwise indicated, taxa listed as having potential to occur on the project site have been documented in the vicinity of the project site.
Blooming months listed in parentheses are occasional (atypical)

Bent-flowered fiddleneck

Bent-flowered fiddleneck has a California Rare Plant Rank (CRPR) listing of 1B.2. The on-site grasslands provides potentially suitable habitat for this species. However, according to the CNDDB, this species has not been documented within approximately 16 miles of the project site. Additionally, this species was not observed during the surveys conducted by Moore Biological Consultants. Given the negative survey findings and because this species is not known from the surrounding project area, it is not expected to occur on the project site.

Big tarplant

Big tarplant has a CRPR listing of 1B.1. The on-site grasslands with clay soils provide suitable habitat for this species, and the species has been documented at a location approximately 5 miles east of the project site. This species was not observed during appropriately timed surveys conducted by Moore Biological Consultants. However, given the extent of suitable clay soils, regional occurrences of the species in areas of similar habitat, and the fact that portions of the site with suitable habitat were heavily grazed at the time of the surveys, the potential of this species to occur on the site has not been completely ruled out.

Round-leaved filaree

Round-leaved filaree has a CRPR listing of 1B.1. The on-site grasslands with clay soils provide suitable habitat for this species, and the species has been documented approximately 1 mile away from the project site. This species was not observed during appropriately timed surveys conducted by Moore Biological Consultants. However, because of the extent and apparent suitability of the on-site habitat and because of the proximity of documented occurrences, the potential of this species to occur on the site has not been completely ruled out.

Mt. Diablo fairy lantern

Mt. Diablo fairy lantern has a CRPR listing of 1B.2. The on-site grasslands provide potentially suitable habitat for the species. However, the project site (elevation 300 to 660 feet) is generally lower than the known elevation range of the species of 650 feet to 2,600 feet (Hickman 1993). The closest documented occurrence of the species is approximately 3 miles from the project site. Given that this species was not observed during appropriately timed surveys conducted by Moore Biological Consultants, that the species has not been documented in the project vicinity, and because the site is generally lower than the known elevation range of the species, it is considered unlikely to occur on the project site.

Congdon's tarplant

Congdon's tarplant has a CRPR listing of 1B.1. The on-site grasslands with alkaline soils provide potentially suitable habitat for this species. However, according to the CNDDB, this species has not been documented within approximately 10 miles of the project site. Additionally, this species was not observed during the surveys conducted by Moore Biological Consultants. Given the negative survey findings and because this species is not known from the surrounding project area, it is unlikely to occur on the project site.

Mt. Diablo buckwheat

Mt. Diablo buckwheat has a CRPR listing of 1B.1. The small areas of scrub habitat on the project site provide potentially suitable habitat for this species. However, according to the CNDDB, this species has not been documented within approximately 6 miles of the project site. Additionally, this species was not observed during the surveys conducted by Moore Biological Consultants. Given the negative survey findings, the limited amount of potentially suitable habitat present, and because this species is not known from the surrounding project area, it is unlikely to occur on the project site.

Diamond-petaled California poppy

Diamond-petaled California poppy has a CRPR listing of 1B.1. The on-site grasslands provide potentially suitable habitat for this species. The CNDDB contains two documented occurrences of this species from Contra Costa County, both of which are described as "possibly extirpated" and neither which occurred within approximately 6 miles of the project site. Additionally, according to the CNPS Rare and Endangered Plant Inventory, this species is presumed extirpated from Contra Costa County. Further, this species was not observed during the surveys conducted by Moore Biological Consultants. Given the negative survey findings, and that the species is presumed extirpated from Contra Costa County, it is not expected to occur on the project site.

Fragrant fritillary

Fragrant fritillary has a CRPR listing of 1B.2. The on-site grasslands with clay soils provide potentially suitable habitat for this species. However, there are no records from the HCP/NCCP inventory area (HCP/NCCP Table 3-7) or from within approximately 11 miles of the project site (CNDDB). Additionally, this species was not observed during the surveys conducted by Moore Biological Consultants. Given the negative survey findings and because this species is not known from the surrounding project area, it is not expected to occur on the project site.

Diablo helianthella

Diablo helianthella has a CRPR listing of 1B.2. As described in the HCP/NCCP, Diablo helianthella is associated with thin, rocky, well-drained soils, and is found in grassy openings in woodlands, chaparral, and coastal scrub, often at the transition zone between woodland and chaparral. The types of habitat transition zones and openings this species is associated with do not occur on the project site given the dominance of grassland habitat. Additionally, this species was not observed during the surveys conducted by Moore Biological Consultants, and has not been documented within approximately 3 miles of the project site (CNDDB). Given the negative survey findings and because of marginal habitat condition, this species is not expected to occur on the project site.

Showy golden madia

Showy golden madia has a CRPR listing of 1B.1. The on-site grasslands with clay soils provide potentially suitable habitat for this species. As described in the HCP/NCCP, showy madia grows in grasslands and oak woodlands on heavy clay soils and is typically found in openings rather than under closed canopy. Given the limited extent of oak trees on the project site (and subsequent absence of canopy openings), on-site habitat conditions do not appear optimal for this species. Based on the CNDDB, the documented historic location of the species is approximately 3 miles from the project site, and importantly, the species was last observed in Contra Costa County in 1941. According to the CNPS Rare and Endangered Plant Inventory, this species is presumed extirpated from Contra Costa County. Further, this species was not observed during the surveys conducted by Moore Biological Consultants. Given the negative survey findings, and that the species is presumed extirpated from Contra Costa County, it is not expected to occur on the project site.

Mt. Diablo cottonweed

Mt. Diablo cottonweed has a CRPR listing of 3.2. This species occurs in rocky habitats in broadleafed upland forest, chaparral, cismontane woodland, and grassland habitats. The grassland habitats in the portion of the site with rock outcrops provides potentially suitable habitat for this species. However, the species was not observed during the surveys conducted by Moore Biological Consultants. All extant occurrences in Contra Costa County are located in the far western portion of the county, outside of the HCP/NCCP inventory area, and the closest record (which is from 1860) is still to the west of the HCP/NCCP inventory area in Walnut Creek (H.T. Harvey 2014). Given the above, the species is not expected to occur on the project site.

Adobe navarretia

Adobe navarretia has a CRPR listing of 4.2. Adobe navarretia occurs in heavy clay soils of vernal pools and other low, seasonally moist areas in grasslands (Hickman 1993). Potentially suitable habitat for this species is limited to the one small seasonal wetland pool (SW-1) on the project site. Five occurrences of this species have been documented in HCP/NCCP inventory area, but the CNDDB does not track this species due to its relatively low sensitive status (Rank 4.2) and specific location information is not available. This species was not observed during the surveys conducted by Moore Biological Consultants. However, as those surveys were not conducted during the peak blooming period of the species (i.e., April and May), the potential of this species to occur on the site has not been completely ruled out.

Shining navarettia

Shining navarettia has a CRPR listing of 1B.2. Potentially suitable habitat for this species is limited to the one small seasonal wetland pool (SW-1) on the project site. Based on the CNDDB, this species has been documented at a location approximately 5 miles from the project site. This species was not observed during appropriately timed surveys conducted by Moore Biological Consultants, which included three surveys towards the end of the species' blooming period of in June and July. As the species was not observed during the surveys, because of the small area of suitable habitat present, and because the species is not known from the project vicinity, it is unlikely to occur on the project site.

Rock sanicle

Rock sanicle has a CRPR listing of 1B.2. All Contra Costa occurrences of this species are located in Mt. Diablo State Park (HCP/NCCP Table 3-7), with the closest occurrence being approximately 8 miles south of the project site (CNDDB). Therefore, as the project site appears to be located well to the north of the regional distribution of the species, and because it was not observed during surveys conducted by Moore Biological Consultants, this species is not expected to occur on the project site.

Special-status Wildlife Species

For the purposes of this analysis, special-status wildlife species include the following:

- Animal species listed by the USFWS or CDFW as Threatened or Endangered; proposed for listing as Threatened or Endangered; or as a candidate for listing as Threatened or Endangered.

- Animal species considered as "Endangered, Rare or Threatened" as defined by Section 15380 of the *State CEQA Guidelines*. Section 15380(b) states that a species of animal or plant is "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from

one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. A species is "rare" when either "(A) although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become Endangered if its environment worsens; or (B) the species is likely to become Endangered within the foreseeable future throughout all or a portion of its range and may be considered 'Threatened' as that term is used in the Federal Endangered Species Act" (ESA).

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

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

Based on a review of the CNDDB, the following special-status wildlife species have been documented in the vicinity (i.e., within 5 miles) of the project site or are otherwise known from the project region: tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (A*mmodramus savannarum*), burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*), Ferruginous hawk (*Buteo regalis*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), loggerhead shrike (*Lanius ludovicianus*), California black rail (*Laterallus jamaicensis coturniculus*), California least tern (*Sturnula antillarum browni*), Suisun song sparrow (*Melospiza melodia maxillaris*), American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*), pallid bat (*Antrozous pallidus*), Townsends big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), salt-marsh harvest mouse (*Reithrodontomys raviventris*), California red-legged frog (*Rana auroura draytonii*), western pond turtle (*Actinemys marmorata*), California tiger salamander (*Ambystoma californiense*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), silvery legless lizard (*Anniella pulchra pulchra*), California fairy shrimp (*Linderiella occidentalis*), and molestan blister beetle (*Lytta molesta*). Additionally, although not recorded in the CNDDB within the search area, the HCP/NCCP also identifies Swainson's hawk (*Buteo swainsoni*), giant garter snake (*Thamnophis gigas*), longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool fairy shrimp (*Branchinecta lynchi*),

midvalley fairy shrimp (*Branchinecta mesovallensis*), and vernal pool tadpole shrimp (*Lepidurus packardi*) as species requiring evaluation in annual grassland and seasonal wetland habitats in the greater project vicinity. **Table 5.3-3, Special-Status Wildlife Species Documented or Potentially Occurring in the Project Vicinity**, provides a summary of the listing status and habitat requirements of these species, as well as an assessment of the likelihood of occurrence of each of the species on the project site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations. The documented occurrences of special-status species in the surrounding project area are shown in **Figure 5.3-5, Documented Occurrences**.

As noted in **Table 5.3-3**, the following special-status wildlife species have some potential to occur on the project site: grasshopper sparrow, golden eagle, Swainson's hawk, burrowing owl, Ferruginous hawk, white-tailed kite, California horned lark, loggerhead shrike, American badger, San Joaquin kit fox, pallid bat, western red bat, hoary bat, California red-legged frog, California tiger salamander, vernal pool fairy shrimp, longhorn fairy shrimp, midvalley fairy shrimp, vernal pool tadpole shrimp, and California fairy shrimp. The manner in which these species may occur on the project site is discussed below, and potential impacts to these species from the construction and operation of the proposed project, are discussed later in this section (see **Impact Analysis**). The species identified in **Table 5.3-3** as being unlikely to occur are not further discussed in this document because they would not be affected by the proposed project.

California red-legged frog

California red-legged frog (CRF) is a federally listed threatened species and is designated as a state species of special concern. This species is covered by the East Contra Costa County HCP/NCCP.

Background Information

Breeding takes place in streams, deep pools, backwaters within streams and creeks, ponds, marshes, and stock ponds. CRF can occur in ephemeral ponds or permanent streams and ponds; however, populations probably cannot persist in ephemeral streams (Jennings and Hayes 1985). Breeding ponds are typically deep (greater than 2 feet) with still or slow-moving water and dense, shrubby riparian or emergent vegetation (Hayes and Jennings 1988), although CRF have also been observed in shallow sections of streams and ponds that are devoid of vegetative cover. Habitats with the highest densities of CRF are deep-water ponds with dense stands of overhanging willows and a fringe of cattails (Jennings 1988; Rathbun et al. 1993).

SOURCE: Pacific Biology, Inc., 2014

FIGURE **5.3-5**

Documented Occurrences

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Table 5.3-3
Special-Status Wildlife Species Documented or Potentially Occurring in the Project Vicinity

Wildlife						
Birds						
Common Name	***Scientific Name***	**Federal Status**	**State Status**	**Other**	**Habitat Association**	**Potential Occurrence on Project Site**
Tricolored blackbird	*Agelaius tricolor*	BCC	SC	N/A	Typically nests in large colonies in dense stands of cattails or tules in freshwater, emergent wetlands.	**Unlikely:** Suitable nesting habitat is not present on the project site as seasonal wetlands lack emergent vegetation. Could infrequently forage on site.
Grasshopper sparrow	*Ammodramus savannarum*	None	SA	NA	Open grasslands, nests on ground.	**Potential:** Suitable nesting and foraging habitat present.
Burrowing owl	*Athene cunicularia*	None	SC	N/A	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	**Potential:** The on-site grasslands provide potential nesting and wintering habitat, but there are not many ground squirrels or ground squirrel burrows on the project site. No burrowing owls or evidence of occupancy were observed on the project site, but protocol surveys have not been conducted. The nearest occurrence of nesting burrowing owls is approximately 2.5 miles west of the project site (CNDDB).
Golden eagle	*Aquila chrysaetos*	BCC	FP	N/A	Rolling foothills, mountain areas, sage-juniper flats, desert. Nests are constructed on cliffs or in large trees in open areas.	**Potential:** Suitable nesting and foraging habitat, but has not been observed on the project site.
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Breeds in stands of tall trees in open areas. Requires adjacent suitable foraging habitats such as grasslands or alfalfa fields supporting rodents.	**Potential:** There are a few potentially suitable nesting trees on the project site and Swainson's hawks could use the on-site grasslands for foraging. However, the project site is along the extreme western edge of the nesting range of this species and the species has not been documented nesting within approximately 9 miles of the project site (CNDDB).
Ferruginous hawk	*Buteo Regalis*	BCC	SA	NA	Wintering - open grasslands, sagebrush flats, desert scrub; does not nest in California	**Potential (Wintering Only):** This species occurs in the project area as an infrequent winter migrant, but does not nest in California. Could forage on the site during the winter.
White-tailed kite	*Elanus leucurus*	None	FP	N/A	Typically nests in trees surrounded by open foraging habitat.	**Potential:** Suitable nesting and foraging habitat present.

California horned lark	*Eremophila alpestris actia*	None	SA	N/A	Nests in open areas that contain relatively barren ground with short grass and scattered bushes.	**Potential:** Suitable nesting and foraging habitat present.
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	None	None	N/A	San Francisco Bay fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging	**Unlikely**: The project site does not provide suitable habitat for saltmarsh common yellowthroat. The nearest occurrence of this species in the CNDDB search area is approximately 3.5 miles northeast of the project site.
Loggerhead shrike	*Lanius ludovicianus*	BCC	CSC	N/A	Habitat consists of open spaces such as grasslands with scattered trees, shrubs, utility lines, and/or fences for perching. Typically nest in densely vegetated trees and shrubs	**Potential:** Suitable nesting and foraging habitat present.
California black rail	*Laterallus jamaicensis coturniculus*	None	T	N/A	Mainly inhabits salt marshes bordering larger bays	**Unlikely:** The project site does not provide suitable habitat for this species. The nearest occurrence of California black rail in the CNDDB search area is approximately 3.5 miles north of the project site.
California least tern	*Sturnula antillarum browni*	E	E	N/A	Estuaries and bays; nests on exposed tidal flats or beaches	**Unlikely:** The project site does not provide suitable habitat for this species. The nearest occurrence of California least tern in the CNDDB search area is approximately 3 miles north of the project site.
Suisun song sparrow	*Melospiza melodia maxillaris*	None	SC	N/A	Resident of brackish water marshes surrounding Suisun Bay. Inhabits cattails, tules, and tangles bordering sloughs	**Unlikely:** The project site does not provide suitable habitat for Suisun song sparrow. The nearest occurrence of this species in the CNDDB search area is approximately 1.5 miles north of the project site.

Mammals						
American badger	*Taxidea taxus*	None	SC	N/A	Most abundant in drier, open stages of shrub, forest, and herbaceous habitats with friable soils where they can dig burrows.	**Potential:** No badger dens have been observed on the project site and soils are not particularly friable. However, as the species is known from the area, there is a potential that a badger could dig a den on the site.
San Joaquin kit fox	*Vulpes macrotis mutica*	E	T	N/A	Inhabits open, dry grasslands and scrublands with loose textured soils.	**Potential**: The on-site grassland provide potentially suitable habitat for San Joaquin kit fox. However, the site is along the extreme northern edge of the range of this species. The nearest documented occurrence of this species is approximately 2 miles east of the project site (CNDDB).
Pallid bat	*Antrozous pallidus*	None	SC	N/A	Open and dry habitats with rocky areas for roosting.	**Potential:** Pallid bat and other species of bats may fly over, forage, or roost on the project site on occasion.
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii)*	None	PD	N/A	Roosts in caves, mines, lava tubes, and buildings.	**Unlikely:** Suitable roosting habitat is not present. The on-site rock outcrops are too small, shallow, and/or low to the ground (no protection from predators) to provide suitable roosting habitat for this species.
Western red bat	*Lasiurus blossevillii*	None	SC	N/A	Roosts in trees in a wide variety of habitats between the coast western Sierra Nevada mountains.	**Potential:** This foliage roosting species may fly over, forage, or roost on the project site on occasion. The nearest occurrence of western red bat in the CNDDB search area is approximately 4 miles east of the project site
Hoary bat	*Lasiurus cinereus*	None	SA	N/A	Roost alone in the foliage of trees.	**Potential:** This foliage roosting species may fly over, forage, or roost on the project site on occasion.
Salt marsh harvest mouse	*Reithrodontomys raviventris*	E	E	N/A	Saline emergent wetlands dominated by pickleweed	**Unlikely:** The project site does not provide suitable habitat for salt marsh harvest mouse. The nearest occurrence of this species in the CNDDB search area is approximately 3.5 miles north of the project site.

Reptiles & Amphibians						
California red-legged frog	*Rana aurora draytonii*	T	SC	N/A	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation.	**Potential:** The project site is located between areas of suitable habitat and documented occurrences of the species. There is no suitable aquatic habitat for California red-legged frog on the project site, but the species could move across or otherwise temporarily occur on the site. The nearest documented occurrence of this species is a year 2002 record in Kirker Creek, just east of the project site (CNDDB). The species has also been documented approximately 1 mile west of the project site (CNDDB). In addition, there is an off-site pond (approximately 100 feet west of the project site) that provides potential breeding habitat. The project site is not within designated critical habitat for California red-legged frog.
Giant garter snake	*Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches, primarily for dispersal or migration.	**Unlikely:** The project site does not provide suitable aquatic habitat for giant garter snake. There are no documented occurrences of this species within 10 miles of the project site (CNDDB).
Western pond turtle	*Emys marmorata*	None	SC	N/A	Ponds, marshes, streams, and ditches with emergent aquatic vegetation and basking areas.	**Unlikely:** The project site does not provide suitable aquatic habitat for western pond turtle. The nearest occurrence of this species in the CNDDB search area is approximately 3.5 miles northeast of the project site. The species could occur nearby in Kirker Creek, but it is unlikely that it would move onto the site given the absence of suitable aquatic habitat.
California tiger salamander	*Ambystoma californiense*	T	T	N/A	Seasonal water bodies without fish (i.e., vernal pools and stock ponds) and grassland/ woodland habitats with summer refugia (i.e., burrows).	**Potential**: There is no suitable breeding habitat on the project site for California tiger salamander. However, the species is known from the project area and the project site provides potential upland habitat. The nearest occurrence of California tiger salamander is from a pond at Keller Landfill, approximately 0.5 mile northwest of the project site. In addition, there is an off-site pond (approximately 100 feet west of the project site) that provides potential breeding habitat. The project site is not within designated critical habitat for California tiger salamander.
Alameda whipsnake	*Masticophis lateralis euryxanthus*	T	T	N/A	Scrub, chaparral, grassland, and woodland habitat mosaics. South-facing slopes and ravines.	**Unlikely**: The project site does not provide suitable habitat for Alameda whipsnake given the absence of chaparral habitat. In addition, the project site is not located between or near areas of suitable core habitat. The nearest documented occurrence of this species is approximately 4 miles south of the project site (CNDDB).

Silvery legless lizard	*Anniella pulchra pulchra*	None	SC	N/A	Sandy or loose loamy soils under sparse vegetation.	**Unlikely**: The project site does not provide suitable habitat for silvery legless lizard The nearest occurrence of this species in the CNDDB search area is approximately 4 miles east of the project site.
Invertebrates						
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	None	N/A	Seasonal pools; tends to occur in smaller pools and is most commonly found in pools that are less than 0.05 acre in grass- or mud-bottomed swales or basalt flow depression pools in unplowed grasslands (Eriksen and Belk 1999).	**Potential:** The 0.016-acre seasonal wetland is the only potentially suitable habitat for vernal pool fairy shrimp on the project site. Protocol surveys have not been conducted to determine presence/absence from the seasonal wetland. The other wetlands on the project site do not pond water and are unsuitable for this species. The closest documented occurrence of the species is approximately 4 miles northeast of the project site. The site is not within designated critical habitat for vernal pool fairy shrimp or other listed branchiopods.
Longhorn fairy shrimp	*Branchinecta longiantenna*	E	None	N/A	Vernal pools and other seasonally ponded areas	**Potential:** The 0.016-acre seasonal wetland is the only potentially suitable habitat for this species on the project site. Not documented in the project area, but HCP/NCCP conclude that the species could occur in the inventory area.
Midvalley fairy shrimp	*Branchinecta mesovallenis*	None	SA	N/A	Vernal pools and other seasonally ponded areas	**Potential:** The 0.016-acre seasonal wetland is the only potentially suitable habitat for this species on the project site. Not documented in the project area, but HCP/NCCP conclude that the species could occur in the inventory area.

Vernal pool tadpole shrimp	*Lepidurus packardi*	E	None	N/A	Seasonal pools; the species has been collected in vernal pools ranging from 2 to 356,253 square meters (6.5 square feet to 88 acres) in surface area (Helm 1998).	**Potential:** The 0.016-acre seasonal wetland is the only potentially suitable habitat for vernal pool tadpole shrimp on the project site, but the pool is considered small for the species. Protocol surveys have not been conducted to determine presence/absence from the seasonal wetland. The other wetlands on the project site do not pond water and are unsuitable for this species. The closest documented occurrence of the species is approximately 7 miles southeast of the project site. The site is not within designated critical habitat for vernal pool tadpole shrimp or other listed branchiopods.
California fairy shrimp	*Linderiella occidentalis*	None	SA	N/A	Seasonal pools	**Potential:** The 0.016-acre seasonal wetland is the only potentially suitable habitat for this species on the project site.
Molestan blister beetle	*Lyta molesta*	None	SA	N/A	Dried vernal pools and associated flowers	**Unlikely:** The 0.016-acre seasonal wetland is the only on-site wetland that supports any vernal pool associated plant species. Given the small size of the wetland, that is isolated from vernal pools, and the limited amount of vernal pool associated vegetation present, on-site habitats could not support this species.

Source: Pacific Biology 2014

[1] *T=Threatened; E = Endangered*

[2] *T=Threatened; E = Endangered; SC=State of California Species of Special Concern*
PD=Proposed for listing as Threatened or Endangered
SA= CDFW Special Animals List (2011)

CRF breeds during the winter and early spring, from as early as late November through April and May. From late November to late April, adult CRF are typically found in or near the breeding ponds (Hayes and Jennings 1989, 1994; Jennings 1988). On rainy nights during this time, however, they may leave the ponds and move up to 300 feet away (Zeiner et al. 1988). Starting in late spring, CRF often move out of the breeding ponds, at first staying nearby but often moving farther away into nearby moist locations, grasslands with squirrel burrows, or similar habitats (under logs, debris, etc.). Generally, these dispersal areas or corridors have mesic (moist) cover, such as would be found in a riparian zone, but CRF have also been documented dispersing through areas with sparse vegetative cover. Dispersal patterns are dependent on habitat availability and environmental conditions (Scott and Rathbun 1998). During this dry period, CRF behavior appears to resemble the estivation of amphibians like California tiger salamanders (Jameson 1981); however, these other amphibians also exhibit distinct seasonal dormancy, which the CRF, especially the coastal populations, do not exhibit. CRF are likely to remain near the breeding ponds if sufficient moist habitat and cover are available, but may also move significant distances if this habitat is not available or if they are dispersing to other ponds. When the rains begin in late fall, CRF move back into the breeding ponds.

Occurrence in Project Vicinity

As shown in **Figure 5.3-5**, CRFs have been documented in the project vicinity at locations to the east, west, and south of the project site. The closest of these occurrences is from Kirker Creek, approximately 550 feet to the east of the project site. This occurrence (CNDDB Occurrence #536) included the observation of one adult and two juvenile CRFs in 2002. Juvenile and adult CRFs were also documented in 1995 within "a drainage along Kirker Pass Road" at a location approximately one mile south of the project site (CNDDB Occurrence #219). The species has also been documented at a location approximately one mile to the east of the project site; this occurrence (CNDDB Occurrence #164) was reported in 1995 and is from a stock pond on the Keller Canyon Landfill. Based on these observations, a breeding population of CRF occurs in the project vicinity, with frogs occupying both Kirker Creek and some stock ponds in the area.

There is a stock pond located approximately 100 feet from the northwest boundary of the project site (**Figure 5.3-2**). This pond was dry at the time of the September 2014 site visit. However, it includes habitat features associated with CRF occurrences, including cattails (providing vegetative cover), over-hanging vegetation, and apparently deep water during the wet season. Given the known occurrence of CRF in the vicinity, in the absence of being able to conduct surveys of the off-site pond (which is not owned by the project applicant), it is assumed that CRF may occupy and breed in the pond.

Occurrence on Project Site

CRF breeding habitat does not occur on the project site, as the on-site seasonal wetlands do not pond for adequate duration or depth to facilitate breeding or to provide long-term aquatic habitat for non-breeding frogs. However, the project site is located between documented occurrences of CRFs. Therefore, it is possible that individual frogs could disperse across the project site; this would be most likely to occur during and immediately following rain events. In addition, given the proximity of the off-site pond, it is possible that frogs inhabiting the pond could temporarily move onto the western portion of the project site and/or estivate within soil cracks, small mammal burrows, seeps, or other features during periods when the pond is dry.

California tiger salamander

California tiger salamander (CTS) is a federally and state listed threatened species. This species is covered by the East Contra Costa County HCP/NCCP.

Background Information

CTS is a relatively large, mostly terrestrial salamander. CTS is restricted to relatively deep vernal pools, stock ponds, or similar habitats compared to other amphibians, as its larvae take a relatively long amount of time to transform into juvenile adults and require relatively lengthy hydroperiods. CTS is relatively secretive and difficult to find outside of the breeding ponds or during its nocturnal breeding migrations, which begin with the first rains of the season in November or December. From late November to early March, sexually mature adults move at night from underground refugia (such as squirrel burrows) to breeding ponds, and individuals may move significant distances—as much as 1.24 miles from a breeding pool (USFWS 2003). Breeding occurs from late winter into early spring.

After breeding, the adults return to their underground burrows or other refugia. The eggs then hatch and the resulting gilled aquatic larvae metamorphose into juveniles that also move at night into terrestrial habitats (Zeiner et al. 1988). Beginning in late spring and early summer, juveniles migrate from the ponds into refugia where they aestivate (similar to hibernation) until the dry season ends. Juveniles can travel up to 1 mile from their breeding site to upland refugia (Austin and Shaffer 1992). This distance is normally less when there are large numbers of refugia sites in close proximity to breeding sites. At the end of the dry season, juveniles and adults return to the breeding pond.

Occurrence in Project Vicinity

As shown in **Figure 5.3-5**, CTS have been documented in the project vicinity at locations to the east, west, and south of the project site. The closest of these occurrences is from a stock pond on the Kirker Canyon Landfill, approximately 0.5 miles west of the project site (CNDDB Occurrence #700, documented in 2000). The species has also been documented at another stock pond approximately 1 mile west of the project site (CNDDB Occurrence #382). Based on these observations, a population of CTS occurs in the project vicinity.

The stock pond located approximately 100 feet from the northwest boundary of the project site (**Figure 5.3-2**) provides potentially suitable breeding habitat for CTS. It contains more vegetative cover than is often characteristic of CTS breeding ponds, but as it is within the dispersal distance of known breeding ponds and holds water for prolonged periods, it may be used by breeding CTS. It was not possible to conduct surveys at this off-site pond as it is not owned by the project applicant.

Occurrence on Project Site

CTS breeding habitat does not occur on the project site, as the on-site seasonal wetlands do not pond for adequate duration or depth to facilitate breeding by the species. However, the project site is located within the dispersal distance of two known CTS breeding ponds. While the species can disperse from breeding ponds as far as 1.24 miles (USFWS 2003), the dispersal distance is generally shorter when suitable estivation habitat occurs in proximity to a pond. Therefore, while individual tiger salamanders could disperse onto and estivate on the project site from the ponds located 0.5 mile and 1 mile to the east, it is not expected that a large number of CTS would do so. If the off-site pond (approximately 100 feet from the project site) supports breeding CTS, then salamanders using that pond could estivate on portions of the project site.

Swainson's hawk

Swainson's hawk is a federal bird of conservation concern and a state listed threatened species. This species is covered by the East Contra Costa County HCP/NCCP.

Background Information

Swainson's hawk is a large (approximately 18- to 22-inch), long-winged hawk. This species nests in western North America from March to July and migrates to South America for the winter starting in August. Typically, this species nests in large native riparian trees (approximately 41 to 82 feet tall) in close proximity to agricultural lands that support accessible prey (Estep 1989). Valley oaks, Fremont

cottonwood (*Populus fremontii*), willows (*Salix* spp.), sycamores (*Platanus racemosa*), and walnuts (*Juglans nigra*) are the preferred nest trees (Bloom 1980, Estep 1989). CDFW (1994) has identified the following vegetation types/agricultural crops as foraging habitat for the species: alfalfa; fallow fields; beet, tomato, and other low-growing row or field crops; dry-land and irrigated pasture; rice land (when not flooded); and cereal grain crops (including corn after harvest). These hawks are highly adapted to human disturbance, unlike most other raptors, and actively seek fields where activities like disking, mowing, flooding, and harvesting have forced small mammals from their burrows.

Occurrence in Project Vicinity

The project site is along the extreme western edge of the nesting range of this species and the species has not been documented nesting within approximately 9 miles of the project site (CNDDB). In addition, the HCP/NCCP does not identify the project site as being potential foraging or nesting habitat for the species (HCP/NCCP App. D-6c).

Occurrence on Project Site

The project site is located outside of the expected nesting and foraging range of the species, but the potential for this species to use on-site habitats for nesting and foraging cannot be completely ruled out. While the species has not been observed on the site, the larger trees on the project site provide potential nesting habitat and the grasslands provide potential foraging habitat.

San Joaquin kit fox

San Joaquin kit fox (SJKF) is a federally listed endangered species and state listed threatened species. This species is covered by the East Contra Costa County HCP/NCCP.

Background Information

SJKF is known for its use of and dependence upon dens, which are typically found in enlarged ground squirrel or other species' dens (O'Farrell 1980). However, SJKF may also be found in manmade structures, including abandoned pipelines, banks in roadbeds or sumps, and culverts (USFWS 1998). Dens are critical for protection from predators, but also provide shelter from inclement weather and thermal regulation. SJKF typically occupies a number of dens at any one time and may change dens often throughout the year. This species forages primarily for small mammals and insects in annual grasslands, pasturelands, cultivated fields, and along the edges of orchards.

Occurrence in Project Vicinity

The project site is located just north of the known range of the San Joaquin kit fox. However, the HCP/NCCP identifies the project site and vicinity as being suitable core habitat for the species. The closest documented occurrence of this species to the project site (CNDDB Occurrence #554) is from approximately 2 miles east of the project site; this occurrence was documented in 1992. As discussed in the Conservation of San Joaquin Kit Foxes in Western Merced County, California prepared by the California State University Stanislaus Endangered Species Recovery Program (May 2009), the current status of SJKF in the northern range (which the project site is to the north of) is unclear.

> *"The status of kit foxes from Santa Nella northward is unclear. This region is commonly referred to as the "northern range", and even the historical distribution and abundance of kit foxes in this region is uncertain. Grinnell et al. (1937) found little evidence of kit foxes north of Merced County. They speculated that the historic range may have extended further to the north along the west side of the San Joaquin Valley, but offered no information to support this other than the location for the type specimen near Tracy in San Joaquin County (Merriam 1902)."*
>
> *"An extensive survey was conducted throughout the northern range during May 2001-February 2003. This effort likely constitutes the most comprehensive survey conducted to date in the northern range. Trained scat-detection dogs were used to survey 213 km of transects on 24 different properties. Of 17 fox scats found and genetically identified to species, all were from red foxes (Smith et al. 2006). No kit fox scats were located."*
>
> *"Available data offers little support for the presence of resident kit fox populations in the northern range. Currently, kit fox presence in the northern range may consist primarily of occasional dispersing animals from populations to the south of Santa Nella. It is conceivable that such animals might even persist for multiple years resulting in reports of sightings. However, there have been no recent and indeed only two historical records of documented reproduction by kit foxes in the northern range. If self-supporting kit fox populations are not present in the northern range, then this region could be functioning as a dispersal sink, as suggested by Smith et al. (2006)."*

Occurrence on Project Site

The project site is located to the north of the commonly accepted range of the species and there have been no recent documented occurrences in the project area. Additionally, no on-site burrows showed signs of kit fox occupancy during the surveys conducted by Moore Biological Consultants. Therefore, it is considered unlikely that the species would occur on the project site. However, the potential of a kit fox to occasionally wander outside of its expected range and to occur on the project site cannot be completely ruled out.

Vernal Pool Invertebrates

Background Information

Vernal pool fairy shrimp (federally Threatened), longhorn fairy shrimp (federally Endangered), vernal pool tadpole shrimp (federally Endangered), and midvalley fairy shrimp (not federally listed) are covered by the HCP/NCCP. California fairy shrimp is not covered by the HCP/NCCP, but is included on the state special animals list. These vernal pool invertebrates are associated with vernal pools and other seasonal ponded areas.

Occurrence in Project Vicinity

Based on the CNDDB, the closest documented occurrence of a federally listed vernal pool branchipod species is approximately 4 miles northeast of the project site. The project site is not within an area designated by USFWS as critical habitat for vernal pool species.

Occurrence on Project Site

The 0.016-acre seasonal wetland (SW-1) in the central part of the main site is the only area on the project site that provides potentially suitable habitat for vernal pool invertebrates. Due to the small size and shallow nature of this wetland, it appears to provide marginal habitat for vernal pool species. Given the limited amount of potential habitat present, protocol surveys were not conducted to determine presence/absence of fairy/tadpole shrimp from this seasonal wetland. Therefore, the presence of vernal pool invertebrates cannot be completely ruled out from this seasonal wetland.

Burrowing Owl

Burrowing owl is a federal bird of conservation concern and a state species of special concern. This species is covered by the East Contra Costa County HCP/NCCP.

Burrowing owl is a small, ground-dwelling owl that lives in open, dry grasslands, agricultural and range lands, and desert habitats associated with burrowing mammals. Burrowing owls nest and shelter in ground squirrel and other suitable small mammal burrows or artificial structures. The species prefers areas of short grass or bare ground and few trees to reduce the potential for predators to hide near the nest or foraging grounds.

The species is known from the project area and the project site provides suitable habitat for the species. While potential burrow sites are not abundant on the site, some ground squirrel burrows are present. The openings in the rock outcrops on the project site would not be expected to be used by burrowing owls as

they are shallow, low to the ground, and do not provide protection from non-avian predators. No evidence of burrowing owls has been observed on the project site during site surveys conducted by Moore Biological Consultants. However, given the time that has elapsed since those surveys, and given the presence of suitable habitat and known occurrences in the area, this species could currently occur on the project site or occupy it prior to construction.

Golden eagle

Golden eagle is a federal bird of conservation concern and a state fully protected species. This species is covered by the East Contra Costa County HCP/NCCP.

Golden eagle is a resident and migrant throughout California, except for the Central Valley. Its habitat typically includes foothills, mountain areas, sage-juniper flats, and desert, and the species utilizes secluded cliffs with overhanging ledges and large trees for cover. Nests are constructed on cliffs and in large trees in open areas. No potential eagle nests have been observed on the project site. However, the on-site trees provide potential nesting habitat and the grasslands provide potential foraging habitat for the species.

California Horned Lark

California horned lark is included on the state special animals list. This species is not covered by the East Contra Costa County HCP/NCCP.

California horned lark typically nests in open country, tundra, grassland, and agricultural areas that contain relatively barren ground with short grass and scattered bushes. This subspecies lives year-round throughout most of California, except in the Sierra Nevada and some parts of northwestern California, where it is only a migrant. In the winter, it can be found in large flocks that often include other species of birds. This species could nest and forage in the on-site grasslands.

White-Tailed Kite

White-tailed kite is a state fully protected species. This species is not covered by the East Contra Costa County HCP/NCCP.

White-tailed kite typically nests in trees, often in isolated stands, surrounded by open foraging habitat. Nests are built on top of oaks, willows, or other dense, broad-leaved deciduous trees within partially cleared or cultivated fields, grasslands, marsh, riparian, woodland, and savanna habitats. This species could nest and forage on the project site.

Loggerhead Shrike

Loggerhead shrike is a federal bird of conservation concern and a state species of special concern. This species is not covered by the East Contra Costa County HCP/NCCP.

Loggerhead shrike is a predatory passerine bird species. It is a resident in the lowlands and foothills throughout California, where its habitat consists of open spaces such as grasslands with scattered trees, shrubs, utility lines, and/or fences for perching. Loggerhead shrikes typically nest in densely vegetated trees and shrubs. This species could nest and forage on the project site.

Grasshopper Sparrow

Grasshopper sparrow is included on the state special animals list. This species is not covered by the East Contra Costa County HCP/NCCP.

Grasshopper sparrow inhabits grasslands and nests on the ground. The nest is a well-concealed open cup on the ground under vegetation. They forage on the ground in vegetation, mainly eating insects, especially grasshoppers, and seeds. This species could nest and forage on the project site.

Ferruginous Hawk (Wintering)

Ferruginous hawk is a federal bird of conservation concern and is included on the state special animals list. This species is not covered by the East Contra Costa County HCP/NCCP.

The ferruginous hawk is a large, narrow-winged hawk. It winters in open habitats, including deserts and grasslands, between September and April in the Modoc Plateau, Central Valley, and Coast Ranges (Zeiner et al. 1990), but it does not nest in California. This hawk prefers low elevations and avoids canyons and forests (Bechard and Schmutz 1995) and forages over open areas for birds, reptiles, amphibians, mice, and ground squirrels. It is an uncommon winter resident and migrant in northern California, and a more common winter resident in southwestern California (Garrett and Dunn 1981). The species does not nest in the project region, but could occasionally forage on the project site in the winter.

American Badger

American badger is a state species of special concern. This species is not covered by the East Contra Costa County HCP/NCCP.

American badgers range throughout California but are most abundant in drier, open stages of shrub, forest, and herbaceous habitats with friable soils where the badgers can dig burrows. No potential badger

dens were observed on the project site during surveys conducted by Moore Biological Consultants, and due to the clay content of many of the soils, the site does not provide optimal den habitat. However, the potential exists that a badger could occupy the project site prior to the commencement of construction activities.

Special-Status Bats

Pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), and potentially other bat species could roost on the project site. The pallid bat is a state species of special concern while the western red bat and hoary bat are state listed special animals. None of these species are covered by the East Contra Costa County HCP/NCCP.

Western red bat and hoary bat roost exclusively in the foliage of trees, while pallid bat and other potentially occurring bat species could roost in trees or potentially in the small crevices and fissures in the rock outcrops. Therefore, the on-site trees and the small crevices and fissures in the rock outcrops could be used by roosting bats. However, the larger openings in the rock outcrops do not provide expected bat roosting habitat as they are shallow, low to the ground, and provide little thermal protection or protection from predators. Bats could also forage over the on-site grasslands and wetlands.

REGULATORY FRAMEWORK

Federal Regulations

Endangered Species Act

Under the federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as Threatened or Endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region, and whether the proposed project would result in a "take"[2] of such species. The "take" provision of the FESA applies to actions that would result in injury, death, or harassment of a single member of a species protected under the Act. In addition, the agency is required to determine whether

[2] "Take," as applied in Section 9 of the FESA, means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect or to attempt to engage in any such conduct." "Harass" is further defined by the USFWS (50 CFR. Section 17.3) as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as "an act which actually kills or injures wildlife." This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

the project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA, or result in the destruction or adverse modification of critical habitat for such species (16 USC 1536[3][4]). If it is determined that a project may result in the "take" of a federally listed species, a permit from the USFWS would be required under Section 7 or Section 10 of the FESA. Section 7 applies if there is a federal nexus (e.g., the project is on federal land, the lead agency is a federal entity, a permit is required from a federal agency, or federal funds are being used). Section 10 applies if there is no federal nexus.

Substantial, adverse project-related impacts to federally listed species or their habitats would be considered significant in this EIR. Species proposed for listing are granted limited protection under the FESA and must be addressed in Biological Assessments (under Section 7 of the Act); proposed species otherwise have no protection from "take" under federal law, unless they are emergency-listed species. Candidate species are afforded no protection under the Act. However, the USFWS recommends that candidate species and species proposed for listing also be considered in informal consultation during a project's environmental review.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The Act encompasses whole birds, parts of birds, and bird nests and eggs.[3]

Clean Water Act

The federal Water Pollution Control Act of 1972, often referred to as the Clean Water Act, is the nation's primary law for regulating discharges of pollutants into waters of the United States. The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The regulations adopted pursuant to the Act deal extensively with the permitting of actions in waters of the United States, including wetlands. The Act's statutory sections and implementing regulations provide more specific protection for riparian and wetland habitats than any other federal law. The US Environmental Protection Agency (US EPA) has primary authority under the Clean Water Act to set standards for water quality and for effluents, but the USACE has primary responsibility for permitting the discharge of dredge or fill materials into streams, rivers, and wetlands.

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3 The Act covers hundreds of birds, including varieties of loon, grebe, albatross, booby, pelican, cormorant, heron, stork, swan, goose, duck, vulture, eagle, hawk, falcon, fail, plover, avocet, sandpiper, phalarope, gull, tern, murre, puffin, dove, cuckoo, roadrunner, owl, swift, hummingbird, kingfisher, woodpecker, swallow, jay, magpie, crow, wren, thrush, mockingbird, vireo, warbler, cardinal, sparrow, blackbird, finch, and many others.

State Regulations

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of Threatened and Endangered species (California Fish and Game Code Section 2070). The CDFW also maintains a list of "candidate species," which are species formally under review for addition to either the list of Endangered species or the list of Threatened species. In addition, the CDFW maintains lists of "species of special concern," which serve as watch lists. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed Endangered or Threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. Project-related impacts to species on the CESA Endangered or Threatened lists would be considered significant in this EIR. Impacts to "species of concern" would be considered significant if the species met the criteria set forth under the *State CEQA Guidelines* Section 15380, or if the species were also protected under any of the other statutes or policies discussed in this section.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed the CDFW to carry out the legislature's intent to "preserve, protect, and enhance Endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as Endangered or Rare and to require permits for collecting, transporting, or selling such plants. The CESA expanded upon the original NPPA and enhanced legal protection for plants. The CESA established Threatened and Endangered species categories and grandfathered all Rare animals—but not Rare plants—into the Act as Threatened species. Thus, there are three listing categories for plants in California: Rare, Threatened, and Endangered.

California Fish and Game Code

Streambed Alteration Agreements (Section 1600 *et seq*.)

Under Section 1602 of the Fish and Game Code, agencies are required to notify CDFW before implementing any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake (Fish and Game Code Section 1602). Preliminary notification and project review generally occur during the environmental review process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable changes to the

project to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Unlawful Destruction of Nests or Eggs and Birds-of-Prey or their Eggs (Sections 3503 and 3503.5)

Under Sections 3503 and 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or to take, possess, or destroy any birds of prey or their nest or eggs. A number of birds-of-prey have potential to nest within the project site. Mitigation measures are proposed to ensure that active bird-of-prey nests would not be disturbed by the proposed project.

California Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as "fully protected species." Section 5050 lists fully protected amphibians and reptiles; Section 3515 lists fully protected fish; Section 3511 lists fully protected birds; and Section 4700 lists fully protected mammals. Except for take related to scientific research, all take of fully protected species is prohibited.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the State Water Resources Control Board (SWRCB) to regulate state water quality and protect beneficial uses. The SWRCB certifies activities subject to CWA Section 404 permits.

Local Regulations

City of Pittsburg General Plan

The Resource and Conservation Element in the Pittsburg General Plan includes goals and policies to preserve, protect, enhance, and promote the City's valuable natural, cultural, and scenic resources. The goals and policies applicable to the prosed project are listed below.

Biological Resources and Habitat

Goal 9-G-1	Protect conservation areas, particularly habitats that support special-status species, including species that are state or federally listed as endangered, threatened, or rare.
Goal 9-G-2	Guide development in such a way that preserves significant ecological resources.

Policy 9-P-1	Ensure that development does not substantially affect special-status species, as required by State and federal agencies and listed in Table 9-1. Conduct assessments of biological resources as required by CEQA prior to approval of development within habitat areas of identified special-status species, as depicted in Figure 9-1.
Policy 9-P-7	During the design of hillside residential projects, encourage clustering of housing to preserve large, unbroken blocks of open space, particularly within sensitive habitat areas. Encourage the provision of wildlife corridors to ensure the integrity of habitat linkages.
Policy 9-P-8	As a condition of approval of new development, ensure revegetation of cut-and-fill slopes with native plant species.

East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan

The East Contra Costa County HCP/NCCP is intended to provide a comprehensive framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process for impacts of new development on Endangered and Threatened species, and other species covered by the HCP/NCCP. The HCP/NCCP describes how to avoid, minimize, and mitigate the impacts on covered species and their habitats. The plan's primary goal is to streamline review of development projects by eliminating costly and time-consuming project-by-project permitting that often results in uncoordinated and biologically ineffective mitigation, while providing ecosystem conservation and contributing to the recovery of Threatened or Endangered species in California.

The East Contra Costa County HCP/NCCP entails the issuance of 30-year incidental take permits for 28 listed and non-listed species from USFWS and CDFW to local jurisdictions, allowing them to use those permits and extend take authorization to development and other projects that meet the terms of the HCP/NCCP. The plan's conservation strategy is to protect existing populations of covered special-status plant and wildlife species within a system of new preserves linked to existing protected lands that would preserve between 23,800 and 30,300 acres of land. The East Contra Costa County HCP/NCCP calls for the creation of an implementing entity to oversee assembly and operation of the preserve system and ensure compliance with all terms of the HCP/NCCP. The implementation entity is a Joint Exercise of Powers Authority, formed by the cities of Clayton, Pittsburg, Oakley, and Brentwood and Contra Costa County, and is called the East Contra Costa County Habitat Conservancy. The Joint Exercise of Powers Authority was executed on April 19, 2007 (Resolution No. 07-10898). Following this action, the USFWS signed the

federal permit for the HCP/NCCP on July 25, 2007, and the CDFW signed the State permit for the HCP/NCCP on August 6, 2007. Therefore, East Contra Costa County has an officially approved HCP/NCCP as of August 6, 2007.

The permit area for the East Contra Costa County HCP/NCCP generally includes land within the urban limit lines in the cities of Clayton, Pittsburg, Oakley, and Brentwood and Contra Costa County. The local jurisdictions who are permittees under the HCP/NCCP include the cities of Brentwood, Clayton, Oakley, and Pittsburg, Contra Costa County, Contra Costa County Flood Control and Water Conservation District, East Bay Regional Park District, and the Conservancy. Currently, all participating jurisdictions have approved the HCP/NCCP and have adopted implementing ordinances and the fee structures set forth in the HCP/NCCP.

As required by the FESA, the East Contra Costa County HCP/NCCP includes measures to avoid and minimize take of covered species, which would be included as conditions on development for applicable projects. The permit area excludes most high-quality habitat and jurisdictional waters; low-quality habitat impacts and /or take would be allowed under the East Contra Costa County HCP/NCCP. It is the responsibility of project proponents to design and implement their projects in compliance with listed measures in the HCP/NCCP..

The HCP/NCCP implementing ordinance for the City of Pittsburg (Ordinance No. 07-1293) is codified in Chapter 15.108 of the Pittsburg Municipal Code. It sets forth the procedures for implementing the HCP/NCCP. Each application for new development is required to complete an application for coverage (also called the 'Planning Survey Report') under the HCP/NCCP and pay appropriate implementation fees in accordance with the outcome of the Planning Survey Report. Based on the HCP/NCCP and the data and analyses referenced therein, there is a reasonable relationship between the use of the HCP/NCCP implementation fees authorized by the City of Pittsburg implementation ordinance and the proposed project. HCP/NCCP implementation fees include a 'Development Fee' and a 'Wetland Mitigation Fee,' both defined and described in PMC Chapter 15.108.070. The Development Fee is used to implement the HCP/NCCP by funding the acquisition of land, the enhancement and management of habitat and other activities to mitigate for impacts to open space, habitat and covered species caused by development projects. The Wetland Mitigation Fee is used to implement the HCP/NCCP by funding the restoration, creation and management of Jurisdictional Wetlands and Waters and riparian woodland/scrub and other actions in order to mitigate for impacts to Jurisdictional Wetlands and Waters and riparian areas caused by development projects. The HCP/NCCP implementation fees apply only to those projects that impact open space, habitat suitable for one or more covered species, Jurisdictional Wetlands and Waters, or riparian areas; thereby ensuring that HCP/NCCP implementation fees are used only for purposes reasonably related to the types of development projects that will be subject to the fees.

Alternatively, the implementing ordinance as described in PMC Chapter 15.108.080 also allows for a project applicant to offer to dedicate land and/or perform wetland mitigation in lieu of some or all of the mitigation fees,

The proposed project site is within the HCP/NCCP inventory area and subject to the HCP/NCCP development fee, which is based on the project location. The HCP/NCCP includes three Fee Zones, defined by a map that determines the fee paid by development, regardless of the land cover type within the development. The proposed project is within the HCP/NCCP Development Fee Zone II: Natural Area Zone. Land within this zone is dominated by natural land cover types.

The proposed project is also subject to the Wetland Mitigation Fee. The amount of the Wetland Mitigation Fee is determined on the basis of the verified wetland delineation report (see **Figure 5.3-4**). The proposed project's participation in the above-mentioned East Contra Costa County HCP/NCCP would provide a mechanism to adequately mitigate impacts to all potentially occurring covered sensitive species and habitats on the project site.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

In accordance with Appendix G of the *2014 State CEQA Guidelines*, the impact of the proposed project related to biological resources would be considered significant if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- have a substantial adverse effect on 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;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan; or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

CEQA Checklist Items Adequately Addressed in the Initial Study

The analysis in the Initial Study prepared for the proposed project and circulated with the Notice of Preparation (NOP) concluded that further analysis of the following issue was not required in the EIR.

- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;

The Biological Resources Assessment (2014) prepared by Moore Biological Consultants found that the project site does not contain any riparian habitat or other sensitive natural communities as defined by the East Contra Costa HCP/NCCP, California Fish and Game Code, FESA, Clean Water Act, or any other local or regional plans, policies or regulations. The creek on the main project site is ephemeral and does not support any riparian habitat and the seasonal wetland swale does not support riparian plant communities. In addition, no riparian habitat or other sensitive natural community has been identified within or adjacent to the off-site parcel. Therefore, no impact would occur.

Impact Analysis

Impact BIO-1 **Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status plant species.** ***(Potentially significant)***

As previously discussed, big tarplant, round-leaved filaree, and adobe navarretia could potentially occur on the project site. None of these species are state or federally listed as threatened or endangered, but they are considered rare or in need of further review by the CNPS. If any of these species occur on the project site, it is likely that they occur in small numbers because they were not observed during the surveys conducted by Moore Biological Consultants. However, as the potential occurrence of these species has not been completely ruled out from the project site, impacts to these species are considered potentially significant.

Mitigation Measures

Big tarplant, round-leaved filaree, and adobe navarretia are covered by the HCP/NCCP and the relevant measures from the HCP/NCCP as set forth below shall be implemented to address potential impacts to these species. As shown in **Table 5.3-2**, habitat for HCP/NCCP covered species is commonly found in grasslands; however, habitat for adobe navarretia can also be found in vernal pools. As such, the measures require a survey to confirm the occurrence or not of the above HCP/NCCP covered species, and at the discretion of the HCP/NCCP Implementing Entity, provide for salvage if any of the species is found. The project shall implement the following measures:

MM BIO-1a In order to receive coverage under the HCP/NCCP, the project applicant shall pay a Development Fee and a Wetland Mitigation Fee, as described below:

- Development Fee: This fee will cover the development of approximately 123 acres of upland habitat that primarily includes annual grassland. Included within this area is approximately 2.8-acre of exposed rock area, an approximately 0.5-acre stand of valley oaks, and approximately 1.3-acre of coastal scrub.

- Wetland Mitigation Fee: This fee shall be paid for the filling of the Waters of the US and any Waters of the State. This fee will cover the filling of 0.003 acres of the Waters of the US, as delineated on the Approved Jurisdictional Determination (see **Figure 5.3-4**). If any waters on the project site are determined by the RWQCB to be Waters of the State (currently estimated at approximately 0.119 acres), then the project applicant shall also pay this fee as may be required by the HCP/NCCP, for the filling of the Waters of the State.

Payment of the Development Fee would address the loss of potential habitat of special-status plant species (e.g., big tarplant, round-leaved filaree) associated with grasslands, while payment of the Wetland Mitigation Fee would specifically address the loss of up to 0.016 acre of potentially suitable seasonal wetland habitat for adobe navarettia. The fees would be used in part to protect these affected special status plant species by bringing existing populations of the species under protection.

Alternately, the project applicant may, in accordance with the terms of PMC Chapter 15.108, offer to dedicate land or create and restore wetlands in lieu of some or all of the mitigation fees.

All applicable mitigation fees shall be paid, or an "in-lieu-of fee" agreement executed, prior to the issuance of a grading permit for the project.

MM BIO-1b Prior to issuance of a grading permit for the site, additional rare plant surveys shall be conducted for big tarplant, round-leaved filaree, and adobe navarretia. These surveys shall be appropriately timed and shall cover all potentially suitable on-site habitats. If none of the species occurs in the project development area, no further mitigation is required.

MM BIO-1c If any of the above species occurs in the project development area (regardless of whether or not the wetlands are determined to be to be Waters of the State), the project applicant shall notify the HCP/NCCP Implementing Entity of the construction schedule so as to allow the HCP/NCCP Implementing Entity the option to salvage the population(s) in accordance with HCP/NCCP Conservation Measure 3.10 (Plant Salvage when Impacts are Unavoidable) described below. Additionally, the project applicant shall confirm with the HCP/NCCP Implementing Entity that the take limits of the HCP/NCCP for the three species identified in **Impact BIO-1** have not been breached (at the time of writing this EIR, the take limits have not been breached for the special-status plant species in question).

Conservation Measure 3.10 (Plant Salvage when Impacts are Unavoidable)

Perennial Covered Plants

Where impacts on covered plant species cannot be avoided and plants will be removed by approved covered activities, the Implementing Entity has the option of salvaging the covered plants. Salvage methods for perennial species shall be tested for whole individuals, cuttings, and seeds. Salvage measures shall include the evaluation of techniques for transplanting as well as germinating seed in garden or greenhouse and then transplanting to suitable habitat sites in the field. Techniques shall be tested for each species, and appropriate methods shall be identified through research and adaptive management. Where plants are transplanted or seeds distributed to the field they shall be located in preserves in suitable habitat to establish new populations. Field trials shall be conducted to evaluate the efficacy of different methods and determine the best methods to establish new populations. New populations shall be located such that they constitute separate populations and do not become part of an existing population of the species, as measured by the potential for genetic exchange among individuals through pollen or propagule (e.g., seed, fruit) dispersal. Transplanting within the preserves shall only minimally disturb existing native vegetation and soils. Supplemental watering may be

provided as necessary to increase the chances of successful establishment, but must be removed following initial population establishment. See also All Covered Plants below.

Annual Covered Plants

For annual covered plants, mature seeds shall be collected from all individuals for which impacts cannot be avoided (or if the population is large, a representative sample of individuals). If storage is necessary, seed storage studies shall be conducted to determine the best storage techniques for each species. If needed, studies shall be conducted on seed germinated and plants grown to maturity in garden or greenhouse to propagate larger numbers of seed. Seed propagation methods shall ensure that genetic variation is not substantially affected by propagation (i.e., selection for plants best adapted to cultivated conditions). Field studies shall be conducted through the Adaptive Management Program to determine the efficacy and best approach to dispersal of seed into suitable habitat. Where seeds are distributed to the field, they shall be located in preserves in suitable habitat to establish new populations. If seed collection methods fail (e.g., due to excessive seed predation by insects), alternative propagation techniques will be necessary. See also All Covered Plants below.

All Covered Plants

All salvage operations shall be conducted by the Implementing Entity. To ensure enough time to plan salvage operations, project proponents shall notify the Implementing Entity of their schedule for removing the covered plant population.

The Implementing Entity may conduct investigations into the efficacy of salvaging seeds from the soil seed bank for both perennial and annual species. The soil seed bank may add to the genetic variability of the population. Covered species may be separated from the soil though garden/greenhouse germination or other appropriate means. Topsoil taken from impact sites shall not be distributed into preserves because of the risk of spreading new nonnative and invasive plants to preserves

For salvage operations, the Implementing Entity shall transplant new populations such that they constitute separate populations and do not become part of an existing population of the species, as measured by the potential for genetic exchange among individuals through pollen or propagule (e.g., seed, fruit) dispersal. Transplanting or seeding "receptor" sites (i.e., habitat suitable for establishing a new population) should

be carefully selected on the basis of physical, biological, and logistical considerations (Fiedler and Laven 1996); some examples of these are listed below.

- Historic range of the species
- Soil type
- Soil moisture
- Topographic position, including slope and aspect
- Site hydrology
- Mycorrhizal associates (this may be important for Mount Diablo manzanita)
- Presence or absence of typical associated plant species
- Presence or absence of herbivores or plant competitors. Site accessibility for establishment, monitoring, and protection from trampling by cattle or trail users.

Impact after Mitigation

This impact would be reduced to a less than significant level.

Impact BIO-2 **Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status wildlife species.** ***(Potentially significant)***

As previously discussed, the following special-status wildlife species covered by the HCP/NCCP have some potential to occur on the project site: California red-legged frog, California tiger salamander, Swainson's hawk, San Joaquin kit fox, vernal pool fairy shrimp, midvalley fairy shrimp, longhorn fairy shrimp, tadpole shrimp, golden eagle, and burrowing owl. In addition, the following special-status species not covered by the HCP/NCCP have some potential to occur on the project site: California horned lark, white-tailed kite, loggerhead shrike, grasshopper sparrow, ferruginous hawk, American badger, pallid bat, western red bat, hoary bat, and California fairy shrimp. The manner in which these species may occur on the project site was previously discussed (see **Environmental Setting, Special-Status Wildlife Species**). Potential impacts to each of these species from the construction and occupancy of the proposed project are discussed below and mitigation measures are identified to address potentially significant impacts.

A. California red-legged frog

As discussed above, the project site does not provide suitable breeding habitat for CRF. Therefore, the proposed project would not result in the loss of suitable breeding habitat for the species and no impact would occur. However, for the reasons previously discussed, portions of the site may be used by dispersing and aestivating CRF, and the proposed project would remove this habitat. Should construction activities occur when frogs are present on the project site, individual CRF could be harmed by construction activities. The impact on CRF would be potentially significant.

The HCP/NCCP anticipates and compensates for the loss of some individual CRF and their aestivation and dispersal habitat due to construction associated with new development projects by including a regional strategy for preserving core habitat for the species and protecting a viable population of the species in the project region. For this species, the HCP/NCCP does not include or recommend any avoidance or minimization measures to be implemented before, during or after construction activities. Instead it only requires the payment of the Development Fee so that the HCP/NCCP Implementing Entity can use the collected monies to preserve and protect viable populations and their habitats in accordance with the regional strategy discussed above or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for the potential loss of individual CRF through construction activities and the loss of potential dispersal and aestivation habitat.

Impact after Mitigation

This impact would be reduced to a less than significant level.

B. California tiger salamander

As discussed above, the project site does not provide suitable breeding habitat for CTS. Therefore, the proposed project would not result in the loss of suitable breeding habitat for the species and no impact would occur. However, for the reasons previously discussed, portions of the site may be used by dispersing and aestivating CTS, and the proposed project would remove this habitat. Should construction activities occur when CTS are present on the project site, individual CTS could be harmed by construction activities. The impact on CTS would be potentially significant.

The HCP/NCCP anticipates and compensates for the loss of some individual CTS and their aestivation and dispersal habitat due to construction associated with new development projects by including a

regional strategy for preserving core habitat for the species and protecting a viable population of the species in the project region. For this species, the HCP/NCCP does not include or recommend any avoidance or minimization measures to be implemented before, during or after construction activities. Instead it only requires the payment of the Development Fee so that the HCP/NCCP Implementing Entity can use the collected monies to preserve and protect viable populations and their habitats in accordance with the regional strategy discussed above, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for the potential loss of individual CTS through construction activities and the loss of potential dispersal and aestivation habitat.

Impact after Mitigation

This impact would be reduced to a less than significant level.

C. Swainson's hawk

The HCP/NCCP does not identify the project site as being potential foraging or nesting habitat for the species (HCP/NCCP App. D-6c). Therefore, the loss of the grassland foraging habitat due to the proposed development on the project site would likely not be substantial in regards to this species because of the low likelihood that it is used by foraging Swainson's hawks. Although unlikely, it is possible the species could nest in the existing trees on the project site, in which case tree removal and construction activities could result in the loss or disturbance of an active Swainson's hawk nest. In the unlikely event that the species nests on the site, it would also forage on the site. The potential loss of an active nest and/or foraging habitat would be considered a significant impact.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for the loss of potential foraging habitat.

MM BIO-2a The project applicant shall implement the following avoidance measures for potential effects on Swainson's hawk nests during construction:

1) Prior to ground disturbing activities during the nesting season (March 15 through September 15), a qualified biologist shall conduct a pre-construction survey no more than one month prior to construction to establish whether occupied Swainson's hawk nests occur on or within 1,000 feet of the area of proposed construction. If no occupied nests are found, then no further mitigation is required.

2) If occupied nests are found, there shall be no project construction activity within a 1,000 foot buffer zone distance from the nest unless a lesser buffer zone is approved by the City in consultation with CDFW. During the nesting season, construction activities shall be avoided within the established buffer zone to prevent nest abandonment. Construction monitoring shall be required to ensure that the established buffer zone is adhered to. If young fledge prior to September 15, construction activities can proceed normally without a buffer zone. If an active nest site is present but shielded from view and noise by other development or other features, the City may waive this avoidance measure (establishment of a buffer zone) if approved by the CDFW.

Impact after Mitigation

This impact would be reduced to a less than significant level.

D. San Joaquin kit fox

The available evidence indicates that a resident or breeding SJKF population does not occur on or near the project site, and that potential use of the project site and surrounding area by the species would be limited to very occasional dispersal. Should an individual SJKF move through the project area during the construction period, the animal could be harmed. Additionally, while considered unlikely, an individual SJKF could also temporarily occupy a den on the project site. In addition to the potential loss of habitat, if the species is present construction activities could result in the loss of one or more kit foxes. Given the rarity of this species in this region, the loss of an individual San Joaquin kit fox and associated grassland habitat would be a significant impact.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for potential loss of dispersal, denning, and foraging habitat.

MM BIO-2b The project shall implement the following avoidance measures for potential effects on San Joaquin kit fox during construction:

1) Prior to any ground disturbance, a USFWS/CDFW-qualified biologist shall conduct a pre-construction survey within the proposed disturbance footprint and a surrounding 250-foot radius. The survey shall establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (US Fish and Wildlife Service 1999). The pre-construction survey shall be conducted no more than 30 days prior to ground disturbance. On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent

parcels under different land ownership are not required to be surveyed. The status of all surveyed dens shall be determined and mapped. Written results of pre-construction surveys shall be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to ground disturbance.

2) If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the measures described below shall be implemented.

   - If a San Joaquin kit fox den is discovered in the proposed development footprint, the den shall be monitored for 3 days by a USFWS/CDFW–qualified biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used.

   - Unoccupied dens shall be destroyed immediately to prevent subsequent use.

   - If a natal or pupping den is found, USFWS and CDFW shall be notified immediately. The den shall not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW.

   - If kit fox activity is observed at the den during the initial 3-day monitoring period, the den shall be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of the biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).

3) If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances shall be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No ground disturbance activities shall occur within the exclusion zones. Exclusion zone radii for potential dens shall be at least 50 feet and shall be demarcated with four to five flagged stakes. Exclusion zone radii for known dens shall be at least 100 feet and shall be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.

Impact after Mitigation

This impact would be reduced to a less than significant level.

E. Vernal Pool Invertebrates

The proposed project includes the fill of the one seasonal wetland (SW-1) on the project site that provides potential habitat for vernal pool invertebrates. If vernal pool fairy shrimp, longhorn fairy shrimp, vernal pool tadpole shrimp, and/or midvalley fairy shrimp are present in the on-site wetland (SW-1), the loss of shrimp and associated habitat would be a significant impact.

The seasonal wetland (SW-1) also provides potential habitat for California fairy shrimp. Given the common nature of this species, its low sensitivity status, and the small amount of habitat to be removed, if present, impacts to this species would be less than significant.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** as mitigation for the loss of vernal pool habitat.

MM BIO-2c The project shall implement the following avoidance measures for effects on vernal pool invertebrates:

1) Prior to any ground disturbance, a USFWS-qualified biologist shall conduct a pre-construction survey within the seasonal wetland (SW-1), as it is an area identified as having suitable shrimp habitat. The survey shall be conducted in accordance with the survey protocol for covered shrimp described in the HCP/NCCP. Alternatively, the habitat may be assumed to be occupied by covered shrimp species. If covered shrimp are found to be absent during the survey, no further mitigation is required related to the covered shrimp.

2) If covered shrimp are present (or assumed to be present), filling of the seasonal wetland shall be delayed until pools are dry and samples from the top 4 inches of wetlands soils are collected. Soil collection shall be sufficient to include a representative sample of plant and animal life present in the wetland by incorporating seeds, cysts, eggs, spores, and similar inocula. These samples shall be provided to the Implementing Entity so that the soil can be translocated to suitable habitat within the inventory area unoccupied by covered shrimp or used to inoculate newly created seasonal wetlands on preserve lands.

3) In addition, according to HCP/NCCP Conservation Measure 3.8, if the habitat is occupied by covered shrimp (or presence is assumed), the applicant shall determine if the HCP/NCCP Implementing Entity has (1) preserved elsewhere, two acres of occupied habitat (for the same shrimp species) for every acre impacted by the project, and (2) restored elsewhere, one acre of suitable habitat (for the same shrimp species) for every acre impacted, and the restored habitat is occupied. If these tasks have occurred, then no further compensation in addition to the Wetland Mitigation Fee would be required.

If the Implementing Entity has not accomplished these tasks, then the project applicant shall further compensate for impacts to seasonal wetland (SW-1) by implementing both of the following actions for every acre of impact:

- Preserve two acres of occupied habitat within the Preserve System or purchase an equivalent amount of vernal pool preservation credits in a USFWS-approved mitigation bank for each acre affected.

- Restore one acre of suitable habitat within the Preserve System or purchase an equivalent amount of vernal pool restoration credit in a USFWS-approved mitigation bank for each acre affected.

As stated above, either component may be achieved by participating in a USFWS-approved mitigation bank. If habitat is restored within the HCP/NCCP Preserve System, the vernal pool acreage can be credited to the requirement for seasonal wetland creation in HCP/NCCP Conservation Measure 2.2 (and vernal pool restoration, if applicable). Similarly, if vernal pool credits are purchased within an approved mitigation bank that is also within areas designated as high- or medium-priority for conservation by the HCP/NCCP, then these credits can also offset any wetland mitigation fee for seasonal wetlands required by HCP/NCCP.

Impact after Mitigation

This impact would be reduced to a less than significant level.

F. Burrowing Owl

This species has not been observed on the project site. However, given the presence of suitable habitat and known occurrences in the area, this species could occur on the project site. If present, the species could be harmed by construction activities, which would be considered a significant impact.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland habitat potentially used by burrowing owl.

MM BIO-2d The project shall implement the following avoidance measures for potential effects on burrowing owl during construction:

1. Prior to any ground disturbance, a USFWS/CDFW qualified biologist shall conduct a pre-construction survey of the project site for burrowing owls. The pre-construction survey shall establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 1993).

On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership shall not be required to be surveyed. Surveys should take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. Surveys shall take place no more than 30 days prior to construction. During the breeding season (February 1–August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results shall be valid only for the season (breeding or nonbreeding) during which the survey is conducted.

2. If burrowing owls are found during the breeding season (February 1–August 31), the project applicant shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance shall include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1–January 31), the project applicant shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a buffer zone (described below).

3. If occupied burrows for burrowing owls are not avoided, passive relocation shall be implemented. Owls shall be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors shall be in place for 48 hours prior to excavation. The project area shall be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure shall be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

MM BIO-2e If construction begins and then is delayed for more than a year, as an interim measure, the project applicant shall periodically disk the graded areas of the project site to avoid recolonization by burrowing owls. Upon recommencement of project construction, the project applicant shall re-implement **Mitigation Measure MM BIO-2d** prior to recommencement of any ground disturbing activities.

Impact after Mitigation

This impact would be reduced to a less than significant level.

G. Golden eagle

No potential eagle nests have been observed on the project site. However, the project site provides suitable habitat, and this species could establish a nest in existing trees and/or forage on the project site. If present, construction activities, including tree removal, could result in the loss of or disturbance of an active nest. Additionally, the proposed project would result in the loss of grasslands potentially used as foraging habitat by the species. Therefore, impacts to this species are potentially significant.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland habitat potentially used by golden eagles.

MM BIO-2f The project shall implement the following avoidance measures for potential effects on golden eagles during construction:

1. Based on the potential for active nests, prior to implementation of construction activities, including tree removal, a qualified biologist shall conduct a pre-construction survey to establish whether an active golden eagle nest is present on the project site. If an occupied nest is present, minimization requirements and construction monitoring shall be required, as detailed below.

2. Construction activities shall be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the construction activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity shall coordinate with CDFW/USFWS to determine the appropriate buffer size.

3. Construction monitoring shall ensure that no construction activities occur within the buffer zone established around an active nest. Construction monitoring shall ensure that direct effects to golden eagles are avoided.

Impact after Mitigation

This impact would be reduced to a less than significant level.

H. American Badger

No potential badger dens were observed on the project site during surveys conducted by Moore Biological Consultants. However, the potential exists that a badger could occupy the project site prior to the commencement of construction activities. If present in a den, the species could be harmed by

construction activities. In addition, the proposed project would result in the loss of grassland habitat potentially used by the species. Therefore, the impact to this species would be potentially significant.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland habitat potentially used by American badger. Even though this is not an HCP/NCCP covered species, the on-site grassland foraging habitat potentially used by this species is the same type and acreage of habitat whose loss would be mitigated by payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above, and implementation of applicable provisions within PMC Chapter 15.108.

MM BIO-2g A pre-construction survey for potential den sites shall be conducted by a qualified biologist no more than four weeks before commencement of initial ground disturbance activities. If an occupied den is found (and if young are not present), then any badgers present shall be removed from the den either by trapping or the use of exclusionary devices. Prior to implementation, the removal method shall be approved by CDFW. .If trapped, the badgers shall be moved to other suitable habitat. Once any badgers are trapped or excluded, the dens shall be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the badgers are successfully excluded from the site, as determined by a qualified biologist.

Impact after Mitigation

This impact would be reduced to a less than significant level.

I. Special-Status Bats

Western red bat and hoary bat roost exclusively in the foliage of trees, while pallid bat and other bat species potentially occurring on the project site could roost in trees or in the small crevices and fissures in the rock outcrops. However, the larger openings in the rock outcrops do not provide bat roosting habitat as they are shallow, low to the ground, and provide little thermal protection or protection from predators.

Hoary bat is of relatively low sensitivity status - it is not state or federally listed as threatened or endangered, is not a California Species of Special Concern, but is included on the state special animals list and on this basis could be considered to be of special-status under CEQA. The hoary bat is a solitary rooster and it roosts exclusively in trees. If the species was to occur on the site, it is likely that it would

abandon its tree roost at the onset of construction and/or tree removal and relocate to another tree in the area. However, pallid bat, western red bat, or other bat species could roost in larger numbers on the site within one of the trees to be removed, while small numbers of bats could roost in the small crevices and fissures in the rock outcrops on the project site. Therefore, the loss of an active bat roost is considered a potentially significant impact.

Mitigation Measures

MM BIO-2h A qualified biologist shall conduct a roosting bat habitat evaluation prior to the removal of trees or the rock outcrops containing small fissures and crevices. The evaluation shall determine if any of these features provide potential bat roosting habitat. If it is determined that potential roosting habitat is not present, no further action shall be required. If suitable roost features are identified, then a site-specific bat protection plan shall be developed and implemented by a qualified biologist to prevent disturbance of an active maternity or hibernation roost during construction and tree removal. The plan may include the use of passive bat exclusion devices, adjusting project timing to when the roost is not active, or other protective measures. Any passive exclusion shall occur only within the following two acceptable seasonal time windows for humane exclusion:

- Between about March 1, when bats become active again after heavy winter rains and when evening temperatures are above 45F, and April 15, when females start giving birth to pups.
- Between August 31 and about October 15, or before heavy winter rains and when evening temperatures are above 45F. After that time, torpid bats are unable to fly out through the one-way exits.

Impact after Mitigation

This impact would be reduced to a less than significant level.

J. Special-Status and Other Nesting Birds

As previously discussed, the following special-status bird species (not covered by the HCP/NCCP) could nest and forage on the project site: California horned lark, grasshopper sparrow, white-tailed kite, and loggerhead shrike. Should an active nest of these species be present, construction activities could result in the loss or abandonment of the nest. In addition, the proposed project would result in the loss of grassland foraging habitat potentially used by these species. Therefore, the loss of a nest of a special-status bird species and associated foraging habitat is considered a potentially significant impact. In addition, the active nests of most native bird species are protected by the Migratory Bird Treaty Act (16

U.S.C. 704) and the California Fish and Game Code (Section 3503). The trees, grasslands, and shrubs on the project site provide nesting habitat for numerous bird species.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of grassland foraging habitat potentially used by California horned lark, grasshopper sparrow, white-tailed kite, and loggerhead shrike. Even though these are not HCP/NCCP covered species, the on-site grassland habitat potentially used by these species is the same type and acreage of habitat whose loss would be mitigated by payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above, and implementation of applicable provisions within PMC Chapter 15.108.

MM BIO-2i If construction activities commence anytime during the nesting/breeding season of native bird species potentially nesting on or near the project site (typically February through August in the project region), a pre-construction survey for nesting birds shall be conducted by a qualified biologist two weeks prior to the commencement of construction activities.

If active nests are found in areas that could be directly affected or are within 300 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them shall be a minimum of 50 feet, and may be enlarged by taking into account factors such as the following:

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

Impact after Mitigation

This impact would be reduced to a less than significant level.

K. Ferruginous Hawk

The species does not nest in the project region, but could occasionally forage on the project site in the winter. Therefore, the impact associated with the project-related loss of grassland foraging habitat would be potentially significant.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** for the loss of grassland foraging habitat. Even though this is not an HCP/NCCP covered species, the on-site grassland foraging habitat potentially used by this species is the same type and acreage of habitat whose loss will be mitigated by payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above, and implementation of applicable provisions within PMC Chapter 15.108.

Impact after Mitigation

This impact would be reduced to a less than significant level.

Impact BIO-3 **Implementation of the proposed project could 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.** ***(Potentially significant)***

Waters of the US, including wetlands, are broadly defined under 33 Code of Federal Regulation (CFR) 328 to include navigable waterways, many of their tributaries, and adjacent wetlands. The USACE determined that the 0.340-acre seasonal wetland swale (WS-1) was tributary to the San Joaquin River, which is a navigable waterway, via Kirker Creek and Dowest Slough. Therefore, this swale falls under the jurisdiction of the USACE pursuant to the Clean Water Act. However, the proposed project would not directly or indirectly affect the swale, as it is within the greenwall proposed on the southern 20 percent of the main project site. The USACE also determined that the 0.003-acre ephemeral creek located at the easternmost edge of the main project site falls under its jurisdiction. This ephemeral creek (EC-1) would be filled in conjunction with the development of this project.

Concerning the remaining wetlands on the project site, the USACE found that the 0.016-acre seasonal wetland (SW-1) situated in an isolated basin in the east-central part of the main project site, the 0.061-acre seep (Seep-1) located a few hundred feet to the west of the seasonal wetland and the 0.042 acre of other

isolated waters (IOW-1, 2, and 3) located in the center of the main project site, were not tributary to any waters of the United States and therefore not under the jurisdiction of the USACE. However, these wetlands could fall under the state's jurisdiction. The project would result in removal of these small aquatic features.

The loss of jurisdictional and other waters on the main project site represents a potentially significant impact. The HCP/NCCP and PMC Chapter 15.108 require a Wetland Mitigation Fee to address impacts to jurisdictional wetlands and other waters. **Mitigation Measure MM BIO-1a** would require the project applicant to pay appropriate wetland mitigation fees, and ensure that requirements of the HCP/NCCP are incorporated in the project so that project impacts to wetlands would be less than significant.

Mitigation Measures

Implement **Mitigation Measure MM BIO-1a** to mitigate for loss of 0.121 acre of wetland habitat, including waters of the U.S. and expected waters of the state.

Impact after Mitigation

This impact would be reduced to a less than significant level.

Impact BIO-4 **Implementation of the proposed project could interfere substantially with the movement of 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.** ***(Potentially significant)***

The proposed project would extend suburban development into an area which is currently undeveloped and provides largely unrestricted access to wildlife, and could thus create a barrier to wildlife movement. This is of particular concern for the SJKF, which may very occasionally migrate or wander through the project site (Moore 2014). However, the southern 20 percent of the main project site would be preserved as a greenwall. This, in addition to the extensive area of open space to the south, east and west of the project site (**Figure 5.3-1**), would maintain a substantial wildlife movement corridor.

Implementation of the proposed project would result in the loss of several trees on the project site that could provide nesting sites for migratory birds (see **Impact BIO-2J**). However, implementation of **Mitigation Measure MM BIO-2i,** discussed above, includes pre-construction surveys for nesting birds and avoidance of active nests, and would reduce the impact to less than significant. The project site is included in the HCP/NCCP as an area for future development and the HCP/NCCP includes a program to preserve within the inventory area those other areas that contain the best habitat to offset impacts of new

development on wildlife movement and nursery sites. As a result, other than potential impacts to migratory birds, the proposed project would not substantially interfere with wildlife movement or impede the use of native wildlife nursery sites.

Mitigation Measures

Implement **Mitigation Measure MM BIO-2i**.

Impact after Mitigation

This impact would be reduced to a less than significant level.

Impact BIO-5 **Implementation of the proposed project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.** ***(Potentially significant)***

The proposed project is within the inventory area of the adopted East Contra Costa County HCP/NCCP. However, while the HCP/NCCP considered this site for development, development on the project site has the potential to directly and indirectly impact biological resources protected by the HCP/NCCP, resulting in a potential conflict with the HCP/NCCP if not mitigated in compliance with the plan. This represents a potentially significant impact. However, with implementation of **Mitigation Measures MM BIO-1a** to **MM BIO-1c**, and **MM BIO-2a** to **MM BIO-2f**, discussed above, the proposed project would be consistent with the requirements of the HCP/NCCP and this impact would be reduced to a less than significant level.

Mitigation Measures

Implement **Mitigation Measures MM BIO-1a to MM BIO-1c**, and **MM BIO-2a** to **MM BIO-2f**.

Impact after Mitigation

This impact would be reduced to a less than significant level.

Impact BIO-6 **Implementation of the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.** ***(Potentially significant)***

The City of Pittsburg has a Street Tree Ordinance (PMC chapter 12.32) that regulates planting, removing, or otherwise affecting street trees. Its intent is primarily for aesthetics and safety, not preservation of trees

as biological resources. The City does not have an oak tree preservation policy or ordinance, or other local policy or ordinance for the protection of biological resources. The only trees on the project site are small stands and some widely scattered valley oaks and buckeye. None of these trees are considered special-status species and the project site is not classified as oak woodland by the HCP/NCCP. While the project would result in the removal of some trees (Valley Oak Woodland), a majority of the trees (California Buckeye Woodland) on the project site are located within the boundaries of the proposed greenwall on the southern 20 percent of the main project site (see **Figure 5.3-2**). As a result, a majority of the trees on the project site would be protected from removal. As only a small number of trees would be removed, this impact is considered less than significant.

The City of Pittsburg is a participating agency in the East Contra Costa County HCP/NCCP. The City enacted an ordinance (PMC chapter 15.108) that directs project applicants to go through the HCP/NCCP process to avoid, minimize, and mitigate impacts on biological resources from development projects within the City's urban limit line. A number of potentially significant biological resources impacts were identified earlier in this section. As a number of these resources are covered by the HCP/NCCP, implementation of the proposed project could conflict with the HCP/NCCP thus resulting in a potentially significant impact unless mitigated in compliance with the HCP/NCCP. However, the proposed project would implement mitigation consistent with the HCP/NCCP to protect covered species that could potentially occur on the project site. As a result, the proposed project would not conflict with any ordinance for the protection of biological resources, and this impact would be reduced to a less than significant level.

Mitigation Measures

Implement **Mitigation Measures MM BIO-1a** to **MM BIO-1c**, and **MM BIO-2a** to **MM BIO-2f** to ensure consistency with the HCP/NCCP.

Impact after Mitigation

This impact would be reduced to a less than significant level.

Impact BIO-7 **The proposed project could result in indirect adverse effects on nearby sensitive biological resources. (*Potentially significant*)**

Following construction and occupancy of the proposed project, large expanses of undeveloped land would occur to the east, west, and south of the site (**Figure 5.3-1**). These areas primarily consist of grassland habitat (similar to the on-site grasslands), with scattered stock ponds. These habitats support special-status species and are used for movements by numerous wildlife species. Potential indirect

impacts on these adjacent lands may include the following: (1) increased lighting and glare effects on wildlife species; (2) an increase in non-native plant species (that have escaped from landscaped areas), which can out-compete native species for available resources and reduce the distribution and population of native species; and (3) increased human activity and domestic animal presence that could disturb natural habitat areas and displace wildlife populations. These indirect impacts are discussed in more detail below.

Increased Light and Glare

The development of a residential community would increase the number of nighttime light and glare sources on the project site over current levels, which are nonexistent. Nighttime lighting can disturb the resting and foraging behavior of a number of wildlife species and can potentially alter breeding cycles and nesting behavior. If uncontrolled, nighttime lighting—especially where proximal to wildlife movement routes—could adversely affect the composition and behavior of the animal species in the area. Of primary concern would be light spillage into Kirker Creek and the off-site pond to the northwest of the project site (which provides potential habitat for CRF and CTS). Kirker Creek is located east of the proposed detention basins and distant from the proposed housing development. Therefore, it is not expected that the proposed project would increase light levels at the creek. With respect to the off-site pond, no homes or roads are proposed adjacent to the off-site pond, but the backyard fences of two lots would be within approximately 160 feet of the pond. As shown in Figure 3.0-6 (in the November 2013 Draft EIR), these lots are fairly deep and the dwelling units would be located on the southeastern portions of the lots. As a result, the dwelling units would be at least 350 feet from the edge of the pond. Given this distance, lighting from the proposed homes is not expected to result in substantial light spillage into the pond. However should additional backyard lighting be installed in the future by the homeowners, it could result in light spillage into the pond. Light spillage into the off-site pond could disrupt behavior and make animals using the pond vulnerable to predation. This is considered a potentially significant impact.

Increased Non-native Plant Species

The project site and nearby areas currently contain a high density of non-native plant species. Because of the ability of non-natives to compete more effectively for resources, some of these non-native plant species (which are more adapted to urban environments) could increase in population and potentially displace native species. This current problem of displacement by non-native plant species could be exacerbated after project completion, but the degree of the potential increase is not known. However, because non-native and exotic plants are commonly incorporated into the landscaping plans for both

common areas and private lots within new developments, it can be reasonably concluded that the project could result in identifiable increases in non-native and/or invasive plant populations.

In particular, these plant species are often adapted to a wider variety of growing conditions and can out-compete native plant populations for available nutrients, prime growing locations, and other resources. Because these plants reproduce so quickly and in such large amounts, they can quickly replace many native plant populations, resulting in lower species diversity, loss of suitable breeding and/or nesting habitat for common and special-status wildlife species, and overall reductions in habitat values. Therefore, the impact on native biological resources as a result of increased non-native plant species on the project site is considered potentially significant.

Increased Human Activity and Domestic Animal Presence

The proposed project would increase the number of people living in the area, which is largely composed of undeveloped land. This increase in human activity would create the potential for increased human disturbances to and degradation of nearby habitats. These disturbances may include increased noise disturbances to wildlife, an increase in the amount of refuse and pollutants in the area, and polluted runoff. Of potential concern would be related impacts to the off-site pond, which provides potential CRF and CTS habitat. No homes or roads are proposed adjacent to the off-site pond and the nearest lots are approximately 160 feet from the pond, with the homes more than 350 feet from the pond. Given the small number of homes proposed in that area, and the distance of those homes from the off-site pond, it is not expected that noise levels at the off-site pond would be substantially elevated. Homes in that area (and associated trash) may attract urban adapted wildlife species (e.g., raccoon) that may prey on CRF and CTS potentially occupying the off-site pond. However, as shown in **Figure 5.3-2**, dense urban development occurs to the north of the project site, and therefore, urban adapted wildlife are expected to already occur in the area. With respect to indirect impacts on sensitive habitats from project site runoff, an analysis of the project's water quality impacts is provided in Subsection VI.9, Hydrology and Water Quality, of the Initial Study (see Appendix 1.0a of the November 2013 Draft EIR). The project would treat stormwater runoff from the new impervious surfaces created on-site, as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff to two stormwater detention basins on the eastern half of the main project site (see Figure 3.0-6 in the November 2013 Draft EIR) and one stormwater detention basin located on the off-site parcel (see Figure 3.0-7 in the November 2013 Draft EIR) where the runoff would be detained and released at a rate that does not exceed the current rate at which site runoff is discharged into receiving waters. Site runoff would not be discharged into the off-site pond. The detention and slow release would allow pollutants, especially sediment, to settle in the detention basins and not be discharged into the receiving waters (e.g. Kirker Creek to the east and existing storm drain infrastructure to the northwest). Therefore, the site runoff would not exceed any

water quality standards and sensitive habitats would not be adversely affected, and the impact would be less than significant.

The urban development on the project site would result in a corresponding increase in the presence of domestic animals on the project site. Dogs and cats, as well as urban adapted wildlife species (e.g., raccoons) can disturb nesting or roosting sites and disrupt the normal foraging or movement activities of wildlife, such as CRF and CTS potentially occupying the off-site pond. Feral cats and house cats can cause substantial damage to the species composition of natural areas, including the populations of special-status species, through predation. The Conservation Biology Institute (2000) suggested that the movement range of domestic cats depends on the health of the coyote population in the surrounding area and that, where coyotes are present, cats are still likely to cause impacts on wildlife within 100 to 200 feet of the urban/wildland edge. Cats that range farther than 100 to 200 feet from the urban edge are more likely to be killed by coyotes than those that stay close to residential yards. Thus, given the healthy coyote population in the project area, it is likely that coyotes would largely control feral cat populations. However, it is still possible, even in the presence of coyotes, that domestic and feral cats could adversely affect habitats bordering the urban/wildland edge.

Given the above, increased human activity, increased domestic animal presence, and increased urban adapted wildlife species presence could result in potentially significant impacts on special-status species and associated habitat.

Mitigation Measures

The following measures shall be implemented to reduce potential indirect impacts on nearby sensitive biological resources.

MM BIO-7a All street and entrance lighting shall be directed and shielded so as to minimize light spillage into off-site areas.

MM BIO-7b As part of the CC&R applicable to the housing development, future occupants of the two lots within approximately 160 feet of the off-site pond shall be informed through deed disclosures that any outdoor lighting to be installed shall not be allowed to result in light spillage over the fence line (in the direction of the off-site pond).

MM BIO-7c Prior to the issuance of a grading permit, the project applicant shall prepare a list of recommended and prohibited landscaping plants for homes and common areas in the project, which list shall be subject to review and approval by the City of Pittsburg. The list shall include a plant palette composed of non-invasive species and shall list invasive

plant species that residents may not plant on the project site. The list of prohibited plants shall be compiled in cooperation with a qualified restoration specialist and distributed to future occupants of the project site as part of the CC&R applicable to the housing development.

MM BIO-7d In deed disclosures the project applicant shall notify all property owners/buyers of the potential interactions that may occur between pets and native wildlife. The disclosures shall discuss the presence of native animals (e.g., coyote, bobcat, mountain lion) that could prey on pets, and state that the property owners and/or residents shall not take any actions against native animals should they prey on pets that are allowed outdoors (unless there is danger of attacks on humans).

Impact after Mitigation

These impacts would be reduced to a less than significant level.

Cumulative Impacts

Impact BIO-8 **The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to biological resources, including special-status plant and wildlife species. (*Potentially significant*)**

Future development associated with the proposed project and other development in the vicinity of the project site in the City of Pittsburg, including Tuscany Meadows, Sky Ranch II and the James Donlon Boulevard Extension Project, and in the City of Antioch, including the Black Diamond Ranch, may result in significant cumulative impacts to biological resources, including special-status plant and wildlife species. Development in the City of Pittsburg would adhere to requirements set forth in the East Contra Costa HCP/NCCP, as well as additional measures to reduce impacts to special-status species to a less than significant level. In addition, the HCP/NCCP includes a program to preserve in other areas within the inventory area, the best habitat to offset impacts of new development. The Black Diamond Ranch project in the City of Antioch is built out and it included mitigation to reduce impacts to special-status species to a less-than-significant level. The proposed project would contribute to the preservation of high-quality habitat types and contribute to the recovery of Threatened or Endangered species through the payment of HCP/NCCP Development and Wetland Mitigation fees, or execution of an "in-lieu-of fee" agreement as described under **Mitigation Measure MM BIO-1a** above. Therefore, the contribution of the proposed project to impacts on biological resources would not be cumulatively considerable.

Mitigation Measures

Implement **Mitigation Measures MM BIO-1a** to **MM BIO-1c**, **MM BIO-2a** to **MM BIO-2i**, and **MM BIO-7a** to **MM BIO-7d.**

Impact after Mitigation

This impact would be reduced to a less than significant level.

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6.0 ALTERNATIVES

INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an EIR evaluate a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen significant environmental impacts while substantially attaining the basic objectives of the proposed project. An EIR should also evaluate the comparative merits of the alternatives. This chapter sets forth potential alternatives to the proposed project and evaluates them, as required by CEQA.

Key provisions of the *State CEQA Guidelines*[1] pertaining to the alternatives analysis are summarized below:

- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- The No Project alternative shall be evaluated along with its impact. The No Project analysis shall discuss the existing conditions at the time the notice of preparation is published. Additionally, the analysis shall discuss what would be reasonably expected to occur at the project site in the foreseeable future based on current plans and consistent with available infrastructure and community services if the project were not approved.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is to be selected and discussed in a manner intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations,

1 California Code of Regulations, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6.

jurisdictional boundaries, and whether the applicant could reasonably acquire, control, or otherwise have access to an alternative site.[2]

PROJECT OBJECTIVES

The primary objectives of the proposed project are to:

- Provide additional moderate income housing opportunities within the community, consistent with General Plan goals, through development of a high end, high quality single-family detached subdivision with large lots; and
- Conserve open space by creating a "greenwall" (defined as open space with no water or sewer services passing through) on the southern 20 percent of the main project site.

ALTERNATIVES EVALUATED IN DETAIL

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible, and therefore merit in-depth evaluation, and which are infeasible. Alternatives considered for detailed evaluation in this EIR include potential alternate projects that meet most of the project's objectives while eliminating or reducing significant environmental impacts identified in **Chapter 5.0, Environmental Setting, Impacts, and Mitigation Measures**.

Alternatives considered in this EIR for detailed evaluation include:

- No Project/No Development Alternative
- Existing General Plan and Pre-Zoning Designations Alternative
- Reduced Density Alternative
- Ridgeline Preservation Alternative

ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Alternatives that are remote or speculative, or have effects that cannot be reasonably predicted, need not be considered.[3] One alternative was considered by the City of Pittsburg but eliminated from further

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2 California Code of Regulations, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6(f)(1).

3 California Public Resources Code, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6(f)(3).

consideration because it was found to be infeasible. The alternative is described below along with a brief explanation of the reasons for its exclusion.

Alternate Location

The possibility of placing the proposed project on an alternative site within the City of Pittsburg was determined by the City to be infeasible given that neither the developer nor the City owns or controls any other property in the vicinity of the site that is of sufficient size to accommodate the project. Therefore, the ability of the developer to find and purchase an alternative site to develop the project is considered speculative. In addition, the development of the same number of residential uses at a different location would result in similar visual character and construction air quality impacts. Thus, placing the proposed development at an alternative site would not avoid the significant impacts of the proposed project.

ALTERNATIVE IMPACT ANALYSIS

This subsection presents an analysis of the project alternatives, including:

- No Project/No Development Alternative
- Existing General Plan and Pre-Zoning Designations Alternative
- Reduced Density Alternative
- Ridgeline Preservation Alternative

Alternative 1: No Project/No Development Alternative

Description and Analysis

Section 15126.6(e)(1) of the 2014 *State CEQA Guidelines,* states that, "the purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." Under this alternative, no grading or new construction would occur on the project site and the present use of the site for grazing would likely continue until a new development application is submitted and approved. County zoning for the main project site would permit all types of commercial, agricultural production, including general farming, wholesale horticulture and floriculture, livestock production, aviaries, apiaries, forestry and similar agricultural uses. If a future development application were to request annexation to the City of Pittsburg, then the existing Pittsburg General Plan and zoning regulations would apply (see Alternative 2 below). For the purposes of this "No Project" analysis, the site is considered to remain undeveloped.

Aesthetics

The visual appearance of the project site would not be altered if the site were to remain undeveloped.

Air Quality

This alternative would avoid grading, construction and operational related air quality impacts of the proposed project. Sporadic emissions would continue to occur from infrequent truck traffic associated with ongoing site maintenance activities.

Biological Resources

Sensitive biological or wetland resources would not be affected under this alternative, as the site would not be developed with any urban uses. In addition, no construction or grading activities would occur on the site. As a result, no biological resources would be negatively affected.

Geology and Soils

Under this alternative, the site would continue to serve as grazing land, wildlife habitat and watershed land. Certain areas within the project site would continue to erode and, in exceptionally wet winter storms, portions of the existing landslide hazard areas may be mobilized and slides may occur on over-steepened slopes. However, these natural geologic processes would occur away from existing homes and development to the north and would therefore not result in significant impacts to people or property.

Greenhouse Gas Emissions

As stated under the **Air Quality** Subsection, above, this alternative would avoid grading, construction and operational related greenhouse gas (GHG) emissions. Sporadic emissions would continue to occur from infrequent truck traffic associated with ongoing site maintenance activities.

Public Services – Fire Protection

With no new development on the main project site, there would be no impacts on existing public services. However, the threat of wildland fires is generally greater for undeveloped land versus developed land because there is more open space area that could catch fire.

Transportation and Traffic

Under this alternative, no new vehicle trips would be generated from the main project site and traffic conditions would match those described in the baseline conditions, contained in **Section 5.7,**

Transportation and Traffic. Over time, traffic from approved projects and cumulative development would continue to be added to the road network. The James Donlon Boulevard Extension would still be warranted whether or not the proposed project is built, although the exact location of the intersection with Kirker Pass Road would be dictated by other considerations.

Conclusion and Relationship to Project Objectives

The No Project/No Development Alternative would generally result in no impacts for all resource areas, as no grading, construction or development would occur on the site. However, this alternative would not meet the project objectives as described above, nor would it be consistent with the City's General Plan.

Alternative 2: Existing General Plan and Pre-Zoning Designations Alternative

Description and Analysis

The Existing General Plan and Pre-Zoning Designations Alternative (Alternative 2), proposes development of the main project site consistent with existing Pittsburg General Plan and Pre-Zoning designations for the site. The City of Pittsburg General Plan designates the main project site for Low Density Residential and Open Space uses. The Low Density Residential designation permits a density of 1 to 7 units per acre while the Open Space designation is intended to set aside land for greenbelts and/or urban buffer areas that may be designated in the future. The Pittsburg Zoning Code designates the main project site for Hillside Planned Development (HPD). The base residential density allowed under the HPD designation is determined in accordance with the average, natural ground slope of the land. Based on an average slope density of approximately 33 percent for the main project site, the HPD designation for the main project site would allow approximately 1.2 units per acre. Based on the land use designations described above, a total of approximately 178 residential units would be allowed on the main project site, which is 50 percent less than the proposed project. In addition, as this alternative would only construct 50 percent of the units proposed under the proposed project, only 50 percent of the land set aside for residential use under the proposed project would be disturbed. These units would be clustered on the eastern portion of the main project site near Kirker Pass Road. The remaining 50 percent of the land set aside for residential use under the proposed project would be set aside for open space on the western portion of the main project site.

Alternative 2 would also include a partially buried water tank at the top of the hill on the northern boundary of the main site (Parcel A), the greenwall on the southern approximate 20 percent of the main project site (Parcel B), two storm retention basins on the eastern portion of the main site (Parcels C and D), and an open space area in the northeast corner of the main project site (Parcel E). The off-site storm retention basin on the off-site parcel would not be required as no homes would be constructed in

the northwestern portion of the main project site. In addition, this alternative would still involve the grading of the interior portions of the hillsides in the central portion of the main project site. Finally, development under this alternative would be set back from Kirker Pass Road in order to preserve the 0.002-acre ephemeral creek located at the easternmost edge of the main project site.

Development under Alternative 2 would also require an HPD permit. The permit would govern density, grading, lot size, yards and building heights, transitional design between different land uses, landscaping, landscape and site development, maintenance, trash, lighting, noise, common areas, parking, street design, storm drain design, and retaining walls associated with this alternative.

This alternative would be constructed in four overlapping phases. Each phase would last approximately 18 months. For the purposes of this analysis, it was assumed that construction of the first phase could begin in spring 2015 and construction of the second phase would start in October 2016. Overall, approximately 68 acres[4] on the project site would be disturbed under this alternative, which is about 45 percent less land than what would be disturbed under the proposed project.

Aesthetics

Physical development of the project site under Alternative 2 is anticipated to be less extensive than envisioned under the proposed project as it would result in an overall reduced density. Views of the project site are anticipated to be comparable to that of the proposed project, although impacts to views under this alternative would be reduced compared to the proposed project as only half the number of residential units would be constructed. However, mitigation to reduce potentially significant impacts to scenic views of adjacent hillsides would still be required, similar to the proposed project.

Physical development of the project site under Alternative 2 would also substantially alter the visual character of the project site. While the change in character is anticipated to be comparable to that of the proposed project, the nature of the change would be reduced, compared to the proposed project as only half the number of residential units would be constructed. While mitigation requiring the developer to hydro-seed all disturbed, yet undeveloped, slopes to encourage the growth of vegetation on the disturbed hillside (see **Mitigation Measure MM AES-2**) would reduce potentially significant impacts associated with the visual change to the hillside facing existing development to the north, development under this alternative would still result in a substantial change to the visual character of the site as this alternative would disturb approximately 68 acres of the project site and still require grading of the northern ridgeline to accommodate the water tank which would still be needed to serve the project. As a result,

4 This figure includes Parcels A, C, D and E, which would be graded and then set aside as open space.

development of Alternative 2 would result in a significant and unavoidable impact to visual character, similar to the proposed project.

With regards to light and glare, although half as many residential units would be built on the main project site, Alternative 2 would still result in generally similar light and glare impacts. This alternative would be required to adhere to the same mitigation as the proposed project, after which the light and glare impacts would be reduced to a less than significant level. Overall, aesthetic impacts under this alternative would be reduced compared to the proposed project, yet the significant and unavoidable impact on visual character would not be avoided.

Air Quality

Construction associated with the proposed project would result in short-term increases in criteria pollutant emissions from construction equipment, grading and trenching activities, worker trips, and on-road diesel trucks. These emissions would exceed construction thresholds of significance for reactive organic gases (ROG) and oxides of nitrogen (NOx). Construction under Alternative 2 would also result in increased criteria pollutant emissions from construction activities. However, as indicated in **Table 6.0-1, Alternative 2: Existing General Plan and Zoning Designations – Estimated Construction Emissions**, only emissions of NOx would exceed the construction significance threshold as 45 percent less land would be disturbed under this alternative compared to the proposed project. For this reason, construction air quality impacts would be reduced under this alternative. However, development of this alternative would still result in significant and unavoidable air quality impacts during construction, similar to the proposed project, because available mitigation would not be capable of reducing the alternative's NOx emissions to a level below the significance threshold.

Table 6.0-1
Alternative 2: Existing General Plan and Zoning Designations – Estimated Construction Emissions

	Average Emissions in Pounds per Day							
Construction Year	**ROG**	**NOx**	**CO**	**SOx**	**PM10 (exhaust)**	**PM10 (total)**	**PM2.5 (exhaust)**	**PM2.5 (total)**
2015	8.70	78.90	69.06	0.07	3.79	130.68	3.49	16.97
2016	34.87	154.25	124.85	0.13	8.42	177.90	7.81	25.87
2017	34.50	83.61	61.41	0.08	5.21	47.86	4.86	9.46
2018	8.33	8.26	5.62	0.01	0.58	0.64	0.55	0.56
Thresholds	**54**	**54**	**—**	**—**	**82**	**—**	**54**	**—**
Exceeds Threshold?	**NO**	**YES**	**—**	**—**	**NO**	**—**	**NO**	**—**

Source: Impact Sciences, Inc. Detailed CalEEMod emissions calculations are provided in ***Appendix 5.2****.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
Thresholds for respirable particulate matter (PM10) and fine particulate matter (PM2.5) apply only to vehicle exhaust.

Construction associated with the proposed project would result in short-term fugitive dust emissions from grading and trenching activities. However, short-term emissions of fugitive dust associated with the proposed project would not exceed the threshold of significance, and this impact is considered less than significant. In addition, mitigation measures have been proposed for the project that would reduce the short-term emissions of fugitive dust by up to 90 percent. Construction under Alternative 2 would also result in short-term emissions of fugitive dust from grading and trenching activities. However, the amount of fugitive dust emitted per day would be lower, as 45 percent less land would be disturbed under this alternative compared to the proposed project. Nonetheless, mitigation to reduce the amount of fugitive dust emitted on a daily basis would still be required. With mitigation, the impacts associated with fugitive dust under Alternative 2 during construction would be less than significant, similar to the proposed project.

Buildout of the proposed project would add mobile, stationary, and area sources to the main project site that would result in long-term increases in criteria pollutants emissions. However, these emissions would not exceed operational thresholds of significance. Operation under Alternative 2 would also result in increased criteria pollutant emissions from mobile, stationary, and area sources. However, development under this alternative would result in lower emissions from traffic due to a smaller increase in daily trips (1,668 trips) compared to the proposed project (3,448 trips). In addition, criteria pollutant emissions from stationary and area sources under Alternative 2 would be reduced, as 50 percent fewer housing units would be constructed. For these reasons, the proposed project's less than significant air quality impacts during operation would be further reduced under Alternative 2.

The Bay Area Air Quality Management District (BAAQMD) *CEQA Air Quality Guidelines* include guidance on evaluating the potential health effects from the emissions of toxic air contaminants (TACs) from construction activities associated with a proposed project. The primary TAC of concern associated with construction is Diesel Particulate Matter (DPM) which is emitted in equipment and vehicle exhaust in the form of fine particulate matter (PM2.5) emissions. The Guidelines include thresholds for the evaluation of an increase in cancer risk, or the potential for acute and chronic health effects from exposure to construction TACs. The Guidelines also include a concentration-based threshold for total PM2.5 emitted during construction, including PM2.5 from equipment and vehicle exhaust and PM2.5 from dust, tire wear, and other sources. Due to the short duration of construction activities, limited emissions of DPM, prevailing wind direction to the east, and the fact that the majority of the project's construction activity would take place at a considerable distance from the sensitive receptors to the north, exposure of nearby sensitive receptors to TACs would be limited. Therefore, the project's construction activities would not result in significant effects related to increased cancer risk, or non-cancer (acute and chronic) health hazards. However, the scale of earthmoving activities associated with the proposed project

combined with the relative close proximity of some receptors to the areas where these activities would occur make it highly probable that concentrations of PM2.5 would exceed the PM2.5 threshold at some locations to the north of the project site. Even with available mitigation, this impact of the proposed project would remain significant and unavoidable. The scale of earthmoving activities associated with Alternative 2 combined with the relative close proximity of some receptors to the areas where these activities would occur also make it highly probable that concentrations of PM2.5 would exceed the PM2.5 threshold at some locations to the north of the project site. Although the amount of PM2.5 emitted per day would be lower, as 45 percent less land would be disturbed under this alternative compared to the proposed project, the reduction would likely not be adequate to avoid the impact, and even with the implementation of available mitigation, the impact associated with PM2.5 emitted during the construction of Alternative 2 would likely remain significant and unavoidable, similar to the proposed project.

Construction activities associated with the proposed project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under the federal and state ambient air quality standard, as the proposed project's emissions would exceed significance threshold for NOx during construction, even after mitigation. While development under Alternative 2 would result in 50 percent fewer units than the proposed project, the construction emissions under this alternative would still exceed significance thresholds for NOx during construction. As a result, development of Alternative 2 would still result in a cumulative net increase of a criteria pollutant, similar to the proposed project.

Biological Resources (Revised)

As discussed in **Section 5.3, Biological Resources**, several special-status plant and wildlife species have the potential to occur on the project site in association with the annual grassland habitat and the limited wetland habitat present on the site. Implementation of the proposed project could have a substantial adverse effect on these special-status species as construction associated with the proposed project would develop or temporarily disturb a large portion of the project site. Many of the affected species are covered under the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Conformance with proposed mitigations, including those that require the implementation of avoidance and minimization measures listed in the HCP/NCCP, would reduce impacts to special-status species covered by the HCP/NCCP to a less than significant level. In addition, the proposed project would be required to pay Development and Wetland Mitigation Fees required by the HCP/NCCP, or execute of an "in-lieu-of fee" agreement, to fund the creation of habitat preserves within East Contra Costa County that would offset impacts of new development. Applicable HCP/NCCP requirements are reflected in the proposed mitigation measures for the project. Regarding special-status species that are

not covered by the HCP/NCCP, payment of the Development Fee pursuant to the HCP/NCCP or execution of an "in-lieu-of fee" agreement would also reduce impacts to those species to a less than significant level. Development on the project site pursuant to Alternative 2 would also affect the same special-status plant and wildlife species. However, the extent of disturbance on the project site would not be as great, as the western half of the project site would not be developed and overall 45 percent less land would be disturbed under this alternative compared to the proposed project. The impacts of the alternative on special-status plant and wildlife species would still be significant and the same mitigation measures would be required to mitigate the impacts.

The proposed project would also result in the loss of waters under federal and State jurisdiction. The proposed project would result in the filling of a 0.003-acre ephemeral creek located at the easternmost edge of the main project site and determined to be jurisdictional by the United States Army Corps of Engineers (USACE), and waters totaling 0.119 acre that are located in the central portion of the main project site and that are assumed to fall under State jurisdiction. The filling of jurisdictional waters on the main project site represents a potentially significant impact. However, implementation of the proposed mitigation that requires the payment of a Wetland Mitigation Fee required by the HCP/NCCP to fund the preservation of wetlands in other areas within eastern Contra Costa County would reduce the impact to a less than significant level. Development on the main project site under Alternative 2 would avoid the filling of the 0.003-acre ephemeral creek that falls under federal jurisdiction, but would still result in the filling of waters that are assumed to fall under State jurisdiction and the same mitigation for impact on state waters would apply.

Lastly, regarding indirect impacts on species and habitats present on adjacent lands, as discussed in **Section 5.3, Biological Resources**, lighting from the project could indirectly affect potential breeding habitat for California red-legged frog (CRF) and California tiger salamander (CTS) located in an off-site pond to the northeast of the project site. However, with the implementation of proposed mitigation, which requires that the project applicant: (1) design street and entrance lighting to minimize light spillover; and (2) inform future occupants of two lots within approximately 160 feet of the off-site pond to minimize light spillover from backyard lighting, this impact would be reduced to a less than significant level. As discussed above, development under Alternative 2 would be clustered on the eastern portion of the main project site near Kirker Pass Road and the western half would not be developed. As a result, residential development under this alternative would not occur in the vicinity of the off-site pond and no indirect impacts to the pond from lighting would occur, and no mitigation would be required.

Other potential indirect impacts of the proposed project to species on adjacent lands may include an increase in non-native plant species (that have escaped from landscaped areas), which can out-compete native species for available resources and reduce the distribution and population of native species, and an

increase human activity and domestic animal presence that could disturb natural habitat areas and displace wildlife populations. However, with the implementation of the proposed mitigation, which requires the project applicant to (1) prepare a list of recommended and prohibited landscaping plants for homes and common areas; and (2) provide deed disclosures for future buyers/residents warning of the potential interactions between pets and wildlife, these impacts would be reduced to a less than significant level. Development under Alternative 2 would also have the potential to introduce non-native species and increase human activity and domestic animal presence on adjacent lands, and result in a similar potentially significant indirect impact, and it would be required to implement the same mitigation measures as the proposed project.

Overall, impacts related to biological resources under this alternative would be reduced compared to the proposed project, but would still be significant. Development under Alternative 2 would be required to implement most of the same mitigation measures as the proposed project, and the impacts would be reduced to a less than significant level with mitigation.

Geology and Soils

Development under the proposed project could expose people and structures on the main project site to significant adverse effects associated with seismic-related ground failure, including landslides. In addition, the proposed project could result in substantial soil erosion or the loss of topsoil, and could 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-site landslides or slope failure. Finally, the proposed project could be located on expansive soils, thus creating substantial risks to life and property. However, with implementation of mitigation, these impacts would be reduced to a less than significant level. Fewer residential units would be constructed under Alternative 2 and therefore fewer people and structures would be exposed to geologic hazards under this alternative. However, impacts under this alternative would still be significant. The same mitigation would be required for any construction occurring under this alternative and impacts would be reduced to a less than significant level.

Greenhouse Gas Emissions

Construction associated with the proposed project would generate GHG emissions, both directly and indirectly. However, as shown by the analysis in **Section 5.5, Greenhouse Gas Emissions**, the construction emissions would be small and would result in a less than significant effect. Construction associated with Alternative 2 would also generate GHG emissions. However, these emissions would be lower as 45 percent less land would be disturbed under this alternative and fewer residential units would

be built on the site compared to the proposed project. As a result, the impact from construction emissions under this alternative would be less than significant, similar to the proposed project.

Operation of the proposed project would generate GHG emissions, both directly and indirectly. However, as shown by the analysis in **Section 5.5**, the emissions would be lower than the significance threshold and the impact would be less than significant. Alternative 2 would result in 50 percent less development than the proposed project. As a result, this alternative would result in reduced GHG emissions as well as a 50 percent smaller on-site population. Therefore, GHG impacts under this alternative would be similar compared to the impact of the proposed project and the impact would be less than significant.

Public Services – Fire Protection

Implementation of the proposed project would increase the demand for fire protection services. As discussed in **Section 5.6, Public Services**, while the Contra Costa County Fire Department has indicated that implementation of the proposed project would not require a new or expanded fire station, the project would still conflict with location and response time standards established by the City, and this impact is considered potentially significant. While the proposed project would be required to implement mitigation requiring that the developer pay a Fire Facility Impact Fee and implement various other fire prevention measures, the conflict with existing policies would remain. As a result this impact is considered significant and unavoidable.

Demand for fire protection services would be reduced under Alternative 2, as 178 fewer residential units would be constructed compared to the proposed project. However, development under Alternative 2 would still conflict with location and response time standards established by the City. Development under Alternative 2 would be required to implement the same mitigation as the proposed project. However, even with mitigation, the conflict with existing policies would remain. Therefore, development of Alternative 2 would result in a significant and unavoidable impact to fire protection services, similar to the proposed project.

Transportation and Traffic

Implementation of the proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under existing plus project conditions, baseline plus project conditions with and without the James Donlon Boulevard Extension, and cumulative plus project conditions with and without the James Donlon Boulevard Extension. As a result, impacts to the local transportation system would be less than significant. Implementation of Alternative 2 would result in 50 percent fewer daily trips (1,668 trips trips) compared

to the proposed project (3,448 trips), and thus would reduce the overall traffic impacts of the proposed project. This alternative would result in less than significant impacts to the local transportation system, similar to the proposed project.

The proposed project currently conflicts with General Plan Policy 7-P-33, which requires that development proposals provide mitigation if they fail to provide adequate access for pedestrians and bicycles; General Plan Policy 7-P-34, which requires that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects; and General Plan Policy 7-P-38, which requires the development of a series of continuous pedestrian systems within Downtown and residential neighborhoods, connecting major activity centers and trails with City and County open space areas, as current project plans do not show a pedestrian connection to existing retail uses or parks located to the north of the site. However, mitigation is proposed that requires the developer to construct a pedestrian access route, connecting the main project site to the nearest existing sidewalk to the north, thereby reducing the impact to a less than significant level. Alternative 2 would also conflict with General Plan Policies 7-P-33, 7-P-34, and 7-P-38 for the same reasons as the proposed project, and mitigation to install a sidewalk or pathway connecting the project to the nearest existing sidewalk to the north would still be required, similar to the project. Therefore, the less than significant impact associated with this conflict for Alternative 2, would be the same as the proposed project.

Conclusion and Relationship to Project Objectives

Alternative 2 would reduce some impacts as they relate to aesthetics, air quality, biological resources, geology and soils, GHG emissions, and transportation/traffic, but the same significant and unavoidable impacts associated with the proposed project would not be reduced to less than significant levels under this alternative.

By adhering to the General Plan and pre-zoning designations for the project site, this alternative would achieve the project objectives.

Alternative 3: Reduced Density Alternative

Description and Analysis

The Reduced Density Alternative (Alternative 3) considers development of the main project site at approximately 75 percent of the residential units planned under the proposed project. This alternative was formulated in an attempt to reduce the significant and unavoidable visual and air quality impacts of the proposed project by reducing the amount of development on the main project site. Under this alternative, only 267 homes would be constructed. In addition, as this alternative would only construct

75 percent of the residential units proposed under the proposed project, only 75 percent of the land set aside for residential use under the proposed project would be disturbed. These units would be clustered on the eastern portion of the main project site near Kirker Pass Road. The remaining 25 percent of the land set aside for residential use under the proposed project would be set aside for open space on the western portion of the main project site.

Alternative 3 would also include a partially buried water tank at the top of the hill on the northern boundary of the main site (Parcel A), the greenwall on the southern approximate 20 percent of the main project site (Parcel B), two storm retention basins on the eastern portion of the main site (Parcels C and D), and an open space area in the northeast corner of the main project site (Parcel E). The off-site storm retention basin would not be required as no homes would be constructed in the northwestern portion of the main project site. In addition, this alternative would still involve the grading of the interior portions of the hillsides in the central portion of the main project site. Finally, development under this alternative would be set back from Kirker Pass Road in order to preserve the 0.003-acre ephemeral creek located at the easternmost edge of the main project site that falls under federal jurisdiction.

This alternative would be constructed in four overlapping phases. Each phase would last approximately 18 months. For the purposes of this analysis, it was assumed that construction of the first phase would begin in spring 2015 with construction of the last phase starting in spring 2016. Overall, approximately 87 acres[5] on the project site would be disturbed under this alternative, which is about 29 percent less land that would be disturbed than under the proposed project.

Aesthetics

Physical development of the project site under Alternative 3 is anticipated to be less extensive than envisioned under the proposed project. Views of the project site are anticipated to be comparable to that of the proposed project, although impacts to views under this alternative would be reduced compared to the proposed project as 25 percent fewer residential units would be constructed. However, similar to the project, mitigation to reduce potentially significant impacts associated with scenic views of adjacent hillsides would still be required.

Physical development of the project site under Alternative 3 would also substantially alter the visual character of the project site. While the change in character is anticipated to be comparable to that of the proposed project, the change would be reduced compared to the proposed project as 25 percent fewer residential units would be constructed. While mitigation requiring the developer to hydro-seed all disturbed, yet undeveloped, slopes to encourage the growth of vegetation on the disturbed hillsides

5 This figure includes Parcels A, C, D, and E, which would be graded and then set aside as open space.

would still be required, development under this alternative would still result in a substantial change to the visual character of the site, as this alternative would still disturb approximately 87 acres of the project site and still require grading of the northern ridgeline to accommodate the water tank which would still be needed to serve the project. As a result, development of Alternative 3 would result in a significant and unavoidable impact to visual character, similar to the proposed project.

With regards to light and glare, although 75 percent of the residential units would be built on the main project site, Alternative 3 would still result in generally similar light and glare impacts. This alternative would be required to adhere to the same mitigation as the proposed project, after which light and glare impacts would be reduced to a less than significant level. Overall, aesthetic impacts under this alternative would be reduced compared to the proposed project, yet the significant and unavoidable impact on visual character would not be avoided.

Air Quality

Construction associated with the proposed project would result in short-term increases in criteria pollutants emissions from construction equipment, grading and trenching activities, worker trips, and on-road diesel trucks. These emissions would exceed construction thresholds of significance for ROG and NOx. Construction activities under Alternative 3 would also result in increased criteria pollutant emissions for the duration of construction. As indicated in **Table 6.0-2, Alternative 3: Reduced Density – Estimated Construction Emissions**, only emissions of NOx would exceed the construction significance threshold as 29 percent less land would be disturbed under this alternative compared to the proposed project. However, development of this alternative would result in significant and unavoidable air quality impacts during construction, similar to the proposed project, because available mitigation would not be capable of reducing the alternative's NOx emissions to a level below the significance threshold.

Table 6.0-2
Alternative 3: Reduced Density – Estimated Construction Emissions

	Average Emissions in Pounds per Day							
Construction Year	**ROG**	**NOx**	**CO**	**SOx**	**PM10 (exhaust)**	**PM10 (total)**	**PM2.5 (exhaust)**	**PM2.5 (total)**
2015	9.22	80.52	74.88	0.07	3.80	165.61	3.51	20.48
2016	44.08	156.80	132.68	0.14	8.43	224.63	7.85	30.60
2017	46.77	84.61	63.45	0.08	5.22	59.69	4.89	10.68
2018	11.91	8.33	5.65	0.01	0.58	0.67	0.55	0.57
Thresholds	**54**	**54**	**—**	**—**	**82**	**—**	**54**	**—**
Exceeds Threshold?	**NO**	**YES**	**—**	**—**	**NO**	**—**	**NO**	**—**

Construction Year	Average Emissions in Pounds per Day							
	ROG	NOx	CO	SOx	PM10 (exhaust)	PM10 (total)	PM2.5 (exhaust)	PM2.5 (total)

*Source: Impact Sciences, Inc. Detailed CalEEMod emissions calculations are provided in **Appendix 5.2**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
Thresholds for PM10 and PM2.5 apply only to vehicle exhaust.

Construction associated with the proposed project would result in short-term fugitive dust emissions from grading and trenching activities. However, short-term emissions of fugitive dust associated with the proposed project would not exceed the threshold of significance, and this impact is considered less than significant. In addition, mitigation measures have been proposed for the project that would reduce the short-term emissions of fugitive dust by up to 90 percent. Construction under Alternative 3 would also result in short-term emissions of fugitive dust from grading and trenching activities. However, the amount of fugitive dust emitted per day would be lower as 29 percent less land would be disturbed under this alternative compared to the proposed project. Nonetheless, mitigation to reduce the amount of fugitive dust emitted on a daily basis would still be required. For these reasons, the impacts associated with fugitive dust under Alternative 3 during construction would be less than significant, similar to the proposed project.

Buildout of the proposed project would add mobile, stationary, and area sources to the main project site that would result in long-term increases in criteria pollutants emissions. However, these emissions would not exceed operational thresholds of significance. Operation under Alternative 3 would also result in increased criteria pollutant emissions from mobile, stationary, and area sources. However, development under this alternative would result in lower emissions from traffic due to a smaller increase in daily trips (2,502 trips) compared to the proposed project (3,448 trips). In addition, criteria pollutant emissions from stationary and area sources under Alternative 3 would be reduced, as 25 percent fewer housing units would be constructed. For these reasons, the proposed project's less than significant air quality impacts during operation would be further reduced under Alternative 3.

As discussed above under Alternative 2, while the proposed project's construction activities would not result in significant effects related to increased cancer risk, or non-cancer (acute and chronic) health hazards, the scale of earthmoving activity within close proximity to sensitive receptors would make it highly probable that concentrations of PM2.5 would exceed the PM2.5 threshold at some locations to the north of the project site. Even with available mitigation, this impact of the proposed project would remain significant and unavoidable. The scale of earthmoving activities associated with Alternative 3 combined with the relative close proximity of some receptors to the areas where these activities would occur also make it highly probable that concentrations of PM2.5 would exceed the PM2.5 threshold at some

locations to the north of the project site. Although the amount of PM2.5 emitted per day would be lower, as 29 percent less land would be disturbed under this alternative compared to the proposed project, the reduction would likely not be adequate to avoid the impact, and even with the implementation of available mitigation, the impact associated with PM2.5 emitted during the construction of Alternative 3 would likely remain significant and unavoidable, similar to the proposed project.

Construction activities associated with the proposed project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under the federal and state ambient air quality standard as the proposed project's construction emissions would exceed significance thresholds for NOx even after mitigation. While development under Alternative 3 would result in 25 percent fewer units than the proposed project, this alternative would also exceed significance thresholds for NOx during construction. As a result, development of the Alternative 3 would still result in a cumulatively net increase of a criteria pollutant, similar to the proposed project.

Biological Resources (Revised)

As discussed in **Section 5.3, Biological Resources**, several special-status plant and wildlife species have the potential to occur on the project site in association with the annual grassland habitat and the limited wetland habitat present on the site. Implementation of the proposed project could have a substantial adverse effect on these special-status species as construction associated with the proposed would develop or temporarily disturb a large portion of the project site. Many of the affected species are covered under the HCP/NCCP. Compliance with proposed mitigations, including those that require the implementation of avoidance and minimization measures listed in the HCP/NCCP, would reduce the project's impacts to special-status species covered by the HCP/NCCP to a less than significant level. In addition, the project applicant would be required to pay Development and Wetland Mitigation fees required by the HCP/NCCP, or execute of an "in-lieu-of fee" agreement, to fund the creation of habitat preserves within East Contra Costa County that would offset impacts of new development. Applicable HCP/NCCP requirements are reflected in the proposed mitigation measures for the project. Regarding special-status species that are not covered by the HCP/NCCP, payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement, would also reduce impacts to those species to a less than significant level. Development on the project site pursuant to Alternative 3 would also affect the same special-status plant and wildlife species. However, the extent of disturbance would not be as great, as the western quarter of the project site would not be developed and overall 29 percent less land would be disturbed under this alternative compared to the proposed project. The impacts of the alternative on special-status plant and wildlife species would still be significant and the same mitigation measures would be required to mitigate the impacts.

The proposed project would also result in the loss of waters under federal and state jurisdiction. The proposed project would result in the filling of a 0.003-acre ephemeral creek located at the easternmost edge of the main project site and delineated to be jurisdictional by the USACE and waters totaling 0.119 acre that are located in the central portion of the main project site and that are assumed to fall under state jurisdiction. The loss of jurisdictional and other waters on the main project site represents a potentially significant impact. However, implementation of proposed mitigation that requires the payment of a Wetland Mitigation fee required by the HCP/NCCP to fund the preservation of wetlands in other areas within eastern Contra Costa County would reduce the impact to a less than significant level. Development on the main project site under Alternative 3 would avoid the filling of the 0.003-acre ephemeral creek that falls under federal jurisdiction, but would still result in the filling of waters that are assumed to fall under State jurisdiction and the same mitigation for impacts on state waters would apply.

Lastly, regarding indirect impacts on species and habitats present on adjacent lands, as discussed in **Section 5.3, Biological Resources**, lighting from the proposed project could indirectly affect potential breeding habitat for CRF and CTS located in an off-site pond to the northeast of the project site. However, with the implementation of proposed mitigation, this impact would be reduced to a less than significant level. As discussed above, development under Alternative 3 would be clustered on the eastern portion of the main project site near Kirker Pass Road and the western one-third of the site would not be developed. As a result, residential development under this alternative would not occur in the vicinity of the off-site pond and no indirect impacts to the pond from lighting would occur, and no mitigation would be required.

Other potential indirect impacts from the proposed project to species on adjacent lands may include an increase in non-native plant species (that have escaped from landscaped areas), which can out-compete native species for available resources and reduce the distribution and population of native species, and an increase human activity and domestic animal presence that could disturb natural habitat areas and displace wildlife populations. However, with the implementation of proposed mitigation, these impacts would be reduced to a less than significant level. Development under Alternative 3 would also have the potential to introduce non-native species and increase human activity and domestic animal presence on adjacent lands, and result in a potentially significant indirect impact, and it would be required to implement the same mitigation measures as the proposed project.

Overall, impacts related to biological resources under this alternative would be reduced compared to the proposed project, but would still be significant. Development under Alternative 3 would be required to implement most of the same mitigation measures as the proposed project, and the impacts would be reduced to a less than significant level with mitigation.

Geology and Soils

Development under the proposed project could expose people and structures on the main project site to significant adverse effects associated with seismic-related ground failure, including landslides. In addition, the proposed project could result in substantial soil erosion or the loss of topsoil, and could 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-site landslides or slope failure. Finally, the proposed project could be located on expansive soils, thus creating substantial risks to life and property. However, with implementation of mitigation, these impacts would be reduced to a less than significant level. Fewer residential units would be constructed under Alternative 3 and therefore fewer people and structures would be exposed to geologic hazards under this alternative. However, impacts under this alternative would still be significant. The same mitigation would be required for any construction occurring under this alternative and impacts would be reduced to a less than significant level.

Greenhouse Gas Emissions

Construction associated with the proposed project would generate GHG emissions, both directly and indirectly. However, as shown by the analysis in **Section 5.5, Greenhouse Gas Emissions**, the construction emissions would be small and would result in a less than significant effect. Construction associated with Alternative 3 would also generate GHG emissions. However, these emissions would be lower as 29 percent less land would be disturbed under this alternative and fewer residences would be constructed compared to the proposed project. As a result, the impact from construction emissions under this alternative would be less than significant, similar to the proposed project.

The operation of the proposed project would generate GHG emissions, both directly and indirectly. However, as shown by the analysis in **Section 5.5**, the emissions would be lower than the significance threshold and the impact would be less than significant. Alternative 3 would result in 25 percent less development than the proposed project. As a result, this alternative would result in reduced GHG emissions and reduced on-site population. Therefore, GHG impacts under this alternative would be similar to the impact of the proposed project. The impact would be less than significant.

Public Services – Fire Protection

Implementation of the proposed project would increase the demand for fire protection services. As discussed in **Section 5.6, Public Services**, while the Contra Costa County Fire Department has indicated that implementation of the proposed project would not require a new or expanded fire station, the project would still conflict with location and response time standards established by the City, and this impact is considered potentially significant. While the proposed project would be required to implement mitigation

requiring that the developer pay a Fire Facility Impact Fee and implement various other fire prevention measures, the conflict with existing policies would remain. As a result this impact is considered significant and unavoidable.

Demand for fire protection services would be reduced under Alternative 3, as 89 fewer residential units would be constructed compared to the proposed project. However, development under Alternative 3 would still conflict with location and response time standards established by the City. Development under Alternative 3 would be required to implement the same mitigation as the proposed project. However, even with mitigation, the conflict with existing policies would remain. Therefore, development of Alternative 3 would result in a significant and unavoidable impact to fire protection services, similar to the proposed project.

Transportation and Traffic

Implementation of the proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under existing plus project conditions, baseline plus project conditions with and without the James Donlon Boulevard Extension, and cumulative plus project conditions with and without the James Donlon Boulevard Extension. As a result, impacts to the local transportation system would be less than significant. Implementation of Alternative 3 would result in 25 percent fewer daily trips (2,502 trips) compared to the proposed project (3,448 trips), and thus would reduce the overall traffic impacts of the proposed project. This alternative would result in less than significant impacts to the local transportation system, similar to the proposed project.

The proposed project conflicts with General Plan Policy 7-P-33, which requires that development proposals provide mitigation if they fail to provide adequate access for pedestrians and bicycles; General Plan Policy 7-P-34, which requires that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects; and General Plan Policy 7-P-38, which requires the development of a series of continuous pedestrian systems within Downtown and residential neighborhoods, connecting major activity centers and trails with City and County open space areas, as current project plans do not show a pedestrian connection to existing retail uses or parks located to the north of the main project site. However, mitigation is proposed that requires the developer to construct a pedestrian access route, connecting the main project site to the nearest existing sidewalk to the north. As a result, this impact would be reduced to a less than significant level. Alternative 3 would also conflict with General Plan Policies 7-P-33, 7-P-34, and 7-P-38 for the same reasons as the proposed project, and mitigation to install a sidewalk or pathway connecting the project to the nearest existing sidewalk to the

north would still be required, similar to the project. Therefore, the impact associated with this conflict would also be reduced to a less than significant level under this alternative.

Conclusion and Relationship to Project Objectives

Alternative 3 would reduce some impacts as they relate to aesthetics, air quality, biological resources, geology and soils, GHG emissions and transportation/traffic, but the same significant and unavoidable impacts associated with the proposed project would not be reduced to less than significant levels under this alternative.

This alternative would achieve all of the key objectives of the proposed project.

Alternative 4: Ridgeline Preservation Alternative

Description and Analysis

The Ridgeline Preservation Alternative (Alternative 4) would preserve the ridgeline along the northeast edge of the main project site. The purpose of this alternative is to lessen impacts to views of the main project site for drivers traveling along Kirker Pass Road. Under this alternative a total of 25 units currently planned in the northeastern corner of the main project site would be eliminated. Overall, Alternative 4 would construct 331 residential units, or 93 percent of the units planned under the proposed project. In addition, as this alternative would only construct 93 percent of the units proposed under the proposed project, only 93 percent of the land set aside for residential uses under the proposed project would be disturbed. The remaining 7 percent of the land set aside for residential use under the proposed project, which consists of the northeastern ridgeline to be preserved, would be set aside for open space under this alternative.

Alternative 4 would include a partially buried water tank at the top of the hill on the northern boundary of the main project site (Parcel A), the greenwall on the southern approximate 20 percent of the main project site (Parcel B), two storm retention basins on the eastern portion of the main project site (Parcels C and D), and an open space area in the northeast corner of the main project site (Parcel E). An off-site stormwater retention basin would also be required under this alternative and would be located in the same location on the off-site parcel as it is for the proposed project. In addition, this alternative would still involve the grading of the interior portions of the hillsides in the central portion of the main project site.

This alternative would be constructed in four overlapping phases, similar to the proposed project. Each phase would last approximately 18 months. For the purposes of this analysis, it was assumed that construction of the first phase would begin in spring 2015 with construction of the last phase starting in

October 2016. Overall, approximately 101 acres[6] on the main project site would be graded and 16.8 acres located on the off-site parcel would be graded for a total of about 118 acres disturbed under this alternative, which is about 4 percent less land that would be disturbed than under the proposed project.

Aesthetics

Physical development of the project site under Alternative 4 would be slightly less extensive than envisioned under the proposed project, as only 118 total acres would be disturbed compared to 123 acres for the proposed project; however, the existing visual character of the site would still be substantially altered under Alternative 4. Regarding impacts to views of the site, impacts to views from Kirker Pass Road to the north would be reduced under this alternative, as 25 fewer units would be built on the main project site and the ridgeline in the northeast corner of the main project site would be preserved. This particular ridgeline sits at a higher elevation than the proposed development that would be located immediately to the south and southwest of the ridge, so preservation of the ridge would not only preserve views of the main site in its natural state, but would also provide an additional screening mechanism to block views of the development from Kirker Pass Road to the north. In addition, views of rock outcrops along the ridgeline would be preserved. Even though impacts to views of the project site would be reduced under Alternative 4, the impacts would still be comparable to the proposed project as the interior portions of the hillsides in the central portion of the main project site would still be graded. As a result, mitigation to reduce potentially significant impacts to scenic views of adjacent hillsides would still be required, similar to the project.

Physical development of the project site under Alternative 4 would also substantially alter the visual character of the project site. While the change in character is anticipated to be comparable to that of the proposed project, the nature of the change would be slightly reduced as the ridgeline and rock outcrops in the northeast corner of the main project site would be preserved. While mitigation requiring the developer to hydro-seed all disturbed, yet undeveloped, slopes to encourage the growth of vegetation on the disturbed hillsides would still be required, development under this alternative would still result in a substantial change to visual character as this alternative would disturb approximately 118 acres of the project site and still require grading of the northern ridgeline to accommodate the water tank which would still be needed to serve the project. As a result, development of the Ridgeline Preservation Alternative would result in a significant and unavoidable impact to visual character, similar to the proposed project.

6 This figure includes Parcels A, C, D, and E, which would be graded and then set aside as open space.

Regarding light and glare, Alternative 4 would result in generally similar light and glare impacts compared to the proposed project, as this alternative would only result in 7 percent fewer residential units. As a result, this alternative would be required to adhere to the same mitigation as the proposed project, and thus light and glare impacts would be reduced to a less than significant level. Overall, aesthetic impacts under this alternative would be reduced compared to the proposed project, yet the significant and unavoidable impact on visual character would not be avoided.

Air Quality

Construction associated with the proposed project would result in short-term increases in criteria pollutants emissions from construction equipment, grading and trenching activities, worker trips, and on-road diesel trucks. These emissions would exceed construction thresholds of significance for ROG and NOx. Construction under Alternative 4 would also result in increased criteria pollutant emissions from construction activities. As indicated in **Table 6.0-3, Alternative 4: Ridgeline Preservation – Estimated Construction Emissions**, emissions generated during the construction of this alternative would also exceed construction thresholds of significance for ROG and NOx, although emission levels would be slightly lower as 4 percent less land would be disturbed under this alternative compared to the proposed project. For this reason, development under Alternative 4 would result in significant and unavoidable air quality impacts during construction, similar to the proposed project, because available mitigation would adequately reduce the alternative's ROG emissions but would not be capable of reducing the alternative's NOx emissions to a level below the significance threshold.

Table 6.0-3
Alternative 4: Ridgeline Preservation – Estimated Construction Emissions

	Average Emissions in Pounds per Day							
Construction Year	**ROG**	**NOx**	**CO**	**SOx**	**PM10 (exhaust)**	**PM10 (total)**	**PM2.5 (exhaust)**	**PM2.5 (total)**
2015	10.00	83.04	84.43	0.07	3.82	220.76	3.53	26.00
2016	51.32	160.53	147.46	0.14	8.48	298.26	7.88	37.98
2017	55.83	85.89	69.05	0.08	5.24	78.19	4.91	12.56
2018	14.51	8.40	6.02	0.01	0.59	0.68	0.55	0.58
Thresholds	**54**	**54**	**—**	**—**	**82**	**—**	**54**	**—**
Exceeds Threshold?	**YES**	**YES**	**—**	**—**	**NO**	**—**	**NO**	**—**

*Source: Impact Sciences, Inc. Detailed CalEEMod emissions calculations are provided in **Appendix 5.2**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
Thresholds for PM10 and PM2.5 apply only to vehicle exhaust.

Construction associated with the proposed project would result in short-term fugitive dust emissions from grading and trenching activities. However, short term emissions of fugitive dust associated with the proposed project would not exceed the threshold of significance, and this impact is considered less than significant. In addition, mitigation measures have been proposed for the proposed project that would reduce the short-term emissions of fugitive dust by up to 90 percent. Construction under Alternative 4 would also result in short-term emissions of fugitive dust from grading and trenching activities. However, the amount of fugitive dust emitted per day would only be slightly lower, as only 4 percent less land would be disturbed under this alternative compared to the proposed project. Mitigation to reduce the amount of fugitive dust emitted on a daily basis would still be required. For these reasons, the impacts associated with fugitive dust under Alternative 4 during construction would be less than significant, similar to the proposed project.

Buildout of the proposed project would add mobile, stationary, and area sources to the main project site that would result in long-term increases in criteria pollutants emissions. However, these emissions would not exceed operational thresholds of significance. Operation under Alternative 4 would also result in increased criteria pollutant emissions from mobile, stationary, and area sources. However, development under this alternative would result in slightly lower emissions from traffic due to a slightly smaller increase in daily trips (3,101 trips), compared to the proposed project (3,448 trips). In addition, criteria pollutant emissions from stationary and area sources under Alternative 4 would be slightly reduced, as 25 fewer units would be constructed under this alternative. For these reasons, the proposed project's less than significant air quality impacts during operation would be slightly reduced under Alternative 4.

As discussed above under Alternative 2, while the proposed project's construction activities would not result in significant effects related to increased cancer risk, or non-cancer (acute and chronic) health hazards, the scale of earthmoving activity within close proximity to sensitive receptors would make it highly probable that concentrations of PM2.5 would exceed the PM2.5 threshold at some locations to the north of the project site. Even with available mitigation, this impact of the proposed project would remain significant and unavoidable. The scale of earthmoving activities associated with Alternative 4 combined with the relative close proximity of some receptors to the areas where these activities would occur also make it highly probable that concentrations of PM2.5 would exceed the PM2.5 threshold at some locations to the north of the project site. Although the amount of PM2.5 emitted per day would be slightly lower, as 4 percent less land would be disturbed under this alternative compared to the proposed project, the reduction would likely not be adequate to avoid the impact, and even with the implementation of available mitigation, the impact associated with PM2.5 emitted during the construction of Alternative 4 would likely remain significant and unavoidable, similar to the proposed project.

Construction activities associated with the proposed project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under the federal and state ambient air quality standard, as even after mitigation, the proposed project's emissions would exceed significance thresholds for NOx during construction. Development under Alternative 4 would also exceed significance thresholds for ROG and NOx during construction, as only 25 fewer units would be constructed, and while ROG emissions would be adequately reduced by mitigation, the alternative's NOx emissions would still exceed the threshold. As a result, development under this alternative would result in a cumulative net increase of a criteria pollutant, similar to the proposed project.

Biological Resources (Revised)

As discussed in **Section 5.3, Biological Resources**, several special-status plant and wildlife species have the potential to occur on the project site in association with the annual grassland habitat and the limited wetland habitat present on the project site. Implementation of the proposed project could have a substantial adverse effect on these special-status species as construction associated with the proposed project would develop or temporarily disturb a large portion of the project site. Many of the affected species are covered under the HCP/NCCP. Conformance with the proposed mitigations, including those that require the implementation of avoidance and minimization measures listed in the HCP/NCCP, would reduce impacts to special-status species covered by the HCP/NCCP to a less than significant level. The proposed project would be required to pay Development and Wetland Mitigation Fees required by the HCP/NCCP, or execute of an "in-lieu-of fee" agreement, to fund the creation of habitat preserves within eastern Contra Costa County that would offset impacts of new development. Applicable HCP/NCCP requirements are reflected in the proposed mitigation measures for the project. Regarding special-status species that are not covered by the HCP/NCCP, payment of the Development Fee pursuant to the HCP/NCCP, or execution of an "in-lieu-of fee" agreement, would also reduce impacts to those species to a less than significant level. Development on the project site pursuant to Alternative 4 would also affect the same special-status plant and wildlife species. However, the extent of disturbance would be somewhat reduced, as the northeastern ridgeline would not be developed and overall 4 percent less land would be disturbed under this alternative compared to the proposed project. The impacts of the alternative on special-status plant and wildlife species would still be significant and the same mitigation measures would be required to mitigate the impacts.

The proposed project would also result in the filling of waters under federal and state jurisdiction. The proposed project would result in the filling of a 0.003-acre ephemeral creek located at the easternmost edge of the main project site and determined to be jurisdictional by USACE, and waters totaling 0.119 acre that are located in the central portion of the main project site and that are assumed to fall under state jurisdiction. The filling of jurisdictional waters on the main project site represents a potentially significant

impact. However, implementation of the proposed mitigation that requires the payment of a Wetland Mitigation fee required by the HCP/NCCP to fund the preservation of wetlands in other areas within eastern Contra Costa County would reduce the impact to a less than significant level. Development on the main project site under Alternative 4 would also result in the filling of waters under both federal and State jurisdiction and the same mitigation would apply.

Lastly, regarding impacts on adjacent lands, as discussed in **Section 5.3, Biological Resources**, lighting from the proposed project could indirectly affect potential breeding habitat for CRF and CTS located in an off-site pond to the northeast of the project site. However, with the implementation of proposed mitigation, this impact would be reduced to a less than significant level. As discussed above, Alternative 4 would preserve only the northeastern ridgeline area. Therefore, residential development associated with this alternative would be at the same distance from the off-site pond as the proposed project. Development under Alternative 4 would implement the same mitigation measures to control for light spillover as the proposed project, and potential indirect impacts from lighting would be reduced to a less than significant level.

Other potential indirect impacts from the proposed project to species on adjacent lands may include an increase in non-native plant species (that have escaped from landscaped areas), which can out-compete native species for available resources and reduce the distribution and population of native species, and an increase human activity and domestic animal presence that could disturb natural habitat areas and displace wildlife populations. However, with the implementation of proposed mitigation, these impacts would be reduced to a less than significant level. Development under Alternative 4 would also have the potential to introduce non-native species and increase human activity and domestic animal presence on adjacent lands, and result in a potentially significant indirect impact, and it would be required to implement the same mitigation measures as the proposed project.

Overall, impacts related to biological resources under this alternative would be slightly reduced compared to the proposed project, and would still be significant. Development under Alternative 4 would be required to implement all the same mitigation measures as the proposed project, and the impacts would be reduced to a less than significant level with mitigation.

Geology and Soils

Development under the proposed project could expose people and structures on the main project site to significant adverse effects associated with seismic-related ground failure, including landslides. In addition, the proposed project could result in substantial soil erosion or the loss of topsoil, and could 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-site landslides or slope failure. Finally, the proposed project could be located on expansive soils, thus creating substantial risks to life and property. However, with implementation of mitigation, these impacts would be reduced to a less than significant level. Fewer residential units would be constructed under Alternative 4 and therefore fewer people and structures would be exposed to geologic hazards under this alternative. However, impacts under this alternative would still be significant. The same mitigation would be required for any construction occurring under this alternative and impacts would be reduced to a less than significant level.

Greenhouse Gas Emissions

Construction associated with the proposed project would generate GHG emissions, both directly and indirectly. However, as shown by the analysis in **Section 5.5, Greenhouse Gas Emissions**, the construction emissions would be small and would result in a less than significant effect. Construction associated with Alternative 4 would also generate GHG emissions. However, these emissions would be slightly lower as 4 percent less land would be disturbed and 25 fewer residences would be constructed under this alternative. As a result, the impact from construction emissions under this alternative would be less than significant, similar to the proposed project.

Operation of the proposed project would generate GHG emissions, both directly and indirectly. However, as shown by the analysis in **Section 5.5**, the emissions would be lower than the significance threshold established and the impact would be less than significant. Alternative 4 would result in 25 fewer residential units than the proposed project. As a result, this alternative would result in slightly reduced GHG emissions, as well as a 7 percent smaller on-site population. Therefore, GHG impacts under this alternative would be similar compared to the impact of the proposed project. The impact would be less than significant.

Public Services – Fire Protection

Implementation of the proposed project would increase the demand for fire protection services. As discussed in **Section 5.6, Public Services**, while the Contra Costa County Fire Department has indicated that implementation of the proposed project would not require a new or expanded fire station, the project would still conflict with location and response time standards established by the City, and this impact is considered potentially significant. While the proposed project would be required to implement mitigation requiring that the developer pay a Fire Facility Impact Fee and implement various other fire prevention measures, the conflict with existing policies would remain. As a result this impact is considered significant and unavoidable.

Demand for fire protection services would be reduced under Alternative 4 as 25 fewer residential units would be constructed compared to the proposed project. However, development under Alternative 4 would still conflict with location and response time standards established by the City. Development under Alternative 4 would be required to implement the same mitigation as the proposed project. However, even with mitigation, the conflict with existing policies would remain. Therefore, development of Alternative 4 would result in a significant and unavoidable impact to fire protection services, similar to the proposed project.

Transportation and Traffic

Implementation of the proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under existing plus project conditions, baseline plus project conditions with and without the James Donlon Boulevard Extension, and cumulative plus project conditions with and without the James Donlon Boulevard Extension. As a result impacts to the local transportation system would be less than significant. Implementation of Alternative 4 would result in slightly fewer daily trips (3,101 trips) compared to the proposed project (3,448 trips), and thus would slightly reduce the overall traffic impact of the proposed project. This alternative would result in less than significant impacts to the local transportation system, similar to the proposed project.

The proposed project would conflict with General Plan Policy 7-P-33, which requires that development proposals provide mitigation if they fail to provide adequate access for pedestrians and bicycles; General Plan Policy 7-P-34, which requires that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects; and General Plan Policy 7-P-38, which requires the development of a series of continuous pedestrian systems within Downtown and residential neighborhoods, connecting major activity centers and trails with City and County open space areas, as current project plans do not show a pedestrian connection to exiting retail uses or parks located to the north of the main site. However, mitigation is proposed that requires the developer to construct a pedestrian access route, connecting the main project site to the nearest existing sidewalk to the north. As a result, this impact would be reduced to a less than significant level. Alternative 4 would also conflict with General Plan Policies 7-P-33, 7-P-34, 7-P-38 for the same reasons as the proposed project, and mitigation to install a sidewalk or pathway connecting to the nearest existing sidewalk to the north would still be required, similar to the project. Therefore, the impact associated with this conflict would also be reduced to a less than significant level under this alternative.

Conclusion and Relationship to Project Objectives

Alternative 4 would reduce some impacts as they relate to aesthetics, air quality, biological resources, geology and soils, GHG emissions and transportation/traffic, but the same significant and unavoidable impacts associated with the proposed project would not be reduced to less than significant levels under this alternative.

This alternative would achieve all of the key objectives of the proposed project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The findings of the alternatives impact analysis discussed above are summarized in **Table 6.0-4, Comparison of Alternatives to the Proposed Project**. The *State CEQA Guidelines* require that an environmentally superior alternative be identified among the selected alternatives.[7] Of the alternatives analyzed in this document, Alternative 1, the No Project/No Development Alternative, would be the environmentally superior alternative, as it would retain the project site in its current natural state, and thus all the environmental effects of a residential development would be avoided. However, the main project site has been designated by the Pittsburg General Plan for a combination of Low Density Residential (one to seven units per acre) and Open Space uses. The No Project Alternative would represent an interim use of the main project site that would not only be inconsistent with the designated long-range plan set forth by the City of Pittsburg for Residential and Open Space uses, but it would also be inconsistent with the project objectives, which are stated above and in **Chapter 3.0, Project Description** (in the November 2013 Draft EIR).

According to the *State CEQA Guidelines*, Section 15126.6(e)(2), if the No Project Alternative is determined to be the environmentally superior alternative, another environmentally superior alternative must be identified among the remaining alternatives.

The range of alternatives required in an EIR is governed by the "rule of reason" which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. Because of this, the EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that would meet the project's objectives and are ostensibly feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. The alternatives presented above and in **Table 6.0-4** below, all fall under a broad classification of "reduced density" alternatives. They are all

7 California Public Resources Code, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines,* Section 15125.6(e)(2).

alternatives that would construct single-family subdivisions on the site, since the main project site is designated by the Pittsburg General Plan as such, and are designated as follows:

- Alternative 2: Existing General Plan and Zoning Designations Alternative – 178 Units
- Alternative 3: Reduced Density Alternative – 267 Units
- Alternative 4: Ridgeline Preservation Alternative – 331 Units

Each of these alternatives responds to several of the identified environmental impacts. For example, all three reduce the overall lot yield, so the traffic impacts, air quality impacts, GHG emissions, and demand for public services would be reduced. In evaluating the remaining alternatives, Alternative 2: Existing General Plan and Zoning Alternative Designations, would be the next environmentally superior alternative, after the No Project Alternative, as it would result in the fewest number of units and the smallest amount of total area to be graded/disturbed, thereby reducing impacts related to the proposed project. However, while this alternative would meet the objectives of the proposed project, many development costs are fixed, and due to the location of the project in a hillside area and the necessity for construction of a partially buried water tank and implementation of major off-site water and sewer utility improvements to this area just south of the existing City limits, development costs for infrastructure are substantial. Because of this, the 178-unit alternative may not be economically feasible.

Table 6.0-4
Comparison of Alternatives to the Proposed Project

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
5.1 Aesthetics					
Impact AES-1: Implementation of the proposed project could have a substantial adverse effect on a scenic vista.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact AES-2: Implementation of the proposed project could substantially degrade the existing visual character or quality of the project site and its surroundings.	SU	N	SU (-)	SU (-)	SU (-)
Impact AES-3: Implementation of the proposed project would create a new source of substantial light or glare which could adversely affect day or nighttime views in the area.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact AES-4: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to visual character.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact AES-5: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to light and glare.	LSM	N	LSM (-)	LSM (-)	LSM (-)
5.2 Air Quality					
Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	LS	N	LS (-)	LS (-)	LS (-)
Impact AQ-2: Construction and operation of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	SU	N	SU (-)	SU (-)	SU (-)
Impact AQ-3: Development of the proposed project would expose nearby sensitive receptors to substantial concentrations of toxic air contaminants.	SU	N	SU (-)	SU (-)	SU (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
Impact AQ-4: Development of the proposed project would not create objectionable odors affecting a substantial number of people.	LS	N	LS (-)	LS (-)	LS (-)
Impact AQ-5: Construction activities associated with the proposed project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under the federal and state ambient air quality standard.	SU	N	SU (-)	SU (-)	SU (-)
Impact AQ-6: Construction emissions generated by the proposed project in combination with construction emissions from the James Donlon Boulevard Extension Project would be unlikely to result in significant localized cumulative impacts.	LS	N	LS (-)	LS (-)	LS (-)
5.3 Biological Resources (Revised)					
Impact BIO-1: Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status plant species.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-2: Implementation of the proposed project could result in substantial adverse effects, either directly or through habitat modifications, on some candidate, sensitive, or special-status wildlife species.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-3: Implementation of the proposed project could 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.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-4: Implementation of the proposed project could 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.	LSM	N	LSM (-)	LSM (-)	LSM (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
Impact BIO-5: Implementation of the proposed project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-6: Implementation of the proposed project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-7: The proposed project could result in indirect adverse effects on nearby sensitive biological resources.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact BIO-8: The proposed project could combine with other existing and future development in the cities of Pittsburg and Antioch to result in a significant cumulative impact with regard to biological resources, including special-status plant and wildlife species.	LSM	N	LSM (-)	LSM (-)	LSM (-)
5.4 Geology And Soils					
Impact GEO-1: Implementation of the proposed project could expose people or structures to risks associated with seismic-related ground failure, including landslides.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-3: The proposed project could 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-site landslides or slope failure.	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-4: The proposed project could be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property	LSM	N	LSM (-)	LSM (-)	LSM (-)
Impact GEO-5: The proposed project along with other existing and future development in the cities of Pittsburg and Antioch would not result in a significant cumulative impact related to geologic risks.	LS	N	LS (-)	LS (-)	LS (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
5.5 Greenhouse Gas Emissions					
Impact GHG-1: The proposed development would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LS	LS (-)	LS (-)	LS (-)	LS (-)
Impact GHG-2: The development would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	LS	LS (-)	LS (-)	LS (-)	LS (-)
Impact GHG-3: The proposed development would not generate GHG emissions, either directly or indirectly, that may have a cumulatively significant impact on the environment.	LS	LS (-)	LS (-)	LS (-)	LS (-)
5.6 Public Services					
Impact PS-1: The proposed project would be located outside the 1.5-mile response radius of an existing or planned fire station and would not meet the response time guideline of 6 minutes 90 percent of the time.	SU	N	SU (-)	SU (-)	SU (-)
Impact PS-2: Future development in the cities of Pittsburg and Antioch could require new or physically altered fire facilities, the construction of which could cause significant environmental impacts. However, the project's contribution to the cumulative impact would not be cumulatively considerable, as the Contra Costa County Fire Protection District has indicated that no new facilities would need to be constructed in order to serve the proposed project.	LS	N	LS (-)	LS (-)	LS (-)
5.7 Transportation And Traffic					
Impact TRA-1: Implementation of the proposed project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under Baseline plus Project conditions with and without the James Donlon Boulevard Extension and under Existing plus Project conditions.	LS	N	LS (-)	LS (-)	LS (-)
Impact TRA-2: Implementation of the proposed project would not conflict with an applicable congestion management program.	LS	N	LS (-)	LS (-)	LS (-)

Environmental Issue Area	Proposed Project	Alt. 1 -No Project/No Development Alternative	Alt. 2 –Existing General Plan and Zoning Designations Alternative	Alt. 3 – Reduced Density Alternative	Alt. 4 –Ridgeline Preservation Alternative
Impact TRA-3: Implementation of the proposed project has the potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LSM	N	LSM (=)	LSM (=)	LSM (=)
Impact TRA-4: Implementation of the proposed project, in conjunction with other reasonably foreseeable future development, would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system under Cumulative (2035) plus Project conditions with or without the James Donlon Boulevard Extension.	LS	N	LS (-)	LS (-)	LS (-)

Notes: N = No impact; LS=Less than significant or negligible impact, no mitigation required; LSM = Less than significant impact after mitigation; SU = Significant and unavoidable impact after mitigation;(+/-) = impact is more severe or less severe than project impact after mitigation; and (=) = impact is similar to project impact after mitigation.

8.0 REPORT PREPARATION

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APPENDIX 5.3

Biological Resources Assessment

MOORE BIOLOGICAL CONSULTANTS

May 28, 2014

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Subject: UPDATED BIOLOGICAL RESOURCES ASSESSMENT AT THE 165+/- ACRE "MONTREUX" PROJECT SITE (SUBDIVISION 8279), PITTSBURG, CONTRA COSTA COUNTY, CALIFORNIA

Dear Noelle:

Thank you for asking Moore Biological Consultants to prepare this updated Biological Assessment for the "Montreux" site in Pittsburg, California (Figures 1 and 2). Our work involved documenting biological resources, delineating potentially jurisdictional Waters of the U.S. and wetlands, searching for suitable habitat for or presence of special-status species in the project site, assessing potential project impacts to these resources, and identifying appropriate mitigation measures. This report describes the methodology and results of our assessment.

This updated Biological Assessment expands upon and supercedes our March 2013 Biological Assessment and was prepared to help address comments received by the City of Pittsburg during the California Environmental Quality Act (CEQA) public comment period. While this Biological Assessment is intended to supplement the analysis of potential project impacts to special-status species covered under the East Contra Costa County Habitat Conservation Plan (ECCCHCP) (Moore Biological Consultants, 2013a), it also provides a summary of the treatment of those species under the ECCCHCP.

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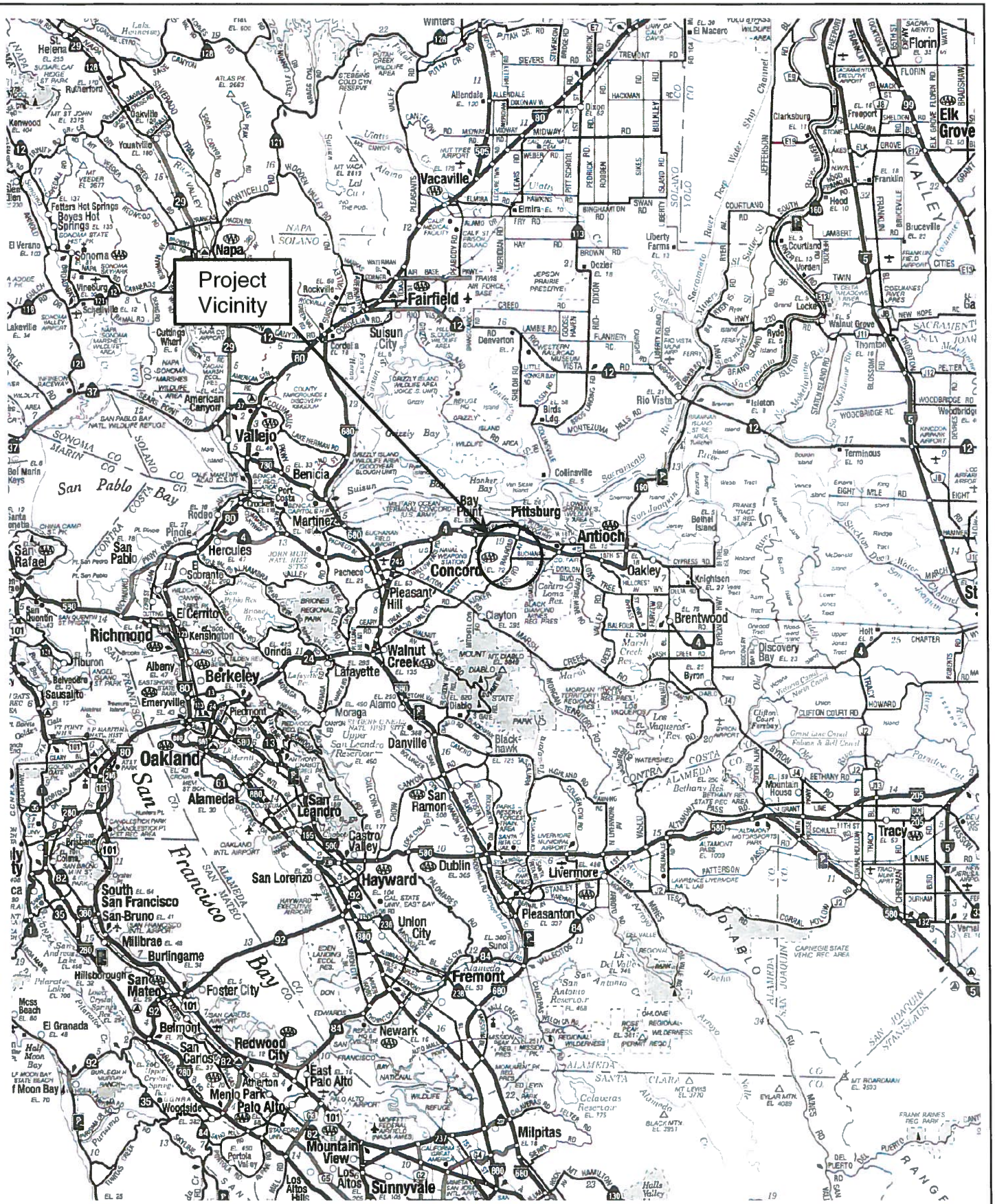
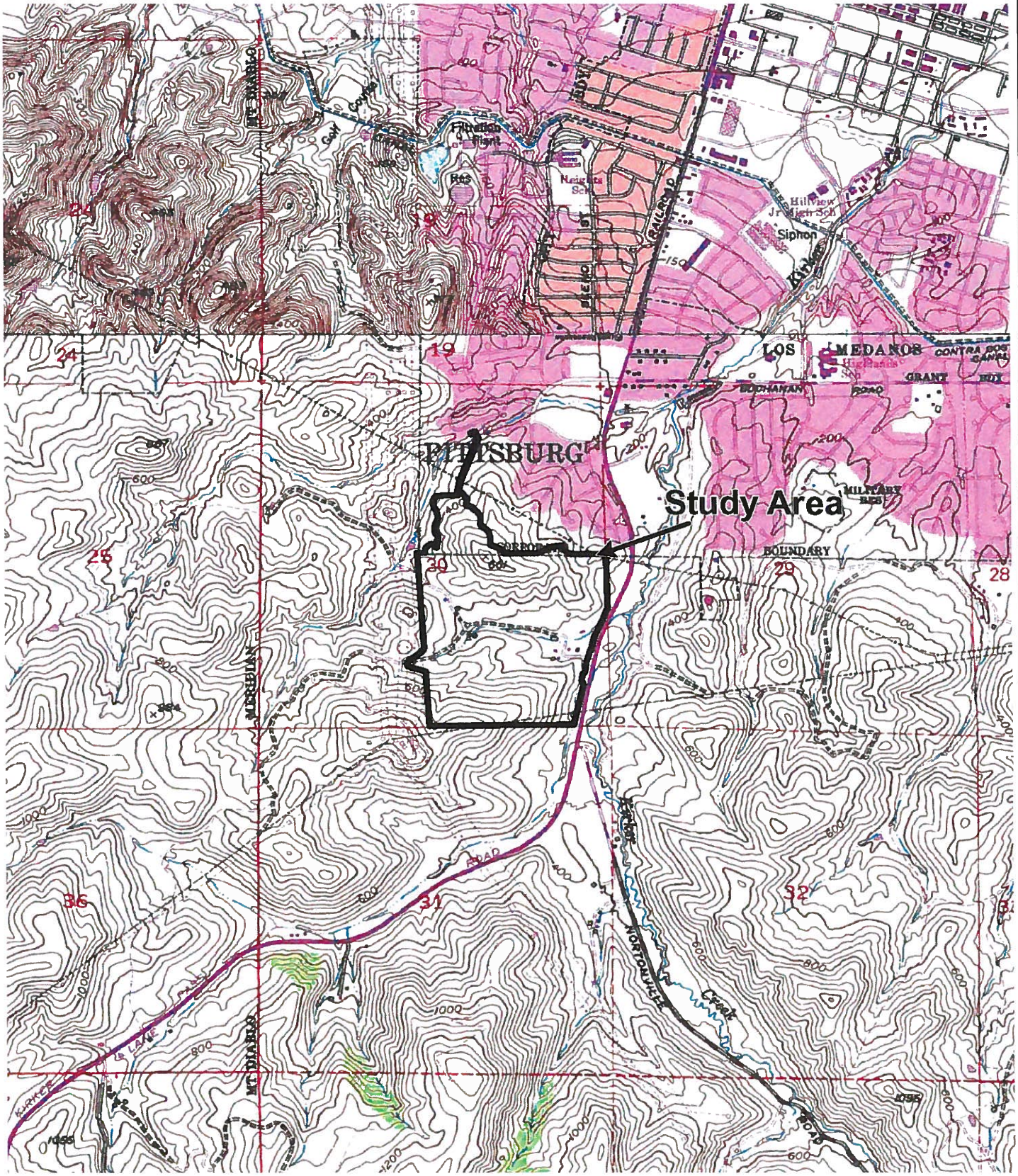


Source: Calif. State Automobile Association

Moore Biological Consultants	0 18 Miles N W E S	**FIGURE 1** **PROJECT VICINITY**



Source: USGS 7.5-minute Clayton topographic quadrangle

Moore Biological

0 2000 4000 Feet

N W E S

FIGURE 2

PROJECT LOCATION

Methods:

Prior to the field surveys, we conducted a search of California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database; an updated search was conducted in May 2014 (CNDDB, 2014). This information was used to identify special-status species that have been previously documented in the greater project vicinity or have the potential to occur based on presence of suitable habitat and geographical distribution. As the site is located near the intersection of the 7.5-minute USGS Clayton, Antioch South, Antioch North, and Honker Bay topographic quadrangles, the CNDDB search all four quadrangles. This CNDDB search area is approximately 240 square miles surrounding the project site.

Field surveys were conducted on June 28, July 19, September 29, 2010, November 1, 2011, June 5, 2012, and March 18, 2013. The surveys were accomplished by driving and walking around the site and consisted of making observations of habitat conditions, and noting surrounding land uses, general habitat types, and plant and wildlife species. We conducted a delineation of potentially jurisdictional Waters of the U.S. and wetlands as defined by the U.S. Army Corps of Engineers (ACOE, 1987; 2008), and a search for special-status species, and potentially suitable habitat for special-status species. Additionally, trees in the site were assessed for the potential use by nesting raptors, especially Swainson's hawk (*Buteo swainsoni*) and golden eagle (*Aquila chrysaetos*), and burrows in the area were inspected for burrowing owls (*Athene cunicularia*) or evidence of past or current occupancy.

Results

LOCATION: The 165+/- acre site is located in Pittsburg, in Contra Costa County, California (Figure 1). The site is within Section 30 in Township 2 North, Range 1 East of the USGS 7.5-minute Clayton topographic quadrangle (Figure 2). This biological assessment encompasses the 148+/- acre "Montreux Tentative Map"

site, plus 17+/- acres of grasslands to the north and west that will be graded as a part of the project.

SURROUNDING LAND USES: Surrounding land uses in this portion of Contra Costa County are primarily agriculture and open space, interspersed with areas of relatively new residential and commercial development. There are subdivisions to the north and northeast of the site, and relatively steep and rolling hills of annual grassland to the east, south, and west of the site (Figure 3).

TOPOGRAPHY AND GENERAL SETTING: The property consists of relatively steep and rolling hills; site elevations range from approximately 300 to 660 feet above mean sea level. The site is primarily vegetated with annual grassland vegetation and there are only a few trees in the site. Although the majority of the site is upland grassland, there are two small seasonal wetlands, a seasonal wetland swale, and a few sections of ephemeral or intermittent creeks in the site (see photographs in Attachment A).

The on-site grasslands are unremarkable and are moderately to highly disturbed by grazing and other activities. The lower part of a valley in the east-central part of the site was historically filled, creating a generally flat area that contains imported fill dirt and some rip-rap appearing to be from an off-site construction project. There is also a network of dirt roads that dissect the site; these roads are periodically re-graded to provide access throughout the site for grazing management purposes, access for utilities, and as firebreaks.

There is a rock outcrop created by erosion over the years just southeast of the farm road entrance on Kirker Pass Road and some small patches of exposed bedrock on a south-facing hill in the north-central part of the site (see photographs in Attachment A). The outcrop near the road encompasses approximately 0.5 acres and contains a near-vertical face. The patches of exposed bedrock are in horizontal striations along the hillside and protrude through the surface of the hill in a few places. While there are a few pockets in

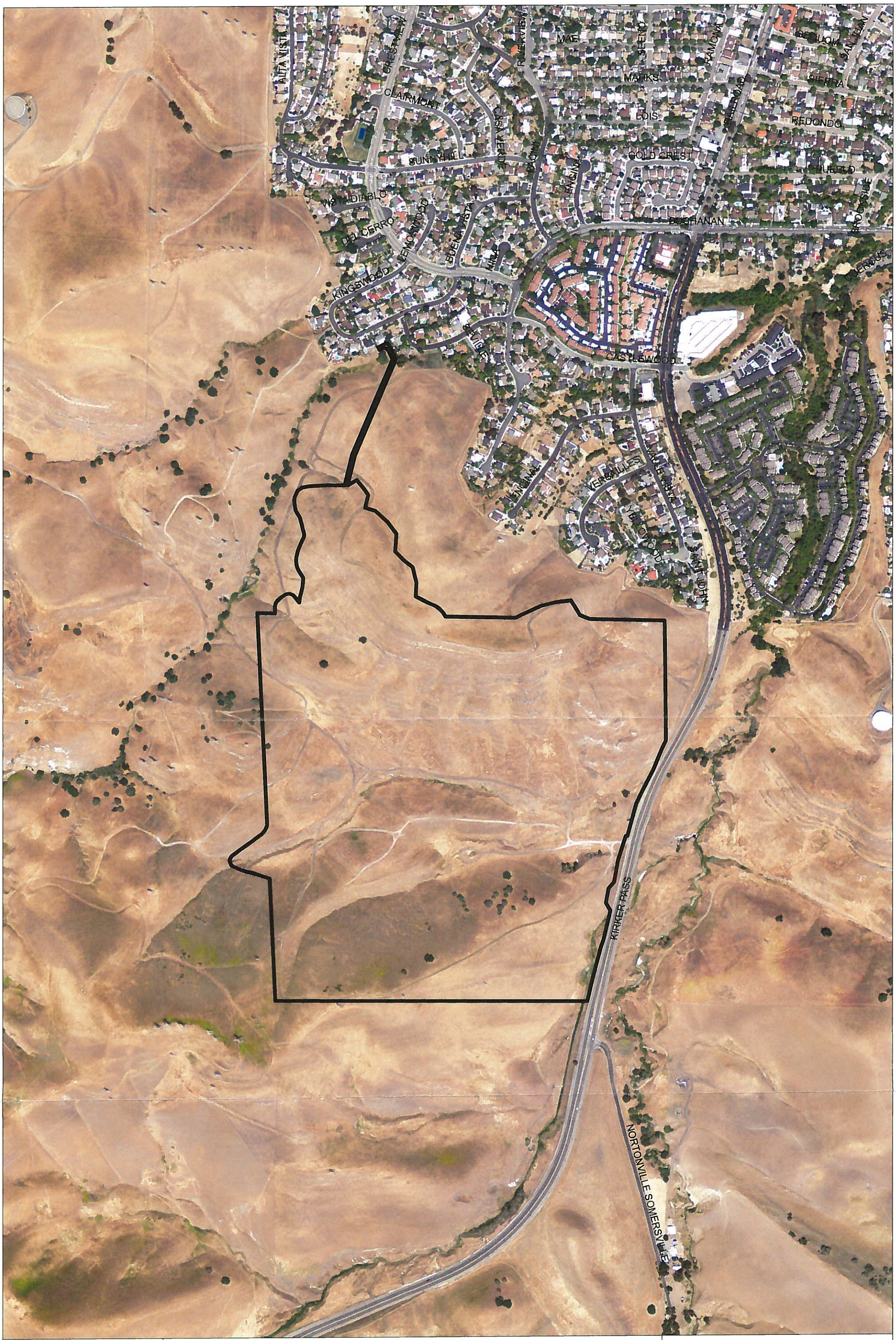


Figure 3

Moore Biological Consultants

0 300 600

1 inch = 600 feet

N W E S

Study Area

AERIAL

Montreux Project

Contra Costa County, CA

Map Date: May 2014
Aerial Source: USGS (20-MAY-12)

I:\PROJECTS\M\MBC-01\Montreux GIS10-001 T06\MXD\Montreux Aerial_Figure 3 050814.mxd

the rock appearing as shallow caves from a distance, close inspection revealed that these 5+/- foot tall indentations are only a few feet deep. Therefore, the indentations are not suitable habitat for cave-dependent species such as some species of bats.

VEGETATION: California annual grassland series (Sawyer and Keeler-Wolf, 1995) best describes the dominant upland habitat type in the site. Grasses including oats (*Avena* sp.), soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), foxtail barley (*Hordeum murinum*), and perennial ryegrass (*Lolium perenne*) are dominant grass species on-site. Other grassland species such as yellow star-thistle (*Centaurea solstitialis*), purple star-thistle (*Centaurea calcitrapa*), rose clover (*Trifolium hirtum*), black mustard (*Brassica nigra*), fiddleneck (*Amsinckia menziesii*), black mustard (*Brassica nigra*), bull thistle (*Cirsium vulgare*), prickly lettuce (*Lactuca serriola*), and filaree (*Erodium botrys*) are intermixed with the grasses. Table 1 is a list of plant species observed in the site.

Dominant vegetation in the on-site wetlands includes Mediterranean barley (*Hordeum marinum*), rabbit's foot grass (*Polypogon monspeliensis*), spikerush (*Eleocharis macrostachya*), toad rush (*Juncus bufonius*), and perennial ryegrass.

The only trees in the site are some widely scattered valley oaks (*Quercus lobata*) and buckeye (*Aesculus californica*). No blue elderberry shrubs (*Sambucus mexicana*) were observed in or adjacent to the site.

WILDLIFE: A limited variety of wildlife species were observed in the site. Birds observed include turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), western scrub jay (*Aphelocoma coerulescens*) and Brewer's blackbird (*Euphagus cyanocephalus*). All of these species are common in agricultural and urban areas in the project vicinity.

TABLE 1

PLANT SPECIES OBSERVED IN THE SITE

Aesculus californica	California buckeye
Amsinckia menziesii	fiddleneck
Avena fatua	oat
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess brome
Carduus pycnocephalus	Italian thistle
Centaurea calcitrapa	purple star-thistle
Centaurea solstitialis	yellow star-thistle
Cirsium vulgare	bull thistle
Cynara cardunculus	artichoke thistle
Distichlis spicata	saltgrass
Eleocharis macrostachya	creeping spikerush
Eremocarpus setigerus	turkey mullein
Erodium botrys	filaree
Eschscholzia californica	California poppy
Holocarpha virgata	tarweed
Hordeum marinum	Mediterranean barley
Hordeum murinum	foxtail barley
Juncus bufonius	toad rush
Lactuca serriola	prickly lettuce
Lolium perenne	perennial ryegrass
Medicago polymorpha	California bur clover
Polypogon monspeliensis	rabbit's foot grass
Quercus lobata	valley oak
Raphanus sativus	wild radish
Rumex crispus	curly dock
Trifolium hirtum	rose clover
Vicia sp.	vetch

No active bird nests were located during the biological surveys. The relatively larger trees in the site may be suitable for nesting raptors and the trees and grasslands in the site may be used for nesting by a variety of songbirds. Species such as burrowing owl, western meadowlark (*Sturnella neglecta*), mourning dove, red-winged blackbird (*Agelaius phoeniceus*), and grasshopper sparrow (*Ammodramus savannarum*) may nest in the on-site grasslands.

A variety of mammals common to agricultural and semi-rural areas are expected to use habitats in the site. A few California ground squirrels (*Spermophilus beecheyi*) and tracks of mule (black-tail) deer (*Odocoileus hemionus*) were observed in the site. Coyote (*Canis latrans*), black-tailed hare (*Lepus californicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*) are expected to occur in the area. A number of species of small rodents including Botta's pocket gopher (*Thomomys bottae*), mice (*Mus musculus, Reithrodontomys megalotis,* and *Peromyscus maniculatus*) and voles (*Microtus californicus*) also may occur. A number of bat species may fly over, forage, or roost in the on-site trees on occasion. However, the site does not contain any caves that are required by many bat species for maternity roosts.

Western rattlesnake (*Crotalis viridis*) was the only reptile observed in the site; no amphibians were observed. Based on habitat types present and lack of year-round water throughout the site, a limited variety of amphibians and reptiles are expected to use on-site habitats. Although none was observed, the site and surrounding lands provide suitable habitat for species including Pacific chorus frog (*Pseudacris regilla*), western fence lizard (*Sceloporus occidentalis*), western skink (*Eumeces skiltonianus*), western toad (*Bufo boreas*), gopher snake (*Pituophis melanoleucus*), and common garter snake (*Thamnophis sirtalis*).

WATERS OF THE U.S. AND WETLANDS: Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, many of their tributaries, and adjacent wetlands. State and

federal agencies regulate these habitats and Section 404 of the Clean Water Act requires that a permit be secured prior to the discharge of dredged or fill materials into waters of the U.S. Both CDFW and ACOE have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Jurisdictional wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the ACOE *Wetlands Delineation Manual* and Regional Supplement (ACOE, 1987; 2008). Waters of the U.S. are drainage features or water bodies as described in 33 CFR 328.4. Currently, ACOE and the U.S. Environmental Protection Agency (EPA) share authority to determine the jurisdictional status of waters of the U.S., including wetlands.

A preliminary delineation of potential waters of the U.S. and wetlands in the site was conducted on June 28 and September 29, 2010. Minor revisions to the wetlands delineation were then made following 2011 and 2012 field visits with ACOE. Due to minor revisions in the locations of off-site components, a final wetland delineation field survey of the site was conducted on March 18, 2013.

A total of 0.468 acres of wetlands and creek channels were delineated in the project site (Moore Biological Consultants, 2013b). This total includes 0.342 acres of jurisdictional Waters of the U.S., including wetlands and 0.126 acres of non-jurisdictional isolated wetlands and ephemeral creeks. A 0.340-acre seasonal wetland swale labeled "WS-1" on the wetland delineation map (Attachment B) and a 0.002-acre section of ephemeral creek ("EC-1") have been verified as jurisdictional by ACOE. A 0.016-acre seasonal wetland ("SW-1"), 0.061-acre seasonal wetland ("Seep-1"), and three isolated ephemeral creeks ("IOW-1", "IOW-2" and "IOW-3"), together encompassing 0.049 acres fall outside ACOE jurisdiction.

A headwater ephemeral creek ("EC-1") originates in a shallow valley near the east edge of the site and conveys water under Kirker Pass Road in a culvert. The creek is dry except during and shortly after rain events. The average width of the jurisdictional channel as defined by a faint ordinary high water mark is approximately one foot. This ephemeral creek is tributary to Kirker Creek a few hundred feet east of the site.

There is a 0.34-acre seasonal wetland swale ("WS-1") in the southeast part of the site that is vegetated with rabbit's foot grass, Mediterranean barley, toad rush, and saltgrass. The seasonal wetland swale drains under Kirker Pass Road in a culvert is also tributary to Kirker Creek.

Kirker Creek flows generally north-northeast through Pittsburg and is tributary to Dowest Slough, which is in turn tributary to the San Joaquin River, which is a navigable water of the U.S. Due to their tributary relationships to the San Joaquin River, the headwater ephemeral creek and seasonal wetland swale are jurisdictional Waters of the U.S.

There is a 0.016-acre seasonal wetland ("SW-1") situated in an isolated basin in the east-central part of the site. Vegetation in the seasonal wetland includes Mediterranean barley, rabbit's foot grass, and perennial ryegrass. A second wetland ("Seep-1") is located a few hundred feet to the east within a topographically low area. This 0.061-acre wetland appears to be supported by an intermittent seep; the area supported dry brown grasses in the early summer of 2010 and then started seeping water and greening up in the late-summer. Vegetation in this wetland includes rabbit's foot grass, Mediterranean barley, spikerush, and perennial ryegrass. The 0.016-acre seasonal wetland in the site is located in a closed basin that is not tributary to the San Joaquin River or other jurisdictional waters of the U.S. Similarly, the 0.061-acre seasonal wetland fed by the intermittent seep is not contiguous with a creek that drains into jurisdictional waters of the U.S. Due to this hydrologic isolation, both seasonal wetlands fall outside ACOE jurisdiction.

During field visits in 2011 and 2012, ACOE staff requested the addition of three linear features they identified as having faint ordinary high water marks as "isolated other waters" (i.e., "IOW-1", "IOW-2" and "IOW-3") to the wetland delineation map. The average width of these isolated ephemeral creeks is approximately one foot. None of these sections of isolated ephemeral creeks are contiguous with a creek that drains into jurisdictional waters of the U.S. Due to this hydrologic isolation, these isolated ephemeral creeks fall outside ACOE jurisdiction.

No other potentially jurisdictional wetlands or Waters of the U.S. were observed in the site. No other areas potentially falling under ACOE jurisdiction were observed within or adjacent to the site.

Interestingly, there is a topographically low area between two hills in the site that is mapped on the USGS 7.5-minute Clayton topographic quadrangle (Figure 2) as an intermittent "blue-line" stream, draining from west to east. A short section of ephemeral creek that is a jurisdictional Water of the U.S. originates in the east (lowest) end of this low area. The western (highest) end of this low area contains one of the non-jurisdictional isolated ephemeral creeks. The remainder of this low area does not contain a creek with defined beds or banks, nor is there evidence of an ordinary high water mark, or any evidence of scour, sediment deposit, or surface flows. The central and deepest part of this low area lacks hydric soils and is uniformly vegetated with upland annual grassland and weeds (see photographs in Attachment A). The lower section of this low area was historically filled, creating a generally flat area in the east-central part of the site. There is no evidence that this fill obstructs flows down the topographically low area; there is no debris stacked up at the west end of the fill and no evidence of any new channel being cut through the fill area.

Other small topographically low areas between hills in the site that drain even smaller watersheds similarly lack any indicators of Waters of the U.S. or wetlands.

The findings of the 2013 wetland delineation are quite similar to those of a wetland delineation on the site conducted by Sycamore Associates in 1999 and verified by ACOE (File No. 24307S). The verification expired in 2004. Most notably, Sycamore mapped the seasonal wetland swale in the southeast corner of the site as 0.30 acres, while Moore Biological Consultants delineated 0.34 acres of wetland in this area. Sycamore located two freshwater seeps within topographic valleys in the central part of the site, but in different locations than the seep and seasonal wetland delineated by Moore Biological Consultants. The existence, locations, and extent of these intermittent seeps seem to vary over time as groundwater levels fluctuate. Similar on-again, off-again seeps supporting emergent wetlands downslope of the water source occur throughout parts of the coastal range and transitional Sierra foothills.

The other notable similarity in the two delineations is the fact that neither delineated the intermittent "blue-line" stream mapped on USGS maps as a continuous drainage feature through the site. Sycamore Associates mapped a few isolated segments in the bottom of this and other topographically low areas as "other waters", with most segments being mapped as being only one foot wide. Moore Biological Consultants delineated a 100-foot long section of ephemeral creek in the east part of the topographic valley containing the "blue-line" stream as jurisdictional Waters of the U.S. and mapped an isolated ephemeral creek in the upper part of the low area.

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species. Both FESA and CESA prohibit unauthorized "take" (i.e., killing) of listed species, with take broadly defined in both acts to include activities such as harassment, pursuit and possession.

Special-status wildlife species also includes species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The federal Migratory Bird Treaty Act and Fish and Game Code of California protect special-status bird species year-round, as well as their eggs and nests during the nesting season. Fish and Game Code of California also provides protection for mammals and fish.

Special-status plants include species which are designated rare, threatened, or endangered and candidate species for listing by the U.S. Fish and Wildlife Service (USFWS). Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines, such as those plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society (CNPS, 2010). Finally, special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on List 3 in the CNPS Inventory.

Table 2 provides a summary of the listing status and habitat requirements of special-status plant and wildlife species that have been documented in the greater project vicinity or for which there is potentially suitable habitat within the site. This table also includes an assessment of the likelihood of occurrence of each of these species within the site. The evaluation of the potential for occurrence of each species is based on the distribution of regional occurrences (if any), habitat suitability, and field observations.

SPECIAL-STATUS PLANTS: Special-status plants identified in the CNDDB (2014) query include large-flowered fiddleneck (*Amsinckia grandiflora)*, slender silver moss (*Anomobryum julaceum*), Mt. Diablo manzanita (*Arctostaphylos auriculata*),

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
PLANTS						
Large-flowered fiddleneck	*Amsinckia grandiflora*	E	E	1B	Cismontane woodland, valley and foothill grassland; elevations 902-1,805 feet; blooms April - May.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for large-flowered fiddleneck; the site is also below the elevation range of this species (CNPS, 2010). The nearest occurrence of this species in the CNDDB (2014) search area is approximately 1.5 miles southeast of the site.
Slender silver moss	*Anomobryum julaceum*	None	None	2	Damp rock and soil within broadleaved upland forest, north coast coniferous forest vegetation; elevations 328-3,281 feet; no defined blooming period.	Unlikely: there is no suitable forest habitat in the site for slender silver moss. The only occurrence of slender silver moss in the CNDDB (2014) search area is mapped approximately 7 miles southwest of the site in Mt. Diablo State Park, although the exact location is not known.
Mt. Diablo manzanita	*Arctostaphylos auriculata*	None	None	1B	Chaparral, only on the Mt. Diablo area of Contra Costa County; elevations 443-2,133 feet; blooms January - March.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Mt. Diablo manzanita and this evergreen shrub was not observed on-site. The site is also at the low end of the elevation range of this species (CNPS, 2010). The nearest occurrence of the Mt. Diablo manzanita in the CNDDB (2014) search area is approximately 2.5 miles southeast of the site.
Contra Costa manzanita	*Arctostaphylos manzanita spp. laevigata*	None	None	1B	Rocky areas in chaparral; only known from Contra Costa County; elevations 1,640-3,609 feet; blooms January - April.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Contra Costa manzanita and this evergreen shrub was not observed. The site is also below the elevation range of this species (CNPS, 2010). The nearest occurrence of Contra Costa manzanita in the CNDDB (2014) search area is approximately 6 miles south of the site.
Alkali milk-vetch	*Astragalus tener var. tener*	None	None	1B	Alkali playas and vernal pools; elevations 3-197 feet; blooms March - June.	Unlikely: there are not alkali playas or vernal pools in the site. The site is also above the elevation range of this species (CNPS, 2010). The nearest occurrence of alkali milk vetch in the CNDDB (2014) search area is approximately 7 miles north of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Brittlescale	*Atriplex depressa*	None	None	1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pool habitats within alkaline clay soils; elevations 3-1,050 feet; blooms April - October.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for brittlescale. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 9.5 miles north of the site.
Big tarplant	*Blepharizonia plumosa ssp. plumosa*	None	None	1B	Valley and foothill grassland, usually in clay soils; elevations 98-1,657 feet; blooms July - October.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for big tarplant; this showy species was not observed in the site and no clay soils were observed in the site. The site is mapped in the East Contra Costa County Habitat Conservation Plan (ECCCHCP; Jones & Stokes, 2006) as "Suitable Low Potential Habitat", in contrast to more likely areas of occurrence mapped as "Suitable Habitat". The nearest occurrence of big tarplant in the CNDDB (2014) search area is approximately 2 miles north of the site.
Round-leaved filaree	*California macrophyllum*	None	None	2	Cismontane woodland and valley and foothill grassland; elevations 49-3,937 feet; blooms March - May.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for round-leaved filaree and it was not observed in the site. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 1 mile north of the site.
Mt. Diablo fairy-lantern	*Calochortus pulchellus*	None	None	1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland; elevations 98-2,756 feet; blooms April - June.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Mt. Diablo fairy-lantern. This showy species was not observed in the site, which is at the low end of the elevation range of this species (CNPS, 2010). The nearest occurrence of Mt. Diablo fairy-lantern in the CNDDB (2014) search area is approximately 2 miles southeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Chaparral harebell	*Campanula exigua*	None	None	1B	Chaparral, usually rocky serpentine soils; elevations 902-4,101 feet; blooms May - June.	Unlikely: the site does not contain suitable habitat for chaparral harebell; no areas of serpentine soils were observed in the site. The site is also below the elevation range of this species (CNPS, 2010). The nearest occurrence of chaparral harebell in the CNDDB (2014) search area is approximately 7 miles southwest of the site.
Soft bird's-beak	*Cordylanthus mollis ssp. mollis*	E	Rare	1B	Coastal salt marsh; elevations 0-10 feet; blooms July - November.	Unlikely: the site does not contain suitable habitat for this species. The site is also above the elevation range of this species (CNPS, 2010). The nearest occurrence of soft bird's-beak in the CNDDB (2014) search area is approximately 4.5 miles northwest of the site.
Bolander's water hemlock	*Cicuta maculata var. bolanderi*	None	None	2	Fresh or brackish water marshes; elevations 0-656 feet; blooms July - September.	Unlikely: there is no suitable marsh habitat for Bolander's water hemlock in the site. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 3.5 miles northeast of the site.
Mount Diablo bird's-beak	*Cordylanthus nidularius*	None	Rare	1B	Chaparral with serpentine soils; elevations 1,969-2,625 feet; blooms June - August.	Unlikely: the site does not contain suitable habitat for Mount Diablo bird's-beak and no areas of serpentine soils were observed. The site is also below the elevation range of this species (CNPS, 2010). The nearest occurrence of Mount Diablo bird's-beak in the CNDDB (2014) search area is approximately 6 miles south of the site.
Hoover's cryptantha	*Cryptantha hooveri*	None	None	1B	Inland dunes; sandy areas in valley and foothill grasslands; elevations 30-492 feet; blooms April - May.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Hoover's cryptantha; no areas of sandy soils were observed. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 5.5 miles northeast of the site.
Hospital Canyon larkspur	*Delphinium californicum ssp. interius*	None	None	1B	Cismontane woodland, chaparral; elevations 639-3,593 feet; blooms April - June.	Unlikely: the site does not contain suitable habitat for Hospital Canyon larkspur; the site is also at the very low end of the elevation range of this species (CNPS, 2010). The nearest occurrence of Hospital Canyon larkspur in the CNDDB (2014) search area is approximately 4.5 miles southwest of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Norris' beard moss	*Didymodon norrisii*	None	None	2	Cismontane woodland, lower montane coniferous forest; rocky wet areas; elevations 1,968-6,473 feet; no defined blooming period.	Unlikely: the site does not contain suitable habitat for Norris' beard moss; the site is also below the elevation range of this species (CNPS, 2010). The nearest occurrence of Norris' beard moss in the CNDDB (2014) search area is approximately 6 miles south of the site.
Dwarf downingia	*Downingia pusilla*	None	None	2	Vernal pools; elevations 3-1,460 feet; blooms March - May.	Unlikely: there are no vernal pools or seasonal wetlands in the site. The nearest occurrence of dwarf downingia in the CNDDB (2014) search area is approximately 7.5 miles northeast of the site.
Lime Ridge eriastrum	*Eriastrum ertterae*	None	None	1B	Chaparral edges and openings; usually alkaline or sandy soils; elevations 656-951 feet; blooms June - July.	Unlikely: the site does not contain suitable habitat for Lime Ridge eriastrum; the site is also at the very low end of the elevation range of this species (CNPS, 2010). The nearest occurrence of Lime Ridge eriastrum in the CNDDB (2014) search area is approximately 5.5 miles southeast of the site.
Antioch Dunes buckwheat	*Eriogonum nudum* var. *psychicola*	None	None	1B	Inland dunes; elevations 0-66 feet; blooms July - October.	Unlikely: the site does not provide suitable dune habitat for Antioch Dunes buckwheat. The nearest occurrence of Antioch Dunes buckwheat in the CNDDB (2014) search area is approximately 5 miles northeast of the site.
Mt. Diablo buckwheat	*Eriogonum truncatum*	None	None	1B	Coastal scrub, valley and foothill grassland and coastal scrub; usually on sandy soils; elevations 10-1,148 feet; blooms April - December.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Mt. Diablo buckwheat; no areas of sandy soils were observed in the site. The nearest occurrence of Mt. Diablo buckwheat in the CNDDB (2014) search area is approximately 5.5 miles southwest of the site.
Contra Costa wallflower	*Erysimum capitatum var. angustatum*	E	E	1B	Inland dunes; elevations 10-66 feet; blooms March - July.	Unlikely: the site does not provide suitable dune habitat for Contra Costa wallflower. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 4 miles northeast of the site. The site is not in designated critical habitat for Contra Costa wallflower (CFR, 1990a).

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Diamond-petaled California poppy	*Eschscholzia rhombipetala*	None	None	1B	Valley and foothill grasslands in alkaline, clay soils; elevations 0-3,200 feet; blooms March - April.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for this species; no alkaline or clay soils were observed in the site. This showy species was not observed in the site. The nearest occurrence of diamond-petaled California poppy in the CNDDB (2014) search area is approximately 4 miles northeast of the site The CNPS Inventory (2010) describes this species as extirpated in Contra Costa County.
Fragrant fritillary	*Fritillaria liliacea*	None	None	1B	Coastal scrub, valley and foothill grassland and coastal prairie; often on serpentine soils; elevations 10-1,345 feet; blooms February - April.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for this species; no areas of serpentine soils were observed in the site. The nearest occurrence of fragrant fritillary in the CNDDB (2014) search area is approximately 9 miles southwest of the site.
Diablo helianthella	*Helianthella castanea*	None	None	1B	Broad-leaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; elevations 197-4,265 feet; blooms March - June.	Unlikely: the on-site grasslands are heavily grazed and provide poor quality habitat for Diablo helianthella. This showy species was not observed in the site and is more commonly associated with oak woodland and savannah habitats. The site is also at the very low end of the elevation range of this species (CNPS, 2010) and below the elevation range of the potential habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of Diablo helianthella in the CNDDB (2014) search area is approximately 2.5 miles south of the site.
Brewers western flax	*Hesperolinon breweri*	None	None	1B	Chaparral, cismontane woodland, valley and foothill grassland; usually serpentine soils; elevations 98-3,100 feet; blooms May - July.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Brewers western flax; no areas of serpentine soils were observed in the site. The site is not mapped as suitable habitat potential habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of Brewers western flax in the CNDDB (2014) search area is approximately 4.5 miles south of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Contra Costa goldfields	*Lasthenia conjugens*	E	None	1B	Valley and foothill grassland within vernal pools and swales; elevations 0-1,542 feet; blooms March - June.	Unlikely: the site does not provide suitable habitat for Contra Costa goldfields. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 5.5 miles northeast of the site. The site is not in designated critical habitat for Contra Costa goldfields (USFWS 2005a).
Delta tule pea	*Lathyrus jepsonii var. jepsonii*	None	None	1B	Marshes and swamps; elevations 0-16 feet; blooms May - September.	Unlikely: the site does not contain suitable habitat for this species and is also well above the elevation range of this species (CNPS, 2010). The nearest occurrence of Delta tule pea in the CNDDB (2014) search area are approximately 3.5 miles northwest of the site and approximately 3.5 miles northeast of the site.
Mason's lilaeopsis	*Lilaeopsis masonii*	None	R	1B	Marshes, swamps and riparian scrub; elevations 0-33 feet; blooms April - November.	Unlikely: the site does not contain suitable habitat for Mason's lilaeopsis and is also well above the elevation range of this species (CNPS, 2010). The nearest occurrences of Mason's lilaeopsis in the CNDDB (2014) search area are approximately 3.5 miles northwest of the site and approximately 3.5 miles northeast of the site.
Delta mudwort	*Limosella australis*	None	None	2	Marshes and swamps; elevations 0-10 feet; blooms May - August.	Unlikely: the site does not contain suitable habitat for this species and is also well above the elevation range of this species (CNPS, 2010). The nearest occurrence of Delta mudwort in the CNDDB (2014) search area is approximately 9 miles northeast of the site.
Showy golden madia	*Madia radiata*	None	None	1B	Cismontane woodland, valley and foothill grassland; elevations 82-3,986 feet; blooms March - May.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for showy golden madia; this species is also considered extirpated in Contra Costa County (CNPS, 2010). The nearest occurrence of showy golden madia in the CNDDB (2014) search area is approximately 3 miles southeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Halls bush mallow	*Malacothamnus hallii*	None	None	1B	Chaparral; elevations 33-2,493 feet; blooms May - October.	Unlikely: the site does not contain suitable habitat for this species. The nearest occurrence of Halls bush mallow in the CNDDB (2014) search area is approximately 2.5 miles southeast of the site.
Woodland woolythreads	*Monolopia gracilens*	None	None	1B	Mixed evergreen forest, redwood forest, Chaparral; elevations 328-3,937 feet; blooms February - July.	Unlikely: the site does not contain suitable habitat for this species. The nearest occurrence of woodland woolythreads in the CNDDB (2014) search area is approximately 7.5 miles southwest of the site.
Lime Ridge narvarretia (*Navarretia gowenii*)	*Navarretia gowenii*	None	None	1B	Chaparral; elevations 591-1,001 feet; blooms May - June.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Lime Ridge narvarretia. The site is also at the low end of the known elevation range of this species (CNPS, 2010). The nearest occurrence of Lime Ridge narvarretia in the CNDDB (2014) search area is approximately 6.5 miles southwest of the site.
Adobe narvarretia	*Navarretia nigelliformis* ssp. *nigelliformis*	None	None	4	Vernal pools, vernally mesic areas within cismontane woodland and valley and foothill grassland, usually in clay or serpentine soils; elevations 328-3,281 feet; blooms April - June.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for adobe narvarretia; no areas of clay or serpentine soils were observed in the site. The site is also at the low end of the known elevation range of this species (CNPS, 2010). Adobe narvarretia is a species requiring evaluation in the ECCCHCP (Jones & Stokes, 2006) as it may occur in seasonal wetland habitats in the greater project vicinity. There are no occurrences of in the CNDDB (2014) search area.
Shining narvarretia	*Navarretia nigelliformis ssp. radians*	None	None	1B	Cismontane woodland, valley and foothill grassland, vernal pools, usually in clay soils; elevations 249-3,281 feet; blooms April - July.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for shining narvarretia. The site is also at the low end of the known elevation range of this species (CNPS, 2010). The nearest occurrence shining narvarretia in the CNDDB (2014) search area is approximately 5.5 miles southeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Antioch dunes evening primrose	*Oenothera deltoides ssp. howellii*	E	E	1B	Interior dunes in the Delta region; elevations 0-98 feet; blooms March - September.	Unlikely: the site does not contain suitable habitat for this species. The site is also above the known elevation range of this species (CNPS, 2010). The nearest occurrence of Antioch dunes evening primrose in the CNDDB (2014) search area is approximately 3 miles north of the site.
Mt. Diablo phacelia	*Phacelia phacelioides*	None	None	1B	Chaparral, cismontane woodland; usually rocky soils; elevations 1,640-4,494 feet; blooms April - May.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Mt. Diablo phacelia. The site is below the known elevation range of this species (CNPS, 2010). The nearest occurrence of Mt. Diablo phacelia in the CNDDB (2014) search area is approximately 8 miles southwest of the site.
Bearded popcorn-flower	*Plagiobothrys hystriculus*	None	None	1B	Vernal pools, valley and foothill grassland; elevations 0-899 feet; blooms April - May.	Unlikely: the site does not provide suitable habitat for this species. The nearest occurrence of bearded popcorn-flower in the CNDDB (2014) search area is approximately 10 miles northeast of the site.
Rock sanicle	*Sanicula saxatilis*	None	Rare	1B	Broad-leaved upland forest, chaparral, cismontane woodland, valley and foothill grassland; rocky soils; elevations 2,034-3,854 feet; blooms April - May.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for rock sanicle and is also below the known elevation range of this species (CNPS, 2010). The nearest occurrence of rock sanicle in the CNDDB (2014) search area is approximately 6 miles southeast of the site.
Chaparral ragwort	*Senecio aphanactis*	None	None	2	Cismontane woodland, coastal scrub, within drying alkaline flats; elevations 49-2,625 feet; blooms January - April.	Unlikely: the site does not contain suitable habitat for chaparral ragwort. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 2 miles southeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Keck's checkerbloom	*Sidalcea keckii*	E	None	1B	Cismontane woodland, valley and foothill grassland, usually serpentine or clay soils; elevations 246-2,132 feet; blooms April - June.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for this species. The nearest occurrence of Keck's checkerbloom in the CNDDB (2014) search area is approximately 10 miles northeast of the site.
Most beautiful jewelflower	*Streptanthus albidus spp. peramoenus*	None	None	1B	Chaparral, cismontane woodland, valley and foothill grassland; usually serpentine soils; elevations 311-3,281 feet; blooms March - October.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for most beautiful jewelflower. The site is below the known elevation range of this species (CNPS, 2010). The nearest occurrence of most beautiful jewelflower in the CNDDB (2014) search area is approximately 6.5 miles southwest of the site.
Mt. Diablo jewelflower	*Streptanthus hispidus spp. peramoenis*	None	None	1B	Chaparral, valley and foothill grassland; usually rocky soils; elevations 1,198-3,937 feet; blooms March - June.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for Mt. Diablo jewelflower. The site is also well below the known elevation range of this species (CNPS, 2010). The nearest occurrence of Mt. Diablo jewelflower in the CNDDB (2014) search area is approximately 6 miles south of the site.
Slender-leaved pondweed	*Stuckenia filiformis*	None	E	2	Marshes and swamps; elevations 98-7,054 feet; blooms May - July.	Unlikely: there is no suitable marsh habitat for slender-leaved pondweed in the site. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 8 miles southwest of the site.
Suisun marsh aster	*Symphotrichum lentum*	None	None	1B	Marshes and swamps; elevations 0-10 feet; blooms May - November.	Unlikely: the site does not contain suitable marsh habitat for Suisun marsh aster and is also well above the elevation range of this species (CNPS, 2010). The nearest occurrence of Suisun marsh aster in the CNDDB (2014) search area is approximately 3.5 miles northeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Coastal triquetrella	*Triquetrella californica*	None	None	1B	Coastal scrub, coastal bluff scrub; usually on sandy soils; elevations 33-328 feet; no defined blooming period.	Unlikely: the site does not contain suitable habitat for coastal triquetrella. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 7.5 miles southwest of the site.
Caper-fruited tropidocarpum	*Tropidocarpum capparideum*	None	None	1B	Valley and foothill grassland, alkaline soils; elevations 3-1,493 feet; blooms March - April.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for this species; no alkaline or clay soils were observed. The nearest occurrence of caper-fruited tropidocarpum in the CNDDB (2014) search area is approximately 3 miles southwest of the site.
Oval-leaved viburnum	*Viburnum ellipticum*	None	None	2	Chaparral, cismontane woodland, and lower montane coniferous forest; elevations 705-4,593 feet; blooms May - June.	Unlikely: the site does not contain suitable habitat for this species. The site is also well below the known elevation range of oval-leaved viburnum (CNPS, 2010). The nearest occurrence of this species in the CNDDB (2014) search area is approximately 8 miles south of the site.
WILDLIFE						
Birds						
Burrowing owl	*Athene cunicularia*	None	SC	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Low: burrowing owl could use the on-site grasslands for foraging, but there are not many ground squirrels or ground squirrel burrows within the site. No burrowing owls or evidence of occupancy were found in the site. The site is mapped as suitable habitat for burrowing owl as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of nesting burrowing owls in the CNDDB (2014) search area is approximately 2.5 miles east of the site.
Golden eagle	*Aquila chrysaetos*	None	FP	N/A	Nesting areas are associated with cliff-walled canyons and large trees. Forages in rolling hills and mountain areas	Moderate: the trees within the site provide poor quality nesting habitat for golden eagles, as they prefer ledges on cliff walls or very large trees and isolated from any type of disturbance. The site is mapped as suitable habitat for golden eagle as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of golden eagle in the CNDDB (2014) search area is approximately 4 miles west of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Breeds in stands of tall trees in open areas. Requires adjacent suitable foraging habitats such as grasslands or alfalfa fields supporting rodents.	Unlikely: there are a few potentially suitable nesting trees in the site and Swainson's hawks could use the on-site grasslands for foraging. However, the site is along the extreme west edge of the nesting range of this species. The site is not within an area mapped as potential breeding or foraging habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of nesting Swainson's hawks in the CNDDB (2014) search area is approximately 7.5 miles southeast of the site.
California black rail	*Laterallus jamaicensis coturniculus*	None	T	N/A	Mainly inhabits salt marshes bordering larger bays.	Unlikely: the site does not provide suitable habitat for this species. The nearest occurrence of California black rail in the CNDDB (2014) search area is approximately 3.5 miles northwest of the site.
California clapper rail	*Rallus longirostris obsoletus*	E	E	N/A	Salt water and brackish marshes traversed by tidal sloughs in the San Francisco Bay, associated with abundant growths of pickleweed.	Unlikely: There is no suitable marsh habitat for California clapper rail in the site. The nearest occurrence of California clapper rail in the CNDDB (2014) search area is approximately 6 miles northwest of the site.
California least tern	*Sternula antillarum browni*	E	E	N/A	Estuaries and bays; nests on exposed tidal flats or beaches	Unlikely: the site does not provide suitable habitat for this species. The nearest occurrence of California least tern in the CNDDB (2014) search area is approximately 2.5 miles northwest of the site.
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	None	None	N/A	San Francisco Bay fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging.	Unlikely: the site does not provide suitable habitat for saltmarsh common yellowthroat. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 3.5 miles northeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Suisun song sparrow (Modesto population)	*Melospiza melodia*	None	SC	N/A	Brackish water marshes. Inhabits cattails, tules, and tangles bordering sloughs.	Unlikely: the site does not provide suitable habitat for Suisun song sparrow. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 5.5 miles northeast of the site.
Suisun song sparrow	*Melospiza melodia maxillaris*	None	SC	N/A	Brackish water marshes in and near Suisun Bay. Inhabits cattails, tules, and tangles bordering sloughs.	Unlikely: the site does not provide suitable habitat for Suisun song sparrow. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 2 miles northeast of the site.
Tricolored blackbird	*Agelaius tricolor*	None	SC	N/A	Open water and protected nesting substrate, usually cattails and riparian scrub.	Moderate: the site does not provide suitable nesting habitat for this species, but may be used for occasional foraging. The site is mapped as primary foraging habitat for tricolored blackbirds as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of tricolored blackbirds in the CNDDB (2014) search area is approximately 9 miles north of the site.
Short-eared owl	*Asio flammeus*	None	None	N/A	Winters in the Central Valley and utilizes annual grassland habitat and agricultural lands for foraging.	Unlikely: the site does not provide suitable nesting habitat for this species, but may be used for occasional foraging by wintering short-eared owls. The nearest occurrence of this species documented in the CNDDB (2014) search area is approximately 10 miles northwest of the site.
Mammals						
San Joaquin kit fox	*Vulpes macrotis mutica*	E	T	N/A	Inhabits open, dry grasslands and scrublands with loose textured soils.	Unlikely: while the on-site grassland provide potentially suitable habitat for San Joaquin kit fox, the site is just outside (i.e., northwest) of the range of San Joaquin kit fox. The site is mapped as suitable core habitat for San Joaquin kit fox as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of San Joaquin kit fox in the CNDDB (2014) search area is approximately 1.5 miles southeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
American badger	*Taxidea taxus*	None	SC	N/A	Drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Unlikely: the site does not provide suitable habitat for American badger. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 8 miles southeast of the site.
Western red bat	*Lasiurus blossevillii*	None	SC	N/A	Roosts in trees in a wide variety of habitats between the coast western Sierra Nevada mountains.	Moderate: there is suitable roosting habitat for western red bat in the site. This species may fly over, forage, or roost in the site on occasion. The nearest occurrence of western red bat in the CNDDB (2014) search area is approximately 5.5 miles northeast of the site
Pallid bat	*Antrozous pallidus*	None	SC	N/A	Open and dry habitats with rocky areas for roosting.	Moderate: pallid bat may fly over, forage, or roost in the site on occasion. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 4.5 miles southwest of the site
Townsend's big-eared bat	*Corynorhinus townsendii townsendii*	None	SC	N/A	Wide variety of habitats, most common in desert scrub, mixed conifer forest, and pinyon-juniper or pine forest; roosting only in caves, mines, and buildings.	Low: Townsend's big-eared bat may fly over or forage in the site on occasion, but the site does not contain suitable roosting habitat for this species. While this species is covered by the ECCCHCP, roosting habitat is not mapped (Jones & Stokes, 2006). There are no occurrences of Townsend's big-eared bat in the CNDDB (2014) search area.
Salt-marsh harvest mouse	*Reithrodontomys raviventris*	E	E	N/A	Saline emergent wetlands dominated by pickleweed	Unlikely: the site does not provide suitable habitat for salt-marsh harvest mouse. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 3 miles northwest of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Reptiles & Amphibians						
California red-legged frog	*Rana aurora draytonii*	T	SC	N/A	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Unlikely: there is no suitable aquatic habitat for California red-legged frog in the project site. The site is mapped as potential migration and aestivation habitat for California red-legged frog as modeled in the ECCCHCP (Jones & Stokes, 2006). The upland valley in east-central part of the site that contains a section of ephemeral creek and the seasonal wetland swale in the southeast corner of the site are also mapped as potential breeding habitat as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of this species in the CNDDB (2014) search area is a 2002 record in Kirker Creek, just east of the site. The site is not within designated critical habitat for California red-legged frog (USFWS, 2006a).
California tiger salamander	*Ambystoma californiense*	T	T	N/A	Seasonal water bodies without fish (i.e., vernal pools and stock ponds) and grassland/ woodland habitats with summer refugia (i.e., burrows).	Unlikely: there is no suitable breeding habitat within or near the site for California tiger salamander. The site is mapped as potential migration and aestivation habitat for California tiger salamander as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of California tiger salamander in the CNDDB (2014) search area is a 2000 record in a pond at Keller Landfill, approximately 0.5 miles northwest of the site. The site is not within designated critical habitat for California tiger salamander (USFWS, 2005b).
Western pond turtle	*Emys marmorata*	None	SC	N/A	Ponds, marshes, streams, and ditches with emergent aquatic vegetation and basking areas.	Unlikely: there is no potentially suitable breeding habitat in the site for western pond turtle. The upland valley in east-central part of the site that contains a section of ephemeral creek and the seasonal wetland swale in the southeast corner of the site are mapped as movement habitat as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of this species in the CNDDB (2014) search area is approximately 3.5 miles northeast of the site.

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Alameda whipsnake	*Masticophis lateralis euryxanthus*	T	T	N/A	Scrub, chaparral, grassland, and woodland habitat mosaics. South-facing slopes and ravines.	Unlikely: the site does not provide suitable habitat for Alameda whipsnake. The site is not mapped as suitable habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of this species in the CNDDB (2014) search area is approximately 3 miles south of the site. The site is not in designated critical habitat for Alameda whipsnake (USFWS, 2006b).
Giant garter snake	*Thamnophis gigas*	T	T	N/A	Freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches, primarily for dispersal or migration.	Unlikely: the site does not provide aquatic habitat for giant garter snake. The site is not mapped as suitable habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of giant garter snake in the CNDDB (2014) search area is approximately 8.5 miles northeast of the site.
Coast horned lizard	*Phrynosoma blainvillii*	None	SC	N/A	Coniferous forest, deciduous forest, scrub, and grassland habitats, usually in sandy soils.	Unlikely: the on-site grasslands are heavily grazed and do not provide suitable habitat for coast lizard; on-site soils are not sandy. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 6 miles southwest of the site.
Silvery legless lizard	*Anniella pulchra pulchra*	None	SC	N/A	Sandy or loose loamy soils under sparse vegetation.	Unlikely: the site does not provide suitable habitat for silvery legless lizard. The site is not mapped as suitable habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The only occurrence of silvery legless lizard in the CNDDB (2014) search area is mapped non-specifically in downtown Antioch, approximately 5 miles east of the site.
Fish						
Delta smelt	*Hypomesus transpacificus*	T	T	N/A	Shallow lower delta waterways with submersed aquatic plants and other suitable refugia.	Unlikely: there is no suitable aquatic habitat in the site. The nearest occurrence of delta smelt in the CNDDB (2014) search area is approximately 6 miles northeast of the site. The site is not within designated critical habitat for delta smelt (USFWS, 1994).

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Central Valley steelhead	*Oncorhynchus mykiss*	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	Unlikely: there is no suitable aquatic habitat in the site. The nearest occurrence of Central Valley steelhead in the CNDDB (2014) search area is approximately 3 miles north of the site. The site is not within designated critical habitat for Central Valley steelhead (NOAA, 2005).
Longfin smelt	*Spirinchus thaleichthys*	None	SC	N/A	Brackish estuarine habitats.	None: there is no suitable aquatic habitat for this species in the site. The closest occurrence of longfin smelt in the CNDDB (2014) search area is approximately 3.5 miles northwest of the site.
Sacramento perch	*Archoplites interruptus*	None	SC	N/A	Sloughs, lakes, and low-moving Central Valley Rivers; requires warm water.	Unlikely: there is no suitable aquatic habitat in the site for Sacramento perch. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 8 miles northeast of the site.
Invertebrates						
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	None	N/A	Vernal pools and seasonal wetlands.	Unlikely: the 0.016-acre seasonal wetland is the only potentially suitable for vernal pool fairy shrimp, but is much smaller and shallower than most pools that support this species. The other wetlands in the site do not pond water and are entirely unsuitable for this species. The nearest occurrence of vernal pool fairy shrimp in the CNDDB (2014) search area is approximately 6.5 miles southeast of the site. The site is not within designated critical habitat for vernal pool fairy shrimp (USFWS 2005a).
Conservancy fairy shrimp	*Branchinecta conservatio*	T	None	N/A	Vernal pools and seasonal wetlands.	Unlikely: the 0.016-acre seasonal wetland is the only potentially suitable for Conservancy fairy shrimp, but is much smaller and shallower than most pools that support this species. The nearest occurrence of Conservancy fairy shrimp in the CNDDB (2014) search area is approximately 7.5 miles northeast of the site. The site is not within designated critical habitat for Conservancy fairy shrimp (USFWS 2005a).

TABLE 2

SPECIAL-STATUS PLANT AND WILDLIFE SPECIES DOCUMENTED OR POTENTIALLY-OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence in the Project Site
Vernal pool tadpole shrimp	*Lepidurus packardi*	E	None	N/A	Vernal pools.	Unlikely: the 0.016-acre seasonal wetland is too small and shallow to support vernal pool tadpole shrimp. The other wetlands in the site do not pond water and are entirely unsuitable for this species. The nearest occurrence of vernal pool tadpole shrimp in the CNDDB (2014) search area is approximately 7.5 miles northeast of the site. The site is not within designated critical habitat for vernal pool tadpole shrimp (USFWS 2005a).
San Bruno elfin butterfly	*Callophrys mossii bayensis*	E	None	N/A	Rocky outcrops and cliffs in coastal scrub habitats.	Unlikely: the site does not provide suitable habitat for this species. The nearest occurrence of San Bruno elfin butterfly in the CNDDB (2014) search area is approximately 7 miles southwest of the site.
Lange's metalmark butterfly	*Apodemia mormo langei*	E	None	N/A	Inhabits stabilized dunes along the San Joaquin River.	Unlikely: there is no dune habitat in the project site. The closest occurrence of Lange's metalmark butterfly in the CNDDB (2014) search area is approximately 7 miles northeast of the site.

1 T= Threatened; E = Endangered.

2 T = Threatened; E = Endangered; R = Rare; FP = State of California Fully Protected Species; SC = State of California Species of Special Concern.

3 CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 2 includes plants that are rare, threatened or endangered in California but are more common elsewhere; List 4 is a "watch list".

Contra Costa manzanita (*Arctostaphylos manzanita spp. laevigata*), alkali milkvetch (*Astragalus tener* ssp. *tener*), brittlescale (*Atriplex depressa*), big tarplant (*Blepharizonia plumosa ssp. plumosa*), round-leaved filaree (*California macrophyllum*), Mt. Diablo fairy-lantern (*Calochortus pulchellus*), chaparral harebell (*Campanula exigua*), soft bird's-beak (*Cordylanthus mollis ssp. molllis*), Bolander's water hemlock (*Cicuta maculata var. bolanderi*), Mount Diablo bird's-beak (*Cordylanthus nidularius*), Hoover's cryptantha (*Cryptantha hooveri*), Hospital Canyon larkspur (*Delphinium californicum ssp. interius*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), Norris' beard moss (*Didymodon norrisii*), dwarf downingia (*Downingia pusilla*), Lime Ridge eriastrum (*Eriastrum ertterae*), Antioch Dunes buckwheat (*Eriogonum nudum* var. *psychicola*), Mt. Diablo buckwheat (*Eriogonum truncatum*), Contra Costa wallflower (*Erysimum capitatum var. angustatum*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), fragrant frittialry (*Fritillaria liliacea*), Diablo helianthella (*Helianthella castanea*), Brewers western flax (*Hesperolinon breweri)*, Contra Costa goldfields (*Lasthenia conjugens*), Delta tule pea (*Lathyrus jepsonii var. jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), showy golden madia (*Madia radiata*), Halls bush mallow (*Malacothamnus hallii*), woodland woolythreads (*Monolopia gracilens*), Lime Ridge navarretia (*Navarretia gowenii*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), Antioch dunes evening primrose (*Oenothera deltoides ssp. howellii*), Mt. Diablo phacelia (*Phacelia phacelioides*), bearded popcorn-flower (*Plagiobothrys hystriculus*), rock sanicle (*Sanicula saxatilis*), chaparral ragwort (*Senecio aphanactis*), Keck's checkerbloom (*Sidalcea keckii*), most beautiful jewelflower (*Streptanthus albidus spp. peramoenus*), Mt. Diablo jewelflower (*Streptanthus hispidus spp. peramoenis*), slender-leaved pondweed (*Stuckenia filiformis*), Suisun marsh aster (*Symphotrichum lentum*), coastal triquetrella (*Triquetrella californica*), caper-fruited tropidocarpum (*Tropidocarpum capparideum*), and oval-leaved viburnum (*Viburnum ellipticum*) (Table 2 and Attachment C). Additionally, although not recorded in the CNDDB (2014) within the search area, the ECCCHCP (Jones & Stokes, 2006) identifies adobe navarretia (*Navarretia*

nigelliformis ssp. *nigelliformis*) as a species requiring evaluation in seasonal wetland habitats in the greater project vicinity.

Most of the special-status plants found in the greater project vicinity generally occur in relatively undisturbed areas within vegetation communities such as marshes and swamps, chaparral, coastal scrub, cismontane woodland, chenopod scrub, inland dunes, and areas with unique soils (e.g., serpentine, alkaline, clay). None of these habitat types occur within the site. For example, Bolander's water hemlock, delta tule pea, Mason's lilaeopsis, delta mudwort, slender-leaved pondweed, and Suisun marsh aster are restricted to marsh and swamp habitats. Several of the species in Table 2 are known only from elevations above or below those at the site. For example, large-flowered fiddleneck, rock sanicle, and Mt. Diablo jewelflower can all occur in upland grassland habitats, but only in much higher elevations than those on-site.

The site is annual grassland, with one small seasonal wetland, one small emergent wetland, a seasonal wetland swale, and a few sections of ephemeral creek. The site has been heavily grazed and on-site grasslands are moderately to highly disturbed and unremarkable. The site was systematically searched by driving and walking throughout the site. No special-status plants were observed or in the project site. Due to lack of suitable habitat, no special-status plant species are expected to occur in the site.

The project will likely participate in the ECCCHCP. The ECCCHCP manages and preserves equivalent or greater acreages lands to mitigate for the loss of habitat and potential take of special-status species associated with development for residential, commercial, industrial, or other uses. The ECCCHCP provides compensatory habitat within a system of preserves at a ratio of 1:1 or greater for habitats that are developed on-site. Grasslands preserved under the ECCCHCP to benefit numerous special-status species are managed and enhanced with techniques including grazing, prescribed burning, seeding, and other measures. The conservation goals for managed grasslands under the ECCCHCP are to

increase the relative cover of native species, reduce non-native and/or invasive plants, and provide increased structural diversity. Wetlands preserved under the ECCCHCP are managed with techniques including restoration of degraded areas, excavation, bank stabilization, grazing, fencing, vegetative plantings, and other measures. The conservation goals for managed wetlands and ponds under the ECCCHCP are to increase native vegetation, reduce sedimentation, improve hydrologic capacity, functions, and connectivity between wetlands, management of predatory and/or non-native species, and maintenance or enhancement of adjacent uplands.

Although not expected to occur in the site, each of the plant species identified in the ECCCHCP as potentially occurring in annual grassland and seasonal wetland habitats is briefly discussed below.

Alkali Milkvetch: The California Native Plant Society (CNPS) on-line *Inventory of Rare and Endangered Plants* (2010) describes alkali milkvetch as occurring in annual grasslands in adobe clay soils, and alkaline vernal pools, at elevations between 1 and 60 meters (3-197 feet) above sea level. There is no suitable habitat in the site for this species. The site is also above the elevation range of this species, and the CNPS Inventory describes this species as extirpated (i.e., no longer existent) in Contra Costa County. The nearest occurrence of alkali milk vetch in the CNDDB (2014) search area is approximately 7 miles north of the site. While this species is unlikely to occur on-site, the ECCCHCP will provide compensatory habitat for seasonal wetlands that are developed on-site at a ratio of 2:1. The ECCCHCP does not contain specific goals and objectives for the conservation of alkali milk vetch. However, seasonal wetlands preserved under the ECCCHCP will benefit numerous special-status plant species, including alkali milk vetch.

Big Tarplant: The CNPS Inventory describes big tarplant as occurring in annual grassland habitats at elevations between 30 and 505 meters (98-1,657 feet) above sea level. This showy plant was not observed in the site. The nearest

occurrence of big tarplant in the CNDDB (2014) search area is approximately 2 miles north of the site. The site is mapped in the ECCCHCP as "Suitable Low Potential Habitat" for big tarplant, in contrast to more likely areas of occurrence mapped as "Suitable Habitat". The ECCCHCP will provide an equivalent area of compensatory habitat within their Preserve System for habitats that are developed on-site. Grasslands preserved under the ECCCHCP benefit numerous special-status plant species, including big tarplant. The objective for big tarplant under the ECCCHCP is protecting at least five occurrences outside of currently protected public lands.

Brewer's Dwarf Flax: The CNPS Inventory describes Brewer's western flax (referred to in the ECCCHCP as Brewer's dwarf flax) as occurring in annual grasslands, usually in serpentinite soils, at elevations between 30 and 900 meters (98-3,100 feet) above sea level. This plant was not observed in the site. The nearest occurrence of Brewers western flax in the CNDDB (2014) search area is approximately 4.5 miles south of the site. While the site is not mapped in the ECCCHCP as "Suitable Habitat" for Brewer's western flax, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. Grasslands preserved under the ECCCHCP will benefit numerous species numerous special-status plant species, including Brewer's western flax. The objective for Brewer's western flax under the ECCCHCP is protecting at least three occurrences outside of currently protected public lands.

Contra Costa Goldfields: The CNPS Inventory describes Contra Costa goldfields as occurring in annual grassland habitats and vernal pools at elevations between 0 and 470 meters (0-1,542 feet) above sea level. There are no vernal pools in the site. This showy plant was not observed in the annual grassland habitats in the site. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 5.5 miles northeast of the site. The site is not in designated critical habitat for Contra Costa goldfields (USFWS 2005a). While this species is unlikely to occur on-site, the ECCCHCP will provide compensatory habitat for seasonal wetlands that are developed on-site

at a ratio of 2:1. The ECCCHCP does not contain specific goals and objectives for the conservation of Contra Costa goldfields. However, seasonal wetlands preserved under the ECCCHCP will benefit numerous special-status plant species, including Contra Costa goldfields.

Diamond-petaled Poppy: The CNPS Inventory describes diamond-petaled poppy as occurring in annual grassland habitats with alkaline or clay soils, at elevations between 0 and 975 meters (0-3,200 feet) above sea level. No areas of alkaline or clay soils were observed in the site. The nearest occurrence of diamond-petaled California poppy in the CNDDB (2014) search area is approximately 4 miles northeast of the site. The CNPS Inventory describes this species as extirpated in Contra Costa County. While this species is unlikely to occur on-site, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. The ECCCHCP does not contain specific goals and objectives for the conservation of diamond-petaled California poppy. However, grasslands preserved under the ECCCHCP will benefit numerous special-status plant species, including diamond-petaled California poppy.

Large-flowered Fiddleneck: The CNPS Inventory describes large-flowered fiddleneck as occurring in annual grassland habitats at elevations between 275 and 550 meters (902-1,805 feet) above sea level. The site is below the elevation range of this species. This plant was not observed in the site. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 1.5 miles southeast of the site. While this species is unlikely to occur on-site, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. The ECCCHCP does not contain specific goals and objectives for the conservation of large-flowered fiddleneck. However, grasslands preserved under the ECCCHCP will benefit numerous special-status plant species, including large-flowered fiddleneck.

Mount Diablo Buckwheat: The CNPS Inventory describes Mount Diablo buckwheat as occurring in annual grassland habitats with sandy soils, at elevations between 3 and 350 meters (10-1,148 feet) above sea level. No areas of sandy soils were observed in the site. This plant was not observed in the site. The nearest occurrence of Mt. Diablo buckwheat in the CNDDB (2014) search area is approximately 5.5 miles southwest of the site. While this species is unlikely to occur on-site, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. The ECCCHCP does not contain specific goals and objectives for the conservation of Mt. Diablo buckwheat. However, grasslands preserved under the ECCCHCP will benefit numerous species, including Mt. Diablo buckwheat.

Mount Diablo Fairy-lantern: The CNPS Inventory describes Mount Diablo fairy-lantern as occurring in annual grassland habitats with sandy soils, at elevations between 30 and 840 meters (98-2,756 feet) above sea level. In contrast, the ECCCHCP describes this species as occurring at elevations between 650 and 2,600 feet above sea level. Either way, the site is at the low end or below the elevation range of the species. This showy plant was not observed in the annual grassland habitats on-site. The nearest occurrence of Mt. Diablo fairy-lantern in the CNDDB (2014) search area is approximately 2 miles southeast of the site. While this species is unlikely to occur on-site, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. The biological objective Mt. Diablo fairy-lantern under the ECCCHCP is protecting at least one occurrence outside of currently protected public lands. Grasslands preserved under the ECCCHCP will also benefit numerous species, including Mt. Diablo fairy-lantern.

Round-leaved Filaree: The CNPS Inventory describes round-leaved filaree as occurring in annual grassland habitats with clay soils, at elevations between 15 and 1,200 meters (49-3,937 feet) above sea level. This species blooms from March through May and should have been detectable in mid-June 2010, if present, due to the extended spring rains which delayed the blooming periods of

most Central Valley annuals. Round-leaved filaree was not observed in the annual grassland habitats on-site in June 2010 or during the March 2013 survey. The nearest occurrence of this species in the CNDDB (2014) search area is approximately 1 mile north of the site. While this species is unlikely to occur on-site, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. The biological objective for round-leaved filaree under the ECCCHCP is protecting at least two occurrences outside of currently protected public lands. Grasslands preserved under the ECCCHCP will also benefit numerous species, including round-leaved filaree.

Showy Madia: The CNPS Inventory describes showy madia as occurring in annual grassland habitats at elevations between 25 and 900 meters (82-3,986 feet) above sea level. vThis species blooms from March through May and should have also been detectable in mid-June 2010, if present, due to the extended spring rains which delayed the blooming periods of most Central Valley annuals. Showy madia was not observed in the annual grassland habitats on-site in Jueh 2010 or during the March 2013 survey. Further, the CNPS Inventory describes this species as extirpated in Contra Costa County. The nearest occurrence of showy golden madia in the CNDDB (2014) search area is approximately 3 miles southeast of the site. While this species is unlikely to occur on-site, the ECCCHCP will provide an equivalent area of compensatory habitat for grasslands that are developed on-site. The biological goals and objectives for showy madia under the ECCCHCP are to protect populations within oak woodland and grasslands, and to identify and maintain or increase population levels of showy madia within the plan area. Grasslands preserved under the ECCCHCP will also benefit numerous species, including showy madia.

Adobe Navarretia: The CNPS Inventory describes adobe navarretia as occurring in mesic (i.e., wet) areas within annual grassland habitats and vernal pools, at elevations between 100 and 1,000 meters (328-3,281 feet) above sea level. There are no vernal pools in the site and no mesic areas were observed in the annual grassland habitats in the site. This plant was not observed in the site.

There are no occurrences of in the CNDDB (2014) search area. While this species is unlikely to occur on-site, the ECCCHCP will provide compensatory habitat for seasonal wetlands that are developed on-site at a ratio of 2:1. Seasonal wetlands preserved under the ECCCHCP will also benefit numerous special-status plant species, including adobe navarretia. The conservation goals and objectives for adobe navarretia under the ECCCHCP is to identify, protect, and maintain populations of this species within wetlands.

SPECIAL-STATUS WILDLIFE: Special-status wildlife species recorded in project area in the CNDDB (2014) search area include Swainson's hawk, burrowing owl, California black rail (*Laterallus jamaicensis coturniculus*), California clapper rail (*Rallus longirostris obsoletus*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), Suisun song sparrow "Modesto population" (*Melospiza melodia*), Suisun song sparrow (*Melospiza melodia maxillaris*), California least tern (*Sturnula antillarum browni)*, tricolored blackbird (*Agelaius tricolor*), short-eared owl (*Asio flammeus*), San Joaquin kit fox (*Vulpes macrotis mutica*), American badger (*Taxidea taxus*), western red bat (*Lasiurus blossevillii*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), salt-marsh harvest mouse (*Reithrodontomys raviventris*), California red-legged frog (*Rana auroura draytonii*), giant garter snake (*Thamnophis gigas*), California tiger salamander (*Ambystoma californiense*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), coast horned lizard (*Phrynosoma blainvillii*), western pond turtle (*Emys marmorata*), silvery legless lizard (*Anniella pulchra pulchra*), Delta smelt (*Hypomesus transpacificus*, Central Valley steelhead (*Oncorhynchus mykiss*), longfin smelt (*Spirinchus thaleichthys*),Sacramento perch (*Archoplites interruptus*), vernal pool fairy shrimp (*Branchinecta lynchi*), Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool tadpole shrimp (*Lepidurus packardi*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), Lange's metalmark butterfly (*Apodemia mormo langei*). Additionally, although not recorded in the CNDDB (2014) within the search area, the ECCCHCP (Jones & Stokes, 2006) also identifies golden eagle (*Aquila chrysaetos*) as a species requiring evaluation in sites with cliffs or large trees.

The site is annual grassland, with one small seasonal wetland, one small emergent wetland, a seasonal wetland swale, and a few sections of ephemeral creek. There are only a few trees in the site, no perennial sources of water, and no forest, woodland, scrub, or chaparral habitats. The site has been heavily grazed and on-site grasslands are moderately to highly disturbed. The site was systematically searched for potentially suitable habitat for special-status wildlife species by driving and walking throughout the site and making observations of species observed and habitat types present. No special-status wildlife species were observed or are expected to occur in the project site on more than a very occasional or transitory basis. Each of the wildlife species identified in the ECCCHCP (Jones & Stokes, 2006) as potentially occurring in annual grassland and seasonal wetland habitats is discussed below.

BURROWING OWL: The Migratory Bird Treaty Act and Fish and Game Code of California protect burrowing owls year-round, as well as their nests during the nesting season (February 1 through August 31). Burrowing owls are a year-long resident in a variety of grasslands as well as scrub lands that have a low density of trees and shrubs with low growing vegetation; burrowing owls that nest in the Central Valley may winter elsewhere.

The primary habitat requirement of the burrowing owl is small mammal burrows for nesting. The owl usually nests in abandoned ground squirrel burrows, although they have been known to dig their own burrows in softer soils. In urban areas, burrowing owls often utilize artificial burrows including pipes, culverts, and piles of concrete pieces. This semi-colonial owl breeds from March through August, and is most active while hunting during dawn and dusk.

The nearest documented occurrence of burrowing owl is located approximately 2.5 miles east of the site (CNDDB, 2014). The CNDDB also contains numerous occurrences of burrowing owls throughout search area. The site is mapped as suitable habitat for burrowing owl as modeled in the ECCCHCP (Jones & Stokes, 2006) and species presence is assumed in the site. The ECCCHCP will provide

an equivalent area of compensatory habitat for burrowing owl for grasslands developed on-site. The biological goals and objectives for burrowing owl under the ECCCHCP include maintaining or increasing the population size and distribution, and installing artificial burrows and perches as temporary attractants, where appropriate. Grasslands preserved under the ECCCHCP to benefit numerous species, including burrowing owl, are also managed with grazing, prescribed burning, seeding, and other measures to increase the relative cover of native species, reduce non-native and/or invasive plants, and provide increased structural diversity.

No burrowing owls were observed during the field surveys. A small number of ground squirrel burrows were observed on-site; however, none of these burrows showed any evidence of current or past occupancy by burrowing owls (i.e., whitewash, pellets, feathers). Based on the presence of potentially suitable habitat in the site and distribution of burrowing owls in the project vicinity, it is possible owls could move on-site in the future.

Golden Eagle: The golden eagle is not listed under either the state or federal endangered species acts, but is a State of California Fully Protected Species and is also protected by the federal Migratory Bird Treaty Act. Golden eagles forage in grasslands in coastal foothills, including the rolling hillsides around the base of Mt. Diablo. Golden eagles prefer to nest on ledges on cliff walls, but can also use very large trees that are isolated from any disturbance.

The nearest occurrence of golden eagle in the CNDDB (2014) search area is approximately 4 miles west of the site. The site is mapped as suitable habitat for golden eagle as modeled in the ECCCHCP (Jones & Stokes, 2006) and golden eagle are assumed to forage in the site. The ECCCHCP will provide an equivalent area of compensatory habitat for golden eagle for grasslands developed on-site. The biological goals and objectives for golden eagle under the ECCCHCP are to maintain or increasing the population size and distribution by acquiring land in the Preserve System containing occupied nests and suitable

nests sites, and retiring wind turbine leases when feasible on lands in the Preserve System.

The site is annual grassland with widely scattered trees is within the range of golden eagle. The on-site trees and other relatively large trees visible from the site were inspected for raptor stick nests. These trees provide poor quality nesting habitat for golden eagles, as they prefer ledges on cliff walls or very large trees and isolated from any type of disturbance. No nests were observed in the on-site trees or in off-site trees visible from the site and no golden eagles were observed in the site.

Swainson's Hawk: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their nest territories by late August. could use the on-site grasslands for foraging.

The site is along the extreme west edge of the nesting range of this species and is not within an area mapped as potential breeding or foraging habitat for this species as modeled in the ECCCHCP (Jones & Stokes, 2006). The nearest occurrence of nesting Swainson's hawks in the CNDDB (2014) search area is approximately 7.5 miles southeast of the site. Despite not being within an area

mapped as potential breeding or foraging habitat for this species as modeled in the ECCCHCP, the ECCCHCP will provide an equivalent area of compensatory habitat for the grasslands developed on-site, which will also provide suitable foraging habitat for Swainson's hawks. The biological goals and objectives for Swainson's hawks under the ECCCHCP include acquiring and managing lands that with known or suitable nest sites and acquiring and managing modeled suitable foraging habitat Swainson's hawks.

No Swainson's hawks were observed during the field surveys. The larger trees within the site are suitable for nesting Swainson's hawks and Swainson's hawks could use the on-site grasslands for foraging, although they provide marginal foraging habitat. It is unlikely Swainson's hawks forage in the site on more than an occasional basis or will nest in on-site trees in future years.

Tricolored Blackbird: The tricolored blackbird is a State of California Species of Concern and is also protected by the federal Migratory Bird Treaty Act. Tricolors are colonial nesters requiring very dense stands of emergent wetland vegetation and/or dense thickets of wild rose or blackberries adjacent to open water for nesting. This species is endemic to California.

The nearest occurrence of tricolored blackbirds in the CNDDB (2014) search area is approximately 9 miles north of the site. The site is mapped as primary foraging habitat for tricolored blackbirds as modeled in the ECCCHCP (Jones & Stokes, 2006) and tricolored blackbirds are assumed to forage in the site. The ECCCHCP will provide an equivalent area of compensatory habitat for tricolored blackbird for grasslands developed on-site. The biological goals and objectives for tricolored blackbird under the ECCCHCP are to enhance habitat within the preserve system by restoring perennial wetlands to provide breeding habitat.

The site does not provide suitable nesting habitat for tricolored blackbirds and this species was not observed on-site. However, tricolored blackbirds likely fly over or forage in the on-site grasslands on occasion.

San Joaquin Kit Fox: The project site is located just north of the perceived range of the federally endangered and State of California threatened San Joaquin kit fox (CNDDB, 2014). This species dens in subterranean burrows and forages primarily for small mammals and insects in annual grasslands, pasturelands, cultivated fields, and along the edges of orchards.

Based on the distribution of occurrences within the CNDDB (2014), the site is just outside (i.e., northwest) of the range of San Joaquin kit fox. The nearest occurrence of San Joaquin kit fox in the CNDDB (2014) search area is approximately 1.5 miles southeast of the site. The site is mapped as suitable core habitat for San Joaquin kit fox as modeled in the ECCCHCP (Jones & Stokes, 2006), species presence is assumed under the ECCCHCP, and the ECCCHCP will provide compensatory habitat for that developed on-site. The biological goals and objectives for San Joaquin kit fox under the ECCCHCP include preservation of the most important movement routes and core habitat, as well as increasing the prey base of California ground squirrels and other small mammals.

No San Joaquin kit fox were observed in or adjacent to the site during the field surveys. No on-site burrows showed signs of kit fox occupancy. While kit fox may have migrated through or foraged in the site in the past, it is considered a remote possibility that this species uses burrows in the site for denning, due to a lack of sign and location of the site at the outer edge of the currently published species range. It is also considered highly unlikely that migrating or wandering kit foxes ever use these burrows for occasional cover due to a lack of kit fox sightings in this area during fairly intensive survey efforts during the past decade. However, since kit fox have been known to occasionally wander several miles

outside of the published species range, future use of the site by kit fox is possible.

California Tiger Salamander: In 2004, the California tiger salamander was listed as threatened under FESA (USFWS, 2004), and in 2010, it was also listed as threatened under CESA. In August 2005, USFWS designated critical habitat for the Central Valley population of California tiger salamander (USFWS, 2005b). For breeding, California tiger salamanders require stock ponds without game fish, or deep, large vernal pools, which hold water well into the spring (i.e., April or May) (Jennings and Hayes, 1994). Following breeding, the young disperse to nearby grasslands and woodlands and spend the summer months in subterranean refugia such as small mammal burrows. While most salamanders aestivate in burrows within several hundred feet of their breeding ponds, they have been documented over-summering up to a mile or more from their breeding ponds.

The nearest occurrence of California tiger salamander in the CNDDB (2014) search area is a 2000 record in a pond at Keller Landfill, approximately 0.5 miles northwest of the site. The site is not within designated critical habitat for California tiger salamander (USFWS, 2005b). The site is mapped as potential migration and aestivation habitat for California tiger salamander as modeled in the ECCCHCP (Jones & Stokes, 2006), species presence is assumed under the ECCCHCP, and the ECCCHCP will provide compensatory aestivation habitat for that developed on-site. The conservation objective for California tiger salamander under the ECCCHCP is to preserve large areas of contiguous habitat. Several preserve management and conservation measures for grasslands, woodlands, wetlands, and ponds will enhance the habitat quality for California tiger salamander.

There is no suitable breeding habitat within or adjacent to the site for California tiger salamander. However, ground squirrel burrows, pocket gopher burrows, or other holes or cracks in annual grasslands in the site could be used by

aestivating salamanders if nearby seasonal ponds, vernal pools, or seasonal wetlands currently support breeding populations. The USFWS *Interim Guidance on Site Assessment and Field Surveys* (USFWS, 2003) describes how adult tiger salamanders may migrate over long distances (in excess of one mile) from underground refuges to breeding ponds. In light of these migratory abilities and the known breeding pond near the Keller Landfill, USFWS would likely assume part of the site may be used by California tiger salamanders for aestivation.

California Red-legged Frog: California red-legged frog was listed by the USFWS as a threatened species in May 1996. Red-legged frog is also classified by CDFG as a Species of Special Concern. Once abundant in low-elevation Sierra Nevada and Coastal foothills streams, this species now occurs in a patchy distribution throughout a fraction of its' historic rage. The California red-legged frog typically breeds in perennial or nearly perennial well-shaded woodland ponds or the deeper plunge-pools of well-shaded streams.

The nearest occurrence of this species in the CNDDB (2014) search area is a 2002 record in Kirker Creek, just east of the site. The site is not within designated critical habitat for California red-legged frog (USFWS, 2006a). The site is mapped as potential migration and aestivation habitat for California red-legged frog and the upland valley in east-central part of the site that contains a section of ephemeral creek and the seasonal wetland swale in the southeast corner of the site are mapped as potential breeding habitat as modeled in the ECCCHCP (Jones & Stokes, 2006). While California red-legged frog is not expected to occur on-site, species presence is assumed under the ECCCHCP and the ECCCHCP will conserve compensatory aestivation habitat for that developed on-site. The conservation objective for California red-legged frog under the ECCCHCP is to preserve large areas of contiguous habitats containing breeding and aestivation habitats. Several preserve management and conservation measures for grasslands, woodlands, wetlands, and ponds will enhance the habitat quality for this species.

There is no suitable aquatic habitat for California red-legged frogs in the project site. However, ground squirrel burrows, pocket gopher burrows, or other holes or cracks in annual grasslands in the site could be used by aestivating frogs if nearby seasonal ponds or creeks currently support breeding populations.

Western Pond Turtle: The western pond turtle is a State of California Species of Concern, but is not listed under FESA or CESA. Western pond turtles are associated with permanent or nearly permanent bodies of water with adequate basking sites such as logs, rocks or open mud banks (Zeiner, et. al., 1988). Pond turtles construct nests in sandy banks along slow moving streams and ponds in the spring and the young usually hatch in 2 to 3 months.

The nearest occurrence of western pond turtle in the CNDDB (2014) search area is approximately 3.5 miles northeast of the site. The upland valley in the east-central part of the site that contains a section of ephemeral creek and the seasonal wetland swale in the southeast corner of the site are mapped as movement habitat as modeled in the ECCCHCP (Jones & Stokes, 2006). While western pond turtle is not expected to occur on-site on more than a very occasional basis, species presence is assumed under the ECCCHCP and the ECCCHCP will conserve compensatory potential movement habitat for that developed on-site. The conservation goals and objectives for western pond turtle under the ECCCHCP are to maintain or increase the population and distribution of the species, primarily by increasing basking sites and underwater refugia in ponds.

Vernal Pool Invertebrates: In 1994, the USFWS listed three species of Central Valley fairy shrimp and one species of tadpole shrimp as threatened or endangered species under the Federal Endangered Species Act. Vernal pool fairy shrimp was listed as threatened, while Conservancy fairy shrimp, longhorn fairy shrimp (*Branchinecta longiantenna*), and vernal pool tadpole shrimp were listed as endangered. All of these species occur in vernal pools and other seasonal wetland habitats throughout much of the Central Valley. Each year,

shrimp eggs that lay on the floor of the dry wetlands during the summer hatch after the onset of cold winter rains. The shrimp grow for a few weeks to a couple months, and then lay eggs and die.

There are no recorded occurrences of vernal pool fairy shrimp, vernal pool tadpole shrimp, or other listed branchiopods in the CNDDB (2014) search area. The site is not within an area designated by USFWS as critical habitat for vernal pool species (USFWS, 2005a). While this species is unlikely to occur on-site, the ECCCHCP will provide compensatory habitat for seasonal wetlands that are developed on-site at a ratio of 2:1. The biological goals and objectives for vernal pool fairy shrimp and vernal pool tadpole shrimp under the ECCCHCP include the preservation of occupied habitat and restoration of suitable habitat. Vernal pools and seasonal wetlands preserved and restored under the ECCCHCP will benefit numerous special-status plant species, including vernal pool fairy shrimp and vernal pool tadpole shrimp.

The 0.016-acre seasonal wetland in the central part of the site is the only area in the site providing potentially suitable habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp. Due to the small size and shallow nature of this wetland, it is unlikely top support listed vernal pool branchiopods.

CRITICAL HABITAT: The site does not contain any areas designated as critical habitat for California red-legged frog (USFWS, 2006a), Alamada whipsnake (USFWS, 2006b), California tiger salamander (USFWS, 2005b), listed vernal pool shrimp or listed vernal pool plants (USFWS, 2005a), Contra Costa wallflower (CFR, 1990a), Contra Costa goldfields (USFWS, 2005a), Antioch dunes evening primrose (CFR, 1990b), delta smelt (USFWS, 1994), Central Valley steelhead (NOAA, 2005), or other federally listed plant or wildlife species (Attachment D). Delta smelt Critical Habitat is located just north of the site and there is designated critical habitat for Alamada whipsnake approximately 5 miles south of the site.

WILDLIFE MIGRATION: The site does not contain any notable wildlife migration corridors such as well developed riparian corridors vegetated with trees and shrubs. The seasonal wetland swale in the southeast corner of the site is mapped as breeding habitat for California red-legged frog and movement habitat for western pond turtle as modeled in the ECCCHCP (Jones & Stokes, 2006) and may be used movement by these and other aquatic species under very wet conditions. Despite being mapped as breeding habitat for California red-legged frog and movement habitat for western pond turtle as modeled in the ECCCHCP (Jones & Stokes, 2006), the topographic valley in the east-central part of the site does not contain a creek other than the short section of ephemeral creek that is tributary to Kirker Creek a few hundred feet east of the site. This short section of ephemeral creek is not expected to be used for wildlife movement.

Conclusions and Recommendations

- The site consists of moderately to highly disturbed annual grassland, a seasonal wetland, and emergent wetland, a seasonal wetland swale, and a few sections of ephemeral creek. Most of the on-site habitats are biologically unremarkable.

- The only areas in the site that fall under ACOE jurisdiction are a 0.340-acre seasonal wetland swale and a 0.002-acre section of ephemeral creek that are tributary to Kirker Creek. The seasonal wetland swale is in an open space area that will not be impacted by the proposed project. The section of ephemeral creek will be filled, triggering a need for permits from ACOE, CDFW, and the California Regional Water Quality Control Board.

- Due to lack of suitable habitat, the likelihood of occurrence of listed, candidate, and other special-status plants within the site is low. No special-status plants or highly suitable habitat for special-status plants was observed in the site. While special-status plants are unlikely to occur on-site, the

ECCCHCP will provide compensatory habitat for annual grasslands that are developed on-site at a ratio of 1:1 and for seasonal wetlands that are developed on-site at a ratio of 2:1.

- No burrowing owls, Swainson's hawks, golden eagles, tricolored blackbirds, or any other special-status birds were observed on-site. Other than burrowing owl, none of these birds are expected to nest on site due to lack of suitable nesting habitat. No other special-status birds were observed on-site. The site is mapped as suitable habitat for burrowing owl, suitable habitat for golden eagle, and primary foraging habitat for tricolored blackbirds as modeled in the ECCCHCP. The site is not within an area mapped as potential breeding or foraging habitat for Swainson's hawk as modeled in the ECCCHCP. The ECCCHCP will provide an equivalent area of compensatory habitat for burrowing owl, golden eagle, and tricolored blackbird for grasslands developed on-site; these conservation lands may also be used on occasion by foraging Swainson's hawks. Participation in the ECCCHCP will also require implementation of avoidance and minimization measures, including focused pre-construction surveys for surveys for burrowing owl, Swainson's hawk, and golden eagle, and avoidance of project impacts to active nests by construction setbacks, modifications in construction scheduling, and may also involve passive relocation of burrowing owls.

- Based on the distribution of occurrences within the CNDDB (2014), the site is just outside (i.e., northwest) of the range of San Joaquin kit fox. San Joaquin kit fox are not currently utilizing the project site for denning and it is considered highly unlikely that kit foxes will occupy the project site or adjacent areas in the future. While this species is not expected to occur on-site on more than a very occasional basis, the site is mapped as suitable core habitat for San Joaquin kit fox as modeled in the ECCCHCP (Jones & Stokes, 2006), and the ECCCHCP will provide compensatory habitat for that developed on-site and authorize incidental take of San Joaquin kit fox. Participation in the ECCCHCP will also require implementation of avoidance and minimization

measures, including focused pre-construction surveys for San Joaquin kit fox and avoidance of project impacts to natal dens by construction setbacks, modifications in construction scheduling.

- The site does not contain breeding habitat for California tiger salamander, but the on-site grasslands may be used by aestivating California tiger salamanders. As there are no potential breeding ponds for this species in or immediately adjacent to the site, use of the site by aestivating California tiger salamanders is expected to be limited. The site is mapped as potential migration and aestivation habitat for California tiger salamander as modeled in the ECCCHCP (Jones & Stokes, 2006), species presence is assumed under the ECCCHCP, and the ECCCHCP will provide compensatory aestivation habitat for that developed on-site, and authorize incidental take of California tiger salamander.

- California red-legged frog and western pond turtle may occur in the seasonal wetland swale in the southeast corner of the site on occasion; this swale is mapped as breeding habitat for California red-legged frog and movement habitat for western pond turtle as modeled in the ECCCHCP (Jones & Stokes, 2006). The ECCCHCP will provide compensatory habitat for California red-legged frog and western pond turtle for that developed on-site, and authorize incidental take of California red-legged frogs.

- The 0.016-acre seasonal wetland in the central part of the site provides very marginal habitat for vernal pool fairy shrimp or vernal pool tadpole shrimp. While these species are unlikely to occur in this small wetland, the ECCCHCP will provide compensatory habitat for seasonal wetlands that are developed on-site at a ratio of 2:1 and authorize incidental take of vernal pool fairy shrimp or vernal pool tadpole shrimp.

- Trees, shrubs, and grasslands in the site could be used by birds protected by the Migratory Bird Treaty Act of 1918. Vegetation clearing, including grading

grasslands, should be scheduled outside of the avian nesting season (February 1 through August 31) or a survey should be conducted immediately prior to vegetation removal. If active nests are found, vegetation removal should be delayed until the young fledge.

- The site is not within designated critical habitat for any plant or wildlife species.

- The site does not contain any notable wildlife migration corridors. The seasonal wetland swale in the southeast corner of the site may be used movement by California red-legged frog, western pond turtle, and other aquatic species under very wet conditions.

Thank you for contracting with Moore Biological Consultants to conduct this survey. Please call me at (209) 745-1159 with any questions.

Sincerely,

Diane S. Moore, M.S.
Principal Biologist

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Attachment A

Photographs

Steep hills with scattered trees near the farm road entrance, looking southwest; 07/19/10.

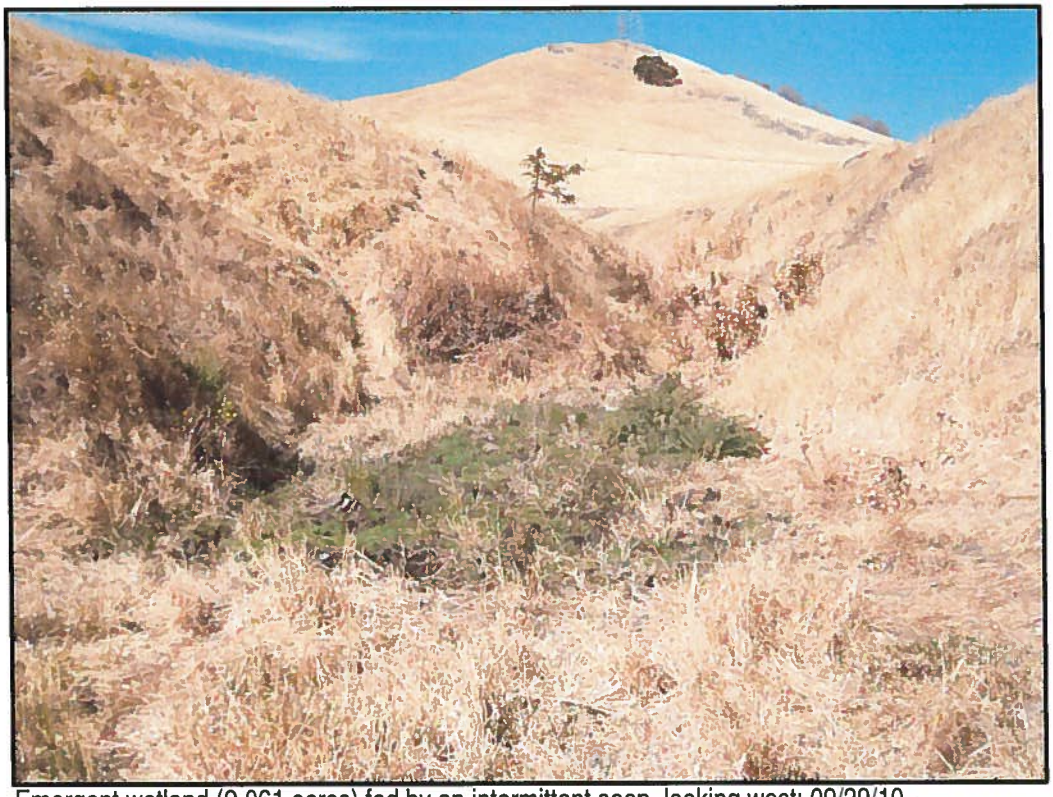
Seasonal wetland (0.016 acres) in the east-central part of the site, looking southwest; 06/28/10.

Farm road entrance and adjacent rock outcrops, looking southeast from the hills in the north-cental part of the site; 07/19/10.

Exposed bedrock in the north-central part of the site, looking northwest; 07/19/10. There are a few pockets in the bedrock that are a few feet deep, but they are too small and shallow to qualify as caves.

Seasonal wetland swale (0.340 acres) that is tributary to Kirker Creek, looking south; 06/28/10.

Box culvert under Kirker Pass Road at the north tip of the wetland swale, looking northeast; 06/28/10.



Emergent wetland (0.061 acres) fed by an intermittent seep, looking west; 09/29/10.

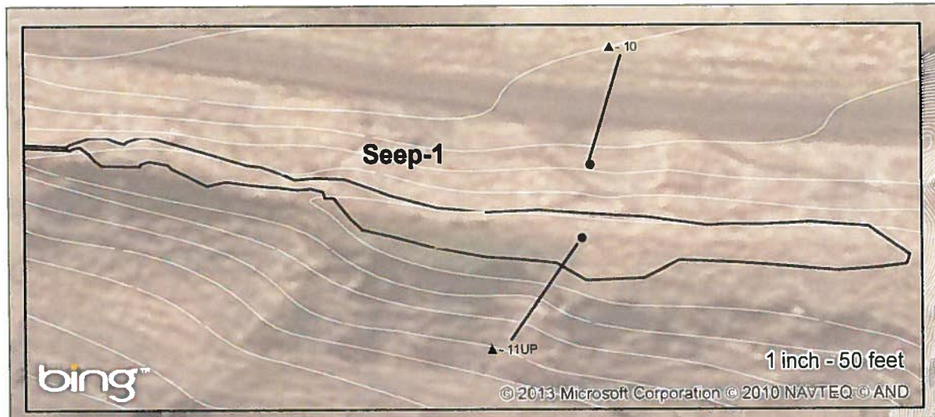
Upland grassland where an off-site detention basin will be constructed, looking northeast; 09/29/10.

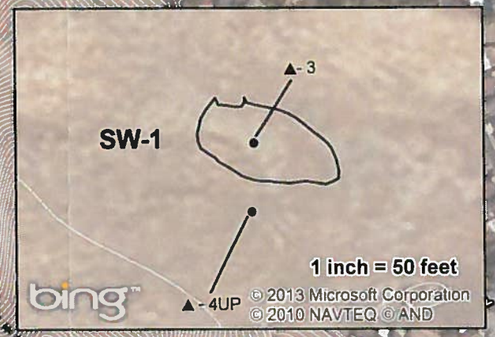
Cirsium vulgare and *Bromus hordeaceus* at upland data point 1, looking southwest; 06/28/10.

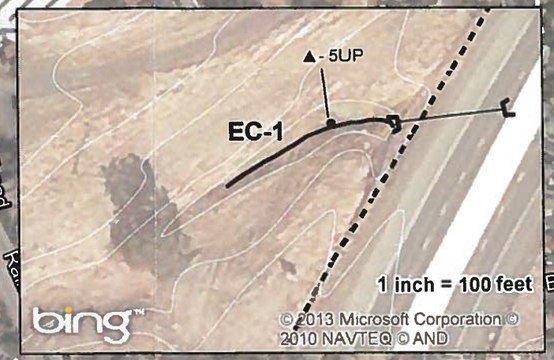
Mixture of upland grasses and weeds at upland data point 2, looking west; 06/28/10.

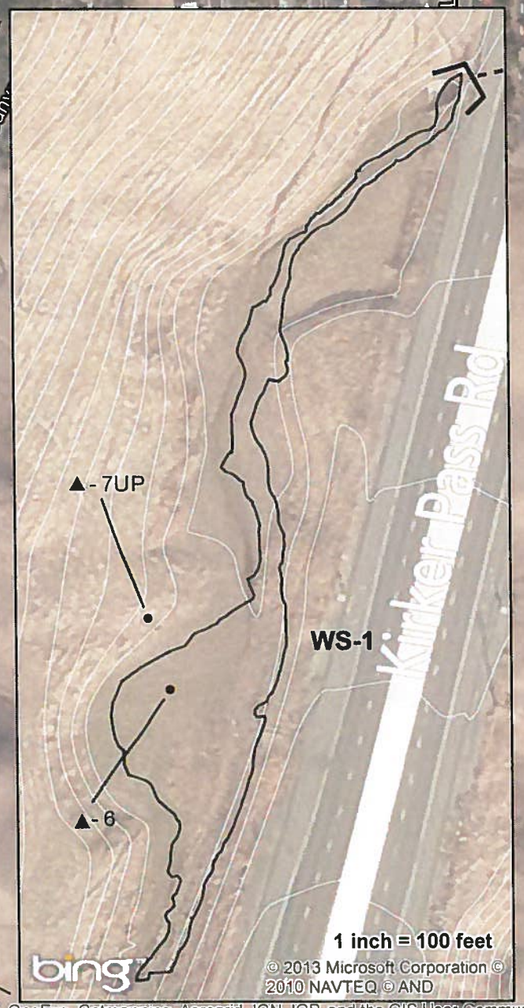
Attachment B

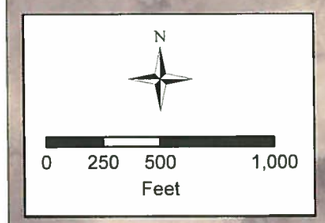
Wetland Delineation Map











Mapped Features

Jurisdictional Waters of the U.S.	ACREAGE
Wetland Swale (WS-1)	0.340
Ephemeral Creek (EC-1)	0.002
Jurisdictional Subtotal:	*0.342*
Isolated Waters and Wetlands	
Seasonal Wetland (SW-1)	0.016
Seep (Seep-1)	0.061
Isolated Other Water (IOW-1)	0.037
Isolated Other Water (IOW-2)	0.006
Isolated Other Water (IOW-3)	0.006
Non-jurisdictional Subtotal:	*0.126*
TOTAL	0.468

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Moore Biological Consultants

Data Disclaimer:
The delineation has been done in accordance with the 1987 Wetlands Delineation Manual, US Army Corps of Engineers and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers.

Verified by: Katarina Galacatos & Cameron Johnson, USACE San Francisco
Dates of Field Verification: 11/01/11 & 06/05/12
Source Data: Discovery Builders, Moore Biological Consultants.
Aerial Photo: ESRI, 2010.

Study Area (±165 acres)
▲- 1 3-Parameter Data Point
Culvert

Wetland Delineation Map
Montreux Project
Contra Costa County, CA
Map Date: March 2013

Attachment C

CNDDB Query List

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Antioch North (3812117) or Antioch South (3712187) or Clayton (3712188) or Honker Bay (3812118))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SSC
Amsinckia grandiflora large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Anniella pulchra pulchra silvery legless lizard	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G4G5	S2	4.2
Anthicus antiochensis Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Apodemia mormo langei Lange's metalmark butterfly	IILEPH7012	Endangered	None	G5T1	S1	
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Arctostaphylos auriculata Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S3	SSC
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Atriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G2	S2	1B.1
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G1	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S2	
California macrophylla round-leaved filaree	PDGER01070	None	None	G2	S2	1B.1
Callophrys mossii bayensis San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Campanula exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T3T4	S2	2B.1
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coelus gracilis San Joaquin dune beetle	IICOL4A020	None	None	G1	S1	
Cordylanthus nidularius Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
Cryptantha hooveri Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G3G4T1	S1	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G3	S1S3	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eriastrum ertterae Lime Ridge eriastrum	PDPLM030F0	None	None	G1	S1	1B.1
Eriogonum nudum var. psychicola Antioch Dunes buckwheat	PDPGN0849Q	None	None	G5T1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Eriogonum truncatum Mt. Diablo buckwheat	PDPGN085Z0	None	None	G2	S2	1B.1
Erysimum capitatum var. angustatum Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Eucerceris ruficeps redheaded sphecid wasp	IIHYM18010	None	None	G1G3	S1S2	
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T2	S2	SSC
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1	
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Idiostatus middlekauffi Middlekauff's shieldback katydid	IIORT31010	None	None	G1G2	S1	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3?	SSC
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G4T1	S1	FP
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2.2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S2S3	
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10050	None	None	G4G5	S2	2B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G3	S2S3	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	
Madia radiata showy golden madia	PDAST650E0	None	None	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2Q	S2	1B.2
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T2	S2	SSC
Metapogon hurdi Hurd's metapogon robberfly	IIDIP08010	None	None	G1G3	S1S3	
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G2G3	S2S3	1B.2
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Navarretia gowenii Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
Oncorhynchus mykiss irideus steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2	S2	
Perdita scitula antiochensis Antioch andrenid bee	IIHYM01031	None	None	G1T1	S1	
Perognathus inornatus inornatus San Joaquin pocket mouse	AMAFD01061	None	None	G4T2T3	S2S3	
Phacelia phacelioides Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G1	S1	1B.2
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Philanthus nasalis Antioch specid wasp	IIHYM20010	None	None	G1	S1	
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Rallus longirostris obsoletus California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sanicula saxatilis rock sanicle	PDAPI1Z0H0	None	Rare	G2	S2	1B.2
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3?	S2	2B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G1	S1	1B.1
Sphecodogastra antiochensis Antioch Dunes halcitid bee	IIHYM78010	None	None	G1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Stabilized Interior Dunes Stabilized Interior Dunes	CTT23100CA	None	None	G1	S1.1	
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2S3	FP
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2.2	1B.2
Streptanthus hispidus Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G1	S1	1B.3
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S3	2B.2
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S4	SSC
Thamnophis gigas giant garter snake	ARADB36150	Threatened	Threatened	G2	S2	
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G1	S1	1B.2
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G5	S2.3	2B.3
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	

Record Count: 101

Attachment D

Federally Designated Critical Habitat

Suisun thistle
Contra Costa goldfields
Suisun thistle
Soft bird's-beak
Contra Costa goldfields
Conservancy fairy shrimp
Vernal pool tadpole shrimp
Vernal pool fairy shrimp
Soft bird's-beak
Suisun thistle
Delta smelt
Steelhead
Chinook salmon
Contra Costa wallflower
Antioch Dunes evening-primrose
Project Site
California red-legged frog
Alameda whipsnake (=striped racer)
Vernal pool fairy shrimp
California red-legged frog
Alameda whipsnake (=striped racer)

Critical Habitat

Montreux Project

Contra Costa County, CA

Map Date: May 2014

Moore Biological Consultants

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0 1 2

Miles